**Criterion A: Planning**

*\* The line numbers and quotes in this document refer to those in Appendix A: Initial Interview*

**Description of Scenario**

My client for my Computer Science Internal Assessment is Mrs. Archana Tapadia, a certified Health Coach and owner of Edgerawellness. She manages the majority of the household expenditure in her household (i.e. clothing, stationery, groceries, etc…).

At the present moment, after each household purchase, Mrs. Tapadia saves the receipts “until the end of the month” (line 7 of interview) in order to calculate the number of items bought of a certain product, the monthly expenditure in different categories of items, and the total household expenditure for that month (line 8-9). She writes all this “down in a small book at the end of every month” (line 10) categorizing it into the type of expenditure, the date of each purchase, the quantity of each item, and the cost (line 25). However, this method causes her several issues at the moment. She is worried about the loss of data as the “ink on the receipts also fades away”, leading to incorrect totals as it can be “hard to read” (line 14). She also has to spend a lot of time “calculating the quantities manually by flipping through the book”, which is a tedious task (line 13).

**Rationale for Proposed Product**

My proposed solution is a personalized mobile application that will help Mrs. Tapadia manage this recording of purchases and household expenditures. This application will use a database to store information about purchases, which would be updated when a purchase is made. My client would only have to take a photo of the receipt, and the application will then use OCR technology to read the receipt and update the database accordingly.

Mrs. Tapadia will use an “iPhone 8” (line 19) for the foreseeable future, so I will create an IOS app using Swift 5.0 on Xcode, as it can then be easily downloaded onto her iPhone. This also allows the application to be scaled for future versions of iPhones. Furthermore, it will facilitate the use of the SwiftUI to make the application “simple and intuitive to use” (line 27).

In order to capture the images of the receipts, I will connect my iPhone app to the iPhone’s camera and photo library, allowing my client the flexibility to take a picture of the receipt on the spot or choose a picture that was sent to her by, for example, “her helper” (line 23). I can then use an API to handle the OCR of the receipt by uploading the image to it in a JSON format. Since the accuracy of OCR will depend largely on the quality of the photo, I will allow Mrs. Tapadia the option of checking, and manually re-entering any data that was recognized wrongly as required. Once verified, the receipt will be uploaded to a database. Mrs. Tapadia also requested that “categories of different purchases” (line 21), the monthly total of “expenses in each category” (line 22), and the ability to know who made the purchase (line 22-23) to be shown; hence when a photo of a receipt is used, I will give her the ability to choose the category of the purchase. Using the SwiftUI I will then be able to easily display all the information she will require in a categorized and organized format.

**Word Count: 462**

**Success Criteria**

1. The application will:
   1. Run-on an iPhone 8 (line 19)
   2. Require login to view any data of purchases and totals (line 23)
2. The homepage will:
   1. Display the current month’s totals (including category totals) up to the current date
   2. Have a navigation menu to see receipts (from any month and category) and items bought (line 28)
   3. Contain totals of previous months upon user’s request (line 28)
3. The interface will:
   1. Be “simple and intuitive to use” by using buttons and intuitive symbols to improve usability (line 27)
   2. Be navigable and not require many steps to view expenditure (line 27)
   3. Have consistent placing of buttons
4. The database will:
   1. Store data on receipts and related values
   2. Have unique identifiers to locate a purchase
5. To manage receipts, the user will be able to:
   1. Take a photo of the receipt after purchase, or choose an old photo
   2. Cancel the upload to the database of a receipt
   3. View and edit the receipt in an OCR format
   4. Delete unwanted receipts
6. To review expenditure, the program will:
   1. Calculate monthly totals for all the categories: Groceries, Lifestyle, Personal & Discretionary, Transportation, Miscellaneous (line 31)
   2. Calculate the total expenditure in a specific month
   3. Allow the user to know who bought a receipt, and then display this data when they are looking at the receipt (line 14-15)