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Assignment 7

## I. Case Studies

### a. Case Study 1 – Samsung Family Hub

#### Project Summary

The Family Hub is a smart fridge developed by Samsung. It has various features that help users keep track of items in the fridge, find recipes, and order groceries.

#### Problem Statement

There are a few issues with the design of this smart fridge. The fridge comes with several apps for ordering groceries, playing music, etc. Users cannot remove the apps they do not use, and they cannot add new apps. Because of this, the only way for users to watch TV on their fridge while in the kitchen is by mirroring from another device. The “view inside” feature tries to label the food items for users but is usually inaccurate.

#### User Interviews

If Samsung is trying to fix design issues with their current fridge, they may want to see how users interact with the fridge. They could ask users to perform common tasks, such as viewing the contents of the fridge or adding an item to the shopping list. When the user is finished, the interviewer can ask them a few questions so they can better understand the users’ feelings about the fridge. Some questions could include:

- Question 1: What features do you like about this fridge?
- Question 2: Are there any features that you would want to see added to the fridge?
- Question 3: Are you having any problems with the current design of the fridge?

#### Pain Points

- Users cannot add new apps to the fridge.
- The only way to watch TV on the smart fridge is not the preferred method. There are no TV apps; users must mirror a devices’ screen to the fridge screen.
- The screen is placed low on the fridge which makes it harder for taller people to use.
- Meal suggestions are random and not personalized.

#### Personas

## John



### Behaviors

- Works during the day and attends class at night.
- Usually forgets to make shopping list so he uses the cameras to look inside the fridge.

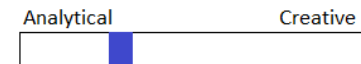
### Goals

- Learn to cook
- Finish school

### Pain Points

- Finding simple and fast recipes to make.

### Personality



### Motivations



### Quote

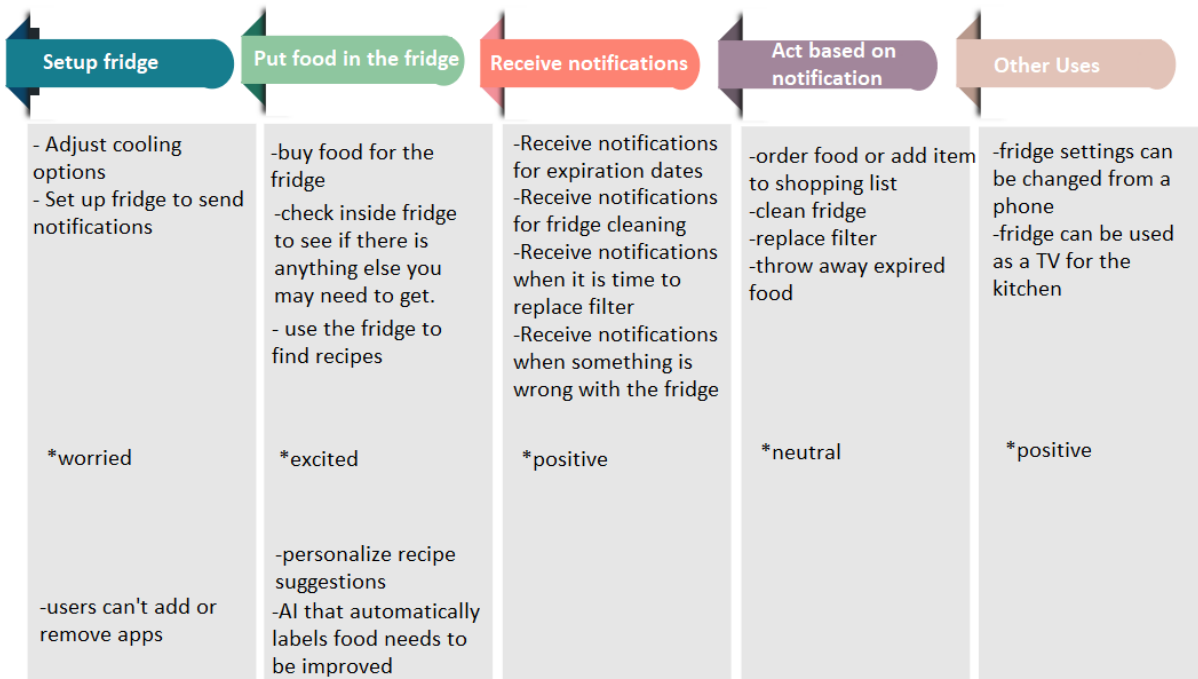
"I have a very busy schedule. I like using my smart fridge to make cooking quick and easy."

### Biography

John is working full time and going to school part time. He prefers to make his own meals because it is healthier and cheaper. He is not very good at cooking, so he usually finds recipes using his smart fridge.

## Customer Journey Mapping

# JOURNEY MAP



The journey map shows the process of setting up and using the Samsung Family Hub. It shows what tasks the user pain points are associated with. Some of the AI features need to be enhanced. Recipe suggestions could be personalized.

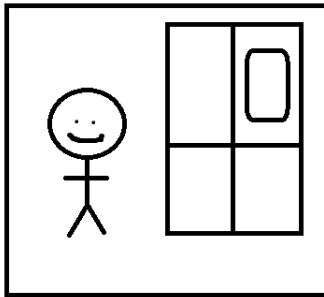
## Design Solutions

- Have options on home screen for frequent actions, like going to the shopping list or looking inside the fridge.
- Make the recipe suggestions personalized.
- Allow the fridge to be more customizable.
- Enhance the food labeling AI

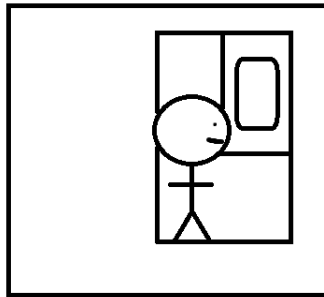
The desired outcome is to enhance the smart fridge features and make the fridge easier for users to use.

## Storyboards

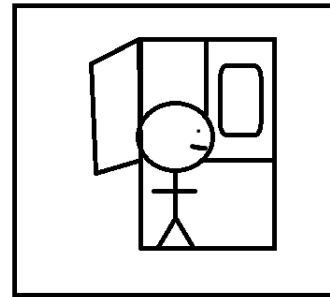
John



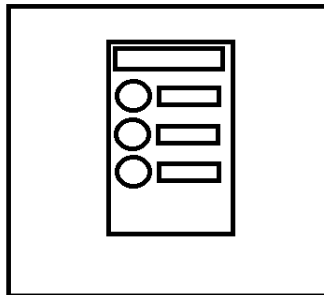
John just got home from work and has to make dinner before going to class.



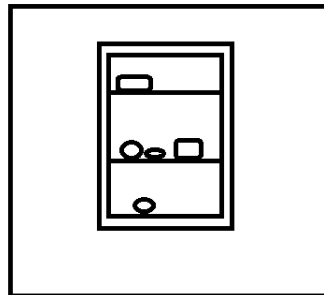
He uses the fridge to search for recipes.



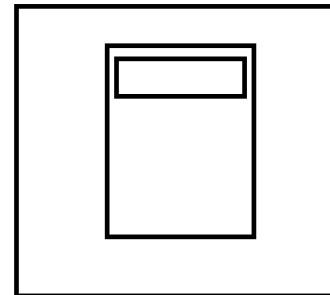
He realizes he is almost out of something so he adds the item to his shopping list.



He goes to the store after class. He pulls up his shopping list.

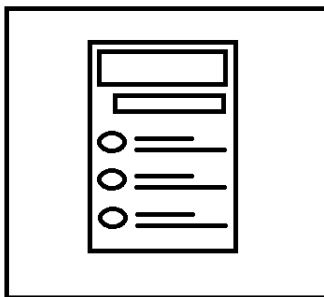


He checks inside his fridge and finds several other items he needs.

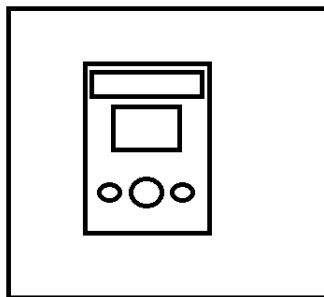


He gets a notification saying his milk is about to expire, so he gets some more while he is at the store.

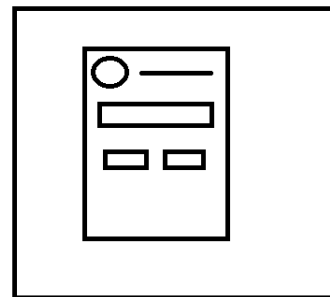
John



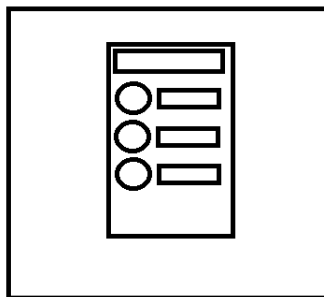
Search for and select a recipe.



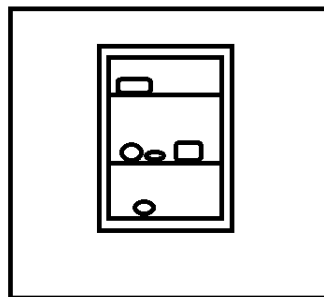
Play music from fridge.



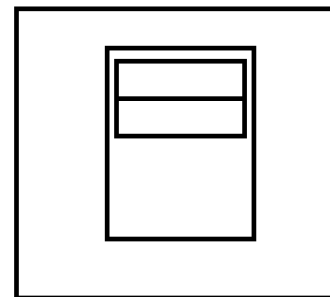
Add item to shopping list.



View shopping list.

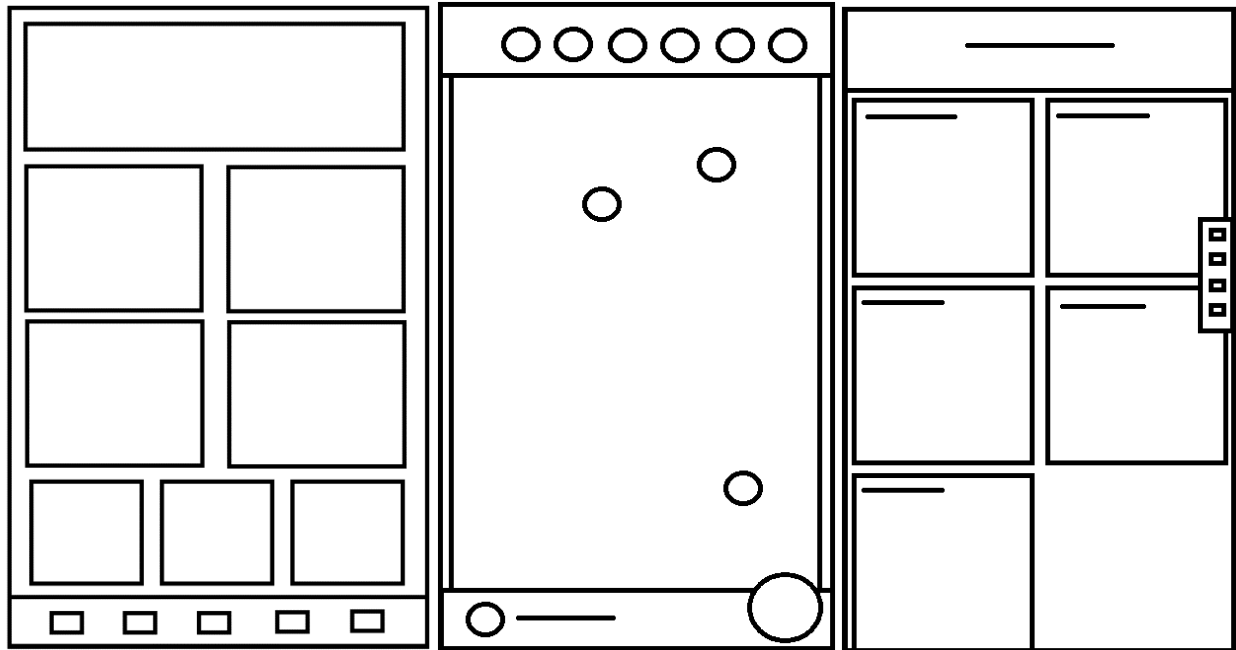


see inside fridge



View notifications

## Wireframes



## Visual Design

The home screen is divided into multiple sections, so several apps can be accessible from the home screen. These sections are customizable; users can move them around, adjust sizes, and choose which apps to display. Many colors were used on the home screen to differentiate between apps and the background. Also, when adding an item to the shopping list, an image is automatically included.

## Prototype



These are images of the Samsung Family Hub. They show two examples of the home screen. They show how users can look inside their fridge and set expiration dates on items. They also show the shopping list, the calendar, and the music apps.

## Conclusion

Samsung has developed a smart fridge with all the basic features and some extra features. This smart fridge is a decent design solution, however, there are a few features that could be enhanced, like the recipe suggestions and the food labeling AI. The next steps for this project would be to enhance these features and make any other adjustments to the fridge.

## b. Case Study 2

### Project Summary

The project is focused on redesigning the smart fridge. The goal of this project is to eliminate current design problems and make the smart fridge easier to use. We want to make it easier for users to control fridge settings and get updates about the fridge and items in the fridge.

### Problem Statement

The purpose of this project is to uncover any design issues and find solutions for those issues. The goal is to design a smart fridge that is easy to use.

### User Interviews

The goal of the interviews is to learn user wants and needs. These are the questions that could be used in the interviews:

- Question 1: Tell me about your experience with shopping for a new refrigerator. What do you usually look for?
- Question 2: What problems if any have you had with your smart fridge?
- Question 3: What features would you want a smart fridge to have?
- Question 4: What features do you like about smart fridges?
- Question 5: What is your opinion of smart fridges?

### Pain Points

- Not knowing when food is going to expire.
- It's difficult to make and keep track of a shopping list.
- It's difficult to remember to put everything on the shopping list.

### Personas

## Rebecca



### Quote

"I have a very busy schedule with work and taking care of my family."

### Biography

Rebecca is a single mom with three kids. She is a middle school teacher at her local school. She is a very organized person who likes to stick to a schedule.

### Behaviors

- She is hard-working. She holds a full-time job while taking care of her family.
- She uses smart devices to help her stick to her schedule.

### Goals

- Provide for her children
- Educate her students

### Pain Points

- Forgetting to do something that needed to be done.

### Personality



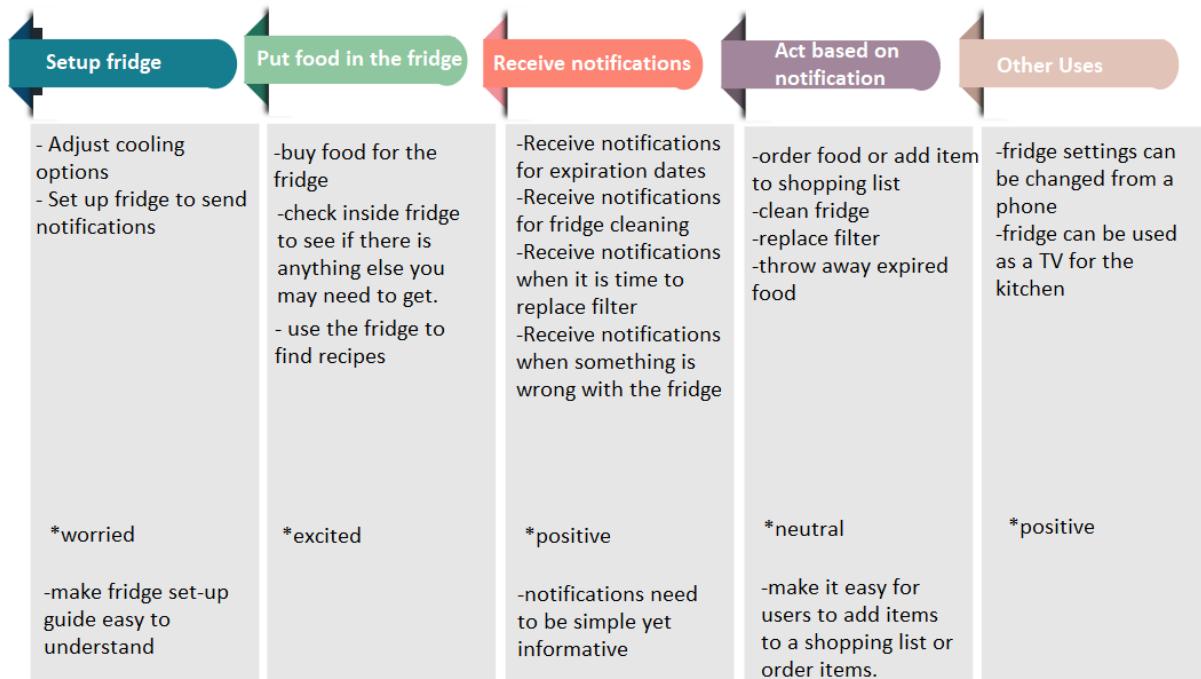
### Motivations



## Customer Journey Mapping



# JOURNEY MAP



The most used features of the smart fridge are probably the settings, the cameras, and the shopping list features. Users will probably have their fridge and phone connected so they can receive notifications and look inside their fridge. The process of adding an item to the shopping list should be simple and easy to do. Adjusting settings should also be easy for users to do.

## Design Solutions

- Allow users to access the shopping list from the fridge or the phone.
- Allow users to set expiration dates and receive notifications in advance.
- Allow user to view inside the fridge using either the fridge or the phone.
- Allow users to lookup recipes and play music from the fridge.

The desired outcome is to help users keep track of their grocery items and help them with other tasks such as cooking and shopping.

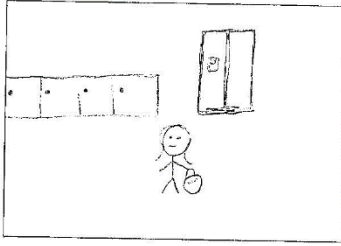
## Storyboards

PERSONA: Rebecca

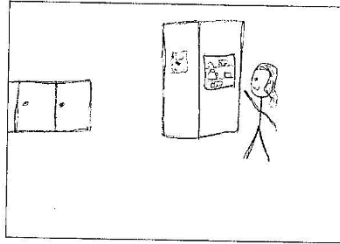
USER STORY/SCENARIO:

Smart Fridge

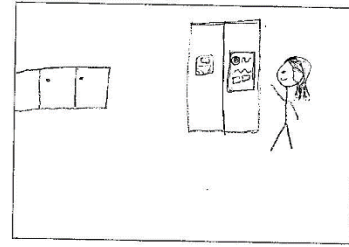
Big picture



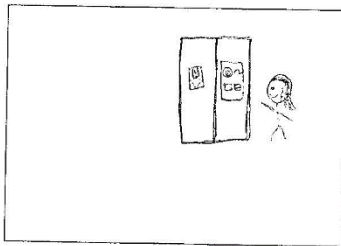
Rebecca just got back from the store and realized she forgot to get something.



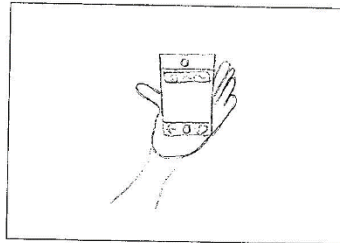
She gets a new smart fridge and sets it up. She views the contents of the fridge.



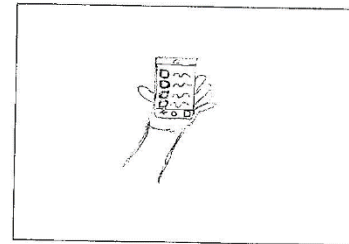
She selects an item in the fridge. She sets the expiration date.



She selects another item. She is almost out, so she adds it to the shopping list.



She gets a notification, telling her some item is about to expire.



She goes to the store, puts up her shopping list on her phone, and uses her phone to look inside her fridge.

PAGE #

PROJECT/TEAM:

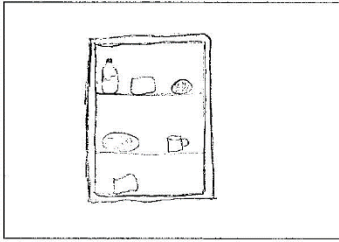
DATE:

STORYBOARD

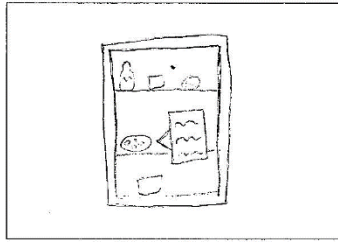
PERSONA: Rebecca

USER STORY/SCENARIO: Smart fridge

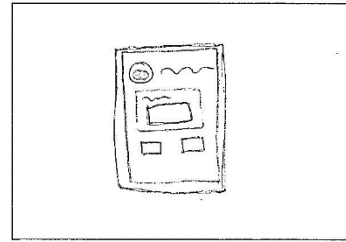
Close up



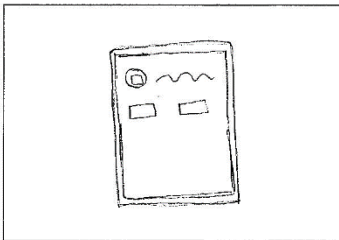
click "see inside" on home screen to see inside the fridge



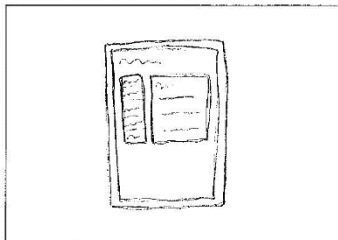
Select an item in the fridge



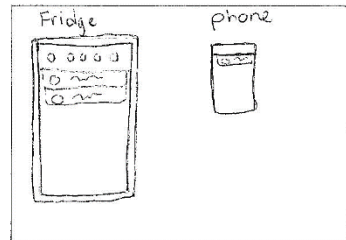
Set an expiration date  
Select "ok"



add item to shopping list



Adjust fridge settings



view notifications on fridge  
or phone

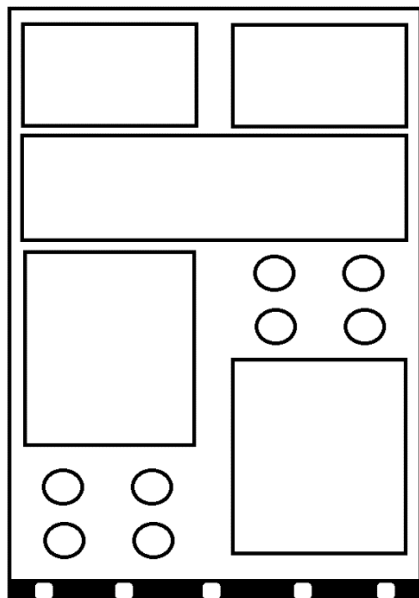
PAGE #

PROJECT/TEAM:

DATE:

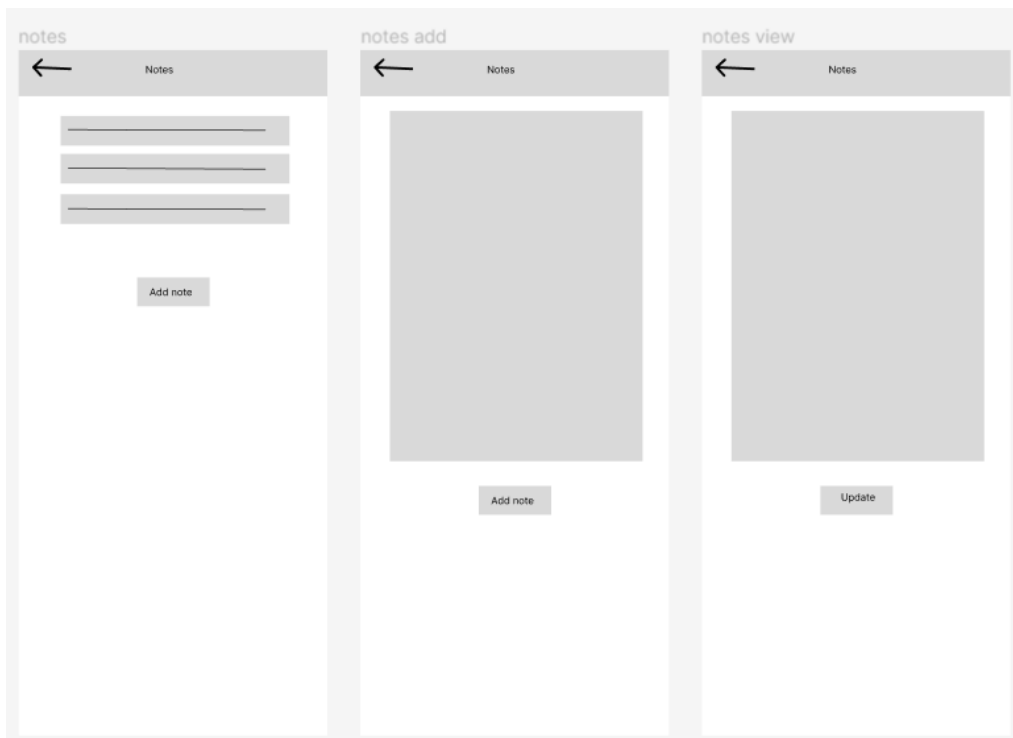
STORYBOARD

## Wireframes



[https://www.figma.com/file/bnEqCLMf7NHJw50ospCAPT/Assign3\\_Task7?node-id=0%3A1](https://www.figma.com/file/bnEqCLMf7NHJw50ospCAPT/Assign3_Task7?node-id=0%3A1)



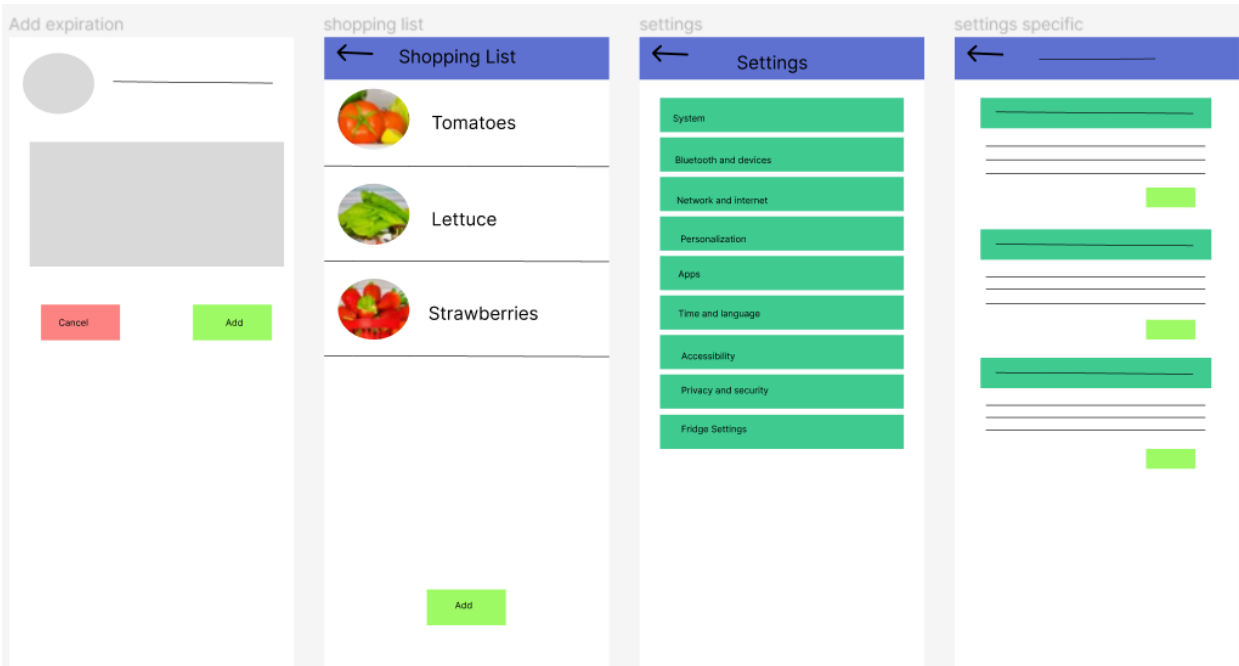
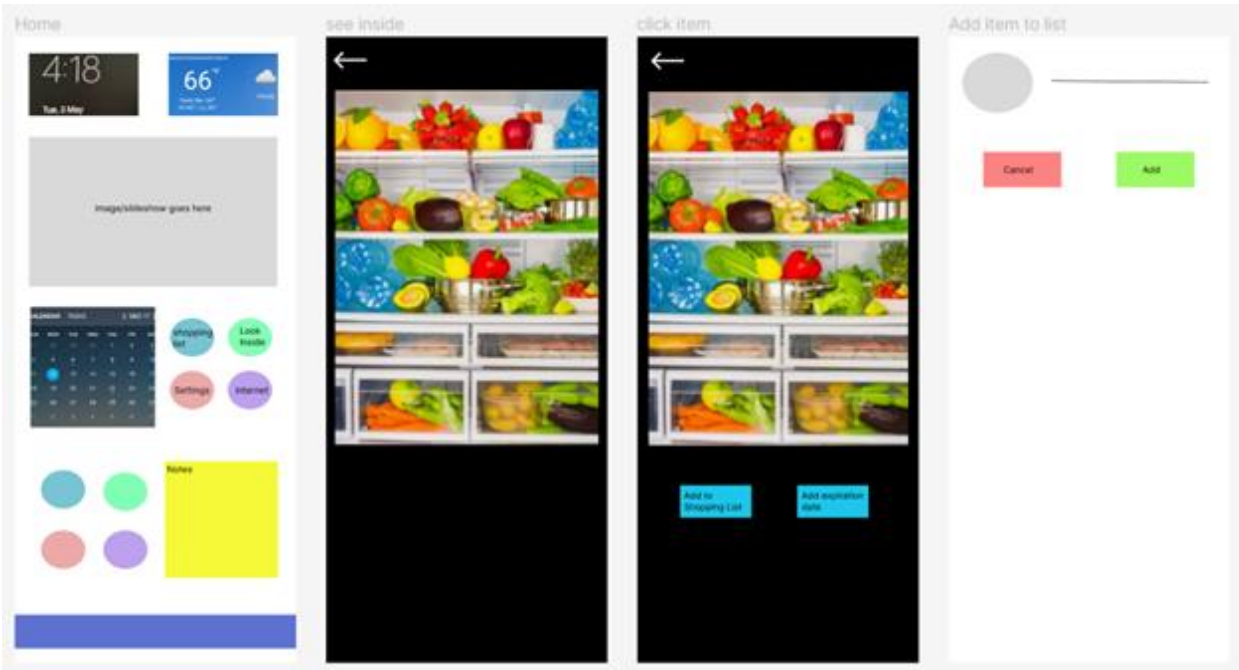


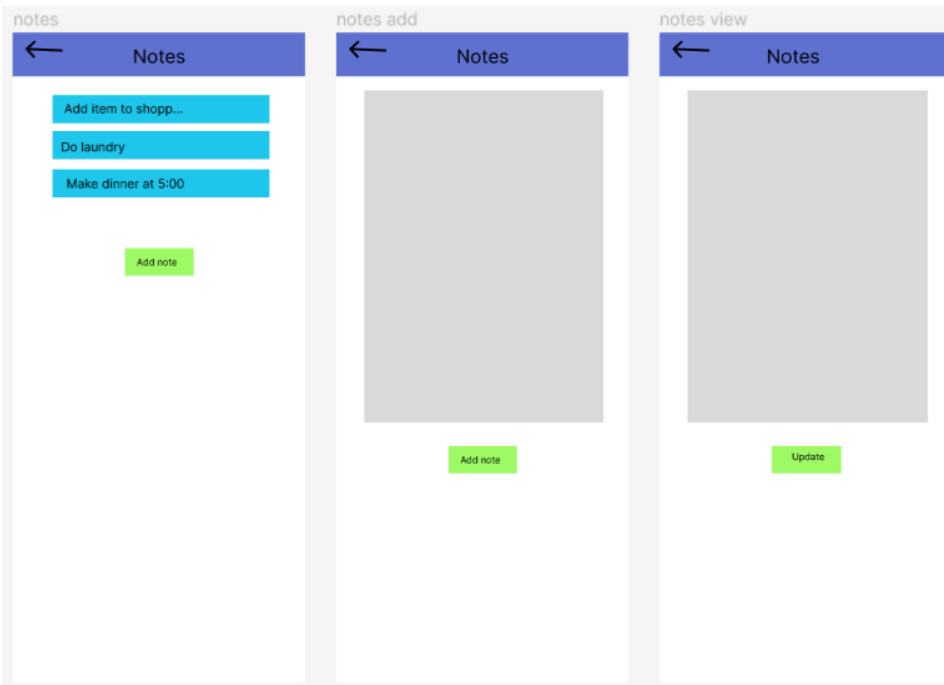
## Visual Design

There are several cancel and submission buttons used throughout the screens. The cancel buttons were colored red, and the submission buttons were colored green. The home screen was split into different sections to show where different apps and icons could be displayed. The shopping list includes an image when an item is added.

## Prototype

[https://www.figma.com/file/bnEqCLMf7NHJw50ospCAPT/Assign3\\_Task7?node-id=53%3A2](https://www.figma.com/file/bnEqCLMf7NHJw50ospCAPT/Assign3_Task7?node-id=53%3A2)





From the home screen, users can add items to the shopping list by either viewing the contents of the fridge and selecting an item, or by selecting the shopping list and clicking add.

## Conclusion

The purpose of this project is to create a smart fridge that satisfies the basic user needs and simplifies user tasks. The smart fridge needs to help users keep track of food items, find recipes, and check the contents of the fridge. Since a prototype has been created, the next step would be to do further testing and work on creating the technical specifications.

## II. Comparison

The Samsung Family Hub and my design have several things in common. The main features, like looking inside the fridge, appear and function in a similar way. However, the Samsung Family Hub has several additional features included. The Samsung fridge has a food labeling AI that attempts to put labels on the food for the user when they view the contents of the fridge. This fridge also has a recipe suggestions feature. The Samsung fridge also has a voice activated help system called, Bixby.

Both fridge designs include the basics. They both allow users to view the inside of a fridge, take notes, create shopping lists, add expiration dates, and send notifications. The home screens for both designs are similar. They both include several apps on the home screen to make it easier for users to find what they need.

## Resources

[1] "Samsung Family Hub." [Online]. Available:

<https://th.bing.com/th/id/OIP.034i5E1sWkxsVuz3JLtXDQHaHa?pid=ImgDet&rs=1>.

[2] "Samsung Family Hub." [Online]. Available:

<https://www.designerappliances.com/blog/content/images/2019/01/Samsung-Family-Hub.JPG>.

[3] "Samsung Family Hub." [Online]. Available:

[https://th.bing.com/th/id/R.34a0e25622119c7a594374b7bea7fee9?rik=a6N4DgYbjx%2f2bA&riu=http%3a%2f%2funbox.ph%2fwp-content%2fuploads%2f2016%2f02%2fFamily-Hub-](https://th.bing.com/th/id/R.34a0e25622119c7a594374b7bea7fee9?rik=a6N4DgYbjx%2f2bA&riu=http%3a%2f%2funbox.ph%2fwp-content%2fuploads%2f2016%2f02%2fFamily-Hub-2.jpg&ehk=JGYfvb6sZg5toEeTt0vB61gX5v9WbHkkSD3DCwz1l0g%3d&risl=&pid=ImgRaw&r=0)

[2.jpg&ehk=JGYfvb6sZg5toEeTt0vB61gX5v9WbHkkSD3DCwz1l0g%3d&risl=&pid=ImgRaw&r=0](https://th.bing.com/th/id/R.34a0e25622119c7a594374b7bea7fee9?rik=a6N4DgYbjx%2f2bA&riu=http%3a%2f%2funbox.ph%2fwp-content%2fuploads%2f2016%2f02%2fFamily-Hub-2.jpg&ehk=JGYfvb6sZg5toEeTt0vB61gX5v9WbHkkSD3DCwz1l0g%3d&risl=&pid=ImgRaw&r=0).

[4] "The Samsung Family Hub Refrigerator Review | Smart Home Reviewer," Feb. 22, 2021. [Online].

Available: <https://www.smarthomereviewer.com/the-samsung-family-hub-refrigerator-review/>.

[Accessed: Jun. 28, 2022]

[5] "Free Stock Photos." [Online]. Available: <https://www.pexels.com/>. [Accessed: Jun. 28, 2022]

[6] R. Crist, "Samsung Family Hub Refrigerator review: Finally, a smart fridge that feels smart," *CNET*.

[Online]. Available: <https://www.cnet.com/reviews/samsung-family-hub-refrigerator-review/>.

[Accessed: Jun. 28, 2022]