**SW Engineering CSC648/848 2020**

**Digital Smart Fridge**

**Team 102**

**Milestone 1**

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| Version | Summary |
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**Executive Summary:**

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**Personas and User Stories:**

**John Doe:**

John is a 22-year-old. He loves all sports and is a health nut. On a regular day John runs in the morning, weightlifting during the day, and practicing yoga in the evening. Also, John has a full-time job. John has absolutely no time for anything else and he believes in a healthy diet. It is a nuisance for John to keep opening the fridge just to take stock of what he has in there. John gets annoyed at wasting time to look for new meal ideas or even look up calorie count for the old ones. There is just not enough time in the day for john to keep track of all that information.  
John wants to have a simple app that will keep track of what he has in the fridge, provide him with meal options for what he has. John wants to see the calorie count for every meal and possibly healthier options.

**Rosy Palmer:**

Rosy is 37-year-old mother of 5 kids. The kids ages range from 2 to 13. Rosy is a stay at home mom that is very involved in the community and her kids lives. During normal week there are band practices, soccer practices, dance rehearsals, karate, singing lessons and random outdoor activities. Cooking, cleaning, and picking up after all the kids takes an enormous amount of time. Rosy would like to have a better diet for herself, her husband and all the kids. There is just not enough time with her busy schedule. Rosy ends up getting pizza delivered a couple of times a week because she either does not have the time or she found her fridge half empty or lacking specific ingredients for a specific meal. Rosy really wants an easy way to track the current items in her fridge that she can access any time anywhere. It would be a big relieve not to have to remember what’s in the fridge with all the activities she has going on. She would love some healthy meal plans and options for her family. Every kid is always asking about different items to eat. Rosy would love an option for different lists her kids and husband to access and add items they might like, but ultimately Rosy would control.

**Data Definitions:**

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**List of Functional Requirements:**

**User controlled functional requirements for Product**

* Users must be able to freely add/remove items into the fridge without the use of the receipt
* Users must be able to create their own meal plans
* Users must be able to create shopping lists by selecting recipes
* Users must be able to create shopping lists in order to fulfill a meal plan
* Users must be able to ask for reports about their consumption, and must be able view the report from any nutrition category(how many calories, how much protein, how many carbs etc.)
* Users must be able to view the inventory/contents of their fridge at any given time
  + Users must be able to sort their inventory by nutrition categories
* User must be able to search for recipes that make use of their current inventory
* User must be able to specify how much of a food item has been consumed

**Autonomous functional requirements for Product**

* Product must be able to enter contents of a receipt into the inventory by means of barcode scan
* Product must be able to enter contents of a receipt into the inventory by means of OCR
* Upon reading a receipt, Product must be able to discern the category of its contents by food/non-food, perishable/non-perishable, type of item(poultry, produce, dairy etc.), and quantities of items.
* Must be able to distinguish the type of item upon entry
  + Product must keep a record of the date of purchase/entry of every item
  + Product must keep a record of expiration of items if applicable
* Must be able to retrieve nutritional information about current inventory items by referencing a database of all Safeway grocery items and their nutritional information
* Must be able to retrieve nutritional information of items specified in recipes or meal plans by referencing a database of all Safeway grocery items and their nutritional information
* Product must allow the addition of other Users under control of the main User’s profile

**Other functional requirements for Product**

* Product must generate a database of all Safeway grocery items and their nutritional information

**List of Non-Functional Requirements:**

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**Competitive Analysis:**

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|  | MyFitnessPal | Chefling | Whisk | Smart Refrigerator |
| Pantry | * No specific inventory design. * Food, meals, recipes can be added manually, or scan barcode. * Can browse restaurants located nearby supported by apply map. * Heavily featured with detailed nutrition, calorie information of each item. | * Each produce item has a predicted expiration date under different storage conditions, items can be sorted by expiration date, added time, alphabetically * When adding new items, there is quick add (with common items under different category already displayed), and barcode. | * Pantry items can be added by manual input or select from given ones. | * Pantry items can be added manually, and scan barcode and receipts. Quick add is also an option. |
| Shopping List | * No shopping list | * Users can manually type, and scan barcode or receipts to add shopping list items. | * An actual shopping the shopping list item online option, needs users to put zip code. * Online grocery websites are recommended. * Users can pick the desired website and all the listed items will be put into websites’ shopping cart. | * Shopping List can be generated by user input and select existing common ones. |
| Customized user experience | * Mostly based on users exercise plan (starting weight, goal weight, activity level). With calculated calories goals. | * Have the option to add guests, but cost money * Options to diet preference (vegan, seafood-free, disliked items etc.) | * No customized user experience section. | * Users can enter diet preference to help the app to select certain recipes to recommend. |
| Recipe | * It is a fitness app, so it recommends dietary recipes according to users fitness plan. (High protein, low calorie) Mostly from its own database, or articles online. | * Recipes are generated based on current pantry items(not all), a few stored recipes and many just got from other websites. * Can also be imported by users from the web or Create Your Own Recipe | * Recipes can only be generated from manually adding favorite recipes from the web, any app, copied URL, or Create Your Own | * Recipes will be generated according to current inventory(not all), query articles from other websites. * And can be created by users. |
| Meal Plan | * Plans are not customizable. Have already made plans to choose from.   (membership needed) | * Meal plan is created by adding recipes from the recipe section, or adding it by users. | * No meal plan, but a Collections to organize stored recipes. | * Meal plan will be created by adding existing recipes. |

The overall advantages of the Smart Fridge is that it caters primarily to the user for convenience and usability. It does this by offering large varieties of recipes based off of what the user has available, from both online and customized sources and filtered based off of preferences. Meal plans are built by the user and offers information for planning and tracking available food stocks. Stocking the pantry is as easy as scanning a receipt or using quick and manual adding, and expiration dates can be tracked to see when the user might need to restock. Finally, tracking what needs to be restocked can be done with the shopping list built into the application as well.

**High Level System Requirements:**

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**Team:**

Team Leader: Sanchit Joshi

Front End Leader: Anthony Wong  
Back End Leader: Zhifan Cai  
Scrum Master: Aurpon Gupta  
Git Master: Matthew Davis

Server Manager and Developer: Christian Melendez  
General Developer: Dimitry Polozov  
Database Developer: Daniel Godfrey

**Checklist:**

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