SW Engineering CSC 648/848 Fall 2019
Milestone 5

Team 101

"Pantry Raid"

Website: http://cryptoflipit.com/

Team Meeting Minutes: http://cryptoflipit.com/Meeting_Notes

Brian Nguyen - Team Lead - bnguyen18@mail.sfsu.edu
Malik Iscondari - Scrum Master
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Jeffrey Piercy - Backend Lead
Yiyu Zhang - Backend Assistant
JianQiao Xie - Frontend Lead

1. Product Summary

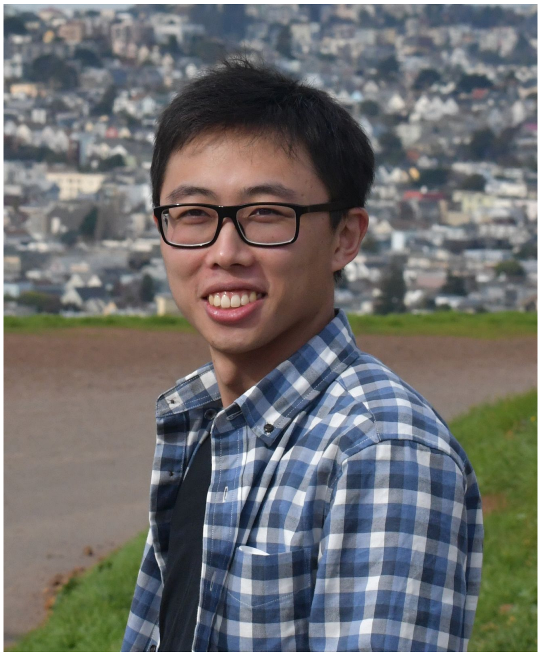
Pantry Raid is a revolutionary web application that allows its users to manage, build, and keep track of their refrigerator inventory at all times; leading to healthier life choices and improving the quality of food consumption for all. The application can also improve a person's lifestyle by providing healthier food options that improve that person's overall health.
The improvement of life is made possible by helping users buy food, store food, and keep consistent track of food.

Pantry Raid allows its users to upload and search for recipes throughout the application. For the sake of convenience of our customers, Pantry Raid also allows users to add items to a shopping list from their mobile device as they plan their next grocery store trip. In the inventory, user can easily add, remove or view details of a specific item. A unique feature of our product is our Meal Plan feature which allows users to allocate a set amount of ingredients for a set amount of days in order to give them a more organized. We plan to market this product as a solution which saves time for busy users who are looking for the assistance of technology to ease their lives.

Our team is filled with 6 talented software developers who are well versed in the technology industry. Brian Nguyen is our team lead, Jeffery Piercey is our backend lead, Yiyu Zhang is our assistant backend developer, JianQiao Xie is our frontend lead, Malik Iscandari is our Scrum Master, and Vincent Wu is our Github Master.

2. Personas And User Stories

Janey, a forty-eight-year-old woman, is a single mother of two children. She works in the emergency room at the local hospital. She is very busy with her job. She is new to technology, but she is interested in learning how to become more technical. Two weeks ago, she moved to a new house, which is farther away from her workplace than before. She knows that she needs good time management. She is looking for a refrigerator that can make her life more convenient. Janey doesn't have a good memory, and she doesn't like to use notes for recording everything. She wants to manage her groceries and shopping list. She wants to know what is in the refrigerator at any time and the condition of food because she has several times forgetting to cook the food that is about to expire, which finally expired. She wants a personal account profile so that she has information of groceries in her refrigerator currently. She can add and remove items from the list manually. She can upload an image of a receipt to add items. The picture will then be analyzed and brings up the list of items to be added. She can look at previous grocery receipts to see what was bought in the past. Moreover, Janey wants to learn to create new, healthier recipes so that she can cook for her family. She hopes the product that she can see what recipes can be made with current items or recipes missing 1-3 ingredients.



This is Jake. Jake is a 28 year old olympian bodybuilder. Jake lives in San Francisco, CA and works as a software engineer. Jake is well versed within the technology space and therefore open to new ways of implementing more technology into his day to day life. In order to be kept in shape and compete as a world-class body builder, Jake must maintain a consistent diet throughout the week. Jake is looking for a central hub for all things food related. Jake wants a mobile web application that will allow him to maintain his weekly meal plans as well as an easy on the go shopping list feature which will help him maintain the ingredients for his meals. While in use of the application, Jake, based on his interests, will be utilizing our Meal Planning feature primarily. While in the Meal Plan feature, Jake will have the choice to either Create A New Meal Plan or View his current list of Meals he has planned for specified amount of days. To Create a New Meal Plan, Jake will have to first input the number of meals he would like to plan for per day. Next, Jake will have the option to choose from a variety of Meals, listed from the Recipes List. Upon selection, Jake will then have to select the dates in which he plans to eat the selected meal. Once he has selected the dates, he will then be able to generate a meal plan!

Meet Charles. Charles is a 40 year old gamer who aspires to be a professional gamer one day. In the midst of a 20 hour gaming session, Charles came to the conclusion that potato chips, mountain dew, and hot pockets were not good for his health. In order to change his lifestyle, Charles began to explore healthier food options. However, Charles could not find an application that would allow him to keep track of his ingredients and suggest Meals based on his inventory of his fridge. After doing some healthy grocery shopping, Charles was looking for a quick and easy to import his grocery list and then recommended recipes based on the ingredients he has purchased. Charles is primarily interested in the recipes feature of the application. While using the application, Charles will begin by importing his list of ingredients that he has purchased from the grocery store via image upload. Once the grocery items has been successfully uploaded into the inventory list. Charles will then browse to the Recipes page where he will be able to choose an easy to cook recipe from a list of recipes which are tailored to his inventory.

3. Data Definitions

Entities:

Account: An account stores information about the user, including name, refrigerator, and date created.
Foods: Foods is a list of foods that can be stored in a refrigerator, be recipe ingredients and be part of a shopping list
Inventory: A list of food items that are currently stored in a refrigerator
Recipes: A list of recipes
Shopping list: A list of food items that a user wants to purchase

Entities, Their Relationships, and Their Attributes:

Entity: Account
Relations: owns **Inventory**, searches **Recipes**, has **Shopping Lists,** has **Meal Plans**
Attributes:
First Name
Last Name
Email

Entity: Foods
Relations: Inventory gets information, **Recipes** gets information,
Attributes:
Name
Name Abbreviations
Expiration Time (in days)

Entity: Inventory
Relations: has **Foods**, adds to **Shopping List**
Attributes:
Foods
Added date
Removed date

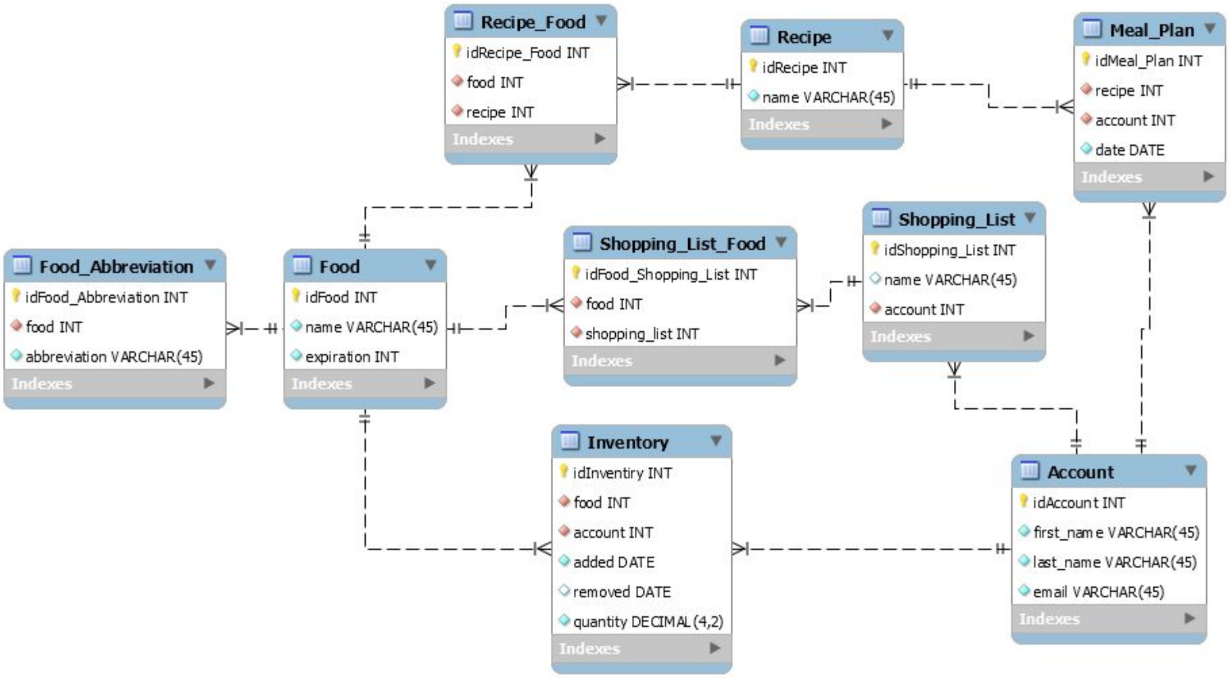
Entity: Recipes
Relations: has **Foods**, adds **Shopping List**, adds **Meal Plan**
Attributes:
Foods (ingredients)
Name

Entity: Shopping List

Relations: Opens **Inventory**, **Recipes** adds to list
Attributes:
Foods

Entity: Meal Plan
Relations: Added by an **Account**
Attributes:
Recipe
Date

4. High-Level Architecture, Database Organization



5. Initial List of function requirements

a. Add function **(1)**
   i. Allows the user to upload an image
   ii. Allows the user to manually input and edit items
   iii. Add ingredients to a shopping list

b. Remove function **(1)**
   i. Removes ingredients from the list and decrements the number of items in the fridge
   ii.
      c. Generate Meal Plan (1)
         i. Allows User to select x amount of meals
         ii. Select recipes
         iii. Select the recipe the want for the next x amount of days

d. FindRecipe **(2)**
   i. Let's the user to search through a database of recipes to find the one desired
   ii. Generate a list of recipes based on available ingredients in refrigerator

e. Notify function **(3)**
   i. Notifies the user for the food that is going to be expired
   ii. Notifies the user for expired food
   iii. Budgeting
   iv. Notifies user to update refrigerator

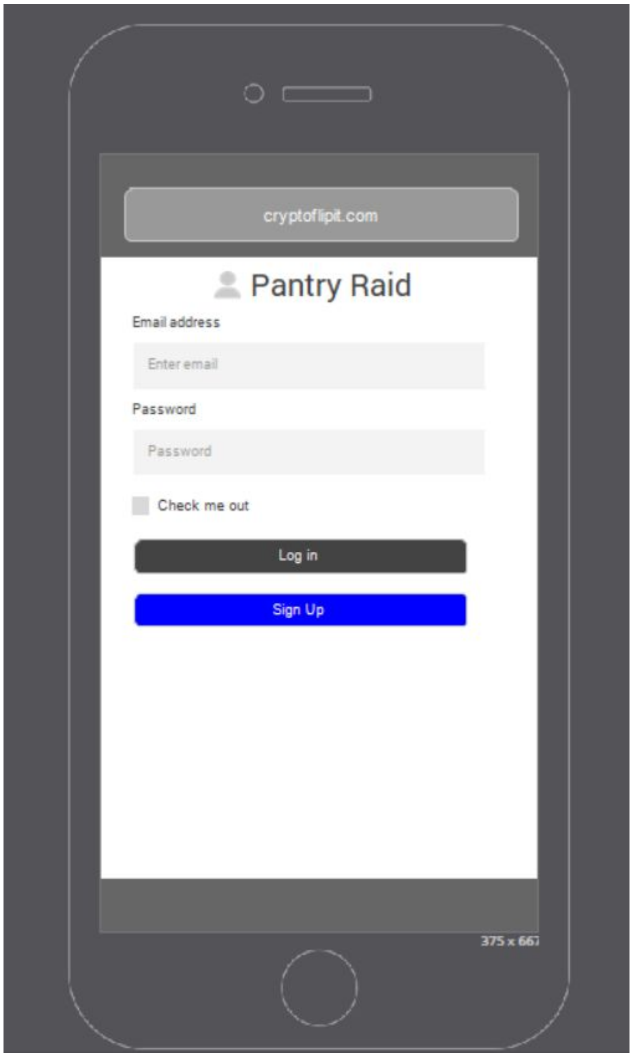
f. Evaluate function **(3)**
   i. Track the food that the user uses frequently, remind the user to make a plan before shopping

6. List of non-functional requirements

a. The application shall be developed, tested and deployed using tools and servers reviewed by Class TA in M0.
b. Application shall be optimized for mobile browsers.
    i. Bootstrap use
c. Data shall be stored in the team’s chosen database technology on the team’s deployment server.
    i. MySQL
d. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
    i. Before using the product, users need to agree with the privacy policies.
e. Application shall be very easy to use and intuitive.
    i. Users log in
    ii. Noticeable buttons with easy to understand symbols
f. Pay functionality, if any, (e.g. paying for goods and services) shall not be implemented.
g. Site security: basic best practices shall be applied
h. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development
i. The website shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Fall 2019. For Demonstration Only” at the top of the WWW page. (Important so as to not confuse this with a real application).

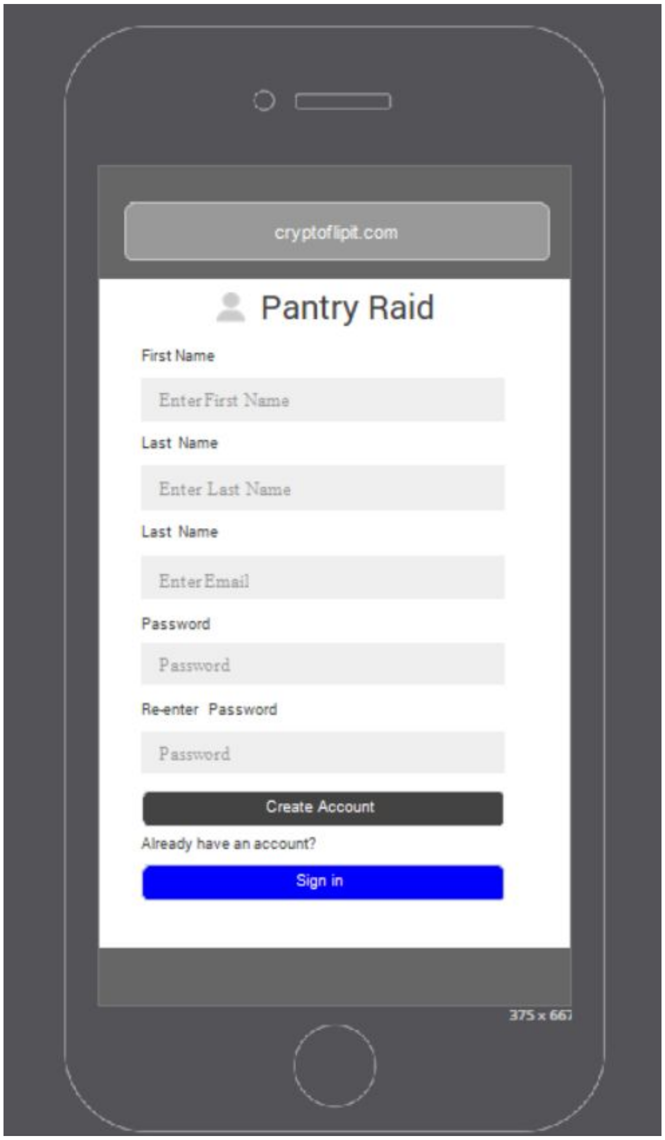
7. UI Mockups and Storyboards

Login/Sign up page



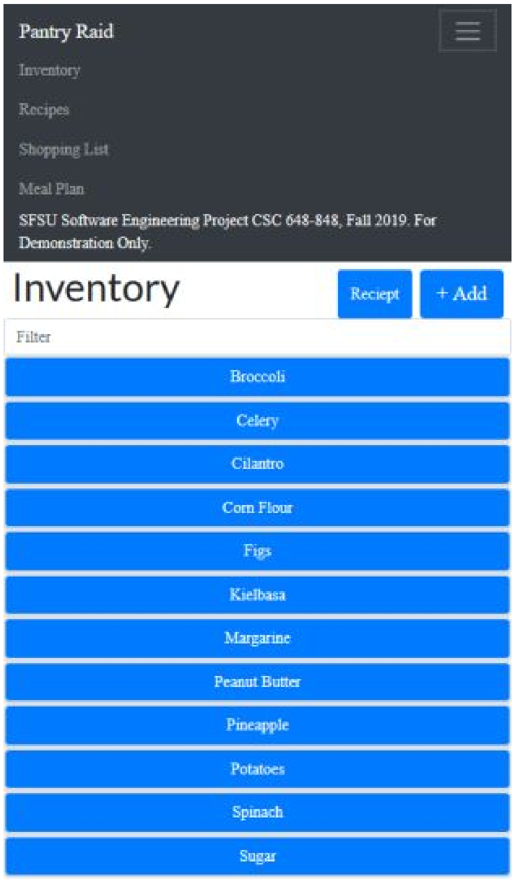
1. After hit login, it will redirect to inventory page
2. After hit sign up, it will redirect to sign up page

Sign up page



1. After hit create account, it will redirect to the inventory page.
2. After hit sign in, it will redirect to the sign-in page

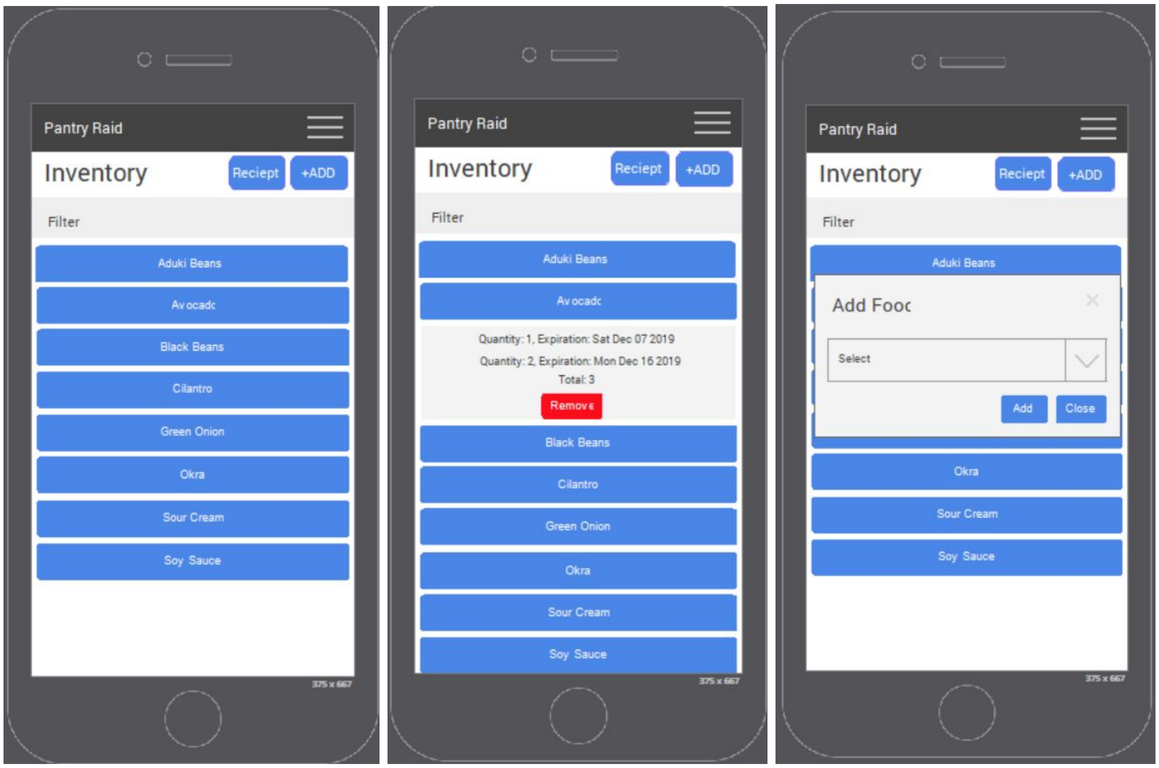
Menu



SFSU Software Engineering Project CSC 648-848, Fall 2019. For Demonstration Only.

1. In the menu here, we can redirect to all pages
2. After hit Inventory, it will redirect to inventory page
3. After hit Recipes, it will redirect to recipes page
4. After hit Shopping List, it will redirect to shopping list page
5. After hit Meal Plan, it will redirect to Meal Plan page

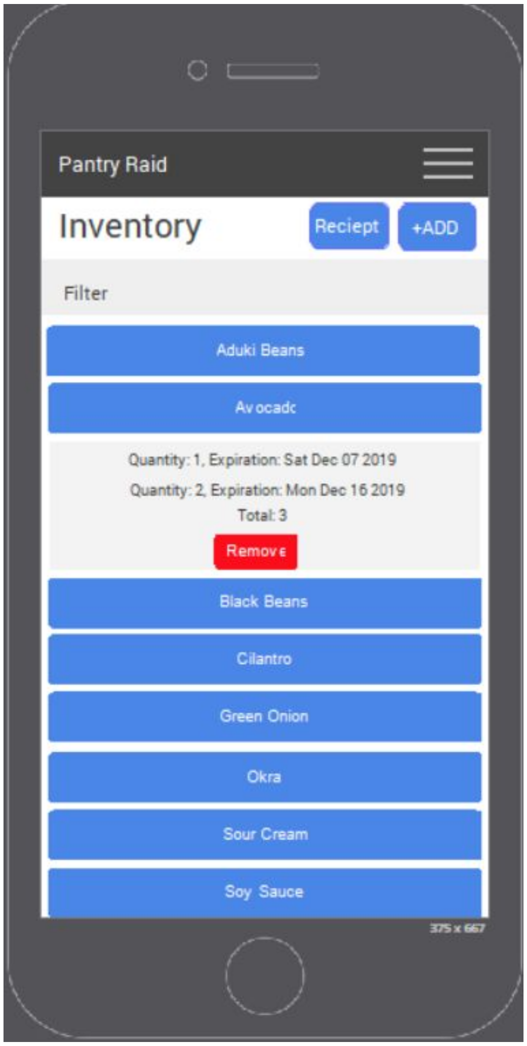
Inventory Page



Quantity: 1, Expiration: Sat Dec 07 2019
Quantity: 2, Expiration: Mon Dec 16 2019
Total: 3

1. After hit one of the item, it will have a drop-down, which is the inventory-show specific item. Hit the item again, the details will be hidden
2. After hit add, it will have a pop-up window, which is the inventory-add pop-up window
3. After hit receipt, it will have a pop-up window and allows the user to up the receipt
4. In the Filter box, user can type any words or letters to select the items they want

Inventory-show specific item



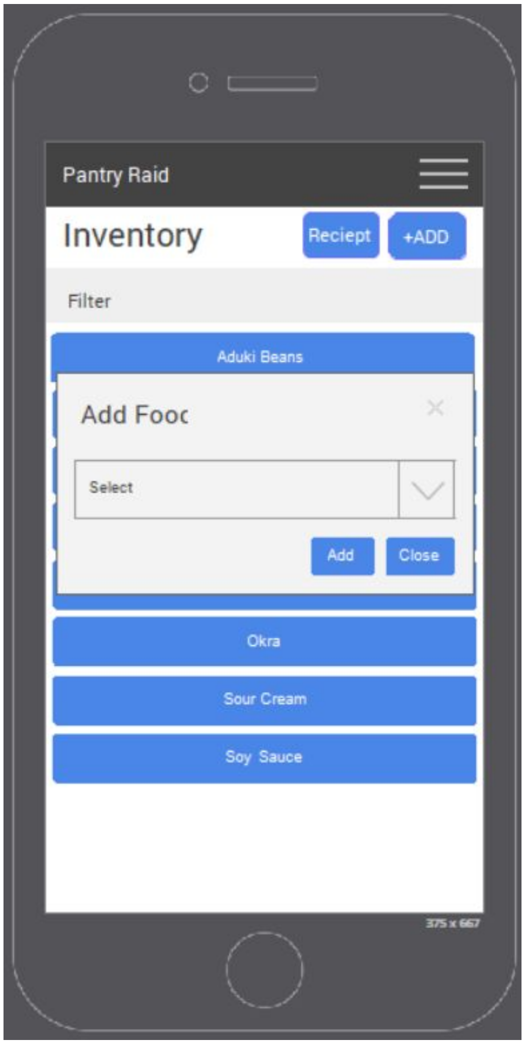
Quantity: 1, Expiration: Sat Dec 07 2019

Quantity: 2, Expiration: Mon Dec 16 2019

Total: 3

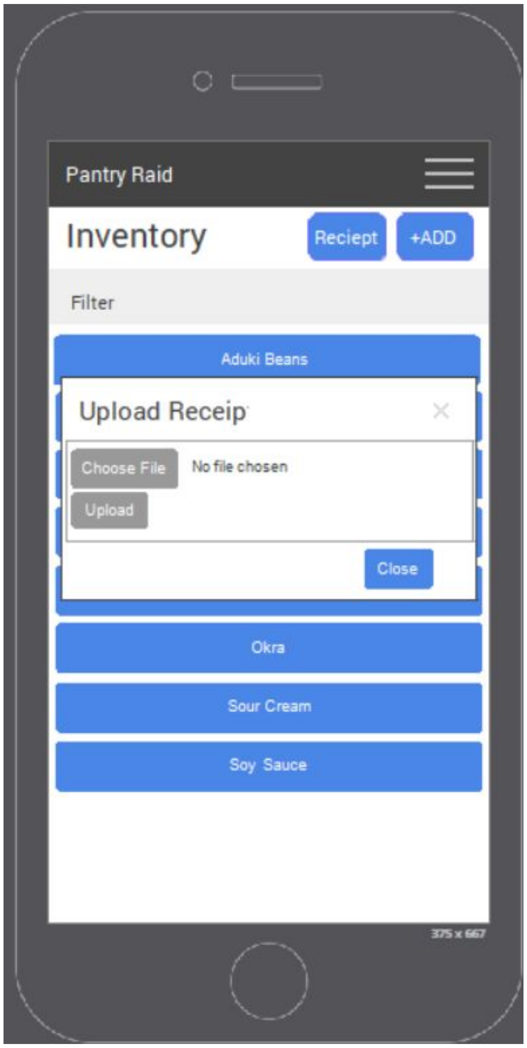
1. After hit remove, the item will be removed from the inventory

Inventory-add pop-up window



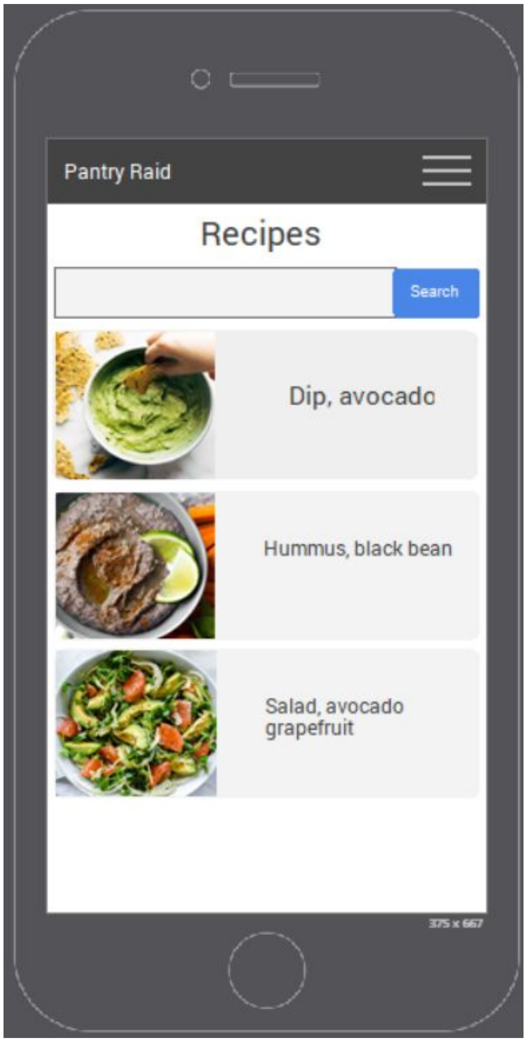
1. User can add food here, there will be a drop down that let the user select the right food item.
2. User can also input the name of the food, and select.

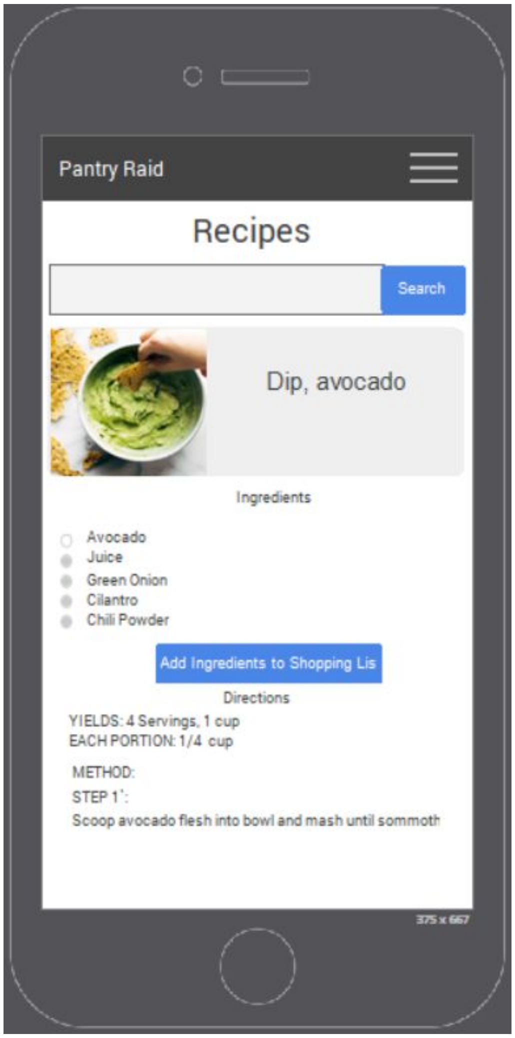
Inventory-add receipt pop-up window



1. After hit choose file, it will let the choose photos to upload
2. After hit upload, the photo will upload and finish the OCR
3. After hit close, the pop-up window will close

Recipes





Ingredients

- ○ Avocado
- ● Juice
- ● Green Onion
- ● Cilantro
- ● Chili Powder

Add Ingredients to Shopping Lis

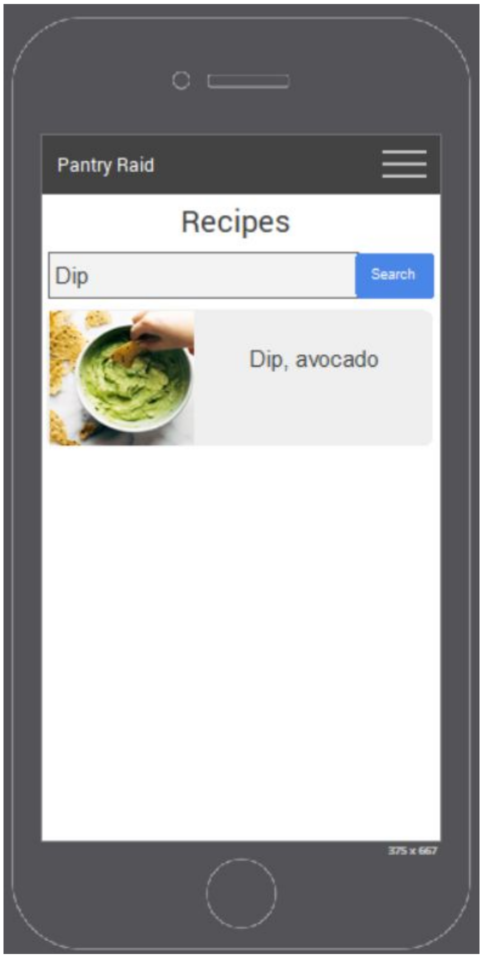
Directions

YIELDS: 4 Servings, 1 cup
EACH PORTION: 1/4 cup

METHOD:
STEP 1 :
Scoop avocado flesh into bowl and mash until sommoth

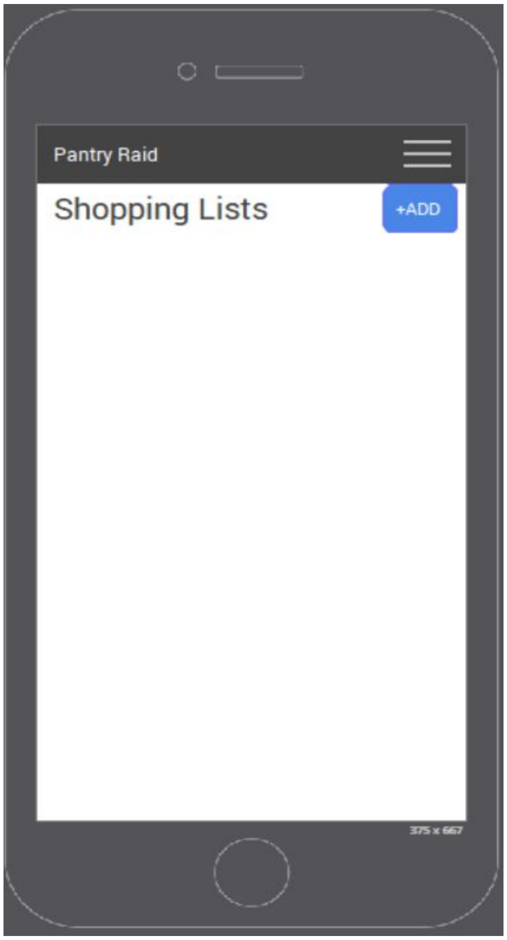
1. After searching for a specific recipe, the image and the name of the recipe will be displayed
2. Click the recipe, it will show the ingredients and the description of the recipe.
3. Click the button below the list of ingredients, it will add the ingredients to the shopping list.
4. Click the recipe again, ingredients and description will be hidden.

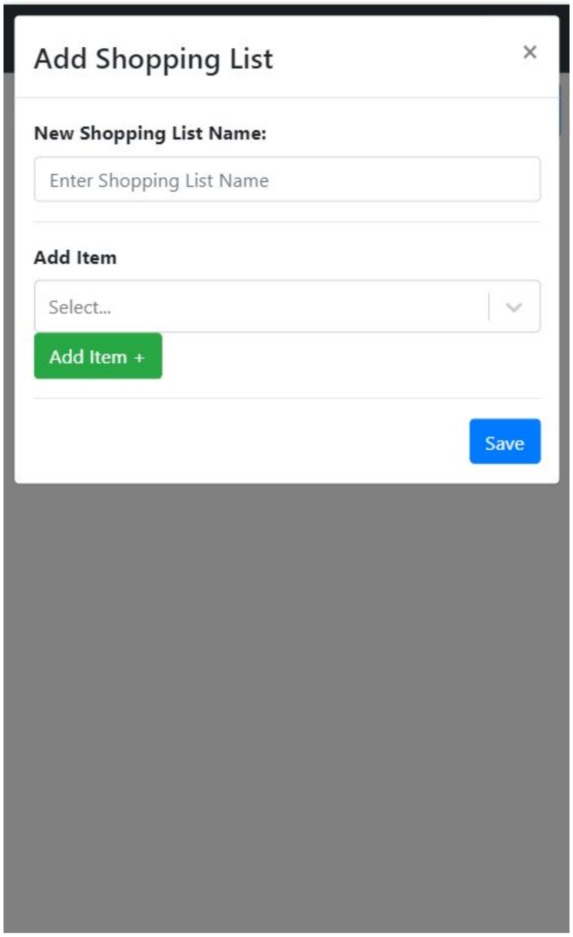
Search recipe result



1. User can input the whole word to search the recipes

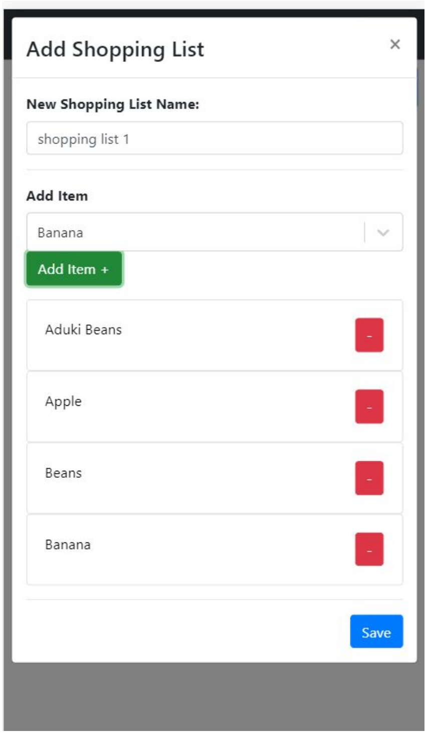
Shopping list





1. After click add, there will have a pop-up window
2. In the pop-up window, user can input the name of shopping list, and add items for this shopping list

Create shopping list name and add item to shopping list



Add Shopping List

New Shopping List Name:

shopping list 1

Add Item

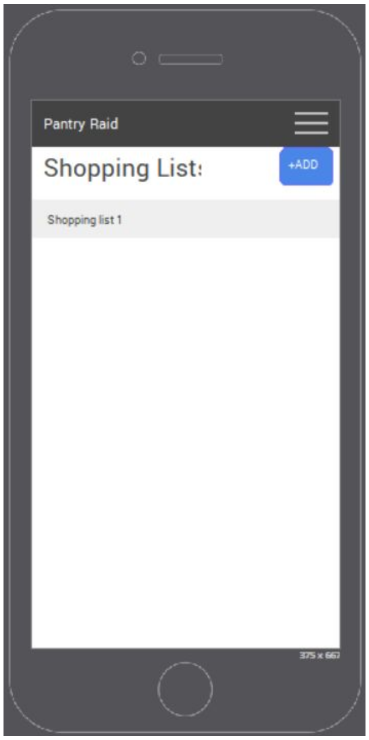
Banana

Aduki Beans

Apple

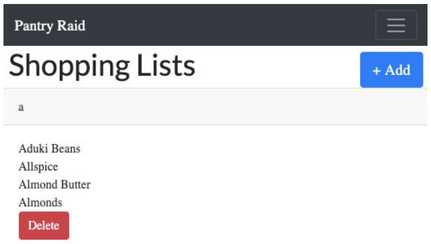
Beans

Banana



Shopping List:

Shopping list 1



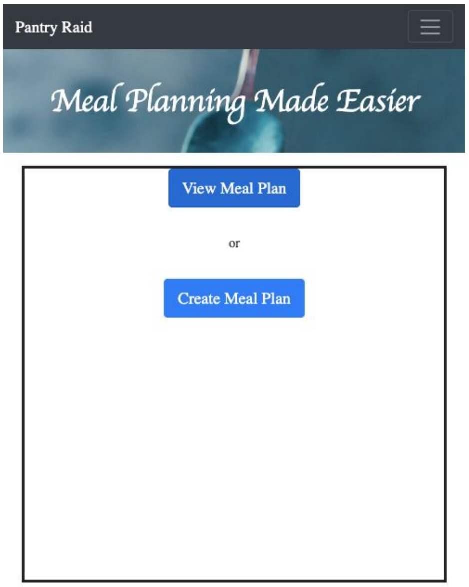
Shopping Lists

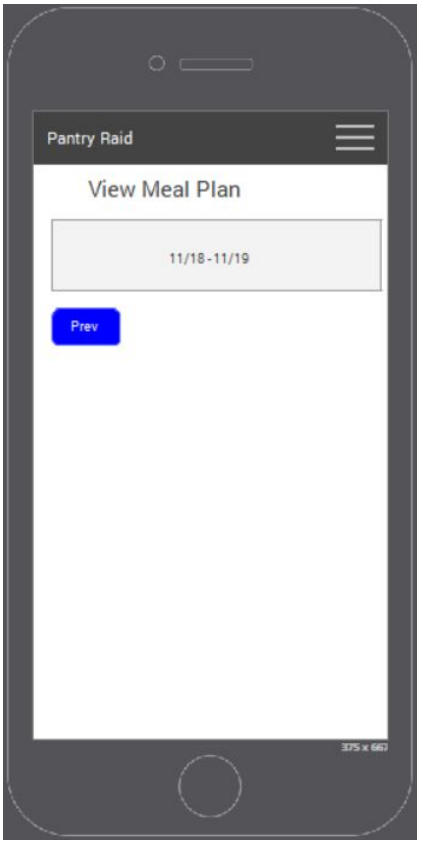
a

Aduki Beans
Allspice
Almond Butter
Almonds

1. After adding all the items for this shopping list, click the save button, the shopping will be saved
2. Click the shopping list, the details will be shown, click again the details will be hidden
3. Click the delete button, the shopping list will be deleted

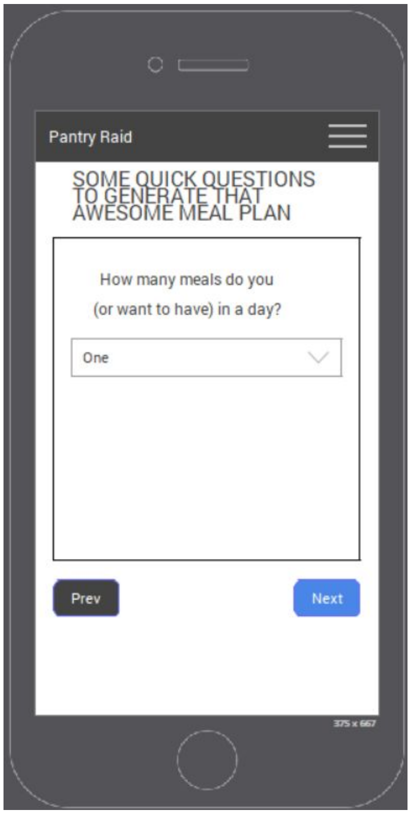
Meal Plan





1. Click the view meal plan button to view existing meal plan
2. Click the create meal plan button to create a new meal plan

Create Meal plan-questions

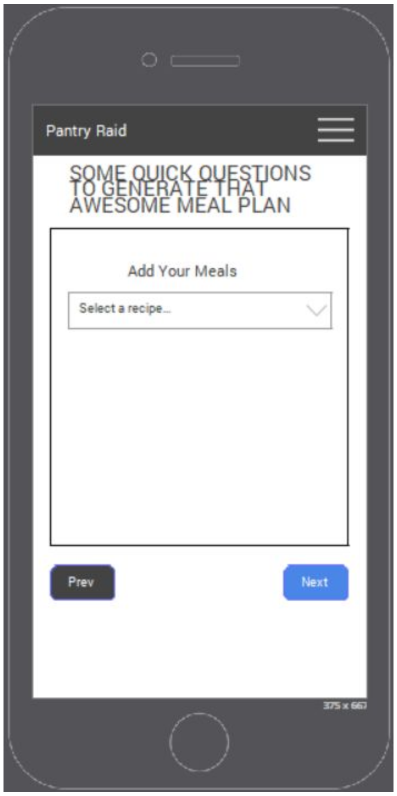


Pantry Raid

SOME QUICK QUESTIONS TO GENERATE THAT AWESOME MEAL PLAN

How many meals do you (or want to have) in a day?

One

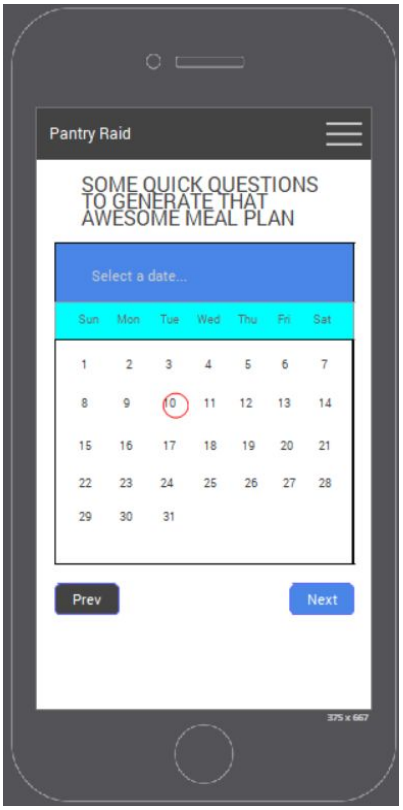


Pantry Raid

SOME QUICK QUESTIONS TO GENERATE THAT AWESOME MEAL PLAN

Add Your Meals

Select a recipe...



Pantry Raid

SOME QUICK QUESTIONS TO GENERATE THAT AWESOME MEAL PLAN

Select a date...

1. Click prev in the first view it will return back to the meal plan page
2. The number of meals in the second view will change depending on the answer user choose in the first view
3. In the third view, user can choose the period of dates that apply the selected meal plan

8. GUI Design

9. Competitive Analysis

Description	Competitor's Product	Our Product
Refrigerator Tracker	Takes pictures of contents inside the refrigerator and keeps track of expiration dates and shelf life..	User manually inputs items
Recipes List	Shows a list of recipes that can be made provided with a list of available ingredients. Can create a shopping list based on missing ingredients.	Shows a list of recipes that can be made provided with a list of available ingredients. Can create a shopping list based on missing ingredients or other factors like health concerns.
User Friendliness	Barcode scanners to add to the list of ingredients or to check if already have	Allows the user to take a picture of shopping receipt to add items

Compare to the features from competitor's product, our product's features are target to some users like Janey. Our product allows users to input items manually. Once users input the item, the item will store it to the database, and users can review all of them. Moreover, our product shows a list of recipes that can be made with a list of available ingredients. If some ingredients missed, it will create a shopping list for users. Our product also can allow the user to take a picture of the shopping receipt for adding items.

10. Github Branches and Review Policies

1) In our branch policy, every developer creates a feature branch, then pulls from developer branch, that they are working one. For example, Meal Plan, the developer creates all the features regarding that feature branch. Whenever the developer is done working on that branch, the developer communicates with either Team Lead or Github master for a code review to ensure that our coding styles are met properly, this is usually done online via discord.
2) Our coding style follows: The Javascript coding style that will be enforced on every team member will be Airbnb Style. The Python style will be PEP 8.
3) How To enforce style: Team members should use a style checking tool (e.g. eslint, pycodestyle) before committing code. When reviewing pull requests, the reviewer must ensure that it is in the correct style

11. Key Risks for the Project

1 - Skill Risks (Do you have the right skills?)

Some of us are familiar with backend but are unfamiliar with our frontend framework. Some of us are familiar with our frontend framework but are unfamiliar with working on backend. Since we are equally distributed, all of us are able to come together to teach each other what we need to know in order to understand what is going on. We use the the study sessions on tuesdays and thursdays to come together to understand what is going on and how we can teach each other. If we don't know anything, we seek each other out for answers, online help, or professors in other courses that could give us a better understanding on how to approach certain scenarios.

2 - Schedule Risks (Can you make it given what you committed and the resources)

The entire team is very busy, given that all of us are seniors and are trying our best to study for important midterms and completing assignments. We dedicate ourselves to studying on Tuesdays, Thursdays, and Sundays. On Tuesdays and Thursdays, after class from 2 to whenever (usually for about 3 to 4 hours) we have study sessions in the library to discuss what to do for the project and achieving tasks for the milestone. On Sundays, we have a 30 minute discussion what needs to be completed before our study session and what to complete on our trello page.

3 - Technical Risks (any technical unknowns to solve)

Since most of are very new in building an application from scratch and making everything work together, we spend majority of our time studying and trying to understand our stack with our given schedule. We are using technology that we haven't used before or are unfamiliar with, for example, we had difficulty in understanding how to use an api properly, but with enough studying from online resources and practicing on how to properly use it through pair programming we were able to understand it. We dedicate as much time studying what we need to know in order to be able to put all the pieces together.

4 - Teamwork risks (any issues to teamwork)

For most of us, it’s our first time coming together to collab on building an application with our given knowledge. We try our best to distribute work evenly by using outside applications like trello. We use trello to make cards that allows us to assign tasks to each individual. Since most of us aren't always able to meet up and communicate with one another, we use discord and text messages to always keep in contact with each other by seeing what’s going on and how the application/work is progressing. In our discord channel, we have a log section that tells us what happened in our last meeting. We have a resource channel that is dedicated in posting resources on what we should be studying for.

12. High-Level System Requirements

A. MILESTONE 0
    a. SOFTWARE TECHNOLOGY
B. API GOOGLE OCR 00
C. Spoonacular API
D. Supported browsers
    a. Safari
    b. Samsung Internet
    c. Google Chrome
    d. Firefox for Android
    e. Opera Mini
E. ServerHost: RamNode (ramnode.com)
F. Server Domain Name: Cryptoflipit.com
G. CPU: AMD EPYC PROCESSOR DUAL CORE 2.1GHz
H. OS: Gentoo GNU/LINUX
I. Database: MySQL 5.7
J. Web server: Node.js 8.12
K. Server-Side Language: Python 3.6
L. Web Application FrameWork: React.js

13. Checklist

1. Team Found a time slot to meet outside of class
   1. DONE
2. Github Master Chosen
   1. DONE
3. The team decided and agreed together on using the listed SW tools and deployment server
   1. DONE
4. Team ready and able to use the chosen back and front end frameworks and those who need to learn and working on it, along with study schedule
   1. DONE with using back and frontend frameworks
   2. STUDY SCHEDULE TUES/THURSDAY 2-W/E

14. Team Members

A. Brian Nguyen - Team Lead
B. Malik Iscandari - Scrum Master
C. Jeffrey Pierce - Backend Lead
D. Vincent Wu - Github Master
E. JianQiao Xie - FrontEnd Lead
F. Yiyu Zhang - Backend Assistant