BRD

Team No Stress
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Daniel Ramirez
Hunter Lewis
Luke Sunaoka
Matthew Quinn (Team Leader)
Michelle Vo
Tyler Thorin

Date	Version Number	Document Changes
9/22/2021	0.1	Initial Draft
9/23/2021	0.2	Decision Tree, Func and Non-Func Requirements made
9/28/2021	0.3	Added more details in lackluster areas
10/2/2021	0.4	Reformatted Functional and Nonfunctional
12/12/2021	0.5	Updated BRD to match other documents

1 Project Summary

1.2 Objectives

- Make food education simpler.
- Give consumers an easier way to understand what is in their food.
  - Condenses complicated nutrition labels as well as ingredients to a simple manner.
  - Categorizes products for users to have an understanding of what they are consuming.
- Display the pros and cons of various foods and chemicals within said foods.
- Provide users with the latest news surrounding food all in one place.
- Give the user a simple way to calculate their needed calorie intake.

1.2 Background

Although the FDA provides nutrition labels across all food products handled within the United States, there are often complicated and vague detailing on products that confuse the customers. What The Food? allows users to scan a search item with ease and receive their product's information in simplified, understandable terms. What The Food? will condense complicated labelings and notify the user on what health benefits or potential hindrances the product may contain.

1.3 Business Drivers

- Consumers are oftentimes curious about the product in which they consume but are misled by nutrition labels and their complicated ingredients
- Some consumers would like to understand what they are consuming, which is where they can use What The Food? in order to educate themselves.

2 Project Scope

- User Login Feature that can save user information by choice
- Create a menu in which the following features can be accessible
  - Scan Food
  - Filter
  - Personalized Daily AMR Calculator
  - History
  - Review
  - News
- Feature of scanning any food product and analyzing its nutrition label
- Creating a recommendation page after scan on similar products
- Creating a simple filter in which users can choose what they want or do not want in their product

2.2 Out of Scope Functionality

- Algorithm in which aggregated news will be presented to the user
- The manner in which the database for all ingredients will be created

3 System Perspective

3.1 Assumptions

- A Functional Database that will store ingredients and nutrients contained in a product will be produced
- A user interface in which the user can simply access features of What the Food? will be produced
- What the Food? will have a login feature

3.2 Constraints

- Everyone has other class work in which they must multi-task, leading to a time constraint
- There are some languages and systems that not everyone is comfortable with so we must learn and adapt as a team

4 Business Requirements

- *4.1 Scan barcode*
  - **Functional**
    - **User Story:**
      - I am curious about what is in this product and to find out, I need to scan the barcode
    - **Requirement:**
      - The application must allow for the scanning of barcodes
    - **Reason for Requirement:**
      - This feature is a core functionality of our program where many other features stem from.
  - **Non Functional:**
    - **Requirement:**
      - The app will instruct the user on how they should adjust their

camera so that the barcode can become recognized by the camera.
- ■ **Requirement:**
  - ● Once a product has been scanned, the app will identify the contents of the product and make recommendations based on similar nutritional content.

- ● *4.2 Manually Enter Product*
  - ○ **Functional**
    - ■ **User Story:**
      - ● The barcode scanner isn't working for some reason, but I still want to look this product up.
    - ■ **Requirement:**
      - ● The application must allow users to enter the barcode manually
    - ■ **Reason for Requirement:**
      - ● This feature ensures the application can still work even if the user's camera is damaged or malfunctioning.
  - ○ **Non Functional**
    - ■ **Requirement:**
      - ● Allow the user to upload a previously taken photo from their device to act as their 'scan'.
- ● *4.3 Define Chemical Ingredients*
  - ○ **Functional**
    - ■ **User Story:**
      - ● This product has a lot of long names in its ingredient list and I want to know what they are
    - ■ **Requirement:**
      - ● Application must simplify chemical names in order to better understand terms
    - ■ **Reason for Requirement:**
      - ● Our goal is to educate consumers. One of the hardest parts of reading ingredients is trying to figure out, or even pronounce many of the ingredients. This allows consumers to be able to truly understand what's in the product.
  - ○ **Non Functional**
    - ■ **Nutrient Listing**
      - ● **Requirement:**
        - ○ All ingredients, nutrients, and vitamins will be categorized by their appropriate classification in alphabetical order.
- ● *4.4 Articles Based on currently Scanned Product*
  - ○ **Functional**
    - ■ **User Story:**
      - ● I wish to visit the manufacturers website of the product I just scanned
    - ■ **Requirement:**
      - ● Application must provide users a link for more information on the product they scanned
    - ■ **Reason for Requirement:**
      - ● Providing users with easily outside sources of information on the

product they are looking at further increases transparency.
- - **Non Functional**
    - ■ **Requirement:**
      - ● Present the article based on the scanned product so that it fits on the user's browsers in a top-down scrollable format.
- ● *4.5 Database access*
  - ○ **Functional**
    - ■ **User Story:**
      - ● I wish to access information on the product I just scanned
    - ■ **Requirement:**
      - ● The database must be able to find and return information on the scanned product
    - ■ **Reason for Requirement:**
      - ● Core component that most of the other features rely on. This database holds all the information of various products and ingredient names.
  - ○ **Non Functional**
    - ■ **Requirement:**
      - ● Results and information pulled from the database will be processed and shown to the user within 1.5 seconds.
- ● *4.6 Food Alternatives*
  - ○ **Functional**
    - ■ **User Story:**
      - ● I want to see similar products to what i'm looking at, but with lower calories
    - ■ **Requirement:**
      - ● The application must be able to provide alternatives to the currently scanned food, with modified search parameters
    - ■ **Reason for Requirement:**
      - ● Finding a product that doesn't quite meet your needs is frustrating, this allows consumers to see similar products that fit their needs.
  - ○ **Non Functional**
    - ■ **Requirement:**
      - ● Provide visual representations of products recommended to users.
- ● *4.7 Food Flags*
  - ○ **Functional**
    - ■ **User Story:**
      - ● I want to avoid high fructose corn syrup in my products
    - ■ **Requirement:**
      - ● The application must accept a list of flagged items, and alert the consumer when a product contains a flagged item
    - ■ **Reason for Requirement:**
      - ● Many consumers wish to avoid specific ingredients, This gives them the power to know if a product is acceptable or not without the hassle of reading an entire label
  - ○ **Non Functional**
    - ■ **Requirement:**
      - ● Add a visual indicator by adding a checkmark on whatever the user has flagged.
- ● *4.8 Food Filter*

- ○ **Functional**
  - ■ **User Story:**
    - ● I'm looking for new foods that are high in protein
  - ■ **Requirement:**
    - ● Application must accept nutrients and provide the user options containing those
    - ● **Reason for Requirement:**
      - ○ The food filter is a core fundamental to our app and allows for the user to select or exclude certain ingredients or nutritional content of their choice.

- ○ **Non Functional**
  - ■ **Food Flag/Filter Selection UI**
    - ● **Requirement:**
      - ○ Users will be able to select from a list of nutrients, vitamins, or ingredients listed in a top-down view listed in alphabetical order. As well as having a search function to find a specific item. Users can click on what they would like to include or exclude which will be listed with a highlight. Users will also be able to select or deselect every item listed through an optional button. Flagged items will appear in a separate list to make removing or checking them easier.

- ● *4.9 Personalized Daily percentage values (AMR)*
  - ○ **Functional**
    - ■ **User Story:**
      - ● I want an easier way to know how much of my daily nutrition is being taken up by a given product
    - ■ **Requirement:**
      - ● Application must calculate users AMR and store it. This value is used to modify nutrition labels' daily percentages.
    - ■ **Reason for Requirement:**
      - ● The AMR percentage value is necessary for the user in order for them to understand their AMR relative to the product they scanned or searched.
  - ○ **Non Functional**
    - ■ **Requirement:**
      - ● Calories will be displayed numerically alongside the recommended calorie consumption in a bar graph format alongside the 5 most recent items searched or scanned, listed and presented as a bar graph as well. The user's Active Metabolic Rate will be displayed numerically.
- ● *4.10 Calorie frame of reference*
  - ○ **Functional**
    - ■ **User Story:**
      - ● I have a hard time visualizing how many calories a product has and wish there was a better way to understand it.
    - ■ **Requirement:**

- The application must plot products next to each other with their calories by serving to act as a visual aid.
    - **Reason for Requirement:**
        - The calorie frame of reference is important to the user because they are able to visualize the scanned or searched product in a simplified manner.
- **Non Functional**
    - **Requirement:**
        - Add a bar graph that visually describes the product's calorie frame of reference when compared to other products.

- *4.11 Average Product Rating*
    - **Functional**
        - **User Story:**
            - I want to see the average rating a user gives this product
        - **Requirement:**
            - Application must provide an average rating gathered from other websites
        - **Reason for Requirement:**
            - The Average Product Rating is important to the programmers because the programmers must pull different reviews on a specified product and present this to the user.
    - **Non Functional**
        - **Requirement:**
            - Show the user the rating on products visually represented by a star on screen.
- *4.12 In house product reviews*
    - **Functional**
        - **User Story:**
            - I wish to leave a review for this product
        - **Requirement:**
            - Users will be able to click on a scale of 1 to 5 stars to rate the app. They will also be provided the option to comment below these stars. Once their review has been made, users can submit the review by clicking the appropriate button.
        - **Reason for Requirement:**
            - In house product review allows users to leave a review in which they express how they feel about the app.
    - **Non Functional**
        - **Requirement:**
            - Add a chat filter algorithm that will parse a review for any flagged words or language and hide those reviews from appearing to users and their star rating will be discarded.
- *4.13 Feedback on application Recommendations*
    - **Functional**
        - **User Story:**
            - I keep getting bad recommendations for products, and want to let the app makers know this isn't a good fit
        - **Requirement:**

- The app must allow for users to rate how accurate recommendations are
    - **Reason for Requirement:**
        - Feedback is important from a developer's perspective because programmers are able to gain insight on the overall performance and how the user's feel about the software.
- **Non Functional**
    - **Requirement:**
        - Ensure that the application will not prompt the user during awkward times or in ways that will negatively impact their experience.

- *4.14 Aggregated News*
    - **Functional**
        - **User Story:**
            - I want to see the latest news on health trends
        - **Requirement:**
            - Application must pull news headlines and link the user to the full article
        - **Reason for Requirement:**
            - Aggregated News is important for programmers because they must be able to find health related articles and present them to the user.
    - **Non Functional**
        - **Requirement:**
            - News will be presented to users from a top-down view with the top being the most recent news to be posted. News will be listed by their article title alongside the authors. Clicking on the article title will redirect the user to the website.

- *4.15 Personalized News*
    - **Functional**
        - **User Story:**
            - The news articles aren't matching my personal interests and I want them to be more targeted towards my needs
        - **Requirement:**
            - Application must have personalized news feed based on user data
        - **Reason for Requirement:**
            - Personalized News is important for the users because it provides news catered specifically for them.
    - **Non Functional**
        - **Requirement:**
            - Allows users to flag certain news they are not interested in so that the news presented to the user can be adjusted to their preference accordingly.

- *4.16 User Data collection*
    - **Functional**
        - **User Story:**
            - My data is important to me and I don't want it being collected
        - **Requirement:**
            - Application must allow users to opt out of all data collection

- - - **Reason for Requirement:**
      - Data collection laws require the ability for users to opt out of data collection
  - ○ **Non Functional**
    - ■ **Requirement:**
      - Users will be able to switch on screen whether they would allow for their data to be shared.
- ● *4.17 History*
  - ○ **Functional**
    - ■ **User Story:**
      - I scanned a product earlier and want to look at the details of it again
    - ■ **Requirement:**
      - Application must provide access to user history
    - ■ **Reason for Requirement:**
      - The history is important from a user standpoint due to its organization and accessibility. Having a history allows users to track what they have searched and gives them insight on their scanning trends.
  - ○ **Non Functional**
    - ■ **Requirement:**
      - Users will be able to access the last 25 items they have scanned through a top-down scrolling window. The items will be organized from the most recent scanned product starting from the top. The items will be listed by their name**.**
- ● *4.18 Main Menu*
  - ○ **Functional**
    - ■ **User Story:**
      - As a user I need a way to navigate through the various functions this product provides
    - ■ **Requirement:**
      - Application must have a menu for users to be able to access all elements of our application
    - ■ **Reason for Requirement:**
      - This functionality is necessary for both the user and programmer to have an organized interface that serves as a main point of access to other features.
  - ○ **Non Functional**
    - ■ **Requirement:**
      - Main menu UI must be intuitive, visually pleasing, and functional.