Criterion A: Planning

An interview was held with the client, Mr. Hari, on 19/09/2023. The interview transcript has been included in Appendix A1. Please refer to Appendix A1 for further details.

The Scenario (Based upon Appendix A1)

My client is Mr. Hari, a Regional Manager at Store XXX. He said that he manages a large volume of transactions for the many stores in his region as well as for his family. However, he has expressed his discontent with his initial and current finance management systems.

Initially, he said that he used a pen-and-paper approach to record his personal and professional transactions. However, this approach had several issues. One key issue according to him was searching through past transactions because he had to go through multiple folders manually, which took up a lot of time. Moreover, Mr. Hari mentioned an instance where he mixed up his personal and office transactions, highlighting the unsuitability of this manual approach for the management of his critical home and office finances as he could mix them. Editing or deleting transactions was another major pain point according to him, as he had to redo many folders of paperwork, which required significant effort and led to immense frustration.

One significant issue was the difficulty in managing and searching through several Excel sheets. A major problem was the inability to access and update his professional financial records in real time while at work, as the Excel file was only stored on his home MacBook. This limitation added a layer of inconvenience and inefficiency, as he couldn't manage his many important office transactions during the workday. Lastly, the lack of data backup increases the risk of losing his critical financial data, especially since he said his children could damage his Macbook, potentially leading to the corruption of his vital financial data.

Mr. Hari now desires a more streamlined, reliable solution that allows him to effectively manage his finances from both devices seamlessly, without the inefficiencies of his current systems.

Rationale for proposed solution

As my client uses two primary computer devices with different operating systems, a web application which can be easily accessed by both systems while also not affecting the devices' performance would be most suitable. The goal of the application is to provide him with the aforementioned features.

The application will be primarily developed using a combination of JavaScript and JSX, with some use of HTML5 and CSS for basic structuring and styling respectively of the user interface. Using the React JavaScript framework will enable performant cross-platform (Windows and MacOS) usage of the application in both of the client's devices, while also ensuring that his financial information is updated dynamically from the Firestore database.

Firestore's cloud storage functionality enables the client to access the database for storing and retrieving his financial data on either his Macbook or Windows systems, hence solving the problem with his current

system regarding not being able to record his professional transactions at the office. Moreover, Firestore also allows the client to store a large volume of transactions data in the database for free.

Success Criteria (Based upon Appendix A1)

1. The client must be able to switch between his personal and work Gmail accounts without losing any of his financial data. Each account's data should be isolated, ensuring that only the transactions and categories related to the signed-in account are accessible.
2. The application must ensure that sensitive financial data is only accessible when the client is logged in using one of their Gmail accounts. Attempts to access the application without logging in must redirect the user to the sign in page.
3. The client should be able to add new incomes and expenses on the Home page. The transactions must also be validated – transaction amounts cannot exceed 100,000 and transaction names cannot be longer than 20 characters long.
4. The client must be able to view five of his recently made transactions in the Home page.
5. The client must have the ability to edit or delete existing transactions. Editing transactions will carry the same validation limitations (maximum amount being 100,000 and maximum transaction name length being 20 characters).
6. In order to segregate transactions, the solution should have the functionality to create, edit, and delete transaction categories, and they should be less than or equal to 25 characters in length.
7. The client must be able to filter transactions by their type (income/expense), category, date added and the magnitude of the amount.
8. The implemented solution should display monthly transaction data in graphs (daily incomes/expenses, daily balance, and monthly categorical earnings/spendings). This data must be filtered by month and years.
9. The application must be fully accessible and functional on both the client's MacBook and Windows desktops. The interface should maintain consistency across devices, ensuring that there is no loss of functionality between platforms.
10. The product should be able to handle data validation errors and provide feedback regarding the completion of database operations with clear success/warning/error messages.
11. All changes (adding, editing, or deleting transactions and categories) must be updated in real-time across the client's devices and reflected immediately in the application.

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