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3d: Usability Testing Review

Usability Tests

For our first usability test we chose Audree, a daughter of a family of five that does the primary shopping for groceries for the family. She is savvy with the usage of smartphone applications, and has to execute shopping lists provided by her mom that accommodate her family members. The usability test took place in her home, with James acting as administrator, Chris as computer, and Josh and Cache as observers. The only incident to note was that instead of wanting to use the app, she wanted to use the internet application to query google for information about the food. This is a level-0 severity issue. This occurrence was a force of habit, not necessarily an inherent issue with the app. However, if she used the app frequently but still decided to use Google in lieu of the Food Scanner app, this could indicate that the scanning procedure is A) too tedious, or B) returns inferior results.

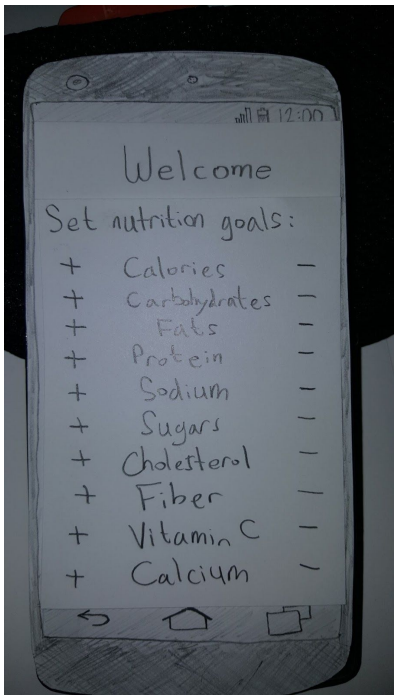
The second participant in a usability test was Adam. The usability test was conducted in his own kitchen because the app is most likely to be used both there and in the grocery store. The administrator for this test was Josh, with Cache acting as computer. Adam was selected because he has a diet that he follows to stay in shape. He was told at the beginning about the basic idea of the app and given two primary tasks to complete without help. By the time this test was conducted there had been many revisions on the paper prototype and the results were mostly positive, with a few minor revisions needed.

The third usability test was conducted at the Harmons Grocery Store in Salt Lake City, with the on-staff dietitian named Sam, who was chosen as a person with unique experience and knowledge about helping customers at the store buy more nutritious food. Our whole team observed this usability test, with Chris taking the administrator role, Cashe as the computer, and James and Josh as observers. Sam sat down with us at a table in the store, where we set up the test and observed his ability to accomplish the tasks. Sam was able to accomplish the tasks we laid out without issue, but was confused by what the app was supposed to be communicating to him in the “nutrition goals” sections of the tasks, causing a large time delay while he tried to figure out what should be set at why. Following the test we discussed the confusion and choose to revise the nutrition goals page to clarify the functionality available.

Issue #1

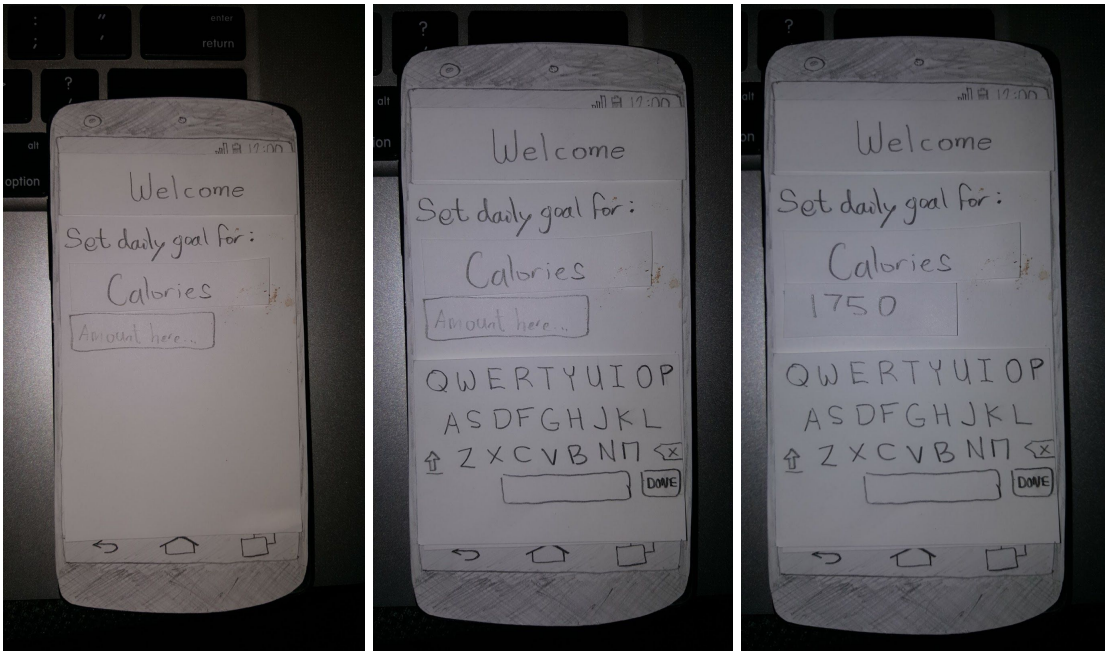
Issue Description: The users cannot enter specific nutrition goals (e.g. 50g of protein per day)
Heuristic Violated: User control and freedom
Severity of Issue: 3

Image of Problem:



Revision Description: We added this function into our design as suggested as it closely follows our intended design. Our design scenarios and storyboards described the feature of customizing meal plans to fit dietary goals, and this makes that task easier to accomplish to the precise degree some people desire.

Image of Revision:



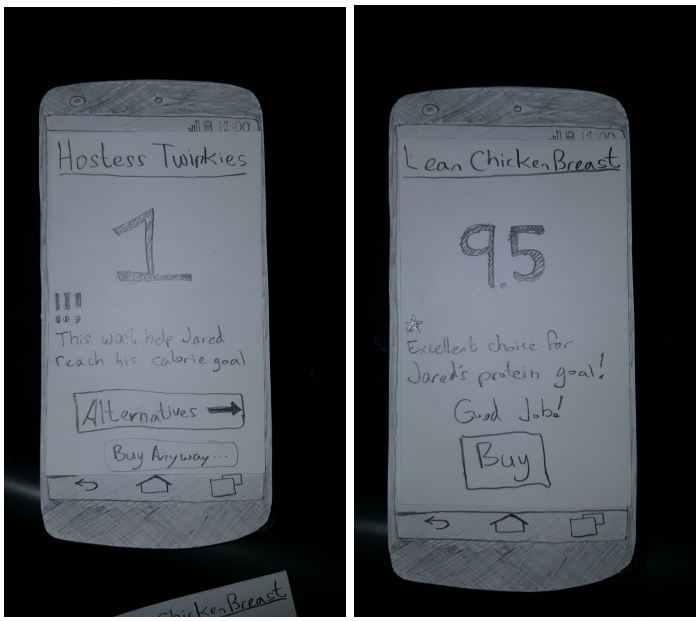
Issue #2

Issue Description: The number ranking the food you scanned isn't descriptive (e.g. is 1 good or bad?)

Heuristic Violated: Match between system and the real world

Severity of Issue: 2

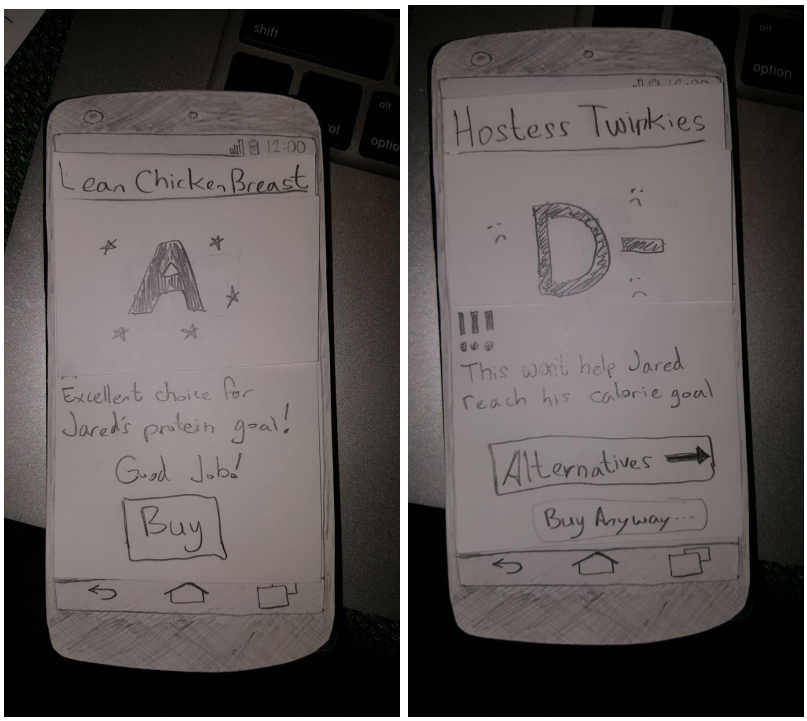
Image of Problem:



Revision Description: We chose to switch to a letter grading system which is more immediately identifiable for a user. Changing how we are abstracting this data to a simpler format could reduce

some of the granularity in the grading, but making this information immediately obvious to a user is more valuable for its purpose.

Image of Revision:



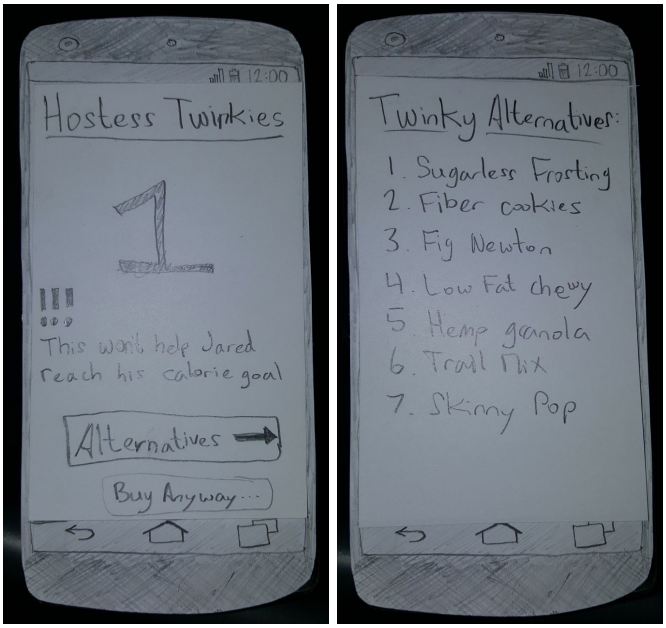
Issue #3

Issue Description: The users were confused about the purpose and use of the alternative suggestion screen. They were confused if the items suggested were clickable or what function they had.

Heuristic Violated: Consistency and standards

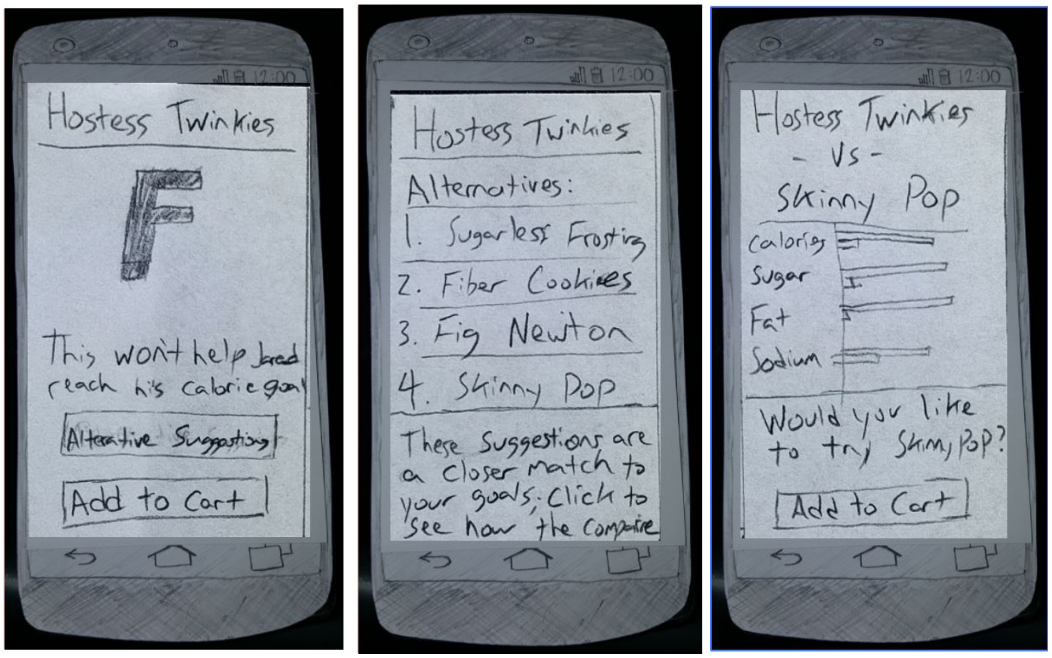
Severity of Issue: 3

Image of Problem:



Revision Description: We adjusted the layout of the alternative suggestions page to add horizontal lines between the suggestions as an affordance that they are clickable. Upon clicking there is a comparison between that suggestion and the scanned item with the ability to add the suggestion to the cart.

Image of Revision:



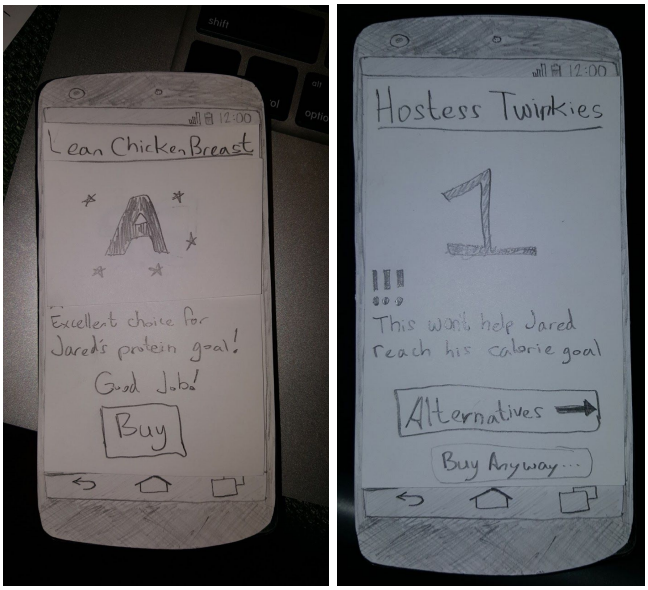
Issue #4

Issue Description: The users were confused about the function of the “Buy” button which is displayed when an item is scanned. They were unsure if the button was a link to purchase the item online.

Heuristic Violated: Match between system and the real world

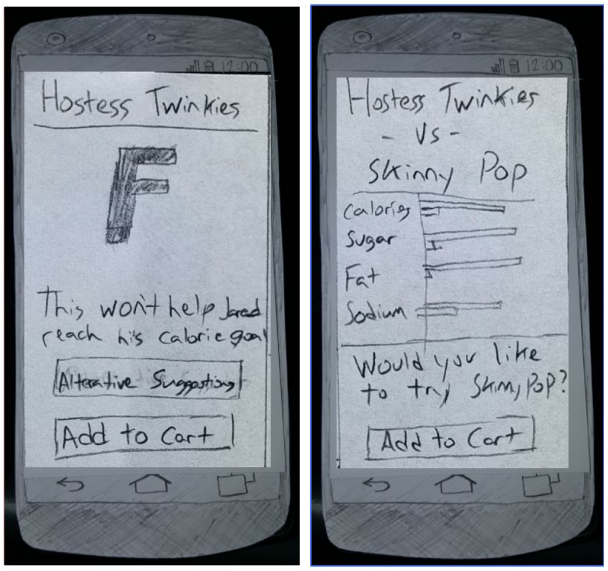
Severity of Issue: 1

Image of Problem:



Revision Description: We changed the wording of the button to clarify the intended function.

Image of Revision:



Issue #5

Issue Description: Users did not know what would happen to the system when “Buy Anyway” was selected.

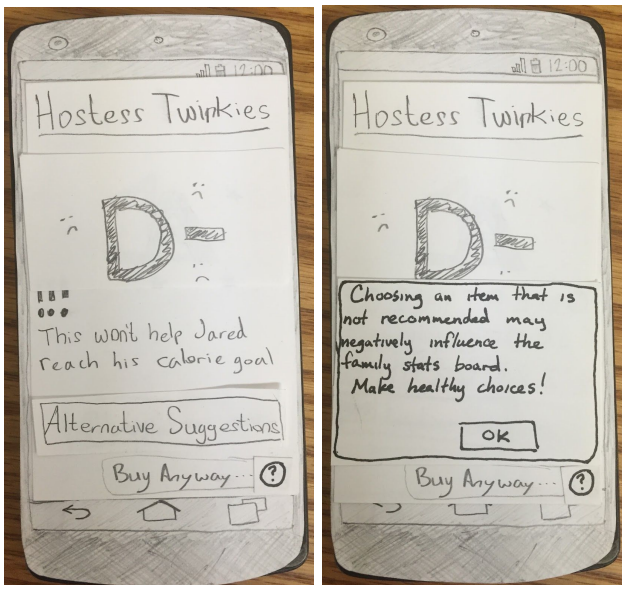
Heuristic Violated: Help and Documentation

Severity of Issue: 2

Image of Problem:

Revision Description: A simple popup box was included for users who may want to know what the Buy Anyway button does.

Image of Revision:



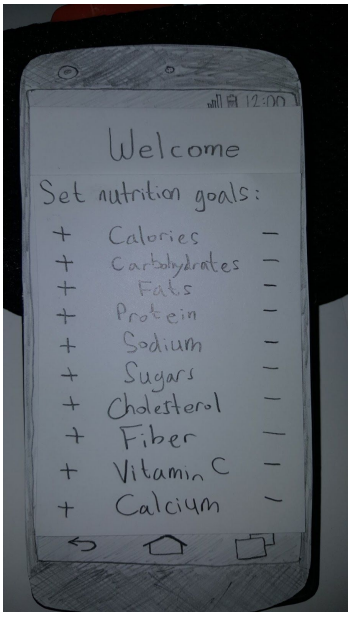
Issue #6

Issue Description: The user was confused about what was being represented and why it wasn't offering suggestions for specific goals.

Heuristic Violated: Help and documentation

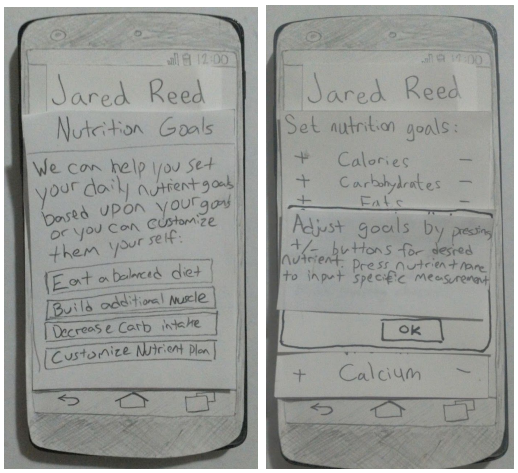
Severity of Issue: 2

Image of Problem:

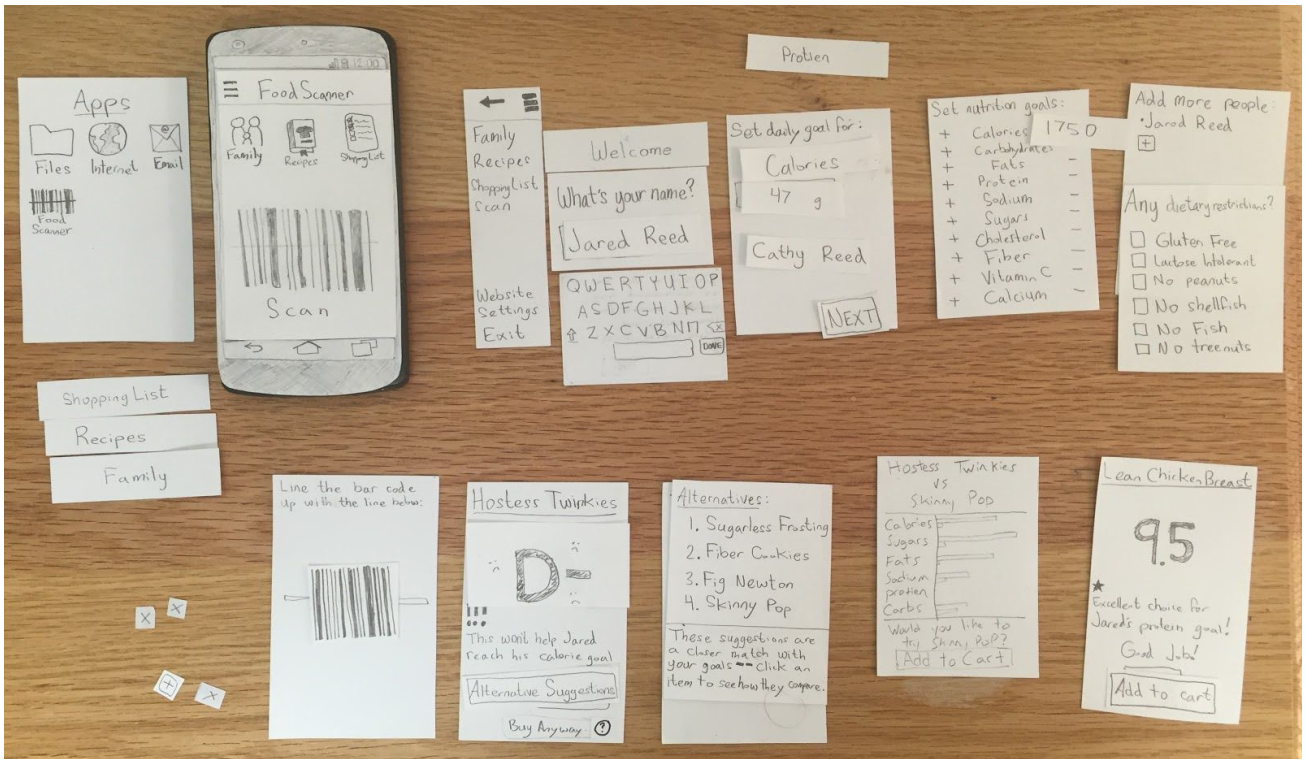


Revision Description: We added an instruction dialog to further explain what was expected by the user to set their custom nutrition goals, and added some preset profiles to simplify this process, especially for users who are not familiar with the intricacies of dietary cause and effect.

Image of Revision:

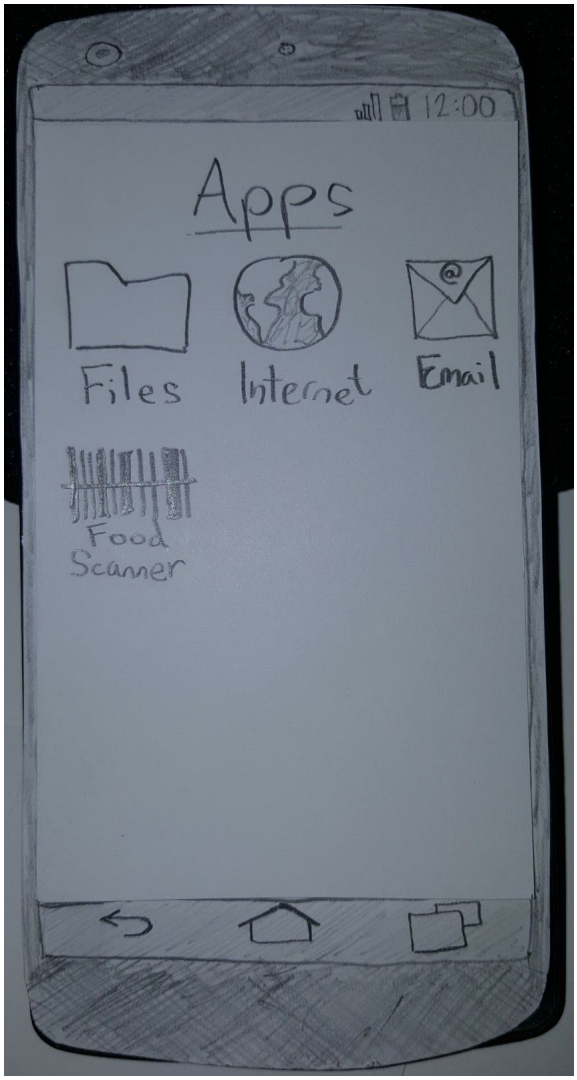


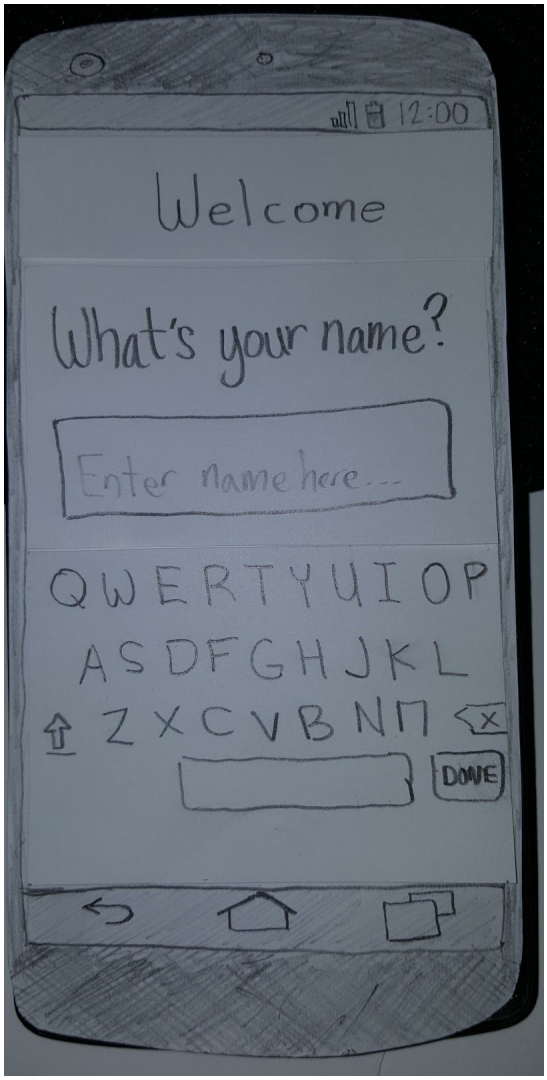
Final Revision:



Task 1 (Revised):

Orientation - Getting set up with Food Scanner

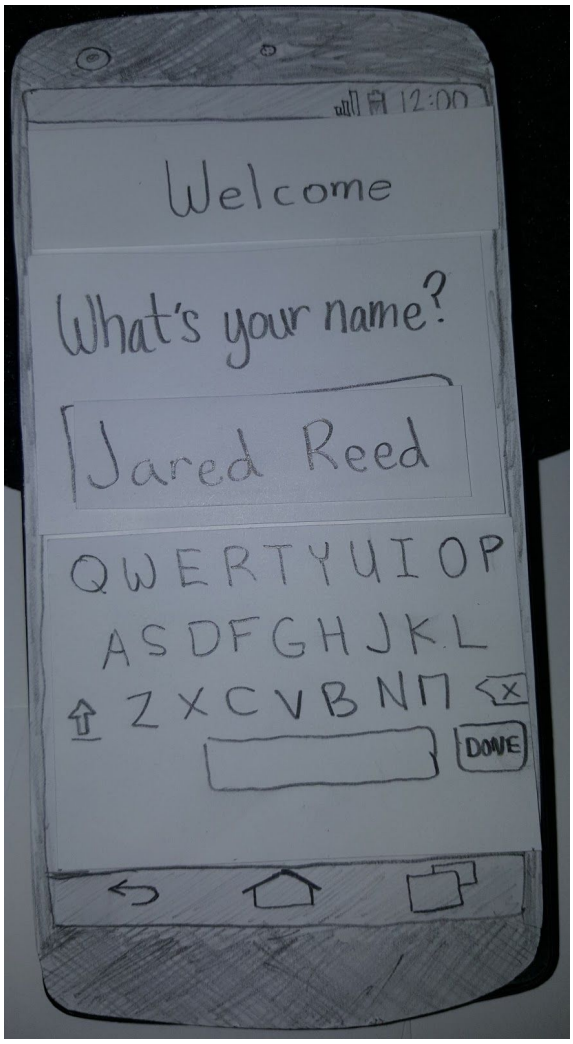




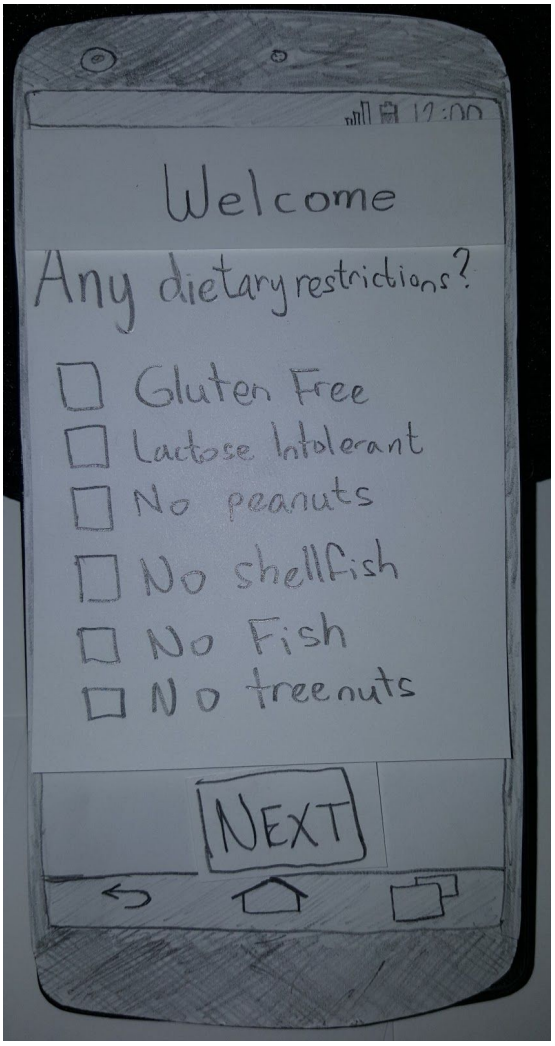
Screen 1.1 Screen 1.2

Screen 1.1: Displays the icon for Food Scanner on the user's smart phone.

Screen 1.2: Displays the very first time the user opens the application.



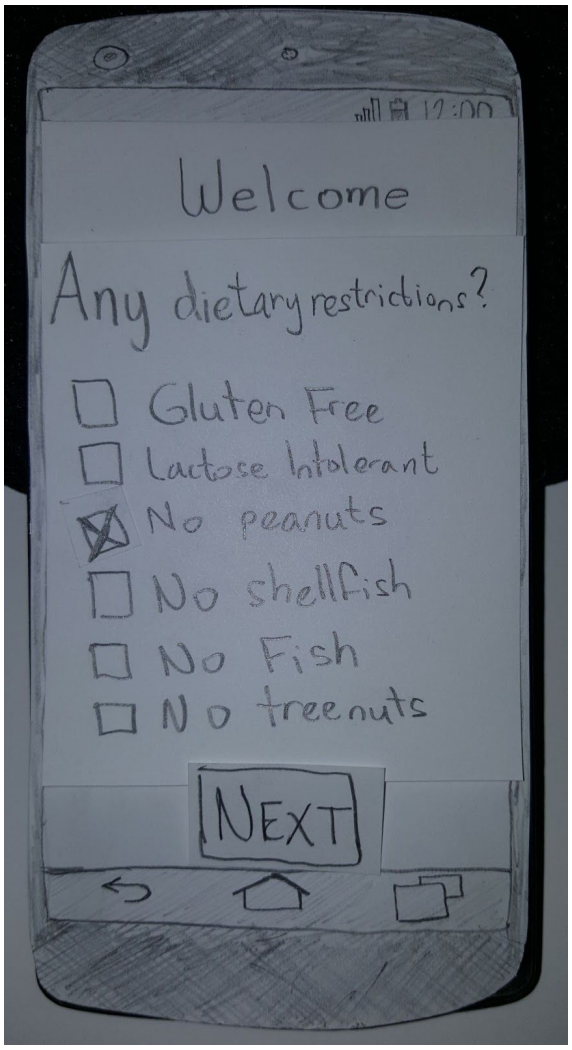
Screen 1.3



Screen 1.4

Screen 1.3: In Screen 1.3, the user inputs their name and then clicks “Done”.

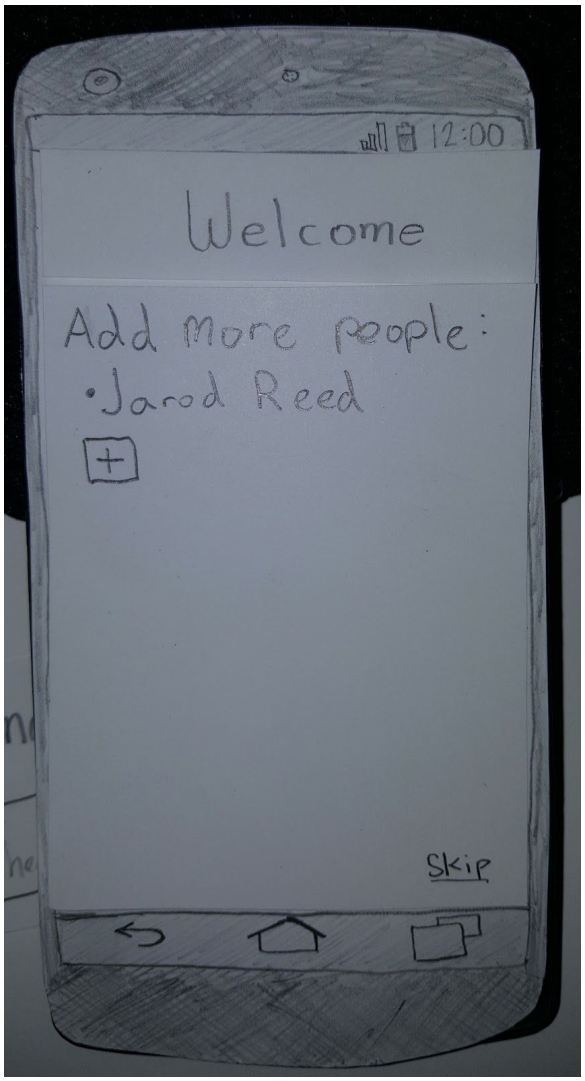
Screen 1.4: Here the user can select any dietary restrictions that they may have.



Screen 1.5 Screen 1.6

Screen 1.5: The user selects any dietary restrictions that they have, then selects “Next”.

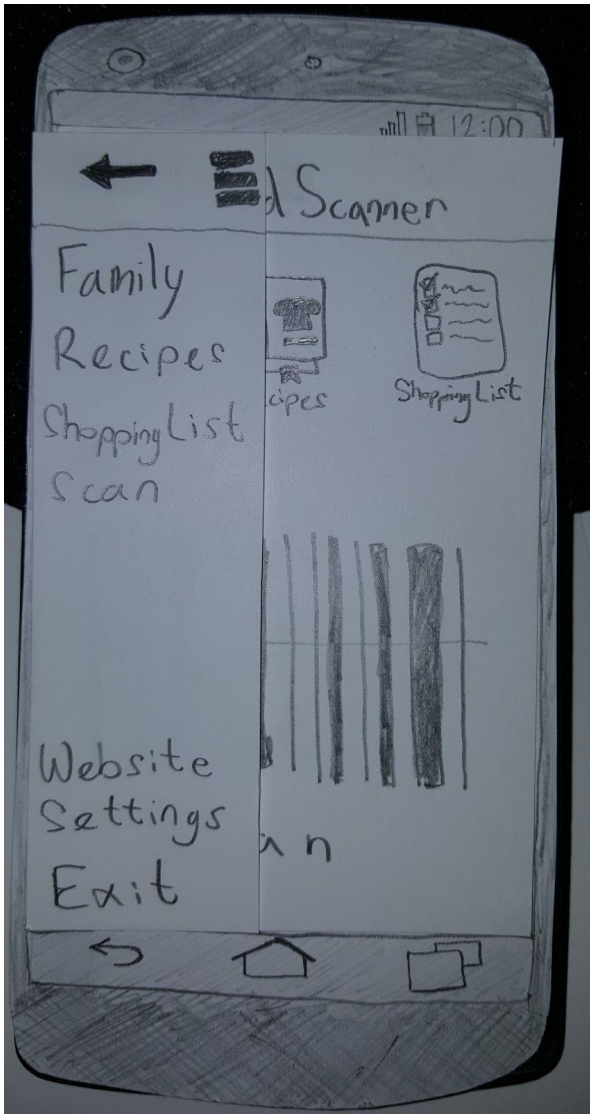
Screen 1.6: In Screen 1.6, the user sets specific goals for highlight nutrients.



Screen 1.7 Screen 1.8

Screen 1.7: After the user inputs their own information, they then can select the “plus” icon to add more users, which will reiterate through the previous screens. Additionally, they can select “Skip” to proceed to the main page of the app (See Screen 1.8).

Screen 1.8: The main page of the app; the main functionality here is the “Scan” section where the user can utilize to scan food labels while shopping to see if it meets their goals and dietary restrictions. The user can also select “Family” to view the previous screen to add family members, “Recipes” to view their favorite recipes, or “Shopping List” to view their shopping list. Additionally, the user can click the menu button in the top left (See Screen 1.9).

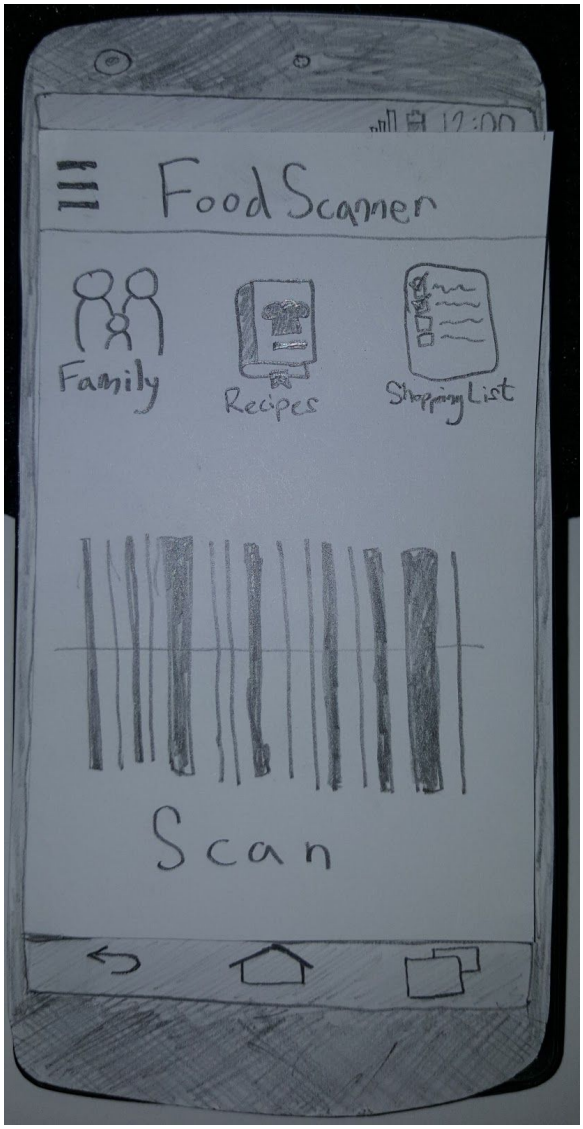


Screen 1.9

Screen 1.9: This screen displays the menu button in the top left of the app. Here the user has other options to easily jump to their “Family”, “Recipes”, “Shopping List”, or “Scan” screens in the app. There are also buttons to visit our Company website, view the app settings, and exit the application.

Task 2 (Revised):

Scanning Labels - Checking food at the store to ensure it matches family’s needs

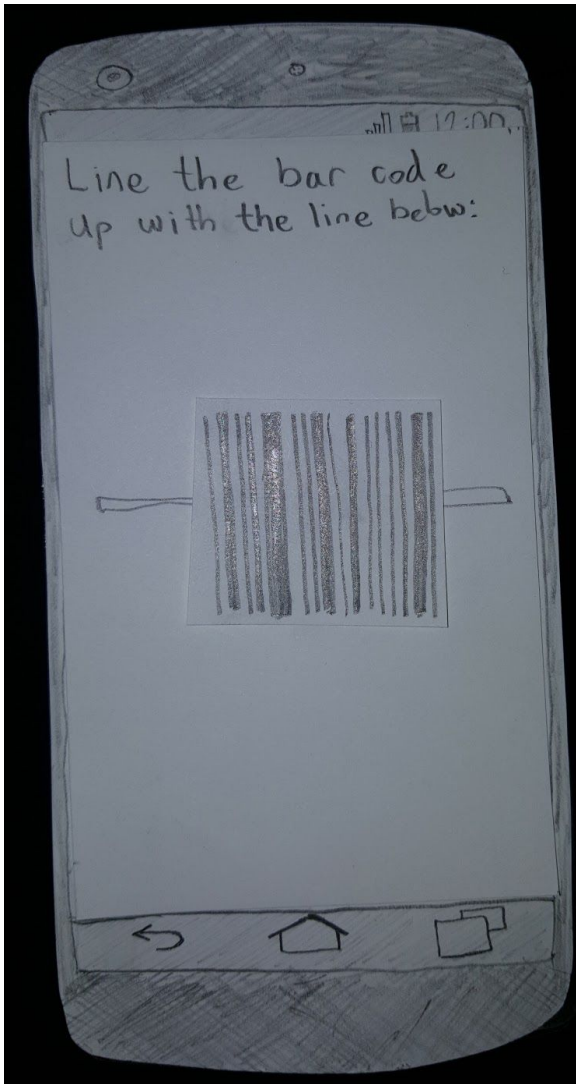


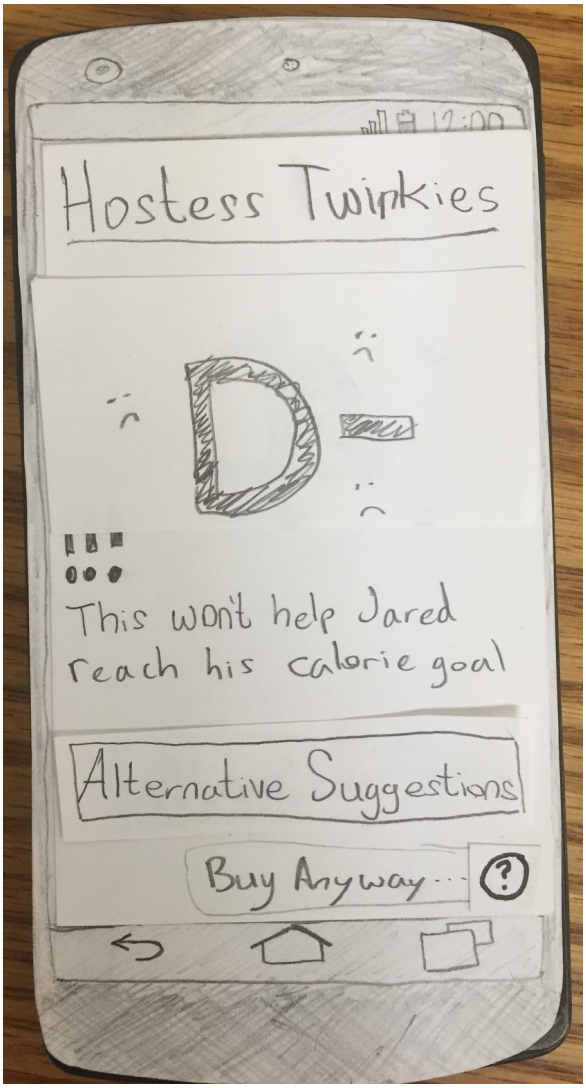
Screen 2.1

Screen 2.2

Screen 2.1: This screen depicts the homepage. From here, the user clicks on the large “Scan” button.

Screen 2.2: The camera activates, and the screen now shows instructions how to scan the food label.

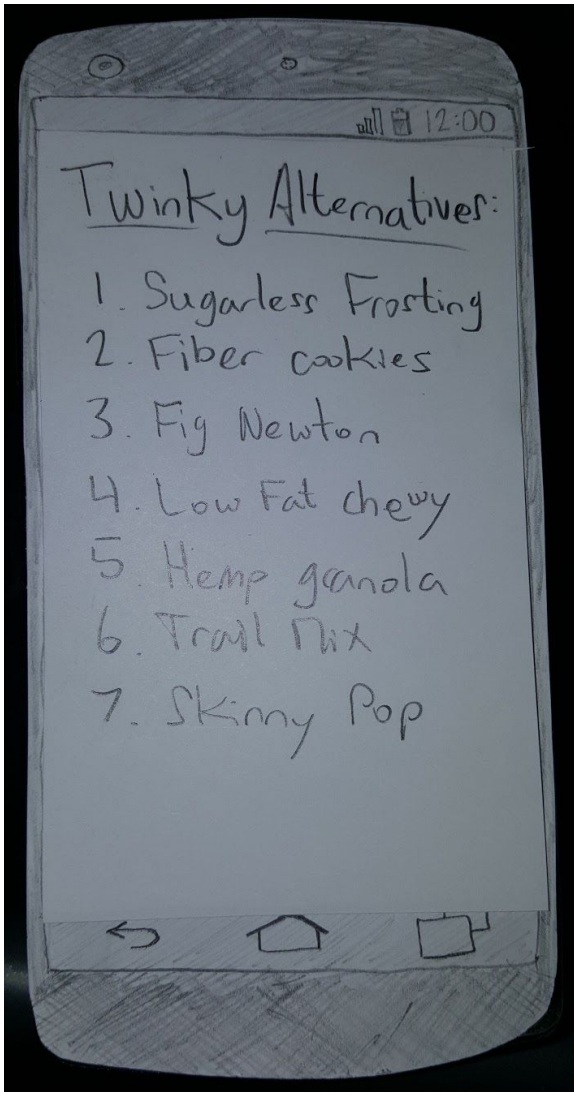


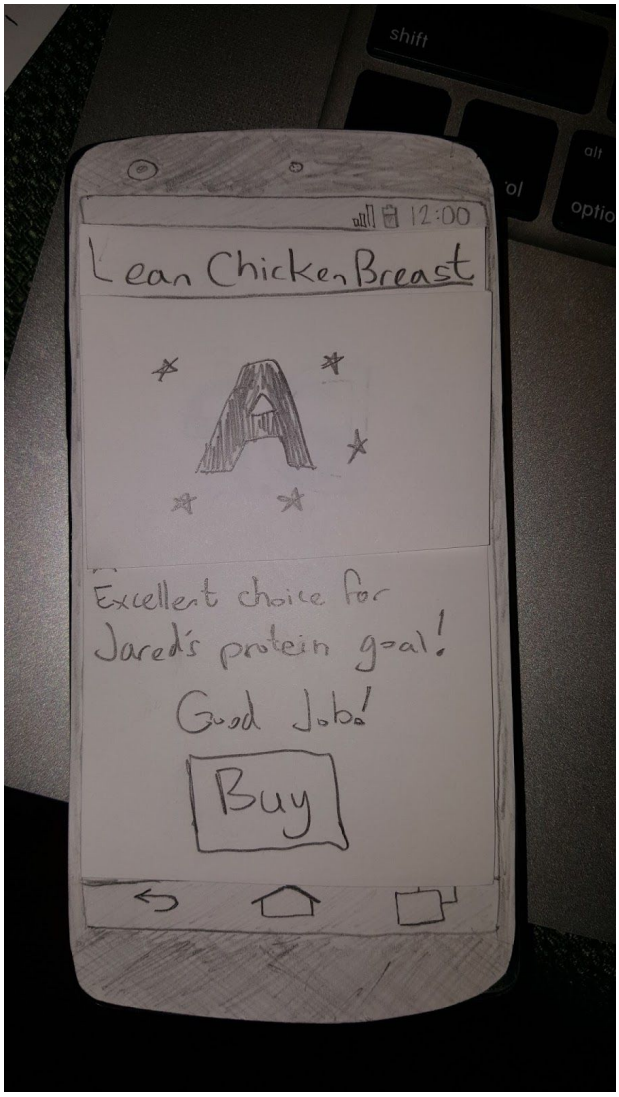


Screen 2.3 Screen 2.4

Screen 2.3: The user lines up the barcode with the guideline on the camera screen, and successfully scans the label.

Screen 2.4: The screen now shows how that food is interpreted based on the nutrition, and the family goals. This food is unhealthy, and doesn't meet goals. So, the UI warns the user of this, and suggests alternatives.





Screen 2.5 Screen 2.6

Screen 2.5: Clicking the alternatives from the previous screen shows a wonderful list of “better options. Some of these might better help the family meet goals.

Screen 2.6: Scanning an item that is healthy is rewarding, and the user is encouraged with their choice.

Most important Revisions:

After discussing the issues found in testing we decided that revising our design to simplify and better explain some of our key features are the most important results discovered. The first issue we have listed was that users were not able to specify their nutrition goals precisely. This would limit the use of our design to many potential users who desire the control over specific

nutrients as implemented in our revision. Our target audience for FoodScanner is likely to have a specific diet that they want to follow.

We found a design problem in the third issue listed above, which is that the suggestions we were providing to users in place of unhealthy food they had scanned were presented in a way which was confusing and unhelpful. The scanning functionality of FoodScanner is aimed at providing users with a simplified solution for finding the right food to purchase to reach their nutrition goals, and the suggestions the app offers if there is a conflict in the scanned item are very important to this feature. The simplifications and explanations we added in our revisions make it clear to users what is being suggested and why they might want to avoid the item they scanned in a way that empowers their decisions. The feedback received and observations made during these usability tests have helped us in refining our design in ways that make FoodScanner a better, easier to understand, and more useful product to users.