

PHASE 4 - Report

High Fidelity Prototype and Cognitive Walkthrough



WiseWal.ai
(Savings and Expense tracker with AI based financial advisor)

Team 2

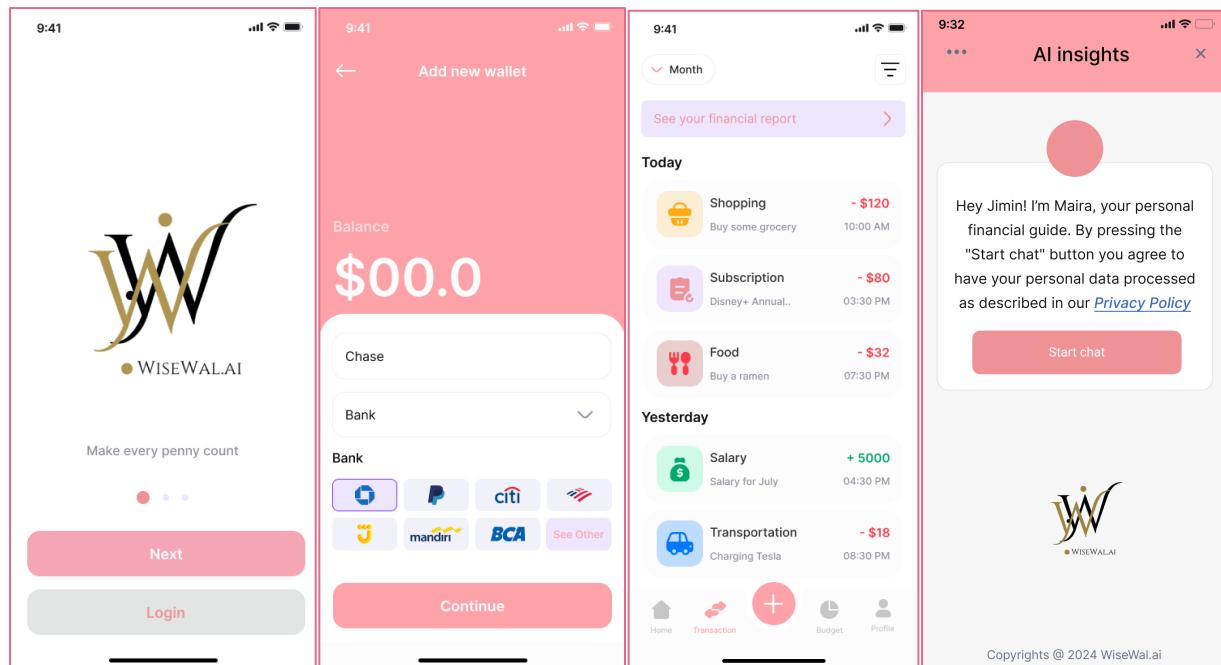
Manasi Bhagwat (mrbhagwa),
Reshma Rajashekaraiah (rrajash),
Aditya Sonar (ajsonar),
Yuktasree Muppala (ymuppal2),
Suraj Raghu Kumar (sraghuk)

1. Introduction

In the evolving landscape of personal finance management, the challenge of effectively tracking expenses and planning budgets remains paramount for individuals striving for financial stability and growth. **WiseWal.ai** emerges as a sophisticated solution, **combining the conventional aspects of financial tracking with the innovative edge of AI-driven advice**. This app is designed to address the common pitfalls of financial management, including lack of insight, difficulty in maintaining budgets, and the overwhelming nature of financial decision-making.

By integrating AI technology, WiseWal.ai aims to transform user data into personalized, actionable advice, thereby empowering users to make informed financial decisions, track their spending more efficiently, and plan their budgets with greater precision.

1.1 Key Interface Snapshots of WiseWal.ai



2. Read Me: Getting started with Wisewal.ai

2.1 Platform and Software Requirements:

WiseWal.ai is accessible on multiple platforms, ensuring users can manage their finances anytime, anywhere.

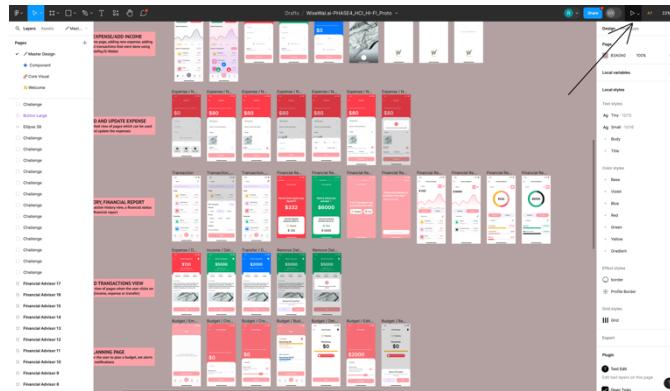
- Android: Requires Android 8.0 (Oreo) or newer.

- iOS: Requires iOS 12.0 or later.

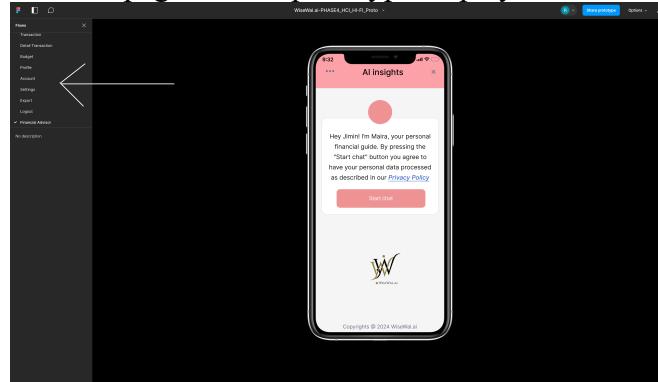
Note: The Figma prototype that we are submitting is compatible with iPhone 13 mini version. Hence, we suggest using that while viewing the prototype flow.

2.2 Installation and Startup Instructions:

1. **Figma Link:** The link to our prototype is [here](#), and the prototype can be viewed as well as launched on device to check the flow.
 - a. Open the [Figma link](#), click on the prototype run button on the top right corner (*as shown in the fig. below*), and the prototype will run in a new tab.



- b. Click on any of the tasks (or feature) that you would like to explore on the left menu bar and explore the UI pages on the prototype display on the device (*as shown below*)



2. **PDF of the prototype:** The PDF of the prototype can be accessed [here](#). Please download the file and you shall be able to see all the scenario pages of WiseWal.ai's prototype
3. **Zip file:** Obtain the WiseWal.ai prototype zip file from the provided link – [here](#)
 - a. Extract: Unzip the file into a designated folder on your device.
 - b. Exploration: Begin exploring the app's features by selecting any features available to dive straight into functionalities like 'Expense Tracking', 'Budget Planning', or 'AI Financial Advice'.

3. Risk Assessment

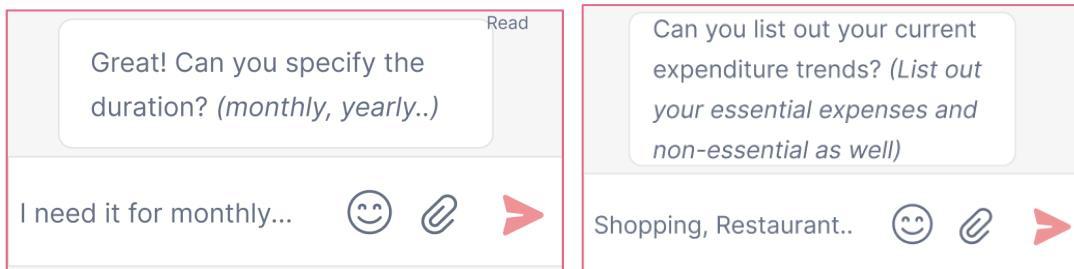
3.1 Risky part of the WiseWal.ai application – AI chatbot MAIRA

The innovative feature of WiseWal.ai, particularly the **AI-curated financial advice** delivered through the chatbot named MAIRA, stands as **one of the most ambitious yet risk-prone aspects** of our application. While aiming to revolutionize personal finance management by providing personalized advice, this functionality introduces significant backend risks that necessitate careful consideration and strategic mitigation.

3.2 Frontend Risks

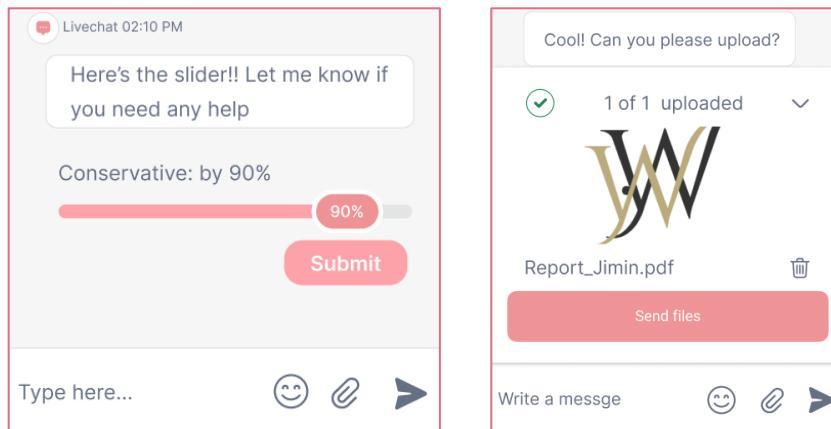
Chat issues with MAIRA - Seeking a financial advice from an AI fine-tuned chatbot needs a minimal level of tech-savviness when it comes to send the appropriate messages.

- **Mitigation:** To mitigate this frontend risk of having unnecessary/complex chats, we have added the reply suggestions on the text message typing bar.



Complex input to chatbot: Initially, the inputs that the users give needed to be more thoughtful for them, and was found to be frustrating.

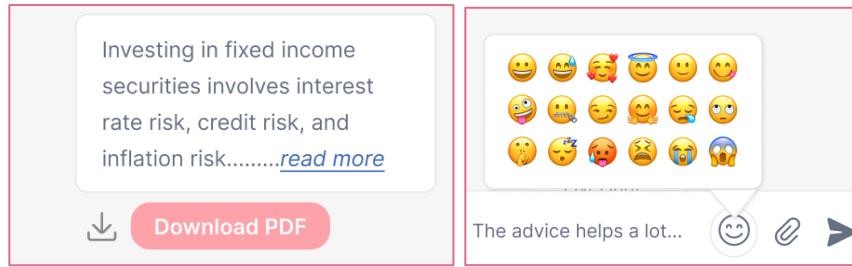
- **Mitigation:** To mitigate this issue, we added certain features such as **slider inputs, uploading previous reports** for better advice from MAIRA



User Engagement: Keeping users engaged was a potential challenge.

- **Mitigation:** We integrated interactive elements, **such as adding emoticons for reactions, help**

them download the whole chat for their reference in the PDF format



3.3 Backend Risks

Data Security and Privacy:

- **Risk Description:** One of the most significant risks in any financial application is the threat to data security and privacy. This includes unauthorized access to sensitive user information such as financial transactions, account details, and personal identification information. A breach could lead to financial loss for users and damage the app's reputation.
- **Mitigation Strategies:** Encryption: All sensitive data, both in transit and at rest, can be encrypted using industry-standard encryption protocols (e.g., AES-256 for data at rest and TLS for data in transit).

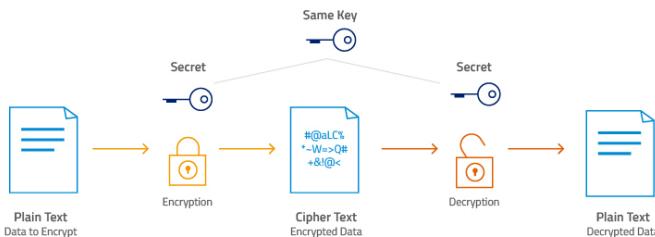


Fig. 3.1 AES Encryption strategy

AI Model Reliability:

- **Risk Description:** The accuracy and reliability of the AI-driven financial advice are paramount. Inaccurate advice could mislead users, potentially resulting in poor financial decisions. Ensuring the AI model's predictions are reliable and based on current financial principles is a challenge, especially given the dynamic nature of personal finance.
- **Mitigation Strategies:**
 - Continuous Learning: The AI models are designed to learn continuously from new data, user feedback, and changing financial trends to improve accuracy over time.
 - Expert Oversight: Financial experts periodically review the AI's advice for accuracy and relevance, ensuring it aligns with current financial best practices.

- Transparency: Users are informed about the nature of AI-generated advice, including its limitations and the importance of personal judgment in financial decision-making.

3. Scalability and Performance:

- **Risk Description:** As the user base grows, the backend infrastructure must scale accordingly to handle increased data volume and transaction throughput without degradation in performance. Failure to scale effectively can lead to slow response times, app crashes, and a poor user experience.
- **Mitigation Strategies:**
 - Cloud Infrastructure: **Leveraged cloud services** with auto-scaling capabilities to dynamically adjust resources based on demand, ensuring high performance. Ex.: Elastic Load Balancing
 - Load Testing: Regularly conducted load testing to evaluate the system's performance under peak loads and identify bottlenecks.

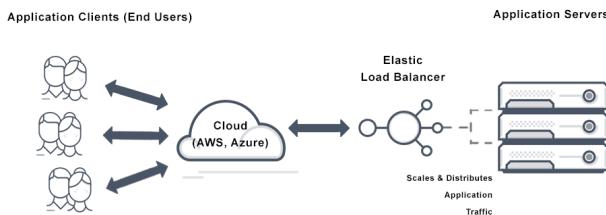


Fig. 3.2 Elastic Load Balancing

3.4 Lessons Learned from Risks:

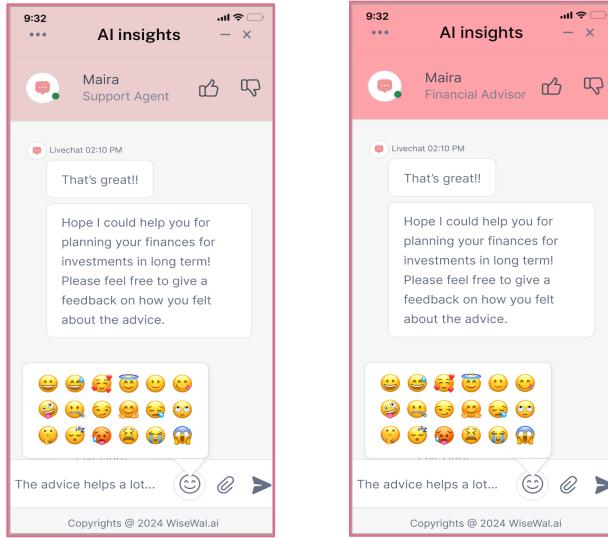
Developing the backend for WiseWal.ai highlighted the importance of proactive risk management in creating a secure, reliable, and scalable financial management platform. It reinforced the need for ongoing vigilance against security threats, the value of transparency with users, and the benefits of leveraging cloud technologies for flexibility and scalability. These insights will continue to guide future development efforts, ensuring WiseWal.ai remains at the forefront of secure and effective financial management technology.

4. Iteration

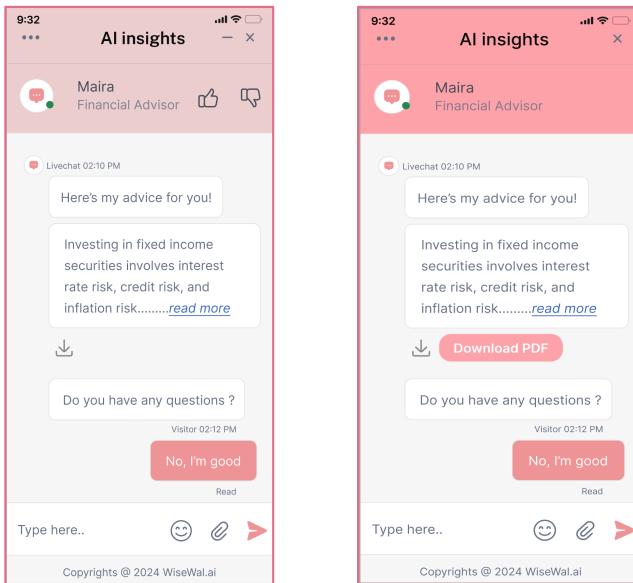
4.1 Iterations based on Class Evaluation – Cognitive Walkthrough:

Below are the iterations in the designs that were adopted from the feedback obtained from the class evaluations. (*Note: The observations from users are added in a table in APPENDIX*)

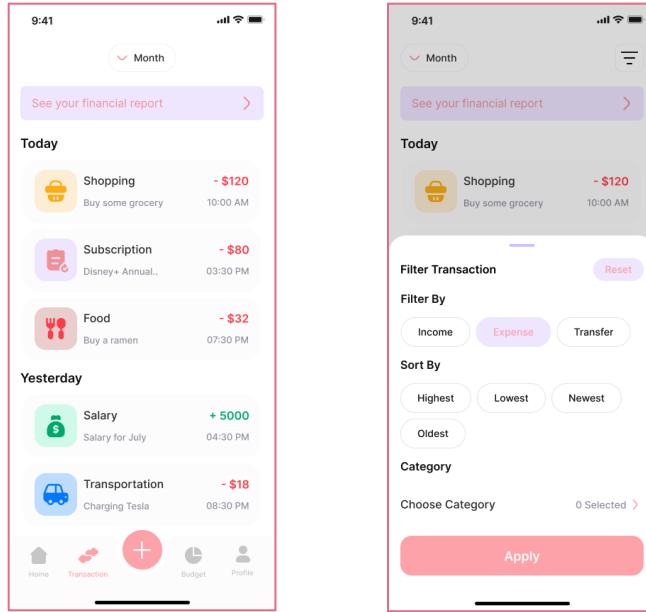
- **Color palette of AI advice page, name of the chatbot:** Aditi (team 20) suggested that the color of the AI advice page was differing away from the overall palette and the name “Support Agent” was quite confusing. Hence, **we changed the color and added the name “Financial Advisor” to avoid confusions.**



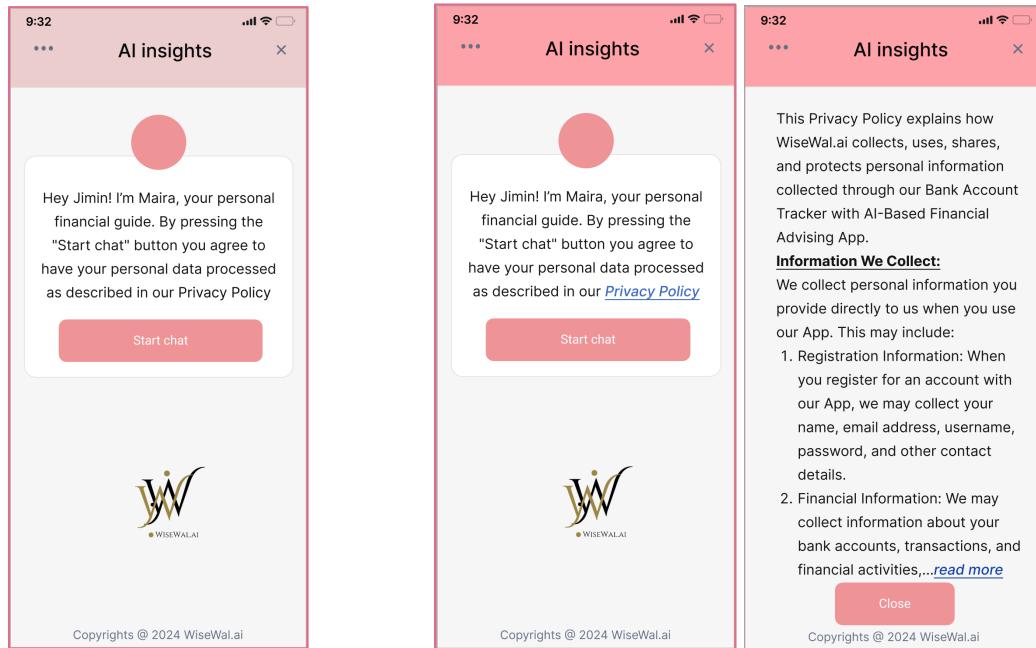
- **Removed thumbs reaction and minimize button:** Smit (team 17) suggested that the thumbs up and down reaction button on the AI insights page was not needed as well as the minimize button didn't make any sense. Hence, we removed these buttons.



- **Added filter option for Transaction page:** Payal (team 16) suggested that if a filter option was added to the transaction page, it would help the users to filter out and view only the transactions that they are interested in. Hence, we added a filter option to filter based on type of transaction, sorting by highest or lowest and based on category of transaction.



- **View the privacy policy feature in AI advice section:** [Jash](#) (Team 18) identified that the privacy policy on the chatbot Maira, was not viewable. To fix this, we added a page which shows the privacy policy for the users before they start off to use the chatbot to obtain the AI advice.

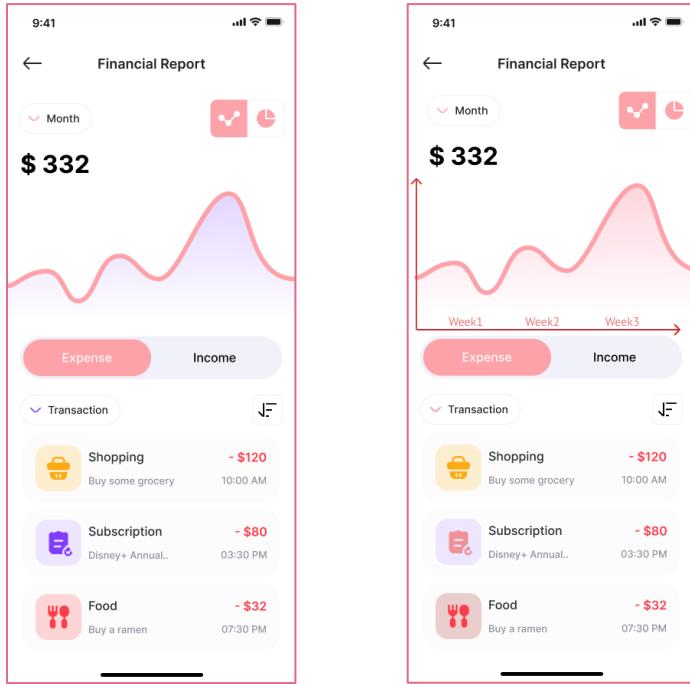


4.2 Iterations based on the Real Users Testing

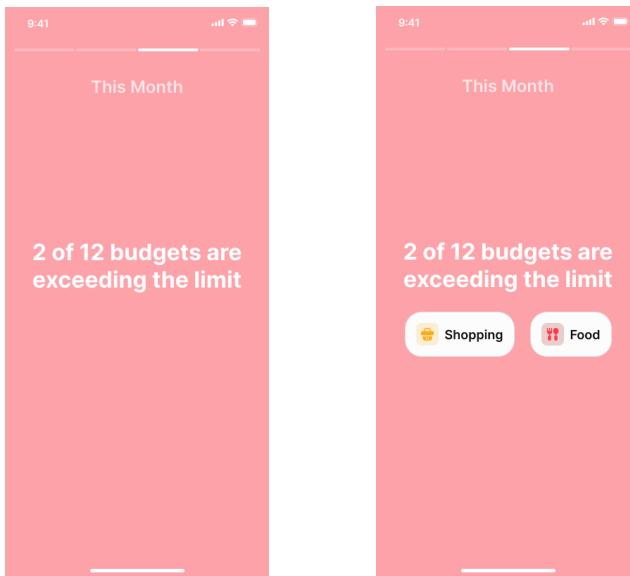
Below are the design changes that were done based on the real user testing that was conducted. The real user testing had majority of positive reviews with just a few suggestions for design changes. ([Note: The observations from users are added in a table in APPENDIX](#))

- **Graph of the Financial Report:** One of the users suggested that the graphs can have the axes

in the graph as it didn't depict any measures.



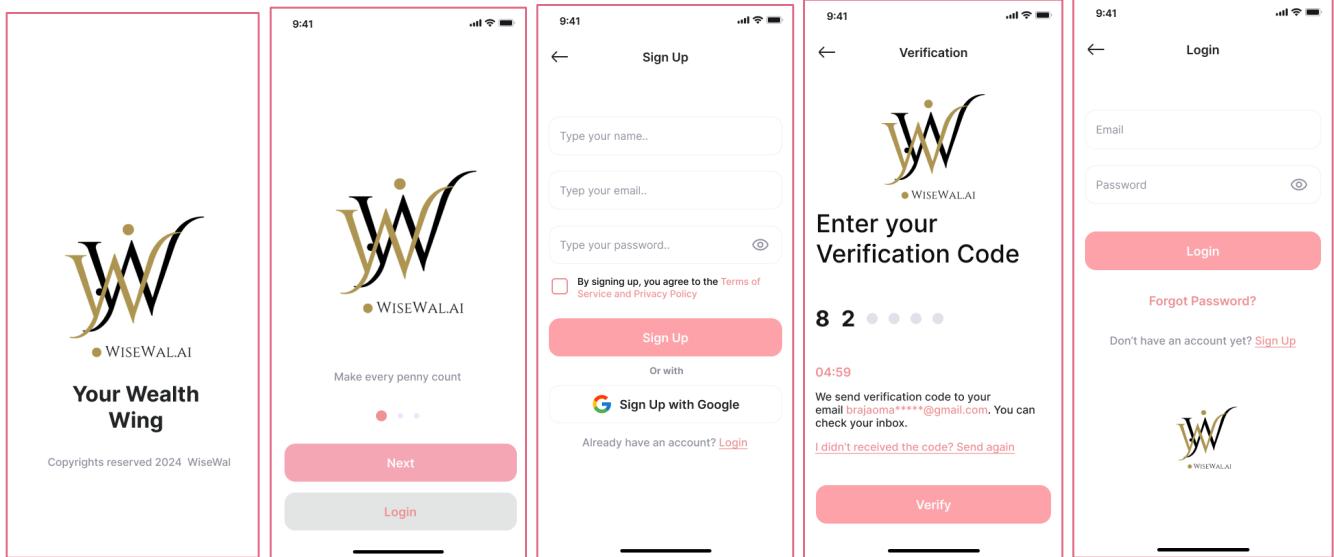
- **Category for which budget limit exceeded - financial status:** One of the user identified that the financial status feature of the app was just showing the count of the categories in which the budget limit exceeded but didn't mention the category names. Hence, we added that part in the financial status. Below screen shows that the **budget limit exceeded for the categories – Shopping and Food**, for that particular month.



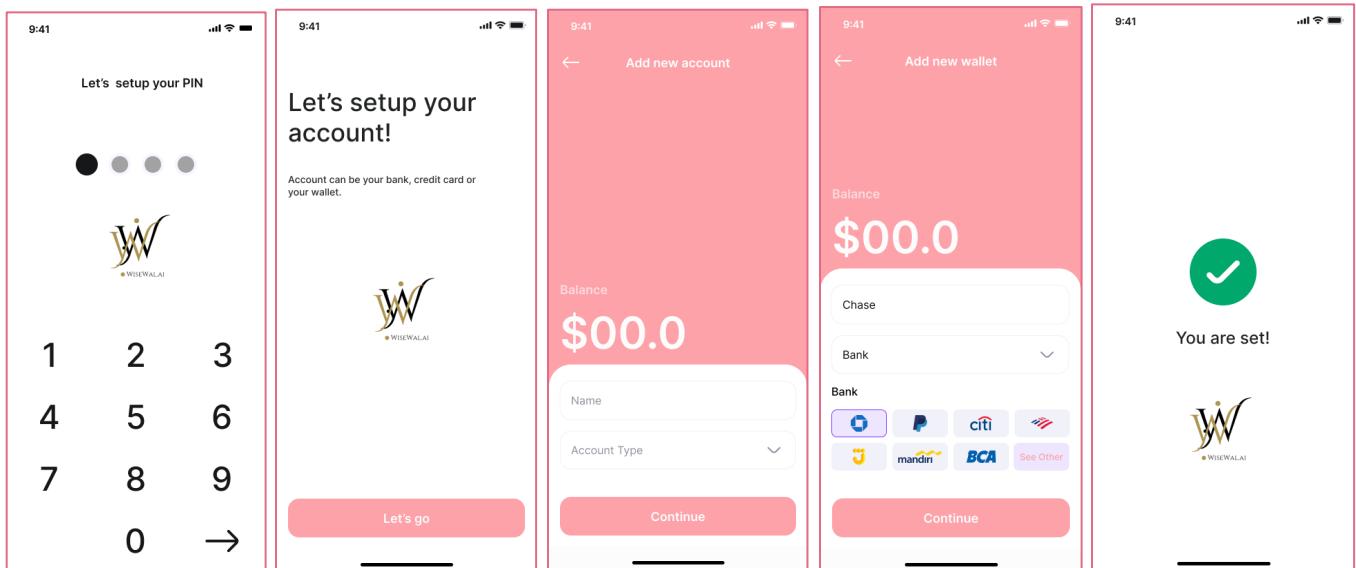
5. Scenarios

Scenarios Implemented in Horizontal prototype:

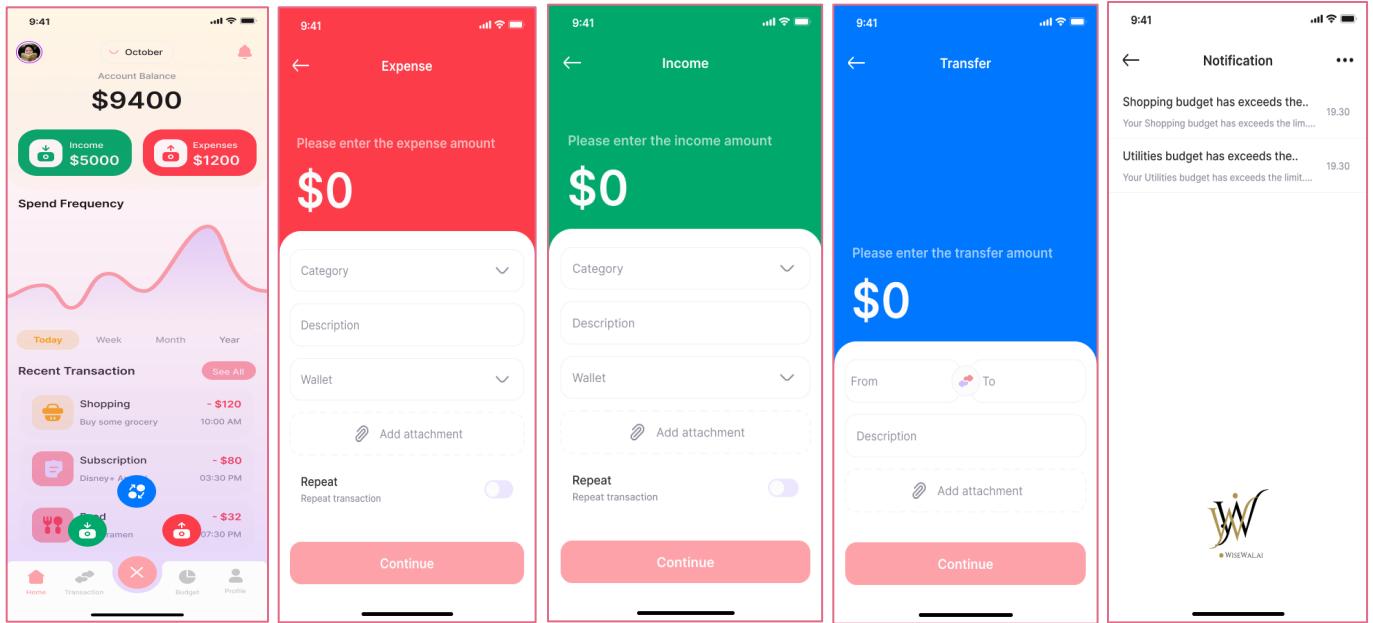
5.1 ONBOARDING SCREEN: This includes the screens that are used for Signing up for first time, Login page, using google account to login (with verification), forgot password page



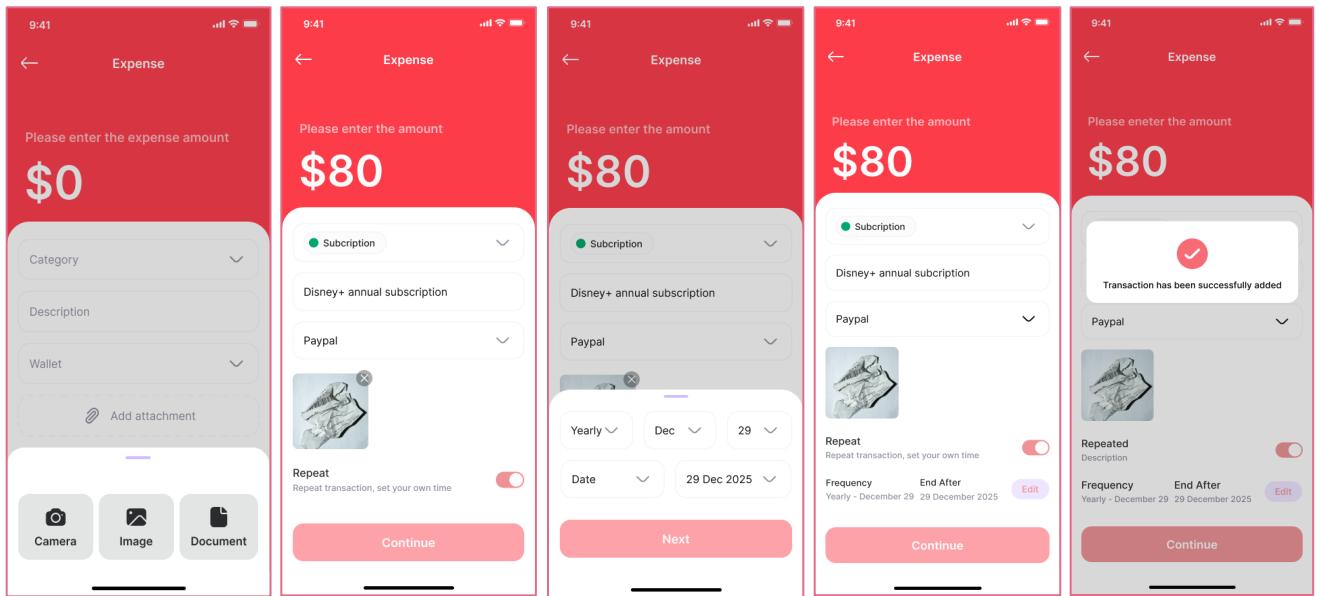
5.2 PIN SETTING AND START OFF: This includes the scenarios of setting a pin for the app and starting off with the app usage - with basic steps like adding balance, wallet and setting up the account details



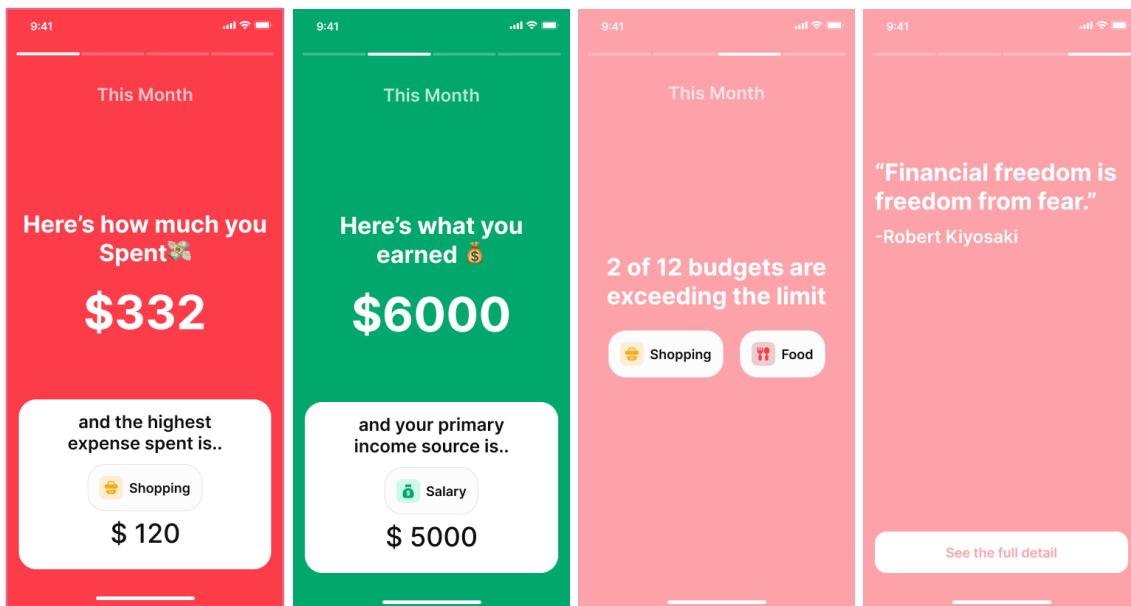
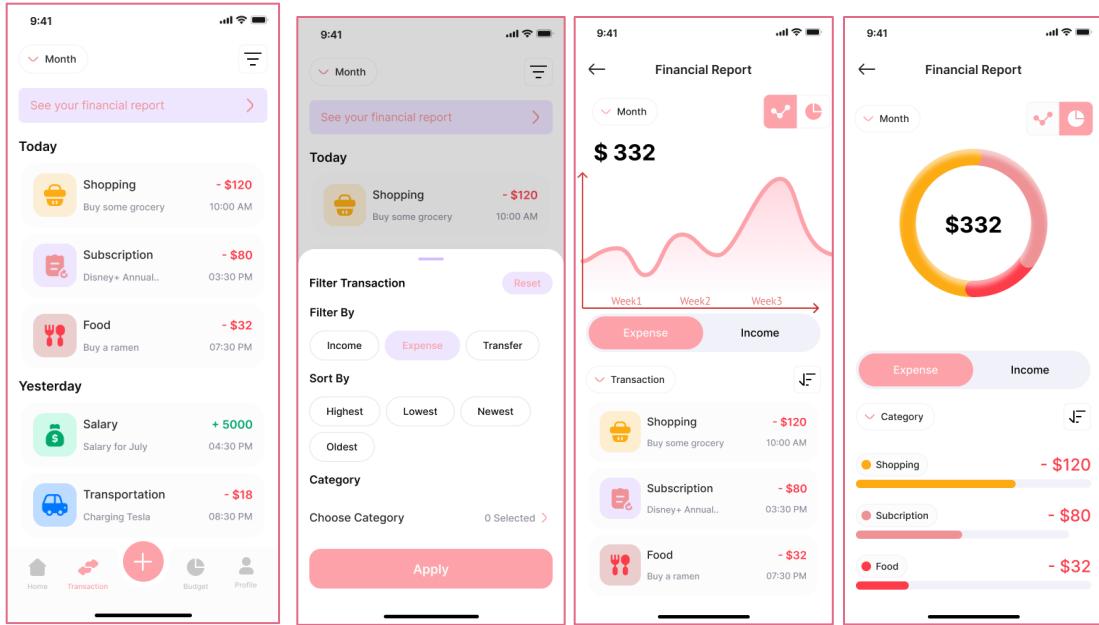
5.3 HOME PAGE, ADD EXPENSE/ADD INCOME: These scenarios include the home page, adding new expense, adding new income, adding the digital transactions that were done using Zelle/ApplePay/G-Wallet



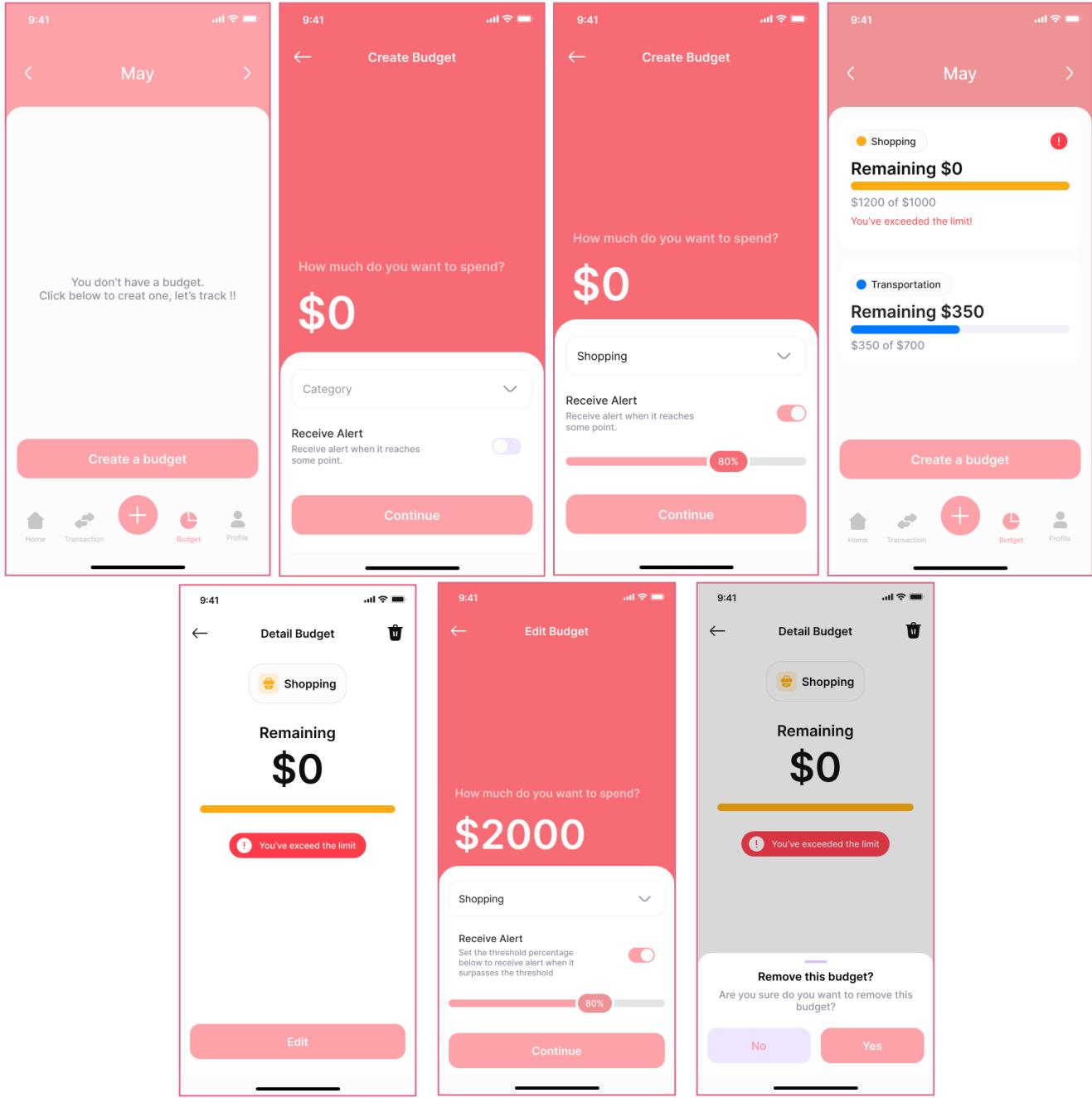
5.4 DETAILED VIEW - ADD AND UPDATE EXPENSE: This scenario consists of a detailed view of pages which can be used by users to add and update the expenses.



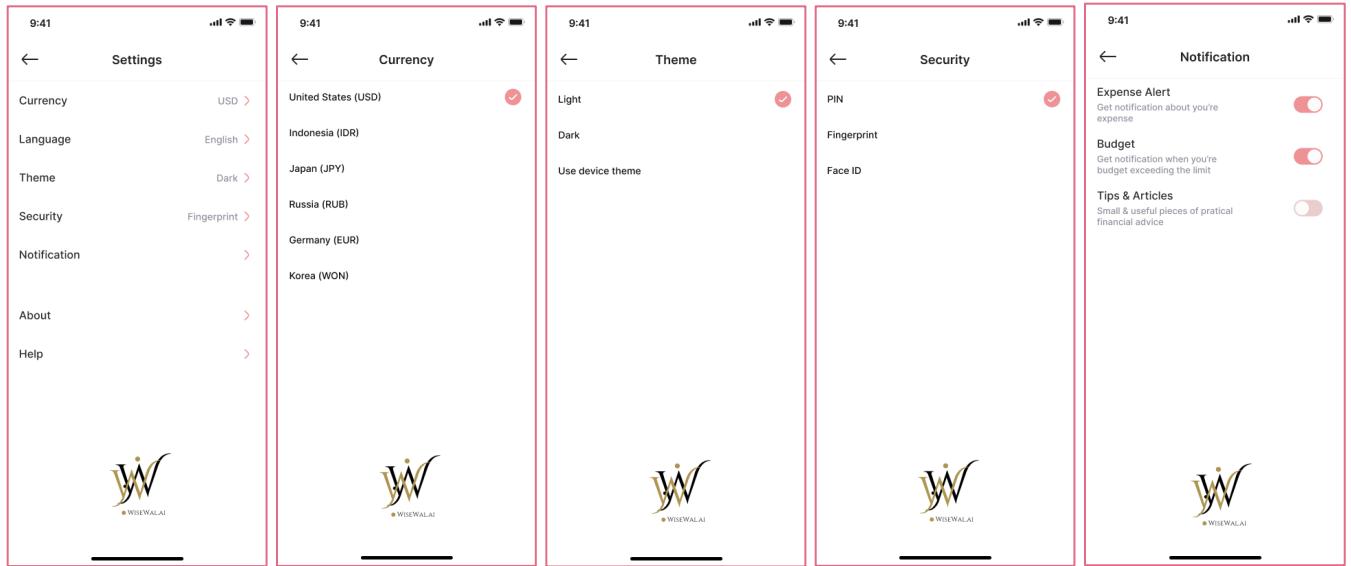
5.5 TRANSACTION HISTORY, FINANCIAL REPORT: This scenario includes the transaction history view, a financial status view, and financial report



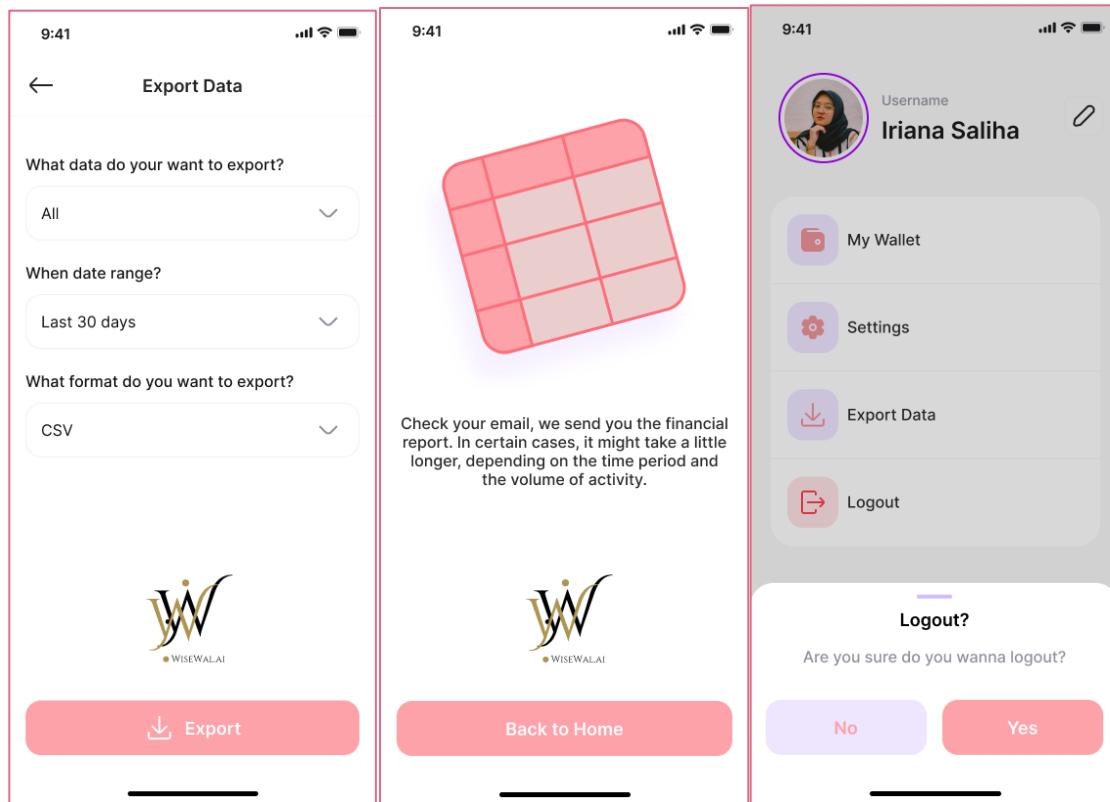
5.7 BUDGET PLANNING PAGE: These scenarios have the pages for the user to plan a budget, set alerts and get notifications. This scenario was also the Task 2 which was the medium difficult task in our previous phase. The user can plan a budget, set an alert for a particular threshold percentage, based on which they can be notified about the limit exceeding's if they do so. The notifications can also set or updated in the settings block (*section 5.8*)



5.8 SETTINGS PAGES: This scenario is the set of pages for settings - theme, language, notifications, security, currency. The user can set their preferred theme as light or dark, set their preferred language, their preferred usage of currency, and also set their notifications preferences, which also includes the expenses and budget alerts that were setup while budget planning in Budget Planning section (*refer above - section 5.7*)



5.9 EXPORT DATA, LOGOUT PAGE: The screens on the right show the pages where users can export the data from this app to their local and the logout page.



Scenario implemented in Vertical Prototype - AI Curated Financial Advice (Risky Feature):

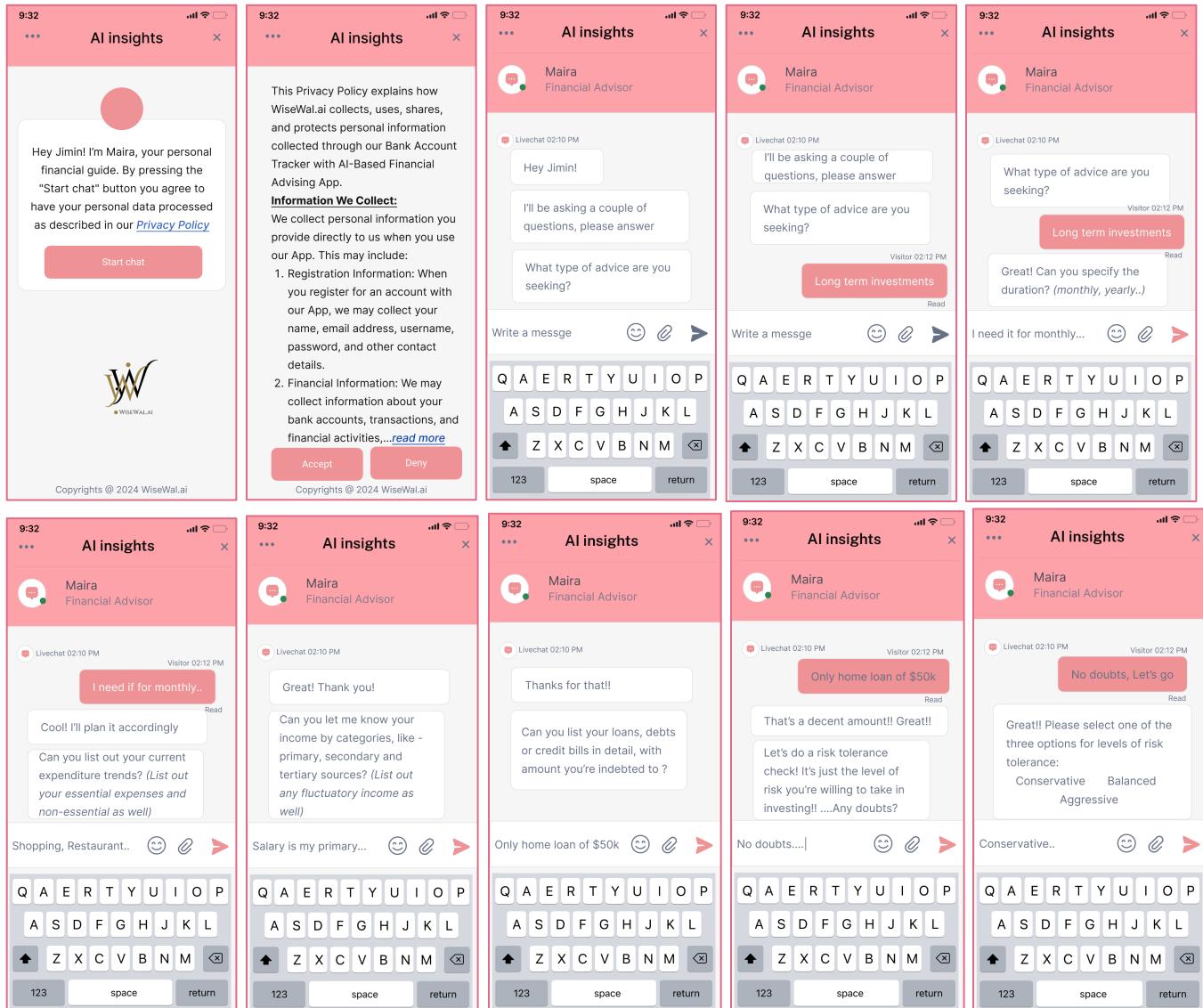
The process of obtaining the AI curated financial is the risky part of the interface as well as

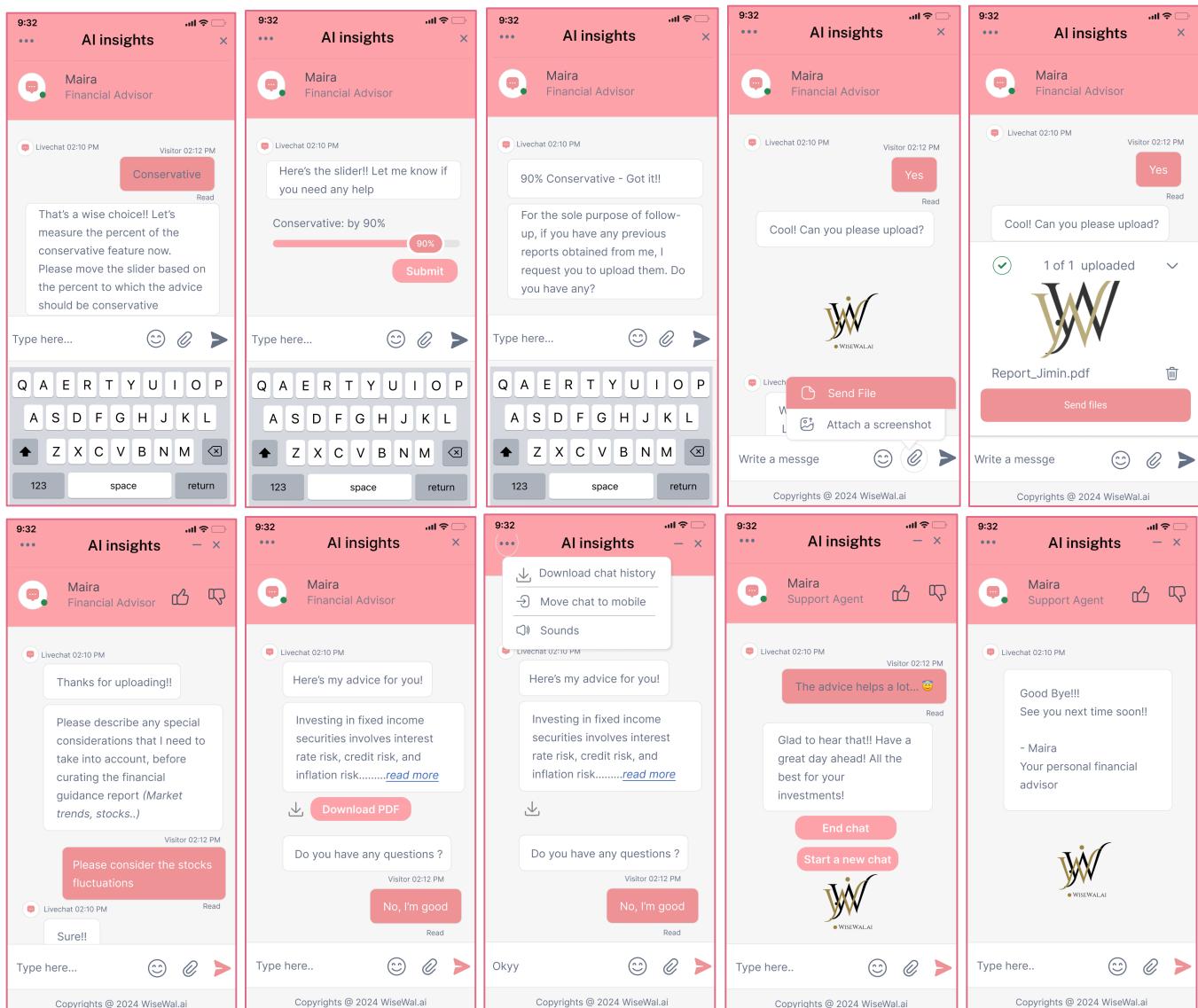
the difficult task for users to perform. Hence, **we have implemented this feature for vertical prototype.**

5.10 AI ADVICE - BY CHATBOT MAIRA: This scenario shows the AI based financial advice obtaining process from the AI - integrated financial advisor - Maira.

Here, in this prototype we have mimicked a procedure in which a user can obtain the AI curated financial advice from the WiseWal.ai's financial advisor and chatbot – Maira.

The screens show the **fully functional implementation of the task – Obtaining AI curated financial advice from MAIRA.** For this, we have added the **overall conversations between the user and the AI financial advising bot.**





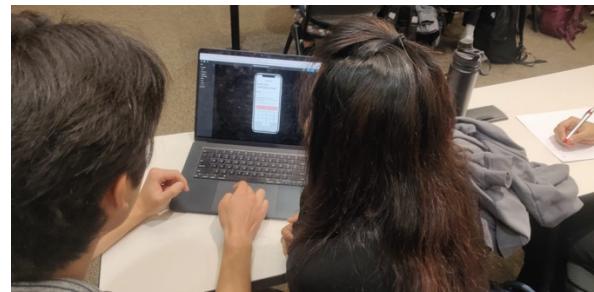
(Please refer the APPENDIX in next page for the materials, photos etc., of the PHASE 4)

APPENDIX

I. Cognitive Walkthrough Results and Observations – Class Evaluation

1. Kaijun Zhang (Team 1) Suggestions:

Navigation can be more intuitive; overall the color theme is pleasing and appealing



2. Jash (Team 18) Suggestions:

Add an option to view the privacy policy in the chatbot of the AI advice page.



3. Aditi (Team 20) Suggestions:

The color theme of the AI advice page is differing from the overall theme.
The name – “Support agent” for chatbot is confusing



4. Smit Patel (Team 17) Suggestions:

The thumbs up and down button in the AI chatbot is not needed.
The ‘–’ minimize button doesn’t make sense in the chatbot; Rest of the flow seems intuitive.



5. Payal (Team 16) Suggestions:

The transactions history can have a filter option based on some category. Overall flow of the app and UI seems good and professional

**II. Real user testing done by each of our team members:****1. User 1 by Reshma Rajashekaraiah****Suggestions:**

Suggested more connectivity across the pages in the prototype; Liked the color theme and iconography of the UI

**2. User 2 by Manasi Bhagwat****Suggestions:**

Add a '+' icon so that the users can add expenses by just clicking that.
Need a back button on navigation.
Chat based questionnaire is better

**3. User 3 by Aditya Sonar****Suggestions:**

Said that the UI has a very professional look and is very seamless for users to use.



4. User 4 by YuktaSree Muppala**Suggestions:**

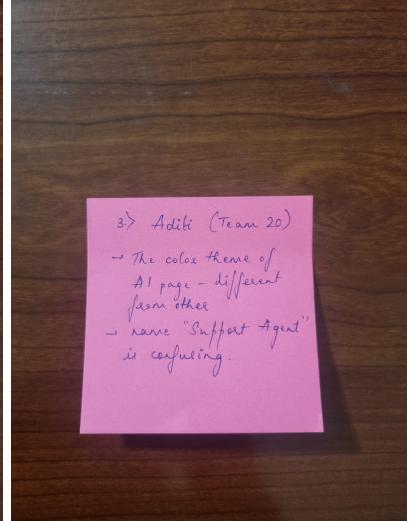
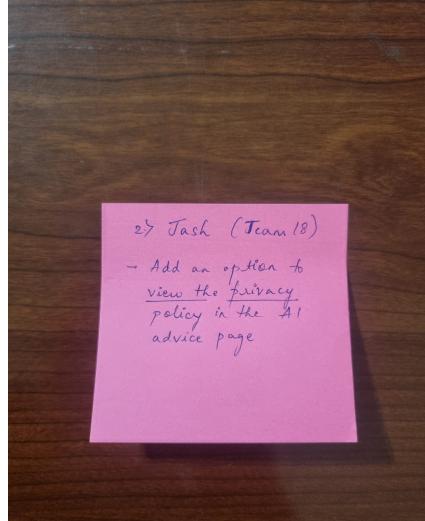
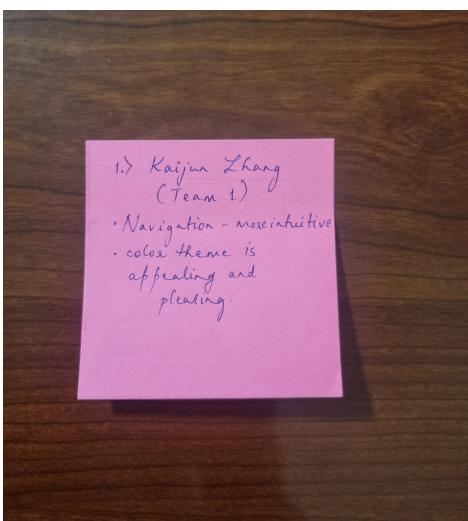
Liked the chatbot integration in the AI advice section to seek the financial advice.

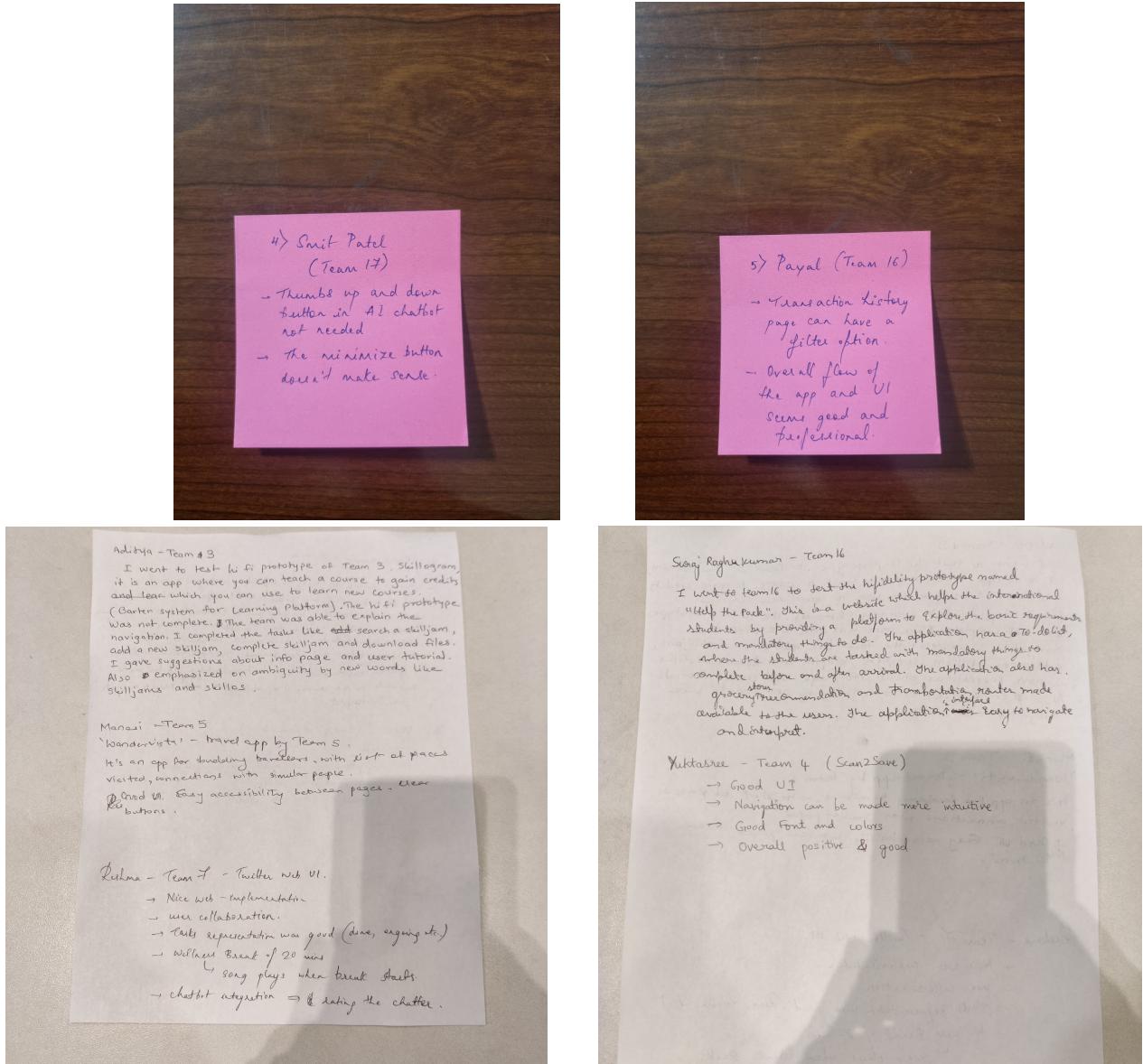
**5. User 5 by Suraj Raghu Kumar****Suggestions:**

Overall flow of the app seems good, apart from the navigation button missing.



III. Observation Notes





IV. Our team members – Testing other team's prototypes and respective observations:

1. Aditya - Team 3

I went to test the Hi-Fi prototype of Team 3. They have designed Skillogram, an app where you can teach a course to gain credits and can spend those credits to learn new courses. It is basically a credit-based Learning Platform. The prototype was not complete at the time of testing. The team had to guide me due to technical issues. I completed the tasks like search a skilljam, add a new skilljam, complete skilljam and download files. I suggested an info page and a tutorial to familiarize user with the app. I also pointed out the confusion caused by new words like skilljam and skilloos which do not represent concepts in the physical world.

2. Manasi - Team 5

I tested WanderVista - Travel app by Team 5. It's an app for budding travelers, with the list of places

visited and connections with people with similar interests. The app had good UI, easy accessibility between pages and clear, well defined buttons.

3. Reshma - Team 7

Twitter Web UI.

Nice Web implementation

user collaboration

tasks representation was good (done, engaging etc.)

Wellness break of 20 minutes (Song plays when the break starts)

Chatbot integration - Rating the chatbot

4. Suraj - Team 16

I went to Team 16 to test the High Fidelity Prototype of "Help The Pack". This is a website which helps the international students by providing a platform to explore the basic requirements and mandatory things to do. The application has a to-do list, where the students are tasked with mandatory things to complete before and after arrival. The application also has grocery store recommendations and transportation routes made available to the users. The application & interface is easy to navigate and interpret.

5. YuktaSree - Team 4

Scan2Save

Good UI

Navigation can be made more intuitive

Good font and colors

Overall positive and Good