TRELAX.

Lotte Sluijs – Josefine Funnekotter – Melle Keuchenius
Group 3 – Design Innovation Methods – DAB200

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Summary

Nowadays, a lot of people experience stress and the feeling of pressure during their work. The consequence of this factor is that a lot of people go home with this stress feeling, and are unable to get in a normal routine again. This starts in the morning, and during the day this feeling holds on. When they come home and eventually go to bed, this pressure still lays on their shoulders. The bigger disadvantages of this phenomenon are that these people get an unhealthy routine, where hurry and rush are the most appearing words. This then results in less comfort, confidence and ultimately in less happiness. Throughout society this feeling of stress and pressure increases every year. The most vulnerable group is students. Instead of normal working days they have longer, irregular days. Finding a normal routine is therefore harder, and in 2016 alone, more than 7% of students in the Netherlands experienced this feeling of stress. Because this group is also the future of the world, TRELAX. aims to find the solution to this problem for this important group.

During this project, the aim was to find out how the big problem (decrease in happiness and increase of stress) could be torn down into smaller problems that could be easily solved. By solving this foundation for the bigger problem, the ultimate aim is to fix the big problem.

Breaking the big problem down, the team gathered that it all depends on the lack of flexibility that students have in their routines at home. For this project, the hours spent at school or university are not important, as there most of the times is more structure. The work at home though, is completely planned by the students themselves.

In this project, the aim of the product is to offer a more structured, but also flexible planning system for students that have to deal with a lot of tasks and activities. By

organizing the time at home, students have a greater change to have a relaxed routine. This is almost the same as the phenomenon of the clean room: When a person has a clean room, the person also is more structured.

User tests show that structuring the routine would help during the day. Not only in the morning, afternoon or night. This is because it is a negative vicious cycle. When a person is not structured in the afternoon, he will go to bed later and therefore oversleep in the morning. This would start the cycle over again. The only solution to stop this is to give the person a break, and allow him to catch up with his planning. Catching up is most of the time the cause of stress.

TRELAX. gives the opportunity to help keeping this cycle structured, so that a person never falls in the negative circle again, and therefore lives without stress about the planning. TRELAX. offers a product that can be considered as a planning assistant. By delivering the tasks that need to be performed and the deadline of these tasks to TRELAX., the system distributes the workload over the time and makes an adjustable planning for the user. These tasks come in three sorts.

1. The user first via an app puts in their usual daily tasks (showering, relax time e.g.), around what time they want to do these and how much time they cost. Making an order of these activities, the base of the planning is clear for TRELAX.

2. The second part of the data that TRELAX. needs to know about is the variable activities. TRELAX. needs to know around what time a user needs to leave, or when the user comes home. This data can easily being delivered by other platforms, such as calendars and smartphones sensors.

3. The last part of data is the daily input of the user. In order to make a flexible planning, TRELAX. needs to know the tasks and activities that have to be done during a day. By delivering a deadline and workload for these activities, TRELAX. plans the activity between other activities, causing a structured and varied planning for a day.

The most important feature of TRELAX. is that the product offers a flexible planning, where the user himself can decide to start, delay or skip a task. TRELAX. offers a feedback method to the user to let him know that a task has to start, but the user can decide to wait with performing this task. TRELAX. adapts the planning to this decision, until it reached the limit. This way, the user gets a flexible and relaxed routine in his life.
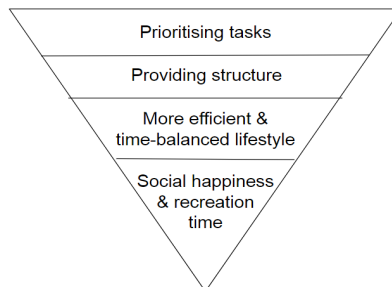
TRELAX. consists of two pieces. The app is used for the input of the user to the system. The app then makes the planning. The physical device is the output of feedback towards the user. This product is designed to be very relaxing for the user, as well as being a notifying assistant. The feedback from the product is given in light output, very non-obtrusive.

Design problems

In current society, there are many opportunities and places for studying or to build up a career. People are feeling more stressed than ever, as information keeps coming towards them, and with their always changing and busy schedules [1]. The feeling of having to manage a lot of things at the same time is pretty common nowadays. In the interviews and journal studies that were conducted, it was mentioned often that time management in the morning is a problem for the participants, and that not being able to fulfill the planned tasks causes dissatisfaction and the disruption of the planning of the rest of the day (Appendix B).

There are two aspects to this problem, that are to be tackled with our design. First, enabling people to complete their tasks. It occurred often that the participants made plannings (on paper, phone or in their head) for the next morning, but could not stick with it, due to reasons such as punctuality, time managing and self control. Facilitating a helping hand in starting and finishing tasks is the one of the main goals of the design.

The second aspect is reducing the amount of stress. These two functionalities of the product are related, but are not necessarily solved with the same solution. Existing planners are often strict or obtrusive, and can still evoke a stressful feeling even though you can get your tasks done. The extra stress results in a feeling of unease and unhappiness. The product created will be non-obtrusive, and will adjust to the needs of the user (a smart and learning system).

Prioritising tasks

Providing structure

More efficient & time-balanced lifestyle

Social happiness & recreation time

Design overview

TRELAX. is a flexible, smart planner, that guides you through your routines. It consists of a phone application and a tangible device. With the application on your phone, you can create a routine for a specific time of the day. Actions can be inserted, along with the estimated time that is needed for the action. In addition, the tasks can be prioritised so that the system is able to create a routine keeping in mind what tasks have priority. The system then creates the order of the routine.

When it is time to start your routine, an icon will appear on top of the tangible device that indicates what task should be fulfilled. Aside from the icon, the vertical dots on the device wil will start to light up to indicate that you should be taking action.
To indicate that you are starting the action, you touch the top of the device. The lights on the side will gradually go out, as time is passing; to indicate how much time is left. After finishing the task, you tap the top again and a new action appears until the routine is done.
The system will adjust the routine if actions are postponed so long that it is not feasible to do them within the routine anymore. At that time the system will look at the prioritised actions, making sure that only actions with the least priority are deleted from the routine for that moment.
Thus TRELAX. is a flexible system, meant to indicate or stimulate, unlike

of a strict planner.

The app works as a stand-alone itself and is free, but does not offer the subtle and non-obtrusive solution that the physical product does. Therefore, the app is a good way to get to know the concept, but for the ultimate result, the product is needed.

Both the app and the tangible device will have a clear and minimalistic look, as unnecessary text and notifications could lead to more stress and therefore contradicting our goal. The tangible device is designed to be seamless, and should be able to sit in a room without being obtrusive.

Concept development and selection

Activity diaries
To get familiar with the design context, personal activity diaries were kept by all team members. The purpose was to be more aware of all the routines that were common (for yourself) in a house environment. This way, the context of the design to be developed was explored.

Design thesis
The design thesis (see appendix A) describes the idea of the product, as well as the added value for the target group and how these two aspects of the product fade into each other. The design thesis clears the idea for the designers. The design thesis for TRELAX. includes the value for the target group, the bigger picture that is explaining why there even is a value for the target group and explains the looks and interaction of the object.

TRELAX. is a solution that helps students and starters with busy, irregular days who want to keep up social life, have more mental stability and combine those with a nice job. The product takes care of reducing chaos, and bringing back structure, time balance and free time for users. For this product, the targeted users are students and starters. These groups have the most social pressure and irregular working days, compared to other groups.

Thus, structure in life is often hard to find. TRELAX. provides this structure of planning and prioritizing for this group. The bigger idea behind the product is more interesting. Because of a high tempo in everyday life, the potential users can get in pain. Forgetting to live healthy, take some relaxation time and having less time for a social life, can end up in mental instability and the feeling of not being valued. This pressure can sometimes get out of hand, leading to a burn-out or a depression.

The product is aimed to be a tangible device that can be personalized by the user. The product can be paired with a mobile phone, to setup

the desired scheme for the day. The aim of the product is to guide the user through his morning routine. For subtlety, the output of the product is light. Light is demanding, but also quite subtle. TRELAX. will give light information to the user, suggesting that there is a certain activity to do at this moment. This way, the user has to think himself about what he has to do. But, when TRELAX. organizes the tasks for the user, it is for them much easier to work more efficient in a certain amount of time.

It is clear that the Design Thesis is a good start to find solutions and ideas for certain problems, but further exploration and in-depth search is needed to find more detail in both the problem and design. Therefore, the design thesis is not the end method to base a product on, and more methods will follow.

Value proposition
User needs
n order to identify user needs, several methods were used. First, the Value Proposition Canvas was filled in (fig. [X] and [X]), where the Gain Creators, Pain Relievers and Products & Services of the design were visualised.
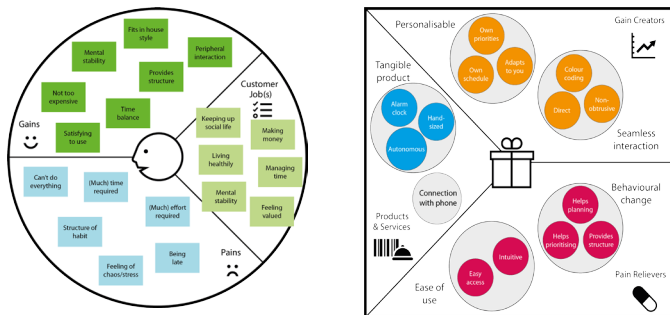
The design would be a tangible device, that provides a clear overview of tasks and help prioritising these. It should motivate habit change for the user and be intuitive and easy to interact with.
The target group to focus on was also chosen and their Customer Jobs, Pains and Gains were identified. The initial target group was students and young working people, who are generally busy. From our point of

view, this was the target group that would benefit the most from our design, as their needs matched our solution.

Affinity diagram
After the activity diary, a lot of problems or points of improvement in a day had been generated. To categorize these, an affinity diagram was created with which it was easier to see which moments of the day, which activities or which type of points of improvement were found. With the categorization it was easy to see that most of the found struggles throughout the day were due to a lack of routine. Mostly the morning routine was a pain point. It therefore was not a hard to realize that this was an interesting topic to start a project about.

Market analysis
After identifying needs and solutions, taking our own experiences and ideas in consideration, a new value proposition was made, based on comparison with similar designs. Each team member compared TRELAX. to different products or systems, that overlapped with the design. The companies were:

- Todoist: a 'to do' application
- Alarm.com: a smart alarm system for the home environment
- Alarmy: a fun waking up application
- SleepCycle: an alarm application
- Philips WakeUp Light: a waking up system
- Apple HomePod: a smart home system
- Google Home: a smart home system
- Amazon Echo: a smart home system
- HabitClock: an application that is a guide for a productive morning

In each analysis, the aspects that made a product or company successful were pointed out, and what could be improved. SWOT analyses were included, as well - to indicate the strengths, weaknesses, opportunities and threats. With the information gathered in the individual analyses, an IDEA grid was made.
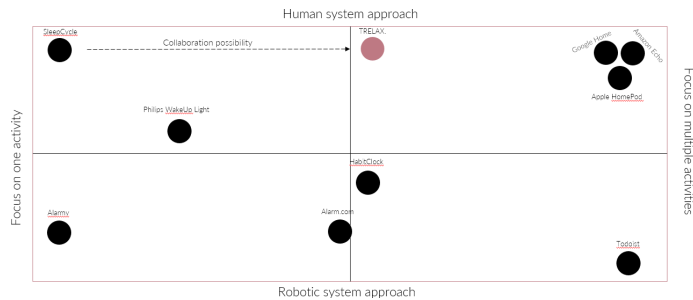
TRELAX. aimed to have a human-like interaction, and focus on multiple activities, instead of one aspect of the morning routine. At this point, a collaboration with SleepCycle was considered. SleepCycle would have a lot of (loyal) customers already, which could help in the marketing process for TRELAX. The design could be more or less an extension of the SleepCycle app, making the whole morning routine as pleasant as possible.

User studies & Value proposition validation

Questionnaire
For the value proposition validation, a group of people was looked for that fitted the target group. This group of people was interviewed. The group included four students at the faculty of Industrial Design at the TU/e, one of whom as using SleepCycle and the others had a Philips WakeUp light. They used these products to wake up in a nicer way than with a standard alarm, but not to manage their morning routines.

The participants were asked what their weeks looked like in general, and whether they had a clear schedule. They usually had to go to university almost every day, the entire day (from early in the morning until the late afternoon). All of them said that, because they were very busy, they had struggles getting up in time and were usually stressed in the morning.

When asked what aspects they liked about the products they used, they all said that they were waking up more naturally, like their body told them to wake up. Especially the participants who used the Philips WakeUp light were happy with the combination of light and sounds. The SleepCycle user said that using their phone for waking up, made him feel distracted and could stimulate spending time on social media, by receiving all these notifications in the morning.

Journal study
Then, four different students at the faculty of Industrial Design were asked to participate in our journal study. They were asked to fill in a journal for at least four days. In the journal they had to fill in firstly what they planned on doing in the morning and how much time they thought it would take, and secondly what they actually came round doing. After that, they summarised their general morning routines.

The complete questionnaire and journal study results can be found in Appendix [X].

Results and conclusion
As mentioned by the participants several times, they are often planning on doing more in the morning than what they actually manage to do. While talking to them, it turned out that having to skip an activity that they planned on doing, made them feel dissatisfied. Especially being tired in the morning and losing track of time by something that is being enjoyed (like breakfast or taking a shower) or social media, are points where a lot of time is lost. This causes people to skip steps in their morning routine and makes them feel stressed. Due to a busy schedule, they struggle to find the best way to work. This is thereby followed by inefficient working, and tasks taking more time than they should. They then go to bed late, struggle to wake up and it's the same thing over again. The next morning, they enjoy taking a shower, and sleeping more than starting their day. They easily give in to the urge if they do not see

the consequences clearly. To reduce the stress throughout the day, they wanted to reduce the stress in the morning. Also, not having breakfast at home was considered a downside of an unorganised morning routine, as it costs much more money (generally speaking).

When presented with TRELAX., the majority both the students from the journal study and the questionnaire said they felt they would benefit from this product. They liked the fact that it is a tangible product, because with an application on your phone you can be easily distracted, because all the social media and news applications are on that, too. Another aspect that was appreciated, is the easy interface with icons and light. It was considered not too obtrusive, but present enough to remind you of the time and activities that were needed to be done. Some did still have some concerns about whether they would actually do as the system says. Another thing that was mentioned, was that it would be nice if it would be integrated in Smart Home, but that this could also be too expensive for our target group at the moment. The students who participated in in our validation would pay approximately 25-30 euros for it. It could be that starters, who usually own a bit more money, would want to pay about 40 euros for it.

Based on this research, it can be said that there is definitely a market for people who want to get out of bed, and start their routine better. Introducing TRELAX. via social media seems the most suitable way. The targeted users are usually quite active on social media, like Facebook and YouTube, so it would be convenient to approach social influencers. As for the concern of not actually doing the task that TRELAX. suggests, the aim of this product is not to strictly tell you to do a tasks but it suggests the best way to go about your routine. This means it is a suggestive device, and it adapts to how you behave.

Midterm presentation feedback

Halfway the project, the midterm presentation was done. In this presentation, all the steps mentioned above were explained. Apart from an updating moment for the fellow student and teachers, it was a reflecting and feedback moment. In addition to the revieved feedback in the user studies, the midterm presentation feedback was used for further development of the product. The main comments made were:

- It's a good idea to guide people through their morning routines and decrease the amount of stress. It will probably help thoughout the entire day.
- Make it human, seamless and state clearly what the value of the product is.
- It seems inconvenient to walk around the house with.
- Make sure the product is not too obtrusive.
- How does it learn you behaviour?
- How does it know a task is completed?
- Think about the autonomy of the user.
- Why are you only focusing on the morning routine?

SCAMPER method

Going through the feedback of the potential users and other designers, the SCAMPER method was used to make the design more valuable, and redesign what was necessary. In this process, there were a few parts of the business and product that were re-evaluated.

First of all, the functionality was substituted.
Not only is the product meant for the morning routine, but also for daytime activities at home as well as the night routine. This is done because multiple users and designers thought it would be a product with too less significance. By increasing the functionality, the product has more functionality and significance for the users. Because the functionality was changed, the targeted user group was too broad. Where in morning routine students and starters do almost the same activities, this does not hold true for the whole day at home. Therefore, the product just focuses on students.

By changing this functionality, a range of other changes has to be made. When looking at the market, it is for this product more useful to adapt

to another market gap than before.
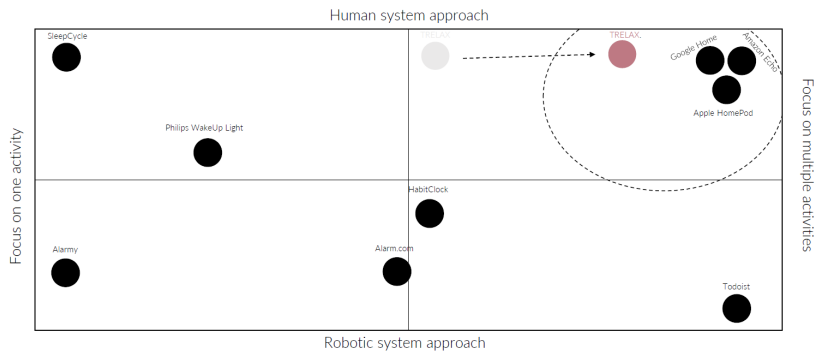
Where before a collaboration with SleepCycle was an option, the functionality change makes it more useful to focus more on the right side of the grid. As shown in the figure, TRELAX. is now moving more towards the smart home devices. But, it is important to notice that TRELAX. is different than these devices in a few aspects. The three products described in this analysis are all assistants. They perform tasks for the user, when the user tells them to do them directly, or indirectlly (via sensors). TRELAX. is focusing on notifying the user to (flexibly) do a task. This way, the user still has to perform the task by himself, or with the help of another party.

A third change in the business created using the SCAMPER method, is that the business now combines more promotion and marketing partners. Where it first only focused on Youtubers and other social media channels, it combined two key partners at the same time. Both youtubers and health institutions or university coaches are important. In the business plan, the explanation of this act is stated.

Also, the design of the product was modified.
The initial design of the product can be seen on the left side of the picture, where the second iteration shows the right side of the picture. As shown, the edges of the product have been taken away. This is because of the interaction with the user. When a person has to touch

or slam an object, it is better to not have edges. This physically and mentally does not invite the user to interact with it. This said, the product got a round shape, that allows users to interact with the object without having difficulties. Also, because of the round shape, the product is easier to touch and hold. To make this even better, TRELAX. is decreased in size, so that it is hand-sized now. This is also convenient for people that have more places to work than one area. This means that the product can be taken with the user between different rooms or areas. With the different activities now, the product also has to be able to do more things than just the waking up experience.
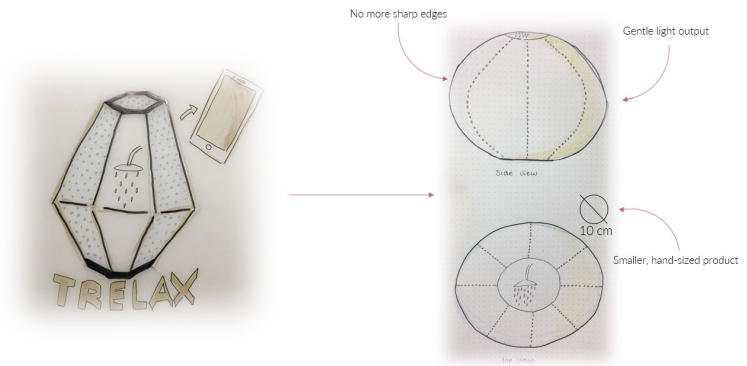
All the other parts of the SCAMPER method were explored, but not used in the redesign. An example of this is the revert and put to another use act. The pictures below explain these two acts. It was interesting to try this approach, but TRELAX. in its existing shape and functionality was perceived better than the new ones.
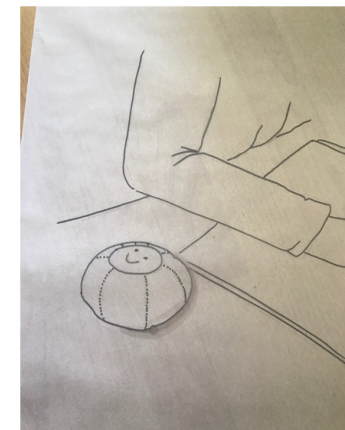
Final presentation & Feedback

In the final presentation, a recap was given on what was done before the midterm, and then what was done after. In addition, a video was made, to show the purpose of and interaction with the design. On the final presentation, feedback was given as well. This was the following:

- Consider word-of-mouth marketing with friends to attract the target group
- What makes the product valuable in smart homes; what is the added value?
- How is it distinguishable from an alarm clock?
- How will you make people actually complete their tasks? How do you motivate them?

Part of the answers to these questions are provided in the previous sections, where the design and its value is explained elaborately. The design is supposed to be suggestive, and not too intrusive. Therefore, it does not have the intention of strictly having to complete a task. It is a guide.

{KUNNEN jullie hier nog even wat aanvullen om de feedback te weerleggen?

Business plan

To generate a strong business approach for a product and the company around it, it is necessary to make a solid business plan. For this business plan, it is important to look towards all the streams that make the product work and build the business around it. The business model canvas is a helpful tool to make this work.

Business model canvas
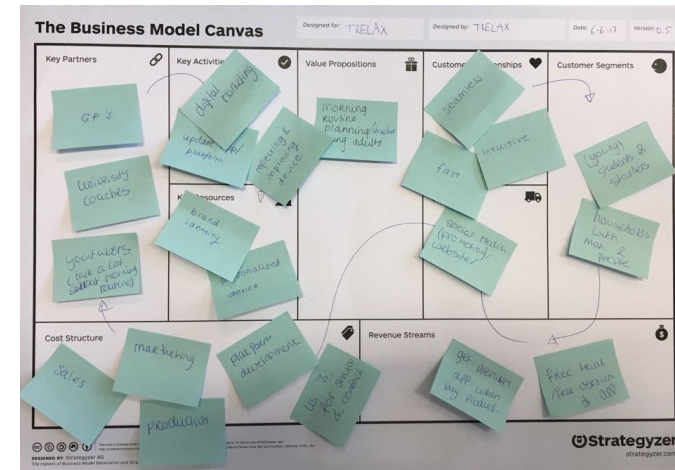
In this business model canvas, the starting point is the value proposition of the product. Moving through the different fields of the canvas, all the aspects of a business are thought off.

To get TRELAX. on the market, a business plan has been set up. As the target users for this product is young and highly active on social media, promoting the concept on a social media site seems like a logical step. There are quite a few famous internet sensations out there that have a lot of influence, be it companies, bloggers or anything inbetween. These are the people that are able to put our product out there.
 When TRELAX. is handed to these people as a free item and if they in return are asked to make a post about TRELAX. online, the target group will be introduced to the product.
After finding the product, they will be able to get the free app. The app will include a small amount of the features, and a premium package (which you get the tangible product with) will include premium features to make the ease of use bigger. Due to either social media, or a suggestion done by the app, the user will get to know the benefits of the premium package. Soon they will realize the tangible product would make the experience far more valuable and buy the physical product to use together with the app.
To boost sales, in the start of the marketing stage, free TRELAX.'s could be given to a small amount of users that download the free app. Then

with a word to mouth marketing strategy, the product will get well known within the market.

In the business model of TRELAX. it is important to guard a few aspects, as those are the most vulnerable for either a good end result in the business. On the other hand, these points are also the pain points. When there is not enough attention for these aspects, they can also lead to failure of the business.

The most important are the key activities. These can be split up in three main activities.

The first activity is the marketing and promotion. This is because the impact TRELAX. ought to make is in a difficult field. Because TRELAX. wants to make people get a more relaxed life style, without stress, health institutions can be a good group to collaborate with. These professionals could advise patients to use TRELAX. Though, this could also work contrary. If this group is not content with the product, it is much harder to sell it, and the business will fail. Therefore, the other option is to work together with student facilitators. This partner group has a lower threshold to convince them of the importance of the product.
The other key partner group is easier to work together with. Instead of only using a "serious" partner, it is important to also reach the target group. The best way to do this, is to use social media. Therefore, key partners that can be used are Youtubers (e.g. vloggers), Instagrammers and bloggers. With this two-way approach, we cover both sides to reach our target group as good as possible, and also with two different intentions.

The other activities have to do with the product that is purchased by the users. First of all,
it is really important that this user group wants to buy the product. Therefore, the product must blend in with their daily life. It should match this group. To do this, the user group has to be researched in terms of what their preference is in aesthetics and interaction. In other words, how does the user want to use the product, and how should it look and feel? There is an idea already, but with future buyers and updates, this has to be constantly evaluated. This is the physical part of the product, but also the digital part of the product needs to be up-to-date at all times. With ever changing digital landscapes, a lot of attention has to be put in the improvement of the digital interface. The app should be accessible for everybody with every possible device.

Taking in consideration every aspect in the business model, the product has an estimated price.

Price estimation per product
Production costs	€15,-
Application costs	€4,-
Coding costs	€5,-
Overhead costs	€6,-
Profit	€5,-
Total	€35,-

This price estimation is a safe calculation, because it is very spacious. This calculation counts per product. Around 7% of all students have problems with stress or concentration [2]. In the Netherlands TRELAX. can help around 49262 students (WO and HBO) [3]. Expecting 10% of this group to buy the product, this company will sell around 4900 products per year. Therefore, the total overhead costs (partially for marketing) will be € 295000. This is enough to suffice the marketing costs. Also, the initial coding will happen one time only. This is equivalent to € 246000. This amount of money is enough to work on updates all year-round, so that the product stays up to date. When covering this calculation, this will be the initial balance sheet:

Income-cost analysis on yearly basis, most optimal scenario			
Income		Costs	
Products of €35	€1.724.170,35	Production	€738.930,15
		Application	€197.048,04

		Coding	€246.310,05
		Overhead	€295.572,06
		Office	€2.700,00 [4]
		Profit	€243.610,05
Total	€1.724.170,35	Total	€1.724.170,35

Of course, this is the most optimal situation for the business, where in the first year the business already reaches this amount of customers. A more realistic approach would be when this would yearly increase towards this number of customers. It is not a big problem, because the only post that is non variable, is the office space. For every other cost part, the costs are variable. In order to make this product, there is one condition. The costs for the coding and application (both just have to be made once, excluding updates) have a certain limit. Below this limit, it is not possible to pay for the coding and the making of the application anymore. Because the income for these posts is also variable, a certain amount of sold products is needed. But, because the coding and application need to be finished before the first product can be used, there is a need for investments. These investments immediately solve the problem described above. This way, there immediately is a base application and a working code for the product. The investment would take about €5500.

Amount of financial investment		
Source	Amount	€
Application	1	€1000
Coding	1	€1000
Head start production	100	€3500
Total		€5500

The investment can be made by a sponsor, or multiple sponsors. An ideal situation would be if there was a kickstarter project for this product, so that multiple small sponsors help to receive the first €5500 in order to start the business.

References

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[2] https://www.nrc.nl/nieuws/2016/10/20/studenten-psychische-hulp-nodig-4915256-a1527623
[3] http://statline.cbs.nl/StatWeb/publication/?VW=T&DM=SLNL&PA=71450NED&D1=0&D2=0-2&D3=0&D4=a&D5=0&D6=0&D7=l&HD=090528-1343&HDR=G6,G5,T,G2,G4,G1&STB=G3
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Individual contributions & reflections

Lotte Sluijs

Within previous projects, the ideation phase was often a bit messy. After a brainstorm, and throwing about ideas to other teammates we often tried to find the one we would all be most interested in. This worked, but often took a lot of time. It was an inefficient way to generate concepts, that left for a messy process. My main focus within these projects was often prototyping and doing studies on user experience and user validation.

Starting this course I hoped to find more methods that would create more structure in the design process. I also was very interested in the business aspect of design, as within my projects this part of the process was always neglected and I had never done any courses that handled the business aspect of design.

With very little prior knowledge about methods, I, together with my teammates, went through a design process with the methods provided by this class. Within this class I learnt about ideating methods, such as an activity diary. But also clustering ideas with the affinity diagram made the ideation phase a structured and clear one. With this it was a lot easier to find an interesting design area. Then creating a value proposition helped a lot in finding what important parts of our design were, and made us think deeply about the different aspects of the concept and its habits of users. Afterwards it was easier to assure valuable features, that fit the needs of the user and the goals we had in mind.

Aside from looking up similar projects, in previous projects I had never clearly investigated other companies with similar products in such a detailed and structured way. With this competitor analysis, validating the concept you have is a lot easier. Therefor also when presenting your product later on, it is a lot easier to also emphasise why this product is valuable to the market.

Validating a product with user study methods was something I was made familiar with by several other courses and projects. This is something I am really interested in, and therefor like spending time on. As for this project, there was not a lot of time to really do in depth user studies. I feel like since I had quite some knowledge on this part already, I did not gain a lot of new insights within this part of the course. Though this does not mean we were unable to validate our product in a sufficient way.

After this the SCAMPER method was introduced, a method I had no prior knowledge about. This method to me is very valuable, as it provides you a toolkit to rethink your whole product. It forces you to think about every detail, to rethink every detail and to conclude with a concept that is very well thought through and put together.

Also creating a business plan was completely new to me. This part of the course might, together with the SCAMPER method might be to me of the most value. I was completely new with creating a business plan, and the business model canvas was a very clear method to start and create a meaningful and feasible plan. With a feasible it is a lot easier to present your product. It creates a trust in your product that you are unable to provoke without.

Within our project, we also came up with a reasonably creative business plan, using social media for promotion was something not done by any of the other groups. We also calculated the costs of our product in quite some detail, something I had never done before.

Looking at the resulting product of this course, I am really satisfied. Especially looking at the process and the business plan. As a group we all worked simultaneously, and therefore a lot of things were done together. Though a lot of my focus lay in the user perspective and experience, the promotion plan and the formgiving of the product. I think if we had more time, more effort could be put in the video. The video was clear, yet when looking at other groups there are clearly some points of improvement that we could take into account.

Within this course I learnt about a lot of valuable methods that were new to me, and I will be sure to take them with me to other projects. I think that this course was quite short, and therefore the methods will prove to be even more valuable with more time and less haste and I am very excited to try them.

Josefine Funnekotter

Before starting this course, I had some experience with several ideating techniques, like, for example, time boxing and brain writing. These I had applied in various projects already. In this course, I got to know many different ways of ideating. Affinity diagrams, lotus flowers value proposition canvases and such, were new to me.

What made a difference for me as well, is that these were put in a clear order, so it made sense why and when we were using a certain method. Creating a value proposition for our concept, made me look further and think deeper about everything that was involved with the design and the process. Distinguishing yourself from competition is one of the hardest aspects of bringing your concept to market, so it is important to know how you can achieve that and convince others of it, too. This was easier after using the canvases that were provided. Making the lotus flower was also instructive, because every aspect of a design was taken apart and zoomed in to. The affinity diagram was good for narrowing down and categorising ideas.

Doing the user study was less new to me, as I have done more questionnaires and other user tests before. Though, it was the first time conducting a journal study, which I will definitely apply in future projects. I was responsible for processing the results of the study, too. Reflecting on the value proposition, with the information gathered from the user study, was a good learning point. For me, the feedback at the midterm and final presentation may have been as useful as the user study. Most people in class belonged to our target group, and many critical questions were asked. I also saw how they did their user studies, and I would like to apply more and new methods, like acting out the situation.

I had never made a business plan before, at least not this well thought through. Although Melle was mostly responsible for that part, I was definitely involved and learned a lot from it. Not only working in the group taught me about business, the lectures and certainly the presentations of the other groups, as well. Some had more knowledge about business already and their critical questions helped me think through better.

This goes for more aspects; looking at how other groups approached this assignment, was interesting and useful. For example, looking at videos of other groups helped me reflecting on the one we made. I have made more videos before, but not with this specific purpose. We could have been a little clearer about the value of TRELAX. in the video and edited somewhat differently. That is a learning point for future projects.

All in all, this project was one in which I learned so much in so little time. Especially the value proposition and business plan methods I will use a lot in the future. Working in the group went well too, although sometimes there was little clarity about task division. In the end, it all worked out, fortunately. I can definitely say that I have worked hard and done a lot in this course and that all the tools I learned are useful.

Melle Keuchenius

In Industrial Design, there is focus on brainstorming and other ideation processes. I think I learned that in the past two years already. But, this is only in the starting phase of a project or course. I feel that this course taught me a lot in taking smaller steps while ideating. On top of that, I think this project also helped me in keep thinking about the design and the features around it during the next phases.

In this project I feel I learned a lot about new methods to evaluate and clarify the concept that I'm working on at that time. With these methods, improving the design and evaluating the decisions I've made is already easier. This counts of course for myself, but also for outsiders (in the future maybe potential investors) to show how I thought about and innovated the project.

In this course we got educated in the different steps in a design process, in a new manner. Before, I only knew the 'standard' divisions in the design process, by looking at the iterations and what was the main goal of that iteration. This course taught me a new way of looking at the design stages of a project, in a way that I did not before. This way, it is also easier to 'pair' certain methods to the stage of the project at a given moment. I think that this helps to do a more efficient and effective innovation or evaluation of the project at that moment. I feel like I am going to use this knowledge in future projects that I will do. The main advantage of this approach was that I really felt that the project was working towards an end stage, instead just towards a design. This end stage describes everything about the project, product and the service and business idea behind it. I think this approach is better than the initial approach you learn in this study, as it helps you looking at the bigger picture of designing. This makes way more sense than just designing for the design and not thinking about the rest. Also, I think this approach will help designers in their future life after university, by setting up a business for example.

As for the business aspect, I think I learned a lot in this course. First of all, the value proposition is important for the designer himself, but also for the potential investors and other outsiders. It is clear for me that a value proposition is more than just a sentence of the product, but a catchy description to explain the value of the design to the outside world. Of course, this is obvious given the name, but during this course I learned that it is really important to put this value proposition on paper. In continuation thereof, I belief I learned a lot about business models and how those help you thinking about the product you create. I now feel it is important to think about the relevance of the product, and in that sense if it will find a way on the market. By using this business model it becomes clear what the product could do on the market, but also if it would be

successful. In previous projects, I tend to forget to do a business analysis. But this brings me back to my previous point, I think this course learned me to think about the relevance of a design, and not to think about the design solely. Next to this, I think the business plan also taught me a lot about the difficulties that you have to face when setting up a business with a product. I am sure I want to do this one day, but I know now that this is something you have to think about very well, and not just do this at some point.

Video prototyping was already something that I got used to, as we have to deliver a movie that explains the product always in this department. I think there are some new points in this course that explain something more about the making of a video. On the other hand, last semester I did a workshop in video making for products already, and this was a little bit the same. I think though, that if I did not do that workshop, this lecture (and in practice in project) was really relevant.

During this semester, I worked a lot with users for my research papers. Together with this course, I think it educated me well about what users say and mean during tests, but also by just evaluating them in daily life. The methods we used in this project definitely gave some new insights in designing with keeping in mind the user. I personally think that the approach given in this course is a really good one. By validating the design with the user, it becomes clear if the idea you generated really will work well in the field. Together with keeping in mind the user in the ideation stage, it gives you a solid base for a relevant product.

All in all, I think I can conclude that this course has been most helpful for me. The new approach is definitely giving more esteem to work on projects and to think about the relevance of the products that I'm making. I think relevance is also the key word for this course, as it really gave me the feeling that I was working towards something that was more than just a design.

Appendix

A: Design Thesis

This beautiful, financial affordable solution helps students and starters with busy, irregular days who want to keep up social life, have more mental stability and combine those with a nice job. The tangible product takes care of reducing chaos, and bringing back structure and time balance.

Users

The target users that need the most structure in their busy, unorganized lives are students and starters. Compared to most other groups, these users have the most social pressure, as well as irregular working days. The group we are looking at is aimed to be between the 18 and 35 years old. In this age range are both career and social life highly prioritized. For the target group that we address, structure in life is often hard to find. This product provides this structure of planning and prioritizing for this group. In other words, it is easy understandable, accessible and fast to help the user prioritize tasks as efficiently as possible while having a positive habit change as outcome as well. On top of that, the product is personal, such that every user can have its own way of working with the device.

Next to the normal day everyday tasks that it helps you prioritizing, the bigger idea behind the product is more interesting. Because of a high tempo in everyday life, the potential users can get in pain. Forgetting to live healthy, take some relaxation time and having less time for a social life, can end up in mental instability and the feeling of not being valued. This pressure can sometimes get out of hand, leading to a burn-out or a depression.

With this device, we try to overcome the simple little tasks in life that can cause a so-called "butterfly effect": When it flaps its tiny wings (the small but annoying tasks in life) it can cause a tornado overtime (the burn-out).

Design Scope and Focus

The product is aimed to be a tangible device that can be personalized by the user. The product can be paired with a mobile phone, to setup the desired scheme for the day. The aim of the product is to guide the user through his morning routine. For subtlety, the output of the product is light. Light is demanding, but also quite subtle. Using sounds for example, would work contrariwise because of its highly demanding feedback method.

The product will give light information to the user, suggesting that there is a certain activity to do in a category. This way, we try to let the user think himself about what he has to do, but also steering him into the right direction. This last statement is very important, because by organizing and spreading different kind of tasks through each other, it is much easier to fulfill tasks in a certain amount of time.

The design thesis in one sentence:
Our beautiful, financial affordable solution helps students and starters with busy, irregular days who want to keep up social life, have more mental stability and combine those with a nice job. The tangible product takes care of reducing chaos, and bringing back structure and time balance.

Value proposition:
Stated above, research shows that students and starters highly prioritize their social life and their career at the same time. It is therefore common that people in this age group (18-35) get a burn out or a depression because of all the stress they have to cope with. In this light, it is important that this group lives a more structures lifestyle. This product is offering a helping hand in structuring life, so that users can get the most out of their social life and career.
Potential clients that could be interested in this solution can be lifestyle agencies, psychologists and firms that want their employees on their best every day.

B: User Study
Questionnaire

User 1
21 years old, spending every weekday at university. Changing schedules every week and has no permanent workspace either. On Saturdays, they are working in a clothing shop, during the day. Using Philips WakeUp light, because a friend recommended it. The difference between waking up on weekdays for university and waking up early for work on Saturday is not that big, but because Saturday is the only night they can go out, they usually do. This makes them feel tired on Sundays and therefore have difficulties waking up on Mondays, which affects the rest of the week.

User 2
19 years old, spending every weekday at university. Als has a very dynamic schedule and works in a bar during the weekends. Because of this, their day/night rhythm is changing all the time. Using SleepCycle, because it was suggested in the App Store on their iPhone. It helps waking up more naturally, which can be hard when the biorhythm is disturbed all the time.

User 3
24 years old, spending four out of five working days at university, working at a firm one weekday. On days they have to go to university, they always plan to wake up early, but cannot get out of bed before around 11. This causes working until after midnight, because not all the work can be done during the day. Using Philips WakeUp light, because they saw a commercial on TV. They have always had trouble waking up well in the morning, and were a fan of snoozing. The light helps a bit.

User 4
21 years old, spending almost every weekday at university. Is not working next to their education, but is member of a student association, which consumes time and puts social pressure on them. Their schedule at university is different every week and it is hard to maintain the balance between social and professional life. Using Philips WakeUp light, because they saw it in a video from one of the YouTubers they are subscribed to. They hoped to feel more rested by using it, but it is still hard for them to get up early every morning.

Journal study
User 1 - 20 years old
Planning: taking a shower (10 minutes), dressing (5 minutes), eating breakfast + brushing teeth (15 minutes), packing bags + preparing lunch (10 minutes).
Actual morning: snoozing (15-20 minutes), taking a shower (10 minutes), brushing teeth (5 minutes), packing bags (5 minutes).

"My morning routine usually starts with snoozing a couple of times, until I really need to get up. I'll take a shower, dress and pack my bags. Sometimes, if I have time, I'll have breakfast too, but I usually buy something when I arrive at university. I would actually like to change that, because eating breakfast at uni is really expensive."

User 2 - 23 years old
Planning: taking a shower (10 minutes), dressing (5-10 minutes), doing make up (10 minutes), brushing teeth (5 minutes), eating breakfast (10 minutes), packing bags (5 minutes).
Actual morning: taking a shower (30 minutes), dressing (10 minutes) brushing teeth (5 minutes), packing bags (5 minutes).

"I can get out of bed pretty easily in the morning, so that doesn't take so much time. The first thing I do, is taking a shower. For me it's really hard to get out of the shower, so sometimes, I'll actually stay there for half an hour… It's bad, I know. If I manage to get out of the shower in less than ten minutes, I'll do my make up, eat breakfast and go. Otherwise, I need to do that at university or on the way, and that makes me feel really stressed in the morning already. I also spend quite a lot of time checking my social media while I'm having breakfast. I can lose track of time, which makes me having to hurry. It doesn't really matter how early I get up, or how much time I plan for myself in the morning, in the end I'm always in a rush."

User 3 - 19 years old
Planning: showering (10 minutes), dressing (5 minutes), eating breakfast (5-10 minutes), preparing lunch (5 minutes), cleaning up (5 minutes), packing bags (5 minutes).
Planning: snoozing (20 minutes), dressing (5 minutes), eating breakfast (5 minutes), packing bags (5 minutes).

"I always shower in the evenings, so I can save some time in the morning and stay in bed longer. It's really hard for me to get out of bed, because I go to sleep pretty late. I would like to be able to plan a bit better, because it's always the same story. If I'd wake up earlier and get everything done sooner, I would have more time to relax in the evening and would not stay up so late to do my homework. Then I could also take morning showers. After getting out of bed, I'll have a quick breakfast before I'm heading to university."

User 4 - 20 years old
Planning: eating breakfast (15-20 minutes), taking a shower (10 minutes), dressing (5 minutes), brushing teeth (2 minutes), packing bags (5 minutes).
Actual morning: snoozing (10 minutes), eating breakfast (15 minutes), dressing (5 minutes), brushing teeth (2 minutes), packing bags (5 minutes).
"I always eat breakfast first in the morning. I wake up really hungry, so that will get me out of bed in the end (I love snoozing a bit first). The problem is, because I'm putting quite some effort in my breakfast, I'll have little time to take a shower afterwards. Sometimes, when I'm really late, I'll skip that, but I also hate it to go to uni when I'm not showered. I'm usually late or I have to skip breakfast, and I don't like that either."

C: Personas

Name: Daan van Aachen
Age: 22
Status: single
Location: Utrecht
Study: Management and Organisation

Strong points: sportive, smart, social
Weak points: takes on too many tasks, forgetful, lazy, messy
Hobbies: swims, this makes him relaxed during stressful days
Works from the university library
Very busy social life, meeting new people daily

Name: Madeleine de jong
Age: 28
Status: single
Location: Breda
Works: creating a startup together with 2 friends
Works mostly from home

Strong point: very organised, smart and social
Weak points: tends to not find time to unwind, often works from home and works for hours
Can be very stressed and neglects her personal needs
Hobbies: likes to go for hikes to clear her mind
doesn't meet a lot of new people, has a steady group of friends