Analyzing how a digital tool for well-being should be adapted to fit the educational sector

A project performed in collaboration with Remente as a case study at Chalmers

Master's thesis in Product Development

ERIK FOLKE

JOHANNA NYLANDER

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Cover: A visualization of "Life Wheel", a feature in Rementes existing application.

Abstract

People are becoming more aware of their own well-being and are constantly looking for new methods to improve themselves and to perform better in all aspects of life. Simultaneously trends are proving more people are facing mental illness such as fatigue syndrome, anxiety, and depression. Studies show that these trends are present in the educational sector as well. Remente is a company offering an application to stimulate well-being and resilience among their users. This thesis concerns how Remente should approach the educational sector, using Chalmers University of Technology as a case study. Therefore, Chalmers is charted as a potential purchaser and the students at Chalmers as potential end-users. Remente's application is also analyzed according to how it should be adapted to reach a successful product-market fit.

In this thesis, it was concluded that working towards increased well-being and preventive measures for mental illnesses are both economically and socially beneficial for all parties involved. By charting Chalmers it was understood that they are working systematically with work environment issues. It was also concluded that there is a need both for the students and Chalmers and that Remente has a unique product offering and a proper product-market fit, fulfilling important end-user and purchaser needs. Suggestions for improvements and additions were proposed for Remente's existing product together with recommendations for how Remente should approach Chalmers.

Keywords: mental health, personal development, academic performance, well-being, educational sector.

Acknowledgements

Abbreviations

- AI - Artificial Intelligence
- AM - Achievement Motivation
- App - Application
- B2B - Business to Business
- B2C Business to Customer
- BBI - Bergen Burnout Inventory
- eNPS - Employer Net Promoter Score
- GPA - Grade Point Average
- GUI - Graphical User Interface
- LOU - Law of Public Procurement
- SAMO - Student Safety Representative
- SBI - School Burnout Inventory
- SRB - Study Related Burnout
- UX - User Experience
- WHO - World Health Organization

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Introduction

This introductory chapter begins with describing the background of the project in Section 1.1, together with information implying on the need and the importance of this study. Section 1.2 includes the aim of the project. The aim is further formulated into research questions in section 1.3. Section 1.4 concerns the limitations within the project. The chapter ends with a description of Remente and their product and features in section 1.5.

1.1   Background

In Sweden, every second individual is expected to fall victim to mental illness [1]. According to the World Health Organization (WHO), the amount of people living with depression globally has increased with 18% between the years 2005 and 2015. Currently, over 300 million people are living with depression and by the year of 2030, depression is expected to be the biggest disease in the world [2]. In the organizational sector, long-term sick-leave has increased rapidly for several years, where the most common reasons are burnout and depression [3, p. 276]. Both societal and organizational accountability can be seen in trends for new regulations and directives regarding the psycho-social work environment, where guidelines are being established to ensure a sustainable work environment [4].

Studies show that these trends are present in the educational sector as well. In a study performed at Harvard, it was concluded that students are experiencing stressors such as high pressure on performance, meeting deliverables, an extensive level of self-responsibility over workload and working hours and lack of supervision when facing personal issues [5]. According to the Public Health Agency of Sweden, students experience less mental well-being than the same age working peers. There has also been an increase in students reporting stress from 22% to 31% between the years 2016-2018 [6]. However, it is not the stressors themselves that cause the harm, but instead how students perceive and interpret them. Therefore, stimulating mental health and providing students with tools to better cope with their well-being is of great importance for the individual student experiencing these issues. This is also important to increase student performance and enabling the student to grow, even in the stressful environment of universities. [7].

Remente is a company offering a digital tool stimulating well-being and resilience and they are looking for new areas to implement their product. Due to previously stated

facts, the educational sector can be argued to be a vulnerable sector, indicating that there is an opportunity for a novel aid to improve well-being and prevent mental illness within this sector. This emphasizes the need for analyzing how a digital tool should be adapted to fit the educational sector.

1.2   Aim

The aim of the project is to identify the needs in the educational sector with regards to mental health using Chalmers as a case study. The aim is also to analyze how Remente's existing digital tool should be adapted and packaged to meet the identified needs in the sector. In order to accomplish this, the research questions formulated below need to be answered.

1.3   Research Questions

- RQ1: How is Chalmers currently working to stimulate, measure and control mental health?
- RQ2: What are the purchaser's (Chalmers) and the end-user's (Student) needs concerning mental health?
- RQ3: How could Remente's product be adapted and packaged in order to meet the identified needs within Chalmers and its students?

1.4   Delimitation

This section describes the limitations of the project. As the project theme is complex and extensive, there are many aspects to take into consideration and some constraints had to be made in order to ensure that a result could be produced.

- **Financial Limitations**
  The project is financially limited by the budget proposed by Remente. Expenses were dealt with from case to case by Remente.
- **Time Frame**
  This project had a time frame of 20 weeks. The detailed planning can be seen in the Gantt schedule in Appendix A.1.
- **Knowledge Limitations**
  This thesis was conducted by two product development students with a background in mechanical engineering. The students have limited knowledge of programming, therefore, no detailed software development is included in the project scope.
- **Market Segment Limitations**
  The market segment chosen for this study is the educational sector as this is a particularly vulnerable segment. Within the educational segment, this project focuses on higher educations and universities. The study focuses on students

as end-users and the university as a purchaser. Furthermore, this thesis will use Chalmers as a case study.

- **Medical Areas**
  Although this thesis concerns medically related areas to some degree, the product development is limited from treating any medical illnesses.

1.5 Description of Remente and Their Product

Remente is a start-up company based in Gothenburg that has created a digital platform with over 1 million users globally. Remente provides users with courses, suggestions, goal plans and tools for well-being and performance. For instance, Remente offers support in aspects such as stress management, efficiency, communication, mindfulness and goal training. Many of the processes that Remente's product builds upon derives from research, and the team behind Remente has over 30 years of experience within psychology and mental training [8].

The digital platform consists of two native applications, one for iPhone and one for Android, and a web application. Remente is offering their product to both business to customer (B2C), as well as business to business (B2B). The product is mainly the same across the platforms, where the graphical user interface (GUI) is the main difference. Remente is available in Swedish, English, Spanish, German and Italian. Remente's biggest market is in the U.S. and their main users are women in the ages of 18-24.

To gain a better understanding of Remente's application, screenshots of its existing features can be found in Appendix A.2. In the bullet-list below, the main features of Remente's app are described:

- **Assess Life**
  This feature consists of a so-called Life Wheel assessing eight different categories. The user is allowed to assess themselves on a scale from 1-10 according to how well the categories correspond to their situation. The user can also get suggestions on what area to improve on, depending on the scoring. The categories are: Love and Relationships, Health and Fitness, Career and Education, Personal Development, Family and Friends, Social Life, Fun and Recreation, and Finances

- **Rate Mood**
  In this feature the user is allowed rate their mood on a scale from 1-5. After this, the user gets to tag different positive and negative emotions corresponding to their mood. The user can also write down notes on what may have caused the mood.

- **Day Plan**
  This feature displays tasks that the user has set up for themselves. Tasks that are connected to a preset goal plan will also be added to the Day Plan. The user can decide on when and how often the customized task should be displayed, while the tasks connected to a goal plan have determined tasks for a certain day. After a task has been completed, the user can mark it as done

and the task disappears. This feature is displayed at the home screen of the app.

- **Journal**
  The journal is a visual timeline of the users day. It includes all the different activities that the user has performed in the app during the day and at what time it was performed. The user can also make an entry in the journal. Similar to the Day Plan feature this is also displayed on the home screen.

- **Set a Goal**
  The user can set a goal which consists of several steps, in the form of tasks presented in the Day Plan but also steps including reading Resources. The user can set a goal either from a predefined list of goal plans from the Resource Library or a custom goal. When a user creates a custom goal, they can add notes to the tasks and decide on how often tasks should be done - from once a week to once a day. They can also set specific dates on when to perform the steps and enter when certain remainders should come up regarding the goal.

- **Insights**
  The insights feature provides the users with insights on their well-being. It displays the current life wheel and allows to update it. It also visualizes the progress of the user's mood for the week and allows the user to get more statistics over a longer time, but also a shortcut to the rate mood feature. A report of the week's insights can also be accessed here. It gives the user a summary of the week including, how many tasks that were checked off, the average mood, the journals for all days of the week, and their life assessments.

- **Resources**
  This is a library of courses, goal plans and boosts connected to a theme. Courses are divided into several steps providing the user with information which can both be read or listened to, but also exercises connected to the theme of the course. Some Resources also contains some video lessons. Goal plans are a set of steps that will help the user achieve the specific goal they have chosen. Boosts can be seen as a short and quick course.

The B2C app is available for free, but there is also a premium subscription that costs 95 SEK/month, 469 SEK/year or 2595 SEK for a lifetime. The difference between the free and premium package is that the premium subscription offers full access to the Resource Library while the free version only offers a limited number of Resources.

For the B2B product, organizations can, besides providing the app as it is to the employees, also add specific content to the Resource Library. Furthermore, through a feature called the Pulse, employers can collect feedback from the employees in real-time with a set of questions, measuring the psycho-social work environment, engagement and eNPS (employer net promoter score, which is a way of estimating how willing the employees are to promote their work to others). These questions are sent out continuously every month to the employees through email and SMS and usually consist of about 12 questions. The results are then monitored and filtered to get actionable insights on the situation of the organization. The B2B product also allows goals and tasks to be shared, delegated and commented on between different

users within the organization. The B2B product is fairly new, it has been available for around six months.

Remente is GDPR (General Data Protection Regulation) compliant and regarding their data handling, personal data is collected and shared with third parties' providers, such as survey hosting and data storage. According to Remente's terms of agreement it is stated that: "In no event does Remente transfer personal data to third parties with the right for such parties to use the data other than on behalf of Remente". Remente uses accepted industry standards, technologies, and procedures such as firewalls and security software, to secure than the personal data from any unauthorized access. Moreover, the user can at any time delete their account including this data.

2
Methodology

In this chapter, the methodology of the thesis is described. The literature study was performed using an exploratory approach and using keywords identified during the process. After this, a market analysis was performed using PEST (Political, Environmental, Social, Technological) analysis, SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis, and competitor analysis. For the customer needs assessment, both primary and secondary data were collected. Primary data collection was made by interviewing important stakeholders at Chalmers but also by performing a product testing with the intended end-users followed by focus groups and interviews. Secondary data was collected by screening the literature study and additional documents and protocols from Chalmers website. The KJ method was used to categorize the needs. The first step of analyzing the product-market fit was to divide the needs according to if they were currently fulfilled by Remente, not fulfilled by Remente or could not be fulfilled by Remente. After this, the purchaser needs were analyzed by mapping them to a feature where they were fulfilled or potentially could be fulfilled by Remente and to an existing solution at Chalmers. The product-market fit for the end-user needs was analyzed by ranking the needs and estimating the opportunity. Suggestions for improvements and additions were ideated based on feedback from the product testing and based on the needs posing as the best opportunity for Remente. Recommendations on how Remente should approach Chalmers were based on the aspects of a Business Model Canvas.

2.1 Literature Study

The literature study started as an exploratory search, to learn more about the context of the problem Remente are trying to solve. As a starting point, the exploratory search was performed using Google Scholar, identifying relevant research publications and articles for different keywords. To find those keywords and to gain an understanding of the main topics within the area, general searches were made in parallel through search engines online. Additional information that could not be found through Google Scholar was gathered by searching online for Swedish authorities related to the subject, such as the Swedish Work Environment Authority and the Public Health Agency of Sweden. One of the first keywords used was 'social sustainability' as this concept was considered to reflect the main goal of Remente's product at a high abstraction level. Although, as 'social sustainability' was found to be a concept still under development with several different definitions, this provided insights about sustainability but in aspects far from the context of the project. Af-

ter this, the exploratory search continued using 'mental health' and 'mental illness' as keywords. By screening through different papers and the web in parallel, it was realized that focus should be on 'depression' as this area within mental health was considered to be closest to the scope. Therefore, other aspects of mental illness was disregarded from the continuous search from this point. As depression is a vast area, the focus was to identify a sub-area that could be addressed with this project. This led to focusing on stress, as this was realized to be closely linked to depression but also the scope of the project. Using 'stress' as a keyword it was realized that a lot of research could be found in the organizational sector, which was very interesting for this project. Keywords used during searches in this area was: 'stress', 'burnout', 'sick-leave', 'health', 'mental illness', 'organization', 'fatigue syndrome'. Information within this area was also gathered through books about stress. After understanding the situation in the organizational sector, the continuous search and screening of literature focused on the educational sector. Keywords used during the search was: 'stress', 'mental illness', 'burnout', 'sick-leave', 'students', 'university', 'education', 'educational sector', 'well-being'. This search was also complemented with keywords such as 'performance', 'GPA' and 'academic success' to understand how stress related to academic performance. The next part of the literature study focused on learning about what interventions and prevention there are in the organizational sector as well as the educational sector. Keywords used to find relevant articles and publications for this were: 'stress', 'mental illness', 'burnout', 'sick-leave', 'students', 'university', 'education', 'educational sector', 'organization', 'organizational sector', 'intervention', 'intervention program', 'counteraction', 'prevention', 'preventive tools'.

2.2 Market Analysis

In Chapter 4, a market analysis is presented in order to understand the market, the company and the competitors. Methods used for the market analysis were, PEST analysis, SWOT, Business Model Canvas and competitor analysis and is further described in the sections below.

2.2.1 PEST Analysis

A PEST (Political, Environmental, Societal, Technological) Analysis was performed to understand the external market trends concerning mental health and well-being on a global level, but also focusing on the educational sector. According to Frankelius, a PEST analysis is a useful tool to understand the macro environment in which a company is operating within from a political, economic, social and technological perspective [9, p. 247]. Secondary data was mainly used for the PEST analysis, although it was also later complemented with primary data after identifying trends from interviews with Chalmers representatives e.g. the Health and Safety Officer. The PEST analysis focused on the trends in Sweden. However, global data was used in cases it was considered to be relevant.

2.2.2 SWOT Analysis

In order to understand the company, a SWOT (Strengths, Weaknesses, Opportunities, Threats) Analysis was performed to get an initial understanding of the strengths and weaknesses of the internal capability of the company, but also the threats and opportunities of the environment in which the company is operating. The structure for the SWOT analysis was based on a template provided during a course at Chalmers (PPU085)[10]. The SWOT was based on secondary data as well as primary data. The primary data collection was performed through semi-structured interviews with two employees at Remente.

2.2.3 Competitor Analysis

Understanding the products of the competitors are valuable sources of information in a product development process, according to Eppinger et al [11]. Hence, a competitor analysis was performed by mapping direct and indirect competitors. The competitors were analyzed mainly according to what features they offered and how their business model looked like. The competitors were analyzed by gathering information provided on their websites and by trying their mobile application when this was provided.

In the competitor analysis, Google search engine was used with the keywords: 'Student', 'App', 'Well-being', 'Tool', 'University', 'Mental Health', 'Productivity', 'Engagement', 'Measure' and 'Employee'. Furthermore, the keywords that were used in the search on the Swedish Google Play was: 'Student', 'Well-being', 'Tool', 'University', 'Mental Health', 'Productivity', 'Health'.

2.3 Customer Needs Assessment

After understanding the external context, the company, and the competitors, the customer needs were collected. In this project, the customer needs are two-fold as the intended purchaser and the end-user are separate from each other.

Since this thesis concerned primary data collection and that the topics were of a sensitive nature, ethical aspects were considered. The data from surveys, interviews and focus groups during this thesis was collected with the consent of the participants. The identity of the students participating in the product testing was kept anonymous in this thesis since the data was considered to be of sensitive character. Ethical aspects are further discussed in Chapter 9.

2.3.1 Charting Chalmers as Purchaser

To understand and chart Chalmers as a customer, a stakeholder mapping was performed. Thereafter, interviews were held with key-positions to grasp Chalmers current approach to work environmental issues and the needs related to this area. As part of discovering the needs, the quality assessment at Chalmers was also studied.

To finish off the charting of Chalmers as a customer, the procurement process was reviewed.

Stakeholder Mapping of Chalmers University
The first step of the customer needs assessment was to map and identify the specific B2B customer within the educational sector namely the concerned decision-makers and support functions at Chalmers. The mapping began with interviewing the student union's Student Welfare Officer from the year of 2017/2018 by phone. This interview lasted for 60 minutes and was semi-structured. The information from the interview was complemented with information from Chalmers website to get a complete picture of the important roles and positions within the organization.

Data Collection for Purchaser and End-user Needs
After charting the stakeholders, more detailed information about the purchaser and end-user was gathered by collecting primary data through interviews. When deciding on which of the identified functions and positions at Chalmers to interview, the focus was on getting a holistic picture of how Chalmers was working with these aspects. Therefore, the centralized support functions at Chalmers was targeted, but also the external support functions. Three face-to-face interviews were carried out with the Coordinator Student Guidance Counselor, the Health and Safety Officer and the University Priest, all with a semi-structured approach. The interviews lasted for 60-90 minutes and were carried out at the offices of the interviewees. Moreover, contact has been taken with other positions through phone, such as Akademihälsan, the Equality Coordinator and employees working with purchasing and procurement, which provided relevant guidance and material for the project. To complement the primary data, secondary data was collected regarding Chalmers approach to work environment, their processes for procurement and their quality assurance.

Categorizing Purchaser Needs
The purchaser needs were collected through screening the literature study, through the interviews with stakeholders at Chalmers and the secondary data from documents and information concerning the work environment at Chalmers. These needs were purchaser specific, meaning that all needs related to the end-user were not considered in this list but are instead taken into consideration when charting the end-user in the section below. The purchaser needs were grouped, categorized and merged using the KJ method, which is a visual method to categorize needs [12]. The screened purchaser needs were written down on post-its and were put up on the wall. The similar post-its were put next to each other creating themes/categories.

2.3.2 Charting Students as End-users

The first step of gathering end-user needs was to screen the literature study and the primary data from interviews, gathering all needs that was identified in an initial end-user needs list. This list contained over 200 needs, hence, the needs were grouped, categorized and merged using the KJ method, as for the purchaser needs above. All needs were written down on post-its keeping the need and a reference

to the source. The categorization using the KJ method was iterated two times. A picture of one of the KJ iterations of the end-user needs can be seen in Figure 2.1. The needs obtained from the organizational sector were directly translated to fit the educational sector. Therefore, needs deriving from the organizational sector may only be valid to a certain degree as the requirement is translated and removed from its original context in the organizational sector. Further on, no account has been taken into consideration regarding the scales or measures used by the original authors.
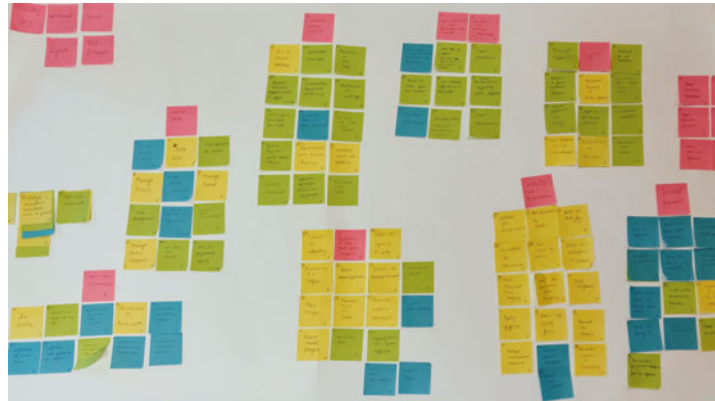
Figure 2.1: Picture of sheet when performing the KJ method

Product Testing

After establishing and categorizing the initial needs list, primary data was collected directly from the end-users by the arrangement of a product testing. The product testing was followed by a focus group to collect feedback about the app and to gather information about the students' needs. An individual interview was offered for the participants that could not attend a focus group. In total three focus groups were held and two individual interviews.

Gathering Participants and Forming Groups

To collect participants for the product testing, posters were put up around the campus, see Appendix B.1. This proved to have a low response rate, so the poster was also published on the authors' personal digital channels. Although the participants have a connection to the moderators this can be preferred. According to Denscombe, the selection of participants for a focus group is preferred to be a purposive sampling. Having a focus group that has a connection to each other can be beneficial since this will require less time to "break the ice". [13]. Only people studying at Chalmers were allowed to participate and the students who participated were rewarded with Remente Premium for one year after fulfilling the product testing. A survey was sent out to collect the participants' contact information and other demographic data, to get a better understanding of the participants. The participants that entered the study were asked to use the app for one week and they were provided with instructions and information before starting the product testing, see Appendix B.2.

Focus Groups and Interviews

As stated earlier, three focus groups were held with three, four and five students respectively. Regarding the size of the focus groups, it usually keeps around six to nine people, however, larger groups can suppress the less confident participants. Hence, a smaller group of three to four participants can be used [13]. The agenda of the focus group was divided into two parts. The first part focused on collecting feedback for the app together with the experiences of the participants during the testing week. In this part, the participants were initially asked to write down their individual feedback on notes followed by a discussion about the app and its features. Printed pictures of the app and its features were used as mediating tools during the first part of the focus group and can be seen in Figure 2.2 below. The second part of the focus group session focused on understanding the needs of the participants to achieve well-being. The same procedure was used in the second part of the focus group, i.e. the participants were asked to write down what makes them feel good and bad at university followed by a discussion. Regarding the individual interviews, they were divided into two parts as well, followed the same structure as the focus groups. Instead of writing down their feedback and needs, a discussion was held.
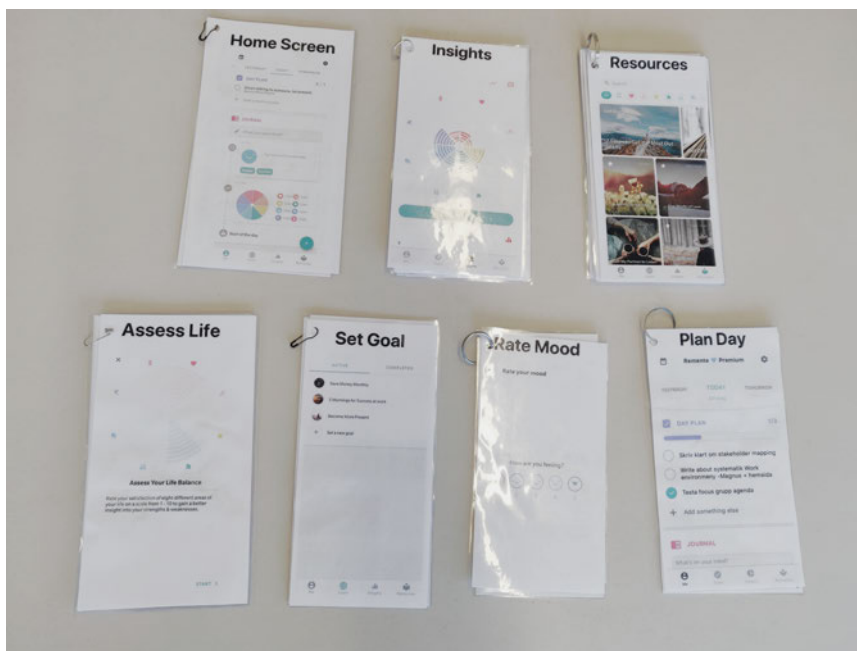
Figure 2.2: Mediating tools for the focus groups.

2.4 Product-Market Fit Analysis

To analyze the product-market fit, the needs were categorized into three categories: Needs currently fulfilled by Remente, needs currently not fulfilled by Remente and needs that cannot be fulfilled by Remente. The needs categorized as if they cannot be fulfilled by Remente were disregarded from this point of the project. This was

done for the end-user needs and purchaser needs respectively followed by a product-market fit analysis. Starting with the purchaser needs categorized as fulfilled by Remente, each need was mapped against a specific feature in which it was solved by Remente, but it was also mapped against the current solution at Chalmers. After this, the product-market fit was discussed. The same approach was used to analyze the purchased needs not currently fulfilled by Remente, although, instead of mapping the need to a feature where they were currently solved, they were mapped against a feature where they potentially could be solved. If no feature was identified, they were considered to be subject for a new feature.

As for the end-user needs, the end-user needs list was much more extensive than the purchaser needs list. Therefore the end-user needs were ranked to understand the product-market fit. For the end-user needs currently fulfilled by Remente, the needs were ranked according to customer value, degree of fulfillment by Remente and degree of fulfillment by Chalmers. With these rankings, the opportunity was estimated. The same approach was used to analyze the end-user needs not currently fulfilled, but by changing the degree of fulfillment by Remente into a feasibility of implementation parameter. The opportunity was estimated in a similar way but by using the feasibility parameter instead.

2.5 Ideation

From the identified opportunities in the product-market fit analysis, improvements and additions were generated. The ideation focused mainly on the feedback from the product testing in correlation with the needs. The ideas were brainstormed at a conceptual level, mapping them to Remente's existing features, however, new features were ideated as well. In some cases, visualizations were created using the interface design tool Figma.

2.5.1 Recommendation for Approaching Chalmers

A recommendation for how Remente should approach Chalmers was designed, using the template of a Business Model Canvas by Strategyzer as guidelines [14]. A Business Model Canvas was considered to be appropriate since the focus of the thesis was not centered around developing a detailed business model, but rather to provide an overview of the subject.

3
Literature Study

3.1 Social Sustainability

Sustainable development was defined by the UN in 1987 as "Development that meets the needs of the present without compromising the ability of future generations to meet their needs". Sustainable development builds on three core dimensions, namely economic, environmental and social sustainability [15]. While the economic and environmental dimensions are well-researched areas, social sustainability remains relatively undeveloped [16].

3.2 Mental health and Mental Illness

Mental health is defined as: "A state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" [17]. Moreover, well-being is defined according to the Cambridge Dictionary as a "state of feeling happy and healthy" [18]. Mental illness, on the other hand, could be defined as a collective term that can be divided into mental health problems and mental diseases. Mental health problems are more vague conditions than mental diseases and could be expressed as e.g. mental unbalance, anxiety and sleep disturbance, but not severe enough to get a diagnosis. Mental disease is when a person shows symptoms fulfilling the criterion of getting a diagnosis according to a classification system e.g. ICD-10 or DSM-5. [19] [3, p. 226]

According to WHO, mental health relies on social, psychological and biological factors. Common risks for mental health are e.g. violence, sexual violence, socio-economic pressure, and human rights violations. But mental health could also be affected by things such as rapid social change, stressful work conditions, social exclusion, unhealthy lifestyle and physical ill-health [20].

According to WHO mental disorders include depression, bipolar disorder, schizophrenia, dementia, intellectual disabilities, and developmental disorders. It is widely spread that mental illness has been increasing during recent years, but there are only certain mental diagnoses that are following this trend. According to the National Board of Health and Welfare in Sweden, depression/anxiety, suicide attempts, and addiction-related issues are the diagnoses that have been increasing significantly

with regards to the birth cohorts while other diagnoses such as e.g. bipolar disease and schizophrenia remain fairly stable over the cohorts [21].

As written in section 1.1, WHO states that the number of people living with depression has increased with 18% between the years 2005 and 2015. By the year 2030, 300 million people are assumed to live with depression and it will be the biggest disease in the world [2]. In Sweden, the general public health has increased over the years, yet every second individual is expected to fall victim to mental illness [1].

The background of diseases like depression and anxiety is still not completely charted [3, p. 126]. Modern research acknowledges stress as an important risk factor for depression, and it is widely known that dramatic life events trigger depression [3, p. 226].

3.3 Stress

Stress could be defined in many different ways. According to one definition, stress is a result of the interplay between the nerve, hormone and immune system but also the result of the social and existential context of an individual [3]. Stress is a vital and natural biological process, important when in need of extra resources but also to e.g. learn new things and improve performance [3, p. 114] [22]. Stress can become unhealthy if the stress reaction is acute and traumatic or long-term without possibilities for recovery. The stress term could be divided into acute stress or chronic stress and the body reacts differently depending on what kind of stress a person is exposed to [23]. Unhealthy stress could be seen as trading long term health for short term survival [3, p. 302].

A stress reaction is both physical and cognitive [3, p. 301]. Physically, the brain gets a higher degree of alertness, increased metabolism, increased blood flow and desynchronized electroencephalography (EEG), and there is an increase in activity in the sympathetic and parasympathetic nerves. The musculature, the endocrine system, and the immune system are also affected [3, p. 109]. If these reactions are long-term or intense, it can not only affect the functioning but also the structure of different organs in the body[3, p. 55]. Chronic stress can cause high blood pressure, artery-clogging deposits, brain changes contributing to anxiety, depression, addiction, and obesity [24]. Except for physical reactions, there are cognitive reactions to unhealthy stress such as e.g. memory and concentration difficulties. It is also affecting creativity, decision making, social skills, and empathy and makes people more egoistic [3, p. 302] Another common consequence of long-term stress are burnouts [3, p. 224]. Burnouts can be described as being emotionally exhausted, usually involving taking distance from other people and decreased performance [3, p. 225]. It is not only workload that effects burnout, but it is also the perception of control, reward, interplay with colleges and leaders, justice, and the fact that one's own values are corresponding to the company's [3, p. 231]. A widely used instrument to make measurements of an individual's experience of burnout is the Maslach Burnout Inventory (MBI) [25].and will be discussed further in section 3.4 below.

3.4 Stress and Burnouts in the Organizational Sector

As mentioned above, stress may have devastating consequences for the individual, but it is also affecting the efficiency and performance of the organization [3, p. 302]. Long-term sick-leave has increased rapidly for several years and the most common reasons are burnouts and depression [3, p. 276]. In 2014, psychiatric diagnoses became the most common reason for sick-leave, where the biggest increase derived from adjustment disorder and stress [26]. Some of the factors contributing to this increase are the rapid changes in society with claims on high speed, efficiency, and flexibility but also tougher competition, re-organizations and cut-downs [3, p. 276]. There is also a boundary shift between work and personal life, which is a result of more flexible work set-ups, where people can work regardless of the time of the day and location [27].

Organizations under stress are less customer-centered and tend to have tunnel vision. According to Bengt Arnetz, there is a tipping point where a company runs the risk of organizational burnout where employees are working harder at the same time as the performance and efficiency continue to drop. [3, p. 302] Moreover, stress-related illness in organizations run the risk of employees missing out on ideas and thoughts, creative meetings and innovative aspects [3, p. 301].

The Royal Swedish Academy of Engineering Sciences has defined human capital as "the employee's contributions to create value and efficiency in a company, in other words, the competence and capacity of the employees" [3, p. 301]. Measures made in Sweden has been showing that the human capital in Sweden has been facing a negative development during recent years and research is pointing out stress as one of the main reasons. This is alarming, especially due to the increasing importance of competence, engagement, motivation, job satisfaction and mental strength in today's knowledge-based society [3, p. 301].

An expert forecast on emerging psycho-social occupational safety and health risks was performed by the European Agency for Safety and Health, in which five emerging psycho-social risk areas in EU-15 were identified as follows: (1) New forms of employment contracts and job insecurity, (2) Ageing workforce (3) Work intensification, (4) High emotional demands at work and (5) Poor work-life balance. In 2002, the cost of work-related stress in EU-15 was estimated to EUR 20 000 million [28].

A widely accepted psychological inventory to measure occupational burnout is the Maslach Burnout Inventory [29]. According to Maslach, engagement is the positive opposite of burnout and building engagement is the best way to prevent burnout. Engaged people are better to cope with challenges and are more likely to recover from stress. Maslach also states that preventing burnout is a better strategy than treating it when it is already a problem, saving personal, social and organizational costs. Interventions should also be at an organizational level instead of an individual level to get a larger effect, involving more employees. According to Maslach,

there are six predictive factors or job stressors related to burnout and engagement: workload, control, rewards, community, fairness, and values [29].

Regarding the workload stressor, workload is a source of burnout when the workload and job demands exceed human limits. Moreover, increasing workload is related to burnout. Regarding the control stressor, personal control is important in the workplace and having a lack of control e.g. through role conflict and role ambiguity are risk factors for burnout. Active participation in organizational decision-making, on the other hand, is related to lower levels of burnout. Regarding the reward stressor, rewards could be monetary but also institutional and social, such as recognition from colleges and managers. The community stressor addresses the quality of social interactions, such as issues of conflict, mutual support, closeness, and capacity to work as a team. The fairness stressor is seen as the perception of fairness regarding decisions at work. The last stressor, value, is the motivating connection between employees and their workplace. A gap between the personal and organizational values is also a predictor of burnout while coherent values are associated with professional efficacy [30]. These job stressors occur when there is a mismatch between the individual resources and the work demands concerning the six factors previously stated [31]. Moreover, workload is usually not the primary factor for burnout, which is a common misunderstanding [29].

Recent trends in the burnout research have shifted focus towards engagement instead of burnout as part of a bigger trend in positive psychology which agrees with Maslach view described above. The new trends are focusing on human strength and optimization instead of human weaknesses [32]. One scale used to measure engagement is the Utrecht Work Engagement Scale (UWES), which consists of three aspects of work engagement namely, vigor, dedication, and absorption. Work engagement can be measured by the answers from several questions derived from each aspect [33].

A growing number of big companies are realizing the importance of focusing on the health of the employees and establishing preventative interventions and several companies are developing programs to prevent fatigue and stress. If the management and employees are not in health, competence and motivation within the company will be affected [3, p. 313]. Employees exposed to high workload with no possibility to impact their situation and chronic stress have fewer social skills and are less flexible. These employees reacts and focus on short term survival, which makes them lose their customer focus. Several companies in Sweden have been developing intervention programs to prevent burnouts. One example is Volvo who is providing intervention tools for the management and project leaders, which was a decision taken in the board, indicating the importance of these addressing these issues [3, p. 314].

Healthy employees and management teams perform better and achieve more. They also have an increased tendency to change, they have less sick leave and consume less healthcare [3, p. 314].

According to Bengt Arnetz, the cost of the health of the employees have to be paid sooner or later. Financially, Arnetz claims that investments in wellness interventions will be paid back five times the original cost [3, p. 314]. In a study investigating the effect of an intervention program in the Swedish bank Handelsbanken, the estimated profit was 400 000 SEK during an 11-month period, due to increased productivity [3, p. 310].

According to Raitano and Kleiner, personal traits will determine the impacts of a person's stress response and will depend on a person's locus of control, personality hardiness and their preference for social support. There are different methods to prevent stress for an individual, where primary stress prevention focuses on reducing the factors causing distress e.g. changing job design or working hours and secondary stress prevention focuses on easing the stress response e.g. through physical or mental exercise [34].

Several studies are pointing out high demands and workload as a reason to illness, but only in combination with a low possibility of control and a low possibility of making own decisions [3, p. 52].

The Demand-Control-Support model was originally created by Karasek and Theorell, which Johnson later added a support parameter to, as work-related social support impacts job strain [35]. Looking at the Demand-Control-Support model in 2D, one can divide work into four categories namely, high strain work, low strain work, passive work and active work depending on the level of control and demand. Work including *high demand and low control* is called *high strain work* and is related to e.g. stress-related illness and reduced capacity for learning and development. Work including *low demand and high control* is called *low strain work. Passive work*, includes both *low control and low demands*. Work including *high demand and high control* is called *active work* and is related to stimulating and challenging work allowing mental growth. The stress perceived in the active phase is usually called positive stress [36] [35] [3, p. 52] The work-related social support aspect added by Johnsson describes whether the work is high in work support, collective, or low on work support, isolated. This adds a third dimension to the model, creating eight categories in total as work categorized as e.g. passive work, also could be either collective or isolated [35].

Looking into the different dimensions, Johnson measures psychological job demands by asking two questions, (1) Is our job hectic? and (2) Is your job psychologically demanding? The work control aspect includes 11 items: (1) Influence over the planning of work, (2) Influence over the setting of the work pace, (3) influence over how time is used in work, (4) the planning of work breaks, (5) the planning of vacations, (6) flexible working hours, (7) freedom to receive a phone call during working hours, (8) freedom to receive a private visitor at work, (9) varied task content, (10) varied work procedures and (11) possibilities for ongoing education as part of the job. The work-related social support was measured through five items

whether the employees: (1) could talk to co-workers during breaks, (2) could leave their job to talk with co-workers, (3) could interact with co-workers as part of their work, (4) meet with co-workers outside workplace and (5) had met with co-worker during the last six months [35].

3.5 Stress and Health in the Educational Sector

The Public Health Agency of Sweden states that the situation in Sweden is correlating with the global picture, where students report more mental problems and less mental well-being than same-aged working peers and the population in general. They also claim the university to be an appropriate place to reach young adults with interventions for mental illness. The same report shows that 10% of students had severe problems with worry and anxiety and that both problems with mental well-being and stress were more common among women than men. According to statistics from the Public Health Agency of Sweden, there has been an increase in students reporting stress from 22% to 31% between the years of 2016-2018. In the same study, they also concluded that it is more common for people with higher education to experience stress than those who did not have a higher education [6].

In 2007, SCB stated that 7 out of 10 Swedish university students reported feeling stressed several times during a week and some of the symptoms mentioned were insomnia, headache and stomach pain. The same report shows that 5% of all students have been discriminated due to their gender, where the number was much higher for female students within e.g. medical doctor students and engineering. 40% of all students found it difficult to combine studies with their private life and almost 50% of the students had a social situation affecting the studies negatively [37].

Potential causes of why mental illness have increased among young people are presented in a report from the Public Health Agency of Sweden, where one key factor is said to be the changing labor market with increasing demand for competence and higher education resulting in increased pressure on the young people. 60% of the young people in the study think that employment is the most important task to solve for themselves. They also state that another factor to why reported mental illnesses have increased could be that the stigma has decreased, meaning that more people are willing to talk about their issues [38].

In a longitudinal study on Swedish nursing students, Karolinska Institutet created a Burnout Risk factor profile (BRP) to measure the prevalence of study-related stressors. The student-related stressors described in the report were based on Maslachs stressors from MBI described in section 3.4, but adapted to the study-related context. The six study-related stressors were according to the report: too high study pace, absence of recognition, low impact, low cohesion in class, unfair grading and conflict in values. The study shows that low influence is the biggest problem throughout all three years of education, while high workload is in second place and is also increasing with time during the education [39].

An extensive study on the frequency of study related burnouts (SRB) in Finnish universities concluded that personal achievement motivation (AM) had the biggest impact on student's well-being. Examples of personal AM are studying abilities, study success and appreciation of studies. The authors, Kuittinen et al, also describe that 45% of respondents had an increased risk of burnout while 19% had an obvious increased risk. In the study, it was stated that the will of obtaining professional competencies through studies might give lower SRB and better study success. Another strong indicator to study success is a clear and meaningful purpose for one's studies. Students adapting to their program are more likely to feel satisfied and poor adaptation could mean more stress. As the stress increases among students, their perception of the quality of teaching, teacher friendliness, pace and option of courses becomes more negative. Furthermore, in the study it was also concluded that females suffered more from SRB, however, men are "suffering in silence", i.e. they are not prone to recognize if they are under stress. However, the difference between genders was not significant [7].

It is not directly the stressors that cause harm to the student's well-being, instead, how students interpret and perceive them. Therefore, developing coping strategies to manage and control stress is crucial to establish well-being. Similarly, it is not the workload itself that is causing stress, it is rather the student's perception and control over time. Furthermore, students perceiving that they continuously have to perform and have a fear of failing are prone to mental illness since this will force them to overachieve. The biggest stressors for the "overachievers" are fear of failure, feeling forced to study and inappropriate study skills. This will lead to the students approaching surface learning which in turn leads to that they might lose interest in their studies. Hence, Kuittinen et al. state that it is important that the students can relate to their studies on a personal level [7].

Focusing on the aspect of performance, student personal achievement motivation is the most important performance predictor in higher education according to Kuittinen et. al, as motivated students will spend more time on studying [7]. According to Zajacova, academic self-efficacy is a better predictor than stress when it comes to academic success, due to increased motivation, persistence and time spent on studying. As well as self-efficacy and personal achievement motivation can increase academic performance, stress has a negative impact on performance [40]. Academic factors influencing student performance are such as gender, educational level of parents, high school GPA, etc., but other studies show that problems are caused by emotional factors rather than academic. Emotional factors could be such as self-confidence, self-control, achievement-oriented personality [41].

In a Swedish study regarding burnouts among nursing students, it was concluded that the students performed worse, both within academia and the work life, if they had developed a burnout during their studies. The study states that the students with an early developed burnout will after one year of graduation have e.g. lower mastery in the occupational tasks and less research utilization [42].

There are several different ways of measuring burnouts within the educational sector e.g. School Burnout Inventory (SBI) and Bergen Burnout Inventory (BBI). The BBI measures three dimensions of burnout: emotional exhaustion, cynicism and sense of inadequacy. BBI is derived from MBI and altered according to the critique against MBI. The SBI is in turn developed from the BBI but changed to suit the school context. The SBI is based on 9 items measuring three dimensions of school burnout: exhaustion at school, cynicism toward the meaning of school and the sense of inadequacy at school [43] [7].

In a study of upper secondary high school students in Finland, the SBI was tested as a measurement to assess study-related burnouts. In the study, three dimensions were measured: emotional exhaustion, cynicism and sense of inadequacy but also academic achievement, school engagement and depressive symptoms. The study concluded that the lower academic achievement and school engagement, the more cynicism towards the school and a sense of inadequacy at school. Depressive symptoms also correlated with academic achievement and engagement, i.e. the more depressive symptoms, the lower academic achievement and engagement [43].

However, it is important to mention that low stress levels do not correlate with better performance as certain levels of stress tend to push students towards optimal performance. Too low levels of stress can also make students feel understimulated. It is important to be able to cope with stress, so the optimal performance level is reached [44].

In a Harvard study, the mental health of PhD students was analyzed. Several aspects were identified to stimulate the student's mental health, such as: having a sense of usefulness and meaning in their work, goals to aspire to, a sense of accomplishment and opportunities to have an impact on their surroundings are crucial for the student's well-being. The same study also specifies that students with worse mental health also had lower performance than those with better mental health. Furthermore, students had better mental health if they were prone to discuss this with the school's faculty [5].

3.6 Prevention and Interventions

A systematic literature review from 2016 focusing on interventions to promote mental health at university concludes: "Universities should invest in creating supportive physical, social and academic environments that promote student and staff mental well-being. However, the current body of evidence is scarce, and more research is needed to recommend what are the best strategies" [45, p. 797].

In the previous section, several aspects of preventing mental health issues within the educational sector were presented. According to the study made at Harvard, these were: having a sense of usefulness and meaning in their work, goals to aspire to, a sense of accomplishment and opportunities to have an impact on their surroundings

[5]. This can be further strengthened by Arnetz et al. that presents five psychological factors that are protecting against dangerous stress. These are: (1) Perceived meaningfulness, where one can set up goals to strive for, (2) control and possibility to impact one's own life, (3) personal development throughout life, (4) social cohesion and close relations with other people and (5) self-esteem and self-respect including perceived own-value not depending on productivity or accomplishments [3, p. 288].

As mentioned in section 3.5 above, some stressors and different factors are contributing to mental illness, but the same factors could also work as preventive measures if stimulated in a positive direction as burnout and engagements as opposites of the same continuum. Therefore, if stimulating workload, control, rewards, community, fairness and values in a positive direction this can be used as preventative measures [29].

A study from the Public Health Agency of Sweden shows that interventions such as cognitive behavioral therapy (CBT), Mind-body related interventions and psycho-pedagogical interventions affect decreasing mental illness, but the duration is fairly short. CBT proved to both decrease mental illness and increase mental health among students [46].

WHO mentions mental health promotion activities in schools such as programs involving supportive ecological changes and stress prevention programs as specific ways to promote mental health [47]. However, ambitions for intervention-programs on an organizational level has proved relatively small improvements, according to Arnetz et al [3, p. 287]. Instead, there is a need for extensive structural interventions and reorganizations to prevent people from ending up in social and work environmental situations causing illness in the first place. Furthermore, it is important to create a culture where it is not seen as good to work overtime and when employees are encouraged to take breaks and reflect [3, p. 231].

The Public Health Agency of Sweden states that interventions to prevent mental health issues need to be addressed on several levels. From the individual to the organizational and societal level. However, they state that studies of large scale interventions and strategies on are rather limited. Although, it could be concluded that schools should invest more in supporting, physical, societal and academical work environments to promote mental health. One example of aspects proving to have a positive impact on Swedish universities was that the grading system was changed to only "pass" or "fail". Providing students with knowledge of what is promoting their well-being has proved to have a positive effect as well [46].

Problems with current interventions and programs in the organizational sector are that too few people are searching for help in the first place and even if they apply for help, not everyone are responding to the intervention. Furthermore, there are high rates of drop-outs from the programs and high rates of relapses [48].

In the study by Kuittinen et al, it is emphasized that both teachers and students are responsible for coping with the students' stress. It is stated that teachers have a strong influence on the student well-being and that teachers should be able to identify and help students to get help concerning stress-related problems. When asking students on what traits a teacher should have, they answered: knowledgeable, approachable, enthusiastic and friendly. Furthermore, students should instead of passively react to stress, improve their study skills and find active solutions such as stress management techniques. This could include relaxing and reducing cognitive stress, but also recognizing negative techniques they are currently using such as denial, task disengagement and venting negative emotions. Kuittinen et al. state that training students in stress management can reduce dropouts and increase overall well-being [7].

Other effective tools to reduce stress for students is, according to a study from India, biofeedback, yoga, life-skills training, mindfulness, meditation and psychotherapy [44]. Physical activities, both in work life and private life, is also proved to promote well-being and reduce stress [49].

Interventions regarding the organizational sector are discussed by Levi in the book "Stress". Some of these interventions mentioned are for the employer to provide employees with knowledge, self-esteem, and possibilities to participate. He also recommends having a plan and future vision for the development in environmental, lifestyle and health aspects. A systematic work method should be used when working with work environmental issues and he also recommends final accounts including social aspects to be implemented. Moreover, he recommends knowledge within work environment and leadership to be included in the educations of engineers and economists. He also recommends developing a database/website for a good work environment and health in each branch [50, p. 224].

4

Market Analysis

4.1 PEST Analysis

This section can be seen as an extension of the literature study in section 3, focusing on trends in the four aspects: *Political*, *Economic*, *Societal*, *Technological*. The sources in this section comes from research, websites and interviews.

4.1.1 Political Aspects

Mental health has become an increasingly important subject in recent years and the Swedish Government is making several efforts into this area. In 2015, five directives were presented on what interventions should be focused on in the area of mental health during the period of 2016 and 2020. Two of these directives were of special interest to this project. The first directive was focused on preventive work and work promoting mental health. Here it is stated that the possibilities of working with preventive measures are many, however, few efforts are made. It is emphasized that to achieve this it is important to identify knowledge and deficiencies and to stimulate the development of health promotion efforts within the area. The second directive was to offer and enable early interventions. Regardless of the person's mental state, the possibilities for aid should be available for anyone who needs it [51]. This indicates that the Government of Sweden is highly aware of these issues and identifies mental health as a critical area where resources have to be applied. Furthermore, this also indicates a need to tackle these issues in a more preventative manner.

Stated in section 3.5 the Swedish Work Environment Authority, released new regulations for the organizational and social work environment in 2015 (AFS2015:4). The aim of these regulations was to promote well-being and to prevent mental illness [4]. Moreover, The Swedish Work Environment Authority has released guidelines for reducing work-related stress. In these guidelines, the importance of being observant of early signs of mental illness is stated, to be able to apply counteractions. They proposed 4 steps to systematically improve the work environment: Analyze the work environment, estimate the risks, find measures to eliminate the risks and control that the risks have been dealt with [52]. Chalmers is also following the Swedish Work Environment Authority regulations (AFS2015:4), however, this only concerns the employees at Chalmers and students are only covered to the extent possible, which was stated by the Health and Safety Officer at Chalmers, see Appendix D.2.

Another institute in Sweden working with this subject is the Public Health Agency of Sweden, which announced that they will take action in reducing the stigma concerning mental health in 2018. These actions will take place during the period 2019 and 2020. The main focus will be to provide knowledge and information about mental health and encourage the public to speak up regarding the topic [53].

This proves that the government and its institutions in Sweden are well aware of the situation, and measures are made to cope with the current trend.

The European Agency for Safety and Health at Work has also released guidelines on how to promote well-being at work. These guidelines are similar to the systematical approach that the Swedish Work Environment Authority proposed. Here the work is divided into five steps: preparation, assessing risks, action planning, taking action and evaluation [54].

As stated in section 3.5, all publicly owned higher educations in Sweden have to follow a list of rules called the Higher Education Ordinance. Although, since Chalmers is a private institution, they are not obligated to follow this ordinance, but according to the Health and Safety Officer at Chalmers, they are still following it to some extent and use it as a guideline, see Appendix D.2.

4.1.2 Economic Aspects

The economics behind mental illness is complex. There are many estimations on how much mental health and work-related stress costs. On a global level, Reuters reported that between the years 2010 and 2030 the cost would potentially add up to $16 trillion. These costs includes: medicine, therapy, social welfare and loss of productivity [55]. If the focus is put on work-related stress, a report has stated in 2018 that the cost will range between $221.13 million to $187 billion in Europe. This is, of course, a very wide range, but it may strengthen the point that this area is complex and sometimes hard to estimate. Nonetheless, the main contributor to this cost is the loss of productivity which is between 70-90% [56].

In Sweden, a study made by the Swedish Ministry of Employment in 2000, estimated that work-related sick leave and stress would cost 47 billion SEK. Similar to the other studies, loss of production was the main contributor here as well [57]. The government of Sweden stated in 2018 that they are going to fund 25 million SEK for non-profit organizations that work towards reducing mental illness [53].

The self-help industry in the US is expected to have an average yearly gain of 5.6% between the years 2016 and 2022. At the end of this period, this industry will be worth $13.2 billion. In the article stating this, self-help was described as to support knowledge to aspects such as; improve relationships, manage stress, increase productivity, lose weight, etc [58].

In an interview with a previous competitor, see section 4.3.3, it was understood that danish universities are only paid when the students graduate. Furthermore, these universities will soon be measured according to employability, i.e. how long time it takes for students to get a job after graduation. The universities receiving a high rank according to employability will receive extra funding from the Danish government.

Looking at the economy in Sweden, the Swedish Confederation of Professional Associations (SACO) has stated in a report that the average cost for a Swedish engineering student that is studying five years at university costs 440,000 SEK. However, the costs for the basic education prior to the university is approximately 2 million SEK. Meaning that a Swedish engineering student costs, in total, almost 2,5 million SEK to educate [59]. Furthermore, the Swedish Government is deciding the resource allocation for each university in Sweden. The allocation for education on basic and advanced level is based on the number of registered students and their number of finished credits. There is a compensation system, to which Chalmers is included, even though it is a foundation. Regarding the compensation, there is a maximum amount the university can receive for a completed education, which differs between different educational areas[60].

4.1.3 Societal Aspects

Some societal trends regarding mental health have already been idenified and stated in Chapter 3. Although, other societal trends are discussed in this section, together with some insights from interviews.

A report by the Public Health Agency of Sweden published in 2018 stated that women tend to experience more troubles with different degrees of anxiety than males. In the age span of 16 to 29, 54% of women stated that they are experiencing anxiety at some degrees while 33% of the males experienced it respectively. Furthermore, between the years 1980 and 2015, a trend has been observed in Sweden that severe anxiety among people between the ages of 16 to 24 years old has increased. For men, this increased from 1% to 7% and for women, 2% to 11%. As stated in section 3.5, there has been a rise in students reporting stress between the years of 2016-2018 from 22% to 31%. Potential causes were presented of why mental illness has increased among the students. A key factor could be that students are becoming more anxious about the future, more specifically about finishing their education with good grades and getting a job. In the same study, it was stated that the topic of mental health has been more talked about recently and people's ability to report issues has increased. It is therefore not clear, whether it is the increased consciousness among students causing this trend or if it is the fact that students are experiencing more issues than before[38].

According to The Swedish Higher Education Authority, the number of enrolled students in 2018 was around 320,000 [61]. The average age of when people are estab-

lishing themselves in the working life has drastically increased from 21 years old to 29 years old between the years 1985 and 2014 in Sweden. This is mainly due to changes in the labor market and the increased need to pursue higher education [38]. Moreover, Sweden has one of longest expected time spent in school worldwide, which is in average 13.9 years [62]. According to SCB, the number of engineering students graduating in Sweden has decreased over time. Only 51% of the students enrolled in a 5-year program 2008/09, graduated the years 2015/16. Out of the students that had succeeded in graduating, only 44% was examined within the set out time of 5 years [63].

According to the University Priest at Chalmers, see Appendix D.3, students were previously more worried about aspects such as if the program was the right one for them or that they felt like they were not good enough. Nowadays it is more common that students are focused on performing well and completing their education. Another trend discussed by the University Priest is that students have less understanding of the grades given by the examiners today. E.g. if a student receives a bad grade, they tend to believe that they deserved a better one and complain, instead of accepting it. The University Priest also stated that at the beginning of his time at Chalmers, first-year students were usually more frequent visitors. Now it is more senior students that seek his help. However, in recent years he has noted that students are becoming better to open up and to talk about their feelings. The priest also stated that both men and women visited him equally and that the ages ranged between 22-27 years old.

The digitization of society has also had an impact on the situation students. According to the report made by the Public Health Agency of Sweden, there are both positive and negative aspects of the increasing digitization. It can e.g. be argued that social media provides a bigger platform for interaction and more possibilities. However, many are concerned that people are spending too much time online, affecting them negatively. In the report, it is also stated that there is a correlation between the increased use of technology and aspects such as stress, depression, and insomnia [38].

People born between 1997-2012 are defined as generation Z [64]. According to Previa, there are five areas typical to generation Z. Social responsibility and meaningfulness is one of the areas, meaning that they have a large interest in making a difference. Another area is entrepreneurship, where almost 50% are interested in having their own company. 70% claims that they will choose a profession according to personal interest and 39% based on a high future income. Regarding work, the office is less important than the work tasks, the freedom, and colleagues. Generation Z wants feedback, coaching, and advice. Moreover, they are used to flexible working hours and mobile offices. Regarding spare time, work-life balance is more important than a high salary [65].

According to Universum, an employer branding company founded in Sweden, generation Z are digital natives and are more prone to educate on their own, on the

web or through their profession. 33% of generation Z uses the web for learning today and 41% of the Swedish generation Z population claims to be interested in working directly after high school, if provided with an education within the company. This indicates that generation Z are more prone to consider alternatives to higher education, resulting in a possible decrease in the amount of enrolled university students [66][67]. A conclusion that could be drawn from this is that there is a high probability that the competition for enrolling students will increase among the Swedish universities in the years to come. To stay competitive, it should therefore, be of high importance to understand what is attracting the younger generation into higher education.

Another trend identified is the importance of teaching soft-skills for engineering students. According to Choudary, engineering students who are aspiring to become professionals within their field of study not only need their academical and technical skills but also soft-skills [68]. Choudary continues to state, that the school need to take responsibility, as well as the student, and implement the training of soft-skills early in the education, in parallel with teaching hard-skills. This could result in that the students become more employable. This can be further strengthened by Robles, who emphasizes that schools need to include training of soft-skills for business students to become better equipped for their work-life [69]. According to Robles, soft skills equals interpersonal (people) skills and personal (career) attributes. Choudary, on the other hand, divides soft skills into three categories. The first one was English language communication skills, which he described as e.g. communication and presentation skills. The second category was emotional skills, described as personal and professional effectiveness skills. The last one, thinking skills, includes proactive skills, stress management skills, time management skills, problem-solving skills, self-understanding skills, and planning skills.

4.1.4 Technological Aspects

The access to and use of technology has undeniably increased over the years. The group in society that is the most prominent user is the younger population, i.e. people born in the nineties and the 2000s. However, studies have shown that older generations are adopting more technology as well. The Internet Foundation in Sweden conducts an annual study, mapping the Swedes' usage of internet and technology. Here it is observed that 98% of people born in the nineties have internet in their phones and that the most used app is Facebook, where 94% of the asked stated that they use it. The usage of smartphones, tablets, and the internet has had an immense increase in recent years. In 2011, 27% had a smartphone compared to 90% in 2018. The most preferred smartphone by the Swedes is the iPhone holding 46% of the market share, followed by Android holding 38% [70].

In the US a similar situation is observed. According to Pew Research the millennials, which are born between 1981 and 1996, are the most frequent users of technology as well. 92% of them state that they own a smartphone. Furthermore, 97% of the

millennial's state that they use internet. Compared to the previous paragraph a correlation can be seen that the use of internet and the increased use of smartphones is very prominent among the younger population [71].

Although a large majority use smartphones, few apps are actually used. In an article that has collectively analyzed different usages of apps, a conclusion was made that the average smartphone user has 25 to 30 installed apps but only five of these are used "heavily". The same article also concluded that the average time spent monthly in mobile apps are 38 and 37 hours for women respectively men [72].

According to a study on the use of mobile apps in the U.S., it was concluded that the majority downloaded an average of zero apps per month. Furthermore, an average user spends 42% of their time in their most used app. Five of the users top-ranked apps make up for 80% of the time spent in all apps [73]. In an article, it is discussed that trends are showing that the mobile native app era has peaked and in the future web applications might become more prominent. The author suggests that mobile apps have the disadvantage of needing an installment, which is an obstacle that web applications do not have to account for since they are already accessible online through the user's web browser. The author also states that the user might experience an overwhelming amount of options when browsing in app market places and therefore having trouble finding the app they are searching for. Another trend that is written about in the article is the more frequent use of Chat-bots. This was also used by the competitor Steps in their B2B product, see section 4.3.3. Chat-bots have seen an increased use because most users already have a messenger app installed, e.g. Facebook Messenger, meaning no installation is required. Moreover, the increased development of artificial intelligence has also supported this trend [74].

However, comparing native apps to web-based apps, a study regarding students' preferences in mobile app usage states that students in almost all cases of different app usages prefer a native app rather than a web-based. The main reason why the student rather prefers native apps was that it is easier and faster to use [75].

People are becoming more aware of their digital consumption but also more cautious about their digital footprint. With the threats of personal data being published or used against one's own wishes trends have shown that Swedes have become more careful in their use of internet. In a study made by SIFO, a Swedish company operating in the field of opinion and social research, 43% of the respondents stated that they have become more cautious online [76].

4.2 SWOT Analysis

In this segment the *Strengths*, *Weaknesses*, *Opportunities* and *Threats* of Remente are analyzed. The strength and weaknesses segment of this part are based on the authors own reflections together with interviews with employees at Remente, which can be found in Appendix C.2 and C.3.

4.2.1 Strengths

Advantage of Proposition & Competitive Advantage
Remente offers a complete solution, going from identifying the problem by measuring the mood and life balance into setting goals to successfully change direction from the identified problems. This could be done either through own defined goals or by taking a Resource provided by Remente. The Resources provide information and guidance within different areas. Moreover, Remente offers a more accessible tool compared to real life coaching in the sense that the user can use it whenever they want and need it, without having to wait in line or schedule any meetings. It provides the user with more control over the improvement process and offers the possibility to screen among potential courses for self-development provided in the Resoure Library.

Unique Selling Points
- Offers a system built up after how the brain is working
- Offers a complete solution - from identifying the problem to solving it
- Renown experts behind the offered courses
- Offers a tool for self-leadership
- The Pulse function offers a tool to measure the employee situation in real-time
- Offers a solution to decrease the turnover rates and the stress-levels in organizations

Capabilities
The most important resources at Remente are the people, both with regards to the people working at Remente but also the experts linked to the company. The Remente-team is a small cross-functional team consisting of experienced entrepreneurs, software developers, marketing and sales personnel and personnel within UX and content. They also have important collaborations with experts in different fields e.g. psychologists, memory experts, coaching, mental training and more. Many of the co-founders and employees have broad networks that are great assets regarding marketing and sales but also for future collaborations.

Assets
Remente has in-house software development, enabling quick product changes and maintenance of their different platforms. Moreover, they have several experienced partners regarding psychology and coaching. They also have stored customer feedback from reviews.

Marketing - Reach, Distribution, Awareness
Marketing channels currently used are publications on websites and web-based journals, personal selling, events, lectures, and seminars but also marketing through social media such as Facebook, Linkedin, Instagram and YouTube. The product is distributed through App Store, Google Play and their web-based platform. Paddle is used to aid payments on the web-platform. However, they are not actively marketing the web-platform at the moment. The revenue streams are based on monthly subscription payments, but they are also dependent on external funding.

Innovative Aspects
Remente has an innovative business culture characterized by activities such as "thinker week" and "hackathons". They also have one day a week where they are encouraged to work on personal projects within the Remente scope. Moreover, the company is currently in an adaptable phase where they quickly can change direction according to market trends and opportunities. The company is driven by purpose and commitment which is engaging the employees and creating a strong feeling of responsibility and Remente also has a flat organizational structure. Remente is located in Gothenburg and their biggest market is geographically located in the U.S. and Sweden.

Accreditations, Qualifications and Certifications
The application has been highlighted in numerous publications such as Wired, the Guardian, The Next Web, Lifehacker, Forbes and New York Post.

4.2.2 Weaknesses

Disadvantages of Proposition
One current disadvantage with the product offering is the fact that it is very broad and can therefore be experienced as difficult to grasp and understand by the user. The users need time to familiarize themselves with the product and to learn how to use it. The product is designed for individual use and is therefore more difficult to sell B2B as it is not completely clear what problems the product is solving, making it difficult for a company to know why they should invest in it. There is a need to re-design the B2B package offering to reach the product-market fit in the B2B sector.

Capabilities
Since Remente is a small company, specific knowledge is tightly connected to individual employees. This would imply a risk if an employee would decide to leave the company.

Price, Value & Quality
The company is competing with time and price with regards to e.g. real-life coaches, as Remente is providing a much more affordable and efficient tool to access compared to a real-life coaching. As for the digital competitors, Remente could be considered to compete with quality as they provide a complete solution as described in the strengths above. Although, this indicates being "in between" market opportunities

where real-life coaches are on one side of the opportunities and more focused digital competitors are on the other. Further on, a weakness is that the identity of the company is not as strong as their competitors which could be a symptom of previous statements together with the fact that Remente are in an adaptable phase, also mentioned as one of the strengths. Further on, the company has not fully understood the customer needs yet and how to successfully "package" the product offering, which is one of the reasons for this loss of identity.

4.2.3 Opportunities

Digitalization of Coaching
The industry of coaching is undergoing a digital transformation, were several "e-coaching systems" are entering the market according to Kamphorst [77]. This indicates novel opportunities in the area of coaching and an increasing need for digital coaching solutions. Kamphorst is addressing the fact that there is currently no clear definition of what an e-coaching system is, which indicates how early on in the development phase this product category is. Applying these insights on the S-curve and "Four stage Technology Life Cycle" this is interpreted as if the area of e-coaching is somewhere between the innovation phase and the growth phases in the s-curve and approaching the Growth Boom according to the Four Stage Technology Life Cycle. Possible triggers for a Shakeout could be e.g. stronger regulations and policies followed by a clarification of the definition of e-coaching systems [78]. A visualization of where e-coaching is positioned in the S-curve and the Four stage Technology Life Cycle can be seen in Figure 4.1.
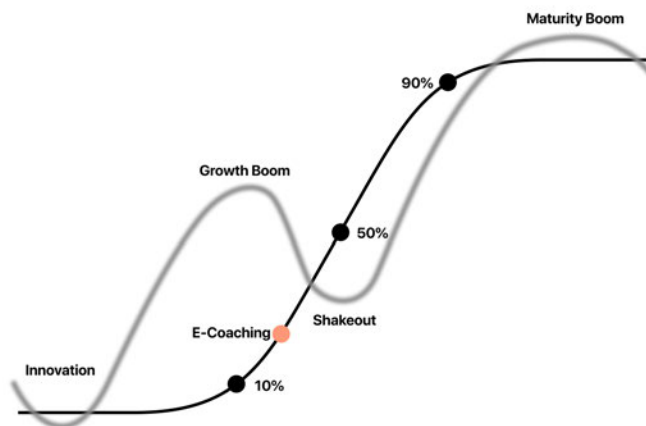
Figure 4.1: Visualization of where e-coaching is on an S-curve

Employees at Remente describe the company as flexible and having a loss of identity, which is correlating with the assumption for the s-curve saying there is clearly a window of opportunity in this field and that Remente will enter a new segment which is not clearly defined yet. Remente has good opportunities as they have a

far developed product with a broad customer base in a novel field that is still being defined. Moreover, Remente is a small company with flexible market offerings and are therefore considered to have a strong position to adapt to future clarifications and regulations within the field.

Soft skills
As stated in section 4.1, studies have shown that students and employees with soft-skills are more desirable for employers and that there is an increased need for soft-skills among employees. As Remente is offering tools for important soft-skills, such as e.g. stress management and planning skills, this proposes as an opportunity for Remente.

Increase in Stress-related Problems
As described in section 3.4 and 3.5, mental health issues are increasing in the organizational sector as well as the educational sector. This situation indicates that there is a need for aids and preventative tools to counteract these negative trends and that there are economic as well as humanitarian incentives doing so. There are good reasons to expect the need and purchasing power will increase in the future. As the boundaries between work and life are changing character and becoming more vague, there is a specific opportunity for Remente, as they are offering a complete solution, including all aspects of life instead of only focusing on working life as many of the competitors at the Swedish market.

Organizational Responsibility Regarding Psycho-social Work Environment
The Swedish Government stated in 2018 that they will focus on increasing the awareness concerning mental health within organizations, stressing the fact that organizations will have to take more responsibilities about this issue, see section 4.1. Furthermore, the Swedish Work Environment Authority released a collection of regulations in 2015, ASF 2015:4, concerning organizational and societal work environment. These regulations are also focused on the employer to take more responsibilities towards its employees. These trends indicate opportunities for services in this area, including Remente.

Increased Use of Digital Products
As described in the PEST Analysis, see section 4.1, smartphones and tablets have seen a huge boom in recent years, for example, in 2018, 90% of the Swedes had a smartphone compared to 27% in 2011. This indicates that the usage of digital products is increasing, meaning more potential customers will enter the market.

Technology Development
The development of artificial intelligence and deep learning is constantly moving forward [79]. Remente should therefore continuously strive to make their software smarter, keeping ahead of competitors with regards to technology, as this can pose as a big opportunity and competitive advantage.

4.2.4 Threats

Restriction in Regulations
As mentioned earlier, the possible future restrictions regarding regulations for e-coaching could pose as an opportunity for Remente but depending on the framing of the regulations and the actions of Remente, this could also pose as a threat. It is therefore of great importance to be aware of and stay updated for future regulations concerning e-coaching to stay competitive long-term since this is a relatively novel area experiencing rapid development.

After the introduction of the General Data Protection Regulation (GDPR), companies have had to adapt to follow the new rules. Breaching the GDPR will result in fines but might also undermine the company's credibility and reputation. It is therefore of special concern regarding Remente, who are handling sensitive personal data, to strictly follow these regulations and being aware of potential future changes and restrictions as well [80].

Company Identification
Remente currently lacks a clear company identification. As mentioned earlier, this could be a strength due to the novel market, Although, it is important to stay alert and find a market position together with a clear identity as soon as the market is ready. It is important to be able to categorize Remente and find a clear identification for the company and their offerings long-term.

Technology Developments
As described above, technology developments could be seen as a great opportunity for Remente, but it could also be seen as a risk. If not being observant of competitors and continuously adapt and implement new technology into their product, they run the risk of falling behind their competitors.

Competitor Expansion
Regarding the organizational sector, there are currently established competitors dominating the market. If these competitors would expand their product offering, approaching Remente's offering, this would pose as a threat to Remente. The same could be said for other established B2C applications such as e.g. Headspace, Calm and Fabulous which are further described in the competitor analysis section 4.3. These companies could also adapt their product, approaching Remente's market share. Therefore, Remente should continuously be observant of their competitors.

Scepticism of the Digital Development
As stated in section 4.1, People are becoming more aware of their digital consumption but are also more cautious about their digital footprint. This could pose as a threat to Remente if a growing number of users have skepticism for sharing their personal details in the app. Therefore, emphasis should lie on assuring that the user's data is stored securely.

4.3   Competitor Analysis

This section aims to analyze Remente's competitors and their product offerings to get a better understanding of the market. The competitors are divided into two sub-sections, direct- and indirect competitors, focusing exclusively on competitors with digital product offerings. The direct competitors are defined as companies offering a digital tool focused on mental health and well-being, targeting the educational sector. The indirect competitors are defined as companies offering a variety of digital products concerning mental health and well-being targeting sectors other than the educational sector. It should be noted that this is not a comprehensive analysis of the competitors, but rather an overview of a selection of companies, scrutinizing their product offerings and features.

4.3.1   Direct Competitors

Five direct competitors were identified and analyzed in this section. Two of these were of special interest due to their similarities with the product offering of Remente, namely WellTrack and WellbeingZone.

WellTrack
WellTrack brands themselves as a self-help therapy app, helping the user to track and understand their well-being. WellTrack provides courses and tools for the user to identify and address their issues, targeting students in higher educations and universities. The product is available as a mobile app for iPhone and Android. According to their website, over 2 million people use their product that are both students and individuals. Four universities are using WellTrack and all are located in North America, but private persons can use the app as well [81].

The product is centered around assessing the user through an initial 21 question survey and a "Mood Check". This will in order give the user advice on what areas of mental health to focus on and to be aware of: stress, anxiety, and depression, which can be seen in figure 4.2. The app also provides tools to counter the areas in which the user is at risk. These tools include a mediation feature, a scheduler to plan upcoming activities and a diary inspired feature where the user can write down their emotions after specific events that made them anxious, etc. A quiz concerning different coping strategies can be performed as well by the user. WellTrack also provides the user with shorter courses of the theory behind stress, anxiety, and depression. These courses are narrated by voice [82].
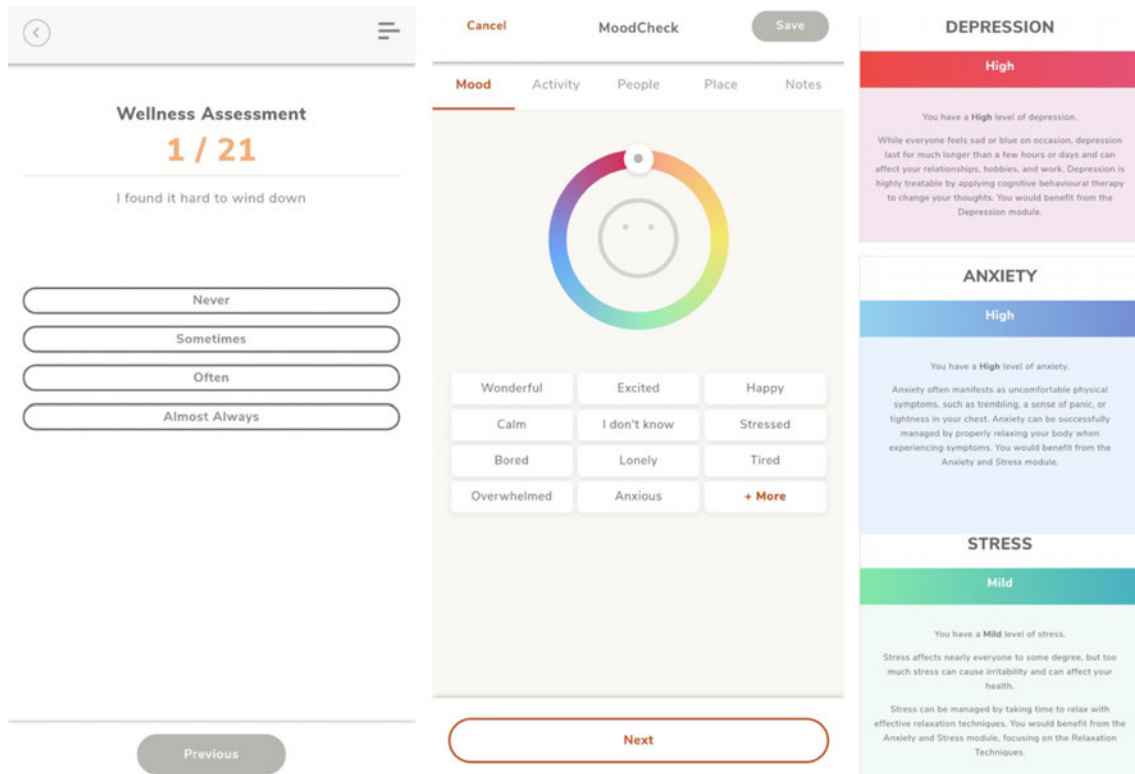
Figure 4.2: WellTrack's wellness assessments. Left: Survey. Middle: The "Mood-Check" feature. Right: Assessed areas concerning the user's mental health

As stated earlier, WellTrack is both a B2B and a B2C product. The app is available for private persons for a free trial for 14 days. After that, the customer can choose to buy either a subscription for 109 SEK/month or 579 SEK/year. For the B2B side, universities have three different packages to choose from; basic, popular and premium. The biggest difference in the packaging is the number of licenses the university can give out. The basic package offers the product for students who are in contact with the counseling centers. The popular package offers the product to all students at campus and an aggregated data set of the student's well-being will be provided for the school. The premium package includes the popular package but adds the feature to give the students advice on what resource to contact at the campus concerning their specific issue. In addition to this, marketing material for the universities will also be provided in the packages as well as online training sessions. Pricing for the different packages was not possible to find [81].

WellbeingZone
This competitor offers a B2B product, both as a web application and mobile app for iPhone and Android, targeting organizations. The product has a wide arrange of features but with the common denominator that they support well-being. Some of the features that the app offers are: well-being assessment, goal setting, and fitness programs. Several universities use this product, where the largest market is located in the United Kingdom. Some of the universities are: University of Kent, York St John University and the University of Salford [83] [84] [85].

The product is focused around a wellness assessment, where the users' well-being are assessed regarding several criteria such as: amount of caffeine, nicotine, alcohol, and water they consume but also aspects of money, their quality of sleep and energy levels. From this assessment the user will get advice on what areas to focus on by setting goals for them to achieve to counter the risk areas, see figure 4.3. WellbeingZone also includes a collection of fitness programs that are tailored according to the user assessment.
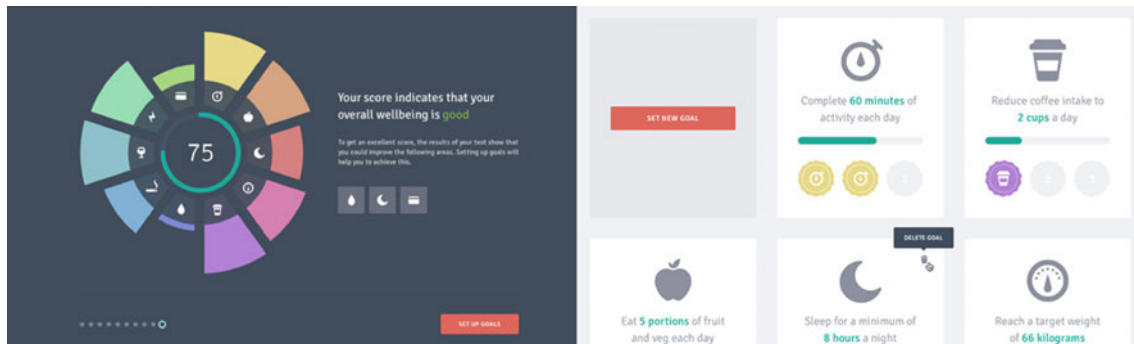
Figure 4.3: WellbeingZone's web application for University of Kent. Left: Assessment Wheel. Right: Goal Setting

The product is offered in three different packages, standard, pro, and premium. Information about the difference in pricing and features between these packages could not be found. The organizations have the possibility to customize the product according to their needs. However, it is also not all clear on to what degree the customization can be made [86].

Conclusion for WellTrack and WellbeingZone
Both of these products have in common that they assess the user input and provide the user with advice on what specific issues to address. WellTrack takes a more direct approach in addressing what kind of mental illness and what risk the user has, hence, giving the user a clear picture of what they need to work on. However, this only concerns stress, anxiety, and depression. The app features some tools to prevent these issues, although it is hard to know if they are sufficient. A notable feature in the premium package of the product is that the app can provide customized advice on what specific resources to contact at campus, but also providing the university with aggregated data concerning the student's well-being. This could work as a preventive measure as well, i.e. the schools can have better insight concerning the student's situation and apply resources where they are needed. Moreover, another notable aspect to WellTrack's business model is that they appear to put the universities in charge of the marketing of their product, providing the universities with material and even marketing consultation.

WellbeingZone, on the other hand, is approaching the topic of well-being in a different way. Although the company state that the issues of stress anxiety and depression

in the work-life are the main reason that organizations should invest in their product, the product is not presenting these issues to the user like e.g. WellTrack does. WellbeingZone is instead encouraging the user to use their product through gamification with medals for achieving goals and providing them with fitness programs etc. Since the pricing and packaging of WellbeingZone could not be found it is not possible to compare with other competitors. A reason why the information was not available could be that the company offers a customized version of their product, which may mean that the pricing varies depending on what features the customer want.

Other Direct Competitors
The remaining three direct competitors were, OpenUP UEA [87], Student Health App [88], and Steps, see section 4.3.3 below. These apps offer a different solution to Remente, however, they are still focused on well-being within the educational sector and are therefore considered as direct competitors. The first one, OpenUP UEA, is an app that is mostly an informative tool for the students at the University of East Anglia in the United Kingdom. The app's premise is that the students answer to the question "How are you feeling today?" and depending on their answer they get information on whom to contact at the campus regarding their thoughts. The Student Health App is also an app of a more informative character. The app functions as a data bank with information on the most common health issues that students experience and provides advice on what they can do for themselves but also who and when the user should seek help from. This app also allows universities to make customized versions according to their own preferences. Steps, on the other hand, differed from these two apps. The most essential difference was that Steps B2B product was a Facebook bot, instead of a native app. Steps gave the users different customized challenges that would ultimately work as a preventive measure towards mental illness, by making the users overcome social anxiety and become more socially comfortable. Steps also provided the university with a monthly report listing what sort of issues the students experienced, by analyzing how the students used their app. The founder of Steps was interviewed, therefore, details about Steps can be seen in section 4.3.3 below.

4.3.2 Indirect Competitors

As stated earlier, the indirect competitors consist of a variety of digital products that concerns mental health and well-being. These competitors are divided into four groups, namely B2B solutions, Life management Apps, Mediation Apps, and Productivity Apps.

B2B Solutions
As for the B2B competitors, four companies were identified: Winningtemp, Peakon, &frankly and Officevibe [89] [90] [91] [92].

All of these companies have in common that they offer increased engagement among the employees, creating a better work environment and culture around it, which is

similar to Remente's Pulse feature. In addition, the companies state that their products are based on research and science. These four competitors have to a large extent similar functions, where the management and HR of a company are allowed to measure the employee's situation and engagement but also to identify what issues that need to be addressed in the company. Furthermore, these products have in common that they function as a communication tool for the employees to give feedback. Most of the products also offer advice on what can be done after collecting the data, except &frankly. In most cases, this is in the form of courses within leadership abilities for the managers. Specific tools for the employees to address aspects such as e.g. stress management, well-being, and performance could not be found in these four products. Overall these products seem to have the purpose of connecting the company more between the management and the employees.

The pricing and packaging of the indirect competitors Peakon and Officevibe could be found. Both had three different packages with different pricing. The difference in these packages was, except the pricing, the number of features and the ability to receive quicker support. It should be noted that Officevibe's most basic package was available for free. The standard package included the main features of what they state at their website. The more expensive packages offered more detailed analyses of the feedback from the data collection and the possibility to customize the product according to the company's specific preferences.

Life Management Applications
The second group of indirect competitors is Life Management Apps, which is classed in the same self-help category as Remente. In this category, the two apps Fabulous and HabitHub are screened. Most of the focus was put on Fabulous since this is an app that Remente stated to be one of their biggest competitors on the B2C side.

Fabulous is a mobile app that is available both through App Store and Google Play. The app is designed to function as a life coach to motivate the user to develop habits to improve the user's productivity and prevent mental illnesses. It has won several awards such as Best Apps 2018 - Self-Care at App Store and Best App finalist in Google Play Awards. The app is centered around taking "Journeys", e.g. to sleep better and to get more energized. These "Journeys" provides the user with a preset list of habits and tasks they need to fulfill. Initially, these tasks are simple and few, but as the user progress, these become more elaborate and new features open up in the app. For instance, a collection of courses about e.g. mindfulness and exercise programs serving as a complement to the user's progress for improving their well-being. Compared to similar apps, Fabulous does not perform an assessment of the user to give the user a more customized experience. The user instead follows the already set habits which they need to fulfill to be able to continue their progress in the app. However, after some use the user can create their own habits and goals. Fabulous has recently introduced a new feature called Fabulous Circle, with the purpose to create a community among their users. The Fabulous Circle is based on a user to create a Facebook group and that this person invites people who are like-minded and want to achieve the same goals as the founder of the group.

The app comes in two packages, standard, and premium. The standard package is free but has limited content. Only one "Journey" is available, and most courses are locked. The premium package includes all features and is free the first week, after that it is either 99 SEK/month or 48 SEK/month for a one-year subscription [93] [94].

HabitHub is a more scaled down version of Fabulous where the user is allowed to freely create their own habits. The app's premise is that a user set a habit that they wish to establish. Enter the days in a calendar when they want to perform the habit. For each day the user can perform the habit a "chain" builds up and it also breaks if the user is not able to keep up [95].

Both these apps are centered around establishing and staying true to habits. According to the developers of Fabulous the app instilling habits will increase the user's mental health. However, both apps are using the aspect of building up streaks that the user should not break, which can be argued to have a negative impact on stress, as understood during an interview with an employee at Remente, see Appendix C.2

Meditation Applications

The third group is Meditation Apps. Although their features differ from Remente's existing product, the meditation apps are marketing themselves as promoting well-being and preventing mental health issues such as stress and anxiety. Meditation apps are common and popular tools for users wishing to improve their well-being. The two largest apps in this area are Calm and Headspace. In April 2019, Headspace was the second most profitable app in the health and fitness category in the Google Play store. Both apps focus on to reduce stress and anxiety, sleep better, increase personal growth, etc. by meditating. The meditation is done by listening to a narrator that talks about the different topics. In both of the apps, the user decides an area in which he or she wants to focus on and no personal assessment is performed [96] [97].

Applications for Productivity and Performance Targeted Towards Students

The last group is applications targeted towards students that are focused on increasing productivity and performance. This group was considered to be important as students may also turn to other apps having a more direct approach to increase productivity and performance. These apps are, for example, Todait, Studious, Go-Conqr, Studyblue and Brainscape. The common theme for these apps were that they often allowed the student to plan and organize their courses and assignment, set up meetings and groups as well as tracking an upcoming exam. Another common theme is that several apps allow the student to create and share flashcards and quizzes. Some apps have several varying features, but it is was most common to see apps that specialized in a specific area. Apps inspired by the Pomodoro Technique are also a way to increase productivity. An app that took a different approach to this was Forest. In their app, the user sets a certain time that he or she wishes to e.g. study. During this time a "tree" will be planted, and the phone cannot be used.

If the phone is used during this time the "tree" will die and the user will not get any points. If the user gets enough points however, the company behind the app, will plant a real tree [98].

4.3.3 Competitor Interview

To understand the market further, an interview with the co-founder of the former direct competitor Steps was performed. In this section, the interview is analyzed, and important outcomes are presented. Steps was decided to be discontinued during the autumn of 2019. The full interview can be seen in Appendix C.1.

The idea behind Steps, which was based in Denmark, was to create a product that would help people overcome social anxiety, fear and ensure social comfortability. This was done by giving the user different tasks that would challenge these aspects. Steps started as a B2C product, providing a mobile app for iPhone. Later, Steps switched to B2B since this proved to be a more profitable business model and because they identified a gap in the market for such a product. The B2B product was a Facebook Bot that sent messages to the user asking them a question. Depending on the answer, the user got a task which they could perform. Steps targeted the educational sector in Denmark, where universities only get paid for the students when they graduate. Hence, the universities were keen on understanding and ensuring well-being among the students to reduce drop-outs. Furthermore, universities in Denmark will soon be measured on how employable the students are after their graduation. This is an incitement for universities to focus on encouraging students to develop soft skills and increase their well-being, which could already be noticed according to Steps. Initially, Steps targeted the higher education as a whole but later narrowed it down to targeting first-year students entering the university. The co-founder said that the educational sector is an easier market to approach since there are already many actors in the organizational B2B side, but also since it is easier to find a homogeneous group of users at universities.

Steps sold monthly reports to universities, describing what the students were e.g. worried about. Moreover, Steps was paid monthly per enrolled user, which according to the co-founder, was the most successful way of doing it. Steps also provided the universities with packages of information that they could use as marketing of the product. The universities had full responsibility for the marketing of Steps. The co-founder claimed that by letting the university do the marketing, students tend to feel more trust compared to if it just was another company trying to sell them something.

Steps started to use a Facebook messenger bot instead of a mobile app since this was more adaptable for changes. According to the co-founder, the product went through many iterations when switching to the B2B sector and they did not have the resources needed to make those changes in their app.

The co-founder states, see Appendix C.1, that one problem with their product was

that it was too broad. She said that if they would have done it again, they would have only focused on making the product "perfect" for about five people and after that, they would expand it. She also would have tested the product in two groups, both those who are not feeling well and those who are "performers". Furthermore, she said that the biggest issue for Steps was to create motivation from the students to use the app. The universities were willing to pay, and there is a good product-market fit. However, she thinks that students already have a lot of tools and that this generation is bombarded with so many things. Meaning that students lose interest in additional tools they have to use.

According to the co-founder, the two most frequent issues regarding the students are: making new friends and becoming more comfortable in class. She also states that when they were out on campus marketing their product, they learned that the student motivation has to come from within, i.e. they could not force the student to become motivated to use their app. The co-founder also says it is important to only talk about the uplifting aspects, e.g. "do you want to have more energy?" rather than "do you want to be less tired?". Focusing on improvement and good aspects rather than anxiety and mental health.

5

Customer Needs Assessment

In this section, the customer needs concerning mental health are assessed. The customers in this project are two-fold, where the intended purchaser is Chalmers University of Technology and the intended end-users are the students at Chalmers.

5.1 Charting Chalmers

Chalmers University of Technology is a foundation with 10,300 full-time students and 3,100 employees [99]. Chalmers has 28 undergraduate programs and around 40 masters within engineering, architecture and maritime. Chalmers also owns and are partners with several other organizations such as e.g. Chalmers Ventures AB and Johanneberg Science Park [100]. In 2019, Chalmers was ranked as 128 in the QS World University Ranking and 86 in the world in the QS Employability Ranking. Furthermore, in 2018 the Kantar Sifo Reputation Index for Swedish Universities showed that the Chalmers had the highest ranking of all [101]. Sustainable Development is currently a key area for Chalmers. According to Chalmers, their most important focus is a sustainable future, concerning aspects such as ecological, economic and social sustainability [102].

5.1.1 Stakeholder Mapping of the Chalmers Administration

A stakeholder mapping was performed to identify the stakeholders within the Chalmers administration regarding the area of the psycho-social work environment, mental health, and support. The initial information about the stakeholders was collected through an interview with a previous Student Welfare Officer at the Student Union, the complete interview can be found in Appendix D.1. A visualization of the stakeholder mapping can be seen in Figure 5.1. The Figure is not a replica of the organizational structure at Chalmers but rather a shortened model highlighting the positions related to work environmental issues.

The ultimate responsibility for the psycho-social work environment lies on the President of Chalmers. Zooming in on the work environment relating to students, the President is allocating the tasks to the Vice President of Education and Lifelong Learning, who is responsible for the undergraduate programs, the master's education and the professional education [103][104]. The tasks are then further allocated to the level where they can be executed most efficiently, as stated by the Health

and Safety Officer. The management of the work environment is therefore based on each educational program, where the Deans of Educations are responsible for the physical work environment and allocates the tasks regarding psycho-social work environment to the Program Director for the respective undergraduate programs and the associated master's programs within their area [105]. For the master's programs, the Program Directors are cooperating with the master's Program Directors. A visualization of the allocation of tasks regarding the work environment for students can be seen in Figure 5.1 marked in yellow.
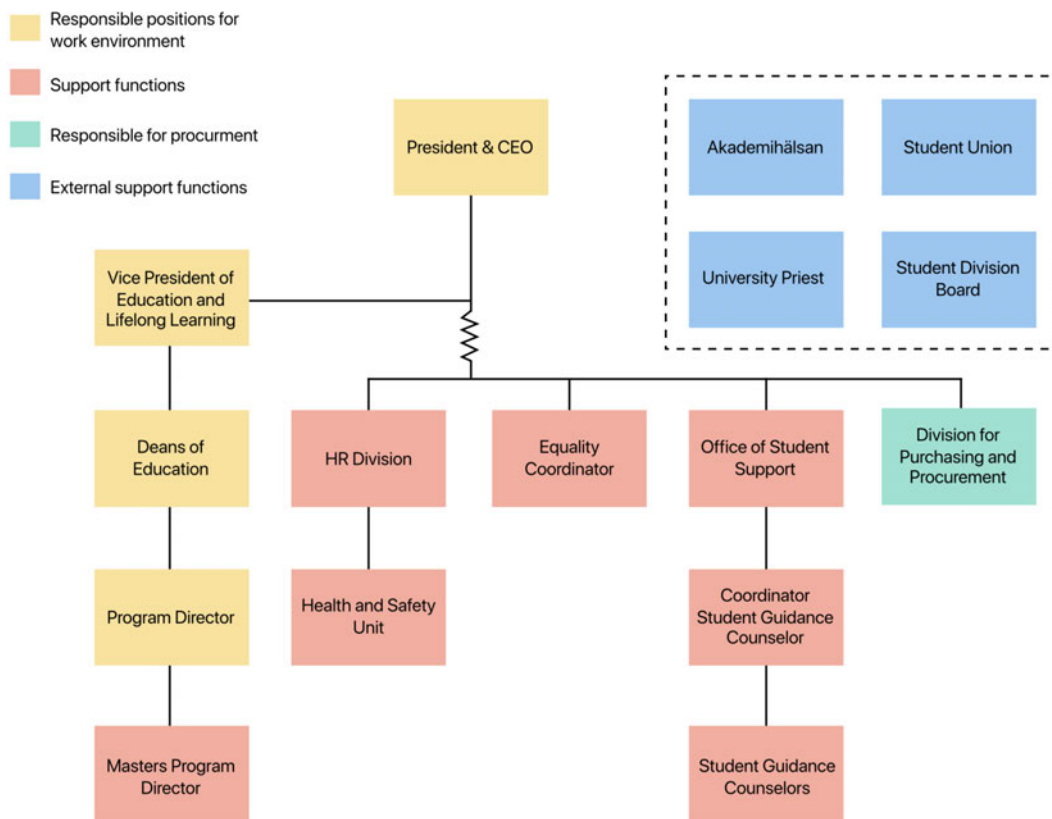
Figure 5.1: Visualization of the stakeholders within Chalmers related to work environmental issues for students

Except for the positions having responsibility for the work environment at Chalmers, several other support functions are working with issues related to the work environment. One important support function is the Health and Safety function within the HR division. The team is led by the Health and Safety Officer, which is responsible for supporting the organization and the leaders at Chalmers to work efficiently and systematically with work environmental issues [106]. Another support function within the Chalmers administration is the Equality Coordinator, who is working to promote equality for everyone to have the same prerequisites and possibilities to have good working conditions independently of gender, culture, social or ethical background during their studies at Chalmers [107]. Moreover, each undergraduate

program and master's program has a Student Guidance Counselor, providing students with support, guidance, and information needed to graduate. The Student Guidance Counselors are mainly focusing on preventative work but they also provide students with individual support when needed and is according to the Coordinator of Student Guidance Counselling, the primary position where students usually search for help regarding these matters [108]. The Coordinator Student Guidance Counselor works within the Office of Student Support and coordinates the 17 student guidance counselors at Chalmers. The support functions to work environmental issues within the Chalmers administration are marked in pink color in Figure 5.1. Another important function is the Division for Purchasing and Procurement which is marked in green in Figure 5.1. This unit is working with creating and purchasing framework agreements [109]. More information about the procurement process at Chalmers can be seen in section 5.1.3. There are also several external support functions such as the Student Health Center known as Akademihälsan, the University Priest, the Student Union, and the Student Division Boards, which are visualized in blue in Figure 5.1.

Akademihälsan is an external Student Health Care Center proving support to students studying at Chalmers. Their services are purchased by Chalmers and provides support when facing issues caused by studies or arising during studies at Chalmers. Akademihälsan provides support when facing problems related to anxiety, stress performance anxiety, sleep difficulties, depressive symptoms, concentration difficulties, fear of speaking in front of people or lack of self-esteem [110]. Another service that can be used when facing problems is the University Priest. The University Priest is financed by the Church of Sweden and students can utilize this function as many times as they wish, also with personal matters, which differs from Akademihälsan, see the interview with University Priest in Appendix D.3.

Other external support functions are the Student Union Management Team and the Student Division Boards within each undergraduate program, which are in close collaboration with each other. The Student Union Management Team has an Office of Student Welfare and Campus Life led by the Student Welfare officer. They deal with issues such as housing, study environment, equality and similar but are referring students to contact their Student Safety Representative (SAMO) within their Student Division Board regarding work environmental issues at first-hand [111]. The SAMO is a voluntary one-year student position within the Student Division board at each undergraduate program. The SAMO is working to ensure a good work environment at their respective study program and is a person to which the students within the program can contact regarding work environmental questions or issues [111]. The SAMO is also representing students during the annual physical and the psycho-social inspections which are further described in section 5.1.2 below.

5.1.2 Chalmers Approach to Work Environment

The interview with the Health and Safety Officer was used as a foundation for understanding the Chalmers approach to work environment. The complete interview can be found in Appendix D.2.

Chalmers is obliged to follow the Swedish Work Environment Authority's regulations. In 2015, new regulations for organizational and social work environment were released, called AFS 2015:4. The aim of these regulations was to promote well-being and to prevent mental illness. These regulations were mainly focusing on: Working systematically with work environment, provide knowledge, goal setting, workload, working hours and offensive treatment towards employees. These regulations cover the employees at universities, but students are not covered [4]. According to the Health and Safety Officer, this is a result of the new regulations being much stricter than the old ones, making it impossible for students to be included. The Health and Safety Officer says students should be covered by the regulations to the extent possible. This indicates that although regulations concerning work environment in organizations are well established, the same could not be stated for the students in higher education.

In the most recently published action plan regarding work environment and equality for employees and students, Chalmers describes the current situation, goals, and interventions within different areas, which was useful to understand the needs and goals at Chalmers. To begin with, Chalmers is obliged to follow the discrimination act and the work environment act. One goal mentioned in the action plan is that students should be aware of their zero tolerance regarding discrimination and victimization. One milestone is to half the level of discrimination and victimization until 2018, which is measured through the annual surveys. To meet the goals regarding discrimination, some of the interventions mentioned were to create educational information and material for students about the principles for discrimination but also regarding suppression techniques. Another intervention mentioned is to have easily accessible information on the website keeping contact information for discrimination errands. Although, it remains unclear whether these goals and milestones were completed or not. Another important goal is to improve the integration of master's students, both with regards to their studies and their psycho-social work environment. Moreover, an intervention mentioned as part of the goal of increasing the ability to handle crisis situations was to investigate the possibility of creating and establish a forum for psycho-social questions [112].

As part of the prioritized areas regarding Chalmers work with equality and work environment between 2019-2021, some of the goals mentioned were that students should have the possibility to recover and being able to reflect on their work. They should also have possibility to get enough feedback on work tasks. This is currently measured through the Studentbarometern and is followed up during the annual follow-up meetings, which is further described below [113].

Systematic work approach
According to Chalmers control documents regarding students work environment and equality from 2015, all undergraduate programs must have annual psycho-social work environment inspections each spring term. During the annual inspection the program director, the SAMO, the Student Guidance Counselor, the Equality Coordinator and at least one representative from the Office of Student Support must be present. Chalmers has a standard template of a protocol that should be filled in during the inspections, keeping a summary of each identified problem area and the planned activities of intervention. For each activity, there has to be stated who is responsible for it and when it should be completed. During the next inspection, the effect of last year's interventions should be assessed. The representatives from the Office of Student Support compile the overall issues regarding the psycho-social work environment including information on what has to be done. The compilation should be finished until the annual follow up meeting within the educational areas which takes place at the end of each spring term. The compilation is also reported to the Vice President of Education and Lifelong learning [114].

Surveys & Studentbarometern
 As part of the systematic approach to work environmental questions, Chalmers gives out a survey each year, called Studentbarometern, where the students are allowed to estimate their physical and psycho-social study environment. The results from the survey provide Chalmers with information about how the students perceive their study situation at Chalmers [115]. The results from Studentbarometern are also used as material for the annual inspections as part of the systematic work approach mentioned in above. According to the Coordinator of the Student Guidance Counselors, see Appendix D.4, students receive several other surveys as well. Two surveys are provided at the beginning of the education to understand the background of the students and their educational goals but also to get students' opinions on the reception at Chalmers. Moreover, there is an alcohol survey to make students self-assess their alcohol consumption and more directed surveys for students failing too many exams or taking longer study breaks.

5.1.3   The Procurement Process at Chalmers

Chalmers is covered by the law of public procurement (LOU), which in short terms regulates competitive bidding and is based on principles meaning, all suppliers should be treated equally and non-discriminative with mutual recognition between the EU countries. The procurement process should be transparent, and the requirements have to be proportional to the procurement. [116].

Procurement over 586,900 SEK has to follow the LOU and Chalmers are publishing their ongoing procurement processes online. To be able to become a framework agreement supplier at Chalmers, suppliers have to tender electronically through the system Visma TendSign. A framework agreement is when a public authority enters an agreement with one or several contractors that will supply the purchaser during a given time [117]. Important procurement aspects for the suppliers are to fulfill

general qualification requirements as well as requirements specifics for the specific procurement. It's also important to tender electronically and in time [118].

If there are no existing framework agreements for a specific product or service and the amounts do not exceed 586,900 SEK, direct procurement can be used. Direct procurement at Chalmers can be done at each institution but can only be made by certain appointed people who have undertaken a course in purchasing and procurement [116]. In direct procurement, there are fewer requirements in the procurement process but the requirements regarding competitive bidding and documentation remain [119]. According to control documents regarding guidelines for purchasing and procurement at Chalmers from 2017, direct procurement of amounts between 100,000-586,900 SEK should provide at least 3-5 suppliers the same opportunity to tender. Moreover, all procurement in this price range has to be properly documented. For procurement of amounts below 100,000 SEK, the Chalmers guidelines recommend 2-3 suppliers [116].

5.1.4 Quality Assurance at Chalmers

Quality work regarding the education at Chalmers, is currently undergoing changes and development, adding new tools and activities to the current quality system. The current quality system includes four areas surrounding the student-centered learning and is visualized in Figure 5.2. The first area includes vision, governing processes, and program design while the second area focuses on the learning environment with regards to physical, psycho-social, digital and international aspects. The third area includes the societal relevance including sustainable development and interaction with working life. The fourth area is focused on faculty competence including scientific, pedagogical and professional aspects [120]. Important aspects measured in the quality system are attractivity and through-put. The decision support system QlickView is currently used to measure and showing data and support documentation in quality work. The decision support for the quality work is based on policies and action plans by Chalmers, including the aspects within work environment and equality. According to the quality assurance policy, one important principle is to meet the needs of society and to collaborate and make analyses in important areas together with future employers and other stakeholders in society. This highlights the importance of being observant of needs and challenges within the organizational sector to assure quality at Chalmers. As stated in the literature study, see section 3.4, many organizations are facing increased numbers of sick-leave and burnout, which indicates a need to educate and equip students with possibilities to stay resilient to stress and mental illness.
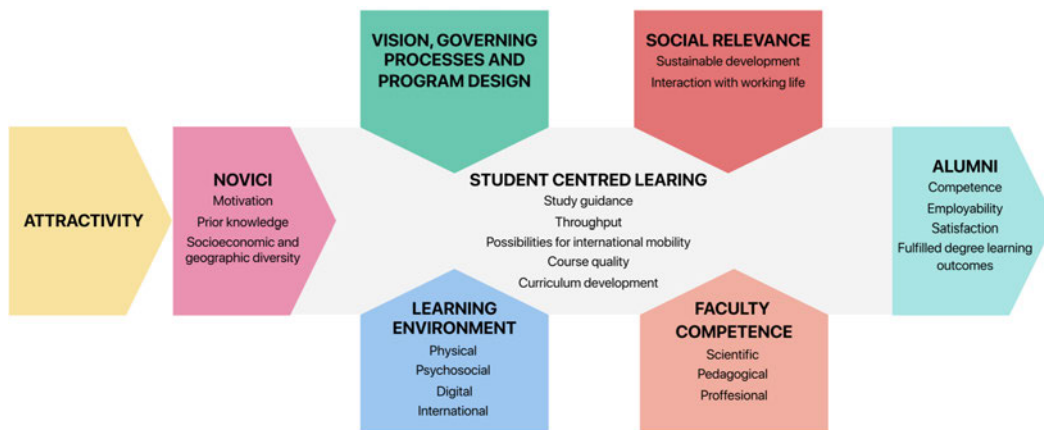
Figure 5.2: Visualization of the quality assurance system at Chalmers

5.1.5 Categorized Purchaser Needs List

The identified purchaser needs could be categorized into six different categories namely, Support, Internal Aspects, Regulations, Information and Communication, Systematic Work and Quality Assurance. A visualization of the six categories can be seen in Figure 5.3 below, followed by a summarized description of each category. The full list keeping the categorized end-user needs can be found in Appendix E.2.
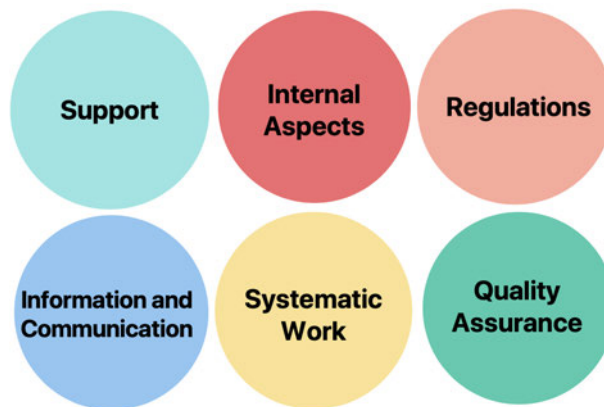
Figure 5.3: A visualization of the identified categories of purchaser needs within the educational sector

Support

This category concerns Chalmers needs in providing students with support in different aspects. Examples of needs within this category are to help students before they need it and provide students with individual-level interventions but also more specific needs such as improving the integration of master students.

Internal Aspects

This category concerns Chalmers needs regarding internal aspects such as having better collaboration between different functions working with work environmental issues and having a plan and vision for the development in work environmental, lifestyle and health aspects.

Regulations

This category concerns Chalmers needs with regards to following regulations and policies. Examples of regulations that have to be followed are the Discrimination Act, the Work Environment Act and the Law of Public Procurement. Other needs relating to these regulations are for example to be able to present how the regulations are being followed and to perform an annual follow-up on the work environment policies.

Information and Communication

This category concerns Chalmers needs in gathering information about students in different aspects, such as gathering representative data regarding the work environment but also information about students alcohol habits and why students are failing exams, etc. Another need mapped to this category is to increase response rates with feedback on work environmental aspects.

Systematic Work

This category concerns Chalmers needs in working systematically, which is part of following the Work Environmental Act. Other needs relating to similar aspects are also included in this category. Examples of needs are to investigate and chart risk areas within work environment, having annual work environment inspections, create interventions for assessed risk areas and control if interventions regarding work environment were sufficient.

Quality Assurance

This category concerns the needs that Chalmers has to be able to assure quality. Examples of needs within this category are meeting the needs of the industry, to increase university through-put and to increase university attractivity.

5.2 Charting Students as an End-User

The initial end-user needs were collected through screening the literature study and the interviews with stakeholders from Chalmers. For more details about the process, see section 2.3.2. The feedback from the product testing can be seen in section 5.2.1 below, while short summaries of the focus groups and the interviews can be seen in section 5.2.2. After collecting the end-user needs they were compiled, merged and categorized resulting in identifying nine categories of end-user needs. A short definition of the nine categories can be seen in section 5.2.3 together with a visualization in Figure 5.4.

5.2.1 Feedback from Product Testing

This section contains summarized feedback collected from the product testing, together with a description of the testing context.

Sample
The product testing was carried out with the B2C product, where 14 out of 16 participants in total finished the product testing. Out of these 14 participants, 12 had their follow-up sessions during a focus group which was held at three separate sessions, while the remaining two participants preferred having an individual interview. The participants ranged in the age span of 23-28, with five females and nine males. The majority of the students studied their last year of their masters, except for three students. One student studied the first year in the bachelor and two studied the first year of their masters. The study programs among the participants varied, in total they came from 11 different programs. The operating system of the participants' smartphones used was equally divided between Android and iOS. Around 60% of the participants used their phone between 1-2 hours a day, while 35% used it between 2-3 hours a day. As stated in section 2.3.2, the participants of the group were provided with Remente Premium. They stated that they used the app on average once every day and the time of the product testing varied from seven to nine days.

Day Plan
The feedback about the day plan feature was quite divided. The participants who have used to-do lists before were less prone to use it for their everyday life since they already have found other solutions to use. However, these users thought it was nice to have a to-do list that only concerned their private life rather than work-related tasks. These users also said that it would have been nice to have the possibility to integrate their calendar in the Day Plan. The participants that have not used a to-do list before liked this feature. Many participants said that they would have liked to have knowledge and access to a to-do list at the start of their studies.

There were suggestions from two focus groups that there should be a possibility to divide the tasks in the Day Plan into categories, for example, one for work and one for private life.

Many users experienced that the number of tasks in the Day Plan got too many too fast after they had accepted several Goal Plans. This was experienced as stressful for them. They would rather have seen that the app limits the number of tasks one can have. Furthermore, the users thought that it was stressful that the first thing they saw when they opened the app is the Day Plan with all the tasks they have to do. Besides being stressful this also contributed to the fact that many saw the app as a to-do list app.

Several participants also experienced that they could not remove the goals they had set up, but also that they could not edit them. They would have also wanted a feature that enables them to share goals and tasks with others.

Assess Life

Overall, the participants liked this feature since it made them realize what areas in life they need to improve. However, the biggest issue the participants had with the Assess Life feature was that they did not know when they were supposed to use it. They would have wanted more instructions or that the app forced them to assess once every week. Many users said that their ranking did not change that much during the week they tested it and therefore it felt redundant to use it.

The categories they assessed were also confusing, especially "Career & Education". According to the users, these were two separate things as they either applied for work or worked outside their studies. The scales Assess Life uses were also hard to estimate for the users.

Rate Mood

Overall, the Rate Mood feature was the participants favorite part of the app. They liked that it was easy to use and that you could look back at previous ratings and get an understanding of how and why you felt the way you felt. It provided the users with a tool to reflect on their well-being.

The downsides with this feature were that the positive and negative words the users entered in the feature were either too few, too generic or that both the negative and positive verbs should be visible at the same time. The verbs could also trigger some sort of spiral, meaning that when users entered a negative word they felt more negative.

Some users liked that it was simple and only functioned as a tool for the users to look back at their mood, but also making them reflect at the moment about their well-being. Others would have wanted a more dynamic and smarter feature that gave suggestions on shorter measures on how to counteract if they e.g had rated their mood low. Providing the user with tools depending on what words they select.

Some would have wanted to rate their mood through notifications or that it would be the first thing you do when you open the app. However, some users thought that might impact the integrity of the user.

The participants also stated that their mood changed throughout the day and that it might be better if you rate your mood at given times during the day instead of doing it at random times.

Resources

The Resources were also one of the most used features in the app. Mostly the users thought that the content in the Resources were well written and credible. Some content was however experienced as strange and less credible, especially the Resources concerning fitness and healthy eating. Often the users felt like they would have wanted customized Resources that aligned more to their ambition and pre-

requisites, especially the Resources concerning fitness. There were however mixed feelings about the content in the Resources. Many would have wanted less content and that it was more focused on shorter courses and boost, while others liked that it was an extensive library with several different topics to read. Some of the participants felt overwhelmed when they entered the Resource tab and would have liked to have some sort of entry-level and Resources that could correlate to their ambition and amount of time they would like to spend.

Many participants would have wanted an explanation of what the different types of Resources were, i.e. Boost, Goal Plan and Course, this was experienced as confusing. Moreover, some suggested that there should have been categories and tags for the three different types of Resources. Some also thought that it was confusing that some courses contained goals and would have wanted more information about that. Several testers would have liked to see the Resources they have read or performed.

Journal
Journal was only used by one participant; the rest did not understand the purpose of it. Some would have wanted it removed from the home screen.

Insight
There seemed to be a common trend by the users that they did not look at the insights feature. Most did not find it. However, some users said that when they got their weekly update of insights they became much more motivated to use the app. During the discussion in the groups, many agreed that this would be a good way of increasing the motivation to continue to use the app, but they would have wanted more information about it. Many participants confused the insights tab to the Assess Life feature since the first thing you see when opening insight is the Life wheel.

Notifications
Some of the participants had an issue with the notifications that the app sent out and they experienced them as stressful. Either it was too many notifications in the phone or by mail, or it was sent out at the wrong times. The users would have wanted to decide how often and when notifications were sent out. However, some liked the notifications and thought that they reminded them to use the app.

General
The majority of the participants stated that they would like to continue using the app, where Rate Mood, Resources and Day Plan were the features they liked. Many participants thought, however, that the app was confusing and that they would have wanted more instructions on what the purpose of the app is and how to use it. Many stated that there is a threshold to overcome when opening the app, it does not invite to usage naturally, i.e. a lack of motivation to use it. However, many stated that they thought the app had a nice design.

Most of the participants mentioned that they would not have wanted to pay for it,

mostly since they thought it was too expensive or because they are already tied up in several other subscriptions.

It was clear that the participants would have wanted more tutorials and instructions. Before the test they got some instructions on what they could do in the app, without these, some stated that they would have been clueless in what to do. They state however that using the app became easier as the week passed, and they started to learn what the different features were about.

Some participants would have wanted the app to be more dynamic and smart, meaning that it would provide with more conclusions and give more suggestions on how to improve their well-being. Others liked that it functioned more as a passive platform, that it was more as a tool where they could reflect more about themselves.

Some mentioned that it was a bit uncomfortable to fill in sensitive information about themselves in the app. These users would have wanted the app to state clearly how Remente stores and uses their data.

Moreover, most of the participants stated that they could see the app as an appropriate tool for Chalmers. When they look back at their studies they stated that they would have liked Remente, providing them with information about well-being, methods to plan their day and ways to reflect.

5.2.2 Summary of Focus Groups and Individual Interviews

The discussed end-user needs varied a bit between the different focus groups and interviews, although one thing in common for all sessions was the importance of having a proper work-life balance. An end-user needs list keeping all needs collected was created and can be found in Appendix E.1. Short summaries of the discussions are presented below.

During the first focus group, a lot of the discussion was focused around getting information. The students wanted to get information from Chalmers at the right time and it should be easy to access. They also wanted to get more information and knowledge about well-being in general and the important aspects to achieve it. The discussions were also about having a sense of control and being able to keep track of their study progress but also the importance of feeling like they are part of something bigger not being alone with their feelings.

The discussions during the second focus group focused a lot on getting support. They talked about getting more support from Chalmers and the need of having someone to keep track on them, e.g. corresponding to a boss. They talked about the need of getting guidance in whether they were on the right study program or not. They also discussed the need of getting support from mentors, older students, and alumni. An idea about a forum where they could discuss with teachers and

peers was brought up. They also mentioned social aspects such as the importance of feeling included and brought up the dilemma of being active in committees, which could be both including and excluding. Further on they mentioned the importance of being part of a culture that was promoting well-being.

The third focus group was a lot about self-management and study-joy. Regarding self-management they talked about the importance of sleeping, eating healthy and exercising but also about having study-free zones and time to recover. Regarding study-joy and performance, they talked about the importance of having engaged teachers, pedagogical study methods and challenging studies. Moreover, they brought up the importance of not being afraid of failing and the importance of reflecting over one's own study methods. The importance of being reasonably absorbed in the Chalmers spirit was also being commented on.

The first individual interview was mainly about the importance of culture, support, and self-esteem. Regarding the culture, the interviewee discussed the importance of having a non-judgemental, non-comparing culture with a balanced focus on performance. The culture should be including and based on equality. Regarding support, the importance of having supportive and communicative functions at Chalmers was discussed together with the importance of getting guidance and support in how to get back on track after failing exams and getting information about what help there is to get at Chalmers. Regarding self-esteem aspects such as feeling sufficient, having belief in one's own capacity and having self-confidence were discussed. Moreover, the importance of succeeding with goals and the sense of fitting in was brought up.

The second individual interview focused on the importance of being able to control one's own life and impact one's surroundings but also the importance of social aspects. Regarding control over one's own life and surrounding, the importance of having the freedom to choose how to study but also being able to control studies and one's own health was brought up. The social aspects discussed were the importance of being seen, perceiving social cohesion and having the possibility to be part of a community. Moreover, the importance of having time to reflect and being part of a healthy culture where students are encouraged to stay healthy was discussed.

5.2.3 Categorized End-user Needs List

As stated in section 5.2, nine categories were identified from the collected end-user needs. In this section, the definitions of the different categories are described together with some examples of requirements within each category. A visualization of the categories can be seen in Figure 5.4 below, while the full list keeping the categorized end-user needs can be found in Appendix E.1.

Figure 5.4: A visualization of the identified categories of end-user needs within the educational sector

Impact Surrounding
This category concerns the students' ability to impact their surroundings in aspects such as e.g time and work. Examples of needs within this category are e.g. the students' ability to have flexible working hours and to what degree they can influence the planning of their work.

Support
The support category is defined by the students' needs of receiving external support, both with regards to their studies but also outside their studies. Although, most of the needs concerned getting support to be able to get through the education. Examples of needs defining this category are e.g. the need of receiving support from Chalmers, from family and friends but also from mentors and older students.

Self-Esteem
Having a good self-esteem can be argued to be fundamental to experience well-being. Some needs defining this category was, for example, feeling sufficient, feeling useful and feeling proud of studies.

Work-Life Balance
This category concerns the perceived balance between the students' work and their private lives. The most frequent requirement in this category was to have a sustainable workload. Moreover, the students also needed possibilities to recover and reflect.

Study Joy
The study joy category is about students' needs to have interest and motivation towards their studies. Examples of needs within this category were perceived quality

of the lecturers and experiencing studies as challenging.

Sustainable Working Culture
Another important aspect for the students was to have a sustainable working culture. This category covers, for example, the students' needs to have a non-judgmental culture based on fairness and equality. A culture that is promoting well-being and where people are encouraged to seek help.

Self-Management
The Self-management category is defined as the students' ability to manage themselves and their lives. This category is a lot about having coping strategies and taking control over one's own situation. Being able to set up goals and stick to them, being able to control workload, having study skills, being able to plan, exercise and eat healthy.

Social Aspects
The social aspect category connects to students' needs concerning social interactions. Some of the needs includes the importance of being part of a community, being seen and having friends. Another aspect was, for example, having good group dynamics in project groups.

Knowledge, Information & Transparency
This category includes students' needs of being able to receive information and knowledge from Chalmers but also about transparency. Some needs were of a more general nature, for example, getting clear and credible information at the right time. Other needs were more specific for example getting knowledge about where to seek help if needed, knowledge about what is promoting well-being and knowledge about the risks with unsustainable workload.

5.2.4   Needs Analysis

When analyzing the needs, it was realized that most needs could be divided into different levels, affecting how to later approach a solution. The different levels on how to divide the needs were identified as: (1) Getting knowledge and information about the need, (2) Having the possibility to recognize and identify the need and (3) Having the ability, tools, and techniques to manage the need. Taking the need "getting help" as an example, it could be divided into these different levels. The first level could be to (1) getting the knowledge about where to seek help, where a solution could be e.g. to create a Resource or an info page for it. The second level could be to (2) have the possibility to recognize you need help, which e.g. could be solved by the existing life assessment feature. The third level (3) having the ability to seek help, a solution could be having the appropriate resources from the organization.

This example gives an insight into the complex work of understanding and analyzing the needs but also in the importance of collaborating with the organization, in this

case, Chalmers, to be able to fulfill the student needs at all levels. In some cases, the needs collected are partially overlapping because they are at different levels. In this project, the different levels for each need were not mapped, instead, the focus was on the level in which a need was originally identified. Although, during the process of categorization, some needs have been merged focusing only on one level. With that stated, Remente should be aware of the fact that the identified needs could be divided and solved at different levels. Therefore, if Remente is interested in gaining an even deeper understanding of the customer needs, this should be considered as future work.

6

Product-Market Fit Analysis

The first step in understanding the product-market fit is to divide the needs into three categories for the purchaser needs and the end-user needs respectively: *needs currently fulfilled by Remente, needs not currently fulfilled by Remente* and *needs that cannot be fulfilled by Remente*. The needs in the *cannot be fulfilled by Remente* category were considered to be either of a too systematic character, only possible to be controlled and fulfilled by Chalmers, or of a too individual character, only possible to be controlled and fulfilled by the individual person. Therefore, the needs in this category are disregarded from this point of the project as they are not considered to impact the product-market fit. Although, these needs are still an important part of the result since it composes a good material to gain knowledge and understanding for the Chalmers context.

The product-market fit for Remente is analyzed according to the purchaser needs in section 6.1 and the end-user needs in section 6.2 below.

6.1 Purchaser Needs

In this section, the product-market fit of the purchaser needs are discussed, both for the *needs currently fulfilled* and *not currently fulfilled* by Remente. The purchaser *needs fulfilled by Remente* is gathered in section 6.1.1 together with a discussion of the product-market fit. The product-market fit for the *needs not currently fulfilled by Remente* are categorized according to similarities in how they potentially could be solved in Remente's current product in section 6.1.2. The full list of needs, including the ones that cannot be fulfilled by Remente, can be seen in Appendix F.2.

6.1.1 Purchaser Needs Fulfilled by Remente

The purchaser needs currently *fulfilled by Remente* are gathered below together with a small discussion. The purchaser needs of *providing students with individual level intervention* and to *gather representative data regarding the work environment* can be met by one or several specific features, while the needs *increase university attractivity, meet the needs of the industry, increase university throughput* and *helping students before they need it* are of a higher level of abstraction, not possible to map against any specific feature but are instead needs that could be met as a possible result from implementing Remente.

Provide Students with Individual-Level Interventions

All of Remente's current features, except for the Pulse, are designed to be used directly by individuals providing them with tools for e.g. reflection, self-awareness, etc. Many of the features build on self-assessment e.g. rate mood and assess life, making them customized by nature but Remente also keeps a broad range of Resources in the Resource Library. Therefore, the need to provide students with individual interventions solved by the nature of Remente's product offering.

Gathering Representative Data Regarding the Work Environment

The pulse feature is differing somewhat against the other features, firstly because it is not currently integrated in the Remente app, and secondly because it is designed for a B2B context. The main purpose of the pulse is not to provide the individual with direct interventions as with the other features, but rather to give the management within an organization a tool to gather representative data of the employee's perception of the work environment. Consequently, getting real-time feedback on the well-being of the employees. A second purchaser need that is partly fulfilled by the pulse feature is the need to *investigate and chart risk areas within work environment*. Although, as Chalmers currently has similar solutions to these needs within their systematic working methods, this indicates that Rementes solution is rather competing with Chalmers existing solutions. Further development of the pulse feature could therefore be needed to be able to fulfill these needs better than Chalmers existing solution. This is further discussed in section 7.3 in the ideation chapter.

Increase University Attractivity

Increasing university attractivity is an important aspect for Chalmers to stay competitive. As mentioned in the PEST analysis in section 4.1, universities will be facing new challenges due to the digitization and the shift of target group to generation Z. Except for the fact that generation Z are less prone to enter higher education, they also put new requirements on their environment. As stated before, generation Z values a good balance between private life and work life, rather than monetary rewards. Moreover, they want more feedback, coaching, and advice. This indicates the importance of focusing on such values to secure increased attractivity for Chalmers in the future, which should be of particular importance with a future increase of competition to enroll students. As Remente are providing some of the aspects important to this generation, they could assist Chalmers in meeting this need.

Meet Needs of Industry

Another purchaser need is to meet the needs of the industry, which is an important aspect for Chalmers to stay competitive long-term. As described in the literature study in section 3.4, the organizational sector has been facing a rapid increase in issues with long-term sick-leave for several years, where the most common reasons are burnouts and depression. It is also mentioned that preventing burnout is a better strategy than dealing with it when it is already a problem. Consequently, except for only focusing on meeting the needs of the industry with regards to hard skills, it could be argued that graduating students that are more resilient against stress, burnout and mental illness could increase the competitiveness of the students

graduating from Chalmers, meeting the work environmental needs of the industry. The Remente system could assist Chalmers in this, by educating students in these aspects, providing tools and insights to create this resilience among students.

Increase University Throughput
As mentioned in the PEST in section 4.1, the university throughput is low for the 5-year engineering programs in Sweden, and even for the students that do graduate, less than half are doing it in the stipulated time. It was also mentioned that Chalmers is compensated according to the number of registered students, but also according to how many credits they complete every year. Therefore, it should be in Chalmers' financial interest to increase the throughput of their students. As the Remente system are meeting many valuable end-user needs as described in section 6.2.1 below, a possible result of implementing the Remente system at Chalmers could to increase the throughput of students with succeeding financial benefits.

Help Students Before they Need it
A need that arose during the interview with the Coordinator of Student Guidance Counselor was to help students before they need it. As the core of the Remente product is to work preventative rather than aiding people in illness, this makes a good fit. According to the Health and Safety Officer, interventions provided by e.g. Akademihälsan are only helping students that are already facing problems. The core of the systematic work within the work environment which are based on e.g. Studentbarometern and annual inspections are interventions focusing on preventive work meeting this need. Although, this is on an organizational level. A possible result of implementing the Remente system could meet this need of helping students before they need it, on an individual level, complementing Chalmers systematic work methods.

6.1.2 Purchaser Needs Currently Not Fulfilled by Remente

The needs *not currently fulfilled by Remente* were mapped against an existing feature in which the need could potentially be solved by Remente. The needs were then categorized according to similarities in how they could be solved. Four categories were identified: Update Resource Library, customize the Pulse according to student context, customize the Pulse to support Chalmers in their systematic work and needs subject for a new feature. The categories are discussed below according to aspects such as the feasibility of implementation, consistency with the core activity of Rememte and current solutions at Chalmers.

Update Resource Library
Purchaser needs mapped into this category were to *ensure a work environment free from discrimination and victimization* and to *improve the integration of masters students*. These needs are estimated to have a high degree of feasibility for Remente and to be close to their core activity as they could be met by including these aspects in the Resource Library. Integrating Resources to meet these needs in the Remente system would only be a part of the solution, but a proper way of complet-

ing Chalmers current solutions and structures. A more detailed description of how these solutions can be solved is presented in the ideation Chapter.

Expanding the Pulse Scope
Purchaser needs that could be mapped to the pulse feature are mainly needs applied to getting information about students and their perception in different aspects, such as their *alcohol habits, the reception at Chalmers, the reason for longer study breaks, the reason for failing exams* but also getting *the background of students and their goals for the education.* Chalmers current solution for this is to send out surveys at certain times during the education. As Remente already are providing the pulse, which is similar to the Studentbarometer survey, these needs could be met with a similar service provided by Remente, which also would be easy to implement. Although this solution would be competing with Chalmers current surveys, it could be argued that Remente has a potential to fulfill these needs even better. It could also be argued that it would provide Chalmers with a more solution with a higher customer value. Further on, it should be noted that providing these services could imply stepping away from the core activity of Remente, which currently is more focused on individual interventions rather than collecting information for the management.

Adapt the Pulse for Systematic Work
Within this category, needs relating to Chalmers systematic work were gathered and listed in the bullet list below. Similar to the category above, all needs could be mapped to the Pulse feature. Although, to meet these needs, the existing pulse feature would need to adapt to the student context and addition might be needed. As Chalmers already has an established solution for these needs by using Studentbarometern and annual inspections, solutions to these needs would be competing with the existing one.
- Control if interventions regarding work environment were sufficient
- Standardized working method for all undergraduate programs regarding work environment inspections
- Report about the situation regarding work environment to the vice president of education and life long learning
- Increase response rates with feedback on work environment
- Increased transparency regarding the work with work environment
- Create interventions for assessed risk areas
- Make sure that all students are taken into consideration
- Information about what is holding students back in their studies
- Information about what characterize struggling student groups
- Identify new stressors for students
- Investigate and chart risk areas within work environment

New feature Enabling Discussion

The need of *enabling discussion for psycho-social questions* is a need deriving from an action plan by Chalmers, where Chalmers themselves had a suggested solution in form as a forum for these types of questions. A similar solution could be implemented by Remente, although this has rather low feasibility of implementation since it would require much development of a new type of feature. By implementing a discussion forum feature, this would widen the Remente product significantly and it could be argued that this is not in alignment with their current core activities. Although, as there are no solutions for this at Chalmers currently, Remente would not compete with any existing solution.

6.2 End-user Needs

In this section, the end-user needs *currently fulfilled* and *currently not fulfilled by Remente* are ranked according to different parameters and the opportunity for each need is estimated. This results in two different tables, keeping ten of the needs with the biggest opportunities for Remente with regards to their current product and ten of the needs which Remente should consider implementing a solution to.

6.2.1 End-User Needs Fulfilled by Remente

The end-user needs categorized as *fulfilled by Remente* were ranked according to three parameters on a scale from 1-5. The first parameter is customer value, where 1 means that the need was only found in literature/Chalmers/competitor once while a 5 means that the need was found both in literature/Chalmers/competitor and verified by Chalmers students. The second parameter is the current degree of fulfillment by Chalmers, where 1 means that help from Chalmers is not available and 5 means that help is available from Chalmers with a dedicated, named service that is brought to the students' attention by Chalmers using recurring advertising. The third parameter is the current degree of fulfillment by Remente, where 1 indicates that there is no current solution available from Remente and 5 means that there is a solution available from Remente with a dedicated, feature that is brought to the users' attention by Remente by regular prompts or that there are more than three Resources directly related to the area with a tag. The detailed ranking criterion can be found in Appendix F.1. As part of charting the product-market fit, an estimation of the opportunity was calculated for each need using the parameters and the equation 6.1 below.

$$Opportunity = \underbrace{(Customer\ Value - Chalmers\ fulfillment)}_{\text{Gap}} + Remente\ Fulfillment \quad (6.1)$$

As seen in equation 6.1 above, a gap is identified by the calculating the discrepancy between the customer value and the current degree of fulfillment by Chalmers, meaning that a need with high customer value and low fulfillment by Chalmers indicates a larger gap than a need with lower customer value and high fulfillment by Chalmers. Adding the degree of fulfillment by Remente to the calculated gap gives

an indication of the opportunity of the need for Remente. The higher the value of the opportunity for each need, the better product product-market fit with the current Remente product. The table 6.1 below is showing ten of the needs to which Remente has the best product-market fit. The table is color-coded according to the value of their opportunity. A Table keeping all ranked needs fulfilled by Remente can be found in Appendix F.1.

Opportunity Ranking of Fulfilled Needs	Value Ranking (V)	Remente Fulfillment (R)	Chalmers Fulfillment (C)	Opportunity ((V–C)+R)
Being self-aware	4	5	1	8
Manage study demands	5	4	2	7
Set up study goals	5	4	2	7
Manage stress	5	5	3	7
Time management	5	4	2	7
Possibility to have self-esteem	5	3	1	7
Get encouraged to have a holistic view of life	3	5	1	7
Work-life balance	5	4	2	7
Possibility to recover	5	3	2	6
Possibility to reflect	5	5	4	6

Table 6.1: End-user needs ranked according to opportunities for the current Remente product

As seen in Table 6.1 the need with the biggest opportunity for Remente when approaching students at Chalmers is *being self-aware*. The main reason for this is that Remente offers a solution to a valuable need that Chalmers currently is not providing. As seen in the table, the needs *possibility to have self-esteem* and *get encouraged to have a holistic view on life* also lacks a solution from Chalmers. Hence, this indicates that Remente can offer students a better overview and holistic perspective regarding well-being than Chalmers. Remente also provides better solutions with tools on how to e.g. *set up study goals* or *manage stress* than Chalmers. However, the needs that are ranked with a 4 or lower regarding the Remente Fulfillment parameter, can still be a considered for improvement to further strengthen their product-market fit, e.g. *possibility to recover*.

6.2.2 End-User Needs Currently Not Fulfilled by Remente

End-user needs categorized as *not currently fulfilled by Remente*, were ranked according to the same parameters as in section 6.2.1: Customer value, the current degree of fulfillment by Chalmers and estimated feasibility of implementation by Remente, as the fulfillment by Remente parameter was not applicable in this case. The ranking criteria together with the full list of the ranked needs can be found in Appendix F.1. The same equation was used for calculating opportunity, but using the feasibility parameter instead, see Equation 6.2. The feasibility value was estimated on a scale from 1-3, where 1 indicates a low feasibility, e.g. it requires

development of new larger feature, while 3 indicates high feasibility, meaning that an implementation would concern e.g. adding information, adding a Resource or changing an existing feature. In table 6.2, a list of the ten needs estimated to pose as the biggest opportunity for Remente when considering implementing a solution to in their product, to improve their product-market fit.

$$Opportunity = \underbrace{(Customer\ Value - Chalmers\ fulfillment)}_{\text{Gap}} + Remente\ Feasibility \qquad (6.2)$$

Opportunity Ranking of Not Fulfilled Needs	Value Ranking (V)	Feasibility (F)	Chalmers Fulfillment (C)	Opportunity ((V-C)+F)
Sense of adequacy	5	3	1	7
Knowledge about the importance of reflecting over life	5	3	1	7
Aviod performance anxiety	5	3	2	6
Sense of study focus	5	2	1	6
Having good study technique	5	3	3	5
Identification with future proffesion	5	3	3	5
Fair and equal treatment	5	3	3	5
Support from older students	5	3	3	5
Balanced student life	3	3	1	5
Customized interventions	2	3	1	4

Table 6.2: End-user needs with opportunities not currently fulfilled by Remente

The needs *sense of adequacy* and *knowledge of the importance of reflecting over life* in table 6.2 that are estimated pose as the biggest opportunity for Remente when approaching Chalmers. The needs are highly ranked since Chalmers lacks a solution for them. The same can be stated for the other needs where none of them is currently solved with a dedicated function. Furthermore, they are ranked high because they are feasible for Remente to implement, but also since they have a high estimated customer value. A common theme for the needs is that they are closely related to the student context. All but one need is estimated to have a high feasibility, i.e. that they could be met by adding information, Resource or changing an existing feature. Hence, the needs in this table are subject for ideation in Chapter 7.

6.3 Improvements of the Product-Market Fit

As described in the sections above, the current Remente product already meets many of the purchaser and end-user needs. However, several needs within this category could be further improved, developed and adapted to the university context to improve the current product-market fit. Further on, there are a considerable amount of purchaser and end-user needs that are not fulfilled by the current Remente product and is, therefore, a subject for ideation. In Chapter 7, incremental changes are developed to meet the needs already fulfilled by Remente but also to ideate new

solutions to the needs that are not currently fulfilled. The existing features and value propositions of Remente will be used as a framework during the ideation to keep the feasibility of implementation into consideration.

7

Ideation

The product-market fit can be seen as an important result for Remente, showing what needs they are currently fulfilling and what they are not fulfilling, ranked according to opportunity. As the needs list is comprehensive, all needs cannot be considered during ideation. Therefore, the ten needs receiving the highest ranking according to the opportunity among the needs that are *not fulfilled by Remente*, were all considered in the ideation. In addition, further ideation is based on feedback from the product testing. The feedback is correlated with identified needs to the extent possible for the fulfilled as well as non-fulfilled needs. The results from the ideation are presented in the section below, feature by feature.

As part of the ideation, the generated ideas were categorized into different package offerings, resulting in a basic package, and two additional packages. The basic package, named Remente Academy, includes solutions closely linked to the end-user and the existing Remente premium app together with suggested improvements and additions from the ideation. The ideated improvements and additions offered in the basic package can be seen in section 7.1. The additional packages, named Remente Academy Insights and Remente Academy Pulse, are closely linked to the purchaser, providing them with information on an aggregated level through different solutions. Remente Academy Insights builds on a new solution, which is further described in section 7.2. Remente Academy Pulse builds on Rementes existing Pulse feature together with improvements and additions, which can be seen in section 7.3.

7.1   Remente Academy - Basic Package

As mentioned above, the basic package, named Remente Academy, includes ideated solutions linked to the Remente premium app. The suggested improvements and additions are described in general terms and then feature by feature. The section ends with a description of new features that were ideated and categorized to the basic package.

7.1.1   General improvements

In this section, general improvements not possible to map against any specific feature in the app are discussed.

Notifications
Some participants of the focus group stated that they would have liked to decide when notifications were sent out. Some also got irritated because of how often and through what channels they were sent out. This is already possible to do in the current product and is also part of the set-up when starting up Remente for the first time. However, as many users missed this or forgot about it, a suggestion would be to focus on making it more accessible for the users so they know where and how to customize it according to their preference. This could be done by asking the user again, after a couple of days of usage if they are satisfied with the notification set-up, reminding and showing the users that it is possible to change it according to their preference.

More instructions
A common problem mentioned in the focus groups was that many participants had difficulties understanding the app and its features. Many users also stated to be unsure whether they were using the app in the right way or not, indicating the problem of giving the user too much freedom and the importance of providing the user with guidance and instructions. A suggestion would, therefore, be to include more instructions at each feature stating what it is, how to use it and why. Including instructions could also help minimize the threshold for using the app from start, as some focus group participants stated.

State how the user data is stored
As recent trends have shown, users are becoming more aware of how their data is stored and used online. Therefore, Remente should state clearly how they store and use the data, preferably during the set-up of the app. This was also brought up during a focus group, indicating the importance of being transparent to the user to make them comfortable in sharing their personal data in the app.

7.1.2 Day Plan & Goals

In this section, improvements and additions mapped to the Day Plan and Goals features are presented. The ideation resulted in five areas of improvement and additions: Dividing the day plan, restrain the number of active goal plans, reconsider the home screen, provide students with the possibility to share goals and other minor issues.

Dividing the Day Plan
During the focus groups, it was understood that the testers had mixed experiences of the day plan feature. The main reason for this was that some users already had a system for creating to-do lists, which they for different reasons wanted to continue to use, prior to the one in Remente. The users who did not have a current system for creating a to-do list thought that it was useful. However, the user's who already used a to-do list liked that Remente's day plan could only concern tasks more related to one's well-being and personal matters rather than work-related tasks. This indicates that depending on the user's prerequisites, there are different preferences of what

the day plan should be focused on. Correlating this feedback to the needs, the day plan can be connected to several needs that are currently solved by Remente to a certain degree and needs that are not currently solved. There were suggestions from two focus groups that there should be a possibility to divide the tasks in the Day Plan into categories, for example, one for work and one for private life. By implementing this suggested improvement of the feature, the need of having *work-life balance* would be fulfilled better by Remente. As *work-life balance* was the most frequently mentioned need during the focus groups and also ranked as one of the top ten opportunities in Figure 6.1, this is a well-supported improvement. A suggestion of the improvement would be to have two buttons in the day plan, one for private life and one for work respectively. When a user adds a task, they can mark if the task concerns work or private, in that way, have a better separation between them. In Figure 7.1 below, a possible suggestion of the division of the Day Plan is visualized. As seen in the Figures, a circle can be seen between the buttons, displaying the ratio of the balance between work and private task. As seen the Figures, when e.g. the work button is marked, only work-related tasks are visible and vice versa. Figure 7.1, also includes a suggestion of how the user can tag their tasks.
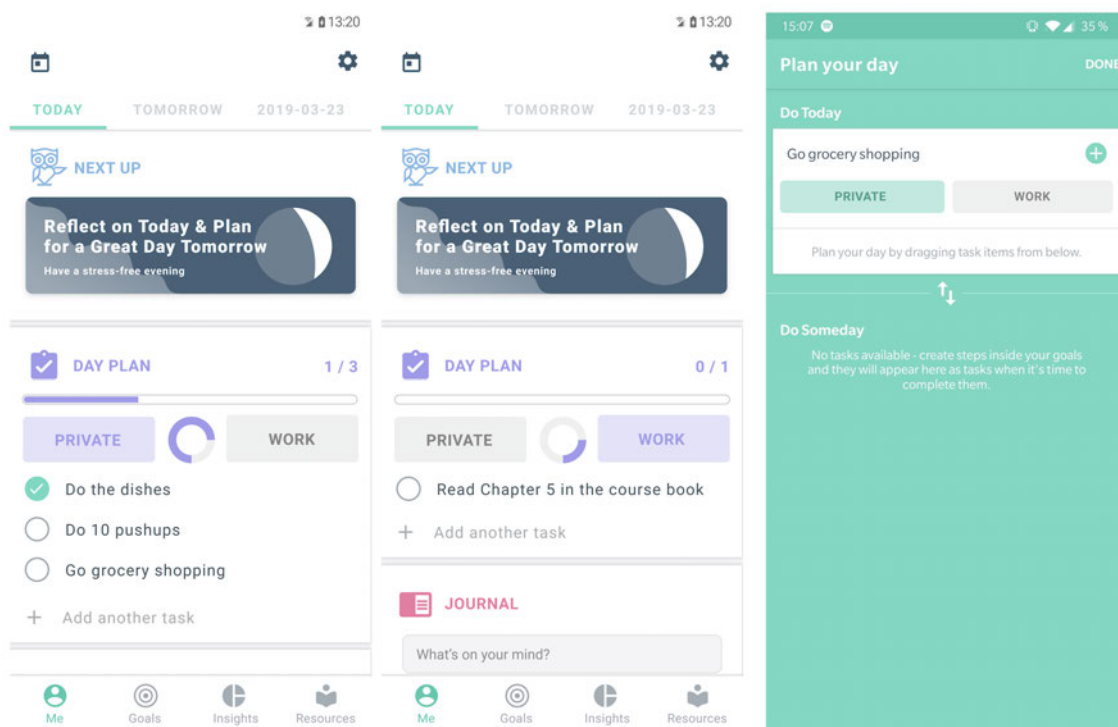
Figure 7.1: Left and Middle: Visualization of the suggested division of the day plan, showing tasks related to private and work. Right: Visualization of the suggested division of the day plan when tagging tasks

Other needs that this improvement would have an impact on is providing the students with the *ability to set up boundaries*, which currently is not fulfilled by Remente, as the suggested improvement could aid the user to differentiate between work and private life aspects. Having a *balanced student life*, is another need men-

tioned that could be fulfilled by this implementation. This need was brought up on one of the focus groups and refers to the widespread culture at Chalmers of engaging in voluntary committees and workgroups. In this case, the division could be used to e.g. put all study-related tasks as work and all voluntary engagements as private.

Possibility to Share Goals Between Students
Providing the users with possibilities to share goals is a function that is implemented in Remente's current B2B product which they are offering to organizations. This is however only currently possible through the web application. During the focus groups, the participants were asked if a similar feature would be useful in a student context, which they agreed with. Hence, enabling students to form groups where they can collectively add, share and comment goals and tasks would be a beneficial function to add. Adding this feature to the day plan could also strengthen the fulfillment of the need of having *capacity to work as a team.*

Reconsider the Home Screen
Some users experienced the home screen as stressful as the Day Plan is the first thing they see when they open the app, with all the tasks they have to do. Some users argued that having the Day Plan as home screen contributed to the perception of Remente as being a "to-do list app" rather than an app for well-being. It could, therefore, be argued to re-consider the home screen, choosing a feature that is reflecting the core of the app to a larger extent and also to minimize the threshold to enter the app. According to the focus groups, the Rate Mode feature is the most important and appreciated feature and could, therefore, be considered as an alternative home screen. This is further discussed in the Rate Mode feature in section 7.1.4.

Restrain the Amount of Active Goal Plans
Many users experienced the number of tasks in the Day Plan easily got unmanageable, ending up with too many goals and tasks after accepting several Goal Plans. Therefore, including a limitation of the number of goals and tasks should be considered, alternatively including a guiding text when noticing a user is adding too many goals and tasks at the same time.

Easier to Remove Goals
Some issues about the day plan feature that arose during the focus groups were the fact that several participants experienced problems in removing goals they had set up. Currently, it is only possible to remove and edit goals and tasks that are created by the user, while goals connected to a goal plan had to be removed from the original goal. This confused and agitated some users and Remente should, therefore, consider making it possible to remove and edit all tasks and goals in the day plan.

7.1.3 Assess Life

In this section, improvements and additions mapped to the Assess Life feature are presented. The ideation resulted in two areas of improvement: Limit the Access to the assess Life feature and Customize the Assess Life feature for students.

Limit the Access to the Assess Life Feature
Understanding when one should use the assess life feature was a common question during the focus groups and was perceived as confusing. Furthermore, many participants also stated that during the week of testing the different ratings in the life wheel did not change notably. Therefore, a suggestion would be to instead of giving the users the responsibility to assess life whenever they want, the app only allows the user to assess their life each week. This could be a part of the weekly insights that the users receive after one week of usage.

Customize the Assess Life Feature for Students
In the focus groups, some participants thought the categories were not so aligned with the student perspective, as the Career & Education category are assessed in the same scale. According to the students, these two aspects are separate things and are therefore difficult to evaluate together. The competitor WellbeingZone has a similar function but with other categories. This indicates that there are alternative ways of working with this feature when focusing on students. Although, as the only aspect discussed as problematic during the focus groups was the career and education category, a potential change should only focus on this specific category.

7.1.4 Rate Mood

In this section, improvements and additions mapped to the Rate Mood feature are presented. The ideation resulted in two areas of improvement: Suggest interventions based on mood rating and consider the Rate Mood feature for the home screen.

Suggest Interventions based on Mood Rating
The Rate Mood feature was an appraised feature during the product testing. However, some would have wanted it to provide them with suggestions on interventions and what to do after they had rated their mood. One suggestion to meet this feedback could be that the app proposes a Resource on what the users can do to counteract negative emotions and amplify positive emotions. The suggested Resource would depend on the selected positive and negative emotions. If not offering suggestions of interventions after a negative rating, this could trigger a downward spiral, as some of the participants argued that they felt more negative after a negative rating. This suggested improvement of the feature can solve several of the identified needs that Remente currently does not fulfill, such as *get information and knowledge when needed* and receive *customized interventions*. These needs would be fulfilled as the user would receive specific Resources connected to their current mood. Taking this suggestion further, an additional improvement could be to connect the mood ratings to different support functions at Chalmers. If a student shows a trend in rating themselves as e.g. depressed or panicked, the student can get the contact information to suitable support functions at Chalmers, such as the student priest, the student guidance counselor or Akademihälsan. This suggestion would further strengthen the needs mentioned above but also encourage students to get *support from Chalmers*, which is currently not fulfilled by Remente.

Consider Rate Mood Feature for the Home Screen
As previously mentioned feedback, there are some issues regarding the users experience when having the Day Plan as home screen. Since the Rate Mood featured is one of the most important features within the app according to the participants, this should be considered as an alternative for the home screen. This could also encourage the user to provide the app with more frequent data, consequently making the user track their well-being more often and giving them more possibilities to reflect. As the Rate Mood feature would be visible at the home screen the current feature Day Plan could be placed below.

7.1.5   Insights

In this section, improvements and additions mapped to the Insights feature are presented. The ideation resulted in one area of improvement, namely to change the visualization of the Insights feature.

Change the visualization of the Insights feature
During the focus groups, it was realized that the majority of the participants did not look at the Insights feature, mainly because they could not find it, or they didn't know it existed. A possible reason to why they did not find it, according to one participant, was because the first thing showing when entering the Insights tab was the Assess Life feature, making them confuse it with the Assess Life feature. A suggestion of improvement would be to change the visualization of this feature, making it more intuitive and easier to understand. Instead of having the Life Wheel as the first thing you see, the users should immediately be exposed to a visualization describing what different insights Remente are providing. In the current solution, the user has to scroll to see everything the feature is including, which might lead to some users missing out on important sub-features because they did not scroll all the way to the bottom. A suggestion is instead to present all summarized previews of the different statistical sub-features as the first thing when entering the insights features. The summarized previews should include a descriptive text and figure to give the user an intuition of what the sub-feature is including. By clicking on each preview, the user will enter the full-size sub-feature. A visualization of the suggested improvement can be seen in Figure 7.2.
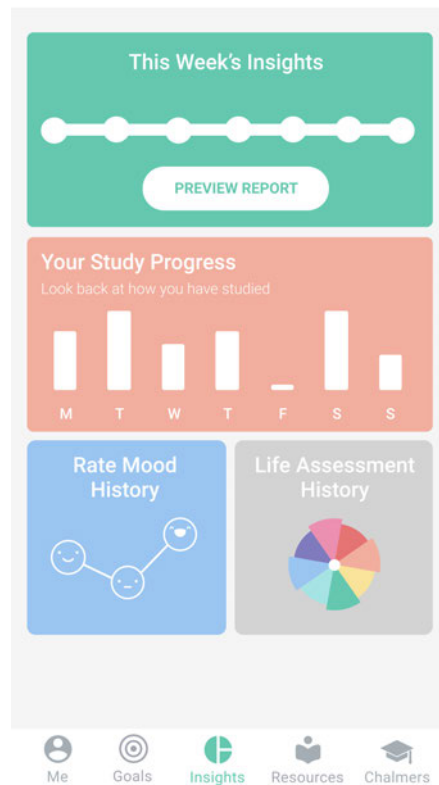
Figure 7.2: Visualization of a possible layout of the insight tab

7.1.6 The Resource Library

In this section, improvements and additions mapped to the Resource Library are presented. The ideation resulted in general improvements, improvements of specific Resource areas and suggested additions to the Resource Library. Six general areas of improvement were ideated are presented in section 7.1.6.1. Six improvements of specific Resource areas were ideated and are described in section 7.1.6.2. Finally, eight additions to the Resource Library were ideated and are presented in section 7.1.6.3.

7.1.6.1 General Improvements for the Resource Library

In this section, general improvements for the Resource Library are presented. The ideation was based on feedback from the product testing and resulted in six areas of improvement: Increase level of customization, improve information and descriptions of the Resource feature, expand collaboration, develop a structure for updating the Resource Library, restrain the number of active goal plans and clarify Resource completion.

Increase Level of Customization
The importance of customization has been identified both in the end-user the in the purchaser needs. The aspect of customization was also discussed during the focus group in the feedback for the Resources, where the users wanted the Resources to be more aligned with their ambition level and prerequisites. Other feedback regarding the customization in the app was that the users would have wanted an entry-level correlating to their ambition and the amount of time they would like to spend, instead of getting all possible Resources at once. This is further mentioned in the Resources *Eating Healthy* and *Exercising* in section 7.1.6.2.

Improve Information and Descriptions of the Resource Feature
According to the feedback from the focus groups, many participants missed an explanation of the feature and what the different Resources included. This made some of the users experience the Resource Library as confusing. Therefore, an explanation of the Resource feature should be considered to be added the first time the user opens up the feature. The explanation should clarify the purpose with the feature, explaining the different types of Resources: Boost, Goal Plan and Course and how one should use them. It should also be better described what Resources are containing goals, as some participants also thought that it was confusing that some courses contained goals while others did not. The same goes for the Resource containing a video. Resources with goals and videos should be marked out with a symbol making it visible for the user. Another suggestion brought up during the focus groups was that there should have been short-cuts or tags keeping these different categories of Resources making it easier to navigate.

Expand Collaborations
Collaborating with experts or famous profiles within a specific area is a strategy to source information to the Resource Library within areas in which Remente does not possess the right in-house knowledge. This is a strategy already used by Remente to some extent, which is recommended to expand even further. In the sections below, this strategy is discussed to some of the needs. Regarding student-related aspects, this collaboration strategy also works to strengthen the credibility of the Resources, as students already have a relationship with support functions at Chalmers.

Develop a Structure for Updating the Resource Library
As a Resource consists of fixed information, it is important to keep them up to date to sustain the credibility of the Resource Library. One single outdated Resource might harm the credibility and the image of the complete Resource Library and in the worst case the user's experience of the app. This was something that was brought up during the focus group. A recommendation is therefore to create a structure to continuously update the Resources to have control over the content of the Resource Library.

Restrain the Amount of Active Goal Plans
Another aspect that should be considered is to limit the number of goal plans one can have active simultaneously. Some users in the focus group experienced it as

stressful and were overwhelmed by having several tasks connected to a goal plan. This was probably an effect of not fully understanding what a goal plan was, taking on more than one could handle. Limiting, or giving a direction in how to have a proper amount of goals and task might provide a more pleasurable experience for the users.

Clarify Resource Completion
Another aspect that arose during the focus groups was that there was no current solution to find what Resources the users had finished. It is therefore recommended to create a page connected to the Resource Library including what Resources the user has finished and the progress of the Resources that are still active. This would most probably help stimulate the motivation of the user to get going with their Resources but also enable the user to backtrack their learning.

7.1.6.2 Improvements of Specific Resource Areas

In this section, improvements in specific Resource areas are presented. The ideation was based on feedback from the product testing and resulted in six areas of improvement: Having tools for recovery, eating healthy, exercising, possibility to have self-esteem, motivation for school work and capacity to work as a team.

Having Tools for Recovery
Remente currently has several Resources focusing on recovery which can be found in the mindfulness tag. As this is an important need mentioned by the end-user, Remente should prioritize expanding the number of Resources in this category and making it easier to find. Possible Resources in the area could be to provide information about the importance of recovery and what different methods for recovery there are, together with a description of why certain methods of recovery suit different people. The content should also be adapted to the university context, providing information and tools for recovery adapted to the workload and context of a student. To develop such Resource, Remente could approach Akademihälsan for a collaboration, since they have relevant competence within this area. Looking at some of the competitor apps that were screened in section 4.3, several offer tools for mindfulness and meditation. During the product testing, it was understood that some users use mindfulness apps. Hence, integrating e.g. more meditation in the app could increase the attractivity for some students.

Eating Healthy
Eating healthy is a need that was mentioned during the focus groups. There are currently several Resources within this subject, which can be found by pressing the health and fitness tag, food tag or by the search function, making these Resources easy to find. During the focus groups, it was mentioned that some content on this subject was experienced as strange and less credible. As the definition of healthy eating is very individual, it is difficult to make a Resource that fits all users. One should be careful not to create Resources so general they fit no one. Therefore, Resources must be customized or made so specific that they suit the intended target group. Eating healthy is a subject which many people already have a lot of knowl-

edge within and the trends within food and diets are constantly changing putting higher demands on the information and to keep these Resources up to date. For this category, it should be prioritized to update the existing material before adding new, making sure to use credible sources and references. Potential expansion within this Resource theme could be to collaborate with famous profiles within the area e.g. get a famous athlete meal plan. Another idea is to include different diets e.g. try paleo, try a vegetarian diet, etc. Moreover, there could be a Resource on how to make cheap and healthy food.

Exercising
Exercising was another need mentioned during the focus groups. Remente are currently offering several Resources within this area, which can be found by pressing the health and fitness tag. Although, it is difficult to find through the search function, and one suggestion for improvement is, therefore, to make these Resources easier to find. According to the feedback in the focus groups, the existing Resources regarding exercising had similar problems to the ones regarding eating healthy mentioned above. The users wanted the Resources to be more aligned with their ambition level and prerequisites. Customizing Resources according to e.g. previous experience or how much time they want to invest in the Resource might make them more useful. Similar to the suggestion for the eating healthy need above, one idea could be to collaborate with famous profiles within the area e.g. get famous athletes exercising plans or include plans for common running race distances e.g. 10 km race, half marathon, marathon, etc. Remente could also approach Fysiken, which is a gym owned by Gothenburg's United Student Unions, for a collaboration regarding e.g. exercising plans for students.

Possibility to Have Self-esteem
There are existing Resources regarding self-esteem in the Resource Library and they can be found through the mental health tag. The user cannot search for self-esteem and in the search field and find it, and it has no own tag, making the Resources regarding self-esteem fairly hard to find. Therefore, making these Resources easier to find is a suggestion for improvement. Moreover, while self-esteem is considered to be an important need there are only two courses related to the area in the current Remente app, making it an area possible for expansion. Self-esteem is also a Resource that could be subject for a collaboration with Akademihälsan.

Motivation for Schoolwork
There are Resources regarding motivation in the existing Remente product, and they can be found through the motivation tag and by searching on motivation in the search field, making this Resource easy to find. There are several Resources related to motivation but only one purely about motivation, making this a subject for expansion. The Resources should also be adapted to the student context. A Resource regarding motivation adapted to the student context could be about finding the motivation to study for an exam, taking a re-exam or motivation for taking a difficult course at Chalmers.

Capacity to Work as a Team
Having the capacity to work as a team is an important soft skill in students' future careers but also during studies at university regarding e.g. having functioning project groups. Group dynamics is already a subject included in some of the courses at Chalmers, which emphasizes the importance of this need. Remente currently has only one Resource on this subject which also is difficult to find. Therefore, Remente could extend their Resource Library with more information and training on how to improve students' capacity to work as a team. It should also be made easier to find these Resources.

7.1.6.3 Additions to the Resource Library

In this section, additions to the Resource Library are presented. The ideation was based on the top ten ranked end-user needs in section 6.2.2 that could be mapped to the Resource feature but also a purchaser need. The ideation resulted in eight suggested additions: Sense of adequacy, knowledge about the importance of reflecting over life, avoid performance anxiety, having good study techniques, identification with future profession, fair and equal treatment, support from older students and lastly, the purchaser need of integrating new students.

Sense of Adequacy
This Resource theme could provide the user with information and tools to make the students feel more sufficient and adequate in their studies, e.g. on how to stop to compare themselves to peers, how to set boundaries between personal life and studies. It could also be related to the need of avoiding performance anxiety below.

Knowledge About the Importance of Reflecting Over Life
Although Remente has tools to provide the user the possibility to reflect, it was understood during focus groups that students would have wanted to know more about why this is important. Hence, Resources should be added about the benefits of reflecting over one's life and information on how it improves well-being.

How to Avoid Performance Anxiety
Performance anxiety for upcoming exams or over a student's general progress at university is an observed issue. Resources concerning this are therefore important to include. The Resource can for example concern coping strategies or addressing the fact that one does not always have to focus on performance in school. These Resources could be created together with support functions such as e.g. Akademihälsan or Student Guidance Counselors.

Having Good Study Technique
Implementing a Resource considering how to have a good study technique would be valuable for the students. To develop such Resource, Remente could approach Akademihälsan for a possible collaboration. Resources could include e.g. information about common study techniques and goal plans with different tasks correlating with the study weeks.

Identification With Future Profession
Helping the student to better identify themselves with their future profession was an interesting need brought up by the Health and Safety Officer and could be an appropriate Resource for Remente to develop. The Resource could for example concern different descriptions of work areas together with videos of people describing their profession. This can be extra beneficial for the female students at study programs with male-dominated professions, who might have extra difficulties with identifying themselves with a profession within engineering.

Fair and Equal Treatment
This Resource theme could include a course educating the students of the Chalmers culture, in how to act in different situations at Chalmers and define what equal treatment is. Furthermore, Chalmers has eight defined discrimination principles which also could be informed about as a Resource. By including Resources on this topic, Remente could also contribute to the purchaser need of *ensuring a work environment free from discrimination and victimization.*

Support from Older Students
During one focus group, it was discussed that students would prefer to get support from older students and Chalmers alumni. One suggestion was to get "pep-talks" from people that went through the same thing. A possible solution for this could be to create videos of Chalmers alumni from different programs performing motivational speech for students. This would be an alternative way of sourcing material for the Resources.

New at Chalmers
With this Resource theme, Remente offers Resources fulfilling the purchaser need of *improving integration of master students.* These Resources would be aimed at students that are new at the campus and could concern different types of information that could help master students, but also first-year students. Suggested content of the Resource could contain a goal plan on different places to visit, a course in Swedish culture, links to different Facebook groups e.g. book selling groups or to different student committees.

7.1.7 New features

In this section, new features ideated within the basic package are presented. The ideation resulted in three suggestions of additions: A Chalmers specific tab, a study focus feature and a stress and burnout assessment.

Chalmers Specific Tab
As seen in Figure 7.3, a visualization of a new tab in the app called Chalmers was created. This tab would contain a section where contact information about different support functions at Chalmers are presented, depending on what sort of need the

student has. By including this feature several identified needs that Remente currently not fulfills can be met such as; *Encourage to seek help when needed*, *Possibility to seek help*, *Knowledge about where to seek help if needed*, *Support functions from Chalmers* and *Get help when needed*. The Chalmers tab could also include some Resources that are closely connected to university e.g. the suggestions stated in section 7.1.6.3.
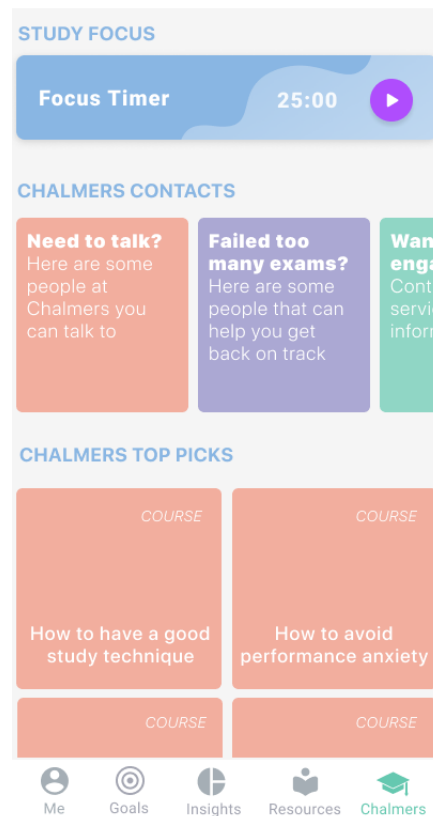
Figure 7.3: Visualization of the new Chalmers tab

Study Focus Feature

Some needs in the Study Joy category such as *Sense of persistence when studying*, *Sense of study focus* and *Sense of absorption in studies* are currently not fulfilled by Remente. A suggestion for solving these needs could concern a new feature that helps the user to have a better focus, more specifically a Pomodoro technique inspired feature. The premise with this function would be to set a timer of how long the user would like to study or focus at something, and during the time when the timer is counting down a pop-up comes up on the screen which encourages the user to not use their phone until the timer has counted down. Furthermore, Remente could also connect the timer to insights, providing the user with data on how much time they spend on studying. This is a feature that Remente has considered to use, one of their design proposals of this can be seen in Figure 7.3. This was also mentioned during a focus group, indicating that this could be an attractive addition to the app. The need *time management* could further strengthened with this new feature as well.

Stress and Burnout Assessment
Some participants from the product testing would have liked to see that Remente did more estimates for the user. WellTrack has a way of offering this to the user by the app asking 21 questions in which the user's well-being was assessed. The user then got the results that stated if they are at risk of depression, stress or anxiety. Incorporating a feature like this in the app might mitigate the users that wished for the app to provide them with more insights. Performing an assessment similar to this at the start of the app could perhaps also provide more motivation for the user to use the app, but also to decrease the threshold some participants had when starting the app, since the users will get a quick estimation of their well-being as a complement to the insights the Remente app currently provides after some usage. A suggestion for the types of questions that can be used in such feature could be the SBI, which is described in section 3.5.

7.2 Remente Academy Insights - Additional Package 1

The additional package 1, named Remente Academy Insights is linked to the purchaser, providing them with information on an aggregated level based on a new solution, which is described below.

Sharing Aggregated Data from the App With the Purchaser
Many of the B2B products that were analyzed in the Competitor Analysis had a business model where they provided the customer with insights of their organization and their employees. For the products concerning the educational sector, these were Steps and WellTrack. Steps sold a monthly report of what the students were seeking help with. WellTrack had a similar approach, where their more expensive packages provided the customer with aggregated data of what help the students are seeking. Although the Pulse feature can provide the organization with insights, an alternative or complement to this could be to provide the purchaser with aggregated information on how the students use the app, e.g. how the students' rate their mood, assess their lives and what Resources they attend. This could fulfill the purchaser needs of *getting information about what is holding students back in their studies*, *information about what characterize struggling student groups*, but also an aid to *identify new stressors for students*. Providing Chalmers with this information without having to send out surveys could also meet the need of *increasing response rates with feedback on work environment*.

7.3 Remente Academy Pulse - Additional Package 2

The additional package 2, named Remente Academy Pulse, is linked to the purchaser and builds on Rementes existing Pulse feature together with ideated improvements and additions presented below. It should be noted that the Pulse feature was not tested during the product testing and there is consequently no feedback to consider for this feature.

Adapting the Pulse to the Student Context
The pulse feature is currently fulfilling the purchaser need of *gathering representative data regarding work environment* and the end-user needs of *having the possibility to give feedback* and *someone is keeping track on you*. Although, Chalmers already has a solution for all these needs which are customized for students. A suggestion for improvement if Remente wants to compete with Chalmers existing solution is therefore, to take inspiration from the questions currently used in Studentbarometern and integrate them in the pulse. Future development of the pulse and what questions to comprise should be designed in collaboration with the Health and Safety Officer at Chalmers.

Develop Solution for a Standard Protocol Linked to the Pulse
One need identified when charting Chalmers as a purchaser is the need for *standardized report structure for inspections*, which is currently not fulfilled by Remente. By adding this to the Pulse offering, Remente would provide a complete solution with a common platform including both the Pulse and the report instead of having two completely different solutions, which Chalmers currently has. By doing this, Remente offers a more structured method and an easier way of compiling and comparing results from different educational programs. This solution would also support Chalmers in their systematic working method in work environmental questions. This could also assist in fulfilling the need of *compiling information and report to the vice president of education and life long learning.*

Expand the Pulse Scope
Other needs identified when charting Chalmers are to *get information about the students in important aspects* such as their alcohol habits, their perception of the reception, in understanding the background of the students and their goal with the education but also why people take longer study breaks and following up on people failing exams. As the Pulse measures work environmental aspects, similar measures could easily be made also in other gather information about students in the aspects mentioned above. Therefore, possible future development of the Pulse could be to develop the Pulse into charting these needs as well.

Integrate the pulse Feature into the Remente App
The existing pulse feature is not currently integrated in the Remente app, but the users are instead given the questions by email or text. By making it possible for the end-user to answer the pulse and see the results in the Remente app, one would

simplify the answering process for the students, making it feel less like a survey and closer at hand to answer, fulfilling the purchaser need of *increasing response rates with feedback on work environment.* Making the results visible in the app would *increase the transparency regarding work environment* which is another need that could be fulfilled.

8

Recommendation for Approaching Chalmers

This Chapter includes recommendations of how Remente should approach Chalmers, based on the aspects of a Business Model Canvas. Some aspects such as the value proposition, are more thoroughly described than others, reflecting the focus of the study. The recommendations are based on leanings from all different parts of the project, including the literature study, interviews with Chalmers, Remente and competitors, but also knowledge gained from the focus groups and interviews with students. A summary of the recommendations can be seen in Appendix G.1.

8.1 Key Partners

When approaching Chalmers, the focus should initially be on the important key partners around the procurement process. By identifying key partners for purchases within similar categories e.g. the team setting requirements for Akademihälsan, important positions within Chalmers could be identified. At Chalmers, this team consists of representatives from the Office of Student Support, the Health and Safety Officer, the Dean of Education focused on work environmental questions and the Student Welfare Officer from the Student Union. These positions are all important stakeholders during the process of procurement but also during the continuous work after the procurement situation. It is therefore important to have a good customer relationship with these positions throughout the collaboration with Chalmers. Although, the team setting the requirement is not doing the actual procurement. In the case of a direct procurement, this is performed by an employee within the concerned division who has completed a course giving them the right to perform direct procurement. If the procurement involves larger sums and framework agreements, this is performed by the central procurement division at Chalmers. The employee responsible for the actual procurement should also be considered as a key partner.

After the procurement situation, there are several other key partners to consider, e.g. the identified stakeholders to work environmental issues at Chalmers, but also within the Student Union and other external support functions. This is important as they could be used as collaborative partners when developing specific material for the university but also for marketing purposes and when reaching out with the product to students. Some of the key partners for this are already mentioned as the team setting requirements for Akademihälsan. Other important functions are

the Student Guidance Counselor for each undergraduate and master's programs. Program Directors should also be considered a key partner as they have the overall responsibility for the programs and if they believe in the product and help to promote it to the students, this will strengthen the credibility of the product and encourage the students to use it. The student division board for each program, keeping the SAMO function is another important key partner, mainly for reaching out to the students on each educational program. The Student Priest and Akademihälsan are useful external support functions that could be used to create Chalmers specific material, but also to reach out to students. Therefore, they should also be considered as key partners. To be able to verify the users as active students at Chalmers, Remente need to collaborate with IT personnel at Chalmers, which also should be considered as a key partner.

8.2 Key Activities

Initially, one of the key activities for Remente is to develop a pricing strategy for the different product offerings. After that, the most important activity for Remente is to establish a relationship with the key partners of the procurement process to ensure the first procurement. Another key activity is to further develop the collaboration with Chalmers to enable future procurement and the possibly of turning into a framework agreement provider in the future. Another key activity is to continue creating mock-ups for the recommended improvements and additions that can be used to visualize the product offerings. Another important key activity is to develop the suggested improvement and additions for the different product packages. Although what improvements and additions to prioritize concerning time should be considered carefully to avoid unnecessary and costly developments.

A key activity is also to market the product to the students. As stated in the channels section, the main marketing activity is recommended to be performed by key partners to gain credibility to the product. Material for marketing purposes needs to be developed and distributed to the relevant key partners at Chalmers. As the primary target segment are first-year students, marketing activities should be focused around the reception of new students and after the first exams. This strategy was promoted both by Steps and students during the focus groups. After launching the product, other key activities should focus on continuous software development of the product, troubleshooting, and support. Collaborations should also be established with key partners to create Chalmers specific content. Furthermore, Remente should have continuous contact with the key partners, ensuring a good relationship with the purchaser.

When students register their Remente account, a possible solution for them to access the Chalmers specific package is entering that they are Chalmers students during the registration. After entering that, they will be directed to a Chalmers website verifying that they are students by signing in with their Chalmers CID and password. Hence, this process needs to be developed in collaboration with the IT personnel at Chalmers.

8.3 Key Resources

Many of the key resources needed when approaching Chalmers are related to the human resources at Remente. Initially, creating a pricing strategy for the different package offerings are needed to be able to approach Chalmers. Key resources needed for this are human resources at Remente, involved in business strategy and sales and marketing. After that, key resources in the shape of sales marketing personnel need to be allocated into targeting key partners for the procurement process. Moreover, material for marketing purposes need to be developed, preferably in collaboration between marketing and sales personnel and personnel working with UX. Further on, UX personnel should continue creating mock-ups for suggestions of improvement and additions. At a later stage, resources need to be allocated in providing key partners at Chalmers with information and material needed to be able to reach out to students.

Remente can currently manage the approximate number of 10,000 students studying at Chalmers, no further technical resources are needed enabling enrollment of students in the app. After the procurement situation is settled, human resources are needed in software development and UX to create the improvements and additions needed for the basic package. Software development will also be needed to develop a solution verifying the students at Chalmers. Regarding additional package 1, resources are needed to develop a tool to process and present data. This will need software and UX resources. For the additional package 2, the Pulse feature needs to be adapted to the student context, this could be done in collaboration with Chalmers and needs further human resources. This describes how the key resources should be distributed to be able to approach Chalmers, but no additional resources other than the already existing ones at Remente are considered to be needed.

8.4 Cost Structure

Looking at Key resources, the most expensive costs are the human resources i.e. labor costs, as Remente is a company developing a digital product. Due to this fact, it is important that these resources are put on activities that are both feasible and providing high customer value. Allocating too many resources on a major product change could pose as a risk since it will require a large proportion of the developer's time. Although since feasibility has been a central aspect during the opportunity analysis, this risk can be considered to be mitigated. As Remente is a start-up keeping only eight employees, the key activities are distributed fairly equal among the different positions. Furthermore, Remente should be observant of potential additional costs during collaboration with external functions such as e.g. Akademihälsan and Fysiken.

8.5   Value Propositions

Remente are recommended to package their system into three different packages, one basic package, Remente Academy, and two optional additional packages, Remente Academy Insights and Remente Academy Pulse.

Remente Academy - Basic package
The Remente Academy basic package includes the Remente Premium version of the app together with suggested improvements and additions in section 7.1. This package provides the student with possibilities to reflect and to become self-aware by offering tools for self-assessment in features like Rate Mood and Assess Life. Other needs that are met by these features is to encourage students to have a holistic view on life but also enabling them to have a better work-life balance. Moreover, students are provided support in managing study demands and setting up study goals through the Day Plan and Goals features, which also provide students with support in managing stress and time. The student needs are also fulfilled by the Resource Library providing students with of e.g. the possibility of having a good self-esteem and to recover. By implementing the suggested improvements and additions mentioned in section 7.1, the product-market fit will increase further meeting needs such as improving the sense of adequacy, avoiding performance anxiety and providing students with possibilities to have a good study technique. Suggested additions could also provide students with a better study focus and balanced student life, consequently creating even higher customer value. Purchaser needs fulfilled by the basic package is to help students before they need it and to provide students with individual-level interventions. Needs that could be met as possible results of this package is to increase university attractivity, increase university through-put and meet the needs of industry by creating resilience among their future employees.

Remente Academy Insights - Addition Package 1
Remente Academy Insights package provides the university with aggregated data on how the students use the Remente app, i.e. how they use the Rate Mood feature, Assess Life feature and what Resource they use. This offering would add additional value to the basic package by meeting the purchaser needs of providing information in what is holding students back in their studies, what is characterizes struggling student groups and a possibility to identify new stressors for students. Although the aggregated information gathered from the students using the app might not provide representative data for all students, it would work as guidance to understand the students and their perception of the work environment at Chalmers.

Remente Academy Pulse - Addition Package 2
Remente Academy Pulse package provides the university with aggregated data on how the students are perceiving the work environment at Chalmers collected by Remente's current pulse feature. This offering would add additional value to the basic package by meeting the purchaser needs of gathering representative data for the work environment, but also by meeting the end-user needs of having the possibility to give feedback that someone is keeping track on them. By implementing

the suggested improvements and additions in section 7.3, additional needs could be fulfilled, such as providing Chalmers with a standardized report structure for the annual inspections and assist Chalmers to compile information and report to the Vice President of Educations and Life Long Learning. Further on, if expanding the Pulse scope, Remente could assist Chalmers in collecting information about the students in several other important aspects. By making it possible to answer and visualize the results from the Pulse in the Remente app, Remente can also fulfill the need for increasing student response rates for feedback but also to increase the transparency regarding work environment. Although, it should be noted that Chalmers already has an existing solution similar to Rementes Pulse feature, most probably affecting the opportunity for this offering negatively. However, by imprinting the suggested improvements and additions to this package, Remente provides a more complete solution, supporting Chalmers in their systematic work method regarding work environment, which could be perceived as valuable for Chalmers if they are interested in developing an extensive collaboration regarding work environmental issues.

Alternative Packaging
The Pulse could also be provided solely to the university, but in the case of Chalmers, this would not be recommended. However, this does not exclude the possibility for Remente to provide it to other universities which may not have the existing solutions as Chalmers has regarding surveying the work environment.

8.6 Customer Relationship

As mentioned in section 8.1, there are several key partners within Chalmers, the Student Union, and external support functions, which Remente should establish a different customer relationship with. Emphasis should be on developing relationships with people deciding the requirements for similar purchases, as these are potential clients for the procurement and therefore crucial to establish a good customer relationship with. The person turning out to be the actual client should receive dedicated personal assistance. Other important key partners should also receive personal assistance during the annual product launch, i.e. at the beginning of the semester when new students arrive and after the first exams. At other times these relationships could be of a less frequent character mainly based on providing support.

Regarding the relationship with students, much of the communication and marketing are recommended to be via Chalmers and their support functions to gain credibility for the product. Although, customer relationships could also be stimulated through Remente's social media platforms. During the first couple of years after implementing the product at Chalmers, it could be of importance to create a relationship also directly with the students by being visual at the campus. This could be useful to receive feedback and gain further understanding of the student needs, but also to promote the fact that Remente is a local company and the product in general. This could be done at the annual product promotion during the reception of new

first-year students. Remente should also look out for events at Chalmers relating to personal development, mental health, etc. to further strengthen their relationship with students.

8.7 Channels

A recommended approach for Remente to reach out to students would be to go through Chalmers. Two of the competitors in section 4.3, namely WellTrack and Steps had the same approach of marketing their product to the students. According to the co-founder of Steps, having the university promoting the product gives much more credibility to it, making students trust the product. Therefore, having Chalmers to perform marketing is a recommended approach for Remente. The main marketing of the product should be performed during the reception of new students and after the first exams. Key partners should be informed of and receive material for marketing the product for students. Although as mentioned regarding customer relationships, it could also be important to create a direct relation to the students as well, especially at the beginning of the implementation. This could be done by visiting the campus during the reception weeks at Chalmers to create awareness for the product, learning about student needs, receive feedback and promoting social media platforms for future communication.

8.8 Customer Segments

Most of the participants in the focus group were at the end of their education and had already developed tools and methods to better cope with their well-being. Although, it was mentioned that they would have wanted tools and information like Remente provides at the start of their education. Therefore, a recommended target group would be first-year students. Providing Remente to first-year master students would be appropriate as well since several of these students are new at Chalmers and could therefore be in need of new tools and extra support. However, making this selection of target group does not exclude the older students, since Remente had an overall good reception by the participants in the focus groups.

8.9 Revenue Streams

Depending on the procurement situation, there are several possible outcomes regarding revenue streams. Looking into the revenue streams of the competitors' Steps and WellTrack, Steps only had one product offering and had a usage-fee, where they were paid a fixed amount per user. WellTrack on the other hand, had a subscription fee for their different package offerings in different price ranges. Looking at the aspect of procurement, a possible outcome is that Remente will gain Chalmers as a customer through direct procurement but could evolve as a framework agreement provider in the future. Having the competitor strategies in mind and together with the character of direct procurement, an annual subscription fee is recommended, which would

be independent of the number of users. Since the value proposition keeps different packaging alternatives, the revenue depends on what package Chalmers decides on, but it will also depend on the pricing of the different packages.

9

Discussion

This Chapter includes reflections and discussions on the different parts of the thesis. The chapter starts with an overall reflection of the thesis approach, followed by aspects of special importance for the outcome of the project. Starting with a reflection of the process of this study, some challenges were arising during the literature study. As this was a subject in which the authors had limited knowledge in, it was very time consuming and an exploratory approach was used throughout the literature search. Looking back on the approach, some of these difficulties could have been mitigated if having a more balanced knowledge and experience in all of the different areas within the thesis.

Reflections on the Market Analysis
As insights from competitors have been an important part of this project ,both during ideation and when recommending a business approach, it should be noted that many products that were screened were not possible to try since several offerings were B2B products. Moreover, several products did not state pricing and details on the packaging was also missing for several of the competitors. Instead, a lot of focus was on competitors with accessible products. If having the resources to access all competitor products in the competitor analysis, consequently getting more information about their product offerings, this might have affected the decisions during the ideation and when establishing recommendations for how to approach Chalmers. Therefore, it should be noted for future work that a more thorough competitor analysis should be performed to receive more information about the products of the competitors, but also enabling a better basis for a benchmark with Remente.

Reflections on the Customer Needs Assessment
During the needs assessment, the initial customer needs list was established by collected needs identified from the literature study, the competitor analysis and the interviews with Chalmers representatives. In this list, needs deriving from the organizational sector were translated into suiting the educational sector instead, meaning that these needs were assumed to be universal both for students and employees. Therefore, it should be noted that this translation includes a risk of altering the need from its original context.

Further on, as mentioned in chapter 7, many needs could be divided into different levels. Although, the focus was only put on the level in which it was originally found in this project. Also, some of the needs were merged, potentially leading to losing an important level of the need. Therefore, if Remente is interested in gaining

an even deeper understanding of the customer needs, this should be considered as future work.

An analysis of Studentbarometern was planned to be carried out to get information about the current situation for students at Chalmers. As the results from Studentbarometern 2019 was planned to be released in March, this analysis was postponed waiting on these results. Although, since these numbers were not released during the time of the project, an analysis of Studentbarometern was never performed. As the student needs were collected in many other ways, one could still argue to have good information about the students at Chalmers.

Reflections on Product Testing
An alternative scope of the product testing could be to let the participant use the app for a longer time, analyzing how it affects the participants' well-being, proving measurable results. Although, since this project is focused on product development, the main purpose of the product test was rather to collect the participants' experience of the app. With this purpose, a shorter test time of seven to nine days could be argued to be enough. Another aspect relevant for having a short test time was the limited time of the project and for the convenience for the product testers. Moreover, Remente's B2B product the Pulse, was not used in the product testing since the authors had limited access to it but also since the app is the part of the product that the end-users primarily will be in contact with.

Regarding the sampling and number of participants for the focus group, the initial approach was to collect participants through posters around campus. As stated before, this was not as efficient as expected. Therefore, the authors reached out to peers through their personal digital channels. Having participants with an already existing connection with the moderators could have impacted the result of the product testing. Although, since the topic is of a more personal nature it was experienced that the participants had little issues regarding opening up and share their thoughts. Indicating that this could have been a successful aspect.

Reflections on Product-market Fit and Ranking Criterion
In the product-market fit analysis, needs received a lower value ranking if they were not confirmed by students or discussed during focus group. Using this method, there is a possibility that some needs from the literature study received a lower ranking than they should as some of the important needs might not have been brought up during the focus group for different reasons, e.g. if they were seen as too obvious or being at a too high abstraction level. One could also comment on the fact that a need was ranked higher if it was mentioned only once by a student compared to if mentioned several times in literature. This decision was taken as the study was performed as a case study at Chalmers and it was therefore considered to be more relevant if a need was mentioned by the real intended end-user in the right context compared to a need deriving from another context. Although, it could be argued to reconsider this decision and analyze the result if changing the ranking criterion, although due to the limited time frame this could not be done in this project.

Regarding the ranking parameter Chalmers Fulfillment, the value was based on the knowledge gained from charting Chalmers. However, some assumptions had to be made where a deeper understanding of how well Chalmers were solving the needs were missing. Nonetheless, the ranking of the parameter of Chalmers degree of fulfillment is still of importance since it can provide Remente with guidelines on how to approach the university.

Some assumption was also made in the Remente Fulfilment parameter. As some needs were of a high level of abstraction, mapping them to a specific feature proved too difficult in some cases. Many needs were also fulfilled with the Resource feature since the Resource Library is very extensive and covers many different areas. However, the 120+ Resources were only analyzed with an overview in the thesis due to time limitation and therefore it should be noted that some content of them might have been missed.

For the ranking parameter feasibility, a scale from 1-3 was used as a 5-scale was difficult to use as only three different levels were identified. This could be seen as inconvenient as it differed from the scales used in the other parameters.

The criteria in the Remente Feasibility parameter were designed in a manner where needs that could be solved with a Resource got the highest value. This resulted in that many needs ranked as a high opportunity could be solved by a Resource. With these rankings, several needs were less prioritized due to lower feasibility ranking. However, too many additions to the Resource Library could be experienced as the app becoming too broad, therefore emphasizing that Remente should continuously review the content of them to ensure their quality and credibility.

Reflecting on the Ideation
As stated before, the needs list was long, and the needs could also be divided and solved at different levels. Hence, due to time limitations and limited knowledge in both psychology and software development the additions and improvements that were presented were more at a conceptual level. The approach was therefore to get an overview of the subject. For future work, the generated concepts should be further developed with a team keeping this knowledge.

A reoccurring stakeholder in this thesis is Akademihälsan, which the authors could not get in contact with for an interview. Many recommendations for the Resource Library have been made including collaborations with Akademihälsan, since they play a big role in Chalmers work towards student health. Therefore, Remente should be aware of the fact that there is a degree of uncertainty concerning the recommendations connected to Akademihälsan since a potential collaboration is not verified by them. Moreover, if an interview with Akademihälsan would have been performed, it is assumed that more information about student health could have been elicited. As future work, Remente is therefore recommended to get in contact with Akademihälsan.

No validation of the concepts ideated was performed. To be able to perform a validation, functional prototypes have to be created followed by another product test. This could not be done within the time frames of this project. Although, since end-user needs receiving the highest value during the ranking was mentioned both in the literature study and by the students of Chalmers, the needs per se could be considered to be verified. A final verification of the ideated concepts is left as future work for Remente.

Reflections on the Package Offerings
Concerning the different package offerings described in the Ideation chapter, there are several ways of doing this. The basic package could e.g. be refined further, only offering a number of the features in the app, and the rest to an additional cost. Although, due to the design of the current B2C product, where all features are available free of charge, only restricting the Resource Library, it would appear as inconsistent to restrict features to the B2B customers without doing the same for the B2C product. Consequently, this packaging decision is of a larger strategic decision left to Remente as future work.

Reflections on Ethical Aspects
As stated in this thesis, there is a correlation between the usage of technology and mental illness. Therefore, a dilemma surfaces since this thesis concerns combining both aspects. The decision of how much one should spend on their phone could be argued to be on the individual. However, during an interview with an employee at Remente, it was understood that there is a discussion within this area in how to take more responsibility. More specifically creating an app that does not shame the users for not using the app, e.g. by using gamification in the form of streaks. Nonetheless, it is a complex topic since Remente's main premise is to attract users, but still, need to do this at a sustainable level.

Other ethical aspects that should be considered are the fact that Remente stores sensitive personal data. Since this is already a core activity of Remente, they already have a solid solution for this. Although some of the suggested improvements e.g. Addition package 1, includes providing the university with information on how the users are using the app, this will implicate ethical aspects further. However, this suggestion concerns data on an aggregated level, meaning that no data should be able to be traced to a specific individual. To respect the integrity of the users a potential aspect could be that Remente offers the user to decide whether if they want to share their data with Chalmers or not. This can, however, decrease the value proposition Remente offers to Chalmers since they might receive fewer data from the students. With that stated, it should be one of Remente priorities to state clearly how the user's data is stored and used, and ensure that all users have taken part of the information.

As for the focus groups, all participants agreed upon confidentiality regarding what was stated during the sessions. Although, it cannot be guaranteed that the participants in focus groups treat the information as confidentially as they stated. Further

on, this thesis does not include any transcripts or raw data from the focus groups or end-user interviews but instead a summarized version keeping the highlights of the results. This might affect the level of detail of the results and the understanding for the reader but was a decision made to be able to ensure the integrity of the participants. This also limited the possibility to analyze the results according to the demographics of the participants.

10
Conclusion

From the literature study, it was understood that there is an increase in mental illness affecting the educational sector. This creates suffering for the individual as well as for the organizations and society. Investing in well-being for students could, therefore, be argued to be of great importance both economically and from the perspective of social sustainability. Hence, there is a need to counteract this trend and approach the problem with preventive measures. By answering the three research questions for this thesis, it can be concluded how a digital tool for well-being should be adapted to fit the educational sector, using Chalmers as a case study.

RQ1: How is Chalmers currently working to stimulate, measure and control mental health?
From charting of Chalmers, it was realized that Chalmers is working systematically and methodically with issues regarding the work environment. Within this systematic work approach, they use an annual survey called Studentbarometern to receive feedback from students and to get information about their well-being in different aspects. In addition to that, they also have annual inspections of the psycho-social work environment for every undergraduate program at Chalmers. The results from these inspections are documented and reported to the ultimately responsible position which is the Vice President of Education and Life Long Learning in the case for the students. There are many stakeholders to these issues within Chalmers. There are positions having a responsibility, which goes from the top of the hierarchy and is allocated in several steps down to the Program Director for each undergraduate program. In addition to that, there are several support functions to provide Chalmers with internal support but also to provide support directly to students. The main support functions directed against students are the Student Guidance Counselor within each educational program. In addition, there are also external support functions such as Akademihälsan, the Student Union and the University Priest. Within the Student Union, it is mainly the Student Welfare Officer and the Voluntary Student Safety Representative at each undergraduate program who are working with these questions.

RQ2: What are the purchaser's (Chalmers) and the end-user's (Student) needs concerning mental health?
By screening the literature study and the primary and secondary data collected when charting Chalmers, six different categories of purchaser needs could be identified: Support, Internal Aspects, Regulations, Information and Communication, Systematic Work and Quality Assurance.

The end-user needs were collected by screening the literature study, the competitor interview and the primary and secondary data collected when Charting Chalmers. This resulted in identifying seven different categories of end-user needs. By adding the end-needs identified during the interviews and focus groups with students, two more categories could be identified, resulting in a total of nine categories of end-user needs. The identified categories of end-user needs were: Impact surrounding, support, self-esteem, work-life balance, study joy, sustainable working culture, self-management, social aspects, and knowledge information and transparency.

RQ3: How could Remente's product be adapted and packaged to meet the identified needs of Chalmers and their students
Remente are recommended to package their system into one basic package and two optional additional packages. The basic package includes the existing B2C Remente premium app together with improvements and additions. Improvements and additions for the Day Plan feature are to create a divided day plan where the user can categorize tasks and goals according to if they are work-related or of a private matter. Moreover, Remente should enable the user to share goals with other users. They should restrain the number of goal plans possible to have active at the same time and they should make it easier for the user to remove goals. Moreover, Remente should reconsider having the Day Plan as home screen. Regarding the Assess Life feature, Remente are recommended to limit the access to this feature making it possible to assess only once a week. Remente should also consider customizing it for students, splitting the parameter education & career into two different parameters. Regarding the Rate Mood feature, Remente are recommended to suggest interventions in the Resource Library, customized according to the result of the user rating. Remente are also recommended to have the Rate Mood feature on the home screen, as this is considered to be a core feature in the app. Regarding the Insights feature, Remente should consider changing the graphical user interface as it is currently too difficult to understand. Regarding the Resource Library, Remente should consider increasing the level of customization of the goal plans. They should also improve the information and descriptions of the Resource Library by adding visual tags and introductory descriptions. Further on, Remente should expand their collaborations to create student specific Resources and they should also develop a structure for updating the Resource Library. As mentioned earlier, they should restrain the number of active goal plans but also clarify for the user when they have completed a Resource, also enabling the students to backtrack their progress. They should improve their existing Resources on areas within: Having tools for recovery, eating healthy, exercising, having self-esteem, getting motivation for schoolwork and the capacity to work as a team. They should also add Resources on subjects such as: having a sense of adequacy, knowledge about the importance of reflecting over life, how to avoid performance anxiety, having good study technique, identification with future profession, fair and equal treatment, support from older students and lastly, the purchaser need of integrating new students. Regarding adding new features, Remente are recommended to add a Chalmers-specific tab, where the user can find Chalmers-specific content such as an info page keeping contact information for sup-

port functions but also top picks of Resources where the users can learn more about how to improve themselves and their studies. Another addition recommended for Remente is to add a study focus feature, assisting the user in staying focused on their studies. This new feature should also be connected to the insights feature, enabling the student to keep track of their study progress. Remente is also recommended to add a new assessment feature including an assessment of the user's stress level and risk of burnout.

For the optional additional package 1, Remente are recommended to provide Chalmers with a new feature, giving Chalmers the possibility to receive aggregated data with information on how the students are using the app.

For the optional additional package 2, Remente are recommended to offer Chalmers their Pulse feature. When offering this package, Remente should adapt the Pulse to the student context by taking inspiration from Studentbarometern. Remente should also develop a new feature offering a possibility to document and report their annual psycho-social work environment inspections. Remente should also consider making it possible to present the results from the pulse and the inspections in the Remente app, providing the students a visualization of the results.

Answering the research questions above, it can be concluded that there is a need both for the students and Chalmers and that Remente has an unique product offering and a proper product-market fit, fulfilling important end-user needs such as helping students to become self-aware, manage study demands, set up study goals and managing stress and time. Moreover, Remente could also aid Chalmers in fulfilling their needs to increase university attractivity, increase university through-put, meeting the needs of industry and provide students with help before they need it. By implementing the recommended improvements and additions to the existing product offering, Remente has a solid and exclusive position when approaching Chalmers. With the proposed packages, Remente also have the possibility to approach Chalmers with a broad product offering, making it possible for Chalmers to select a package that suits their current needs and a level of collaboration they feel comfortable with.

Bibliography

[1] Nationell samordnare inom området psykisk hälsa, *Fem fokusområden fem år framåt*, Retrieved on 2019-03-21. [Online]. Available: `https://docplayer.se/41324737-Fem-fokusomraden-fem-ar-framat.html`.

[2] World Health Organization, *Depression*, Retrieved on 2019-03-21. [Online]. Available: `https://www.who.int/en/news-room/fact-sheets/detail/depression`.

[3] B. Arnetz and R. Ekman, *Stress: Molekylerna, individen, organisationen, samhället.* Liber, 2002.

[4] Swedish Work Environment Authority, "Organisational and social work environment", *AFS 2015: 4*, 2015.

[5] P. Barreira, M. Basilico, and V. Bolotnyy, "Graduate student mental health: Lessons from american economics departments", Working Paper.

[6] Folkhälsomyndigheten, *Statistik över vuxnas psykiska hälsa*, `https://www.folkhalsomyndigheten.se/livsvillkor-levnadsvanor/psykisk-halsa-och-suicidprevention/statistik-psykisk-halsa/vuxnas-psykiska-halsa/?fbclid=IwAR2AblE5Qt5v1qTQXnl5FhOu8K6v8EnQKefaMnhMAUm-KN_wDPC2zbmihqA`, Retrieved on 2019-04-16.

[7] M. Kuittinen and M. Meriläinen, "The effect of study-related burnout on student perceptions", *Journal of International Education in Business*, vol. 4, no. 1, pp. 42–62, 2011.

[8] Remente, *Remente business*, Retrieved on 2019-06-09. [Online]. Available: `https://business.remente.com/`.

[9] P. Frankelius, C. Norrman, and A. Parment, *Marknadsföring: Vetenskap och praktik.* Studentlitteratur AB, 2015.

[10] Businessballs, *Swot analysis*, Retrieved on 2019-04-24. [Online]. Available: `https://www.businessballs.com/strategy-innovation/swot-analysis/`.

[11] S. D. Eppinger and K. T. Ulrich, "Product design and development", 1995.

[12] P. Wallgren, *Methods to support analysis - from data to requirements*, Lecture, Nov. 2017.

[13] M. Denscombe, *The good research guide: For small-scale social research projects.* McGraw-Hill Education (UK), 2014.

[14] Strategyzer, *Business model generation*, Retrieved on 2019-06-06. [Online]. Available: `https://www.strategyzer.com/books/business-model-generation`.

[15] Globala Målen, *Vad betyder hållbar utveckling?*, Retrieved on 2019-03-21. [Online]. Available: `https://www.globalamalen.se/fragor-och-svar/vad-betyder-hallbar-utveckling/`.

[16] M. Missimer, "Social sustainability within the framework for strategic sustainable development", PhD thesis, Blekinge Tekniska Högskola, 2015.

[17] World Health Organisation, *Mental health: A state of well-being*, Retrieved on 2019-03-21. [Online]. Available: `https://www.who.int/features/factfiles/mental_health/en/`.

[18] Cambridge Dictionary, *Well-being*, Retrieved on 2019-06-06. [Online]. Available: `https://dictionary.cambridge.org/dictionary/english/well-being`.

[19] Folkhälsomyndigheten, *Begrepp - psykisk hälsa*, Retrieved on 2019-03-22. [Online]. Available: `https://www.folkhalsomyndigheten.se/livsvillkor-levnadsvanor/psykisk-halsa-och-suicidprevention/psykisk-halsa/begrepp-psykisk-halsa/`.

[20] World Health Organisation, *Mental health: Strengthening our response*, Retrieved on 2019-03-26. [Online]. Available: `https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response`.

[21] P. Salmi, M. Berlin, E. Björkenstam, and G. Ringbäck Weitoft, "Psykisk ohälsa bland unga, underlagsrapport till barns och ungas hälsa, vård och omsorg", *Stockholm: Socialstyrelsen*, 2013.

[22] L. Wiegner, "Blir man sjuk av stress? om utmattning och återhämtning", ISM – Institutet för stressmedicin, Västra Götalandsregionen, 2017.

[23] Institutet för stressmedicin ISM, *Vad är stress?*, Retrieved on 2019-04-16. [Online]. Available: `https://www.vgregion.se/ov/ism/stress--rad-och-behandling/vad-ar-stress/`.

[24] Harvard Health Publishing, *Understanding the stress response*, Retrieved on 2019-04-16. [Online]. Available: `https://www.health.harvard.edu/staying-healthy/understanding-the-stress-response?fbclid=IwAR3_uMwDhbigg-KBurJRhJosgFqqleukXVpt4BYm79Y7NrB4y15xRzKEHj8`.

[25] C. Maslach, S. E. Jackson, M. P. Leiter, W. B. Schaufeli, and R. L. Schwab, *Maslach burnout inventory*. Consulting Psychologists Press Palo Alto, CA, 1996, vol. Third Edition.

[26] Institutet för stressmedicin ISM, *Förekomst av psykisk ohälsa*, Retrieved on 2019-03-22. [Online]. Available: `https://www.vgregion.se/ov/ism/stress--rad-och-behandling/vad-ar-stress/stressrelaterad-psykisk-ohalsa/`.

[27] C. Mellner, G. Aronsson, and G. Kecklund, "Boundary management preferences, boundary control, and work-life balance among full-time employed professionals in knowledge-intensive, flexible work", *Nordic journal of working life studies*, vol. 4, no. 4, pp. 7–23, 2014.

[28] M. Milczarek, E. Brun, I. Houtman, A. Goudswaard, M. Evers, M. Bovenkamp, N. Roskams, R. Op de Beeck, K. Pahkin, M. Berthet, *et al.*, "Expert forecast on emerging psychosocial risks related to occupational safety and health", 2007.

[29] C. Maslach, "Burnout and engagement in the workplace: New perspectives", *The European Health Psychologist*, vol. 13, no. 3, pp. 44–47, 2011.

[30] C. Maslach and M. P. Leiter, "Early predictors of job burnout and engagement.", *Journal of applied psychology*, vol. 93, no. 3, p. 498, 2008.

[31] ——, "Understanding the burnout experience: Recent research and its impli-
      cations for psychiatry", *World psychiatry*, vol. 15, no. 2, pp. 103–111, 2016.
[32] W. B. Schaufeli, I. M. Martinez, A. M. Pinto, M. Salanova, and A. B. Bakker,
      "Burnout and engagement in university students: A cross-national study",
      Journal of cross-cultural psychology, vol. 33, no. 5, pp. 464–481, 2002.
[33] W. B. Schaufeli, A. B. Bakker, and M. Salanova, "The measurement of work
      engagement with a short questionnaire: A cross-national study", *Educational
      and psychological measurement*, vol. 66, no. 4, pp. 701–716, 2006.
[34] R. E. Raitano and B. H. Kleiner, "Stress management: Stressors, diagnosis,
      and preventative measures", *Management Research News*, vol. 27, no. 4/5,
      pp. 32–38, 2004.
[35] J. V. Johnson and E. M. Hall, "Job strain, work place social support, and
      cardiovascular disease: A cross-sectional study of a random sample of the
      swedish working population.", *American journal of public health*, vol. 78, no.
      10, pp. 1336–1342, 1988.
[36] R. A. Karasek Jr, "Job demands, job decision latitude, and mental strain:
      Implications for job redesign", *Administrative science quarterly*, pp. 285–308,
      1979.
[37] Statistics Sweden, *Högskolestuderandes levnadsvillkor. enkätundersökning bland
      högskole studerande våren 2007 [living conditions among students in higher
      education. a survey. spring 2007]*, 2007.
[38] Folkhälsomyndigheten, "Varför har den psykiska ohälsan ökat bland barn
      och unga i sverige?", Folkhälsomyndigheten, 2018.
[39] P. Gustavsson, M. Jirwe, and E. Frögéli, "Orsaker till ökande problem med
      stress under sjuksköterskeutbildningen–en longitudinell analys", *Stockholm:
      Karolinska Institutet*, 2014.
[40] A. Zajacova, S. M. Lynch, and T. J. Espenshade, "Self-efficacy, stress, and
      academic success in college", *Research in higher education*, vol. 46, no. 6,
      pp. 677–706, 2005.
[41] M. Pritchard and G. S. (Gregory Scott) Wilson, "Using emotional and social
      factors to predict student success", *Journal of College Student Development*,
      vol. 44, pp. 18–28, Jan. 2003. DOI: 10.1353/csd.2003.0008.
[42] A. Rudman and J. P. Gustavsson, "Burnout during nursing education pre-
      dicts lower occupational preparedness and future clinical performance: A
      longitudinal study", *International journal of nursing studies*, vol. 49, no. 8,
      pp. 988–1001, 2012.
[43] K. Salmela-Aro, N. Kiuru, E. Leskinen, and J.-E. Nurmi, "School burnout
      inventory (sbi) reliability and validity", *European journal of psychological
      assessment*, vol. 25, no. 1, pp. 48–57, 2009.
[44] K. J. Reddy, K. R. Menon, and A. Thattil, "Academic stress and its sources
      among university students", *Biomedical and Pharmacology Journal*, vol. 11,
      no. 1, pp. 531–537, 2018.
[45] A. Fernandez, E. Howse, M. Rubio-Valera, K. Thorncraft, J. Noone, X. Luu,
      B. Veness, M. Leech, G. Llewellyn, and L. Salvador-Carulla, "Setting-based
      interventions to promote mental health at the university: A systematic re-
      view", *International journal of public health*, vol. 61, no. 7, pp. 797–807, 2016.

[46]   Folkhälsomyndigheten, "Psykisk ohälsa bland högskole- och universitetsstudenter kan förebyggas", Folkhälsomyndigheten, 2018.

[47]   World Health Organization, *Mental health: Strengthening our response*, Retrieved on 2019-04-17. [Online]. Available: `https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response`.

[48]   H. Haglund and E. Niva, *Direkta effekter av rumineringsfokuserad kognitiv beteendeterapi som indikerad preventiv insats via internet för ungdomar*, 2016.

[49]   M. Börjesson and I. Jonsdottir, "Fysisk aktivitet och stress", *Svensk idrottsforskning*, vol. 19, no. 3, pp. 10–12, 2010.

[50]   B. Arnetz and R. Ekman, "Stress: Gen, individ, samhälle", *Liber AB Stockholm*, 2013.

[51]   The Swedish Government, "Kommittédirektiv - nationell samordnare för utveckling och samordning av insatser inom området psykisk hälsa. dir. 2015:138", Socialdepartementet, 2015.

[52]   Swedish Work Environment Authority, "Förebygg arbetsrelaterad stress", *ADI 688*, 2017.

[53]   Government Offices of Sweden, *Uppdrag att minska stigma kring psykisk ohälsa och suicid*, Retrieved on 2019-04-18. [Online]. Available: `https://www.regeringen.se/pressmeddelanden/2018/06/uppdrag-att-minska-stigma-kring-psykisk-ohalsa-och-suicid/`.

[54]   European Agency for Saftey and Health at Work, "Healthy workers, thriving companies - a practical guide to wellbeing at work", European Agency for Saftey and Health at Work, 2018.

[55]   K. Kelland, *Mental health crisis could cost the world $16 trillion by 2030*, Retrieved on 2019-04-18. [Online]. Available: `https://www.reuters.com/article/us-health-mental-global/mental-health-crisis-could-cost-the-world-16-trillion-by-2030-idUSKCN1MJ2QN`.

[56]   J. Hassard, K. R. Teoh, G. Visockaite, P. Dewe, and T. Cox, "The cost of work-related stress to society: A systematic review.", *Journal of occupational health psychology*, vol. 23, no. 1, p. 1, 2018.

[57]   G. Lagerström, L. M. Rose, and E. Lovén, "Work environment and economics", 2009.

[58]   J. LaRosa, *What's next for the $9.9 billion personal development industry*, Retrieved on 2019-04-19. [Online]. Available: `https://blog.marketresearch.com/whats-next-for-the-9-9-billion-personal-development-industry`.

[59]   J. Edström, "Vad kostar en akademiker? en jämförelse av utbildningskostnaden för en svenskutbildad och en invandrad akademiker", *SACO*, 2015.

[60]   J. G. Marie Kahlroth, "Universitet och högskolor, årsrapport 2018", Swedish Higher Education Authority, 2018.

[61]   Universitets Kanslers Ämbetet, *Antal registrerade studenter vt2018*, Retrieved on 2019-04-16. [Online]. Available: `https://www.uka.se/statistik--analys/statistikdatabas-hogskolan-i-siffror/statistikomrade.html?statq=https://statistik-api.uka.se/api/totals/1`.

[62] The World Bank, *Human capital index and components, 2018*, Retrieved on 2019-04-16. [Online]. Available: `http://www.worldbank.org/en/data/interactive/2018/10/18/human-capital-index-and-components-2018`.

[63] Statistics Sweden, *Universitet och högskolor. genomströmning och resultat på grundnivå och avancerad nivå till och med 2015/16*, 2017.

[64] M. Dimock, *Defining generations: Where millennials end and generation z begins*, Retrieved on 2019-06-01. [Online]. Available: `https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/`.

[65] C. Johansson, *Generation z*, Retrieved on 2019-06-01. [Online]. Available: `https://www.previa.se/livet-och-jobbet/generation-z?`.

[66] Universum, *Generation z rakt in i arbetslivet*, Retrieved on 2019-06-01. [Online]. Available: `https://universumglobal.com/se/insights/generation-z-rakt-in-i-arbetslivet`.

[67] ——, *Vem påverkar generation z?*, Retrieved on 2019-06-01. [Online]. Available: `https://universumglobal.com/se/insights/vem-paverkar-generation-z/`.

[68] D. V. Choudary, "The importance of training engineering students in soft-skills", *International Monthly Rerereed Journal of Research in Management and Technology*, vol. 3, no. 1, pp. 61–64, 2014.

[69] M. M. Robles, "Executive perceptions of the top 10 soft skills needed in today's workplace", *Business Communication Quarterly*, vol. 75, no. 4, pp. 453–465, 2012.

[70] Internetstiftelsen i Sverige, "Svenskarna och internet 2018", Internetstiftelsen i Sverige, 2018.

[71] J. Jiang, *Millennials stand out for their technology use, but older generations also embrace digital life*, Retrieved on 2019-04-19. [Online]. Available: `https://www.pewresearch.org/fact-tank/2018/05/02/millennials-stand-out-for-their-technology-use-but-older-generations-also-embrace-digital-life/`.

[72] S. Hopwood, *How many mobile apps are actually used?*, Retrieved on 2019-04-19. [Online]. Available: `https://www.apptentive.com/blog/2017/06/22/how-many-mobile-apps-are-actually-used/`.

[73] Comscore, "U.s. mobile app report", Comscore, 2014.

[74] N. Babich, *The death of the standalone app and what comes next*, Retrieved on 2019-04-18. [Online]. Available: `https://theblog.adobe.com/death-standalone-app-comes-next/`.

[75] K. Bowen and M. D. Pistilli, "Student preferences for mobile app usage", *Research Bulletin)(Louisville, CO: EDUCAUSE Center for Applied Research, forthcoming), available from http://www. educause. edu/ecar*, 2012.

[76] L. Kante, *Svenskarna mer försiktiga på nätet*, Retrieved on 2019-04-21. [Online]. Available: `https://www.aktuellsakerhet.se/svenskarna-mer-forsiktiga-pa-natet/`.

[77] B. A. Kamphorst, "E-coaching systems", *Personal and Ubiquitous Computing*, vol. 21, no. 4, pp. 625–632, 2017.

[78] J. Pettersson, *S-kurvan och four stage technology life cycle*, Retrieved on 2019-04-21. [Online]. Available: `https://www.staxo.com/2010-10-20-s-kurvan-och-four-stage-technology-life-cycle/`.

[79] Janakiram MSV, *5 artificial intelligence trends to watch out for in 2019*, Retrieved on 2019-04-21. [Online]. Available: `https://www.forbes.com/sites/janakirammsv/2018/12/09/5-artificial-intelligence-trends-to-watch-out-for-in-2019/#794837645618`.

[80] Datainspektionen, *Dataskyddsförordningen, gdpr*, Retrieved on 2019-04-21. [Online]. Available: `https://www.datainspektionen.se/lagar--regler/dataskyddsforordningen/`.

[81] WellTrack, *Welltrack website*, Retrieved on 2019-04-16. [Online]. Available: `https://welltrack.com/`.

[82] ——, *Welltrack application*, version 2.9.1, Android, Apr. 5, 2019. [Online]. Available: `https://play.google.com/store/apps/details?id=com.cyberpsyc.welltrackapp`.

[83] University of Kent, *Kent wellbeingzone*, Retrieved on 2019-04-16. [Online]. Available: `https://kentstaff.wellbeingzone.co.uk/#!/guest/home/`.

[84] York St John University, *York st john wellbeingzone*, Retrieved on 2019-04-16. [Online]. Available: `https://yorksj.wellbeingzone.co.uk/`.

[85] University of Salford, *Salford wellbeingzone*, Retrieved on 2019-04-16. [Online]. Available: `https://www.salfordstudents.com/articles/introducing-the-wellbeing-zone`.

[86] MAXIMUS, *Wellbeingzone*, Retrieved on 2019-04-16. [Online]. Available: `http://www.yourwellbeingzone.com/`.

[87] OpenUP UEA, *Openup uea application*, version 0.0.2, Android, Sep. 13, 2018. [Online]. Available: `https://play.google.com/store/apps/details?id=uk.co.open_up.uea.app`.

[88] Expert Self Care Ltd, *Student health app*, version 1.7, Andriod, Feb. 7, 2019. [Online]. Available: `https://play.google.com/store/apps/details?id=com.expertselfcare.studenthealth.full`.

[89] Winningtemp, *Winningtemp website*, Retrieved on 2019-04-17. [Online]. Available: `https://winningtemp.com/visual-overview`.

[90] Peakon, *Peakon website*, Retrieved on 2019-04-17. [Online]. Available: `https://peakon.com/sv/products/engage/`.

[91] Andfrankly Pulse AB, *&frankly website*, Retrieved on 2019-04-17. [Online]. Available: `https://www.andfrankly.com/sv/`.

[92] Officevibe, *Officevibe website*, Retrieved on 2019-04-17. [Online]. Available: `https://www.officevibe.com/`.

[93] The Fabulous, *Fabulous application*, version 3.55, Android, Apr. 12, 2019. [Online]. Available: `https://play.google.com/store/apps/details?id=co.thefabulous.app`.

[94] ——, *Fabulous website*, Retrieved on 2019-04-17. [Online]. Available: `https://www.thefabulous.co/`.

[95] Randome Studios, *Habithub application*, version 9.5.37, Android, Dec. 26, 2018. [Online]. Available: `https://play.google.com/store/apps/details?id=com.rstudioz.habits`.

[96] Headspace, Inc, *Headspace application*, version 3.20.1, Android, Mar. 20, 2019. [Online]. Available: `https://play.google.com/store/apps/details?id=com.getsomeheadspace.android`.

[97] Calm.com, Inc, *Calm application*, version 4.7, Android, Apr. 8, 2019. [Online]. Available: `https://play.google.com/store/apps/details?id=com.calm.android`.

[98] Seekrtech, *Forest application*, version 4.8.2, Android, Apr. 17, 2019. [Online]. Available: `https://play.google.com/store/apps/details?id=cc.forestapp`.

[99] Chalmers, *About chalmers*, Retrieved on 2019-05-08. [Online]. Available: `https://www.chalmers.se/en/about-chalmers/Pages/default.aspx`.

[100] ——, *Organisation*, Retrieved on 2019-05-08. [Online]. Available: `https://www.chalmers.se/en/about-chalmers/organisation/Pages/default.aspx`.

[101] ——, *Rankings*, Retrieved on 2019-05-08. [Online]. Available: `https://www.chalmers.se/en/education/studying-at-Chalmers/Pages/rankings.aspx`.

[102] ——, *Chalmers for a sustainable future*, Retrieved on 2019-05-08. [Online]. Available: `https://www.chalmers.se/en/about-chalmers/Chalmers-for-a-sustainable-future/Pages/default.aspx`.

[103] ——, *Maria knutson wedel*, Retrieved on 2019-05-06. [Online]. Available: `https://www.chalmers.se/en/staff/Pages/maria-wedel.aspx`.

[104] M. Åkerström, *Ansvar för studenters arbetsmiljö*, Retrieved on 2019-05-19. [Online]. Available: `https://www.chalmers.se/insidan/SV/utbildning-och-forskning/grundutbildning/program/arbetsmiljo-for`.

[105] Chalmers, *Work environment for students*, Retrieved on 2019-05-04. [Online]. Available: `https://student.portal.chalmers.se/en/studentlife/student-work-environment/Pages/student-work-environment.aspx`.

[106] ——, *Magnus åkerström*, Retrieved on 2019-05-07. [Online]. Available: `https://www.chalmers.se/sv/Personal/Sidor/magnus-akerstrom.aspx`.

[107] ——, *Jämställdhets- och likabehandlingssamordnare*, Retrieved on 2019-05-19. [Online]. Available: `https://student.portal.chalmers.se/sv/kontaktochservice/Sidor/jamstalldhetssamordnare.aspx`.

[108] ——, *Kontaktpersoner per program*, Retrieved on 2019-05-07. [Online]. Available: `https://student.portal.chalmers.se/sv/kontaktochservice/kontaktpersoner_per_program/Sidor/default.aspx`.

[109] A. Hofvander, *Inköp och upphanlding*, Retrieved on 2019-05-19. [Online]. Available: `http://www.chalmers.se/insidan/SV/arbetsredskap/inkop-och-upphandling`.

[110] Akademihälsan, *Om akademihälsan*, Retrieved on 2019-05-17. [Online]. Available: `https://akademihalsan.se/om-akademihalsan/`.

[111] Chalmers Studentkår, *Who is there to help me?*, Retrieved on 2019-05-19. [Online]. Available: `https://chalmersstudentkar.se/wp-content/uploads/2018/07/help.pdf`.

[112] Chalmers, "Handlingsplan för arbetsmiljö och jämlikhet 2016-2018 för studenter och anställda på chalmers, dnr: C 2016-0756", 2016.

[113] ——, "Chalmers arbetsmiljö- och jämlikhetspolicy med mål och mättal 2019 - 2021, dnr: C2018-1491", 2019.

[114] ——, "Styrdokument: Föreskrift: Former för samverkan för studerande beträffande arbetsmiljö och likabehandling, dnr: C 2015-1289", 2015.

[115] Chalmers University of Technology, *Arbetsmiljöarbete för studenter*, Retrieved on 2019-04-23. [Online]. Available: `https://student.portal.chalmers.se/sv/studentliv/studie-arbetsmiljo/Sidor/arbetsmiljoarbete.aspx`.

[116] Chalmers, "Styrdokument: Riktlinjer för inköp och upphandling vid chalmers tekniska högskola. dnr c 2017-0004", 2017.

[117] The National Agency for Public Procurment, *Befintliga ramavtal*, Retrieved on 2019-05-08. [Online]. Available: `https://www.upphandlingsmyndigheten.se/upphandla/om-upphandlingsreglerna/om-lagstiftningen/Tillampning_av_LOU_i_akuta_situationer/befintliga-ramavtal/`.

[118] Chalmers, *Upphandling*, Retrieved on 2019-05-08. [Online]. Available: `https://www.chalmers.se/sv/om-chalmers/kontakt/leverantor/Sidor/upphandling.aspx`.

[119] A. Hofvander, *Direktupphandling*, Retrieved on 2019-05-08. [Online]. Available: `http://www.chalmers.se/insidan/SV/arbetsredskap/inkop-och-upphandling/direktupphandling`.

[120] U. Josefsson, *Quality assurance*, Retrieved on 2019-05-07. [Online]. Available: `http://www.chalmers.se/insidan/EN/education-research/education/quality-assurance`.

A

Appendix

A.1 Gantt Schedule
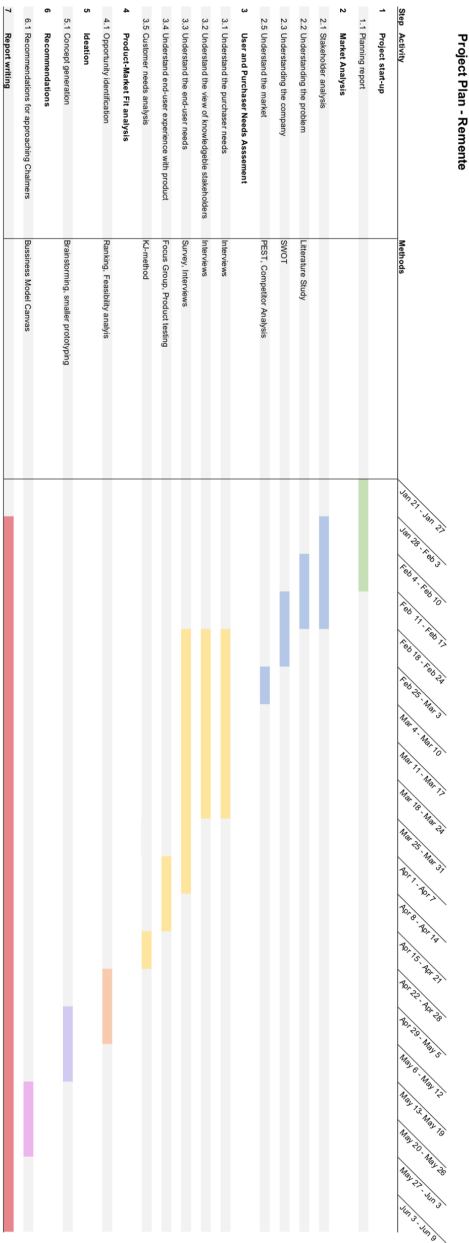
Figure A.1: Initial Gantt schedule

A.2 Screenshots of Remente's Existing Features
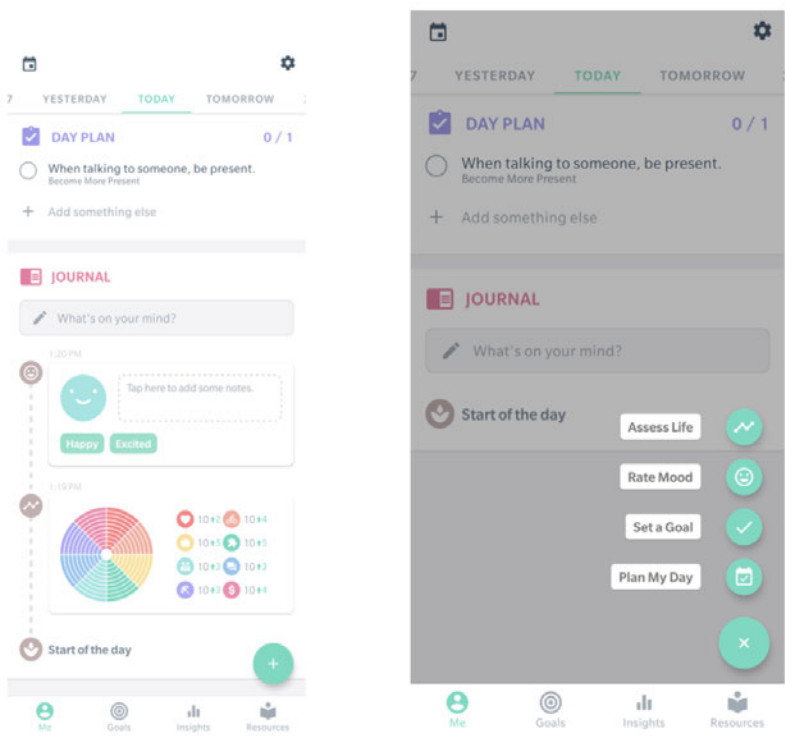
Figure A.2: Home Screen
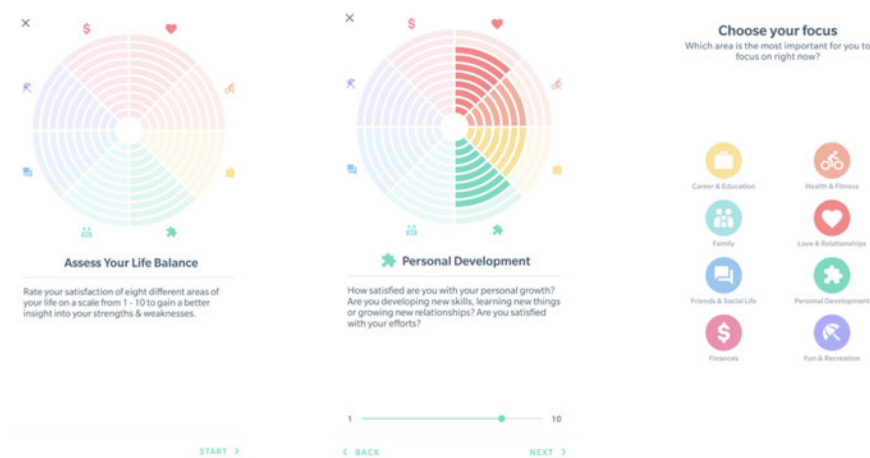
Figure A.3: Assess Life
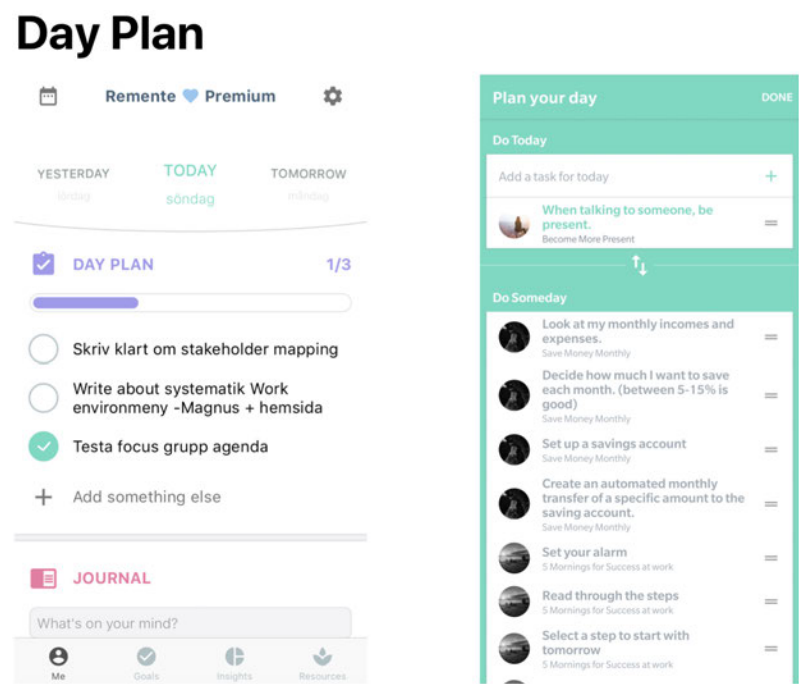
Figure A.4: Day Plan
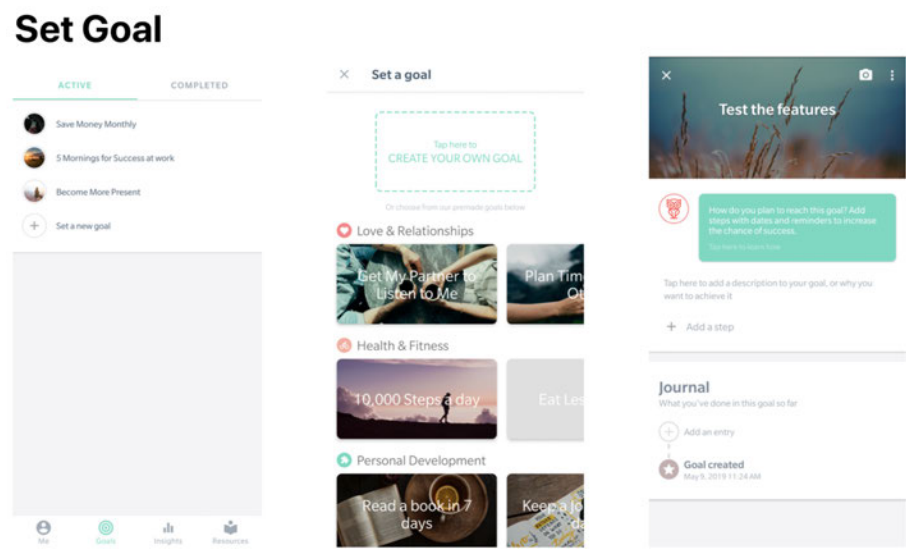
Figure A.5: Set Goals
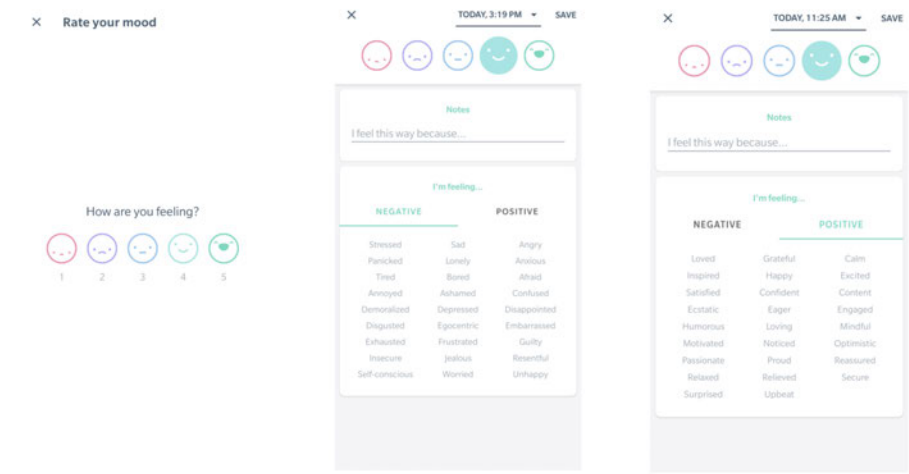
Figure A.6: Rate Mood
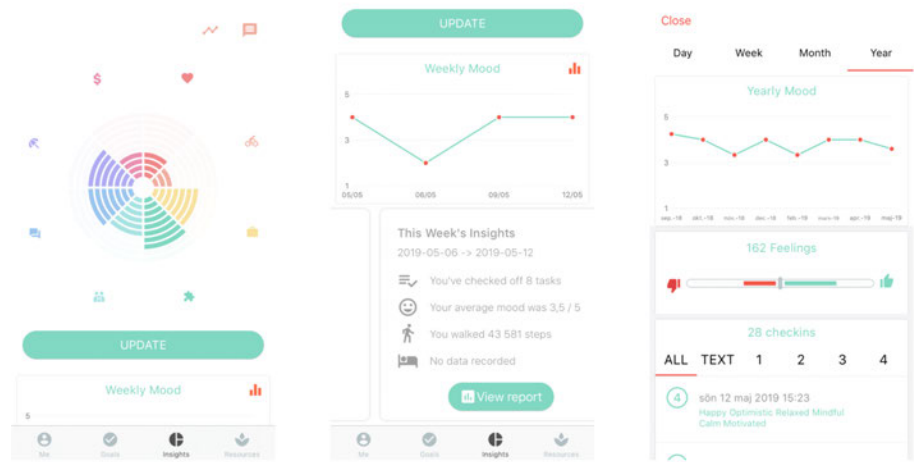
Figure A.7: Insights

Figure A.8: Weekly insights
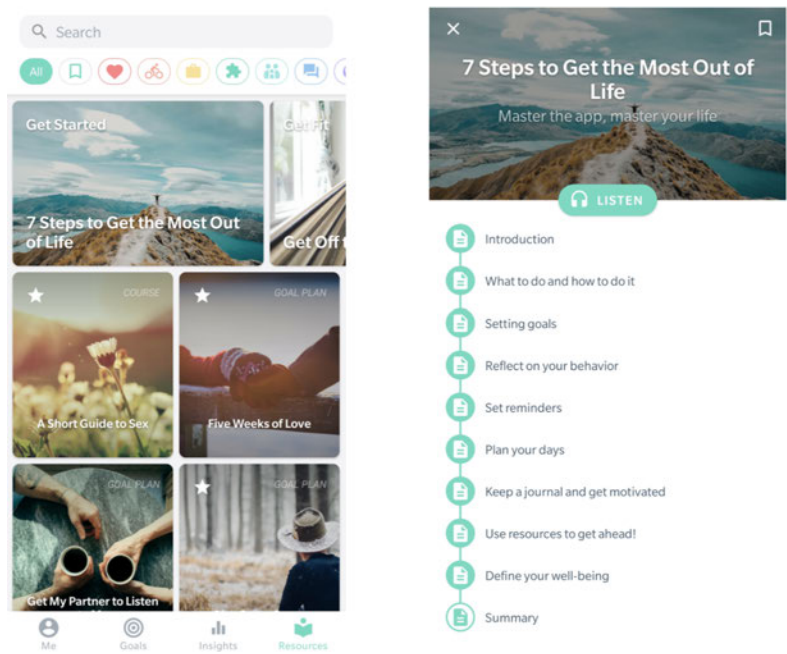
Figure A.9: Resources

Resources - Course
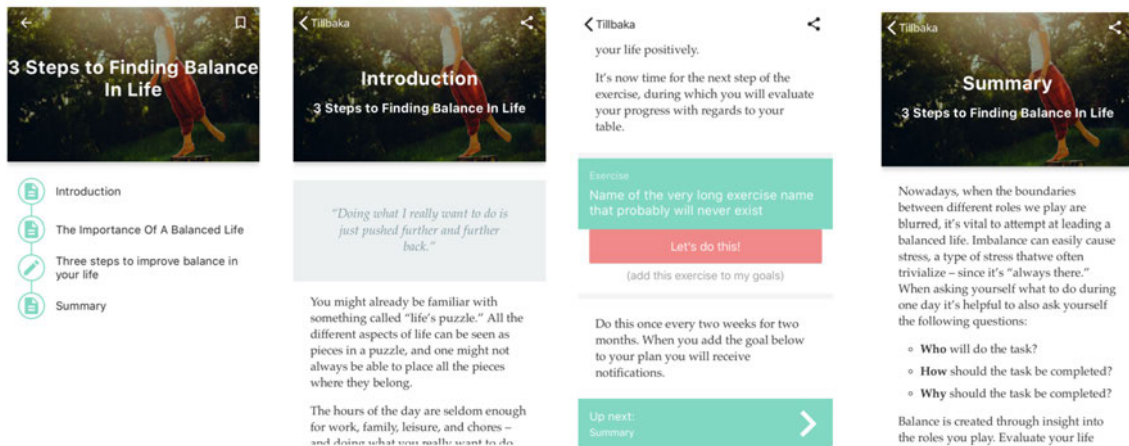
Figure A.10: Resources, course

Resources - Goal Plan
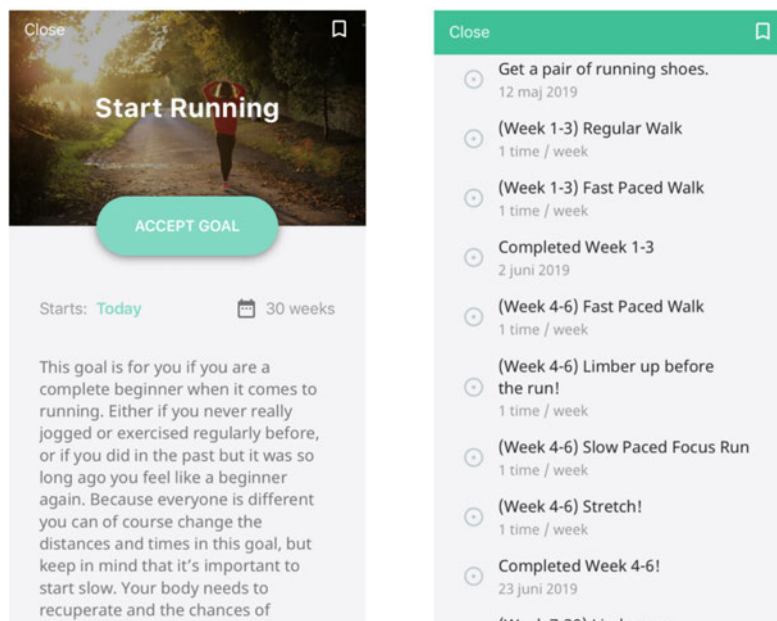
Figure A.11: Resources, goal

Figure A.12: Resources, boost

B

Appendix

B.1 Recruitment Poster
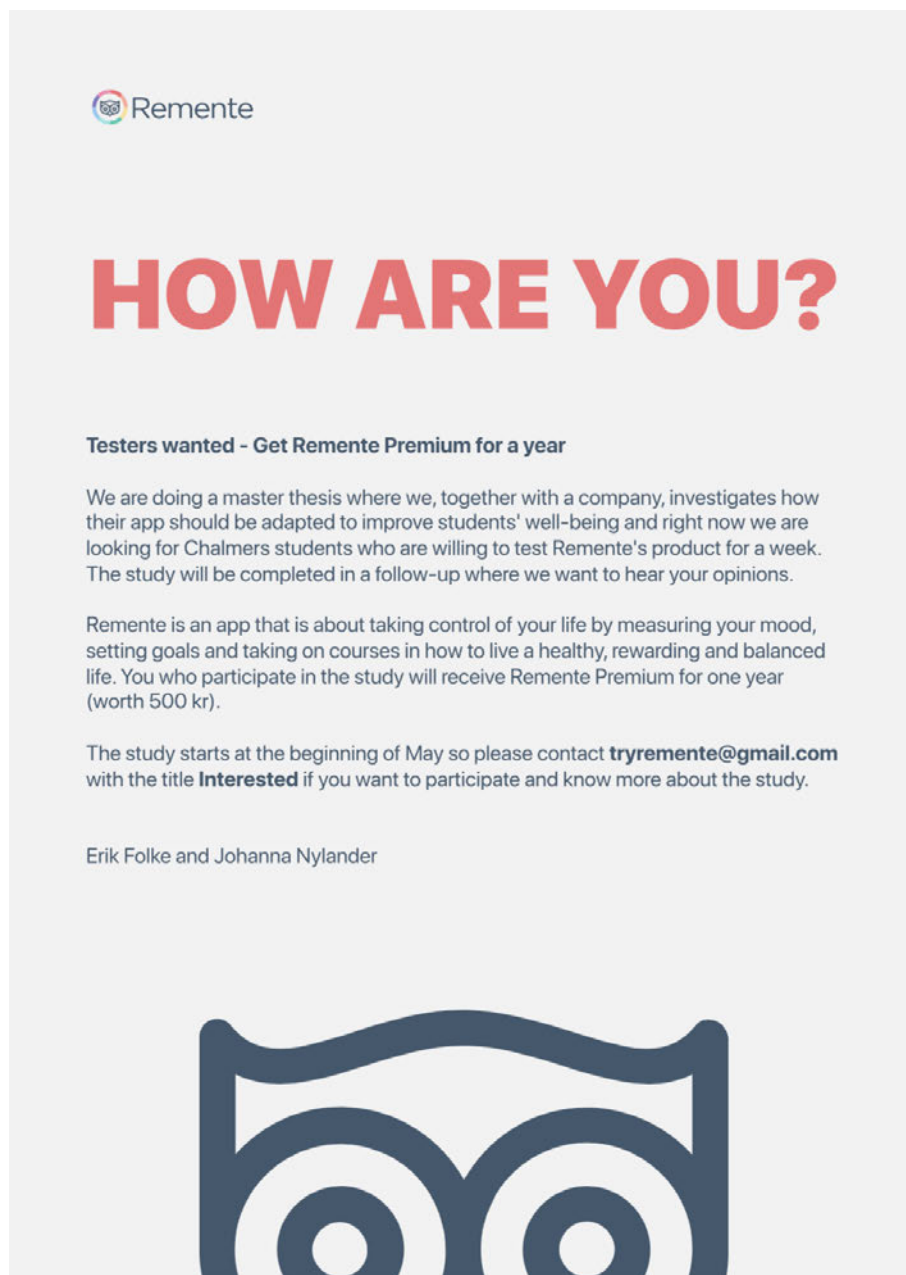
Figure B.1: Recruitment poster

B.2 Instructions for Product Testers

INSTRUCTIONS FOR TESTING REMENTE

3rd of May

SET UP
~ 10 minutes

1. Fill in your contact info by following this link:
https://www.surveymonkey.com/r/WVW3XVW

2. Download application

3. Create Remente account

6th of May

USE THE APP
~ 10 minutes per day

We will do a check-in and see how you are doing in the middle of the week!

1. Follow the instructions when opening the app

2. Use the app twice a day during the product testing week.
Perhaps once in the morning and once in the evening, but it's up to you!

3. Use all main features at least once during the product testing week
- Do a life assessment
- Rate Mood
- Set a goal
- Do a course from the resources library
- Plan your day using the Day Plan

13 or 14th of May

FOLLOW UP
1 - 2 hours

Follow-up session with a focus group
- Focus group 1 - 13/5 18.00-20.00.
- Focus group 2 - 14/5 18.00-20.00.

Alternative: Individual interview(~1h)

Figure B.2: Instructions for product testers

B.3 Focus Group Support Questions

Part 1
Trigger question:
Write down feedback from testing session. Could be:
- Problems you faced
- Things that were particularly good/bad
- What you used the most/the least

Support questions during feedback session (if needed):
- How did you experience the feature?
- How much did you use it?
- How important do you think this feature is for the overall impression of the app?
- Did you enjoy the feature or not?
- What could be changed?
- Did you experience any problems with the feature

If a feature is not talked about
- No one has mentioned anything about this feature, why is that?
- What's your opinion about it?

These questions will be asked in the end
- How long time did it take for you to understand the app?
- How did you experience the intro steps of the app?
- Do you think you will continue to use Remente as it is now?
- If yes, what makes you want to continue to use it?
- If no, What is the most important thing to change in order for you to use it? Why?

Part 2
Questions to stimulate the discussion:
- What is well-being for you?
- What is important for you to experience well-being as students?(Could be both private matters or directly linked to chalmers)

Support questions for needs finding:
- Take inspiration from what you found relevant in the app if you have difficulties to come up with anything
- Take inspiration from what you needed at times when you've been low?
- Take inspiration from times when you were feeling well, what do you think triggered that?
- Has anything changed throughout your years at Chalmers that have been important for your well-being?
- What was important in the beginning?
- What is important now?

Support questions during discussion:
- Why is this important for you?
- Can we break this down into smaller categories?
- These are very similar, maybe we can group them?
- Many have stated this, what is this about it?
- Is anyone of these more important than the other?

C

Appendix

C.1 Competitor Interview

Date: 2019-02-14
Name: Rikke Møller Koblauch
Position: Founder of Steps, previous danish competitor
Medium: Phone interview
Time: 1h 15 min
Format: Semi-structured

How did you come up with steps?
From the beginning we started as a B2C application focusing only on the end-user but then we switched focus into university as a B2B customer, mainly because it's a good business model, there is a gap in the market here.

Why is university a good business model?
In Denmark schools only get paid when students graduate. We were selling student data including information about what is holding the students back in their studies etc. Mostly they were looking into students social boundaries. Universities are nowadays well aware about the fact that the social part is a fundamental part of university life and is a really important factor for making students stay in university and preventing them from dropping out. In addition, all universities in denmark will soon start to be measured on employability, in other words they will be measured according to how fast the students get a job after graduation. The universities will get an extra bonus depending on ranking. It's very important to look into the political trends. Trends are also showing in order to become more employable increasing importance of students creating a social network, developing soft skills, making them more happy and social. We sold reports in how the student used the product, in other words information about what the students were struggling with and what characterized those student groups. Entering the university market we started to build away from the app, creating a facebook messenger bot instead as it was more effective to do product changes (quicker, easier, cheaper). The facebook messenger bot, was basically an app but within facebook messenger. The previous product was pivoted a bit.

What universities did you approach?
We had a pilot product with Roskilde University for 6 months. From the beginning they got the product for free and then they turned into paying customers. It is an extremely slow process to sell to university and public universities but usually when just one university is on, the others will follow. The hardest part is to get the first deal. I think all universities in Denmark are public schools and there are only 8 universities in Denmark so the market is pretty small, which of course is a very important aspect to consider before entering the market. To be able to be profitable we would have to get all eight universities as paying customers. It's important to analyse if this would this make sense in other context.

Did you ever try to approach a market outside Denmark e.g. universities in Sweden?

No we focused on the danish market. We approached universities in UK because it's more expensive when student jump off there but it was mainly to learn and gain knowledge. We talked to several other universities in other countries but mainly to confirm they were experiencing the same problems.

What was the identified problem that you wanted to solve?
We focused a lot on social anxiety, giving challenges to ensure social comfortability for the users. The facebook bot was similar to the app. The problem with our product was that it was too broad. If I would have started over I would approach a tiny group, maybe 5 people, make it perfect for this group and then grow.

Who was the intended user?
A little bit anyone from the beginning and then we narrowed it down into higher education. Then we narrowed it even further to students entering the university world, so called freshmen students.

How did you market the products?
We provided the universities with packages of information that they could use to target the students. The university was given the full marketing responsibility. It's good to merge the product with the university. Letting the university doing the marketing, students tend to feel more trust compared to if it just was another company trying to sell them something.

Describe your revenue streams? How did you make money?
The university paid per enrolled user. If they had 5 people using the product, they only pay for those students. I strongly believe that to be a successful way of doing it. The university paid a monthly fee on per enrolled student and then every month we provided the university with reports, describing e.g. in social studies the students are worried about these things, in engineering they focus more on this. This information is of big importance for university as the people seeking help is only a fraction about the people dropping out.

What types of problems are according to you the most occurring ones?
Mainly problems regarding social aspects.

Did you ever go out and talked to students and what approach did you have?
We were out when the students started university and got the student to use the product. Social anxiety is still under a lot of stigma. Because of the stigma, we always tried to avoid to focus on the negative aspect of it. Instead of saying e.g. "do you feel lonely" it's better to say "do you want to improve your social skills" for instance. Instead of asking what they are not feeling good in, we asked what they wanted to improve in. Always focusing on the positive aspect of it. We only talked about improvement and good aspects and did not mention mental health or anxiety or anything, we only talked about the upsight. I the same way as you would focus on "Do you want to lose weight, "do you want to run a marathon", instead of "do you want to prevent getting a heart attack" or " avoid being depressed". The users are buying the upsights, e.g. "more energy" rather than "less tired", im buying the upsights. Another important thing we thought was that the motivation has to come from themselves. We really learned not to try to motivate people. Motivation has to come from within, but provide motivated people with tools. It's probably why fitness apps are more about measuring rather than pushing and motivating because the first step has to come from the user.

Did you change the product according to the feedback form the students?
Yes, we changed the product according to what they needed. We gathered a lot of data according to what they wanted. We followed the classic Build-Measure-Learn principal.

What is your experience of why people struggle?
A lot people think they are awkward or in a certain way. They could be saying things about

themselves like, "i'm not this person", "I've always been like this", "I'm bad at speaking in front of other people" etc, not realising that they can become better.

How many users did you have at Roskilde University?
At Roskilde university we had about 300 users using the facebook bot but they disappeared quickly again. During 2018 they were really active but they didn't retain it. We talked to some of the users why they didnt use it, and they said it's not relevant for them currently, e.g. "I don't feel I need it". Probably the reasons were a combination of many things. The students have many tools already. It's a generation bombarded with so many things. They do not have a lot of time to try out new things and tools.

Why do you think an app is an appropriate tool/system for solving these problems?
I don't think the format of the platform matters. The technology is not the hardest part of it. We stopped to use out app because we did not have resources enough to make the changes needed in our application so that's why we created the facebook bot. It could be anything, if you can make it work. Why not an app?

Did you get feedback from the people you helped?
The users said it was giving them more problems as they had more things to do. Maybe they users don't think they were struggling, people say "they can do it, but they don't do it". It's important to find the people that really want to improve and to have a narrow focus, maybe only focusing on only one aspect "raising their hands"for instance, Really narrowing it down, the goal is to improve in social skills, but start with one single problem. If you can make 5 users love it, then you can scale it. Make sure to know your users inside out.

Could you see any trends in the people how used your app?
We could find the areas in which people were most interested in improving. Based on what level of education the students were, their focus differed. Getting this information is of big importance for the universities and that was what se sold. We could provide them with information about what students that were facing what issues, focused on diffing. The two most important trends was: Making new friends - "I'm a gonna fit in", "how can I not be awkward" More important for new students How do I become more comfortable in class - "how do i present myself in class" More important for older students

You mentioned schools being interested but you had difficulties finding users, why was that?
We don't know, we never really understood exactly. How do you make a product that people like to use? We just kept trying, iterated, asked the users but we didn't succeed. I think it was a combination of many things. The product was too broad, we never found a good product-market fit. The market was there, universities were willing to pay but the need and motivation for students using it wasn't there. We tried to prototype apps and everything but it didn't work. The problem was not the user interface or anything, the problem is bigger than that, it's about the needs and the motivation.

How did you gain trust from the students?
The university really helped, they told the students about the product, they sent emails, they did all the marketing. I think it was a successful strategy as the students in some ways didn't see them as an outside company. Make sure to merge with the university.

In your opinion, how does university affect people and their problems? Are the problems caused by, worsened by or improved by university?
It's not in the university interest to make students feel worse, but university is isolated in some ways. The students are on their own and there are a lot of things to figure own on their own. Many times it's the first time they move from home to a new city etc. , maybe people having problems before finds it more difficult when they enter university. University is very individualized. A lot of universities understand it is important to work on self development etc., educate people in skills of working in groups etc.

Why do you think school is a specifically interesting arena to address these problems?

Litterature is showing that people facing social difficulties have higher likelihood dropping out.

What current system or solutions did the universities you talked to use in order to aid people with these issues?
Most universities (and businesses) use some kind of surveys companies selling analyses of students (or employees) and this is the main competitors.

Describe the team working with steps?
We were four people in the team, 2 co-founders, and 2 data related employees. One data scientist, creating reports and structuring data etc.and another software developer who was also doing some marketing work.

Describe your cost structure?
Employees was the biggest expense within steps, as in most software development companies.

What were your main channels for marketing you used?
"Underground marketing"- being present during the university introduction week, attending seminars, emails sent out by universities, but we never arrived to the point when needing marketing really. Our main problem was designing a proper product.

What was the future vision for the steps?
The vision was to get people to work, educating people and preventing people from becoming mentally sick. We rarely talk about it preventative, how we can avoid people to become ill in the first place. To solve the problem before it becomes a bigger problem.

How did you convince universities about the advantages with steps?
We had numbers of reports proving that social comfortability was making students finishing their studies. According to some litterature, 40% of all dropouts depends on students not feeling socially input. University know they only reach a part of the people,e.g. the people searching for help which cannot represent all students, they need a better way to get information about their students. One advantage with Steps was that they offered a product that did not feel like or act like a survey for the user, but could be presented as such for the university.

Did you look into the organizational side?
It is extremely hard to move into B2B side. There are loads of opportunity and also many actors. There are many different people everywhere in the organizations, it is easier to find homogenic groups in university.

Describe your product and how it changed during the pivot
The biggest change going to the facebook bot was that it provided more guidance for the user than in the app. E.g. "ok you want to improve in presenting in class?" "how do you feel it now?" "ok, if you find this hard", "Here is a little step - start with asking a question!". The product was like a tree; the students answered XX , or on a scale from 1-10 how hard they experienced something, and then depending on their answer they recommend different tasks for the user. It's very difficult to know what is hard for one person might not be difficult for another one, which might make it difficult to use these scales for instance.

What is the best thing with rement's app?
I don't remember so much from it rather than looking into it as a competitor. What I remembered the most was that it looked good!

What is the worst thing with rementes app?
I guess it was being a bit all over the place. Difficult to grasp who it was for, and what

problem it was solving but my observations are of course biased from working with steps.

If you were to give remente one advice regarding their app, what would it be?
Make it great for 5 people and make sure to KNOW these people. Identify those and make sure to get to know them and they should be somewhat the same and that they have motivation to change. Test to run product with the two groups. Both performers and people not feeling very well.

C.2 Interviews with Remente - Kim

Format: Unstructured
Place: Rementes office
Time: 1 hour 23/1 - 2019
About: IOS developer, Employee since 2 years
Translated from Swedish

General about the app
We have built the app after how the brain functions, according to the NÖHRA model

NÖHRA (Swedish: Nuläge, Önskat läge, Hinder, Resurser, Aktion)
Current situation - I feel bad, feel dull etc.
Desired Situation - I want to be happier
Obstacle - What stops me
Resources - What can I do to help achieve my goals
Actions - What should I do every day to get to the desired situation

A definition of stress
"Perceived loss of control", meaning that if a person does not know what it has for direction, it will feel stress. As long as you have a direction you will not be stressed. The app also relies on this, to give the user tools to create a direction.

What is your opinion about the app?
The app is a tool to plan ones life, set goals etc. Some even uses the app for therapy sessions.

How many users do the app have?
1 million downloads
The U.S is larger than Sweden concerning income
The U.S, Sweden and Germany are the largest user groups
The majority, 71% of all users are females. Most common age span is 18-24
It is a challenge to reach the older segment

What ethical concerns do you have for Remente's product?
Remente and the employees sometimes attend seminars about sustainability engagement, for example, how to make users use applications without getting addicted, in order to get an ethical approach to this topic. It is important not to shame the user with streaks, etc. as this can contribute to an additional stress. The same applies for example notifications, when and how much can you reach out to the user without making it difficult for them.

What thoughts do you have on our thesis, focusing on the educational sector?
Students are the perfect user base if you look at which target group currently using the application. Can be useful for students to create structure in their studies if they e.g. don't have any existing study technique. There a lot of evidence that students do not feel good.

Interesting to know why and how to help them in the best way.

Have you tried a free trial version?
Yes, but it did not meet our expectations. It is a trade-off on how to design the payment procedure in order to get maximum effect

Could you name some of your competitors?
Headspace and calm could become competitors if they widen their product.

What do you use to build prototypes?
We use Figma for prototypes

What is your current focus on?
We focus primarily on the B2C product. We also offer some degree of customization to companies.

Relation with users
Have you performed any user studies?
We have not done any physical user studies, but we can analyze a bit how users aggregated use the app.

What can you see about what the user does in the application?
We can see how many people open different courses in the resource library. For example you can see how many people are completing a course.

How do you communicate with your users?
It's mostly one-way communication when users write reviews, but also 2-way communication when users contact the support.

Do you use lead-users to develop the application?
We use some lead users as beta testers to test eg. updates etc.

Existing problems with the application
The app is sprawling and getting too broad.
One problem is that as a user, you get all the information and all the features at the same time without motives. We need to get a more cohesive feel in the app. The user should be able to understand "why do I do this". It is therefore important with ease of use, the app has to be more intuitive. We have looked at the possibility of resolving some features after a certain time to make it more user-friendly. For example, that new users "unlocks" things after time to make it more user-friendly at first.

Not intuitive enough
One problem we are experiencing is when the users enter the application they do not really know what to do.

C.3   Interviews with Remente - Erica

Format: semi-structured
Place: Rementes office
Time: 60 min 2019-02-12
About: Sales responsible for B2B, employee since January 2019
Translated from Swedish

Needs and Value
What value are you offering to the customer?
Right now, the product can be divided into two parts, the pulse which is a software program for employee surveys and offers the company the ability to learn and get a picture of how the company works in real-time. Then there is also the "Remente package" which contains four main parts; life wheel, mood measurement, goal setting and Rementes resource bank. Remente helps companies map and identify problems, but also offers employees the opportunity to act on their own every day, and follow up on things they do. They can also set up goals and influence their own engagement. Something happens when you give an employee that opportunity.

Who are interested in your product?
The majority is interested, but it is often a question of implementation. Organisation are often unsure of how they will get employees to use the product. However, we offer workshops and education for them in order to make this easier for them.

What types of organisations have shown interest in your product without the pulse?
There are more service-oriented jobs, for example, Hotels but also other types of companies that struggle with high staff turnover and therefore need a tool to stimulate and engage the staff.

What incentives do companies give their employees to use the product?
We do not know what incentives they use.

What is your opinion on customizing solutions for the customer?
So far we have not sensed that organisations want customized solutions. They rather want already finished solutions.

What needs of the customer are you covering?
The needs that Remente's product solves is that people should feel good at the workplace, reduce bad stress, feel involved and invested. Remente's product provides a tool to solve this, and you give the employee the opportunity and part of the responsibility to do just that. The resources available in Remente's product allow the individual to work on their own health, even outside working hours

What are your strengths?
The company is at a stage when we are very adaptable. If we find a new concept that works, we can change quickly and change focus

What needs to the B2C product cover?
The product offers people to take control of their habits and their lives and to create new productive habits and reduce stress. The balance wheel gives a view on how to approach the problems.

Customer Relations
Do you have a specific customer segment that you approach?
We are approaching mid-sized organisations with around 200 employees. We do this because these organisations are not too big and therefore the process doesn't take too long time.

What type of relation do you have with your customers?
The plan is to have a type of "customer success system", to stay in touch often, visit them often and analyze how we can make the system more efficient for the organisation.

Marketing
How are you approaching customers at the moment?
Trying to be very present and promote that we are a Swedish company. We are active on

social media e.g. Facebook, instagram and linkedin. We talk at events, and collaborate with a PR agency in the UK, which has helped us get published in good channels eg. Forbes, new york times etc.

How does your customers want to be contacted?
It is hard to find something that works. Phone usually takes longer time. I rather prefer meetings, mingle, events etc. A relation with HR is preferable.

Sales
What are your Unique Selling Points?
What people like is self-leadership, the pulse, the ability to reduce staff turnover and reduce stress in the workplace.
How does the sales process look like of the product?
At the moment, most sales are made through recommendations, contact or any other type of interaction. I have approached contacts from my previous network and worked with a little more indirect sales. It is primarily HR people that we contact. A new thing we starting to test is to start from a case, build a scenario with a fictitious or real company that has problems with e.g. commitment, high staff turnover and then show how Remente can be used to solve these different types of problems.

What approach do you have to selling the product?
I usually approach it by theme, in that way I can use the same pitch-material. For example, one week I can approach e-commerce companies. Next week I may use another theme, this increases the efficiency

Weaknesses and obstacles
What are your main Weaknesses?
There is also a weakness in being so adaptable. Testing very different concepts makes it difficult to create a clear identity for the company. We do not have as strong identity as our B2B competitors.

We are currently wrestling with the packaging and how it should look to create maximum interest among the customers. The pulse is quite easy to sell as it is based on a lot of data and numbers, it is clear what function it fulfills. It is like a receipt for the existing situation in the company. The remaining Remente package is more difficult to understand and therefore more difficult to sell when it is used on an individual level. It is not as clear what problems it solves, or why a company should focus on it.

What are your main obstacles at the moment?
That the customers do not really understand how the rest of the Remente package will help them. Since Remente is alone in offering the remaining system, there is no understanding of how it helps the company. Therefore, we must understand how we must package it differently for them to understand it.
Other general weaknesses?
The resources are the least used

General
How would you describe the working culture at Remente?
Very open and agile. We are a purpose driven company

What values exists within the company?
Right now it is "Democratizing mental well-being"

What trends in the market are you paying particular attention to?
Health-tech is big, meaning that there is a "window of opportunity". Remente will enter a new compartment that is not completely defined yet

How are you making sure that the personal and sensitive personal data is secure?
We are completely GDPR secured. When we present the data from the pulse, we never filter under 5 people and the computer is completely anonymous.

D

Appendix

D.1 Interview with Student Welfare Officer

Date: 2019-01-31
Name: Lisa Winberg
Position: Student Welfare Officer, Chalmers Student Union 2017/2018
Medium: Phone interview and corrections through email conversations
Time: 30 minutes
Format: Semi-structured
Contact: Lmbwinberg@gmail.com
Translated from Swedish

What do you work with as the Student Welfare Officer (SO)?
As the SO in student union management team you work towards the social study situation where focus is put on the work environment and equal treatment. This work is conducted in collaboration with Chalmers University, student and on a regional level with local politicians. Lately, issues regarding equality and preventive work against sexism have gained focus after the "me too" movement. The psychosocial study environment aspect have become more important in recent years. Every year there is a difference in how the work is conducted, since it is different individuals that work in the management team, but also since one has to adapt to the current trends and events.

How is the partnership between Chalmers and Akedemihälsan conducted?
Chalmers have a contract with Akademihälsan and it is the Student and Education Office at Chalmers that is the purchaser of Akademihälsan. The Student and Education Office purchase what chalmers, but also the student union, need from them. The student union have some influence of what is purchased from Akademihälsan. The student union can also indirect influence Akademihälsan since it is a part of Göteborgs Förenade Studentkårer, who choose the board for Akademihälsan.

How does The Student Union collaborate with Chalmers regarding issues with work environment?
The Student Union collaborate with Chalmers on many different aspects regarding the study environment, both through the union management team, but also through the voluntary engaged in the different programmes. We work both strategically and continuously e.g by having student representatives in the lead group at Chalmers but also through the educational committees, in this way we are a part in many different steps. There is an in official social study network that acts as a coordinator with these types of questions. The SO work towards synthesising these different parts in order to maximize the impact on the students. The vice Student Welfare Officer (vSO) is not working directly with questions regarding work environment, but rather events that concern how to engage students socially during their time at university. This is also an important aspect for the students to feel included and to improve their well-being.

In what way is the administration working with these types of questions, and who has the responsibility?
The ultimate responsibility regarding the study environment is on the principal Stefan Bengtsson. Down the hierarchy, the vice principal of Education and Lifelong Learning is responsible for the education. There are four educational areas that are led by the Deans of Education, to whom the responsibility is delegated by the vice principal. The Deans of education are therefore responsible for issues related to the study environment and arranges annual meetings with the program directors within their area and reports back to the vice principal.

Who do you contact when you are not feeling well as a student?
There are many instances connected to Chalmers that can help you if you are not feeling well, who to contact depends on the reason to why you're not feeling well. One can visit Akademihälsan regarding stress, performance anxiety and other study related issues and it's free of charge. They have a team of e.g. welfare officers, psychologists and ergonomics. Do you need someone to talk to, the university priest is available for free to talk about just anything. Earlier Chalmers had a welfare officer, but this post was removed three years ago. In the different programmes there are student safety representatives (SAMO) and an educational committee that work towards e.g a good work environment and an appropriate workload. From those you can receive help in pursuing issues regarding inequalities in class and similar. If you have been subjected to harassment during your studies, an equality coordinator can be contacted. If it concerns the events at chalmers, SAMO and SO is the one to contact. Overall, SAMO and the student guidance counselor is a good first contact, since they can direct you further to the right instance.

How is Chalmers working towards preventing mental illness and to create resilience among the students?
Chalmers is working systematically with the work environment to continuously improve it for both the students and the employees. A survey is posted annually, studentbarometern, that gives insights in the physical and psychological situation. SAMO is part of this, and action plans are designed on how to go about the following year. Moreover, a lot of work is put on monitoring the education and improvements where the educational committees are pursuing that the workload should be appropriate. Akademihälsan is working with preventive measures by arranging workshops, lunch seminars and educating students in e.g. study techniques and stress management.

What regulations do Chalmers follow?
Since Chalmers is a foundation they are not concerned by högskoleförordningen. However, this is more or less followed anyway. At Chalmers, there is a team of two persons working with the work environment, SO is in close collaboration with this team.

What selective measures have been made to stimulate the psychosocial work environment?
Three years ago, the Student Union worked with the Studentbarometern, a survey about the work environment that concerns all students. Before that, the programmes at Chalmers had their own survey, but now it is possible to get a holistic perspective and to understand the trends in a different way. The result from the survey lies the foundation for how work is going to be conducted within the area of work environment the following year. Selective measures have also been made on some programmes where the education is restructured to become more sustainable.

In what way is Chalmers and The Student Union working with preventive measure concerning this sort of problem?
In order to work with preventive measure, you have to work with structures and find the root cause of the problem. The preventive work we do is continuous work within the work environment area, focusing on structures and organizational deficiencies, which is a more long-term approach. When you start working with individuals, this is a sign that the struc-

ture has already fallen.

D.2 Interview with Health and Safety Officer

Date: 2019-02-15
Name: Magnus Åkerström
Position: Health and safety officer
Medium: Face-to-face interview
Time: 90 min
Format: Semi-structured
Contact: magnus.akerstrom@chalmers.se

Presentation of work environment and what Magnus is working with
The Swedish Work Environment Authority have the responsibility to ensure that the regulations about work environment are being followed. They have a collection of regulations, called "AFS:ar", which can be divided into two levels.

The first level is about how the work should be conducted systematically regarding the work environment and what methods that are being used regardless if it is about psychosocial, digital or physical work environment related methods. In order to be reviewed by the authorities, it is also important to be able to show and present that the existing regulations are being followed. Look further into AFS2001:1 regarding systematic work of the work environment to get more information.

The second level is regarding the areas where the risks are higher and the need is greater. Special regulations are applied to those specific areas, which put demands what has to be achieved in that area by the employer and educational organiser. In most cases, the student and the employer are treated equally at this level. Work environment policies and goals has to be established and the work has to be followed up annually in order to confirm that the desired results were accomplished. Regarding work environment, one must always collaborate with the employees when changes or measures are made, and this is done through the safety representatives. This puts demands on resources, but also the distribution of and delegation of tasks.

At Chalmers, the president is ultimately responsible for the work environment. The president is then allocating the tasks to the level where they can be executed most efficiently. The principal is delegating the tasks concerning work environment to the Head of Department of the 13 institutions. The Head of Department is then delegating to the Heads of Division.

A similar setup exists for the students as well, where the Vice President of Education and Lifelong Learning has the responsibility and distributes it down to the deans of education and the programme directors. The Deans of Education is responsible for the physical work environment while the programme directors are responsible for the psychosocial organizational work environment. The teachers have important tasks of being observant of the work environment, however, it is the programme directors they report to.

Everyone who has a leadership role concerning work environment at Chalmers has to attend a course regarding work environment. We always have to monitor the environment, do risk assessments, interventions and control if the interventions were sufficient. The leaders are obliged to follow up if someone is afflicted with e.g. mental illness. Then, they have to follow up on this, if there was something they could have done differently to avoid the issue. If the leaders do not know how to handle the situation, support will be provided.

The work environment group is working with the systematic work but there are several others working with the study environment for the students as well. It is clear that there is a lot of potential for improvement, e.g. how it can be more transparent and better collaborations with other parts of Chalmers. For example, the student counselors who work for the students do an important job, but there is also an equality coordinator that is working for the students. However, our group is concerning how the leaders are working. We do not have any responsibility for this, but it is very high up the agenda right now with work environment. Sustainable workload is currently one of Chalmers top three business risks. Usually, e.g. financial risks are more critical but in recent months high workload has become more critical. This specifically concerns the employees, however the same trends are seen all over Chalmers, including the students.

Looking outwards from chalmers, two prominent trends can be seen. Around 2006, sick leave begun to decrease. The reason to this decrease was most probably due to changes in the insurance system, were the responsibility for the qualifying days of sickness was put on the employer. When companies had to pay more for sick employees, fewer called in sick. Weather this was a result of companies working more active to prevent sickness or if it was because employees became more afraid to call in sick is still not clear.

By 2010, the amount of sick leaves increased again. It is not clear why this happened since no major change was made in the system. A main contributor is the increase in sick leave due to mental illness. In a knowledge compilation ordered by the Swedish Work Environment Authority (2018:2), one can read about how the changes and trends in society has impacted the working life.

Not long ago employees sat in cubicles at offices and now it is popular with more open work spaces with fewer determined desk placements. Digitalisation and globalisation also affect the students. It is usually expected that you should be flexible and always available. There are no longer any natural boundaries for when and where we work and even though the boundaries has changed we have not replaced it with anything. Other trends are e.g. the fact that fewer people are staying at workplaces which also makes the leadership at companies to change and adapt. Digitalisation is also making people branding themselves more on social media, always looking for the next job. The understanding of the situation for the employees are becoming more clear, however it is harder to grasp the students situation since they are constantly is exchanged. This puts more pressure in developing competence on how to establish boundaries. Chalmers have been working with this, e.g. ensuring that our policies are up to date with the changes, what sort of tools the leaders should have etc.

There are regulations on how we should work. The Swedish Work Environment Authority gives guidelines on how the work should be conducted, but in some areas there are also demands. In 2015 a regulation (AFS 2015:4) was published, focusing on the organizational and social work environment. This is a very strict regulation and it differed from the previous one in a way that students could no longer be included by the regulation as they were before. According to the regulation, students should be included only when it is applicable.

As the former regulations are no longer valid, this results in a vague understanding of which regulations to follow regarding the work environment for students, even though it is just as important. Although the new regulations are much more strict compared to the former one, the systematic way of working is still similar; investigation, risk assessment, intervention. This structure is working really well with respect to physical work environment but is more difficult to get to work with respect to the workload. One has the right to have a clarity in the work role, assignments and work environment tasks, which is a way of creating boundaries. If you do not know what to do, it is difficult to set boundaries. The second thing is that the employer is responsible for adapting the work for individual individuals and their conditions, which is very difficult to do for students.

The task of the Swedish Work Environment Authority is to follow up on this, make inspections and come out workplaces and observe etc. Right now, the work environment authority is working on a project-based theme based on supervision. So it depends on what they have for theme, e.g. Women in healthcare, managers in healthcare. When the regulations were released, the work environment authority stated that they had released it because the number of reported work-related diseases increased so much. During the first nine months, they had demanded improvements at 1700 instances. It is interesting that they clarified the requirements regarding working hours, but with students it is very difficult to both measure and control. Since the regulations are not 100% applicable for students it is hard for us to know what they are evaluating from us. One way to review the work environment and categoHavrize it is the demand-control-support model.

Demand-Control-Support model
The demand-control-support model can be described as a 3D model built up by demand on the x-axis, control on the y-axis and support on the z-axis. Demand could be e.g. workload, expectations etc. while control is described as the degree of possibility to control the work, if there are sufficient conditions and so on. Looking at the model in 2D, focusing only on the demand and control parameters, it creates four categories.

High demands and high control (Q1) - These are active jobs, it is usually good to be in this part since these types of jobs are often seen as stimulating. Everything is not predetermined, so one can influence its work. Usually positive, but there has to exist a balance in order to not get too many requirements.

Low demand and high control (Q2) - This is a area where you probably not taking advantage of your full potential.

Low demand and low control (Q3) - This is usually a low risk area. People who seeks these types of work often have some hobbies the want to pursue outside their work life. Industrial workers could be an example of job in this category.

High demand and low control (Q4) - This is an area of risk, since have low possibilities of controlling your work but still high expectations. An example of people who usually has high requirement and low control are people in the healthcare environment.

Some years ago, the support dimension was added, as support can help people in a situation where they have e.g. low control but high demand. High degree of support could balance out this situation and therefore eliminating some risks. When you become a manager, you have greater opportunities to influence your life but the employees may have a lower chance.

In this model it is often the same factors that e.g. makes someone chose a certain type of education, that also becomes a risk of making oneself ill. Some programs have more competition among the students in achieving better grades than others. Industrial Economy for example. It could be that people turn to this programme because of its high demand and that it is challenging. But the same factors could be the reason of why you are becoming ill. There is always a weighing when considering how to make the work environment better for the students and employees, since one can not remove the factors making people study that specific programme.

In the regulations, it is emphasized that workload is something that we must set requirements for and more and more people are thinking of talking about high workload instead of stress because stress is just a reaction for something else and if you have a high workload you can get stressed. During the managerial courses we try to go through what workload is. The definition of sustainable workload is when you have a balance between requirements and resources at work. Recent research has a lot to do with thinking about how to balance requirements and resources

What are your thoughts about workload?
It is usually thought of in amounts. That is, if you are going to have lower workload, you have to eliminate some tasks. This may be true for some professions or in the past, but with the changes in society with the fact that you are constantly connected, e.g. you have to use social media both at work and in your spare time. Removing tasks may not solve anything because there are still things left that may be the root cause. Then you see e.g. that what builds up the requirements in a work environment is besides workload, quality requirements or how long time you have to spend, can instead be about emotional stress for instance. As an example, if you work as a nurse in psychiatry or with addicts, then you are probably spending a lot of time with people who are very sad or angry. This is a much more stressful situation than spending the same time talking to someone who is happy, even though you spend the same amount of time with them, it differs with regard to how much you have to concentrate and how stressful the situation is. It differs with regards to cognitive workload.

Sometimes in education, many of these variables are locked. It is determined what workload is required, what quality and what time frames there are, but the program director is responsible for ensuring that the students have a workload in balance. Regarding the demand side, we have to look in to what we can influence. Maybe we can influence the clarity or ambiguity in the tasks or look at the resources. We can look into what methods you use, which tools you have available, which staffing, what expertise you get, if you get feedback on work input, the possibility of control, social support or recovery and more.

The Studentbarometern indicates that the balance is not that good. There is not enough time for recovery and reflection, and this also applies for the employees as well. We who work with this see that this has to be analyzed further and that something has happened, quite suddenly we have other stresses that we have not needed to handle before.

Chalmers is the university that recently put a lot of resources into this issue. Sahlgrenska university has recently made a large survey where factors were seen that the students experienced as major problems that not only have to do with workload, quality, time etc. They found that there was also a strong picture of who you should be, for instance, if you fit into the picture of being a physician. It becomes more prominent the clearer the image one has of a profession. This is a lot of what you see in this area and it is important to adapt to a specific group. Only at Chalmers, are there so many different education programs and there are so many different activities available, mathematical sciences usually just sit down and count, chemistry have labs, mechanical engineers have lots of tools and machines. So to say that everyone should just run mindfulness exercises is difficult. We need to approach what is important for each group and that there can be many different solutions. E.g. how can you work with this concern about your choice of profession as a doctor, or civil engineer.

Research has proven that one should approach each group differently, I don't have any references right now, but it can be looked up if needed.

When analyzing employee surveys, it is important to go into subgroups. If you look at larger groups you will not get a clear picture. Maybe it is good in some groups but it can still be bad in other types of groups. The new regulations require that we need to go down and adjust the workload for each individual (AFS2015: 4).

The educational area KFM has as a workload plan, who brings up the issue with recovery. For instance, they have decided to take action where they think it is important. Nikola is a person to contact here, he occasionally runs projects regarding work environment in this area.

Have you been involved in designing and helping them to build structures?
The working environment group is a pool of knowledge that can help when they are asked.

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The rules and laws determine the division of responsibility and make the assessments. When you look at the studentbarometern, it is not about understanding if anything is good or bad, but if there are any risks. For example, if you think you need some support. A low grade in the answers does not necessarily mean that everyone is feeling bad, but maybe they are just not in need of any help.

How interested is the programme director regarding these questions?
Work environment is high on the agenda. Everyone thinks about this with workload and recovery etc. Then it is different in what order you have prioritized to work with it.

It is one thing to know to know that you should do something, and the other thing is to have some tools to actually do something. In this area we know a lot more about employees, while we are not quite sure how to work best with students. Some things are much easier if you have hired a person because and then work with that specific individual, but you have to work in another way with working with the students' work environment. Going in and prioritizing tasks and eliminating tasks does not work, since the purpose is to be able to finish their education.
Do you know how it looks like on a global level?
I cannot say for sure how it looks on a global level since there are a lot of aspects that can differ, e.g. cultures and such.

I think there has been some changes in society, it does not mean that we have more demands or workload but that it is in a different way now and it may concern what kind of teaching you have. Changing the type of teaching style may impact as well. Going from traditional desk-teaching to eg. case studies may be experienced as stressful for some students.

In Sweden, I think most people are on board that sustainable workload is an important issue, but it is another thing to start working with it. It is seen that there are many who conduct research in the area and get money for it, which indicates the need. Another important aspect is the sickness absence statistics, which cost both suffering and money.

At KI, an interesting study has been made on themselves. They looked at the work environment significance for academic productivity, and the study can be found on their website. There you can see that those who, on the basis of the employee survey, have bad work environment, withdraw less money in research within 5 years, and are published in less-rated journals.

The working environment group is also responsible for parts where we do not have the right competence. In the regulations, the Working Environment Act states that employers are responsible for rehabilitating workers, possibly even students. One requirement in this is to secure competence. Medical expertise is available, for example. We do not have that competence at chalmers, but you are instead connected to occupational health services and student health care e.g. Akademihälsan. Chalmers is responsible for the whole, often it is so that e.g. Akademihälsan and the occupational health service are more connected to dealing with the problems and not to prevent them. However, it is a challenge to encourage employees to seek help when they actually need to.

The most important work is the systematic work; investigate, assess the risks and find interventions. From experience it is understood that events such as "of course" etc makes people more aware, but in the long-term it is usually not that effective. The studentbarometern is a crucial part in the systematic work, there is also a survey concerning the alcohol consumption and a "new at chalmers" survey that helps to understand the situation of the students. There is a work environment group that gathers every year and goes through these surveys, SAMO is also part in this. It is often easier to look on an individual level when someone is experiences mental illness. It is much harder to understand on a organisational level however. Concerning physical issues, a solution can easily be applied, but for

psychological it is much harder.

The most important task for the SAMO is encourage and support people to talk to the most appropriate persons. The do not solve any issues by themselves.

It is important to understand that Akademihälsan can only help the individual, and not change the educational system. For example, it was popular to hire a person to hold a lecture about stress a couple years ago.

How can you work with the workload without removing tasks and assignments?
Increased support and social support, knowledge. Feedback is also important.

How could social support be given to the students?
That you ensure that everyone is taken into consideration. To offer help if something bad would happen. Be able to admit that there is a problem and not be judged for it.

One might create smaller groups then in e.g. exercise lectures. Maybe the lack of support is not the problem, but perhaps the feedback. The teacher can e.g. be clear about how the student will get feedback. In practical terms, it is perhaps not the teacher who need to provide feedback, students can talk to each other, oppose, discuss. There are different ways to incorporate this into the system. Feedback is closely related to being seen. There could also be certain times you know the teacher is available so you can discuss different things etc. so you know from the beginning what opportunities exist

How could you incorporate these needs into a digital platform?
We have previously thought and had an experimental activity on how we can equip doctoral students better with the help of e-learning, and this concerns more to what do the doctoral student need to know about what is included in their workload. Setting boundaries is one of the keys. To build competence to be able to set limits to yourself. One could build on this and work with it in a digital platform. That one should strengthen students' own knowledge to cope with themselves, but it is difficult to say e.g. do this or that. There are different things in different contexts you need take into consideration. If you look at what is making oneself ill in the work it is usually that there is a lack of recovery and time of reflection. If you for example spend much time in front of a computer, then watching TV as a form of recovery is not perhaps the best option. Activity based recovery could instead be better here.

It is important not not just create an platform that equips the students with tools to cope with high workload, but instead work on it on a more systematic level

It is also important to ensure that the the information gathered is representative. Sometimes one can get biased information from the student health centers. Since they only meet people in need of help.

If a certain type of app solution is presented, it will be a certain type of people who will use it and then there will be a certain type of bias of what results you get from it. There can be a certain type of bias what type of information one can use as it can be difficult to evaluate when you do not know which group answered what. Then it may be difficult for the university to evaluate it. It is worked with to increase the response frequency for the Studentbarometern to reduce this bias. They are working to increase the response rate by looking through the questions, that it is good and relevant questions and how to motivate students to perform it. Gathering representative data is key, and this could be difficult.

D.3   Interview with University Priest

Date: 2019-02-15
Name: Lars van der Heeg
Position: University Priest
Medium: Face-to-face interview
Time: 90 min
Format: Semi-structured
Contakt: Lars.vanderHeeg@svenskakyrkan.se
Translated from swedish

Introduction
Could you tell us a bit about yourself and what you are working with here at Chalmers?
I am the student priest here at chalmers and I work here two days every week. Both students and employees are visiting that has a need to talk. Compared to other communions, the priest at chalmers are more "free" in the way they operate. We have a confidentiality so people can talk about anything that's on their heart, for me it is very important to provide that sort of service.

Administrative Questions
Who are participating with your work within the chalmers administration?
The administration and the student union is working in parallel. Chalmers administration is ultimately responsible for the school but some work is put upon the student union. The priest stand-alone and are financed by Svenska Kyrkan. Meetings are occasionally set up with Akademihälsan and the student counselors.

Are you cooperating with the Student Union?
I cooperate with the student union, where the SO and SAMO are the ones i work most closely with, the facilities I work in is also the student unions facilities. In the event of a deceased student, I will also work together with the student union. Earlier the priests was also working with mentoring the older students that become mentors to younger students.

How long have you been working at Chalmers?
I've been working at Chalmers since 2005. There have been priest at chalmers since the 60s. Back then however, their purpose was to make the students christians. Now their purpose is to provide their knowledge and support.

Do student with other religions seek contact with you?
Not so often. Other denominations such as Catholicism and religions such as Islam and Judaism often have a specific person to turn to within their community.

Who concerns the problems of mental well-being and psychosocial work environment?
Mostly the student union, but also the security coordinator. This person is contacted when e.g a suicide occurs. A problem is that many students turn to student counselors when they seek help. These counselors does not always have the right education handle the students problem.

How do you find out that someone has deceased?
Update online, but often someone calls and inform me of the situation, sometimes it occurs on the campus. It is usually quite apparent if it is related to the persons studies or not. If letters are found, it is often said positive things about chalmers, e.g. the student union spirit and pride towards studying at chalmers. The fellowship and student union spirit at chalmers is strong and studies have shown that universities that does this well tend to have lower suicide rate and overall better well-being. However, this could pose a problem when a person takes a year of. When they get back they feel as they are not part of the community

anymore and this is often very troublesome. Better control over the students situation have lead to less suicides.

What is your perception of the situation regarding the PhD students?
From conversations I can confirm that Phd student have a problematic situation. They are working within blurred lines where they are neither students nor employees, and they are expected to perform well. Establishing clear hierarchies and structures could help, e.g. draw the hierarchy. Supervision from a mentor is also important. However, PhDs have a lot of varying work tasks so it is hard to find a solution that suits everyone.

General Chalmers
What is your opinion about why they removed the welfare officer at chalmers?
Don't know why they removed the position. No specific difference was noted afterwards. Akademihälsan has taken over the function and more traffic is conducted via internet, phone and mail.

In what way do you cooperate with Akademihälsan?
Annual meetings, but also some dialogues where they discuss how to go about in certain problems regarding the students. Sometimes students require more help than the priest and akademihälsan can provide. Akademihälsan handle issues related to the education while I handle personal matters. However, in reality problems are usually interconnected between personal life and the study related life, this is therefore an issue. A student can only visit Akademihälsan 5 times every year, while there is no limit on how many times you can visit me.

What about those students who you cannot provide help for?
Many seek themselves to the hospital. Other might also "break down" and become destructive and destroy things.

Specific Priest Question
How often do people seek help from you?
Approximately 3 people on continuous meeting every month. It is up to them if they want to meet or not. I never contact people who have not contacted me first.
What types of problems is most common to contact you about?
Most common are problems related to personal issues, that in turn contribute to lower performance in school. Most common issues are friends and relations rather than family. Social aspects such loneliness are common, together with a stressful environment in school the problem becomes more severe. The student study situation is also common. Some have issues in performing and therefore are at risk to lose financial support from CSN. A suggestion is to make the teachers convey that a failed exam is nothing to worry about. This would relieve the student from stress.

Are there any specific programmes at chalmers that are more prominent to seek help?
No specific trend have been seen. Although Civil Engineer, Computer science and Chemical science(V,D,KfK) students were at a time more frequent visitors. At one time there were alot of deaths connected to Chemical science students.

Do you see any indications that mental illness and performance are connected?
Overall, yes. When people are feeling ill, they tend to work more in order to suppress their illness. By working you process depression etc. wich in many cases can be seen as positive. When someone has deceased it is often understood that the person was stimulated by studying and that added some extra years to the person's life.

On the other hand, it is not good when students work without reflecting on their own well-being. These kinds of student work not to suppress their feeling, instead the work towards performing even better. These students can become very broken down when their

perception of themselves is not corresponding to their reality.

Men tend to have a more simple self-image. If that falls, that person have nothing left and in that case the person become depressed.

Other thoughts of mental health.
Earlier, mental illness was often to quickly diagnosed and you were then put on a leave from work. It is better to ensure that the individual can continue with its normal life.

Mental illness is still shameful, however many is seeking help. It is important that we learn to talk about it.

What sort of needs do you see that need to considered? Remove the stigma around mental illness and provide clear information on who to contact when in need. A suggestion is to have a page where all the information is provided so that the student knows who to contact.

Do you see yourself as easy to contact or do you see yourself as a "last resort"? Overall the perception of it is that it is not shameful to contact me. The priest title can be seen as barrier for some. For example, there are some prejudices of priests. Chalmers is more easier to work at compared to Sahlgrenska. This might depend on that chalmers students are more problem solving-oriented and that medicine students already think they know the answer.

Can you see any trends from those who seek help from you?
Sex? No difference
Age? Between 22-27
BSc, MSc, PhD? In the beginning there were many first year students, now it is more senior students

Correlation between grades and well-being?
Most perform well, but many are also experiencing pressure and anxiety of failing

Have you seen any trends in how the students needs have changed over time?
Earlier it was common for students to believe that they were a fraud, that they thought they were good at studying and when they fail a course their self image gets destroyed. Before it was also common that people was uncertain that they had made the right choice regarding their program.

However, lately it is seen that student are less accepting when it comes to teachers grading them. Students can sometimes not accept that they did not get they grade they think they deserve. The trend is that student are becoming more and more performance driven. The students are more anxious of that they have to complete their education.

Students are also becoming better at talking about their feelings. No differences between the men and women can be seen here.

Differences between chalmers and other universities?
Chalmers have much stronger union spirit and community, compared to GU. At GU it is not always clear on who to contact as well. Therefore, Chalmers have an advantage.

Preventive work
Do you think that problems can be prevented through working with personal development and resilience?
Chalmers should convey that it is ok to fail an exam. That failing an exam is part of the student life and in that way decrease the stigma around it.

Do you think that the student needs could be provided for by a digital platform?
Yes. It could for example include a list of names on who to contact. A kind of survey that the student perform and afterwards is provided with appropriate knowledge on how to tackle it situation.

It could also be interesting for the schools to get insight into the students situation. However, this to be built upon anonymity. Also important to include a margin of error, since not all students will use it and some might not be completely honest. The service could also provide contacts with others in order to know how they are coping with the problem.

D.4 Interview with Coordinator Student Guidance Counselor

Date: 2019-03-04
Name: Anna Goffe
Position: Coordinator Student Counseling
Media: Face-to-face interview
Time: 60 min
Format: Semi-structured
Contact:Anna.Goffe@chalmers.se
Translated from Swedish

About
We are currently doing our master thesis within product development at Chalmers university and we both have our background in mechanical engineering. We are studying the problems regarding mental health, personal development and performance within the educational sector (universities) and we are doing a case study at Chalmers university. We are collaborating with a company called Remente, which is providing a software tool for stimulating mental health, personal development and performance. Our task is to analyze what needs there are on the market regarding these problems and how Rementes product must be adapted in order to fulfil the needs in the educational sector.

Intro
What do you do here at Chalmers?
My responsibility is to coordinate the 17 student counselors at Chalmers. Previously I worked as a student counselor at the civil engineering program.
We have earlier talked to SO and the Health and safety officer at Chalmers and have understood that you and your college are responsible for the purchasing of Akademihälsan, is this correct?
During the contracted time with Akademihälsan, me, Marie Bernelo, Magnus Åkerström, the SO at the student union, Nikola Markivic and a contact person from Akademihälsan is part of a contact group concerning student health. We meet 2 times each semester for follow-ups and planning of the process.

Our unit, student support, is not responsible for procurement regarding student health, however, we have representatives that are part of a group that develops the tender inquiry. This is led by a representative from the Economic and Procurement unit at Chalmers. All of the work with procurements is controlled and regulated with regards to the Swedish procurement act. Everything is classified until the winning tender has been decided. The final agreement is signed for Chalmers by Rolf Almelund, Chief Process Officer.

How does this template look like?
The template of how to do the procurement is under the finance unit and they guide the

group with these aspect

How do you set the requirements?
We look for what is needed at the school. We have many years of experience to understand what types of problems the students are facing. We have indications from statistics and earlier reports describing what the students need and why they are seeking help. We get this information from the programs and the program directors and what needs they have registered in their programs, we are also looking into their checklists from the yearly safety rounds. We take in information from the student guidance counselors and the student union. We get information and statistics from Studentbarometern but also from Akademihälsan who is providing statistics in half-year and full-year reports. Personal knowledge and experience are also used to set requirements. For instance, Magnus with his knowledge within health and safety and me and my college Marie have good insights in understanding what needs the students have.

The Students Needs
Do you see any problems with the current process regarding how students are seeking help?
From our viewpoint, a lot of students are seeking help through the student guidance counselors. Students often seek help themselves, but we also contact some students when we do a follow-up after the first study period and after the first year. If students have failed too many exams (below 15 hp) the students are offered a meeting with the student guidance counselor. At those meetings they try to look at the reasons to why the student is struggling and if there is anything the student guidance counselor can support with. In some cases, students contact the student union representatives where they are referred somewhere they can get help with their specific problem. In other cases, students apply for student health care by themselves.

There are several things to do in this area. For instance, teaching personal development from the beginning or their studies, e.g. get students to answer questions like; "Why am I here, how much effort am I prepared to put in" etc. The students receive a questionnaire at the beginning of their studies where they are asked some of these questions about e.g. motivation, how much time you want to spend etc., which is then followed up with a meeting. There are also workshop possibilities. We have some projects running, e.g. one where we work on how to manage stress and another one regarding study techniques. A lot of students come to chalmers thinking their old study technique will work, but usually it does not. We also work with how to make information and knowledge available when needed and how to know what information the students really need. It can be about time management, personal motivation, personal development etc. We also have some workshops concerning this. Here it is important to have the full support from the organization since this gives more credibility.

What is your in-house competence and how does it differentiate from Akademihälsan?
All of the student counselors are required to be educated in behavioural science or to hold corresponding knowledge. Our unit has been working with these issues in all years, so it is more Akademihälsan that is offering support as a supplement to the support we are providing, e.g. lectures on stress, procrastination etc. but their work are more short-term or focused on specific issues. Our efforts should reach the majority of the students and the student guidance counselors can provide similar help to a welfare officer but if the students require help from psychologists, Akademihälsan can provide that.

Akademihälsan only takes study-related problems which is a limitation as the students may need help with things outside that as well. Our unit on the other hand can help with more, also personal issues to a certain extent because this has impact on the study situation. Our mission is to make it easier for the students to stay in education and take their degree. Students are usually around 19-26 and a lot of things are happening in that time of life. Sometimes you need support and if so, our unit is here for you and to help you find what

the problem is and how you can get through it. The responsibility for the studies lies upon the students themselves, therefore we do not actively seek for the student but we provide support to students for them to pass their studies. Our ambition is that all students should have the opportunity to cope with their studies. It would have been ideal if the students seek help before they really need it, but this is usually not the case.

The purpose is to show that we exist and what we can do. In order to be able to help students, this presupposes that they know who we are and what we can do. We have recently been working with new guidelines and skills requirements regarding how we should work with student counseling. There is a document about it and we are currently working on that.

A few months ago we had a meeting with the Student Union and their SAMO:s about what we are doing and what competencies we possess. It is difficult to get the information out to everybody and inform students and other about what the student guidance counselors are doing and how they can help.

It is difficult when there are so many people, departments and units possible to contact for the students regarding these issues and there are rumors about different things that circles around. We are constantly trying to talk to the students about what we do and why and so on. It is important that you have a communication plan for how this should be done. We continuously have to work on mediating information to the students so they know where to look for help and how etc. All students should know these things or at least know where to look for it when they need it.

We have an event in the first year for students where we present ourselves and bring up questions for the students to think about.

Would you like to have additional information of what needs the students have?
We have a decent understanding of what the students needs are. It is a complex problem to understand and handle and for the student often gives a combination of several needs.

A framework has been created so that depending on what problem a student is facing there is a certain tool to handle it. The most common problem is that the students have problems coping with the studies.

When students contact us their needs are being mapped and counseling are usually carried out through several meetings over time until the student is back on track. For instance, it could be that the student has anxiety before an exam, and then we work towards solving this issue for the student. It is not that uncommon that a student might have other problems such as e.g. relationship problems.

Do you see any trends in how the students needs have changed over time?
I do not know how far back in time we should go as we have had some organizational changes. Earlier, the student guidance counseling was based on each education program and it was controlled from there. It therefore differed a lot between the programs how they handled the problems and how they worked with these issues. E.g. one program could work more administratively instead of supporting while other programs were very supportive but falling behind on the administrative part. Later, the student guidance counseling was therefore centralized and consequently became more coordinated, resulting in a more equal handling of these issues. All students regardless of what educational program they are attending, must have the opportunity to get the support they need to get through the education.

Back to your question, I think there might be a bigger focus on performance than earlier. It seems to be the overall trend in society right now, that one can always perform better and this stress has become present also at university. You have to be successful

in all areas of life and it can be a little too much to cope with sometimes. It is difficult to know what is what, sometimes it can be seen as stress or fatigue syndrome or other ways. These are the types of questions we meet all the time. I know that stress and what is related to it is one of the most common causes that students seek help from Akademihälsan.

How have the development of this issue been during the last five years?
I think that it is more or less on the same level as before, but it is very common. It might be that people are becoming more aware of this and identifies it as a problem. It usually takes some time for a thing like this to become a term and then to decrease the stigma and make it easier to talk about.

After 2012, all the different surveys were introduced. This provided much more information about the students situation. Before that it was not properly structured. Now we can make more fact-based decisions instead.

What types of surveys do you use?
10 questions survey – A survey for the first-year students concerning e.g, why they chose their program, what sort of expectations they have and how they have studied before but also how they are planning to study now. The reception survey - A survey for students that just started at Chalmers that assesses how the students experienced their reception. Alcohol habits survey - This survey is sent out the first and third semester in which the student makes a self-assessment over their alcohol consumption. Through this survey the student gets an indication of how their consumption stand against other students and tips on who to contact. The result also generates a report to the university on an aggregated level. This survey usually has a response rate of 30%, so credibility is an issue here. Studentbarometern - This survey is under the responsibility of the student center. The follow-up survey - A survey to follow up on the first-year students who did not pass the 15hp limit. Study breaks - We talk to everyone who takes a longer break in their studies and ask them why and how we could have supported them

The collected data from these surveys are brought to the safety rounds and the responsible at the programs.

How do you increase motivation among the students to take these surveys?
It is really difficult, it is about showing that they exist, how we use them, to give feedback, and that is more or less what you can do. It is important not to send them out too frequent.

Could you tell us more about the students who are dropping out?
We have conversations with those who drops out. The conversation is about understanding if it is something we can help with, if we can provide support with etc. The students are encouraged to fill out a questionnaire and we do a summary on it. The most common cause is that you have chosen the wrong education. Most students are dropping out in the beginning of the semester (first year students).

Can you see any trends in programs and dropouts?
No, since most of the drop-offs happen in the beginning of the studies, there are many students who just realized that the education was not like they expected it to be. If you look at the subjects, the first year is very similar for all programs at Chalmers. Some people seem to think that they would come in and e.g. construct a car but in the beginning most of the programs are focused on math. Many early dropouts are because people thought the education would aim at something other than it does.

Do you think it is common for student to feel lonely?
The student counselors are working towards pinpointing the causes for this. My perception is that it is that common. The welcoming procedure in the beginning of the students time at Chalmers is very important and we are working towards an including environment and

to give students a platform to stand upon and to ensure that they can get included in some sort of group.

Procurement and purchasing
Who is involved and influences the decisions regarding your purchase of Akademihälsan?
The same team as I stated earlier, together with GU.

How often is procurements made?
You can extend procurements, but usually it is every third or fourth year.

Can you purchase anything from Akademihälsan during this time?
It depends on the requirement list, but often yes.

How does the business model look like with Akademihälsan?
We purchase a volume which they are delivering.

How do you consider public procurement in you process?
You should contact the financial unit for more information regarding that. It is a lot of confidentiality regarding these things.

How could a procurement process look like?
Check out how it works from Upphandlingsenheten to learn more.

General
Who should we turn to learn more about the business model regarding students, ie how much and when Chalmers get paid for the students and how the system is structured?
You could turn to Malin Blomkvist for more information about this.

How are you working towards implementing soft skills at Chalmers?
In recent years, we have become more aware of the importance of soft-skills. Sometimes we participate in and attend courses, and sometimes we give for example workshops in parallel with other courses. For example, I have had a course in group dynamics for the first-year students, and this is now a common topic on several of the programs. But we also work with e.g. consciousness etc. There is always more to do in the area, we have become aware of it in recent years, and Chalmers tries to keep up with the moving trends. It takes some time to realize that you need to bring these topics of soft skills together. We have seen however that this gives more robust students, and it is very important to facilitate this during a students time at Chalmers.

Who is responsible for personal development at Chalmers?
It needs to be addressed from different areas. The program director, vice principal, but also our unit. The student union have some impact here as well. We have the responsibility to support students to take the degree. But not sure that the cost ends up on us. But I would like to say that at Chalmers, we are the unit with the best competence to make an assessment on how to achieve personal development.

Do you think personal development will be more prevalent over time at Chalmers?
I think it will get a hold in the education, but it is not there quite yet. Technical educations are new to this topic. But you can not expect that the way they worked before is enough for today's standards and today, people need support on such knowledge.

E

Appendix

E.1   Initial End-User Needs List

Categorized End-User Needs - Red=Needs stated by students, Black=Needs from literature, interviews or competitors	Verified	Reference	Bibliography
Impact own surroundings			
Possibilities to impact one's own life	x1	Ulf Lundberg s.288	[3]
Possibility to give feedback/have impact		Coordinator Student Guidance Counselor	Appendix D.4
Influence over the planning of work	x2	Jeffrey Johnsson	[35]
Flexible working hours	x1	Jeffrey Johnsson	[35]
Influence over how time is used at work	x1	Jeffrey Johnsson	[35]
Influence of work pace		Jeffrey Johnsson	[35]
Influence over planning of vacations and breaks		Jeffrey Johnsson	[35]
Proper degree of freedom in studies		Student	Student
Self-management			
Manage study demands	x2	Health and Safety Officer/ MBI/Ulf Lundberg s.288/Coordinator Student Guidance Counselor	Appendix D.2/[31]/[3]/Appendix D.4
Set up study goals	x1	Harvard study/Ulf Lundberg s.288	[5]/[3]
Possibility to recover	x3	Studentbarometern/Health and Safety officer	Studentbarometern/Appendix D.2
Eating healthy		Student	Student
Exercising		Student	Student
Cope with oneself		Health and Safety Officer	Appendix D.2
Manage stress	x1	Studentbarometern/Kuttinen	Studentbarometern/[7]
Time management	x1	Coordinator Student Guidance Counselor	Appendix D.4
Manage sleep	x1	SBI	[43]
Possibility to visualize		Student	Student
Possibility to say no to things		Student	Student
Having a well thought through direction forward		Student	Student
Possibility to perform according to ambition level		Student	Student
Develop soft skills		Competitor(Steps)	Appendix C.1
Being self-aware	x2	Student	Student
Control over health		Student	Student
Possibilities for personal development from the beginning		Coordinator Student Guidance Counselor	Appendix D.4
Get help when needed		Health and Safety Officer	Appendix D.2
Having good study technique	x2	Kuittinen	[7]
Avoid performance anxiety	x3	University Priest	Appendix D.3
Feeling that you have everything under control	x1	Student	Student
Being resilient against external influences		Student	Student
Having a good structure regarding studies		Student	Student
Keep track of your study progress at Chalmers		Student	Student
Getting reasonably absorbed in Chalmers spirit		Student	Student
Reflect on personal study methods		Student	Student
Study free zones		Student	Student
Control over studies		Student	Student
Recognize negative coping strategies		Kuittinen	[7]
Job security	x1	University Priest	Appendix D.3
Balanced focus on performance		Student	Student
Take responsibility for studies		Coordinator Student Guidance Counselor	Appendix D.4
Possibilities to have a good self-esteem			
Perceive mental strength		Bengt Arnetz	[3]
Possibility to have self-esteem	x1	Competitor(Steps)/Lennart Levi s.244	Appendix C.1/[50]
Sense of adequacy	x2	SBI	[43]
Having self-confidence		Student	Student
Sense of capacity to study		Utrecht (Vigor)	[33]
Sense of accomplishment		Harvard study	[5]
Identification with future proffesion	x1	Health and Safety Officer	Appendix D.2

Sense of meaningfulness		Harvard study/SBI/Utrecht/Ulf Lundberg s. 288	[5]/[43]/[33]/[3]
Feeling proud of studies		Utrecht	[33]
Perceive academic achievement		SBI/Kuittinen	[43]/[7]
Sustainable working culture			
Get encouraged to stay healthy		Student	Student
Being part of a culture promoting well-being		Student	Student
Reduce stigma around mental illness		University Priest	Appendix D.3
Encourage to seek help when needed		Health and Safety Officer	Appendix D.2
Relationship with school faculty	x1	Harvard study	[5]
Possibility to seek help		Haglund & Niva	[48]
Fair and equal treatment	x1	MBI	[31]
Balance between demand, control and support		Health and Safety Officer/Reddy	Appendix D.2/[44]
Decrease pressure on performance	x2	Coordinator Student Guidance Counselor	Appendix D.4
Non judgemental culture		Student	Student
Non compering culture		Student	Student
Including culture		Student	Student
Feedback on work input		Health and Safety Officer	Appendix D.2
Possibility to talk openly about problems		Health and Safety Officer	Appendix D.2
Correlating values with university		MBI	[31]
Information, Knowledge and transparancy			
Knowledge of what is promoting well-being		Public health Agency of Sweden	[46]
Get encouraged to have a holistic view of life		Student	Student
Get information and knowledge when needed	x2	Coordinator Student Guidance Counselor	Appendix D.4
Knowledge about where to seek help if needed	x1	Coordinator Student Guidance Counselor/University Priest	Appendix D.4/Appendix D.3
Knowledge about the importance of reflecting over life	x1	Student	Student
Possibility to see own progress		Student	Student
Forum to discuss with teachers and peers		Student	Student
Knowledge about risks with unsustainable workload		Health and Safety Officer	Appendix D.2
Learn about work environment as part of the education		Lennart Levi s. 224	[50]
Clear instructions regarding work demands	x1	Health and Safety Officer	Appendix D.2
Fair grading		Student	Student
Clear instructions		University Priest	Appendix D.3
Access to credible support and structures		Coordinator Student Guidance Counselor	Appendix D.4
Clear expectations		Health and Safety Officer	Appendix D.2
Study joy			
Motivation for schoolwork	x1	SBI	[43]
Study purpose		Kuittinen	[7]
Sense of persistence when studying		Utrecht	[33]
Sense of study focus	x1	Utrecht	[33]
Sense of absorption in studies		Utrecht	[33]
Reward for studies		Utrecht	[33]
Good quality of the lecturers	x3	Student	Student
Interest for schoolwork	x1	SBI	[43]
Perceive studies as challenging	x1	Utrecht	[33]
Collaboration with industry		Student	Student
Possibility for curiosity and playfulness in education		Student	Student
Feel energized when studying		Utrecht	[33]
Feel enthusiastic by studies		Utrecht	[33]
Feel inspired by studies		Utrecht	[33]
Sense of study joy		Ultrecht	[33]
Study satisfaction		Bengt Arnetz	[3]

Varied work procedures		Jeffrey Johnsson	[35]
Varied task content		Jeffrey Johnsson	[35]
Support			
Support from mentor		Student	Student
Someone keeping track on you		Student	Student
Support from Chalmers	x5	Student	Student
Support from older students	x2	Student	Student
Support when failing exams		Student	Student
Guidance in how to get back on track after failing exams		Student	Student
Customized interventions		Health and Safety Officer/Public health Agency of Sweden	Appendix D.2/[46]
Get support to cope with demands		Health and Safety Officer	Appendix D.2
Support to get through education		Coordinator Student Guidance Counselor	Appendix D.4
Guidance when in doubt of the choice of study program		Student	Student
Rehabilitation after sickness		Health and Safety Officer	Appendix D.2
Support from family and friends (x2)		Student	Student
Having supportive and communicative functions at Chalmers		Student	Student
Motivation to finish intervention programs		Haglund & Niva	[48]
Sufficient conditions to study		Health and Safety Officer	Appendix D.2
Possibility for CBT interventions		Public health Agency of Sweden	[46]
Feel included after a longer break in school		University Priest	Appendix D.3
Social Aspects			
Capacity to work as a team	x2	MBI	[31]
Cope with relationship problems		Coordinator Student Guidance Counselor	Appendix D.4
Social comfortability		Competitor(Steps)	Appendix C.1
A social network	x1	Competitor(Steps)	Appendix C.1
Avoid percieved lonliness		Coordinator Student Guidance Counselor/University Priest	Appendix D.4/Appendix D.3
Knowing that everyone else also is stressed		Student	Student
Being part of a community (x6)	x2	Student	Student
Meet study mates outside workplace	x1	Jeffrey Johnsson	[35]
Meet study mates as part of their work	x3	Jeffrey Johnsson	[35]
Sense of fitting in	x1	Competitor(Steps)	Appendix C.1
Being with like-minded people		Student	Student
Feeling included		Student	Student
Possibility to get to know older students		Student	Student
Possibility to be part-time engaged in student arrangements		Student	Student
Sense of being accepted		Competitor(Steps)	Appendix C.1
Talk to study mates during breaks		Jeffrey Johnsson	[35]
Sense of social cohesion		Ulf Lundberg s.288	[3]
Having friends	x2	Rikke	Appendix C.1
Percieve quality of social interactions		MBI	[31]
Work-Life balance			
Possibility to reflect	x3	Studentbarometern/Health and Safety Officer	Studentbarometern/Appendix D.2
Work-life balance	x8	Health and Safety Officer	Appendix D.2
Balanced student life		Student	Student
Ability to set up boundaries		Health and Safety Officer/Christine Mellner	Appendix D.2/[27]
Sustainable cognitive workload		Health and Safety Officer/Jeffrey	Appendix D.2/[35]
Sustainable workload	x7	Health and Safety Officer/Student Wellfare Officer/Competitor(Steps)	Appendix D.2/Appendix D.1/Appendix C.1
Possibility to exercise (x4)		Student	Student
Have time to enjoy life		Student	Student

Have time to meet friends	Student	Student
Possibility to do things outside school	Student	Student
Possibility to relax	Student	Student
Take breaks and reflect	Åsberg, Nygren, Rylander, Rydmark s. 231	[3]
Out of scope		
Good physical work environment (x3)	Student	Student

E.2 Initial Purchaser Needs List

Categorized Purchaser Needs	Reference	Bibliography
Support		
Help students before they need it	Coordinator Student Guidance Counselor	Appendix D.4
Provide students with individual-level interventions	Public health Agency of Sweden	[46]
Make sure that all students are taken into consideration	Health and Safety Officer	Appendix D.2
Improve integrations of masters students	Action plan (chalmers)	[112]
Quality Assurance		
Increase university through-put	Quality policy	[120]
Meet the needs of industry (with focus on work environment)	Quality policy	[120]
Increase university attractivity	Quality policy	[120]
Identify new stressors for students	Health and Safety Officer	Appendix D.2
Measure employability	Competitor(Steps)	Appendix C.1
Information and Communication		
Gathering representative data regarding the work environment	Health and Safety Officer/ Work environment for students	Appendix D.2, [105]
Get information about students alcohol habits	Work environment for students	[105]
Get information about students perceptions about the reception at Chalmers	Work environment for students	[105]
Get information about why people take longer study breaks	Work environment for students	[105]
Get information about why people have failed exams	Work environment for students	[105]
Get information about the background of the students and their goal for the education	Work environment for students	[105]
Increase response rates with feedback on work environment	Coordinator Student Guidance Counselor	Appendix D.4
Increased transparency regarding the work with work environment	Health and Safety Officer	Appendix D.2
Information about what is holding students back in their studies	Competitor(Steps)	Appendix C.1
Information about what characterize struggling student groups	Competitor(Steps)	Appendix C.1
Provide students with possibilities to receive feedback on work tasks	Work envirnmenal policy 2019-2021	[113]
Systematic work		
Ensure a work environment free from discrimination and victimization	Action plan (chalmers)	[120]
Control if interventions regarding work environment were sufficient	Health and Safety Officer	Appendix D.2
Standardized report structure for all undergraduate programs regarding work environment inspections	Control Document 2015	[114]
Report about the situation regarding work environment to the vice president of education and life long learning	Control Document 2015	[114]
Create interventions for assessed risk areas	Health and Safety Officer	Appendix D.2
Investigate and chart risk areas within work environment	Health and Safety Officer	Appendix D.2
Use systematic working methods regarding the work environment	Health and Safety Officer	Appendix D.2
Collaborate with safety representatives during changes regarding work environment	Health and Safety Officer	Appendix D.2
Use a systematic work method	Lennart Levi s. 224	[50]
Chart root cause of the problem regarding work environment	Student Wellfare Officer	Appendix D.1
Having annual work environment inspections	Control Document 2015	[114]
Provide students with organizational level interventions	Public health Agency of Sweden	[46]
Provide students with social level interventions	Public health Agency of Sweden	[46]
Regulations		
Be able to present how the regulations are being followed	Health and Safety Officer	Appendix D.2
Follow the work environment rules (AFSAR)	Health and Safety Officer	Appendix D.2
Follow up on work environment policies annually	Health and Safety Officer	Appendix D.2
Follow discrimination act	Action plan (chalmers)	[112]
Follow work environment act	Action plan (chalmers)	[112]
Follow the law of public procurement	Control document procurement	[116]
Internal Aspects		
Course regarding work environment for people with leadership role in the area	Health and Safety Officer	Appendix D.2
Better collaboration between different functions working with work environment	Health and Safety Officer	Appendix D.2
Responsible leaders must follow up if someone is afflicted with mental illness if there was something they could have done differently	Health and Safety Officer	Appendix D.2
Have a plan and vision for the development in environmental, lifestyle, and health aspects	Lennart Levi s. 224	[50]
Use final accounts including social aspects	Lennart Levi s. 224	[50]
Secure teacher competence in identifying work environmental problems among students	Kuittinen/Health and Safety Officer	[7], Appendix D.2
Develop a database/website for a good environment within each branch	Lennart Levi s. 224	[50]
Enable discussion for psycho-social questions	Action plan (chalmers)	[112]

E. Appendix

F
Appendix

F.1   Ranked End-User Needs List

Needs that are Fulfilled by Remente - Red=Needs stated by students, Black=Needs from literature, interviews or competitors	Verified	Value Ranking	Remente Fulfillment	Chalmers Fulfillment	Opportunity	Chalmers Solutions	Remente Soulutions	Reference	Bibliography
Impact own surroundings									
Possibilities to impact one's own life	x1	5	3	3	5	Flexible working hours, Course selection, course evaluation	Day Plan, Resources	Ulf Lundberg s.288	[3]
Possibility to give feedback/have impact		1	3	5	−1	Studentbarometern, course	Pulse	Coordinator Student Guidance	Appendix D.4
Self-management									
Manage study demands	x2	5	4	2	7	Lecures, exercise sessions, Course PM, hand-ins	Day Plan, Goals	Health and Safety Officer/ MBI/Ulf Lundberg s.288/Coordinator Student Guidance Counselor	Appendix D.2/[31]/[3]/Appendix D.4
Set up study goals	x1	5	4	2	7	Course PM	Goals, Day Plan	Harvard study/Ulf Lundberg s.288	[5]/[3]
Possibility to recover	x3	5	3	2	6	Breaks, lunch breaks, flexible work	Resource	Studentbarometern/Health and Safety officer	Studentbarometern/Appendix D.2
Eating healthy		3	2	1	4	N/A	Resource	Student	Student
Exercising		3	2	3	2	Student Union (Sport oriented commities)	Resource	Student	Student
Cope with oneself		1	5	2	4	N/A	Resources, Day Plan	Health and Safety Officer	Appendix D.2
Manage stress	x1	5	5	3	7	Akademihälsan	Resource	Studentbarometern/Kuttinen	Studentbarometern/[7]
Time management	x1	5	4	2	7	Result from adaption to the set work structure at university	Resource, Day Plan	Coordinator Student Guidance Counselor	Appendix D.4
Manage sleep	x1	5	4	3	6	Akademihälsan	Resource	SBI	[43]
Possibility to visualize		3	2	1	4	N/A	Resource	Student	Student
Possibility to say no to things		3	2	1	4	N/A	Resource	Student	Student
Having a well thought through direction forward		3	4	4	3	Career service, student counselor	Resource, Goal	Student	Student
Possibility to perform according to ambition level		3	3	2	4	Lecures, exercise sessions, Course PM, hand-ins	Day Plan, Resource	Student	Student
Develop soft skills		1	3	2	2	Presentation, planning skills , group dynamics organically through project work	Resource	Competitor(Steps)	Appendix C.1
Being self-aware	x2	4	5	1	8	N/A	Rate Mood, Assess Life, Resource	Student	Student
Control over health		3	3	2	4	N/A	Wheel of Life, Rate Mood	Student	Student
Possibilities for personal development from the beginning		1	3	2	2	Organically by course arrangement	Result from implementing the Pulse	Coordinator Student Guidance Counselor	Appendix D.4
Get help when needed		1	3	4	0	Akademihälsan, University priest, Student guidance counselor	Resource including contacts	Health and Safety Officer	Appendix D.2
Possibilities to have a good self-esteem									
Perceive mental strength		1	3	2	2	Organically through succeding in university	Remente overall	Bengt Arnetz	[3]
Possibility to have self-esteem	x1	5	3	1	7	N/A	Resource	Competitor(Steps)/Lennart Levi s. 244	Appendix C.1/[50]
Sustainable working culture									
Get encouraged to stay healthy		3	3	3	3	Student Union Events, Akademihälsan	Remente overall	Student	Student
Being part of a culture promoting well-being		3	3	1	5	N/A	Possible result of Remente implementation	Student	Student
Reduce stigma around mental illness		1	3	1	3	N/A	Possible result of Remente implementation	University Priest	Appendix D.3
Information, Knowledge and transparancy									
Knowledge of what is promoting well-being		1	3	3	1	Akademihälsan, Student Union Events	Resource	Public health Agency of Sweden	[46]
Get encouraged to have a holistic view of life		3	5	1	7	N/A	Resource, Assess Life	Student	Student
Study joy									
Motivation for schoolwork	x1	5	2	2	5	quality of lecturers and teachers, quality of courses, labs, project work	Resource	SBI	[43]
Support									
Support from mentor		3	2	4	1	Mentors Program	Resource	Student	Student
Someone keeping track on you		3	3	4	2	Studentbarometern, Exam-fail surv	Result from implementing the Pulse	Student	Student
Social Aspects									
Capacity to work as a team	x2	5	2	4	3	Group dynamics lectures, Akademihälsan	Resource	MBI	[31]
Cope with relationship problems		1	3	1	3	N/A	Resource	Coordinator Student Guidance Counselor	Appendix D.4
Social comfortability		1	3	2	2	Organically through project groups, presentations	Resource	Competitor(Steps)	Appendix C.1
A social network	x1	5	3	2	6	Commitees , phadder groups	Resource	Competitor(Steps)	Appendix C.1
Avoid percieved lonliness		2	3	3	2	Student priest	Resource	Coordinator Student Guidance Counselor/University Priest	Appendix D.4/Appendix D.3
Work-Life balance									
Possibility to reflect	x3	5	5	4	6	Studentbarometer, course evaluation, student guidance councelor	Resource, Rate Mood, Assess Life, Pulse	Studentbarometern/Health and Safety Officer	Studentbarometern/Appendix D.2
Work-life balance	x8	5	4	2	7	N/A	Assess Life, Resource	Health and Safety Officer	Appendix D.2

Needs that are not fulfilled by Remente	Verified	Value Ranking	Feasability by Remente	Chalmers Fulfillment	Opportunity	Chalmers Solutions	Remente Soulutions		
Impact own surroundings									
Self-management									
Having good study technique	x2	5	3	3	5	Akademihälsan	Resource	Kuittinen	[7]
Avoid performance anxiety	x3	5	3	2	6	Akademihälsan	Resource	University Priest	Appendix D.3
Feeling that you have everything under control	x1	4	3	4	3	Student counselor	Day plan	Student	Student
Being resilient against external influences		3	1	1	3	N/A	New feature, mapping notes to mood, Insights	Student	Student
Having a good structure regarding studies		3	2	2	3	Study techniqie course, organic learning	Day plan, Resource	Student	Student
Keep track of your study progress at Chalmers		3	1	4	0	Ladok, student guidance concelor, director of studies		Student	Student
Getting reasonably absorbed in Chalmers spirit		3	1	2	2	N/A	Resource	Student	Student
Reflect on personal study methods		3	2	2	3	N/A	Connect Results to day plan	Student	Student
Study free zones		3	1	2	2	N/A	New feature, GPS, Resource	Student	Student
Control over studies		3	1	2	2	N/A	Day plan	Student	Student
Recognize negative coping strategies		1	3	1	3	N/A	New feature, Resource	Kuittinen	[7]
Possibilities to have a good self-esteem									
Sense of adequacy	x2	5	3	1	7	N/A	Resource	SBI	[43]
Having self-confidence		3	3	3	3	Akademihälsan	Resource	Student	Student
Sense of capacity to study		1	3	1	3	N/A	Resource	Utrecht (Vigor)	[33]
Sense of accomplishment		1	1	2	0	Occasions of examination	New feature	Harvard study	[5]
Identification with future proffesion	x1	5	3	3	5	Study visits, guest lecturer, fairs	Resource	Health and Safety Officer	Appendix D.2
Sense of meaningfulness		2	3	2	3	Collaboration with industry, succeding with education	Resource	Harvard study/SBI/Utrecht/Ulf Lundberg s.288	[5]/[43]/[33]/[3]
Sustainable working culture									
Encourage to seek help when needed		1	3	2	2	Website, flyers	New feature	Health and Safety Officer	Appendix D.2
Relationship with school faculty	x1	5	1	2	4	N/A	New feature	Harvard study	[5]

Need	Verified					Tools/Resources	Type	Source	Ref
Possibility to seek help		1	3	4	0	Website, Akademihälsan, university priest, student guidance couselor	New feature	Haglund & Niva	[48]
Fair and equal treatment	x1	5	3	3	5	Information on website, awareness events	Resource	MBI	[31]
Balance between demand, control and support		2	3	2	3	N/A	Resource	Health and Safety Officer/Reddy	Appendix D.2/[44]
Information, Knowledge and transparancy									
Get information and knowledge when needed	x2	5	3	4	4	Website, Email	New feature, Connecting mode rate to info	Coordinator Student Guidance Counselor	Appendix D.4
Knowledge about where to seek help if needed	x1	5	3	4	4	Website, flyers	Info	Coordinator Student Guidance Counselor/University Priest	Appendix D.4/Appendix D.3
Knowledge about the importance of reflecting over life	x1	5	3	1	7	N/A	Resource	Student	Student
Possibility to see own progress		3	1	5	−1	Ladok, Canvas	New feature showing progress	Student	Student
Forum to discuss with teachers and peers		3	1	4	0	Canvas	New feature	Student	Student
Knowledge about risks with unsustainable workload		1	3	1	3	N/A	Resource	Health and Safety Officer	Appendix D.2
Learn about work environment as part of the education		1	3	1	3	N/A	Resources, Possible result of Remente implementation	Lennart Levi s. 224	[50]
Study joy									
Study purpose		1	2	3	0	Fairs, study visits	Goal setting	Kuittinen	[7]
Sense of persistence when studying		1	2	1	2	N/A	New feature	Utrecht	[33]
Sense of study focus	x1	5	2	1	6	N/A	New feature	Utrecht	[33]
Sense of absorption in studies		1	2	1	2	N/A	New feature	Utrecht	[33]
Reward for studies		1	1	2	0	Grades	New feature	Utrecht	[33]
Support									
Support from Chalmers	x5	5	3	4	4	Student guidance counselor, University priest, Akademihälsan, Director of studies, career service	Info	Student	Student
Support from older students	x2	5	3	3	5	SI-support	Resource	Student	Student
Support when failing exams		3	3	4	2	Student guidance counselor, Director of studies, Exam-fail survey	Resource	Student	Student
Guidance in how to get back on track after failing exams		3	3	4	2	Student guidance counselor	Resource	Student	Student
Customized interventions		2	3	1	4	N/A	Connect rate mood to resources	Health and Safety Officer/Public health Agency of Sweden	Appendix D.2/[46]
Get support to cope with demands		1	2	4	−1	Student guidance councelor, lectures, exercises, labs,	Resource	Health and Safety Officer	Appendix D.2
Support to get through education		1	2	4	−1	student guidance counselor	Resource, info	Coordinator Student Guidance Counselor	Appendix D.4
Guidance when in doubt of the choice of study program		2	2	4	0	Studen guidance counselor	Resource, info	Student	Student
Rehabilitation after sickness		1	1	1	1	N/A	New feature, Resource	Health and Safety Officer	Appendix D.2
Social Aspects									
Knowing that everyone else also is stressed		3	2	4	1	Studentbarometern	Aggregated data from the pulse	Student	Student
Work-Life balance									
Balanced student life		3	3	1	5	N/A	Assess Life, Resource	Student	Student
Ability to set up boundaries		2	3	1	4	N/A	Develop Day Plan, Resource	Health and Safety Officer/Christine Mellner	Appendix D.2/[27]
Sustainable cognitive workload		1	3	1	3	N/A	Resource	Health and Safety Officer/Jeffrey	Appendix D.2/[35]
Needs that cannot be fulfilled by Remente	Verified								
Impact own surroundings									
Influence over the planning of work	x2	-	-	-	-	-	-	Jeffrey Johnsson	[35]
Flexible working hours	x1	-	-	-	-	-	-	Jeffrey Johnsson	[35]
Influence over how time is used at work	x1	-	-	-	-	-	-	Jeffrey Johnsson	[35]
Influence of work pace		-	-	-	-	-	-	Jeffrey Johnsson	[35]
Influence over planning of vacations and breaks		-	-	-	-	-	-	Jeffrey Johnsson	[35]
Proper degree of freedom in studies		-	-	-	-	-	-	Student	Student
Self-management									
Job security	x1	-	-	-	-	-	-	University Priest	Appendix D.3
Balanced focus on performance		-	-	-	-	-	-	Student	Student
Take responsibility for studies		-	-	-	-	-	-	Coordinator Student Guidance Counselor	Appendix D.4
Possibilities to have a good self-esteem									
Feeling proud of studies		-	-	-	-	-	-	Utrecht	[33]
Perceive academic achievement		-	-	-	-	-	-	SBI/Kuittinen	[43]/[7]
Sustainable working culture									
Decrease pressure on performance	x2	-	-	-	-	-	-	Coordinator Student Guidance Counselor	Appendix D.4
Non judgemental culture		-	-	-	−1	-	-	Student	Student
Non compering culture		-	-	-	-	-	-	Student	Student
Including culture		-	-	-	-	-	-	Student	Student
Feedback on work input		-	-	-	-	-	-	Health and Safety Officer	Appendix D.2
Possibility to talk openly about problems		-	-	-	-	-	-	Health and Safety Officer	Appendix D.2
Correlating values with university		-	-	-	-	-	-	MBI	[31]
Information, Knowledge and transparancy									
Clear instructions regarding work demands	x1	-	-	-	-	-	-	Health and Safety Officer	Appendix D.2
Fair grading		-	-	-	-	-	-	Student	Student
Clear instructions		-	-	-	-	-	-	University Priest	Appendix D.3
Access to credible support and structures		-	-	-	-	-	-	Coordinator Student Guidance Counselor	Appendix D.4
Clear expectations		-	-	-	-	-	-	Health and Safety Officer	Appendix D.2
Study joy									
Good quality of the lecturers	x3	-	-	-	-	-	-	Student	Student
Interest for schoolwork	x1	-	-	-	-	-	-	SBI	[43]
Perceive studies as challenging	x1	-	-	-	-	-	-	Utrecht	[33]
Collaboration with industry		-	-	-	-	-	-	Student	Student
Possibility for curiosity and playfulness in education		-	-	-	-	-	-	Student	Student
Feel energized when studying		-	-	-	-	-	-	Utrecht	[33]
Feel enthusiastic by studies		-	-	-	-	-	-	Utrecht	[33]
Feel inspired by studies		-	-	-	-	-	-	Utrecht	[33]
Sense of study joy		-	-	-	-	-	-	Ultrecht	[33]
Study satisfaction		-	-	-	-	-	-	Bengt Arnetz	[3]
Varied work procedures		-	-	-	-	-	-	Jeffrey Johnsson	[35]
Varied task content		-	-	-	-	-	-	Jeffrey Johnsson	[35]

Support									
Support from family and friends (x2)		-	-	-	-	-	-	Student	Student
Having supportive and communicative functions at Chalmers		-	-	-	-	-	-	Student	Student
Motivation to finish intervention programs		-	-	-	-	-	-	Haglund & Niva	[48]
Sufficient conditions to study		-	-	-	-	-	-	Health and Safety Officer	Appendix D.2
Possibility for CBT interventions		-	-	-	-	-	-	Public health Agency of Sweden	[46]
Feel included after a longer break in school		-	-	-	-	-	-	University Priest	Appendix D.3
Social Aspects									
Being part of a community (x6)	x2	-	-	-	-	-	-	Student	Student
Meet study mates outside workplace	x1	-	-	-	-	-	-	Jeffrey Johnsson	[35]
Meet study mates as part of their work	x3	-	-	-	-	-	-	Jeffrey Johnsson	[35]
Sense of fitting in	x1	-	-	-	-	-	-	Competitor(Steps)	Appendix C.1
Being with like-minded people		-	-	-	-	-	-	Student	Student
Feeling included		-	-	-	-	-	-	Student	Student
Possibility to get to know older students		-	-	-	-	-	-	Student	Student
Possibility to be part-time engaged in student arrangements		-	-	-	-	-	-	Student	Student
Sense of being accepted		-	-	-	-	-	-	Competitor(Steps)	Appendix C.1
Talk to study mates during breaks		-	-	-	-	-	-	Jeffrey Johnsson	[35]
Sense of social cohesion		-	-	-	-	-	-	Ulf Lundberg s.288	[3]
Having friends	x2	-	-	-	-	-	-	Rikke	Appendix C.1
Percieve quality of social interactions		-	-	-	-	-	-	MBI	[31]
Work-Life balance									
Sustainable workload	x7	-	-	-	-	-	-	Health and Safety Officer/Student Wellfare Officer/Competitor(Steps)	Appendix D.2/Appendix D.1/Appendix C.1
Possibility to exercise (x4)		-	-	-	-	-	-	Student	Student
Have time to enjoy life		-	-	-	-	-	-	Student	Student
Have time to meet friends		-	-	-	-	-	-	Student	Student
Possibility to do things outside school		-	-	-	-	-	-	Student	Student
Possibility to relax		-	-	-	-	-	-	Student	Student
Take breaks and reflect		-	-	-	-	-	-	Åsberg, Nygren, Rylander, Rydmark s.231	[3]
Out of scope									
Good physical work environment (x3)		-	-	-	-	-	-	Student	Student

CRITERIAS

Ranking fulfillment Chalmers
1 - There is no solution available
2 - The need is not solved though a service, but is a result from the university structure
3 - The solution is indirectly available to students from Chalmers via another service in collaboration with Chalmers
4 - The solution is available from Chalmers with a dedicated, named service, but is not actively brought to their attention
5 - The solution is available from Chalmers with a dedicated, named service that is brought to their attention by Chalmers using recurring advertising

Ranking Remente Feasibility
1 - Low feasibility, development of a completely new larger feature
2 - Medium feasibility, development of a smaller new feature
3 - High feasibility, Add information/resource/change feature

Value Ranking
1 - mentioned by Chalmers/literature/competitor once
2 - mentioned several times by Chalmers/literature/competitor
3 - needs stated by students once
4 - needs stated by students several times
5 - needs verified by students

Ranking Fulfillment Remente
1 - There is no solution available from Remente
2 - The solution is only available through one or insufficient resources
3 - The solution is indirectly available from Remente via a feature/Several resources related indirectly to the area
4 - The solution is available from Remente with a dedicated feature, but is not actively brought to their attention/Several resources directly related to the area
5 - The solution is available from Remente with a dedicated, feature that is brought to their attention by Remente regular prompts/More than three resources directly related to the area with a tag

F.2 Ranked Purchaser Needs List

Purchaser needs which currently could be fulfilled with Remente	Remente solution	Chalmers solution	Reference	Bibliography
Support				
Help students before they need it	Result of implementing Remente system	Systematic work method	Coordinator Student Guidance Counselor	Appendix D.4
Provide students with individual-level interventions	Resources, Assess life, Rate Mood	Akademihälsan, student guidance counselor, dean of education, career service	Public health Agency of Sweden	[46]
Quality Assurance				
Increase university through-put	Possible result of implementing Remente system	Quality assurance	Quality policy	[120]
Meet the needs of industry (with focus on work environment)	Possible result of implementing Remente system	Quality assurance	Quality policy	[120]
Increase university attractivity	Possible result of implementing Remente system	Quality assurance	Quality policy	[120]
Information and Communication				
Gathering representative data regarding the work environment	Pulse	Studentbarometern, inspection	Health and Safety Officer/ Work environment for students	Appendix D.2, [105]
Purchaser needs not currently fulfilled by Remente	Remente solution	Chalmers solution	Reference	
Support				
Make sure that all students are taken into consideration	Adapt the Pulse for systematic work	Offering different kind of support/feedback	Health and Safety Officer	Appendix D.2
Improve integrations of masters students	Update resource library	Reception week, comitees	Action plan (chalmers)	[112]
Systematic work				
Ensure a work environment free from discrimination and victimization	Update resource library	Awareness Events	Action plan (chalmers)	[120]
Control if interventions regarding work environment were sufficient	Adapt the Pulse for systematic work	Inspections	Health and Safety Officer	Appendix D.2
Standardized report structure for all undergraduate programs regarding work environment inspections	Adapt the Pulse for systematic work	Standardized protocol	Control Document 2015	[114]
Report about the situation regarding work environment to the vice president of education and life long learning	Adapt the Pulse for systematic work	Compile information from inspections and report to vice president	Control Document 2015	[114]
Create interventions for assessed risk areas	Adapt the Pulse for systematic work	Studentbarometern, inspection	Health and Safety Officer	Appendix D.2
Investigate and chart risk areas within work environment	Adapt the Pulse for systematic work	Studentbarometern, inspection	Health and Safety Officer	Appendix D.2
Quality Assurance				
Identify new stressors for students	Adapt the Pulse for systematic work	Systematic work method	Health and Safety Officer	Appendix D.2
Information and Communication				
Get information about students alcohol habits	Expand the pulse scope	Survey	Work environment for students	[105]
Get information about students perceptions about the reception at Chalmers	Expand the pulse scope	Survey	Work environment for students	[105]
Get information about why people take longer study breaks	Expand the pulse scope	Survey	Work environment for students	[105]
Get information about why people have failed exams	Expand the pulse scope	Survey	Work environment for students	[105]
Get information about the background of the students and their goal for the education	Expand the pulse scope	Survey	Work environment for students	[105]
Increase response rates with feedback on work environment	Adapt the Pulse for systematic work	Inform about the importance, and that the survey derives from Chalmers	Coordinator Student Guidance Counselor	Appendix D.4
Increased transparency regarding the work with work environment	Adapt the Pulse for systematic work	Publish results from studentbarometern, inspections on website	Health and Safety Officer	Appendix D.2
Information about what is holding students back in their studies	Adapt the Pulse for systematic work	Studentbarometern	Competitor(Steps)	Appendix C.1
Information about what characterize struggling student groups	Adapt the Pulse for systematic work	Studentbarometern	Competitor(Steps)	Appendix C.1
Purshaser needs that cannot be solved by Remente	Remente solution	Chalmers solution	Reference	
Systematic work				
Use systematic working methods regarding the work environment	-	-	Health and Safety Officer	Appendix D.2
Collaborate with safety representatives during changes regarding work environment	-	-	Health and Safety Officer	Appendix D.2
Use a systematic work method	-	-	Lennart Levi s. 224	[50]
Chart root cause of the problem regarding work environment	-	-	Student Wellfare Officer	Appendix D.1
Having annual work environment inspections	-	-	Control Document 2015	[114]
Provide students with organizational level interventions	-	-	Public health Agency of Sweden	[46]
Provide students with social level interventions	-	-	Public health Agency of Sweden	[46]
Quality Assurance				
Measure employability	-	-	Competitor(Steps)	Appendix C.1
Information and Communication				
Provide students with possibilities to receive feedback on work tasks	-	-	Work envirnmenal policy 2019-2021	[113]
Regulations				
Be able to present how the regulations are being followed	-	-	Health and Safety Officer	Appendix D.2
Follow the work environment rules (AFSAR)	-	-	Health and Safety Officer	Appendix D.2
Follow up on work environment policies annually	-	-	Health and Safety Officer	Appendix D.2
Follow discrimination act	-	-	Action plan (chalmers)	[112]
Follow work environment act	-	-	Action plan (chalmers)	[112]
Follow the law of public procurement	-	-	Control document procurement	[116]
Internal Aspects				
Course regarding work environment for people with leadership role in the area	-	-	Health and Safety Officer	Appendix D.2
Better collaboration between different functions working with work environment	-	-	Health and Safety Officer	Appendix D.2
Responsible leaders must follow up if someone is afflicted with mental illness if there was something they could have done differently	-	-	Health and Safety Officer	Appendix D.2
Have a plan and vision for the development in environmental, lifestyle, and health aspects	-	-	Lennart Levi s. 224	[50]
Use final accounts including social aspects	-	-	Lennart Levi s. 224	[50]
Secure teacher competence in identifying work environmental problems among students	-	-	Kuittinen/Health and Safety Officer	[7], Appendix D.2
Develop a database/website for a good environment within each branch	-	-	Lennart Levi s. 224	[50]
Enable discussion for psycho-social questions	-	-	Action plan (chalmers)	[112]

G

Appendix

G.1 Business Model Canvas

KEY PARTNERS 🔗
- Procurement
- Responsible positions within work environment
- Support functions
- IT personnel

KEY ACTIVITIES ⚙
- Develop pricing strategy
- Ensure first procurement
- Ensure continuous procurement with Chalmers for the future
- Create digital mock-ups
- Develop marketing material
- Marketing activities
- Software development of suggested improvements and additions
- Software development of to verify Chalmers students
- Develop Chalmers specific content

KEY RESOURCES 👥
Human resources
- Business strategy
- Sales & Marketing
- UX personnel
- Software development

VALUE PROPOSITION 🎁
Basic Package
- Remente premium app
- Implementation of suggested improvements and additions from ideation

Insight package
- Providing Chalmers with aggregated data from the Remente App

Pulse package
- Provide Chalmers with aggregated data from the the Pulse
- Implementation of suggested improvements and additions from ideation

CUSTOMER RELATIONSHIPS ❤
Key Partners within Chalmers
- Procurement – dedicated personal assistance
- Responsible positions within work environment – dedicated personal assistance
- Support functions – personal assistance
- IT personnel

Students
- Personal contact annual during product presentation
- Social media
- Support

CHANNELS 🚚
Channels Through Chalmers
- Email from positions with responsibility for work environmental aspect
- Program Director
- Student Guidance counselors
- Akademihälsan
- University priest
- SAMO
- Student Welfare Officer

Direct Channels to students
- Visit Campus during reception week
- Social Media

CUSTOMER SEGMENTS 👤
Educational Sector
Universities
Target group: First year students

COST STRUCTURE 💲
Human resources
- Software development
- Sales & Marketing
- Business strategy
- UX personnel

REVENUE STREAMS 🏷
- Depending on the result from procurement process
- Direct procurement >586 900 SEK
- Direct procurements >100 000 – less requirements and competitors
- Time limited subscription comprising all first year students
- Aim to become framework agreement provider in the future
- Annual subscription fee

Figure G.1: A summary of the recommendations in the presented in the form of a