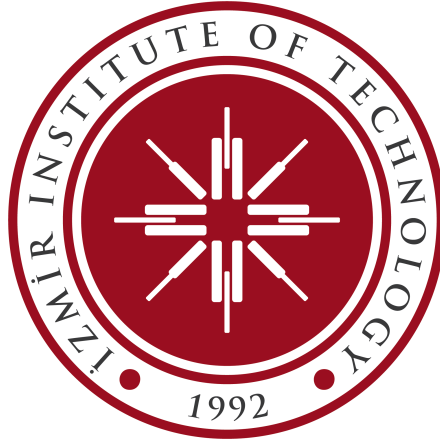# CENG318-ID202 Interdisciplinary Assignment
# Spring 2023
## *Group 14*

June 20, 2023

**Group Members**

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# Contents

**Abstract**

Eating and drinking are basic needs, therefore we spend a certain amount of time in our kitchens. Every kitchen has its own unique features and is not similar to each other because their owners have different characteristic and life style. What appliances we used in our kitchen also varies according to our personality. We designed our interface to meet the needs of the person in the persona. We created a mobile interface because we wanted the user to be able to easily control three different devices together. By using the interface, users can create their own recipes and later they can use the recipes to give instructions. Also user can add the recipes to their routines which are the tasks that appliances will perform within the regular intervals. We have tried to make our interfaces as simple and understandable as possible for first-time users.

# 1 Introduction

In this work our aim is to facilitate daily nutrition activities of the given persona because, he/she cant find much time to do these daily routines due to his/her work intensive lifestyle. Our product is capable of registering devices that persona uses frequently every day and he/she can see recipes for each device that he/she registered. Also he/she can check out the directions to understand how recipe can be applied. Furthermore he/she can set any recipe he/she wants as favorite and can set any recipe as routine with particular time to initiate that routine automatically. Another advantage is that he/she can adjust time of any routine to fit in his/her daily schedule. If later he/she does not use any device any more then he/she can delete it from the device list as well. In summary, fundamental aim of our product is to let persona handle his/her daily nutrition activities with ease without struggling with complex UI by providing UI components for only what is necessary to be done and let he/she automate these daily routines.

# 2 Methodology

The decision-making process was influenced by various factors, including persona definitions, brainstorming sessions, the application of gestalt principles and user heuristics, and a review of similar apps for comparison.

## 2.1 Persona Definition

The project team considered persona definition to better understand the target user and their needs. The persona identified was an individual with limited time for cooking. To address this user's requirements, a recipe section was incorporated into the app. This feature allows users to easily find and add recipes to their routine, thereby saving time and simplifying their cooking process.

## 2.2 Paper Prototypes and Brainstorming

To initiate the design process, the team created paper prototypes representing the initial concepts for the app's user interface (UI). These prototypes served as a basis for discussions and brainstorming sessions among the group members. Through these collaborative sessions, ideas were shared, evaluated, and refined to enhance the overall design of the app.

## 2.3 Application of Gestalt Principles and User Heuristics

The team leveraged gestalt principles and user heuristics to inform the decision-making process during the design phase. By considering principles such as proximity, similarity, and continuity, the UI elements were arranged to create a visually coherent and intuitive interface. User heuristics, such as visibility of system status(Example :Notifications to user when routine time or name is changed , routine is deleted or started , a device is added or deleted ) and recognition over recall(Example : Question mark is recognizable when a user wants to learn how to add a device) were also considered to ensure ease of use and efficient interaction with the app.

## 2.4 Review of Similar Apps

In order to create a competitive and user-friendly mobile app, the team conducted a review of existing apps with similar functionalities. This review helped identify best practices, potential improvements, and unique features that could be incorporated into the design. By comparing and analyzing these apps, the team ensured that their final design aligned with industry standards and provided added value to users.

The team used figma to create digital final design. Link:
https://www.figma.com/proto/uXxT54Fdsn44VkJkGO5193/Figma-Mobile-Design?type=design&node-id=1-2&scaling=scale-down&page-id=0%3A1&starting-point-node-id=1%3A2
All interfaces can be accessed here. Link:
https://www.figma.com/file/uXxT54Fdsn44VkJkGO5193/Figma-Mobile-Design?type=design&node-id=0%3A1&t=kBmpmlrj4E8MiDYj-1

# 3 Conclusion and Future Works

In this project, we have designed user interfaces for a persona who does not have much time to prepare breakfast in the morning. Considering his/her lifestyle, we added features to save her/him time. We designed our interfaces and made changes on them with the feedback of Indestrial Design students. We used figma for design process. In the future, we will be thinking of the making real app and improving our interface desings on it.

# 4 Weekly Schedule/Project Plan

Our aim is to stay in contact with the Industrial Design students about the interfaces constantly and create them in a way that will satisfy both parties. The main goal is to balance both design and usability.

- WEEK 1:

  Task Name: Introduction, choosing a project, discussion of the interfaces.
  Definition: Industrial design and computer engineering teams have met, the ideas for what could be done were exchanged for the machines, suitable interfaces, features, and functions have been discussed.
  Current status: Completed. Responsible Person: All Team Members.

- WEEK 2:

  Task Name: Paper prototypes.
  Definition: The whole team came together and discussed the functional and UI of the devices and prepared simple prototypes.
  Current status: Completed.
  Responsible Person: All Team Members.

- WEEK 3:

  Task Name: UI design.
  Definition: Task distribution was made within the computer engineering group and UIs were started to be processed in the electronic environment (Figma)
  Current status: Continue.
  Responsible Person: CENG Students.

- WEEK 4:

  Task Name: UI design.
  Definition: The UIs were completed and a short presentation was given to industrial design students and feedback was received.
  Current status: Completed.
  Responsible Person: All Team Members.

- WEEK 5:

  Task Name: Fixing and improving UIs.
  Definition: According to the feedback received by industrial design students, some improvements and changes were made to the UIs.
  Current status: Completed.
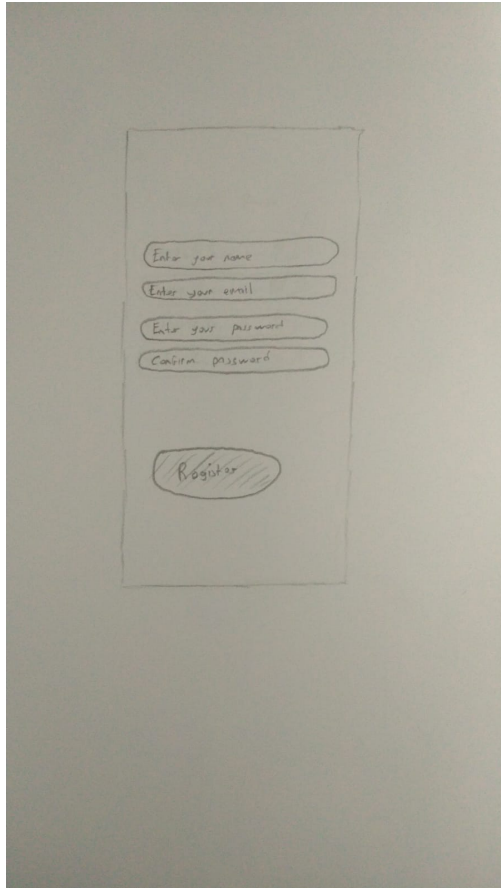  Responsible Person: CENG Students.

- WEEK 6:
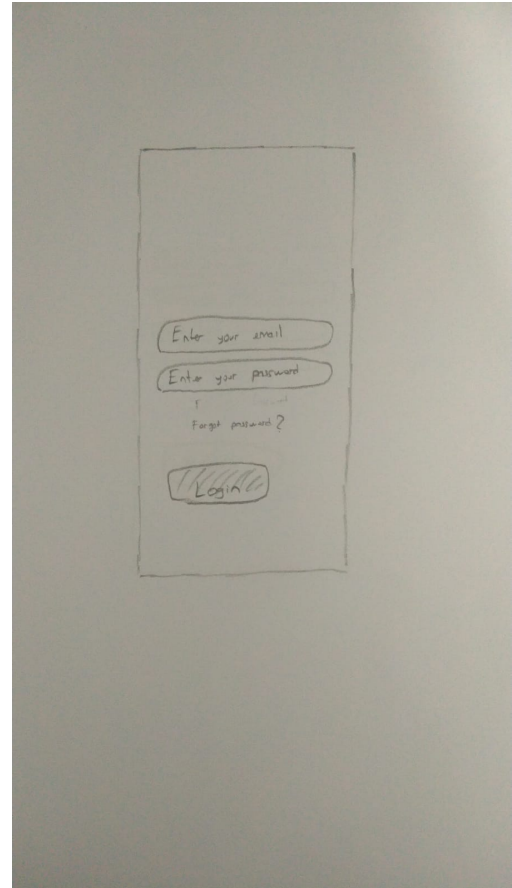
  Task Name: Animation and reporting.
  Definition: The user interfaces were made animated in the figma tool, the report was written and final revisions were made.

Current status: Completed.
Responsible Person: CENG Students.

# 5 Paper And Digital Prototypes
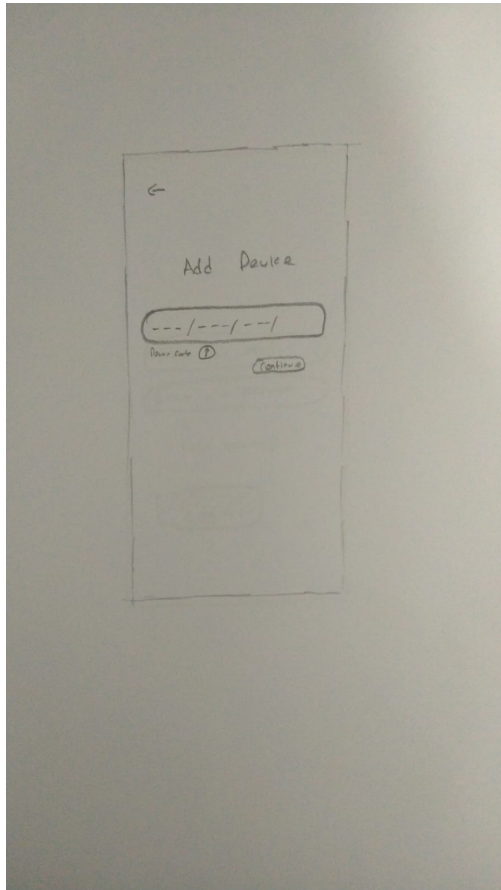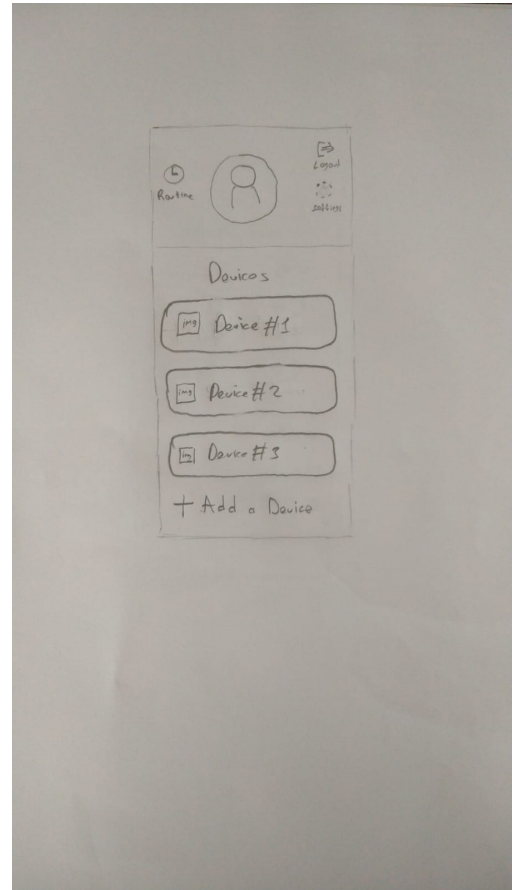


(a) Main Page



(b) Login Page

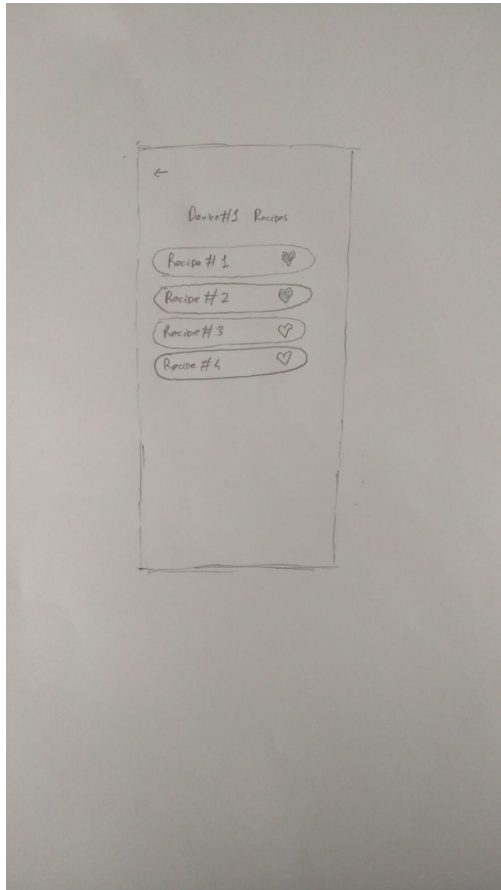Figure 1: Main and Login Page Prototypes
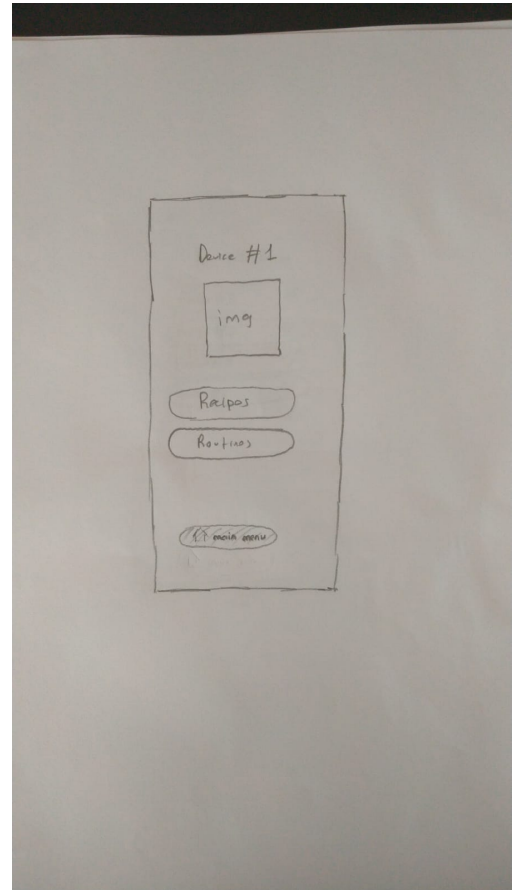
(a) Add Device Page



(b) Devices Page

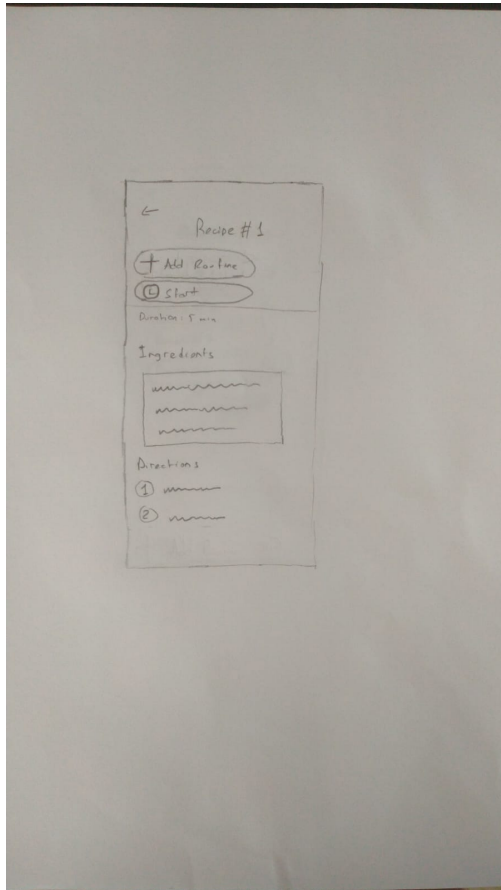Figure 2: Add Device and Devices Prototypes
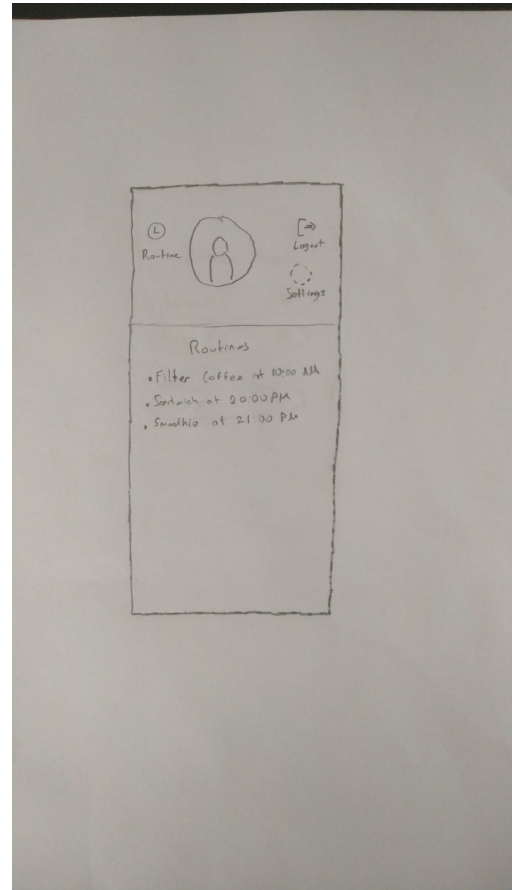
(a) Recipe Types For Particular Device Page



(b) Device Routines and Recipes Page

Figure 3: Device Recipes and Routines Prototypes
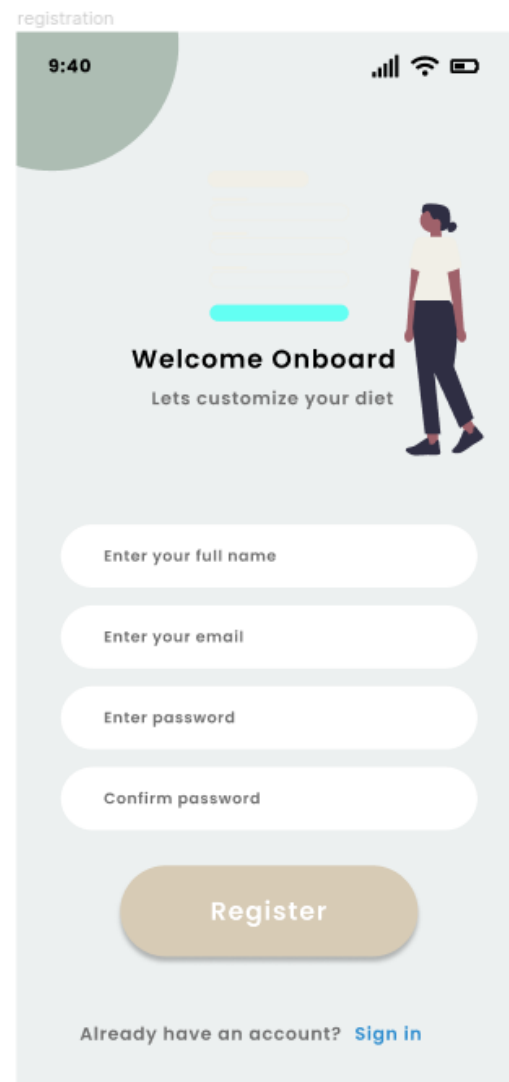
(a) Add Routine for particular Recipe Page



(b) Routines Page

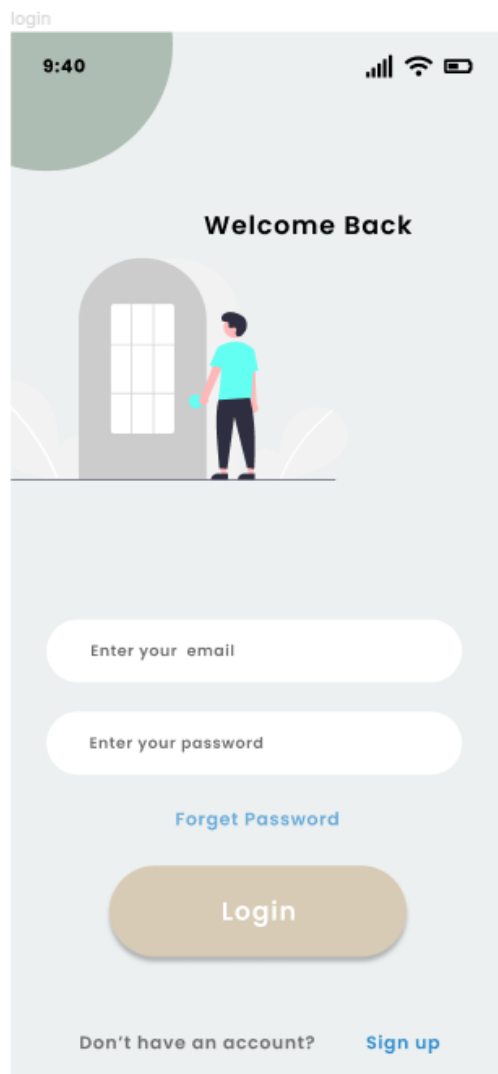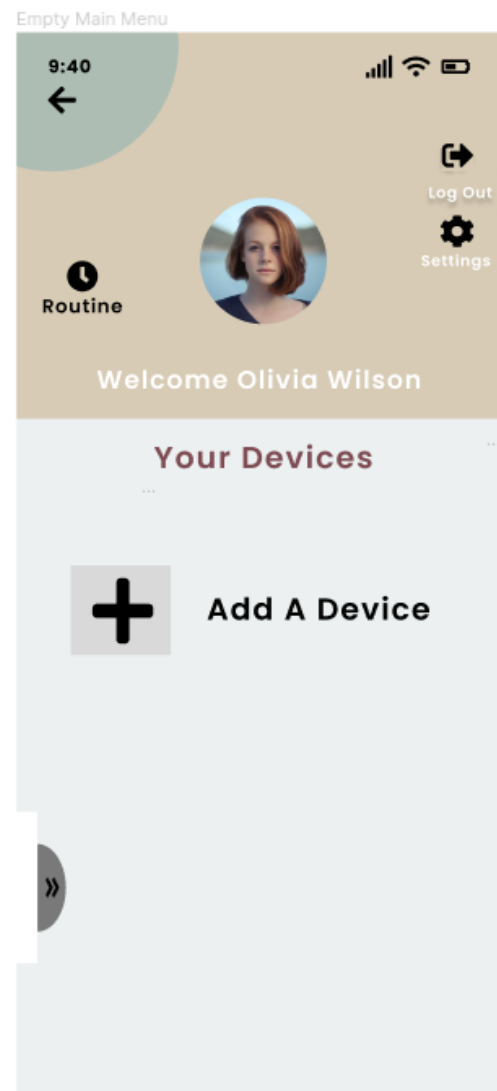Figure 4: Add Routine for Particular Recipe and Routines Prototypes

(a) Entry Page

(b) Register Page

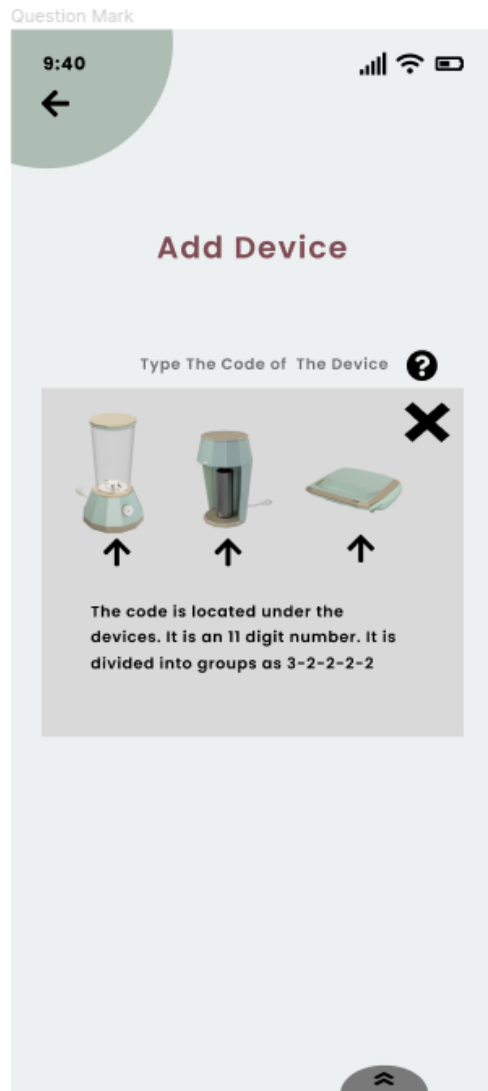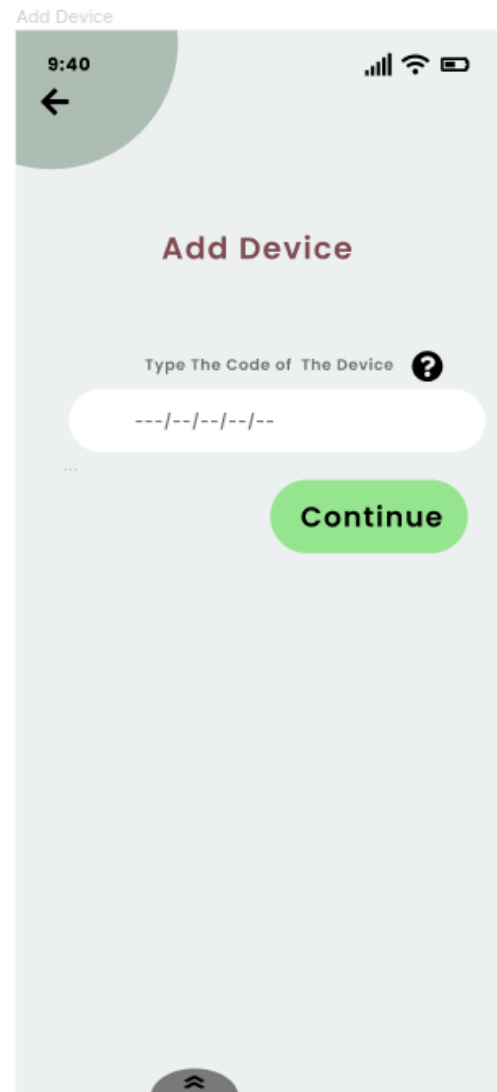Figure 5: Entry and Register Pages Digital Prototypes

(a) Login Page

(b) Add Device Page

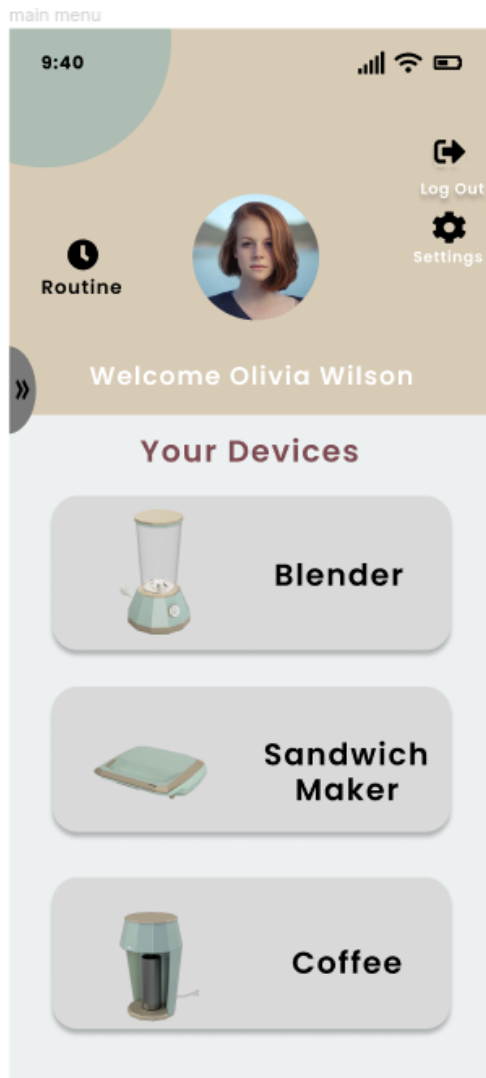Figure 6: Login and Add Device Pages Digital Prototypes

(a) Add Device with Code Page Notification

(b) Add Device with Code Page Input field

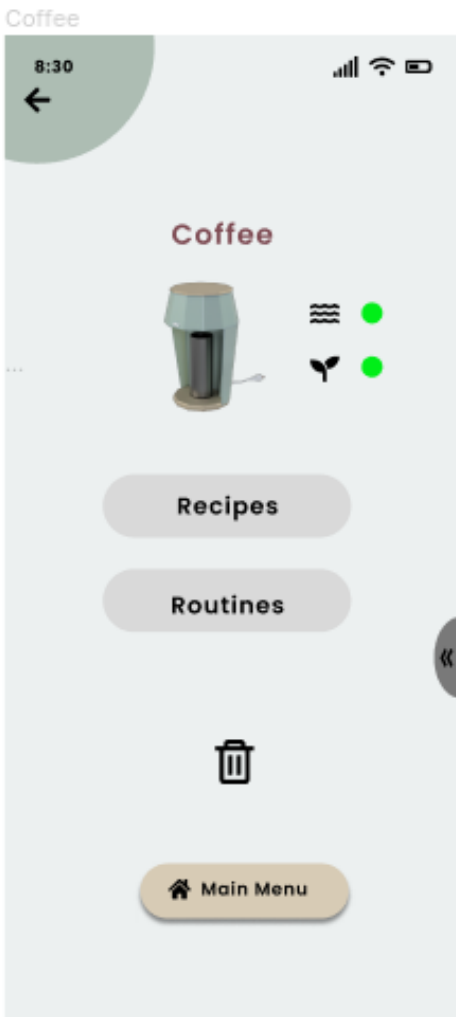Figure 7: Add Device with Code Page Digital Prototypes

(a) Devices Page with Registered Devices

(b) Blender Device Recipes and Routines Page

Figure 8: Registered Devices and Blender Device Recipes and Routines Page
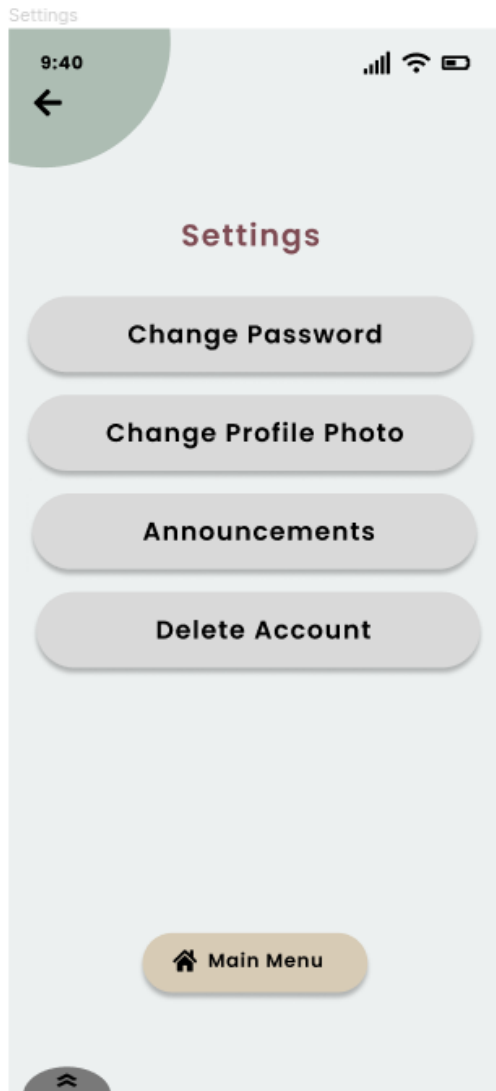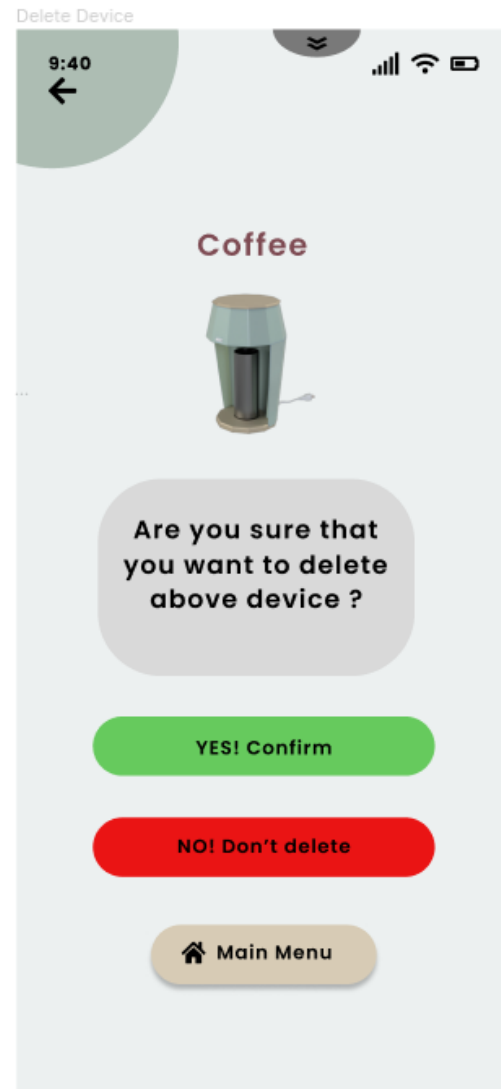
(a) Coffee Device Recipes and Routines Page



(b) Sandwich Maker Device Recipes and Routines Page

Figure 9: Coffee and Sandwich Maker Device Recipes and Routines Digital Prototypes

9:40

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## Settings

Change Password

Change Profile Photo

Announcements

Delete Account

🏠 Main Menu

(a) Settings Page

9:40

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## Coffee

Are you sure that
you want to delete
above device ?

YES! Confirm

NO! Don't delete

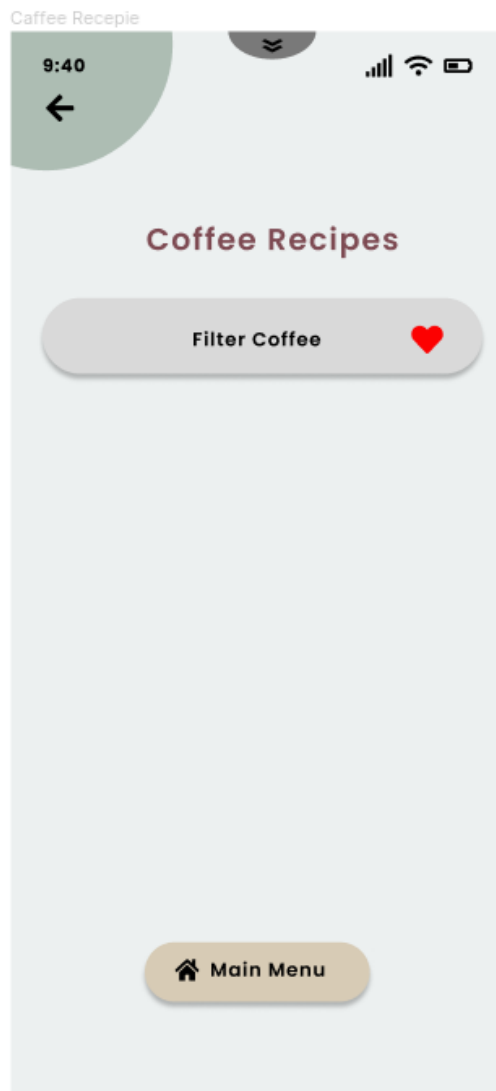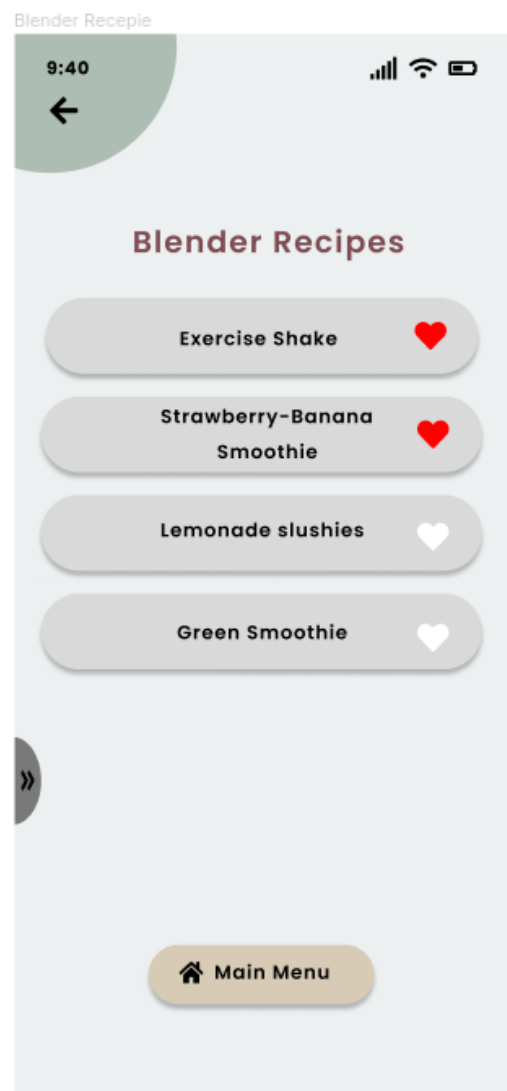🏠 Main Menu

(b) Delete Device Confirmation Page

Figure 10: Settings and Delete Device Pages Digital Prototypes

(a) Coffee Recipes Page



(b) Blender Recipes Page

Figure 11: Coffee and Blender Recipes Pages Digital Prototypes

9:40

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## Exercise Shake

Duration: 5min

### Ingredients

Edit

- 1 cup frozen fruit or ice banana, berries, etc.
- 2-4 servings protein protein powder, nut butter, seeds, etc.
- 1/3 cup – 1 cup of liquid almond milk, water, orange juice, etc
- optional: sweetener

### Directions

1   First, place fruit or ice on the bottom of your high-speed blender.

✚ Add My Routine      **Start**

(a) Exercise Shake Ingredients Page

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9:40

←

## French Toast

Heat: II      Duration: 15min

### Directions

1   Use a <u>whisk</u> to mix the eggs, evaporated milk, granulated sugar, cinnamon, sea salt, and vanilla extract in a <u>bowl</u>.

2   Set the mixture aside.

3   Then, use a <u>brush</u> to grease the sandwitch maker with butter or oil.

4   Dunk the bread in the egg mixture to coat.

5   Place the bread on the sandwitch maker and cook for three minutes or until golden brown. Then, remove it from the toaster and serve it
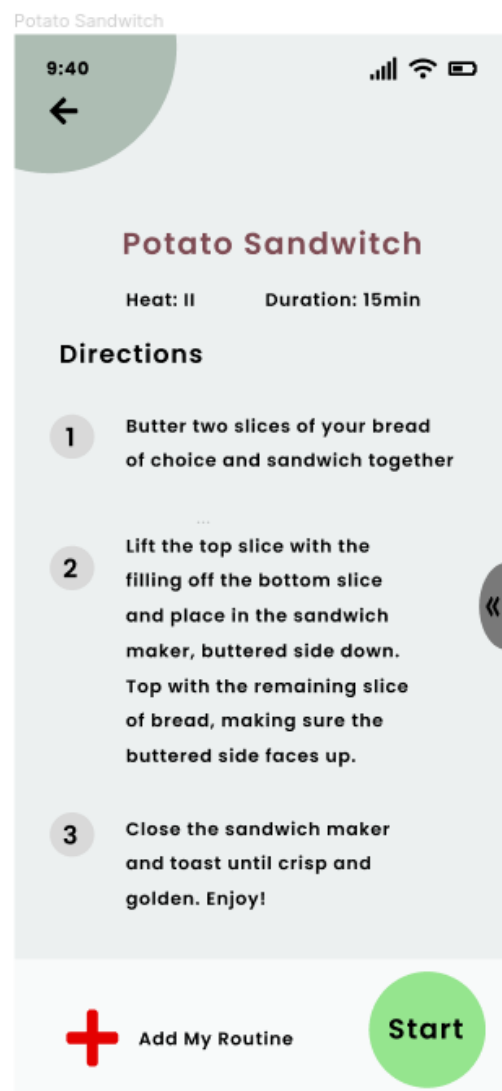
✚ Add My Routine      **Start**

(b) French Toast Directions Page

Figure 12: Exercise Shake Ingredients and French Toast Directions Pages Digital Prototypes

15

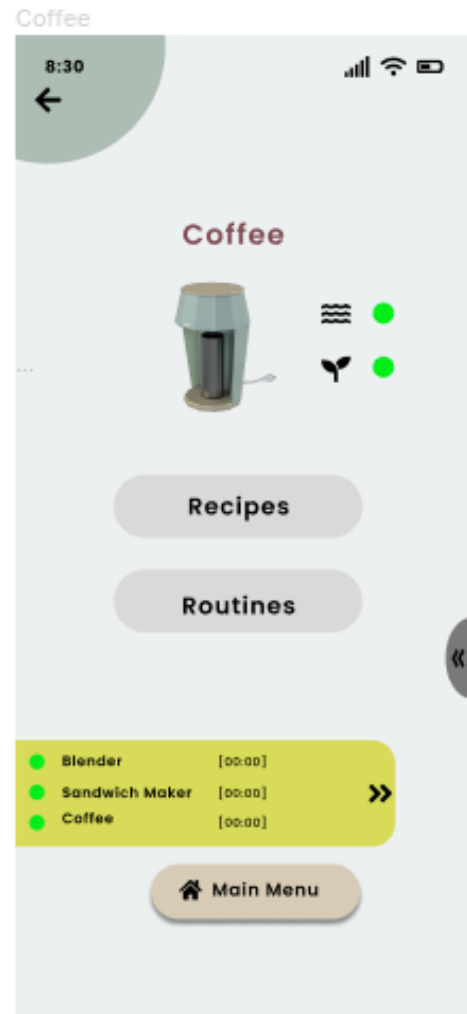(a) Green Smoothie Ingredients Page

(b) Potato Sandwich

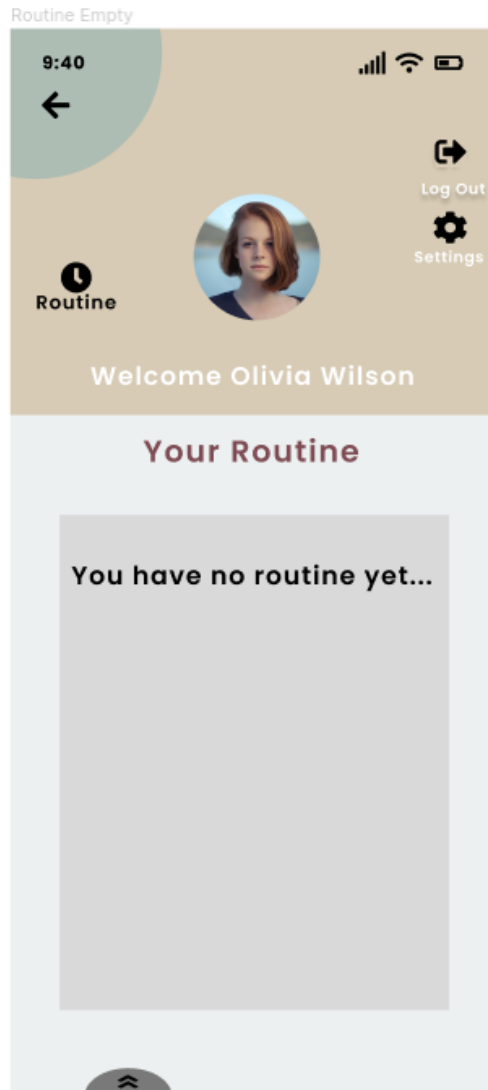Figure 13: Green Smoothie Ingredients and Potato Sandwich Pages Digital Prototypes
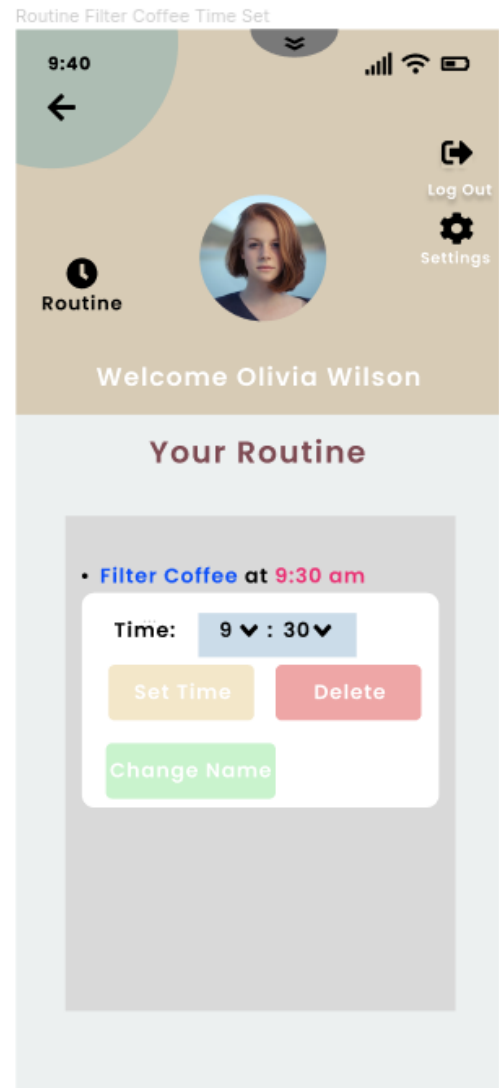
(a) Strawberry-Banana Smoothie Ingredients Page



(b) Coffee Routines Page with Time Counter

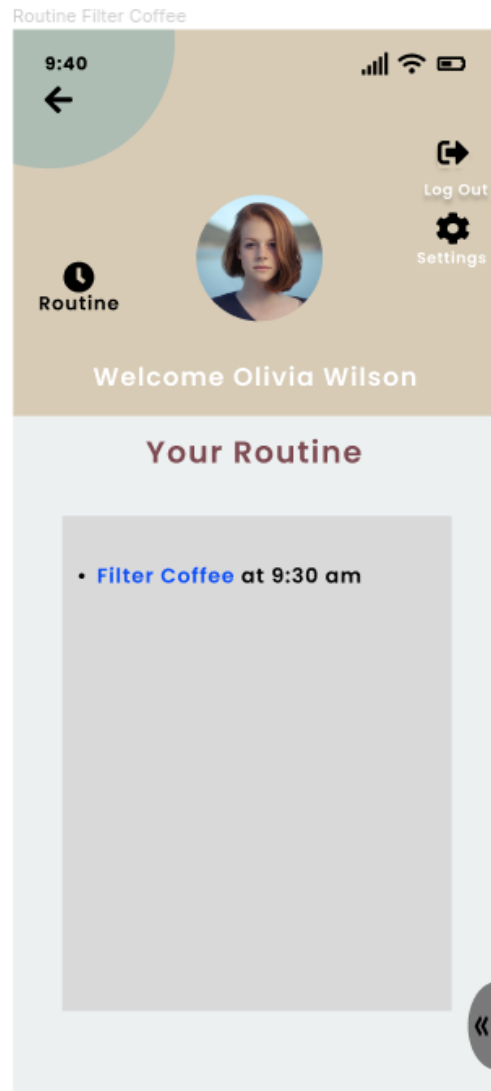Figure 14: Strawberry-Banana Smoothie Ingredients and Coffee Routines Time Counter Digital Prototypes

(a) Routines Page with No Routine

(b) Routines Page with Routine Time Adjustment

Figure 15: Routines Pages with No Routine and Time Adjustment Digital Prototypes

(a) Routines Page with Scheduled Routine

Figure 16: Routines Page with Scheduled Routine Digital Prototype