**Project One**

Justin Starr

Department of STEM

CS 319 – UI/UX Design and Development

Professor Erin Tirrell

July 24, 2023

# Project One

A client has contracted me for the purpose of designing and developing a new app for them that will allow all their users to scan the barcode of a product and see how healthy that product's ingredients are. Each ingredient is color coded to rank how healthy they are with a green color being healthy, yellow being neutral, and red being unhealthy. A wireframe has been created for stakeholders to be able to visually see what the app is going to look like and how the app is going to function. The wireframe incorporates not only the client’s requests but also additional feedback on the features and functionality that has been gained through extensive user evaluation and interviews.

The first four screens of the wireframe are the main requirements of the client. The additional screens of the wireframe have been included to incorporate additional features users stated they would like to see in the design to make the application more useful. When the application loads, the user is taken to a “Home” screen where they can decide if they want to scan a product or go to their grocery list. This screen will display the app logo once fully created and allow them to easily navigate to a help page, which allows them to learn about the app easily and quickly, and also a notifications screen where the user can see when they have been notified by the system that a product that they do not like is on their shopping list. Because color has significant meaning to items in the application, I wanted to keep the interface design simple, without distracting colors that take away from the meaning of the colors where used. A scanning screen was created as part of the wireframe to show the simplicity of the design and interaction for users. All the user must do is bring the scanner close to a product barcode and the app will automatically scan for the barcode and if detected take the user to the next screen, the “Product” screen, with the product's list of ingredients. If the scanner does not scan a barcode within 15 seconds (allowing enough time for the user to adjust while holding the product if necessary) then the application moves back to the “Home” screen. Once the user is taken to the “Product” screen the application displays a simple list of all the ingredients the product contains as well as their health rankings. The user is also able to click an information icon for the product itself or for each ingredient that will provide relevant information. Already, the user can make an informed decision about the product based on the overall health ranking provided. If the user is still unclear or needs to make their decision about whether they would want the product, they can easily click the information icon to find the information they may need to make this determination. Also, once the user is at the “Product” screen, a more standardized navigation bar exists that includes clickable buttons for going back to the previous screen, going to their shopping list, scanning another barcode, getting help, and viewing notifications. All these buttons help the user easily and rapidly navigate the application. If the user decides to click the information button under a specific ingredient, they are taken to a screen that displays information about that ingredient. If a user clicks the information button under the overall product ranking, they are taken to a product screen where they can choose to see information about the manufacturer, see comparable products, and even like or dislike the product. Conveniently, if the user chooses to dislike a product, the app checks the user's shopping list and notifies them if the item is on their shopping list so that they can make adjustments when necessary and not accidentally buy something they decide they did not like. The “Alerts/Notifications” screen shows how easily users can navigate their alerts and remove them when ready. This included showing how messages can be kept in the system and identified as read or unread. A “Help” screen was provided to show how simple the screen layout will be, again minimizing the use of colors so as to not take away from the importance color has on health rankings. The last screen included was a significant feature and a priority ask of potential users who were interviewed. Once a user navigates to this screen, the user can add items to their shopping list and delete them when needed. They are also able to check off the items they no longer need but do not want to remove from their list.

The design of the application benefits the customer because if they want to find out how healthy a product is or its ingredients, they can do so quickly without having to spend a significant amount of time researching products, their ingredients, and what they mean. The app basically takes the work of finding this information out of the hands of the user, freeing up time that can be spent doing other things they enjoy more. The app presents information in a simple and easy fashion. One great innovative solution that I incorporated into the app design is the ability to scan a barcode without having to click a button that would then essentially take a picture of the camera. Depending on what type of device the app is running on, especially for those users who are using devices with large screens, it could be challenging to hold a mobile device with one hand, and a product in another hand, and then manage to click a button that takes a photo of the product’s barcode.

Previous research supports the app's design decisions because companies have spent a large amount of time before launching products to determine how users will use their products, and what aspects of designs make it hard or easy for users to use their products. A significant factor as to whether a user would want to use this app is how convenient and easy to use it would be. The information the app provides to the user is also significant, but the user needs the app to not be complex, understandable, easy to navigate, and in some way add value to their lives.

If the client decided to, the app could easily be adapted to a digital watch. The most significant change I would make is to make the navigation occur in the digital crown, that way each screen on the watch represents one main feature of the app design. For instance, the navigation menu would no longer exist. The adaptation would offer priority content with a logical series of actions by having each scroll of the crown or similar buttons move to a different screen such as the “Home”, Scanning”, “Alerts/Notifications”, “Help”, and “Shopping List.” The majority of the app would remain the same with minor changes in how information would be displayed. For instance, once a product is scanned, it would go to a product screen where it would show the overall ranking of the product, and then the user would scroll probably two to three ingredients at a time through the entire list of ingredients to see their health rankings. Another adaptation that would have to be considered is for devices that do not have cameras. A method for the user to manually input a barcode where the scanning screen is could be a solution to this. Making these types of changes allows for the adaptation to make sense, still providing valuable features and information that the app is intended to provide, all while maintaining a design that is compliant with best practices for wearables by being easy to navigate, having screens that promote one main feature, and is time saving and easy to interact with, such as with clickable buttons.

Designing the app for use on an interactive kiosk would again take little to no change in the app design at all. The same types of interactions would occur, including the use of a scanner that constantly scans for barcodes in the scanner's field of view, and touchscreen buttons that allow the user to navigate to various features or information easily. A primary change that would occur is that the app would not be personalized as it would be made use of in public areas where multiple people would come and go, to and from the kiosk. The app would still offer priority content as the primary purpose of the app is to tell a user how healthy or unhealthy a product is by ranking its ingredients. The same valuable information can still be easily displayed and users can make decisions about whether or not they want to purchase a product with this simple feature.

The adaptations would make sense for the device. One example of when a user could benefit from using the kiosk is if the user maybe forgot their mobile device at home and still wanted to see how healthy a product was while they were shopping. Screen orientation would not impact a user’s ability to use the app as the information would still be displayed similarly. Also, similar to best practices for mobile devices and including those for wearable devices, the application has already been designed to follow these practices. Having the app implemented on a kiosk device is likely to only improve the overall user experience. The information is already adaptable for small wearable devices, and moving to a kiosk device makes everything displayed bigger. Spacing should remain the same, just displayed in a larger aspect ratio. This gives users a larger target hit area with less room for error. No changes would need to occur for navigation, or for touch screen, but as it concerns focus selection, I believe this gives users a better opportunity to ensure they are making choices or “clicking” buttons they want to click. One adaptation that can be implemented is that when a user touches a button a focus box is placed around the button so that the user knows what button they are about to hit. A second press takes the user to the desired screen. This does have the potential to frustrate some users, but I do believe that users tend to be more patient with devices they know are not their own devices and are used by many different people, including those who have disabilities.