

# DS3302 Exam

29th September 2023 - 24th November 2023

Candidate 2093 and Candidate 2244

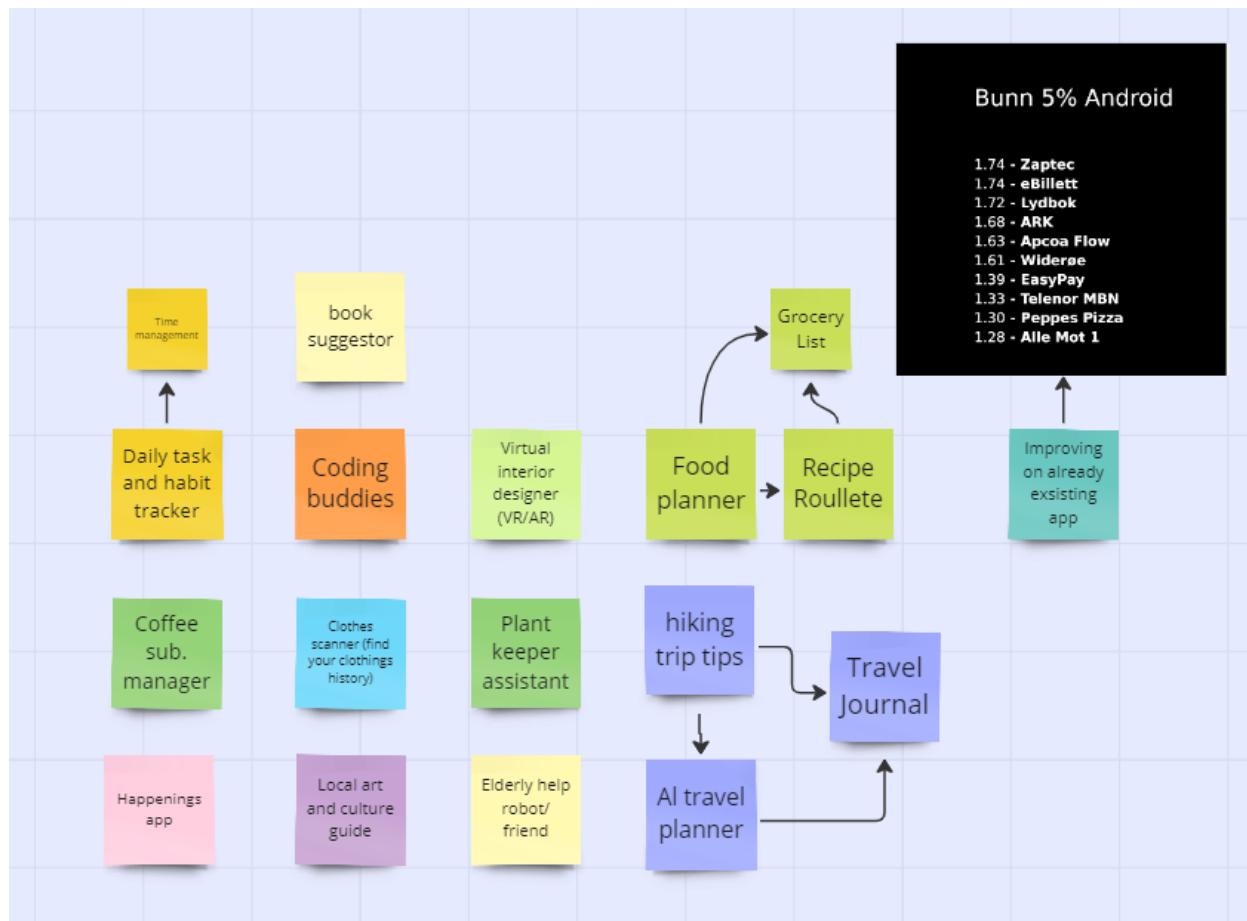
Content:

<b>1. Process, idea and concept</b>	Page 1 - 8
1.1 Brainstorming	Page 1 - 2
1.2 Sketching	Page 2 - 3
1.3 Process	Page 3 - 5
1.4 Answering questions from exam paper	Page 5 - 8
<b>2. Insight and mapping</b>	Page 8 - 17
2.1 Insight	Page 8 - 11
2.2 User testing	Page 11 - 12
2.3 Target audience and personas	Page 12 - 17
<b>3. Prototype and anchoring</b>	Page 18 - 26
3.1 Prototype	Page 18 - 22
3.2 Anchoring	Page 22 - 26
<b>4. Reflection and lessons</b>	Page 26 - 27
4.1 Reflection	Page 26
4.2 Lessons	Page 27

# 1. Process, idea and concept

## 1.1 Brainstorming

We started this exam by brainstorming ideas. We made a board in Miro and wrote all of our ideas on sticky notes. This is the Miro board we ended up with:



Mindmap made in Miro.

At this point we had written down our ideas and started to voice our opinions, and present our favorite ones. One of the ideas that we all liked was the food planner. Our immediate idea was to create a mobile app, because a phone is more friendly “on the go” and reaches a larger audience than a webpage.

“The website’s main purpose is to inform, while apps serve to help or complete a task. Apps tend to be more interactive, while website content is set for reading, viewing and listening ” (Hetler, 2022).

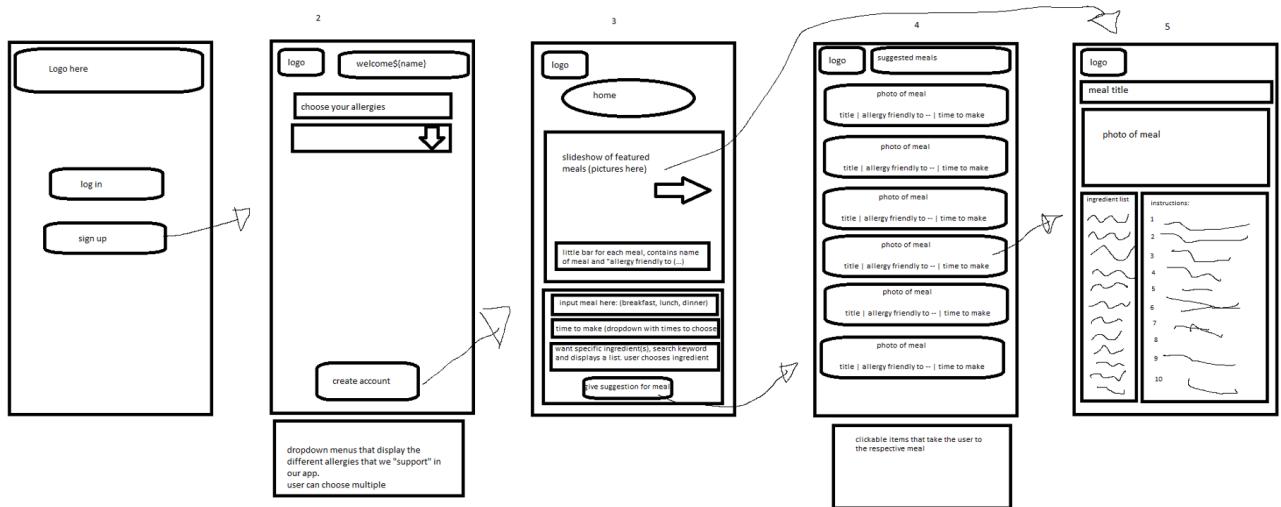
There are arguments made as to why this should be a website, but we felt it was more fitting as an app, as we want it to be interactive and a service to help with the task of finding allergen friendly recipes.

We then moved on to think about what we would like in a food planner and started to think about the competition, and how we could separate ourselves from the other similar services. The competition analysis will be presented later in this document.

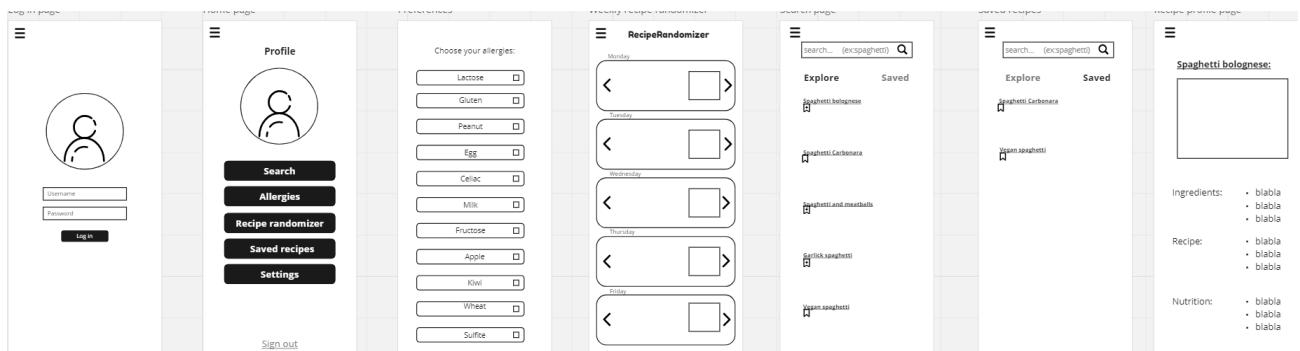
## 1.2 Sketching

The way we decided to do this was that we all made our own sketches and presented them to each other. These are the sketches we made (all pictures will be added to “vedlegg” on wiseflow) :

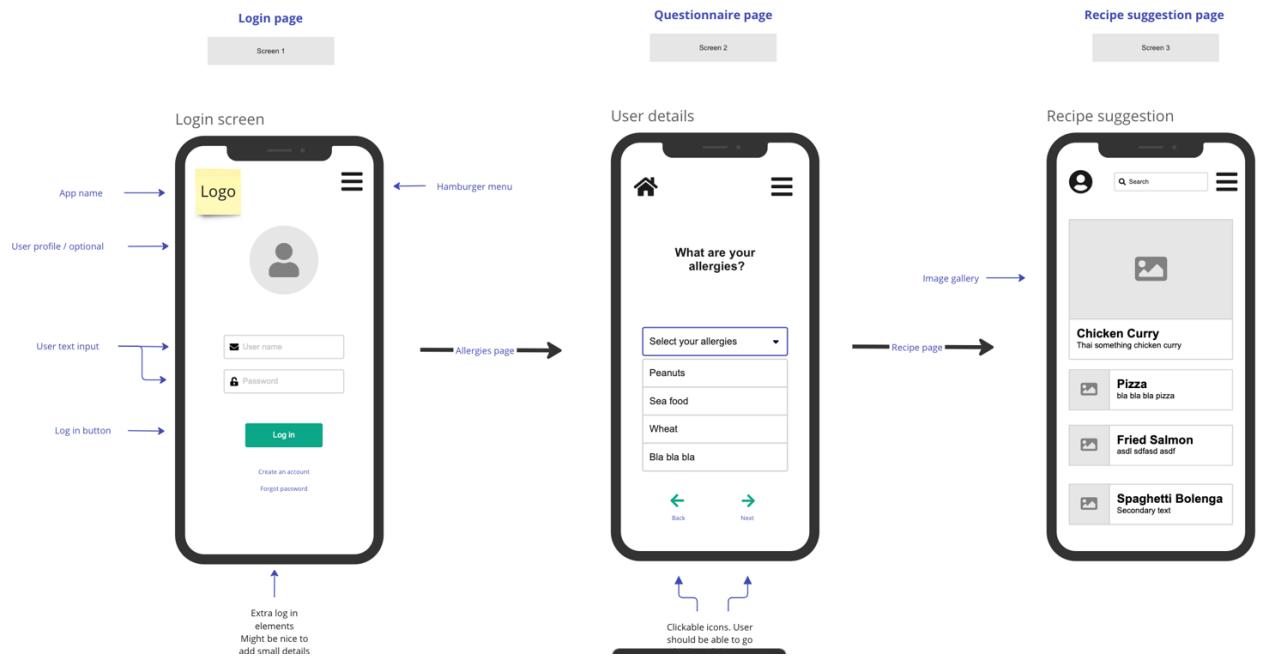
*Sketch 1*



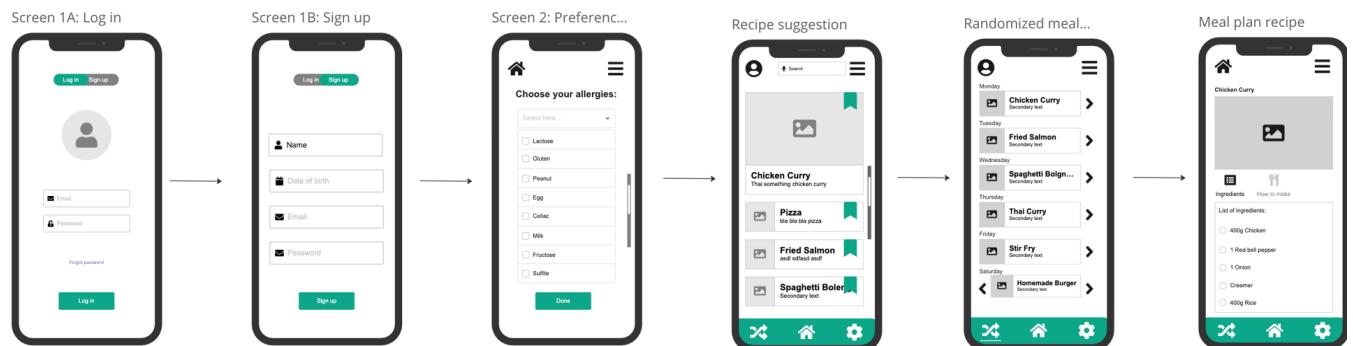
*Sketch 2*



*Sketch 3*



#### Low fidelity prototype

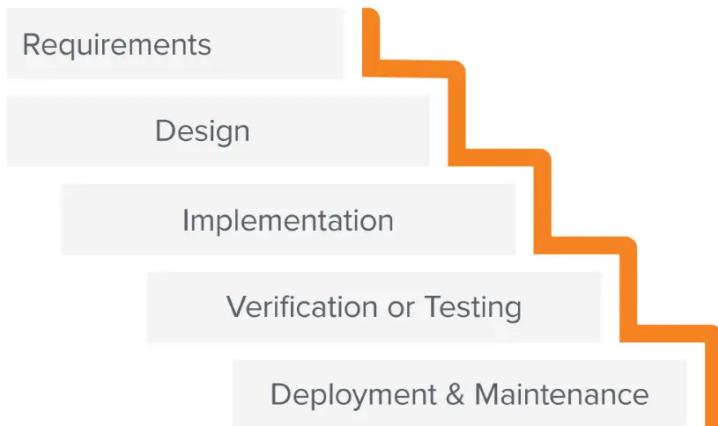


After we had done the sketching we started to look at what we think we should keep and what we should modify. We ended up with a low fidelity prototype that looked like this.

### 1.3 Process

At first we were quite unsure about what process we should structure our exam after, like the literature says, “(...) men min erfaring er at prosessen aldri blir slik som en fin modell sa at den skulle være” (Nordbø, 2022, p. 84). This is saying that a design process is never like a pretty model, it varies based on the circumstances. After some time in the starting phase of our

exam, we did land on a design process that we thought fit us well; the waterfall.



(Adobe, 2022)

This process is quite restrictive if you follow it literally, which we are not doing.

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Den er rigid på den måten at krav til løsningen er satt helt i starten, og det er lite rom for endringer underveis. I praksis er dette vanskelig å følge, og har derfor blitt åpnet for mindre iterasjoner mellom trinnene.

(Nordbø, 2022, p.85 - 86)

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This quote from the literature states that this model is quite difficult to follow, but there are modifications available to make it better. We have followed the principle of this process method, which is finishing one step before moving on to the next. Naturally, there are always some things you need to go back and change according to the response received.

We wanted to make a Kabana chart to keep track of things we need to do, but we realized that we did not really need it. Our group lost one member along

the way because of differences, and from then on, the communication was very smooth and we did not need a file to keep track of tasks.

We do see the need for this in a larger project, but we did not feel the need for this in this project.

Now that we had our idea and the process we wished to follow, we had to develop our concept. This will be answered based on the questions given in the exam paper.

#### ***1.4 Answering questions from exam paper***

##### **Description of our idea/solution:**

An app that lets the user create an account. The account holds information (which can be edited at a later point) about what type of food they want to avoid.

For example, a user who has lactose intolerance, can register that they have lactose intolerance and then the app will only suggest recipes, which do not have any products that contain lactose.

Additionally the app will serve the user a weekly meal plan, which the user can customize if they wish to. This page will suggest 7 random meals, if the user wants to change Wednesday's suggested meal, they replace the existing suggestion with a new, random meal.

Our app will keep track of what recipes the user is “visiting”. Our wish is to make this app very personalized, this can be solved with something like “cookies” where the program keeps track of categories the user is frequenting, like for example, a user really likes pasta and uses a lot of recipes that contain this, the app will then suggest a pasta apps, and will more frequently show pasta recipes in the “weekly plan suggestion”.

In a perfect world our “weekly plan suggestion” will be exactly what the user would want and no recipes would be changed out.

## **What problem are we solving?:**

Recipes websites or apps tend to cater more to the general public, that means people with allergies are maybe forgotten a little bit. From experience, the group members have had trouble finding recipes either because they have a food allergy, or family members with food allergies.

The problem we are solving is a need where the market is lacking when it comes to catering for people with food allergies.

## **What is our goal for our solution?:**

Our goal is to make dinner planning easier for people who need to think about allergy friendly foods, also we want our app to be personalized, as mentioned in the idea/solution description.

## **What will we focus on to achieve these goals?:**

Our focus will be to help users achieve their goals, we want this app to be personalized and change based on the user's actions.

## **How/why will our solution work?:**

The success of this app is largely based on our research, which highlighted a need for this kind of app.

Safe Plate caters to a niche audience, but also something that is sought after. As seen by user feedback and from personal experiences. We believe people are missing a food app that changes based on what you select, which then will generate a meal plan for them.

## **What is unique about our solution?:**

What we are doing to stay unique is that we are focusing on allergy friendly recipes. Safe Plate will change its content based on the users selection and preferences..

## **What does our competition look like?:**

As seen later in our report with the feedback from users, we saw some services mentioned and we decided to investigate those services, as well as some others. This was done to see what we might be missing, and to see what we should add that the other services are missing.

### **Hellofresh.no**

This is a service that delivers “packages” of food with all ingredients and how to assemble the meal. Immediately we notice that finding recipes based on allergies are non-existent. They have a good selection of other things, like vegetarian, low-carb, fast or family recipes, but no clear way to filter on allergies.

Our conclusion of Hellofresh is that they have a good selection of meals, but no way to select any allergens.

### **Trinesmatblogg.no**

This is a food blog that contains a lot of recipes as well. Good looking website with some nice components like “tips & tricks”, and a weekly menu. It has a good separation of information with categories such as dinner, party food, cakes, drinks and baking recipes. We also notice a lack of allergy friendly recipes, there is no clear way to see what allergens each recipe contains. The only way to see something like “gluten-free” products is by searching, and that only shows sweets and 2 dinner meals.

The conclusion of Trines Matblogg is that it's a good looking website with many positive things, but again, it does a poor job at showing allergy friendly food.

### **Pappautengluten.no**

This is a “food blog” style web page as well, but with some additional elements to it. At first glance it is a decent looking website, but we soon found it quite difficult to maneuver it. You get a very annoying popup that uses a few seconds to arrive and disappear, and the layout of the pages vary from page to

page. It has very long dropdown menus and feels very cluttered. A positive thing with this website is that it has a store where you can buy gluten free products.

This website has good ideas, but we think it's poorly executed. It has a good selection of meals, but only caters to one allergy (gluten).

### **Matprat.no**

Matprat is a well established website that provides food recipes. We feel this is a well made website, easy to maneuver and contains a lot of good information. It's easy to use, but, it's also missing the possibility to filter on allergens. The only ways to do this is to manually enter every ingredient you do not want (which is very specific and doesn't let you filter out an allergy) or by searching, that gives the user a very limited amount of recipes (mostly baking or sweet recipes).

Matprat has a good website, a lot of information, but, similarly to the other services, they are lacking the functionality to filter out allergens.

## 2. Insight and mapping

### **2.1 Insight**

“Når vi vet hvem brukerne våre er, må vi finne ut av hva de trenger.” (Nordbø, 2022, p. 98). The target audience for our project are people with allergies, and people who need to make food for people with allergies. This will be expanded upon in the coming subchapter. Now that we know who they are, we need to know what they need. This came quite early on as our group members either have an allergy, or have to make food for people with allergies. That made our ideas quite clear and we had some knowledge about what our target audience needs.

We also did other methods to get extra knowledge, like a google form which we sent out to the public via social media. This questionnaire presented questions like, “Do you find it difficult to find allergy friendly recipes?” and “if

you have allergies or have to make meals for someone with allergies, would you use an app like this?".

We made sure to follow the principles of design research (Nordbø, 2022, p.102) by assuring the users that this google form is anonymous and will only be used in relation to this exam.

We wanted both quantitative and qualitative information. All questions, except the last, are meant to give quantitative information, in form of numbers and percentages, and the last question gives us some qualitative information, where the user is free to answer us with an open question. (Nordbø, 2022, p.108).

Our google form got 84 answers (at the time of writing this report), and you can see the full questionnaire report here:

[https://docs.google.com/forms/d/1aP-IXAZho5lohRyAPG-tl4KdxsBGyDu\\_FsMhNu6DlcQ/edit?pli=1#responses](https://docs.google.com/forms/d/1aP-IXAZho5lohRyAPG-tl4KdxsBGyDu_FsMhNu6DlcQ/edit?pli=1#responses)

We will not add any images here, only write about it. Please refer to the link above to see the actual information we received. The questions will be translated to english for the purpose of this report.

***Question 1: Do you, or anyone you know have one or more food allergies?***

The answers were majority yes (~87%). So most of the answers we received in the other questions were given to people that are in the target audience.

***Question 2: Do you feel that it's difficult to find food recipes that caters to the allergy/allergies?***

This was very split, almost evenly between the 3 options. Still, almost 40% did feel it was difficult to find recipes that catered to allergies.

***Question 3: If you invite someone over for dinner, and they have a food allergy, is it easy for you to know what you can/can not make?***

More than 50% of participants disagreed and they do find it difficult knowing what they can and can not make.

***Question 4: If you have food allergies, or have to make food for people with food allergies. Would you use an app that offers a large variety of recipes based on your allergy?***

This was a resounding yes, with 80% of participants saying that they would use this service. In addition to this, only 3 out of 83 participants stated that other services do this well enough. So we clearly see that people feel other services lack the option to cater to allergies in an efficient way.

***Question 5: In this type of app, what is the most important?***

This question was to see what people would like more; aesthetically pleasing, large amounts and good information or a combination of both. As expected, the majority answered a combination of both, but the 2nd most popular answer was “large amounts and good information”, so clearly the information in this type of app is more important than the aesthetics.

***Question 6: Do you have any suggestions as to what you would like this app to contain?***

Here we presented the participant with an open answer, where they could suggest content for us. This was to also give us some qualitative information. Some answers were repeated so here is a list of the most relevant ones, in our opinion:

- “Easy to use and filter for allergens”
- “Filtering on allergens and what type of meal you want (dinner, lunch, dessert etc) (...)"
- “The app doesn't necessarily need to be aesthetically pleasing, but have a simple and clean interface. A lot and good information is also good, but sometimes too much information (or choices) can be overwhelming, for example Netflix”
- “HelloFresh has a good solution to this, by offering for example 20 meals each week, then the user can choose between them. Each week new meals get introduced”
- “(...) Option to download recipes so that they can be sent to for example school kitchen/sfo, family and friends”

- “Local log of recipes, with the option to “like” something, something along the lines of what Spotify has done”
- “(...) Recipes with high quality and good instructions, like Trines Matblogg, but fitting the allergen”
- “Video recipe”
- “It should be easy to use for all ages”
- “Sorting/filtering on meals based on food categories (meat/beans/fish/etc)”

Some of this feedback was something we integrated in our app immediately, and some of them are things we might consider in the future. This will be touched upon in the conclusion of this report.

This google form got us a lot of user insight, we figured out that there is a market for it and that our thoughts were shared by others.

Furthermore we also did some user testing along the way to get feedback on what we actually had at that time.

## **2.2 User testing**

We knew that with this idea we would have some bias, we have struggled with our problem, which is finding allergy friendly recipes. Based on this we knew we had to do extensive user research and testing. We did achieve further knowledge and confidence with our google form, but we also wanted more insight and feedback on our app. So we went forward and did some user testing. In this case, a user test is a presentation of our idea, and a walkthrough of our prototype. Then we ask some questions and get the users input. Same as before, we made sure our subjects were aware that this is completely anonymous and will only be used in relation to this exam.

Our user testing took place at different times in our prototype progress. All users were not shown the same prototype.

Our first user test was done quite early, we had gotten the basic layout done but not much functionality. This user has a food allergy. The overall feedback was positive, this user liked the app and the idea. Some criticisms were the same as we had gotten before, like for example adding a filtering function on ingredients and recipes type like dinner, lunch, dessert etc. This user pointed

out one very useful thing to us, he didn't like the "preferences page", where you choose what allergies you have, so he suggested we change the layout to categories. So we decided to change the layout. This will be expanded upon in the prototype section of this report.

Our second user test was done a bit later in the process, we had our basic layout done and a lot of functionalities were present. Again, the overall feedback was positive, and this user saw the use of this application. We had some minor feedback, like "already have an account?" text was not very visible. This user thought it would be a good idea to add a "video" tutorial on the recipe page. Another input from this user was to add dark mode, which we think is a good idea, but not something we would incorporate in our prototype. Our other user tests are not really relevant to present, they either bring up something already mentioned, or had no feedback at all.

### ***2.3 Target audience and personas***

We settled on 2 target audiences.

*Primary target audience:*

People with allergies that have to make food for themselves.

*Secondary target audience:*

People that have to make food for people with allergies.

Our primary focus is to make it easier to find recipes that cater to the users allergy/allergies. Our second focus is to make it easier for people that have to make food for people with allergies. Safe Plate helps users plan meals, suggest recipes, and get knowledge about what ingredients they can use.

Additionally, we want to encourage children with food allergies to be able to explore recipes, which they can show to their parents as suggestions.

This will apply for children that cannot make their own food.

As the exam paper states, we need at least 2 personas per target audience.

We decided to make 2 personas for our primary target audience, and 3 for our

secondary. We also created user tasks/story for each persona (Nordbø, 2022, p.134. We made personas based on our knowledge about our target audiences and tried to make them believable, names are fictional and pictures are stock pictures from pexels.com.

## Personas for primary target audience:

<p><b>Per Persson</b></p> <p><b>Demographics</b> <b>Age:</b> 20 <b>Occupation:</b> Student <b>Income:</b> Low</p> <p>Recently diagnosed with a food allergy.</p> <p><b>Behaviors &amp; Habits</b> Uses large portions of his day studying. After a long day, enjoys relaxing on the couch. When he has time, he spends time with his friends doing social activities.</p>	
<p><b>Pain Points &amp; Frustrations</b> Hard time adjusting to a new diet and food restriction. Difficulty coming up with meals that cater to his needs. Does not have time to research meals and foods properly.</p>	<p><b>Needs &amp; Goals</b> Wants to find suggestions and tutorials on meals to make catered to his own needs. Wants to be sure if what he is eating is fitting his allergies.</p>

## Per Persson's user task/story:

As a student with a newly diagnosed food allergy I want a service that will present me with safe meals, so that I have a safe and easy way to find recipes that fit my allergy, as I don't have much experience with cooking allergy friendly meals.

## Vilde Vildesen

### Demographics

**Age:** 38

**Occupation:** Full time employee

**Income:** Average

Has lived her whole life with food allergies.

### Behaviors & Habits

Likes to spend her free time on her hobbies and personal projects. Likes hiking with her dog and exploring nature. In her free time, she spends time on her hobbies.



### Pain Points & Frustrations

Has lived with allergies all her life, so she has a good understanding of what she can and can not eat. But after many years she has been eating the same meals, now she wants to expand her recipes and explore new food.

### Needs & Goals

Needs to have a service that can suggest different recipes, and wants to explore the culinary world but wants not to be overwhelmed with having to filter the recipes herself. Therefore she wants a service that filters it for her so she can browse without any worries

### Vilde Vildesen's user task/story:

As a full time worker with a lot of free time, and have lived with a food allergy my whole life, I don't necessarily need to know what I can and cannot eat, but I want to widen my recipe collection. With many years experience with cooking allergy friendly food, I am aware of what I can make, but that means I often eat the same meals. I want an app that shows me a wide selection of food, but I don't want to analyze each meal to know what I can and cannot make.

## Personas for secondary target audience:

### Hanna Hansson

#### Demographics

Age: 30

Occupation: Full time employee

Income: High

Has 2 children, 1 of them recently got diagnosed with a food allergy.

#### Behaviors & Habits

Works long days, often overtime.

Tired after long days and likes to wind down on the couch.



#### Pain Points & Frustrations

Hard time knowing what their child can and cannot eat. Difficult finding meals that fit their child's needs, and does not know of many ingredient replacements that cater to her child's needs. Long working hours makes it hard to research meals properly, and cannot rely on her child to make their food themselves.

#### Needs & Goals

Wants a simple way to find meals that fit her child's needs.

Wants a simple way to know what ingredients she needs for meals, also wants to know different allergy friendly ingredient replacements.

### Hanna Hansson's user task/story:

As a mother of two children, where one of them recently got diagnosed with a food allergy, I am struggling to find meals for both of them. I have a high income and work a lot, and therefore I have no trouble paying for two meals, but I am struggling with finding recipes that fit. I am in need of a simple service that provides quick meals that fits my child's allergy.

## Knut Knutsen

### Demographics

**Age:** 10

**Occupation:** Elementary school

**Income:** Average (house income)

Has had a food allergy his whole life

### Behaviors & Habits

Spends his daytime at school and free time playing outside with his friends. Is rarely home, and often spends his days over at friends' house



### Pain Points & Frustrations

Is not knowledgeable enough to know what he can and cannot eat. When he is over at a friend's house, he and the house owners have a hard time making food for him. When he is home, his parents know what to make but he doesn't always like that.

### Needs & Goals

Wants to be able to be at his friend's house and not worry about food, so he wants to show/send a recipe to them so they know what they can make for him. Also when he is home, he wants to have a say in what he eats, but he doesn't have enough knowledge about allergens, so he needs an app that filters recipes for him, so he can just pick and choose what he wants to suggest to his parents.

### Knut Knutsen user task/story:

As a 10 year old I cannot make my own food, but I have my parents make them for me, I don't always like what they make, and I am not allowed to make food myself. Also when I visit my friend's house, their parents don't know what to make for me. I want an app where I can find recipes so that I can suggest them to adults, so that they can make the meal for me.

## Emil Emilsson

### Demographics

**Age:** 28

**Occupation:** Full time worker

**Income:** Very high

Doesn't have any allergies, but wants to invite friends and family over for dinner, and some of them have food allergies.

### Behaviors & Habits

Enjoys inviting friends and family over for dinner. Has a good income and likes to treat his friends and family. Enjoys cooking, but does not have much knowledge about allergies or allergy friendly food.



### Pain Points & Frustrations

Trouble knowing what ingredients cater to which allergy. Does not want to bother his guests with questions, wants the dinner to be a surprise for them. Afraid of creating a meal that does not cater to their needs.

### Needs & Goals

Wants to be able to find a wide variety of recipes like, dinner and dessert that caters to his guests allergies. Also wants a wide variety of "quality", likes to spend money on the experiences, so he wants high quality ingredients and doesn't mind spending a lot of time on the meals.

### Emil Emilsson's user task/story:

As a full time worker, with a very good income, I like to treat my friends. I don't have any allergies myself, but I have friends that do. I often invite people over for dinner parties and I like to show off my cooking skills, but the problem is I don't have any experience with cooking allergy friendly foods. I could ask my guests what they can and cannot eat, but I feel that would ruin the nice dinner surprise. I want an app where I can find nice recipes that take different allergens into consideration.

### 3. Prototype and anchoring

#### **3.1 Prototype**

*Link to Figma prototype and mockup:*

<https://www.figma.com/file/xAfsJUHbP8Prc0aP177cl7/Interaction-Design?type=design&node-id=5-333&mode=design&t=duWxMCEjEpxf6jGc-0>

As mentioned earlier, our team consisted of 3 members, which meant we needed to implement our sketches into one cohesive and unified design.

Sketching in Miro was very much straightforward, the transition to Figma was a bit more of a challenge and a learning curve as it was a relatively new tool for us. The prototyping process started by identifying commonalities in our sketches and addressing questions such as, What pages to include? Who had the better solution? Our main priority, to begin with, was translating our Miro sketches into a Figma prototype. This phase involved hands-on learning and a learn-as-you-go approach.

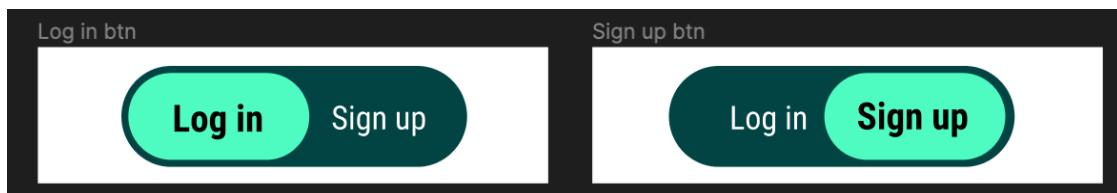
#### **First page - Login screen**

The group unanimously shared the same concept for a user login page as it aligned with our initial sketches. On this page, the user can conveniently input their information by email, phone number, and password. To cater to the users without an account, it made sense to create a secondary sign-up page. For users with an already existing account, we included features like the “remember me” as well as, the “forgot password” option.

From a design perspective, it seemed fun to incorporate a sliding motion by using smooth animation. This will transition the user from the login screen to create an account effortlessly should they choose to sign up. The sliding animation adds a dynamic and user-friendly element to the experience.

The main page is kept simple, avoiding unnecessary distractions by emphasizing the main elements. The slider button (login/signup) is centrally positioned at the top. The layout includes a profile image, user input fields, and finally a login button at the bottom.

The brand's logo, "SafePlate" is displayed in the top left corner. The slider button's dual tone serves a dual purpose for the users, indicating the current page the user is on and introducing a secondary page. This is done visually through bold font and a light green hue to reflect the current page the user is on. The color change also helps the user identify which page is selected in a user-friendly interface.



*This image is taken from the components folder as an example to demonstrate the visual aspects of enhancing font and color change. The slider transitions the user from one page to the other effortlessly.*

To enhance user personalization, we've added a notably big profile icon, which allows the user to upload their image, should they choose to. This feature adds a personalized touch to their profile and also ensures a more user-friendly experience by making it easier for them to visually identify and connect with their accounts. This feature follows universal design principles by ensuring inclusivity and accommodating users with diverse preferences and needs.

### **Second page - Sign up screen**

Sticking to the same design principles from the user login page, the sign-up screen maintains a consistent visual design with a slight variation to accommodate input fields for the user to fill in their information. Positioned in the top left corner, the brand's logo serves as a constant element, mirroring its placement on the previous page. This intentional design choice creates a cohesive and recognizable thread throughout the user experience, promoting familiarity and ease of navigation.

### **Third page - Preference screen**

The third page, labeled as the "Preference page" is a crucial component to our users.

Here, the user determines their specific allergies they wish to avoid. Depending on their selection or preferences, the system generates and

displays a meal tailored to their unique dietary needs. This User-Centered Design (UCD) ensures that “SafePlate” caters to individual preferences, and improves the overall user experience by providing personalized and relevant content.

#### **Fourth page - Recipe suggestion screen**

The main focus when designing this page is on user interaction and ease of use. The larger slider image takes center stage, creating a visually engaging carousel that introduces the user to multiple meal options, followed by a small description of the meal. The design choice ensures a dynamic and captivating browsing experience and interactivity, allowing users to quickly go through a variety of available meals. In addition, the heart icon allows users to mark a meal as a favorite with a simple click. This thoughtful feature encourages user engagement by providing a way for individuals to select a collection of their preferred meals. “SafePlate” app then organizes these favorites into a dedicated page. This design allows users to revisit and review their preferred recipes.

This page follows the principle of Universal User Design (UUD) by prioritizing inclusivity and accessibility. The notable visual elements and intuitive icons help contribute to an interface that is user-friendly for individuals with varying levels of digital abilities. The emphasis on clear visuals and straightforward interactions makes sure that the “SafePlate” is accessible to a broad audience, promoting a positive and inclusive user experience.

#### **Fifth page - Randomizer meal plan screen**

For this page, the design is very similar to “Recipe suggestion”. The “Randomizer meal plan” page introduces the user to a weekly meal plan. The clickable slider functionality enhances user experience, by allowing them to effortlessly navigate and choose a preferred meal from the presented options.

Each slider has a gallery icon, providing a visual cue regarding the number of images to scroll through. Additionally, a small arrow indicates the sideways

scrollability of the slider, ensuring that users are aware they can explore more options by navigating horizontally. The clickable slider and visual cues cater to a diverse user base, making the navigation process straightforward for individuals with different levels of digital familiarity and abilities.

The emphasis on clear indicator adheres to UUD principles by promoting an interface that is intuitive and user-friendly for a broad audience



*This is the gallery icon, to help user identify number of images they can scroll through*

### **Sixth page - Meal plan recipe screen**

This page is dedicated to the user's selected meal preparation. It incorporates three tabs for seamless navigation:

#### **1. Ingredients:**

This tab provides a complete list of all the ingredients required to prepare the chosen meal. Checkboxes are integrated, allowing users to mark off items they already have.

This interactive feature again, enhances user engagement and ensures a systematic approach to gathering ingredients.

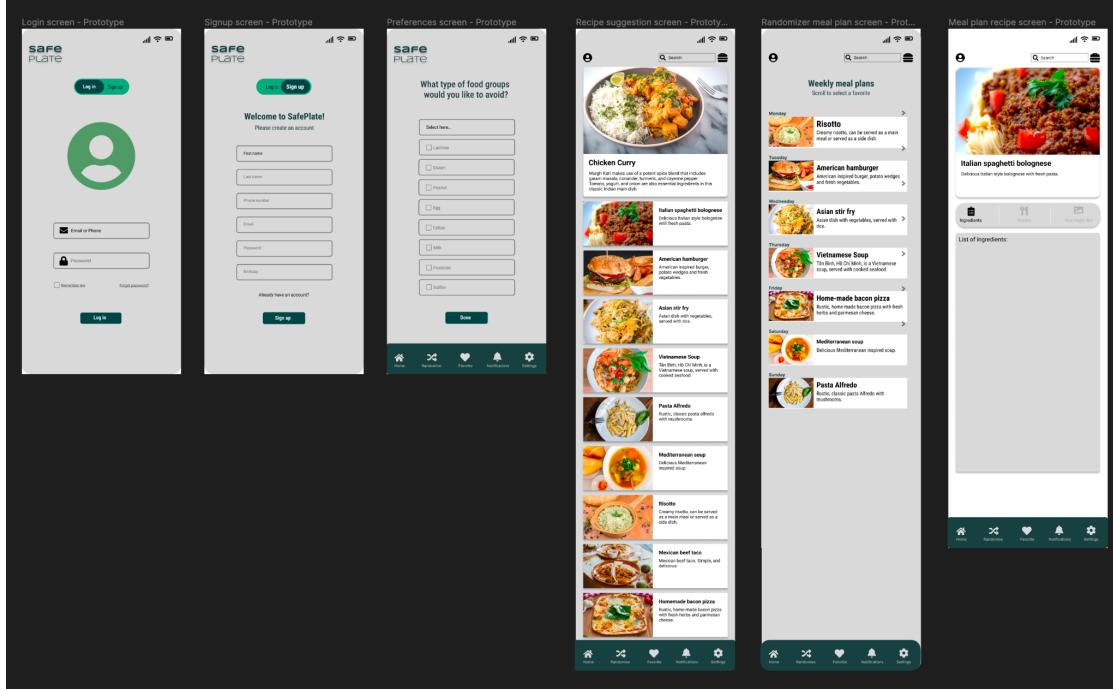
#### **2. How to make:**

The "How to make" tab serves as a step-by-step guide, walking the user through the recipe. It offers clear instructions, making the cooking process accessible even for users with varying levels of cooking skills.

#### **3. You might like:**

In this tab, users are presented with additional recipe suggestions based on their preferences, favorites, or past selection. This feature adds a personalized touch to the user

experience, and ensures user satisfaction and encourages continued exploration of our app.



Prototype in its early stages. After sketching in Miro. The prototype was made in Figma to resemble our sketches.

### 3.2 Anchoring

After a thorough user testing, we responded to valuable feedback by introducing a refined version of the prototype. While the mockup is refined, it still maintains core elements from the prototype. The mockup underwent strategic adjustments and enhancements to address users' insights and feedback. This iterative process aimed not only to refine the user experience but also to stay true to the principles of Universal User Design throughout the app. The following section details the specific changes made on each page, illustrating how user feedback and UUD principles influenced the design evolution.

#### First page - login screen (mockup)

The first notable change involves the introduction of a background image featuring a plate, a visual cue that aligns with the app's food-centric nature. This addition not only reinforces the app's identity as a food app but also adds a playful touch into the Safe Plate brand. The brand name itself, "SafePlate",

conveys a commitment to our users well-being and assures them that everything offered by the app is safe for them to serve their loved ones.

Additionally, the slider button underwent a subtle makeover, incorporating the brand's secondary color. This not only enhances user usability but also contributes to a clearer visual hierarchy. The contrasting colors and distinct font serve as navigational cues, allowing users to seamlessly transition between pages.

The bottom login button is notably made larger, which is geared towards improved usability, this also follows the principles of universal design. These changes were driven by both aesthetic and a commitment to our user providing an inclusive and accessible user experience.



*Before: Log in button from prototype was significantly smaller*



*After: same login button made larger with an addition of an arrow to further enforce UUD*

### **Second page - Signup screen (mockup)**

A second background image is introduced here, featuring a basket full of fresh produce. This imagery aims to evoke a sense of freshness, cleanliness and healthy eating. The slider maintains continuity with the previous page, visually signaling to the users that they have transitioned to a different page.

In line with the implementation of UUD, we aimed for a design consciousness while introducing unique elements for this page. Despite variations, we kept a sense of familiarity by using the same font type and structuring the signup page similarly to the login page, including logo and button placement.

A specific feedback regarding the legibility of the “Already have an account?” text prompted a strategic solution. We created a background box with a #D9D9D9 (light gray color) fill, set to 100% and used blend mode to set it to lighten to enhance text visibility. The Dark gray input fields were implemented for better contrast and visibility, ensuring users readily identified where to input information.

To maintain a consistent design flow, the signup button received a size increase, and a directional arrow was incorporated to make navigation seamless and effortless.

### **Third page - Preferences screen (mockup)**

This page underwent a substantial transformation from the prototype, particularly in terms of content and design considerations.

As creators of the content across all pages, we struggled with the challenge of understanding how users read information when presented with numerous instructions. The dilemma revolved around knowing the user’s reading patterns, prioritizing information and determining the hierarchy of focus such as - What constitutes primary, secondary and tertiary information?

Our design approach was loosely based with that in mind. We determined the titles as the primary element and set the font type to H1, we designated smaller titles like Color Chart, Categories and FAQs as secondary by using a smaller font type H4, while other content assumed a tertiary role we assigned them an H6 font type. To accentuate the importance of specific elements, bold font types were strategically placed.

The “Preference” page in the prototype initially featured a dropdown menu for users to select food groups to avoid by ticking them off. However, user feedback indicated that the page was boring and lacking. In response, we pivoted to a more engaging solution by pre-selecting the 14 major allergens commonly avoided by users (Morgan, 2018), storing their preferences in the user settings.

To combat misunderstanding we introduced a color chart to explain the significance of the different colors. Yellow indicates seeds like wheat, sesame and lupin; green signifies soy and celery; deep red indicates crustaceans like seafood and shellfish; light blue is associated with dairy products like milk and eggs; and bluish-gray is used for chemicals like sulphites. These adjustments, rooted in user feedback, underscores our commitment to refining the user experience through a thoughtful and inclusive design process.

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## Color chart

The color chart indicates the different food groups

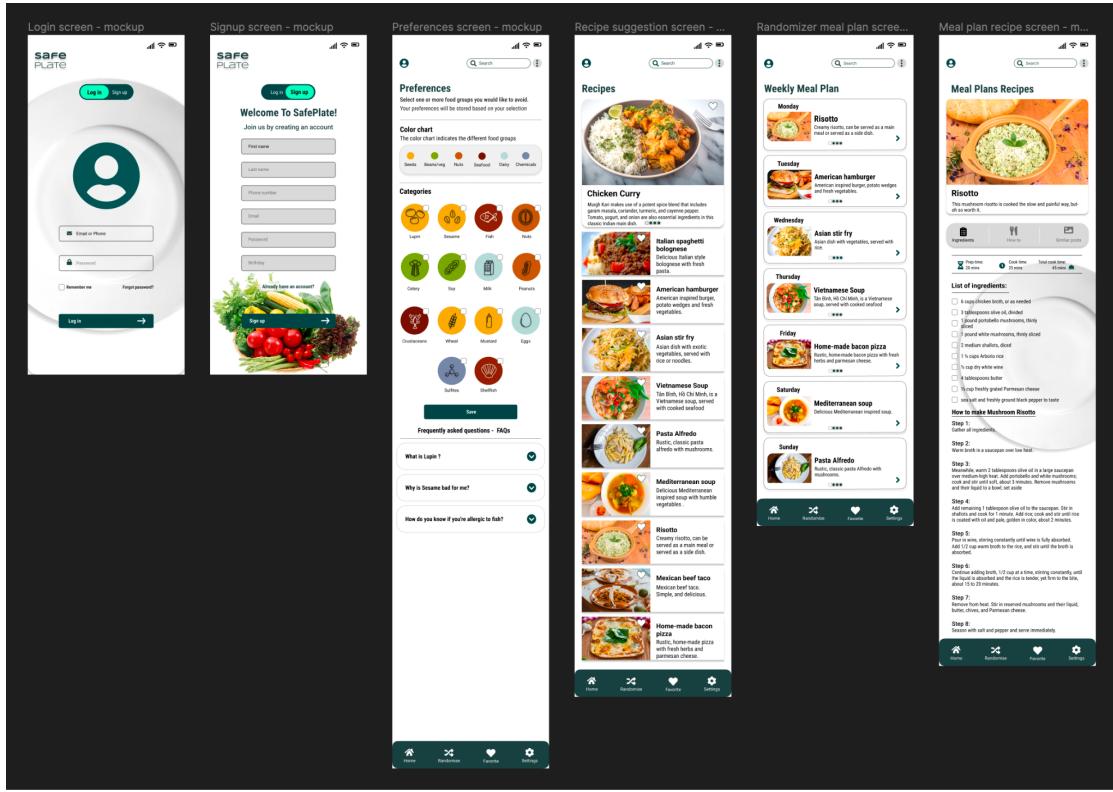


*Color chart to help users identify different food groups*

Recognizing the need for clarity and user education, we introduced icons representing the 14 major allergens, accompanied by their assigned color and integrated checkboxes for user convenience. The addition of a Save button enables users to preserve their preferences seamlessly.

Based on feedback from user testing, which included requests for an informational app, we designed an FAQ section. This addition serves as a resource for users seeking information about specific items such as lupin, this fosters a more informed user and builds on our commitment for a user-friendly experience.

The rest of the pages remained very much the same as the prototype.



The final product. This is a mockup of our app's final look after implementing some changes based on user feedback and implementing universal design for easy user usability.

## 4. Reflection and lessons

### 4.1 Reflection

In exploring the world of interactive design, We've learned various lessons and wished we could have further improved upon the following:

1. Information Architecture
2. UX writing
3. Design Systems
4. Visual design
5. UI design Principles
6. Usability testing
7. Problem-solving
8. How to properly utilize secondary colors
9. Implementing universal design on a greater scale

## **4.2 Lessons**

The lessons we have learned are many, everything from handling differences of opinions, time management, delegating tasks and so much more.

We had some challenges on this journey, one being that one of our group members decided to leave the group at an early stage, we went from being 3, to only 2.

On this interaction design journey we got to delve into the world of UI/UX, which ignited a passion for design. The core lessons we learned revolve around creating user-centric and universally accessible applications.

From understanding the significance of sketching, prototyping in Figma and the importance of anchoring allowing for a flexible design to suit the users needs and providing a visual stability, and implementing universal design across diverse pages.

The hardest lesson to learn was knowing when to stop as we were immersed in this project and absolutely enjoyed it. We would have loved to develop this further but I'm reminded by this: "Design is not just what it looks like and feels like. Design is how it works." - Steve Jobs; the design works fine and with that said, this marks the end of this project for us!

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## **Images:**

<https://www.pexels.com/>

## **Figma prototype + mockup:**

<https://www.figma.com/file/xAfsJUHbP8Prc0aP177cl7/Interaction-Design?type=design&node-id=5-333&mode=design&t=duWxMCEjEpxf6jGc-0>