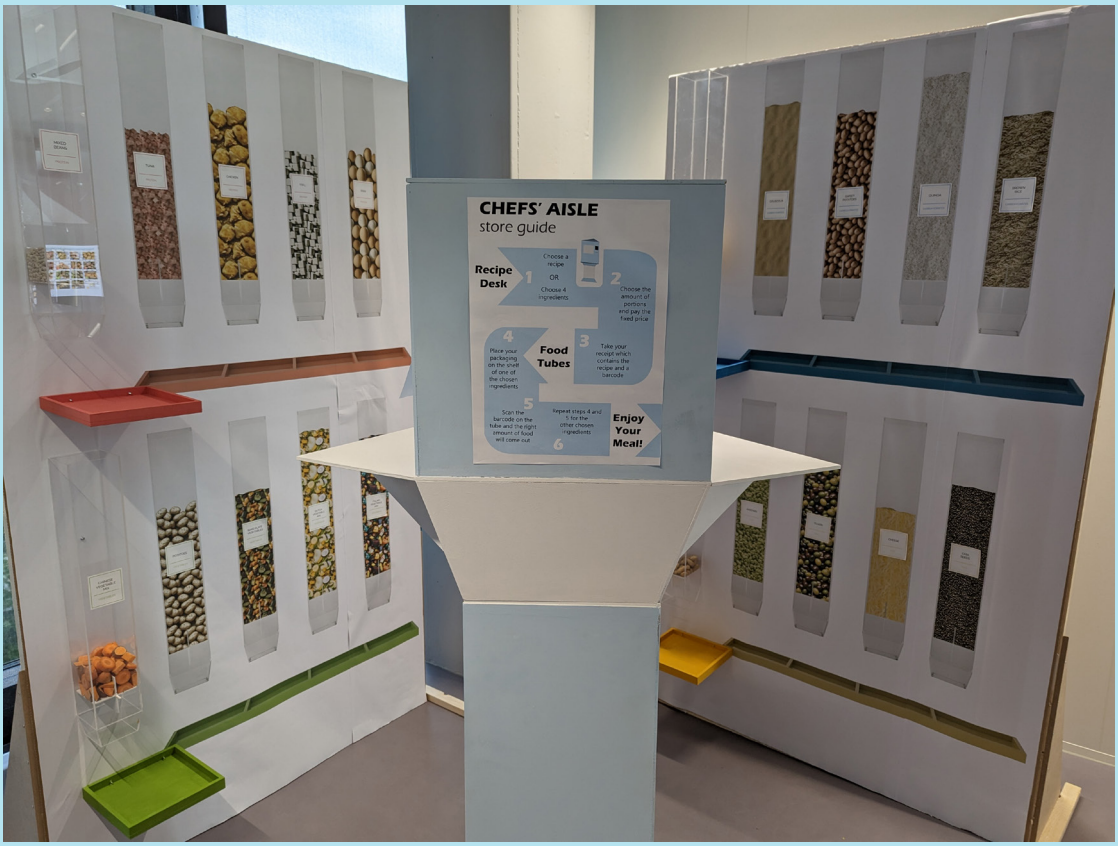
Chefs' Aisle
Project 1
2023



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CHEFS' AISLE

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Eindhoven University of Technology

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Industrial Design

DPB100 - Project 1 Design

Vitality Squad

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Summary

This report documents the creation of Chef's Aisle, a supermarket aisle design that hopes to support students struggling with budgeting, quality, expertise, time, and thus motivation when it comes to their cooking. These students are helped through a digital interface to compose a balanced meal and are given a recipe and perfect portion size.

To get to this result, a combination of the Reflective Transformative Design Process and the Double Diamond Design Process was used. The process was iterative but still fairly linear, as we spent a lot of time trying to make founded choices. This can be found in the thorough exploration and research that made up the beginning of the project, or the trade-off matrix that we used to match different ideas to selected values in order to make the best possible concept choice. Even this trade-off matrix was not sufficient, so we pitched the two best ideas to each other before making a final decision.

After the midterm Demo day, we realized the many unclarities in the design and presentation, as well as the lack of a physical experience. This latter point became our main focus later on. We started working on a proof of concept, which included both a financial calculation of our project's feasibility and user interviews to get a better idea of the needs of students. Finally, time was spent improving details and iterating on our original idea, after which we started building the Demo Day exposition: a life-sized supermarket aisle with a working recipe desk and food dispensers!

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Acknowledgements

First and foremost, we want to thank our coaches, Sander Lucas and Sven Weichert, for giving advice and assistance throughout this project. They have helped us to move forward through challenging discussions or project phases.

We would also appreciate the various workshops that were given to us to enhance our project, presentation skills and collaborative skills. Next to that, a big thanks to the vertigo workshop employees and the students at the innovation space. They have given us great advice and assistance when building our prototype.

We would also like to extend our appreciation to the students who participated in our user research.

Lastly, we also want to express our appreciation to our friends and families for their support as we worked on this project.

Figure 1 Demo Day presentation

Introduction

This report intends to provide a clear and structural documentation of the creation of the Chefs' Aisle. We describe our Project 1 design process within the Vital People squad. It will serve both as a reference for our future selves and as a documentation for assessment. Vital People, to us, means the combination of physical and non-physical wellbeing. Here it is important to note that these two forms of wellbeing are interconnected. In designing for one form of wellbeing, the effect on the other form should be carefully considered.

The project itself, Chefs' Aisle, aims to help students combine taste, speed, ease and nutritional quality in their meals. We hope to help those students that leave the university after a long day, reluctant to do groceries and cook. To make it easier for them to find what to eat, and also make sure their choice is healthy, easy to prepare, cheap, and made quickly, we designed a supermar-ket aisle with these simple goals in mind.

Customers are helped by a digital interface to select a combination of four products: one from each of the four included nutritional categories: Proteins, Carbohydrates, Greens and Fats. The digital interface helps them find a combination that will taste great, and prints out a receipt that includes a recipe of how the meal should be prepared. Because one option is chosen from each nutritional category, the meal is healthy and balanced.

Students pay a fixed price that is suitable for their budgets, namely three euros per meal. Be-cause barely any packaging is used, thinking of sustainability, customers bring their own food container, which is likely one specific to Chefs' Aisle: a container with four compartments, one for each category. By removing a number of thinking steps, we encourage cooking and healthy eating. The Chefs' Aisle, healthy meals, student style!

Project Goal

Students often struggle with budgetting, quality, expertise, time and therefore motivation when it comes to healthy eating. As an alternative, they turn to unhealthy convenience foods. We believe that a good diet is essential to perform well. We therefore hope to simplify the decisions within the eating process and provide guidance to struggling students living on their own.

We hope this will lower the threshold for students to reach for healthy, home-cooked meals at busy and stressful moments.

We started off the project by discussing our values as designers and what kind of impact we wanted to make. We agreed that a common core value of ours in the trend of vitality is that we want to encourage and motivate our users to lead a proactive lifestyle. To us, leading a vital life means doing things and being independent. In that we wanted to incorporate other values, mainly: An element of personalisation; accessible and inclusive and finally, it should be educational and encourage growth (either skills wise or personal growth) within our target audience.

The Process

When we started the project, we took most steps to follow the Reflective Transformative Design Process. However, along the way our process melded into a combination of the RTDP and the Double Diamond Model. Therefore, our process became an interwoven representation of both models, which inevitably lead to some parts receiving more attention and focus than others. For example, at the beginning of our project we didn't validate enough. The below visuals illustrate the two different models and our use of them.

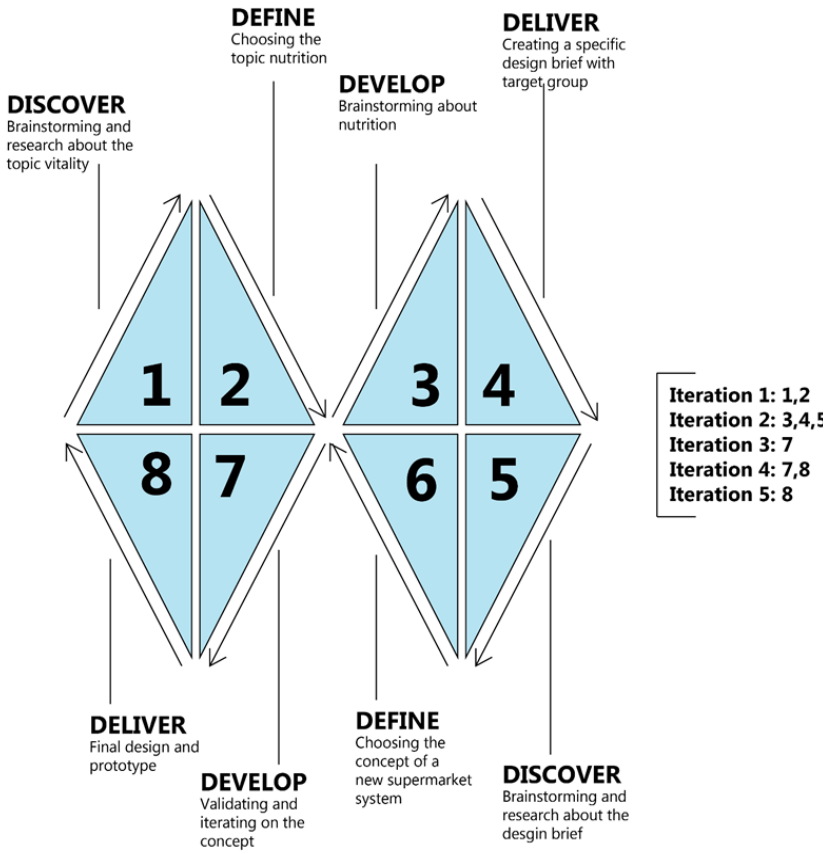


Figure 2 Visualization Double Diamond Model

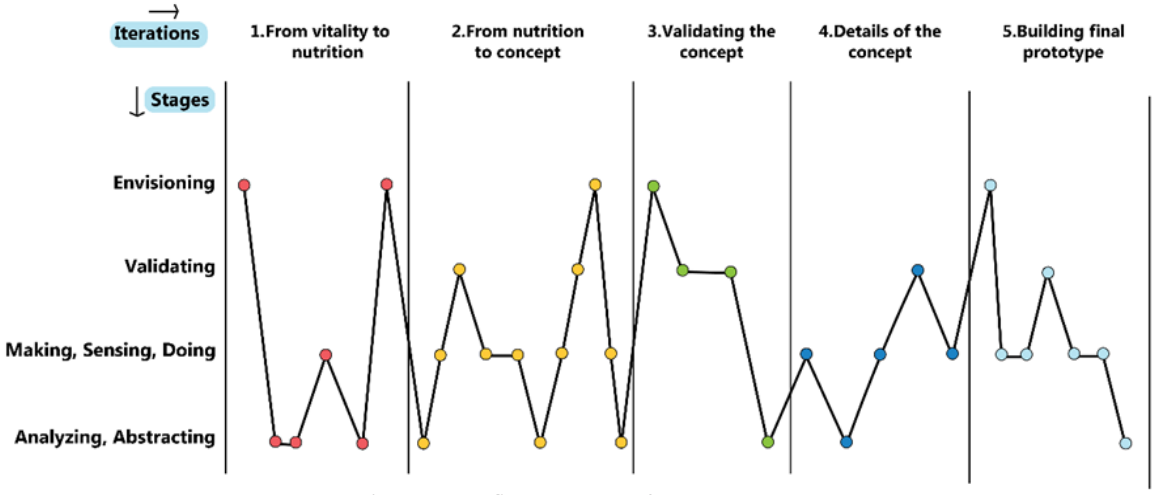


Figure 3 Visualization Reflective Transformative Design Process

Iteration 1

Defining Vitality and Finding our Way

Our iterative process started off quite lost and directionless. We were a bit surprised that we were not given a design brief at all, nor a description of what vitality entails. In order to slowly move towards a design concept, we started by spending a few weeks on exploration, ideation and research within the different topics of vitality.

The first few weeks involved a lot of exploration: Envisioning in the Reflective Transformative Design Process. We explored the different possible topics within vitality, and what projects already exist within these topics considering the Demo day website, other digital sources and our personal knowledge. To share this information efficiently, we made mindmaps to be able to form clusters of similar topics. Figure 4 displays a digitalized version (to improve readability) of a part of the first mindmap that we made after some short topic exploration. The original version can be found in appendix B . On these topics, we conducted research individually, and gave short presentations about the results. These results include that a large number of elderly people are affected by undernutrition, of which the effects can be irreversible; that targeted nutrition can reduce the risk of non-communicable diseases or personalize nutrition for muscle growth (Cesari et al., 2022; EIT Food, n.d.; Natural Products Insider, 2017). In addition, we found that less wealthy people are at a higher risk of becoming obese (Miller & Knudson, 2014). On the topic of technology we found upcoming health tracking technology that will be able to predict and prevent heart failure or detect cancer, but also that health tracking technology is often disposed of by people due to their appearance (Clawson et al., 2016; Liao et al., 2019).

Not all group members interpreted this research the same way, as some used only scientific sources, while others considered it to be more of a deeper and better-documented digital exploration. Both options turned out to be fine for the use case. While doing this research and giving presenta¬¬tions to each other has been beneficial in finding possibilities and coming up with more ideas, we did not use much of this research in the development of the final product. Doing this could have helped us make more founded choices.

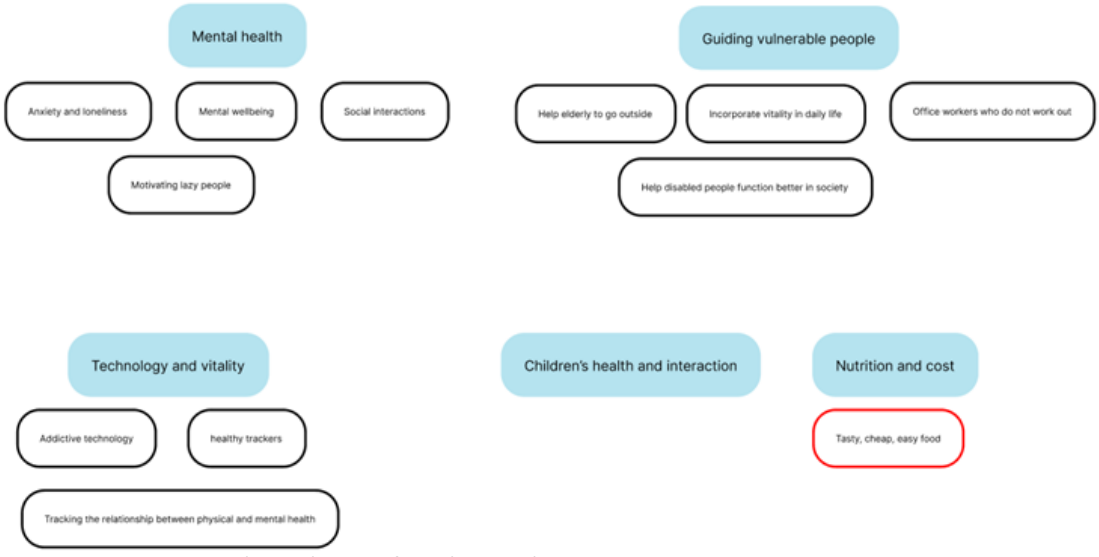


Figure 4: Digitized mindmap of vitality exploration

Until now, we only engaged in envisioning and analyzing in the RTDP, which we started to visualize weekly later on in the project. While we decided to do some design thinking and ideation during research and exploration, this ideation was not very extensive, which was likely due to poor planning and slight lack of motivation. It can be concluded that our motivation spiked in the times shortly after having made concrete decisions, and at this time we were still thinking very broadly and vaguely. We realized we really needed to move a bit faster, start ideating, some prototyping and especially define a direction. To do the latter, all of us ideated within five selected topics within vitality. Mind maps of this ideation can be found in appendix B. We made a list (see figure 5) of the best ideas within these topics, and chose the topic we thought had the most potential. This choice was mainly based on preference, as we considered all options to be good choices and our personal goals did not steer us in any direction either. Ideating within those topics helped us really consider all options, leading us to the topic of nutrition and cost.

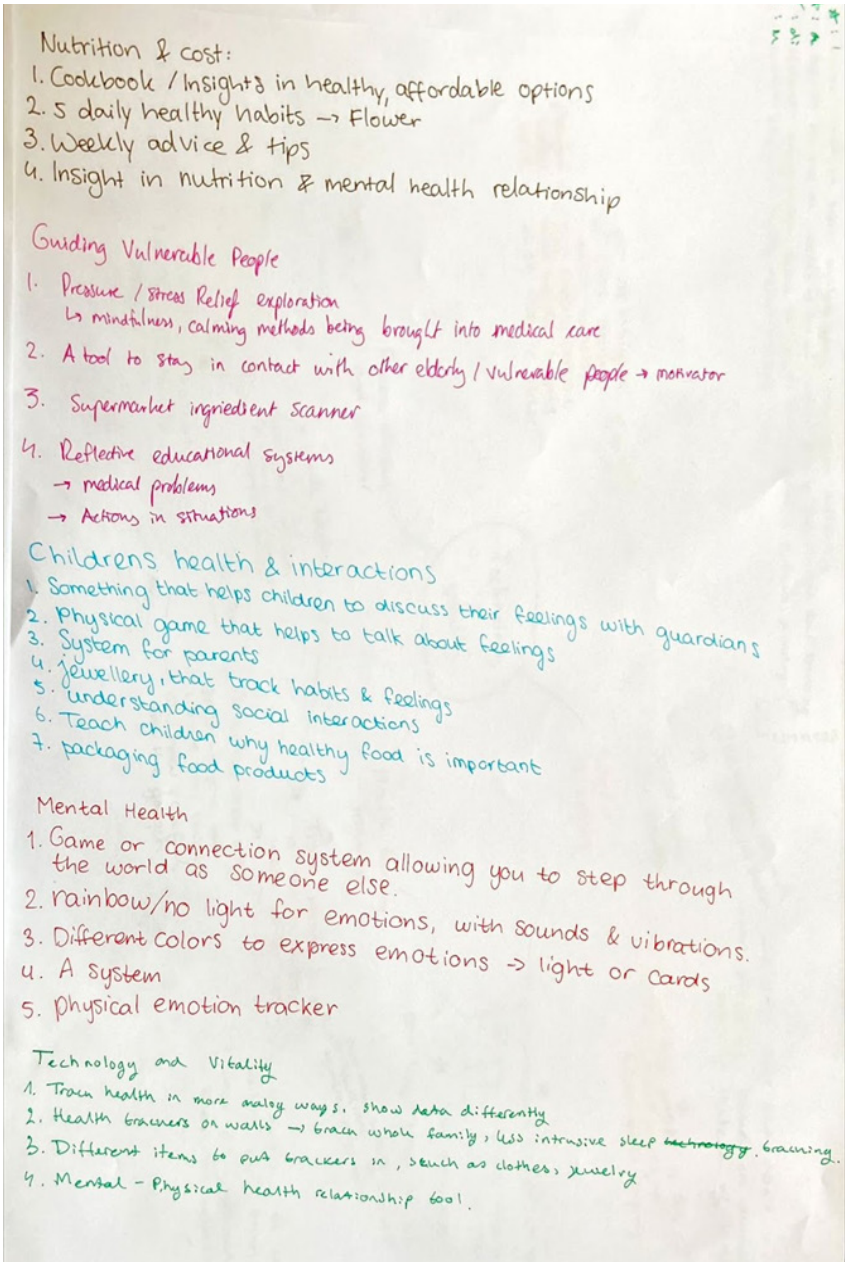


Figure 5 List of best ideas within chosen topics.

A bit earlier than required we wrote our one page proposal based on this chosen topic (see figure 6). In the proposal we defined the topic, explained why it is important to us and to others, described what already exists and what we could possibly add. While we later realized that it would have been better if we had also defined values that we want our ideas to abide by, writing the one page proposal made sure that all of us had the same concept in mind and understood what we could and could not do within the concept. It would have been wise to do some user research right after defining the concept, as that would have given us a better idea of the problem.

nutrition

By Jort Wiersma, Heidi Berkers, Naomi Nohar, Renske Spreeuwenberg, Suus van Gogh

What is the problem?

Young adults often reach a turning point regarding their eating habits when they first move out and reach a new level of independence. Struck with a world full of capability, yet often limited by financial capacity, many young adults tend to make poor decisions and eating choices.

- Higher stress levels due to increased workload
- Higher alcohol consumption
- Altered sleep patterns
- A change in interpersonal relationships (more or less contact)

(CHILDERS, HALEY, & JAHNS, 2011)

The transition is intense and these struggles in combination with a lower budget and a possible lack of knowledge often drive young adults towards 'easy' and 'convenient' solutions. These are often known for being unhealthy (Freeman, 2007). Many of us are currently in this phase of our lives, and have either first or second hand experience with this issue. We want to create a solution making healthy eating more available and easier for those who struggle with it. We want to support them by creating a personalised system that assists them in making: health conscious and financially strategic decisions whilst also being able to enjoy good nutrition.

An example

Loewi is an example of targeted nutrition which gives advice based on blood and lifestyle diagnoses. The advice takes the user's allergies, illnesses, medications and goals into account. It creates a dietary plan, which can eventually reduce medication and health issues (EIT Food, 2021).

It is important that such a product has low costs so that it is available for everyone.

There are also already a lot of apps regarding nutrition on the market, for example 'Fit men cook' (Hunt, 2017). Such an app could be combined with a physical product such as Loewi to track your progress/calories and to get recipes that match your personal advice and budget.

What can we add?

Current innovations in the targeted nutrition field are very technical: they use AI and data technology to improve personalisation options. Often, these innovations are digital. In addition, current systems seem to focus on finding the very most healthy options, meaning cost, ease and taste may be considered less important (EIT Food, 2021). Such systems are not realistic to use in the daily lives of most people, as people are often low in time, money or energy. It seems that there are opportunities to use existing systems or create new ones that focus on these alternative points - ease, taste and cost - as well. Also, digital solutions are not always the best option: physical components or completely physical options could improve current systems. Finally, recent innovations seem, just like many other personal health innovations, to focus on select groups, while minority groups would benefit much more from said options. On this as well, improvements could be made (We et al, 2016).

Connection to vitality

Vitality: "A term used to describe a person's ability to live, grow, and develop. Vitality also refers to having energy and being vigorous and active. Being ill or being treated for a disease, such as cancer, may lessen a person's vitality." (NCI Dictionary of Cancer Terms, n.d.). Nutrition is an important part of this. With healthy food you have more energy and therefore you are vigorous and active. You will have more ability to grow and develop and in the end, you will have a better life.

Important for others

Nutrition is very important for a healthy and vital life. However, proper nutrition is not possible for a lot of people, especially those with financial difficulties, due to accessibility and affordability. Diet-related diseases and conditions are increasing, such as high blood pressure, obesity and type II diabetes. Next to that, the aging of the body and its biological processes is strongly influenced by nutrition. Undernutrition is a recognized risk factor for the capacity loss of elderly people. Therefore finding solutions in this area will help a lot of people.

Figure 6 Chosen topics proposal

The main team takeaways of the process towards a chosen topic are found in speed. Since we realize our motivation is a lot higher when we have made some decisions and can really work on something, we need to move faster in the beginning of the process. While it is important to do research, it cost us too much time in the early stages of the process. One effective session in which we would work hard in exploration, research and ideation could have increased our motivation as well as the project's pace. On the other hand, our way of working did make sure we made very founded choices, which had the result that we did not need to take a lot of steps back in the process.

Iteration 2

Ideation Within Nutrition and Cost

We started off with having an ideation session with the team about nutrition, costs, ease and taste. We all took pen and paper and started sketching everything that came to mind regarding the topic. We discussed the results, simultaneously complementing and criticizing each other's ideas. Afterwards, we all chose one of the sketches and made low-fidelity prototypes of them, see figure 7 and appendix C.1. This resulted in the interactive cookbook, which helps and encourages to cook and to find healthy recipes.

- A targeted nutrition home system which gives recipe advice based on the collected data from wearables.
- A supermarket system that makes the shopping experience easier and helps in finding healthy recipes.
- A fridge interface system that knows what is inside your fridge and tries to tempt you to cook your own meals.

Figure 7 Low fidelity prototyping session

To get more insights, we all did research about topics within nutrition. We found that the biggest problems within nutrition are either overeating, undereating, too high fat/salt/sugar levels or eating not enough of the necessary healthy nutrients (SA Health, n.d.). These are serious problems since they affect both mental and physical health (Leyse-Wallace, 2013).

Also, research about targeted nutrition was done. A study conducted by Zeevi et al. (2015) uses the fact that what seems to be a healthy and balanced diet can still have negative effects on certain people as everyone has different microbiomes. However, collecting personal data regarding targeted nutrition via e.g. smart watches still requires a lot of research to become reality (Tang & Hu, 2018). Livingstone et al. (2020) conducted a study in which was found that the benefit from targeted nutrition was greater in older participants, women and participants with a lower diet quality at baseline.

Defining a Design Brief

After discovering many different topics within nutrition, we had to narrow it down by defining a more precise design brief. We started with defining a target group. We did research on different target groups and nutrition and compared this to our own interests. We chose the target group 'Students', since we found multiple problems regarding nutrition that were relatable to us.

First of all we found that students who have recently started living on their own struggle with mak-ing responsible decisions regarding nutrition. Faced with endless opportunities and a massive va-riety for the first time, many students make mindless eating choices (Centers for Disease Control and Prevention, 2012).

Secondly, students in university spend most of their time with their peers. Many meals are spent together as well. This creates an atmosphere of social eating. Food and beverage consumptions with peers were often found as influences into unhealthy behavior. Mainly because students allow their choices to be influenced by those of their peers (Childers, Haley, Jahns, 2011).

Other negative factors on the eating habits of students are having a low budget, adopting bad family eating habits and easily reaching for convenience food (Gault et al., 2014; Hanks et al., n.d.; Pollan, 2006).

After defining a target group we created 3 personas (Appendix C.3) and scenarios (Appendix C.4) which matched with our research. This helped to bring the findings from different studies together and to have more specific problems to find solutions for in upcoming ideation sessions.

After doing the research we set core values for our final design. These values are: cheap, remov-ing thinking steps or stress, encouraging to cook, fits student lifestyle, educates on nutrition, ac-cessible, personalized and time-efficient.

Based on these values, the personas and the scenarios we started brainstorming again, see ap-pendix C.2. This brainstorming resulted among other things in a smart meal calendar which can be used as both a normal agenda and a meal agenda, see figure 9. Also it is connected to your fridge, so it knows what you have and when it will expire. Also the supermarket system was fur-ther elaborated. It is a fast shopping experience in which you create a healthy meal by picking one item from each food category, see figure 8.

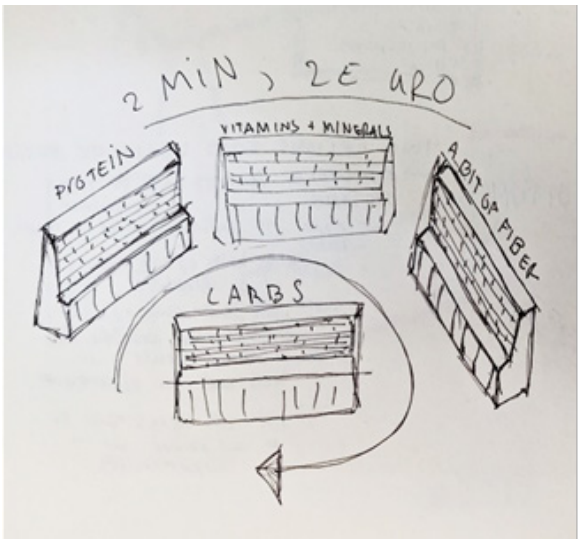


Figure 8 Supermarket system

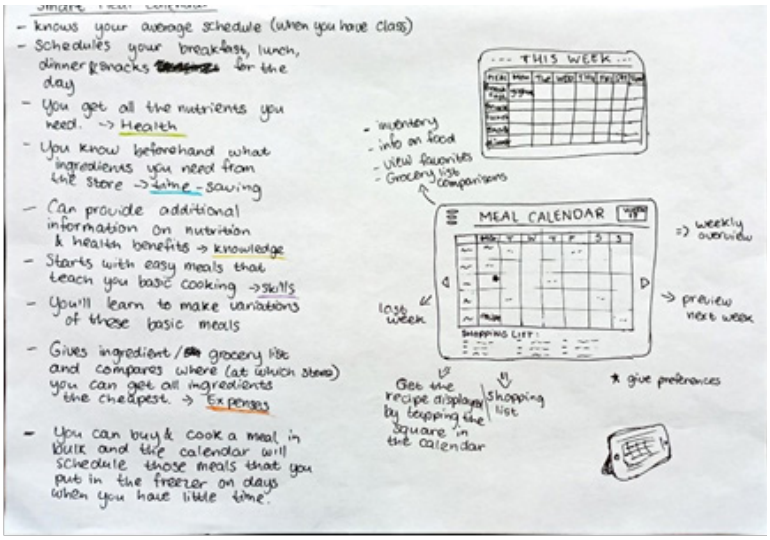


Figure 9 Smart meal calendar

Choosing a Concept

After new brainstorming sessions, we were left with an abundance of ideas. However, decisions needed to be made. We made a Trade-Off Matrix of the 6 concepts we were most enthusiastic about, see table 1. In this matrix the concepts are on the y-axis and our core values are on the x-axis. We ranked each idea individually based upon how well it suits our values from 1 (least) to 5 (most). In the end we took the sum per concept of all values. This way we found that the super-market system fitted our values the best.

Table 1 Trade-Off Matrix

ideas	values: total points	Business can offer product cheaply	Removes thinking steps or stress	Encouraged to cook	Fits student lifestyle	Educates on nutritic	Accessible	Personalized in some way	Time efficient
Smart meal calender: - schedules your eating times - knows schedule - knows fridge contents	24								
University kitchen centre - incl. shop - nutritionist present	24								
Cooking buddy - uses your health tracker - helps preparing + cooking - challenges you	24/25								
Supermarket system - fixed price - offers recipe instructions - on campus	27								
At home pokebowl system - refilled by company - quick, healthy, tasty - ingredients that stay fresh	21								
Interactive cookbook - physical book - personalized digital aspects - netflix-style	26								

1
2
3
4
5

The three ideas that fit our values the best were the cooking buddy, interactive cookbook and supermarket system. The cooking buddy got the lowest amount of points from these three so this one was less likely to be chosen. Also, as mentioned before, research showed that targeted nutrition has less impact on our chosen target group (Livingstone et al., 2020). This left us with the options interactive cookbook and supermarket system. Since the opinions about these options were divided within the group, we decided to pitch the ideas to each other. This led to a mutual decision of continuing with the supermarket system.

Iteration 3

Validating the Concept

The first time we got feedback on our concept was during the Midterm Demo day. Most feedback was related to the problem that a large portion of our concept was still very unclear. We had not worked out the details to a good enough extent yet and we all had differing ideas regarding the concept. Furthermore, our prototype failed to clarify the concept, because it did not explain the experience of our service, see Figure 10. We had not validated any of our ideas with potential users, so we were unsure if our concept was good for practice and we did not validate other aspects of our concept yet, like the feasibility of the price. Other feedback was that we should try to focus on one part of our concept because a whole supermarket would be too much to realise in detail.

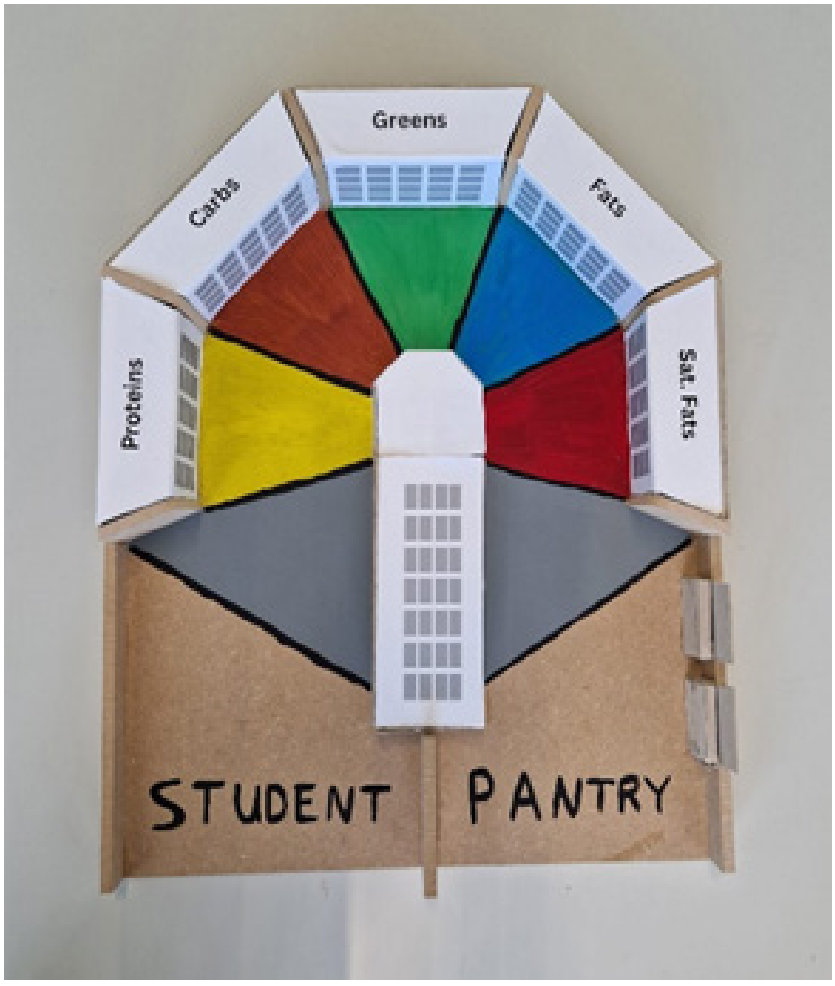


Figure 10. Prototype for the Midterm Demo Day

User Research

After receiving feedback on the concept, it was time to start validating this concept with the users.

Each team member conducted two or three semi-structured interviews with potential users, who are students living on their own. We started by asking consent through (See Appendix D.1), some general questions about their current situation and their process of making dinner. Lastly, we described our user experience and concept and asked for feedback and suggestions. See Appendix D.1 for the interview questions. We transcribed the interviews and discussed useful feedback and criticism. Key takeaways from the interviews were that while some students did do groceries for a few days ahead, most students only bought dinner groceries for that same day. Besides, it became clear that most students try to make home-cooked meals, but that this becomes difficult in busy and stressful moments. Also, most students found prices between €3 and €5 reasonable for a meal for one person. In general, the feedback on our concept was very encouraging.

Financial Feasibility

We wanted to validate the financial feasibility, so multiple methods were used. A Python database was created with several products from each food category. For each item the price was calculated for one portion based on Albert Heijn prices, thus including costs other than food costs, such as costs related to staff or fixed assets. Then meals were created by making combinations of one item from each category. With this method, we could see the price estimations and nutritional contents of all product combinations, see Appendix D.2. The average meal price was a little over €2,70. Based on this calculation and the answers given in the interviews, we opted for €3 per meal in our concept. We also filled out the value proposition canvas (see figure 11) and business model canvas (see figure 12).

Our goal is to place these Chefs' Aisles at the entrance of on-campus supermarkets. This way we can make the experience more convenient and quick, students won't have to cross through the whole supermarket and be distracted by all of the different stimuli. Understandably, campus supermarkets will likely not agree with our intentions considering that we would be in direct competition with them. Our business model is to sell our concept and the necessary setup to these supermarkets. For a set price we will sell them our built recipe desk, tubing system, rights to using our interface and will educate workers on how to best operate our system. Furthermore, we will provide them with access to administrative functions of the interface so that they can change the ingredients offered and sold. We will also sell service contracts, ensuring that our systems keep functioning at peak performance.

Considering this from a startup system, we plan to sell our system for a cheaper price and take a portion of the profit made by the supermarkets through our system. We want to have a 15% share in the profits made by the on-campus supermarkets. By selling our system all-inclusive of the features mentioned above (hardware, software, service contract, etc.) for a reasonable price and asking for a certain stake we exhibit confidence in our system and lower the threshold for companies to invest in their very own Chefs' Aisle.

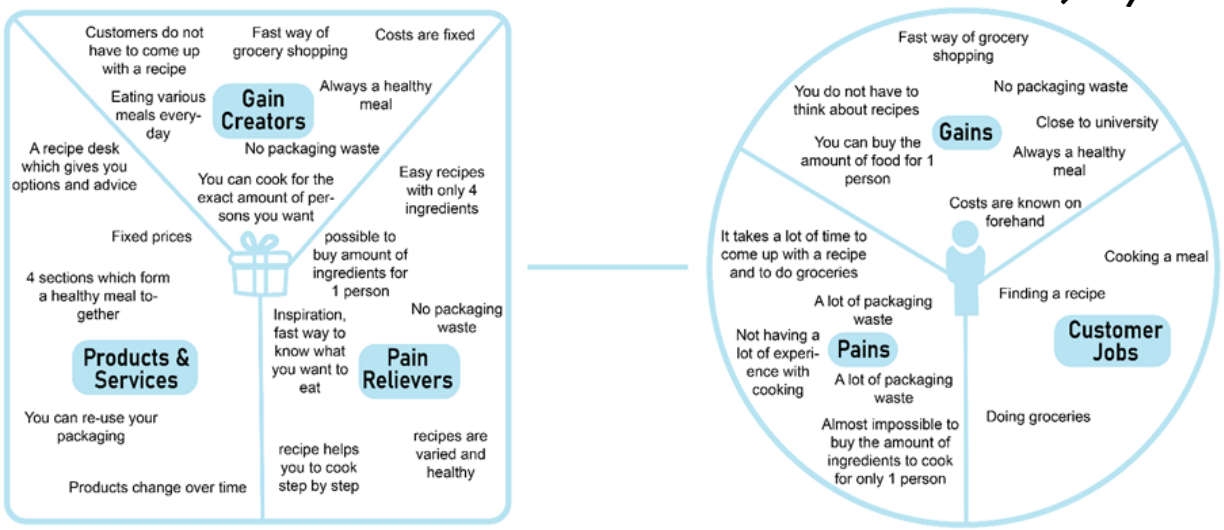


Figure 11 Value proposition canvas

These figures were created in mind of the business perspectives of the on-campus supermarkets, rather than our business model as creators (because these differ). We found it more interesting to analyse how possible investors would profit because this knowledge is neccesary when pitching or selling our concept to them.

Figure 12 Business model canvas

Iteration 4

In-depth Exploration of the Concept

Our concept was still relatively superficial, so we continued iterating to make it more detailed. We mainly focused on the shelves, the food packaging, the recipe desk and the store layout, combining them all to create a full on experienceable journey.

Shelving

The way we organized the shelves drastically changed. We started with one shelf for each food category, thus 5 shelfs in total. Thereafter, around 5 different items on each shelf and of each item 4 different portion sizes, as demonstrated in Figure 13. We eventually settled on the design with two 'shelves' where each shelf is for two food categories and has 10 tubes, 5 for each category, as demonstrated in Figure 14. The tubes would automatically dispense the right amount of food into the packaging, which takes way less space. This way no food has to be prepackaged which makes it sustainable. We also went from having 5 food categories to only having 4 food categories. The reason for this is because as study showed that 'The Healthy Eating Plate' is a good guide for healthy and balanced meals (Healthy Eating Plate, 2023). The categories from the Healthy Eating Plate are vegetables and fruits, whole grains, healthy protein and healthy oils. We also decided to leave out the shelf of basic ingredients since this supermarket aisle would be placed in an existing on-campus supermarket, because basics like oil or spices would be easily available.

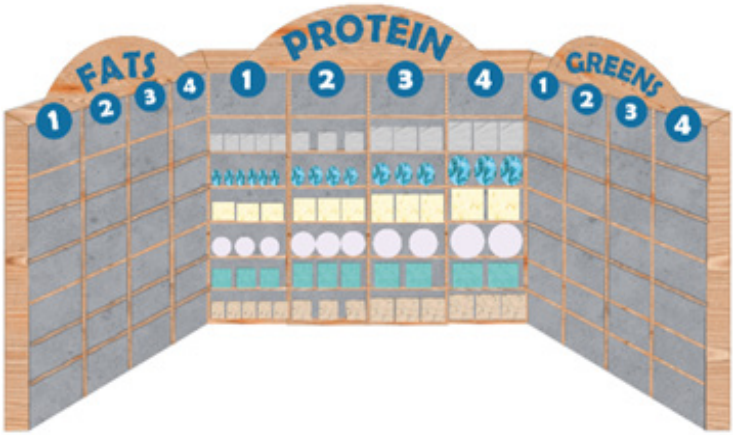


Figure 13. Illustration in which there are 5 different items on the protein shelf and for each item a different portion size (1-4)

Figure 14. Illustration of two walls with 5 tubes for each food group (in visual only 4 are shown)

Packaging

We tried to maximize the sustainability of the packaging, so we looked for ways to make reusable packaging that would occupy little space in a student's backpack. Therefore, we decided to create foldable containers, which can expand if the student has to buy dinner for more people. We researched already existing foldable containers and their materials, see Appendix D.3.1 and D.3.3. We also looked into other mechanisms which could attach containers together, see Appendix D.3.2. Some iterations, sketches and paper-prototypes were made to find the optimal solution, see Appendix D.4. Initially, we decided on a system where separate foldable containers could be attached to create different sizes, see Figure 15. This way the size is customizable and all folded parts can be packed easily. However, we realized that these containers are not that easy to use, since it has many loose parts that can easily be lost. For example, the attachable straps and the pieces that are used to attach two containers on top of each other.

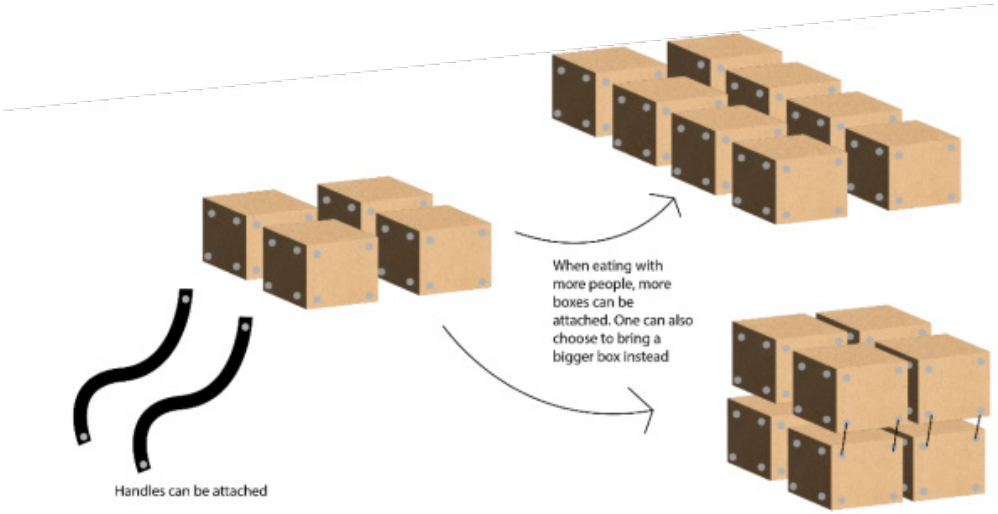


Figure 15. Small, attachable and foldable containers with straps for carrying

This way of attaching containers is also not very sturdy, especially with food in it. We took a step back, to look into different options. We decided on a collapsible container with four compartments, one for each food category, see Figure 16. When folded, the box would fit portions for one person and when unfolded, it fits portions for up to four people. This design solved the issues we had with the previous design. However, this design is less customizable in size, but since it is still expandable to fit food for several people, this was the best option.

The containers can be borrowed from the supermarket for a small deposit. This way students do not have to buy such containers first before they are able to use this system. This will make the supermarket aisle more accessible to students and this was also one of our values

Figure 16. 3D model of foldable container.

Branding

We have had multiple names for our project. At the Midterm Demo Day the name was 'Student Pantry'. This name was chosen since our target group is students and the store was compact which makes it feel almost like a pantry. However, later on this name did not fit anymore because the concept changed quite a bit in how it functioned and in appearance. To choose a new name we looked at our values and goal. Our goal was to make grocery shopping and cooking easier, healthier, faster and cheaper for students. We created an acronym from these values: 'chefs'. Since the supermarket system became only one path, we chose to add 'lane', which was later replaced by 'aisle'.

For our logo, we wanted to emphasize the target group and how fast and efficient this supermarket is for students. Therefore we chose a design for our logo of a running stick figure with a backpack to illustrate a student. See Figure 17.

For choosing our color scheme, we wanted to choose one color for each of the four food groups. We wanted to choose basic colors: red, yellow, green and blue. However, these colors together can come across as childish, so we chose some more muted versions of these colors as shown in Figure 18. For the other parts of the supermarket, we wanted to choose a main color: light blue.

Figure 17. Logo of Chefs' Aisle

Light blue is associated with trustworthiness and reliability (MSEd, 2022), which fits well with our supermarket system since the prices for one meal are fixed and thus reliable. It also fits with our values 'easy' and 'fast', because blue is also associated with productivity (MSEd, 2022).

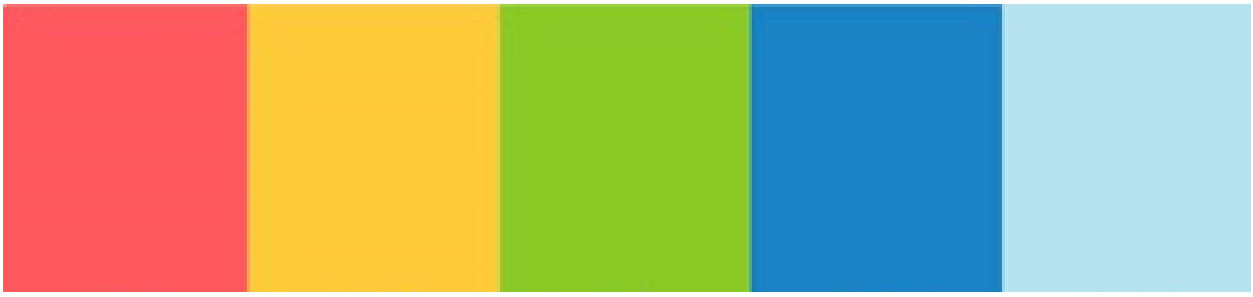


Figure 18. Color scheme

Iteration 5

Constructing the Prototype

Once a validated concept emerged, the building of the prototype could start. The final iterations and detail work of the exact prototype were made during the building process through brainstorming, trial and error, and sometimes completely starting over. The prototype was built in a few parts, namely the recipe desk, the tubes, the walls, the container and the digital interface.

The Recipe Desk

The recipe desk is the centerpiece of the Chefs' Aisle. The recipe desk has had a few different iterations during the prototyping.

First, we made a simple prototype of the recipe desk with the coin system. Some iterations of the appearance of this prototype were inspired by self-checkout desks that already exist, however we included some tubes or insert slots for the coins, see Figure 20. The iterations of the built prototype can be observed in Figure 19.

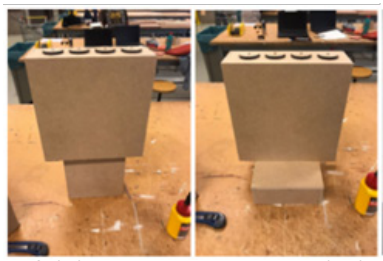


Figure 19. Low-fidelity prototype recipe desk

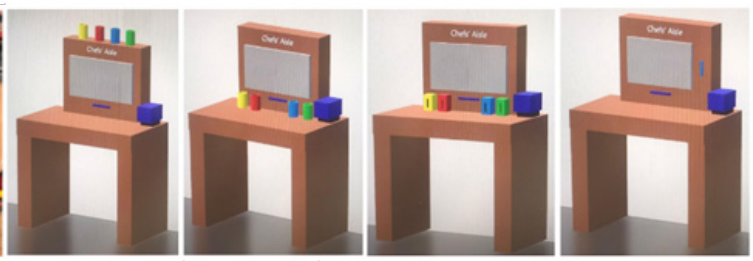


Figure 20. Exploration with coin system

However, as described in iteration 4, the design for the final recipe desk changed quite a bit. The new design was more of a triangular shaped pole with 2 interfaces and checkout systems. This design fits exactly in the corner of the shelves which both systems are also close to. Some decisions of the final prototype were made for extra stability of the pole. For example, flat horizontal sheets of MDF were added in between the four parts of the pole, so that the parts had more surface to attach to each other. To make the pole less static, we decided to make the bottom half of the pole thinner. However, the foot of the pole was a bit wider again for stability. See Figure 21.
We chose to make the screen of the recipe desk at a height of 1,55 m. We decided on this height so that people do not have to lift their arm up too high. This might not be perfect for every height, but we based this decision on the average height of Dutch people. It probably would have been best if we researched this.

Figure 21 . Final result recipe desk

Tubes

The tubes are the shelves of Chefs' Aisle, which are made of plexiglass. This is chosen to ensure the visibility of the food in the tubes and so that they are easy to clean.

For the tubes, a turning system was created to ensure the right portions come out. Unfortunately, the turning parts were not strong enough and the sticks broke off. Therefore, we decided to make grooves in the wood, so that the stick had more surface area to be supported (Figure 22). In addition, it was difficult to determine the right sizes. Because of this, the turning parts were too wide in the first instance. As a result, they could not turn in the tubes and therefore we made them smaller.

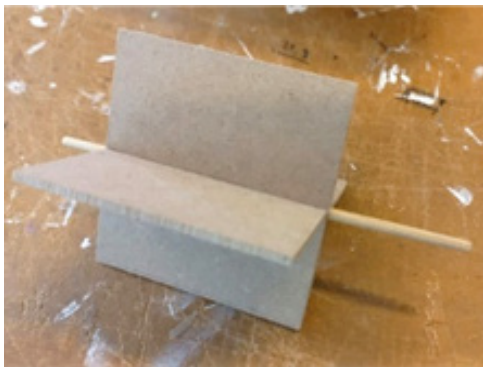


Figure 22 . Turning part tubes

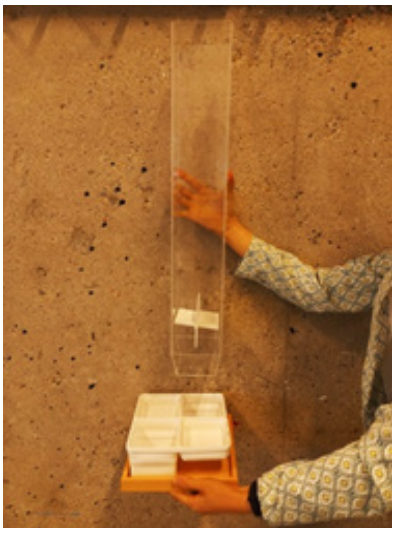


Figure 23 . Tube with yellow wooden tray

The turning parts are painted white, to make them look clean. It makes the tubes fit better to the whole system. The wooden trays under the tubes are painted in the colors that were chosen for each food group (Figure 23 for one of the four colors).

We also thought of dealing with fluid or fragile ingredients, such as milk or eggs. We came up with a pump for fluid and a sort of conveyer belt for fragile ingredients. There was decided to only make images instead of making it in real life because of the given timeframe (Figure 24).

Fluid Dispenser

Fragile / Large food Dispenser

Figure 24 . Tube with yellow wooden tray

Walls

To make the experience complete, we decided to build walls so that it became an actual aisle. The previously made tubes would be attached to the walls, as well as the trays.

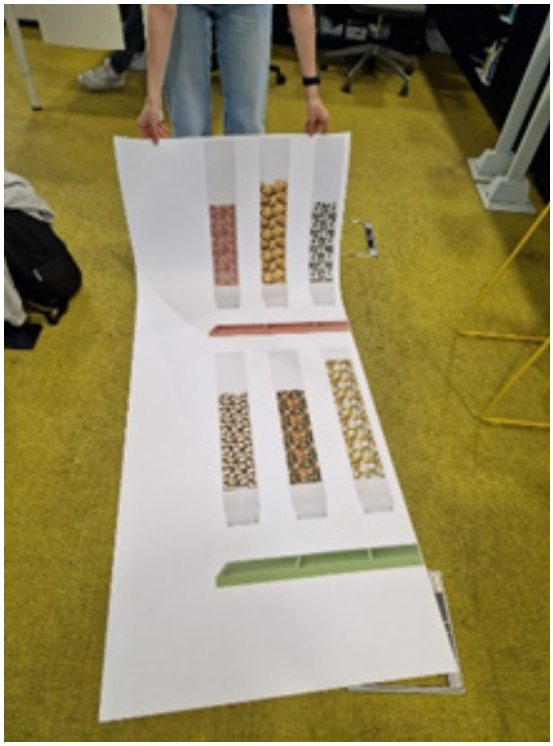


Figure 25 . Printed tubes

Given the timeframe, we decided to only make 4 tubes instead of a tube for every item on the wall. We still wanted to give a good impression of what the whole experience would be like, so we did one real tube for each food category. To paint the whole picture of the aisle, the other tubes were 3D modelled and printed on a large poster, see Figure 25. The 3D models were made using Solidworks and an AI image generator for the food items to make the images seamless, so that they can be used as a pattern (Mostaque, 2023).

For the actual walls multiple options were considered. Initially we thought we would attach all tubes, trays and posters to a large wooden plank with two triangles on each side for support. However, so much wood would become very heavy. Therefore, we came with a solution to only use a wooden frame for the necessary parts.

The final walls were made using a wooden frame to which the tubes and trays could easily be attached. A large cardboard poster board was used to cover the frame and this was used to stick the large tube posters to. On both sides of the frame a wooden support was added to keep the walls from falling over. For extra support triangles of wood were added between this wooden support and the frame. See Figure 26.

Figure 26 . Printed tubes

Container

The container is the connecting piece between the recipe desk and the tubes. The container is used to catch the food when it is dispensed from the tubes.

Because the containers are foldable, the material also needs to be able to fold. The best option that we had therefore was to 3D print the container using a flexible material. Thus we started with 3D modelling. However, the 3D model is quite complicated and that is why we bought a similar model and altered it to fit our needs. The container was modified is such a way that there were four compartments and one large lid, see figure 27. The container was also made deeper so that more food would be able to fit in for four people. To customize the container more, to logo was added on the lid.

The idea was to make the logo a cutout, but this was difficult, therefore the logo protrudes from the lid. When we went to print the container, we were told that because the logo sticks out, the rest of the lid would not be as smooth. So we decided to try to make the logo a cutout again and this time we succeeded. Another issue with 3D printing was that the parts where the lid needs to fold are very thin and this could break easily. However, we did not really have any other option and decided to go ahead with the 3D printing. We did think of other ways to solve the container, which was to make a mold and to pour silicones in. But this would take so much time to redesign the 3D model for a mold and to actually make the mold that we did not decide to go through with this.

The color options were limited for 3D printing so we chose to make them white, see figure 28. This also look clean and fits with some other parts of the prototype, such as parts of the recipe desk. The logo on the lid will also help with advertisement of our supermarket system.

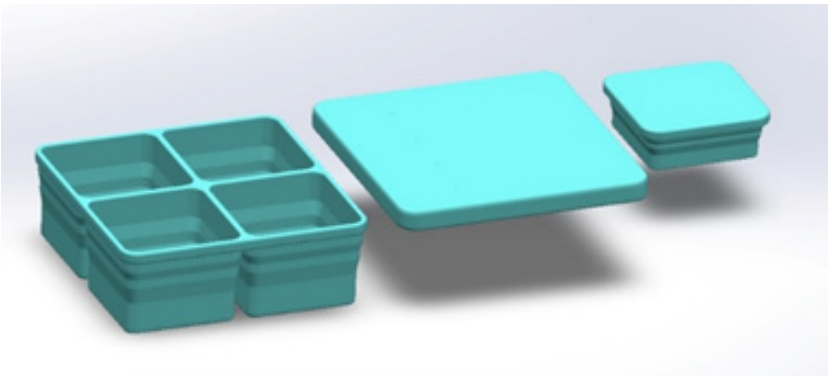


Figure 27 . 3D model of foldable container with, on the left the original 3D model

Figure 28 . The 3D printed foldable container with lid, without lid and fully collapsed without lid.

Digital Interface

The digital interface is displayed on the two iPads in the recipe desk as a menu for the recipes.

First, the idea was to incorporate NFC compatibility to connect the interface with NFC coins that resembled different ingredients at the time. This would require complicated software and hard-ware, but it could be doable with a phone as a NFC reader that would send information to a web-site, which was in turn connected to a database. The system would be functional as a HTML, CSS, and JavaScript website. This turned out to be too difficult to achieve in the given timeframe, and would not significantly add to the final design.

In the first design, the background was blue and the colors did not match with the brand. Further-more, the full border of the ingredient picture was colored with the color of the food group it be-longs to. However, it looked a bit overwhelming and the user had more problems with knowing what to do (Figure 29).

Figure 29 . First design digital interface

It was decided to create the digital interface on a laptop in Figma. Unfortunately, the computer turned out to be too slow to run the Figma interface. It had to be recreated to work on an iPad. First, there was a version included that only showed suggestions. After this, the usability of the interface was improved by fully redesigning the system so the user would be able to see all ingredient options.

In the final design, it looked more clean and coherent with the rest of the prototype. The system helped the user a bit with what to do. When the user clicks on some ingredient, some other ingredients are marked purple to show that this ingredient fits well with the other. Moreover, in this version of the interface the right colors were used and there was a button to click on ideas for a recipe before choosing an ingredient. This allows the user to choose between making their own recipe or choosing one from the system (Figure 30) (Appendix F.1).

Figure 30 . Final result digital interface

Final Results

We designed a journey, an experience for students to guide them with their shopping, cooking and eating. The Chefs' Aisle is a system in on-campus supermarkets designed to encourage healthy home-cooked meals and discourage unhealthy convenience foods.

Our experience starts off with students entering the supermarket. They will need to either have their own containers with them or can borrow a specially designed Chefs' Aisle container for a small deposit.

Figure 31. Foldable container

They walk up to our recipe desk and define for how many portions they want to cook. Then they choose the ingredients they would like to incorporate in their meal tonight.
In our interface the ingredients are separated into four nutritional groups: protein, unsaturated fats, vegetables and carbohydrates. We have five different ingredient options for each food group that they can choose from (ex. Protein: tuna, eggs, chicken, tofu and beans), changing throughout the weeks depending on the local and seasonal produce at that moment.

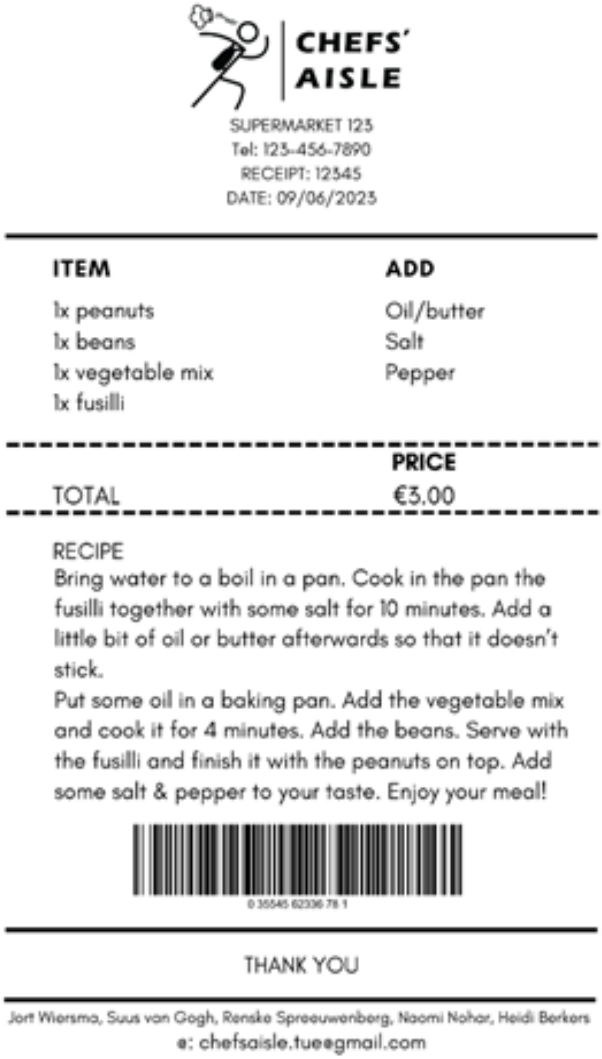
Figure 32. Demoday setup

Figure 33. Interface recipe desk

On a screen, they select one ingredient from each food group (ex. Protein: tuna, carbs: pasta, veg: bell peppers, fats: parmesan cheese). Whilst making their selection our system advises ingredients that fit well together, so when they start by selecting their first ingredient ingredients from other sections that combine well with it light up pink. Of course, you can still choose combinations outside of our advised options. Once they have chosen their ingredients our system will recommend possible recipe options. They can also use our system in reverse, choosing a recipe first and purchasing the ingredients based on that.

When you are happy with your decision you proceed to checkout and pay using your card. A receipt comes out, detailing the ingredients you have purchased; the full recipe you selected; items you may need from home (basics like oil, spices etc.) and a barcode that you can use at our tubes. Students take out their containers and take their receipt towards the tubes that contain the ingredients they paid for. They place their containers under the tubes, scan their barcode and out comes the portion they paid for. They repeat this for the four food groups, pack up their containers and recipe/receipt and they are done. In the span of a couple minutes they have figured out what they are going to eat, how they are going to make it and purchased the ingredients. All for a standard price of three euros, in a sustainable re-usable container, and in accurately measured out food portions to decrease food wastage.

We chose to design a system instead of a product with the needs and lifestyle of our target market in mind. Students lead very dynamic and spontaneous lives, so we designed our system to require a low commitment from our customers. An example of this can be seen in the use of recipes on receipts instead of an app for example. This can also be seen in the deposit borrowing system of our containers, they don't have to purchase anything new. It is easy accessible because it is placed within on-campus shops.


CHEFS' AISLE

SUPERMARKET 123
Tel: 123-456-7890
RECEIPT: 12345
DATE: 09/06/2023

ITEM	ADD
1x peanuts	Oil/butter
1x beans	Salt
1x vegetable mix	Pepper
1x fusilli	

	PRICE
TOTAL	€3.00

RECIPE
Bring water to a boil in a pan. Cook in the pan the fusilli together with some salt for 10 minutes. Add a little bit of oil or butter afterwards so that it doesn't stick.
Put some oil in a baking pan. Add the vegetable mix and cook it for 4 minutes. Add the beans. Serve with the fusilli and finish it with the peanuts on top. Add some salt & pepper to your taste. Enjoy your meal!

THANK YOU

Jort Wiersma, Suus van Gogh, Renske Spreeuwenberg, Naomi Nohar, Heidi Berkers
e: chefsaisle.tue@gmail.com

Figure 34. Receipt/Business card

Conclusion

Design process
Our design process was very versatile, mainly because we had a combination of two design pro-cesses. Overall, the reflections during the process could have been better and more consistent. We had planned to do feedback sessions every other week using a google forms format. Howev-er, we never actually did those because we had forgotten about it.

Outcome of the project
We are content with the outcome of our project and the final prototype. However, we do believe that there was more potential and that the prototype could have been more polished if there was more time. Of course, there was not more time available, but we could have achieved the results we wanted if we had managed our time better in earlier stages of the project. In hindsight, we also realize that our project was very ambitious and that it might have been better to focus on one as-pect of the concept. We did not end up doing this because we were too determined to make the whole project experienceable.

Feedback Demo day
During the Demo day we received feedback and we also got asked questions. Most questions could be answered quite well and were things we had thought about before. Some feedback was that our digital interface and the pictures and text on it were quite small. This was indeed the case, we recognize that this could be worked out better if we had done more research on the 'rules' for digital interfaces. Other feedback was that it was not that obvious how our system should be use. We did have a poster on the front of the recipe desk that explains the steps that should be taken in the store, but perhaps did this not stand out. A better solution would be to pre-sent these steps on the digital interface. A question we got asked a lot was that some food items are too fragile to be dispensed from the tubes, like the eggs. However, we did already think of a solution for this but this is something that could be worked out in more detail in the future.

Future plans
If this design would be developed further, we would be focusing more on the details. Now, there was not enough time to work out some components better, such as the digital interface. Here, we could do more iterations to help guide the user through the system. With options like choosing one ingredient per slide, the user would better understand how the system works. Moreover, we could try out multiple different ways of dispensing the food, since some items are not as nice when they are in a tube, such as meat. Some other changes could be made to make the system more efficient. For example, now you have to scan your barcode 4 times, it would be easier if the system worked so that you only needed to scan it once. How the food is kept fresh in the tubes is also that future iterations of the supermarket could improve on. Next to that, eating healthy is not only a problem for students, so we could look into transforming the system so that it is accessible for other target groups as well. Furthermore, we could focus more on our campaign. We could make a website, social media accounts, or campaign posters to reach as many people as possi-ble.

We spent 4 months working on this project an believe in our concept as a group. We would be interested to see whether the implementation of it in the real world would function as we have tested and planned out.

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References of AI Usage

Images of food dispensers were partially created using Stable Diffusion AI. We used this program to create seamless tile pattern images of dispenser content (food) so that we could use them in Solidworks to create 3d renders of the food dispenser. Stable Diffusion was used to make images of fluid and fragile food dispensers as well. Various prompts were used to get these results. For more information on Stable Diffusion, please visit https://stability.ai/

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Individual Reflections

Renske Spreeuwenberg

Our project within vitality turned out to be a supportive supermarket system for students. It helps with easy, healthy, fast and cheap meals for students.

This project had a slow start, we did a lot of researching without making timely decisions. This indecisiveness led to a lack of motivation and a vision for our project. I think it was good practice to explore vitality broadly to gain a good understanding of the field and to see which topic had potential for a project. But then we did a lot of research again for the specific topic that was chosen. It would have been better to continue with an idea first and then do more research focused on that idea. Because we did not do this, much of our initial research ended up not being used. It almost feels like we were too hesitant to commit to a decision in case a better idea might come up later. So for the future, I want to make decisions sooner so that research can be more specific and so that the negative affect on motivation can be minimized.

Our ideation process started off well with sketching and discussing, but it improved further during the course of Project 1. Later when we did ideation for more specific parts of the project, for example the foldable containers, I did a bit of research on existing designs and then I made sketches and paper prototypes. I realized that I am a visual person and that I sometimes have difficulty imagining what the ideas of others are like. Therefore, making paper prototypes was very beneficial for me to help experience the project. They also helped me to communicate my own ideas more effectively, which is something I often struggle with.

During the course but especially in the second half, I noticed that we underestimated the time needed to complete various tasks quite a lot. In particular, building the prototype took much longer than anticipated. The reason for this is that we did not plan out how to actually build our prototype exactly. Because we did not have a clear plan of action, we often faced unexpected challenges and this led to delays. To avoid issues like this in the future, I want to create a clear and detailed planning, not only for prototypes but for all aspects of the design process. I also want to improve on my personal time-management skills. By doing so, I hope to avoid rushing to complete the project and achieve more polished outcomes in the future. I believe that a better planning could have resulted in a nicer outcome of the final project, so I want to remember this lesson going forward.

For Project 1 I got the opportunity to work with Solidworks a couple of times. I had already learned the basics of the software before, but because I did not keep practicing this skill it had faded away. Therefore, I am grateful that I got the chance to make 3D models again. I regained the basics quite quickly, however it still required some time. I had to create more complex models which led me to learning Solidworks in more depth. For the future, I want to practice regularly when developing new hard skills. This way the skills will not fade away and it will spare me the extra effort it took to relearn the basics.

In conclusion, the most important things I want to improve on are planning, time-management and decision-making. I also value using rapid prototyping for effective communication to enhance collaboration within the team. Next to that, I learned the importance of regular practice with newly acquired hard skills. I hope that I will be able to apply these learned lessons to future projects to achieve greater success and growth as a designer.

Individual Reflections

Jort Wiersma

Reflecting on the past semester, I experienced significant growth in my design knowledge and skills as I moved through my first half-year design project. Together with my group, I worked on exploration, research, ideation, user interviews, prototyping, proofs of concept, iteration and reiteration of our supermarket system: Chefs' Aisle.

In our teamwork, I ensured every team member had meaningful tasks every week, and have tried to drive the team forward, considering our different personal goals. While I often take a leadership role, it seems this team did not need one specific leader but benefitted more from collaboration and discussion. Still, I believe I had fairly strong opinions, which sometimes clashed with strong opinions of my teammates. We handled this very well, as we always discussed such occasions and were aware of each other's personalities. Team meetings could benefit from some added structure, such as using a Word template to be used in every meeting that includes a planning and content supplied by all team members. I will try this in a future project.

I believe my specific qualities in the project have been ideation, research, and technical skills. I had planned to spend more time on technology and realization, and succeeded in doing this as I made the financial proof of concept with Python and SQLite (building on skills I learned in Data Analytics), as well as the digital interface and working recipe printer (building on skills I learned in Creative Electronics). It has been very beneficial that we always considered each other's PDP goals, engaging in activities that we were less experienced in. Because of this, I spent more time in the Vertigo workshop than ever before and conquered some of my 'fears' of physical prototyping. Now, I have the experience to keep on learning in this regard, without the high boundaries I had before. In future design projects, I will keep on learning this way, by building on skills I already have and trying things I have never done before in order to create a basis on which I can improve later on.

We started our project with extensive research and exploration. While this contributed to making founded choices on topics and the concept, we spend too much time in this phase. Following up on feedback I got in From Idea to Design, I was eager to do a lot of research, but I should have used this research better throughout the project. This way of starting the project made me demotivated and slowed down the process significantly. In the future, I will do more research on important details and less research at the beginning of the process, to improve the project's pace and quality.

Techniques I used in this project that I consider to be very successful are the trade-off matrix, making sure we chose the best concept possible; doing user interviews and developing a financial proof of concept, giving me confidence in the feasibility and usefulness of our project; and tracking our engagement in the different areas of the Reflective Transformative Design Project weekly, which helped us not to keep working on just one part of the design process. We could have used this latter point even better, as we did not always realize it was time to move on. I will use all of these techniques in future design projects.

Throughout the past semester, I was often frustrated about the project, as I believed it was not very innovative, even though we made careful decisions and had done a lot of research. This changed, however, during Demo day, when we got a lot of positive reactions from visitors. I realized that simple solutions can still be great solutions, and that regardless of the final product, I learned a lot in the design process. My frustration may also have been due to the fairly slow pace. I found myself being much more enthusiastic when we had made some decisions, or made physical progress. I should remember this in future projects: it is important to make thought-through decisions, but this should not go at the cost of my motivation. It is not a bad thing to take a step back.

Taking all of this into consideration, it seems to me that I have grown as a designer in a number of areas. I improved my technical skills, overcome my fear of physical prototyping, and developed an improved perspective on moving through a design process. In future projects, I will incorporate experimentation and user research during the beginning of the project, will use a more structural approach to team meetings and will keep on engaging in activities I do not understand. Overall, project 1 has been critical in my development as a designer, and I am greatly enthusiastic to start a new project next year!

Suus van Gogh

In Project 1, I was part of the vitality squad. I was very excited about this squad since I am in-ter-ested in designing products within vitality and health. The project is very broad since almost any-thing within the topic is allowed. I already had some experience with the basics of a design pro-cess since I followed the course 'From idea to design'. However, in that course we had a lot of guiding and a clear design brief. This is quite a big difference, but the freedom made it for me more excited to start with Project 1.

During project 1, I worked a lot on my goal of improving my prototyping skills. I did not have a lot of experience yet, which made me excited to work with new machines and materials. Already in the beginning of the project I did a lot of low fidelity prototyping. In the end of the project this eval-uated to high fidelity prototyping. I namely built the recipe desk, food tubes and frames for the shelves. I worked with new materials as wood and perspex and learned to use among others a sawing machine and a sander. I learned that I really enjoyed prototyping, since it proved the de-signs were feasible which made me excited to move on.

I noticed, I had more struggles with low fidelity prototyping as with high fidelity prototyping be-cause of my perfectionism. Low fidelity prototyping is "quick and dirty", however I couldn't easily move on from a prototype without first perfecting and finishing it. I got the insight I have to be less perfectionistic in the brainstorming phase, which can help me in the future to generate more ideas in a shorter amount of time.

In general, I feel the team work went pretty well. We all had strong opinions which caused now and then discussions. Looking back, I believe these discussions were useful since they led to both con-sidered decisions and new perspectives. We did not assign specific roles within the team, but I feel one way or another everyone grew into their own role. I took the role of keeping the overview and used my organizational skills. Especially, in busy situations such as having to do a lot of dif-ferent prototype activities I kept the overview and planned ahead.

I am really satisfied with the outcome and looks of our final design. However, designing for ev-ery-day life, I consider it important that products fit seamlessly in the users' life and are personal-ized. Therefore, I would like to expand the supermarket system to a combination of targeted nutri-tion, this way the supermarket system will become personalized to the users' needs. This way the de-sign would fit seamlessly with my vision since it helps people in a personalized way in everyday life.

During project 1, I developed a lot as a designer and got more insights in what type of designer I want to be. During the project, I worked mostly on the expertise areas Creativity & Aesthetics, Us-er & Society and Technology & Realization, which are also my main interests. I created a lot of visuals, logos and other graphical designs, which was one of my goals. I think these visuals were really valuable to show them to potential users for feedback on the concept. As an user centered designer, I really valued interviewing. This way the potential users' needs were incorporated into the process and their values were known.

All with all, I look satisfied back at project 1. It was a confirmation for my interests in the field of vitality and defined myself more as a designer. Besides, I improved my design skills further in my areas of interest (U&S, C&A, T&R). I am looking forward to extend my design skills regarding im-proving people's everyday life further in the future.

Heidi Berkers

For Project 1, we created Chef's Aisle, a supermarket aisle design that supports students who are struggling with budgeting, quality, expertise, time, and thus motivation when it comes to their cooking.

At the beginning of the course, it was hard for me to start. There was no design brief and besides this project, I only had experience in the course From Idea To Design. I learned about tools to use, such as the Reflective Transformative Design Process and the Double Diamond Model. With these models, I had more focus and support in what to do. For next time, I want to use these again. Furthermore, I want to experiment with other models to see which one I prefer in which design process.

During the Midterm Demo day, we had to make a report. We did not have a clear plan or task division, which made it unclear to me what to do. As a result, I contributed little to writing the report. I felt disappointed in myself. I learned to let know more clearly what would help me to perform optimally. This helps me in the first instance, and also my group mates.
During the project, we had to present our process to others in English. I felt nervous because English is not my strongest quality, which is why I was afraid I would say the wrong things. I learned to be less nervous by practicing well and presenting often. In this way, I felt more confident. In the future, I would like to present more to improve my English, so I do not have to be insecure about it anymore.

After the Midterm Demo day, we interviewed two or three persons each. I interviewed my sister and a friend of mine about their eating lifestyle and I presented them with our idea. I found out I like to interview other people about their habits and lifestyle. I learned to listen and think about which question would be important to ask. Next time, I would like to dive deeper into this topic, which is to get in contact with the user. I want to learn to ask the right questions and find ways to get the most information out of someone. Furthermore, I would like to learn more about design-thinking, which is understanding the problem the user is facing.

In the last period of the project, I started building the prototype together with my teammates. Because our prototype was large, multiple components had to be built. I made sketches, worked with different kinds of materials, combined multiple aspects, and worked on the details. I learned how to work with different machines and several materials, to think about safety, to discuss multiple ideas, and to deal with adversity. I found out I like to make things and create the ideas I have in real life. I learned by doing, which I also would like to do next time.
At the beginning of the project, we had to make a Personal Development Plan. During the project, we worked on them individually to develop our own goals. I improved my sketching skills, worked with new materials, learned how to build my own electronic circuit, interviewed two people, and reflected on myself every week. I found out this PDP helped me to work more on my individual goals. Next time, I want to keep doing this. I would like to improve my hard skills, such as learning new programs. I would like to learn how to work with Photoshop, Illustrator, Figma, and SolidWorks. Furthermore, I would like to improve my Arduino and programming skills to get more knowledge about technology.
Hence, I want to learn more about different design process models, dare to present more, learn about design-thinking, and make more prototypes. In addition, I would like to learn new programs and improve my hardware and software skills.

Naomi Nohar

I think it is fair to say the Project 1 is the basis of Industrial Design and can give a glimpse into the future we could have as designers. The ways of working, the freedom and autonomy, Project 1 to me has confirmed that there is a reason that I want to become an Industrial Designer.
In the last four months, we worked in a group of five people to create the Chefs' Aisle. A supermarket system designed to motivate students into preparing home-cooked meals in times of stress. All in all, I believe I can be very positive about the journey we experienced for this project, whether it be my personal development or group interactions.

As a team we worked well, we complimented each other and supported each other very well. We played to each other's strengths and worked well together because we had a high level of communication. We could sense when we needed to either step up or take a step back really well.
We all had different goals we wanted to achieve and knew we could do this through the project. Using this, we split up our tasks based upon where we wanted to gain personal development. For example, although I did assist in the creation of the prototype by giving tips I did not help in the physical realisation. I have gained a lot of experience regarding prototyping in the last year, whilst some other group members had not really. Every group has disagreements, but we handled those in respectful and considerate manners. I went through the whole project knowing that I could trust and depend on my peers. Our teamwork here has definitely left a lasting impression on me, it has given me the confidence that I know where to set the bar of 'good teamwork'. Being aware of how it is supposed to feel and how a group can be cohesive is extremely helpful because I can use it as a measuring point for all group dynamics from now on forwards. I will use this as a comparison and reflection moment for shaping my role in all future team projects. Every time I work on a team project from now on I will come back to this reflection and will use that to measure my own progress and personal development regarding teamwork because being a functional and critical groupmate is important to creating a project you are proud of.

As a group we struggled with decision making. Because we worked so well together and valued each others' opinions so much we sometimes struggled with finalising certain details, afraid of making other group members unhappy due to disagreement. I tend to lean more towards being able to fill a leading role and know from myself that I am naturally good at making decisions under pressure. Out of fear of disrupting our positive team spirit I withheld this part of myself to a certain extent. I was afraid to put my foot down when a decision had to be made. In future I would like to not limit this aspect of myself this much, but still be aware of it, because if I had taken a more prominent leading role we could have had a more efficient design process. We spent too much time discussing certain decisions, rather than making them. For future projects I will start an active discussion and be more open regarding my feelings if I find that my own inhibitions may be slowing down our progress. I tend to struggle with starting open conversation or confrontation, this is a personal development issue that is a part of all aspects in my life, hence, that I am working on this with a mental coach to play a more functional role in future situations.

All in all Project 1 was an invaluable experience. Not only did I get to feel like what being a real designer is and means to me, it taught me more about myself than I ever would have believed a couple months ago. Every time a project or course surprises me on how much I can learn and explore about myself and the role I play in certain dynamics. It holds me accountable to my own learning and I am thankful for that piece of mindfulness, encouraging me to reflect on my self-guided learning experience.

Appendices

Appendix A : Task - Division

Renske Spreeuwenberg

- Brainstorming of vitality topics
- Research report on vitality, nutrition and cost
- Research already existing products and system for nutrition
- Ideation and brainstorm of nutrition and students
- Rapid prototype of personalized digital cookbook
- Research on target groups
- Researching the social cooking value
- Fill in ERB form
- 2 interviews + transcription
- Analyzing interviews
- Research about foldable food containers
- Ideating and paper-prototyping of foldable container
- 3D model of foldable container
- Building final prototype: tubes, shelves and walls
- 3D model of the tubes
- Posters for the tubes
- Labels for tubes
- 3D model of final appearance of chefs' aisle
- Part of business model canvas
- Final report: Iteration 3, 4 and partially 5, Acknowledgements, Conclusions

Jort Wiersma

- Exploring topics within vitality
- Research on Technology & Vitality, on Targeted nutrition and on finding the best food cat-egories
- Extensive ideation within vitality, selected topics, nutrition & cost, target audience, defined values
- Writing scenarios on chosen topics using the different personas
- Building midterm Demo day prototype (supermarket model), poster
- Midterm report: Content, conclusion, introduction
- Two user interviews and their transcriptions
- Analysis of user interviews
- Part of business model canvas
- Coding proof of financial feasibility (calculating the cost of all possible product combina-tions using Python and SQLite)
- Design and functionality of digital interface (final prototype)
- Coding and building working recipe printer with Arduino and electronics (final prototype)
- Assisting in building final prototype: recipe desk, shelves
- Filming Demo day video
- Final report: Iteration 1, summary, introduction, proofreading

Suus van Gogh

- Brainstorming on topics within vitality
- Research on mental health
- Research on the problems within nutrition
- Research on different target groups regarding nutrition
- Ideation within vitality, nutrition & costs, students
- Low fidelity prototype targeted nutrition system
- Layout for one page proposal and contributed in the writing
- Creating 3 personas
- Midterm report: executive summary, discussion, personal reflection, visuals
- A3 Poster and visuals midterm demo day
- Making questions for interviews
- Three interviews + transcription
- Analyzing interviews
- Ideating and prototyping of foldable container
- Ideation and sketching for recipe desk, supermarket plan and shelves
- Creating 3d visuals for recipe desk, supermarket plan and shelves
- Posters demo day
- Value proposition canvas
- Creating branding: logo and color scheme
- Visual for value proposition canvas and business model canvas
- Building everything of final prototype: tubes, shelves, recipe desk and walls
- Final report: Iteration 2(/3/4), Design process (including both visuals), personal reflection

Naomi Nohar

- Exploring topics within vitality
- Defining my personal meaning of vitality
- Research on Guiding Vulnerable People
- Created 6 low fidelity prototypes spread throughout P1
- Extensive ideation within vitality, selected topics, nutrition & cost, target audience, defined values
- Created an app mockup as option
- Defined the issue
- Building Midterm Demo Day prototype
- Keystroke model analysis of supermarket
- Two user interviews, transcriptions and analysis
- Business model canvas
- Created recipes for the interace
- Designed our business model
- Created the Demo Day pitch and other preparations
- Created video for demo day
- Final report: Layout & organisation report, Proofreading, Final Result, Financial feasibility

Heidi Berkers

- Exploring topics within vitality
- Defining my personal meaning of vitality
- Research on children's health & interaction
- Research on what already is on the market
- Research on sustainability value
- Ideation and brainstorm of nutrition and students
- 2 interviews and transcription
- Created questionnaire
- Made 2 low-fidelity prototypes
- Made supermarket map
- Midterm report: written conclusion and individual reflection
- Filled in ERB form
- Created questions for company Design2Gather
- Tracked weekly individual reflection
- Filled in value proposition canvas
- Ideation and sketching for recipe desk, supermarket plan and shelves
- Building final prototype: tubes, shelves, recipe desk, and walls
- Final report: iteration 5, project goal, individual reflection, Conclusion

Appendix B : Iteration 1

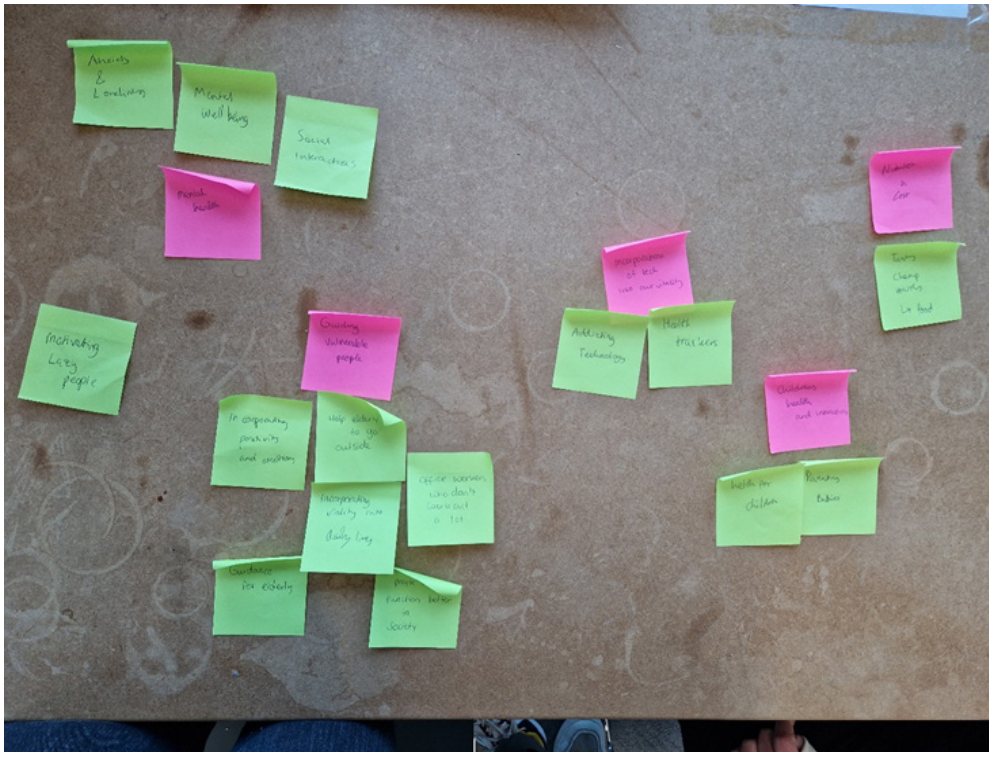


Figure 35. Mindmap of topic exploration

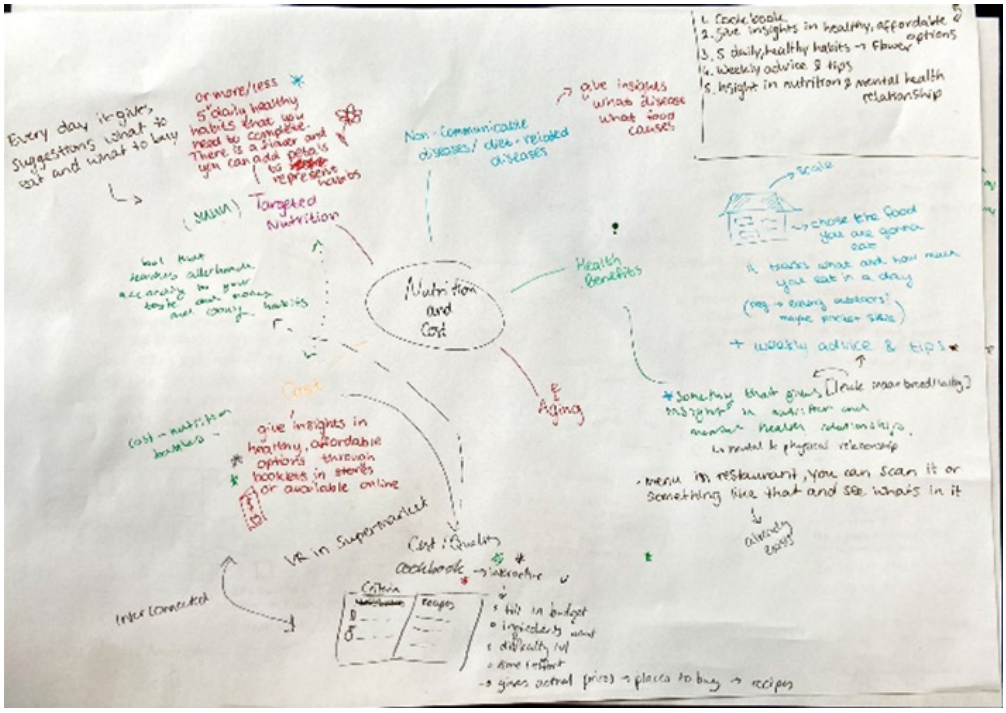


Figure 36. Mind map ideation of topic Nutrition and Cost

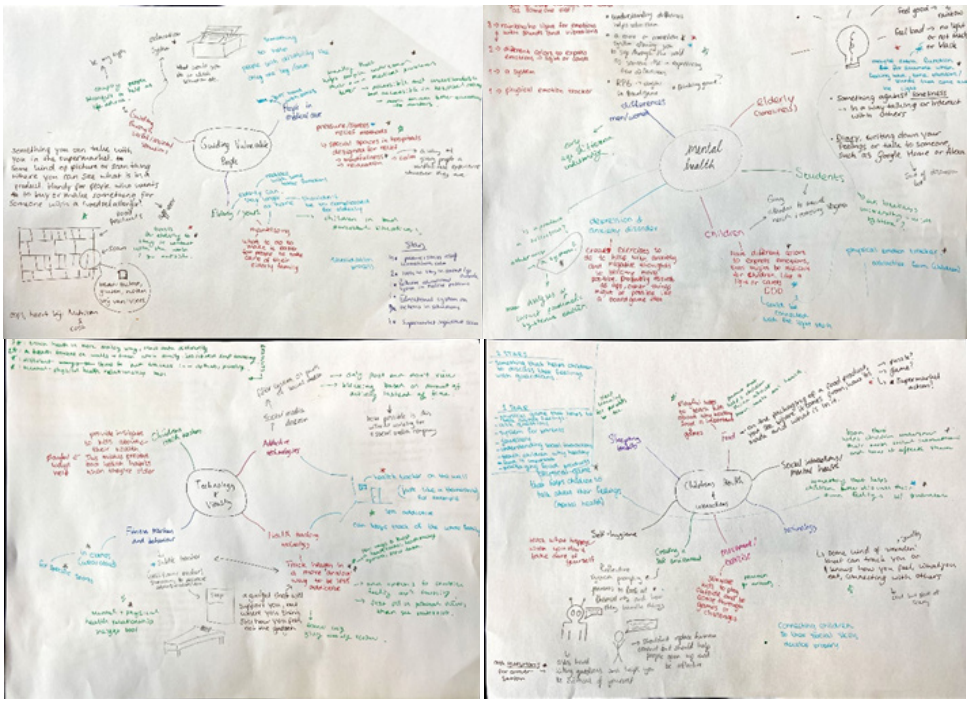


Figure 37. Mind maps ideation of other topics

Appendix C : Iteration 2

Appendix C.1: Low fidelity prototyping about nutrition

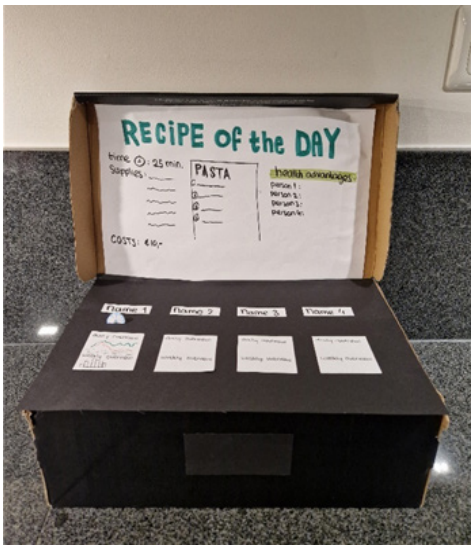


Figure 38. Low fidelity prototype targeted nutrition

Figure 39. Low fidelity prototype Smart Cookbook

Figure 40. Low fidelity prototype cook buddy

Figure 41. Low fidelity prototype wearable

Appendix C.2: Ideation about students and nutrition

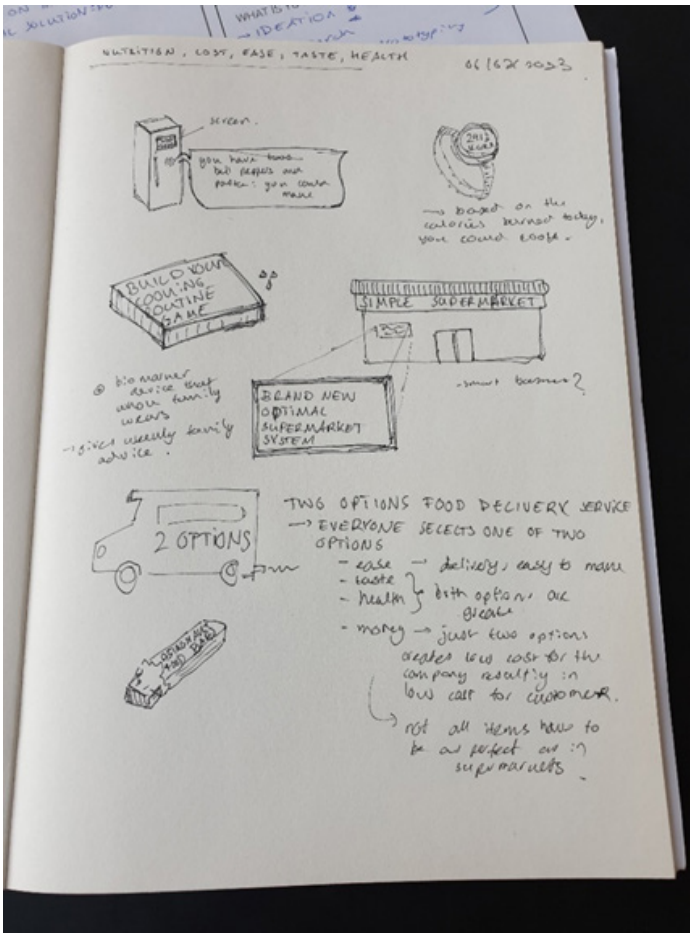


Figure 42. Ideation session sketches

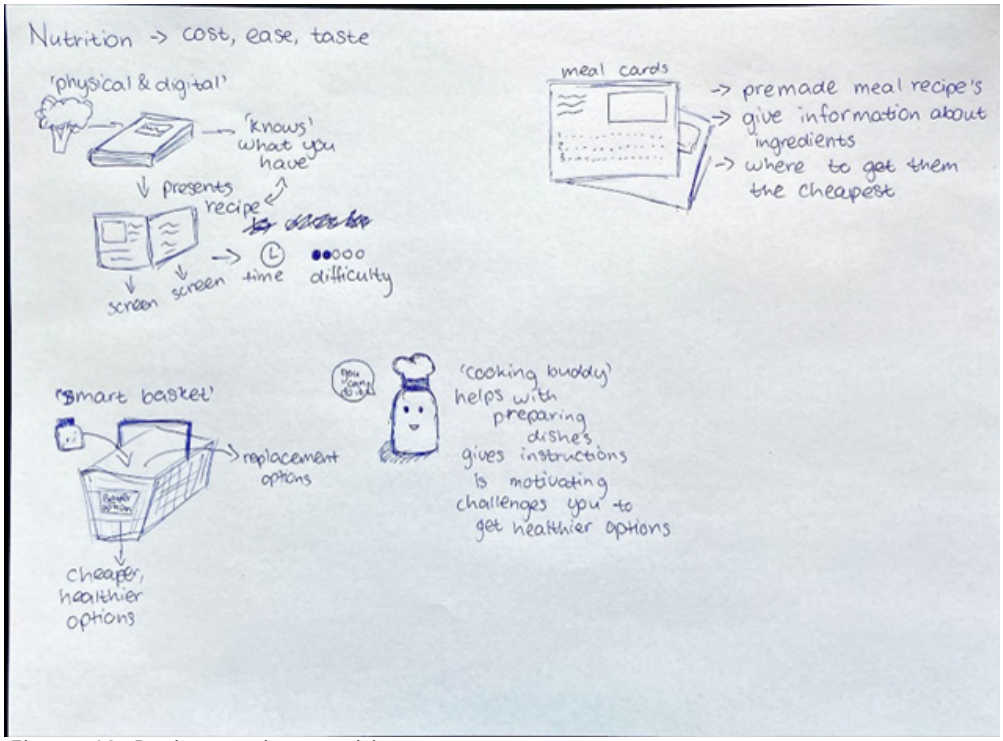


Figure 43. Brainstorming nutrition, cost, ease, taste

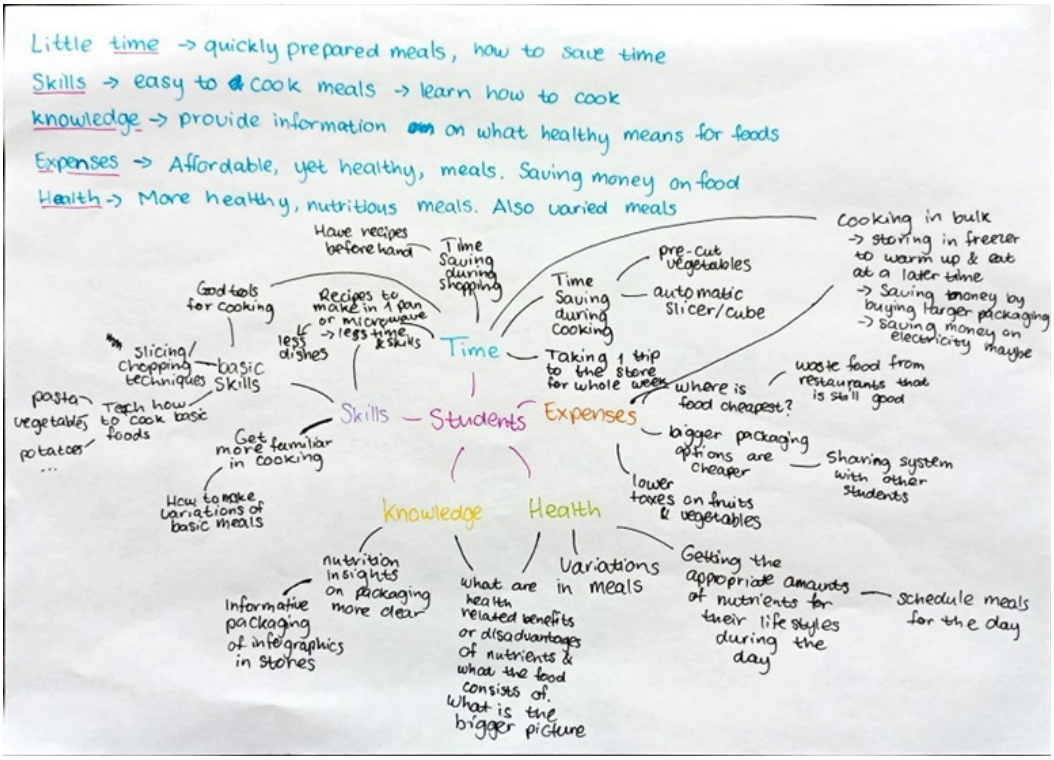


Figure 44. Brainstorming on students and nutrition

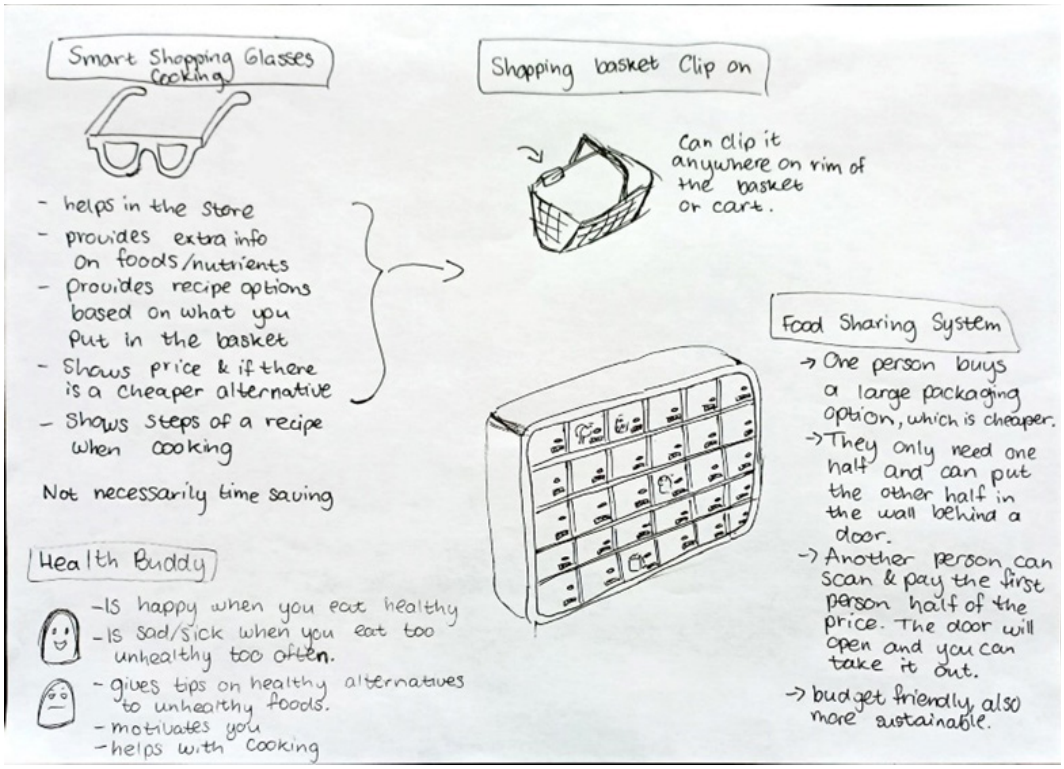


Figure 45. Brainstorming on nutrition

Bram
Male
The Netherlands
18 years old
Lives in Eindhoven

Broke — Rich
No time — Enough time
Can not cook — Can cook

Bio
Bram is 18 years old and lives in a student home in Eindhoven. He is a first years student of Applied Physics at the TU/e. He has a busy life because of his study, therefore he also doesn't perform any sports. Bram does want to eat healthy, however in his student house this is very rare. Bram and his house mates do not know what is needed for a healthy meal nor how to prepare it. Most of the days this results in (unhealthy) take-away meals. He is a relatively wealthy student.

Frustrations
- Doesn't know what a healthy meal is
- Doesn't know how to prepare a healthy meal

Goals
- Getting a more healthy life style
- Eating more healthy
- Learn how to cook

Figure 46. Persona 1: Bram

Emily
Female
United states
20 years old
Lives in Eindhoven

Broke — Rich
No time — Enough time
Can not cook — Can cook

Bio
Emily is 20 years old and is originally from the united states. At the age of 18 years old she moved to Eindhoven to study. At the moment, she is a third years Industrial design student at the TU/e. She lives on her own at the campus of the TU/e. She works in a restaurant in the city center. However, she still struggles to make a living, because her room and study are expensive. Emily likes cooking and already did it a lot as a child. She likes to experiment with new recipes. However, because she doesn't have much to spend, she doesn't cook often anymore. She more often opts for the unhealthy, cheap options in the supermarket, even though she wouldn't want to.

Goals
- Have the possibility to cook healthy again
- Save more money

Frustrations
- Not enough money to cook healthy

Figure 47. Persona 2: Emily

Thijmen
Male
The Netherlands
19 years old
Lives in Eindhoven

Broke — Rich
No time — Enough time
Can not cook — Can cook

Bio
Thijmen is 19 years old and lives in Eindhoven. He is a Mechanical engineering student at the TU/e. Thijmen lives in a student house with 4 other students. He and his house mates have a very busy life. Besides their study, they all play soccer or go to the gym. Due to the lack of time, he and his house mates do not have many time to cook. Thijmen does wants to eat healthy since he plays soccer at a high level. Most of the time they cook something simple with some cheap ingredients from the supermarket. Thijmen would like to have some more variation in the meals and nutrition that matches his active lifestyle.

Goals
- Nutrition that matches his lifestyle
- Healthy and variated meals with limited time

Frustrations
- No time to cook
- Most of the time no variation in meals
- Not a nutrition that matches his active lifestyle

Figure 48. Persona 3: Thijmen

The following scenarios are created with the idea of creating a supermarket system in mind.

Thijmen
After his long day of working in the university library, Thijmen noticed posters announcing the opening of a new and special supermarket on campus. He was planning to get some quick pasta from the Jumbo on his way home, but decided to check out this new supermarket first, as it adver-tised that his visit would take 3 minutes and cost him 3 euros!

After having looked at explanatory signs in front of the new shop, Thijmen made his way through the supermarket, first encountering the protein sector containing the most important element of his meal. He instinctively looks for prices, but could not find any, which let him to remember this su-permarket's fixed price. He figures that would help him make better financial decisions throughout the month, as he often spends more early on in the month, only to realise later on that he does not have a lot of money left.

In the protein section, he finds about ten options, and spends some time trying to decide between tofu and chicken-mix (containing both chicken breast and thigh), but chooses tofu as he had never eaten this before and the advised cooking instructions on the package seem short and simple, and because the cooking should not take him much more than 15 minutes anyway, at least ac-cording to the signs out front.

He walks on to choose some greens, but notices recommendations on the package for his further shopping, and although he is interesting in other combinations, he chooses to simply follow these recommendations: it is his first time shopping here after all!

When he completed his shopping and scanned al his items, he finds he can download an app that tracks his purchases and organises recipes and cooking advice. Also, he discovers the final sec-tion of the shop containing spice and marinade packages to further simplify his cooking. He de-cides that he still wants some freedom in his spice choices so he skips this section.

When he leaves the shop, he looks at his phone to check the time, and calculates that his visit took him about seven minutes. That is more than twice as long as the shop advertised, but still a lot quicker than his regular supermarket visit. Also, he did not have to make a detour on his route from the university to his student house.

When he gets home, he cooks his meal and enthusiastically shares his experience with his housemates. His meal cost him about the same as his usual quick meal, but he did not have to think much about his meal, could shop at the university campus, and he expects that the shop could make it a lot easier for him to get more variation in his cooking.

Emily
- likes the shops main language is English
- finds the price sufficient
- likes that most options are healthy
- gets inspired by all the possible combinations within hand-reach
- considers writing a letter to the shop for a subscription to slightly reduce the cost for daily visitors

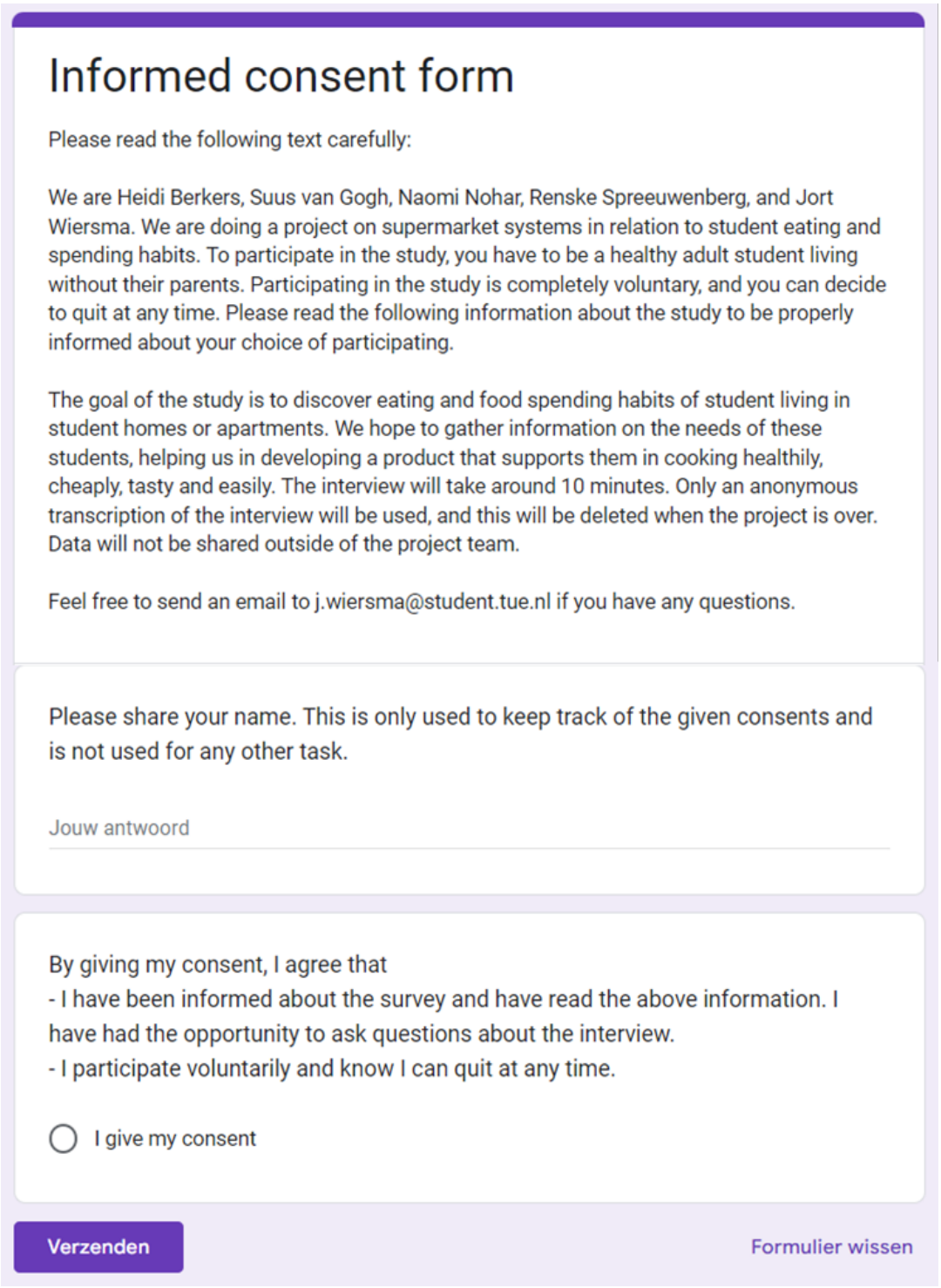
Bram
- likes the spices section
- finds the shop cost him significantly less time
- still has some difficulties preparing the meals and following the 'easy' recipes, and would rather pay a bit more to reduce his cooking time even more
- still feels a bit proud that he made a nice meal himself and slowly gets exited that he learned some cooking today
- looks at the nutritional contents in the app, and after having read the provided explanations of the different types , decides that he ate a lot healthier and hopes to use the app to further learn about healthy eating

Michael
Persona context: Michael is a professor working at the faculty of Mathematics, both teaching and doing research. He lives with his wife and three children. He often teaches until 17.30 which means he gets home around 18.30. At this time he is hungry and drained of energy. His wife is in a similar situation. Currently, they order weekly grocery at Albert Heijn, which means their food at the end of the week is less fresh. Also, he hates having to guess what they will want to eat (and cook!) six days later. As he is very busy, he does not like to spend a lot of time or energy on cooking.

- going to the shops would take him an extra 15 minutes daily
- he gets fresh food
- he can afford to spend more than three euros on his meals, so he is slightly unhappy about the quality of the food
- likes variation and ease of cooking
- his children like to try new foods
- very happy he and his family can eat healthily without thinking about it too much
- would rather like a larger shop with even more options and also other groceries, as this way he still needs to go to another supermarket or order groceries
- he can let his children cook sometimes, which they greatly enjoy and their level of cooking is sufficient to cook the basic recipes under his supervision

Appendix D : Iteration 3

Appendix D.1: Interview



Informed consent form

Please read the following text carefully:

We are Heidi Berkers, Suus van Gogh, Naomi Nohar, Renske Spreeuwenberg, and Jort Wiersma. We are doing a project on supermarket systems in relation to student eating and spending habits. To participate in the study, you have to be a healthy adult student living without their parents. Participating in the study is completely voluntary, and you can decide to quit at any time. Please read the following information about the study to be properly informed about your choice of participating.

The goal of the study is to discover eating and food spending habits of student living in student homes or apartments. We hope to gather information on the needs of these students, helping us in developing a product that supports them in cooking healthily, cheaply, tasty and easily. The interview will take around 10 minutes. Only an anonymous transcription of the interview will be used, and this will be deleted when the project is over. Data will not be shared outside of the project team.

Feel free to send an email to j.wiersma@student.tue.nl if you have any questions.

Please share your name. This is only used to keep track of the given consents and is not used for any other task.

Jouw antwoord

By giving my consent, I agree that
- I have been informed about the survey and have read the above information. I have had the opportunity to ask questions about the interview.
- I participate voluntarily and know I can quit at any time.

I give my consent

Verzenden

Formulier wissen

Figure 49. Consent form

Interview with students:

Ask for permission: an anonymous transcription of the recordings will be used for internal purposes to improve our project.
1. Student profile:
Age, gender, since how long does this student lives in a dorm, which program, since when a student?
2. Describe your living situation (studio or student home: how many roommates and what type of house is it (mixed genders, association house etc), age of roommates ...)
3. Describe the process of having dinner on an average day (when do you decide what you are having for dinner, when do you make a grocery shopping list, doing groceries, cooking, with who do you eat, tidy up etc.) If this is hard: Describe the process of yesterday.
4. Do you most of the time have ready-to-eat meals or home cooked meals?
5. Do you follow a certain diet or would you want to follow a diet? Why (vegetarian? lose weight?)
6. What is your experience with cooking? Do you enjoy it?
7. How much time do you spend cooking on a regular day? Why this long/short? Would you spend more time cooking if you had more spare time?
8. How much do you spend each month on food? How much do you spend on dinner for a regular day?
9. How much do you mind having a healthy meal (calories, proteins)? And would you like to learn more about this? Why?
10. Do you notice any changes in your eating habits and the process of having dinner in comparison with your first time living in dorms?
11. Pitching concept and ask for feedback. Why would you use it or not use it? Which values would be most important for you?
12. What do you think would be a good price to buy dinner for 1 person in this supermarket?

Appendix D.2: Financial validation

Table 2: Python table

index	p_product	c_product	g_product	f_product	tot_price	tot_proteins	tot_carbohydrates	tot_saturated_fats	tot_unsaturated_fats	tot_calories
1	eggs	macaroni	greens_combinations	corn	2.325	39.50	112.00	3.49	9.05	774.0
6	eggs	brown_rice	greens_combinations	corn	2.265	30.50	131.50	4.09	9.20	801.0
21	eggs	couscous	greens_combinations	corn	2.730	38.00	113.50	4.39	9.35	787.5
37	tuna	wraps	greens_combinations	olives	3.300	42.45	78.80	4.64	18.05	758.5
39	tuna	wraps	greens_combinations	avocado	3.608	45.05	82.04	5.42	33.05	916.9
47	tuna	couscous	greens_combinations	olives	3.570	48.00	101.30	4.19	15.95	848.5
49	tuna	couscous	greens_combinations	avocado	3.878	50.60	104.54	4.97	30.95	1006.9
51	tofu	macaroni	greens_combinations	corn	2.075	40.50	112.60	1.49	9.65	756.0
54	tofu	macaroni	greens_combinations	avocado	2.503	41.60	103.84	4.97	35.15	1007.4
56	tofu	brown_rice	greens_combinations	corn	2.015	31.50	132.10	2.09	9.80	783.0
58	tofu	brown_rice	greens_combinations	peanuts	1.870	48.50	127.30	6.29	40.55	777.0
61	tofu	wraps	greens_combinations	corn	2.210	33.45	91.60	2.84	12.05	679.5
63	tofu	wraps	greens_combinations	peanuts	2.065	50.45	86.80	7.04	42.80	673.5
64	tofu	wraps	greens_combinations	avocado	2.638	34.55	82.84	6.32	37.55	930.9
66	tofu	sweet_potatoes	greens_combinations	corn	2.180	21.30	51.10	1.34	6.80	393.0
68	tofu	sweet_potatoes	greens_combinations	peanuts	2.035	38.30	46.30	5.54	37.55	387.0
69	tofu	sweet_potatoes	greens_combinations	avocado	2.608	22.40	42.34	4.82	32.30	644.4
71	tofu	couscous	greens_combinations	corn	2.480	39.00	114.10	2.39	9.95	769.5
73	tofu	couscous	greens_combinations	peanuts	2.335	56.00	109.30	6.59	40.70	763.5
74	tofu	couscous	greens_combinations	avocado	2.908	40.10	105.34	5.87	35.45	1020.9
76	beans	macaroni	greens_combinations	corn	2.075	33.70	125.80	0.79	5.15	747.0
79	beans	macaroni	greens_combinations	avocado	2.503	34.80	117.04	4.27	30.65	998.4
81	beans	brown_rice	greens_combinations	corn	2.015	24.70	145.30	1.39	5.30	774.0
86	beans	wraps	greens_combinations	corn	2.210	26.65	104.80	2.14	7.55	670.5
89	beans	wraps	greens_combinations	avocado	2.638	27.75	96.04	5.62	33.05	921.9
91	beans	sweet_potatoes	greens_combinations	corn	2.180	14.50	64.30	0.64	2.30	384.0
94	beans	sweet_potatoes	greens_combinations	avocado	2.608	15.60	55.54	4.12	27.80	635.4
96	beans	couscous	greens_combinations	corn	2.480	32.20	127.30	1.69	5.45	760.5
99	beans	couscous	greens_combinations	avocado	2.908	33.30	118.54	5.17	30.95	1011.9
101	chicken	macaroni	greens_combinations	corn	3.035	52.50	111.80	0.99	5.45	757.0
104	chicken	macaroni	greens_combinations	avocado	3.463	53.60	103.04	4.47	30.95	1008.4
106	chicken	brown_rice	greens_combinations	corn	2.975	43.50	131.30	1.59	5.60	784.0
111	chicken	wraps	greens_combinations	corn	3.170	45.45	90.80	2.34	7.85	680.5
114	chicken	wraps	greens_combinations	avocado	3.598	46.55	82.04	5.62	33.35	931.9
116	chicken	sweet_potatoes	greens_combinations	corn	3.140	33.30	50.30	0.84	2.60	394.0
119	chicken	sweet_potatoes	greens_combinations	avocado	3.568	34.40	41.54	4.32	28.10	645.4
121	chicken	couscous	greens_combinations	corn	3.440	51.00	113.30	1.89	5.75	770.5
124	chicken	couscous	greens_combinations	avocado	3.868	52.10	104.54	5.37	31.25	1021.9
125	chicken	couscous	greens_combinations	soy_yoghurt	3.460	55.25	101.90	2.19	7.40	757.0

Appendix E : Iteration 4

Appendix E.1: Foldable containers

Appendix E.1.1: Existing foldable containers

Figure 50. Collapsible container (from https://flatstacks.com.au/)

Figure 51 . Foldable container (from https://www.trendhunter.com/trends/foldable-food)

Figure 52. Collapsible water bottle (from https://www.fruugo.nl/opvouwbare-waterfles-herbruikbaar-bpa-gratis-siliconen-opvouwbare-waterfless-

Figure 53. Collapsible water bottle in a spiral (from https://www.flipkart.com/rudra-exports-silicone-water-bottle-foldable-bpa-free-pack-1-sky-blue-550-ml/p/itmc692375db169a)

Figure 54. Foldable water bottle (from https://www.cruisegear.com/collapsible-water-bottle/)

Appendix E.1.2: Mechanisms

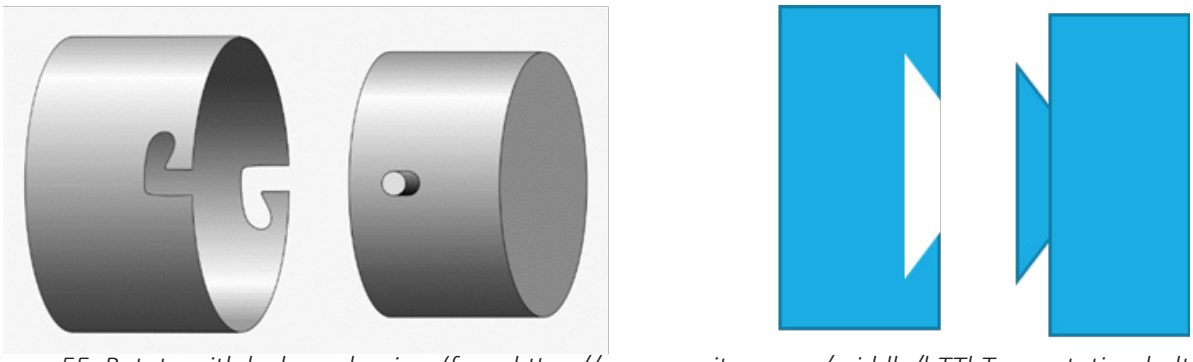


Figure 55. Rotate with lock mechanism (from https://www.pngitem.com/middle/hTThTwx_rotating-bolt-locking-lugs-hd-png-download/)

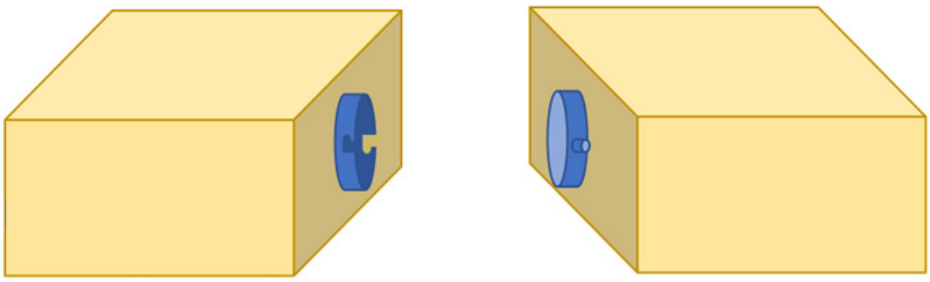


Figure 56. Rotate with lock mechanism applied to our containers

Figure 57. Snap action mechanism (from https://www.youtube.com/watch?v=sG_mKVGgQf0)

Figure 58. Buckle click mechanis (from https://www.acesupplies.co.uk/products/itw-world-range-side-release-buckle/)

Figure 59. Loop magnets (from https://www.amazon.com/Magnetic-FGSAEOR-Reusable-Organizers-Organizing/dp/B09ZD4ZNYY?th=1)

Materials

https://www.plasticstoday.com/packaging/updated-9-things-know-about-reusable-foldable-plastic-origami-bottle
The Origami Bottle is made of a thermoplastic elastomer (TPE), specifically Arnitel brand TPE from DSM and the bio-based version, Arnitel ECO, both from DSM Elastomers (Heerlen, Belgium). It's produced using the injection molding process.
Designed for five year's use, the material can then be recycled multiple times without significant loss of quality and has been granted a Cradle To Cradle certification in 2013. It is also food-safe, BPA-free and has an operational temperature range from -30°C to +100°C.

https://hongjusilicone.com/silicone-collapsible-water-bottles/
silicone rubber. This food-grade material is certified safe for food and drinks and doesn't leach. Furthermore, the properties of Silicone make it excellent for producing flexible water bottles.
A primary concern with plastic water bottles is Bisphenol A (BPA), a toxic chemical linked to several health problems. Food-grade Silicone eliminates this fear because it is BPA-free and non-toxic. In addition, for FDA approval, Silicone must maintain its integrity at high and flexibility at low temperatures.
A FDA-approved collapsible silicone water bottle is then safe for health. This durable bottle also offers excellent heat and weather resistance.

https://delightjar.com/what-are-collapsible-water-bottles-made-of-and-are-they-safe/?utm_content=cmp-true
food grade silicone is a version of silicone that has been designed and tested as 100% safe to be used with food substances or liquids intended for human consumption. Food grade silicone does not stain food or other dishes and is absolutely non-toxic.
Food grade silicone has several attractive properties, some of which include:
- Very low thermal and electrical conductivity,
- Non-toxic and non-leaching,
- Water repellant,
- Easily removes from most surfaces except glass,
- No change in physical properties whether exposed to very low or very high temperatures.

The material does become unstable when exposed to temperatures of 148 degrees Celsius or more.
Silicone is BPA-free and better for human health. When BPA levels within a human rise due to consumption of the chemical, it can affect cell repair, growth, energy levels, reproduction, as well as fetal development. It can also wreak havoc with a person's thyroid hormones.
Silicone is an environmentally friendly alternative to plastic. Silicone is a hardy (highly flexible) and durable material that lasts far longer than most plastics. This means that you will not have to replace your silicone collapsible bottles too regularly. Unlike throw-away plastic water bottles that end up in landfill sites, silicone is readily recycled in most areas. The fact that it does not out gas or leach dioxin, lead, or phthalates makes it safer for the environment even when it does end up in a landfill site or the ocean.
Pros
- Light weight
- More durable and cheaper than other options
- Gentle on the Environment
- Quick and easy to clean
- Ideal for all temperatures

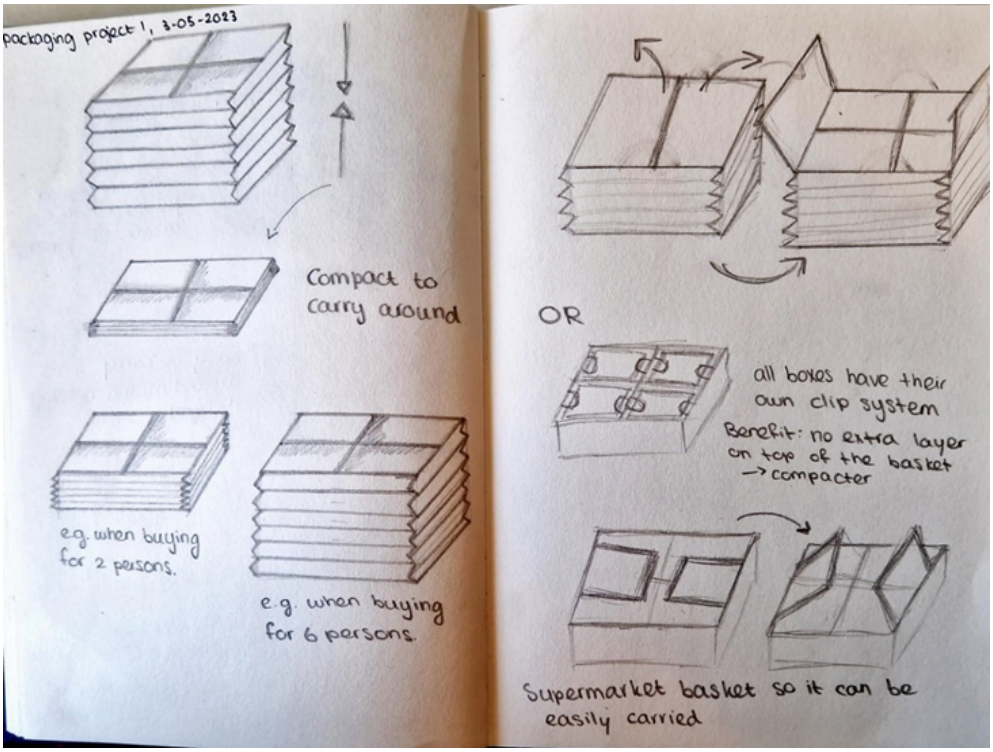


Figure 60. Various sketches and ideas for a foldable container.

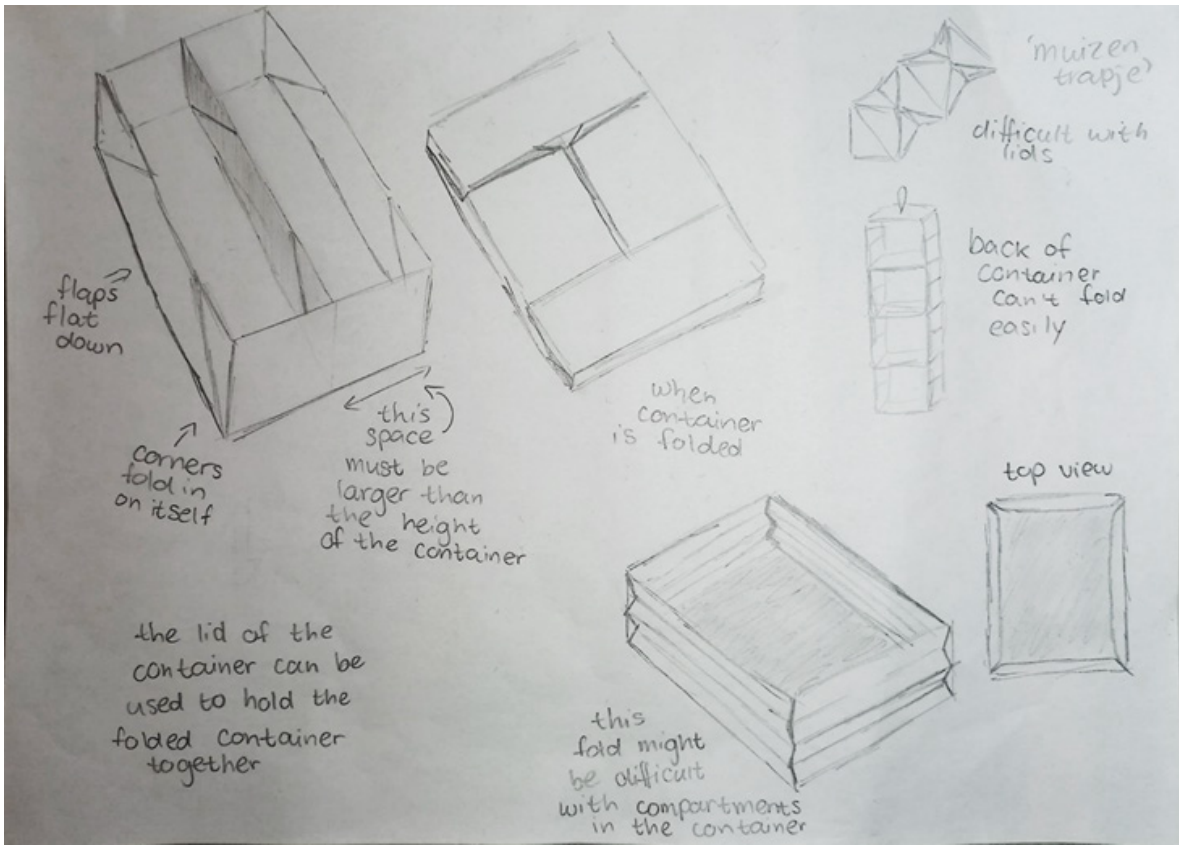


Figure 61. Various sketches and ideas for a foldable container

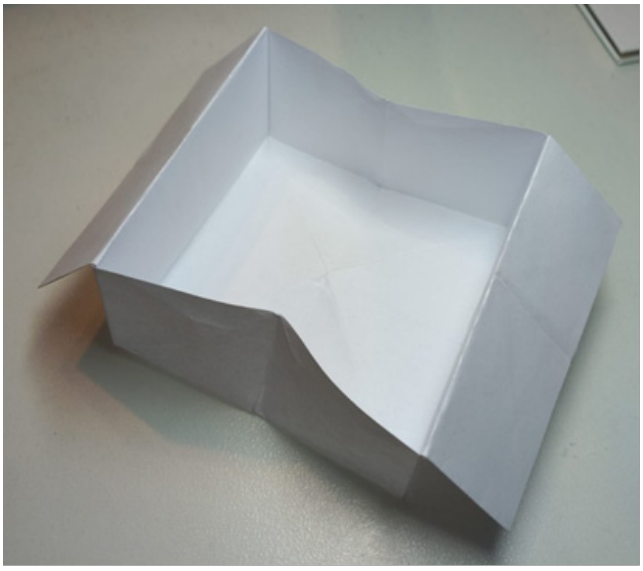


Figure 62. Paper-prototype for a foldable container (unfolded)

Figure 63. Paper-prototype for a foldable container (folded)

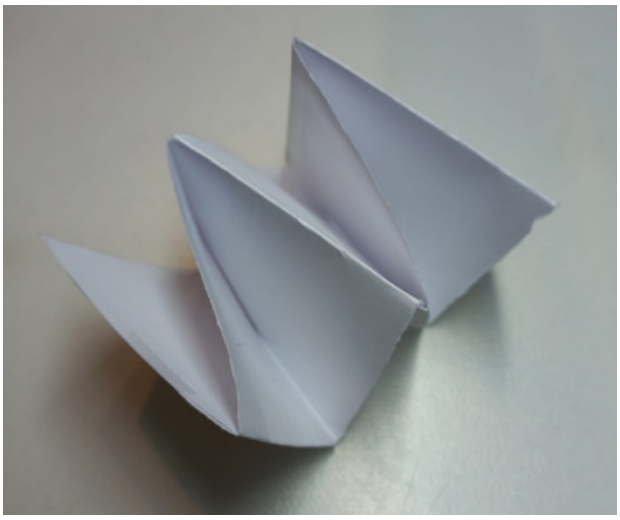


Figure 64. Paper-prototype of 'muizen trapje'

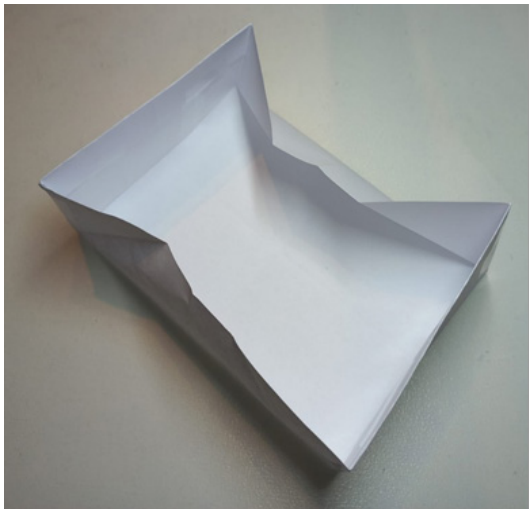


Figure 65. Paper-prototype for a foldable container (unfolded)

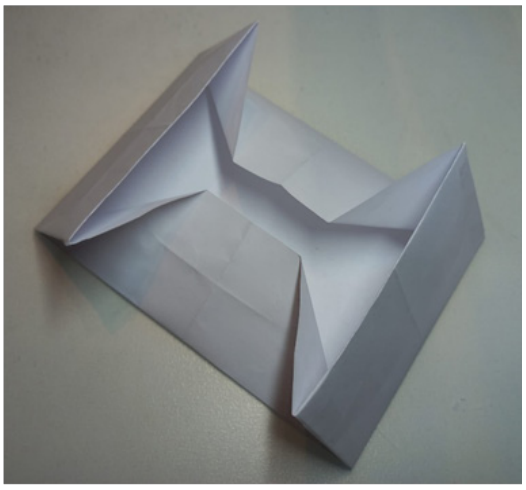


Figure 66. Paper-prototype for a foldable container (folded)

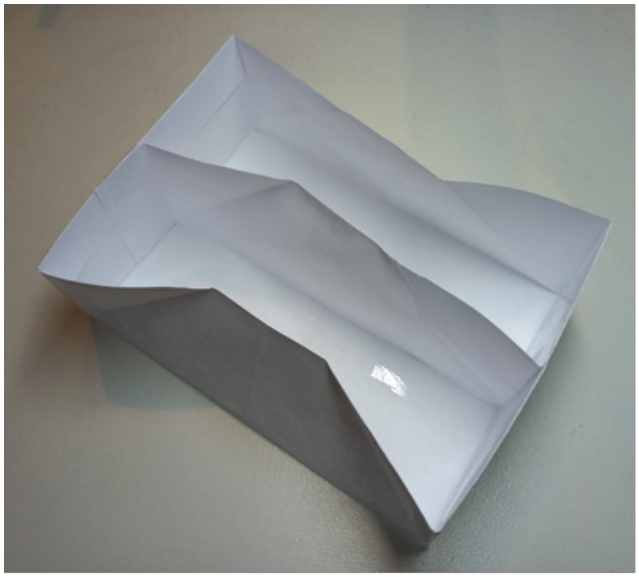


Figure 67. Paper-prototype for a foldable container with compartment (unfolded)

Figure 68. Paper-prototype for a foldable container with compartment (folded)

Appendix F : Iteration 5

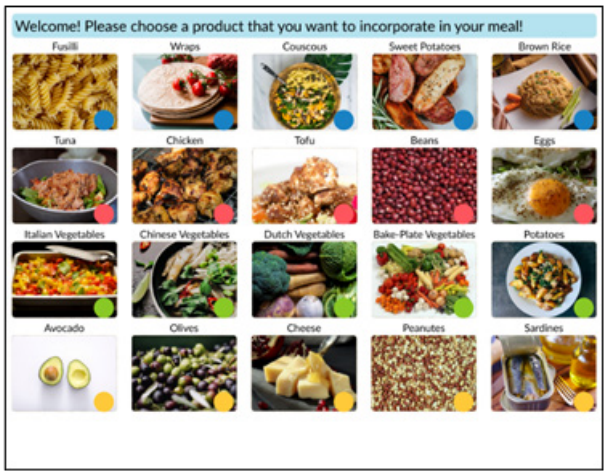


Figure 69. Final result digital interface (1)

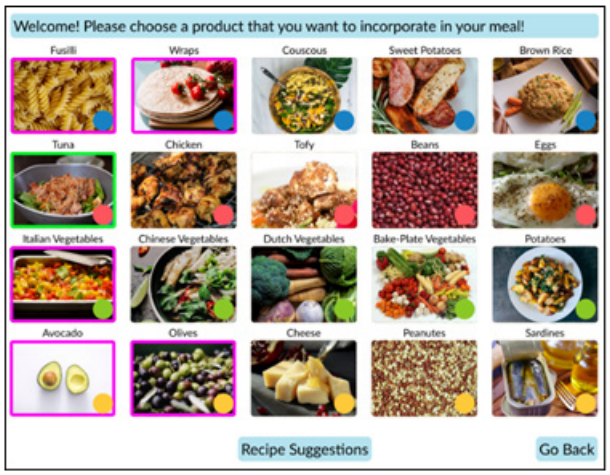


Figure 70. Final result digital interface (2)

Figure 71. Final result digital interface (3)

Figure 72. Final result digital interface (4)

Figure 73. Final result digital interface (5)

Appendix G : Demo day Posters

CHEFS' AISLE

Cheap

Healthy

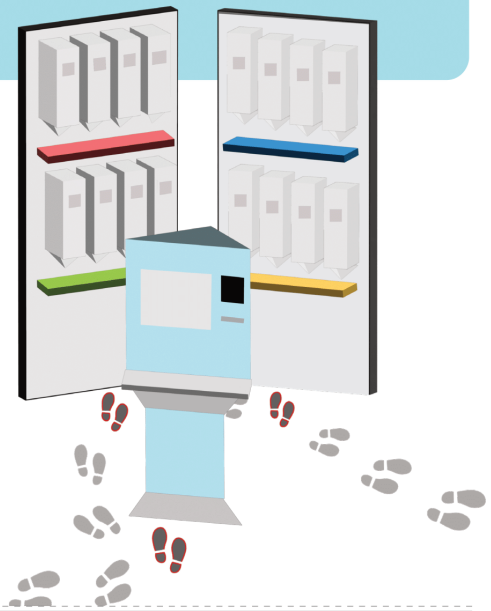
Easy

Fast

Sustainable

What?

- A simplified, all-inclusive shop aisle with a recipe guidance system
- Aisles in on-campus supermarkets and other supermarkets
- Customise balanced (all food groups) ingredients for a standard price (3 euros)
- Reusable ingredient containers (deposit system)



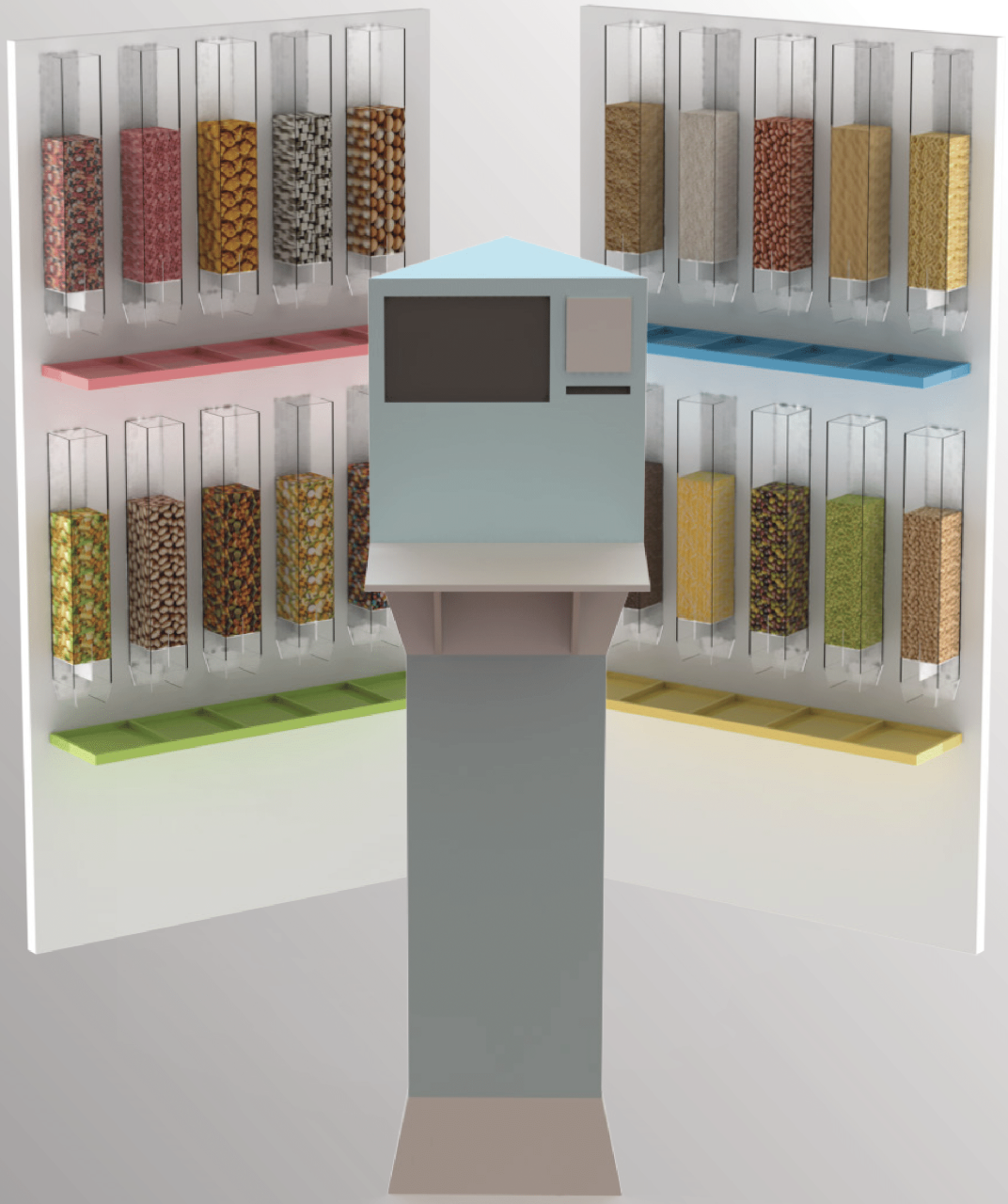
Why?

Students often lack time, motivation and money when it comes to food.

As an alternative they reach for unhealthy convenient food. We believe a good diet is a staple to performing well.

Chefs' Aisle Jort Wiersma, Heidi Berkers, Renske Spreeuwenberg, Naomi Nohar, Suus van Gogh

CHEFS' AISLE



Heidi Berkers, Suus van Gogh, Naomi Nohar, Renske Spreeuwenberg, Jort Wiersma

CHEFS' AISLE
store guide

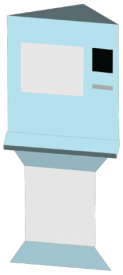
Recipe Desk

1

Choose a recipe

OR

Choose 4 ingredients



2

Choose the amount of portions and pay the fixed price

3

Take your receipt which contains the recipe and a barcode

Food Tubes

4

Place your packaging on the shelf of one of the chosen ingredients

5

Scan the barcode on the tube and the right amount of food will come out

6

Repeat steps 4 and 5 for the other chosen ingredients

Enjoy Your Meal!

Fluid Dispenser

Fragile / Large food Dispenser

Frequently Asked Questions

Q. What is the cost of a meal?
A. 3,00 Euros.

Q. How are fragile or fluid foods stored?
A. Chef's Aisle also includes fluid dispensers and fragile foods dispensers!

Q. What if the food needs to be cooled?
A. Food dispensers can be cooled, similar to fridges.

Q. How are hygiene-sensitive products stored?
A. Product such as meat are stored in bio-degradable pouches in the exact portion size required.

Q. The food container only has four options. What if I want more?
A. That is not possible. Chef's Aisle is intended as a full meal.

Q. When do you pay for the meal?
A. You pay after selecting ingredients at the recipe desk. You receive a receipt which your scan at the tubes to get the perfect portion size.

Q. How do I get the food container?
A. The container is borrowed from the supermarket after paying a deposit.

Q. Isn't 3,00 Euros unrealistically cheap?
A. No, we calculated the optimal price considering a large number of product combinations, in which all costs (such as staff costs) are considered.