SUBMISSION

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BY

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FinView

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01 Problem Statement

In the world of managing money, keeping track of what you earn and spend can feel like trying to find your way through a maze without a map. For many individuals, the task of effectively managing their budget while staying informed about real-time crypto market fluctuations presents a daunting challenge. The old-fashioned way of budgeting, with pen and paper or spreadsheets, takes a lot of time and can easily lead to mistakes. This leaves people stressed about their finances.

Nowadays, many people have different sources of income, like freelancing or selling things online, on top of their regular jobs. It's tough to keep track of where all the money is coming from and which types of income are the most profitable. People also want to know how much they've earned over different periods, like today, this month, or this year. But doing all this by hand over time can lead to errors and confusion.

The same goes for expenses. Money seems to fly out of our wallets faster than we can keep up with it. With bills, gadgets, clothes, and food to buy, it's hard to remember where all the money is going. Figuring out which expenses are the biggest over time is tricky too. For example, someone might think buying a new laptop was their biggest expense, but in reality, the monthly electricity bill adds up to more over a few months. This lack of awareness can lead to financial trouble down the line.

This can lead to one not being able to fully grasp their financial situation until it is too late. Are they spending more than they’re earning? Did they earn more than they spend this month? Has this year basically been profitable for them? And if so, by how much? All of this can be very perplexing to deal with.

Furthermore, the dynamic nature of the crypto market adds another layer of complexity to the equation. Fluctuations in crypto prices and market trends can exert a significant impact on investment portfolios and long-term financial goals. However, staying abreast of these changes demands constant vigilance and analysis, a task that may prove daunting for individuals who aren’t cognizant of their financial state. Consequently, opportunities for investment may be overlooked, resulting in suboptimal returns and missed chances for wealth accumulation.

So, there's a need for a simple way to track income and expenses that doesn't rely on manual calculations. People need a tool that helps them understand their financial situation easily and avoid surprises later on.

02 Problem Solution

FinView represents a pinnacle in budget management and tracking and offers real-time crypto updates, offering a seamless desktop application experience. Its intuitive interface ensures effortless monitoring of expenses and incomes, empowering users with unparalleled ease and efficiency. By enabling users to categorize their finances, FinView streamlines tracking and comprehension, allowing for precise management of income and expenses, coupled with crypto insights, allows for calculated investment opportunities.

Moreover, FinView facilitates seamless data entry, with each income and expense neatly cataloged in dedicated tables for effortless analysis. Users can effortlessly manipulate records with a simple click, ensuring swift and efficient management of their financial transactions.

The inclusion of a dynamic dashboard further enhances user experience, providing comprehensive insights into income and expenditure across various timeframes—ranging from daily to annual summaries. This feature empowers users to analyze their financial activities with precision, offering invaluable clarity on their current financial status.

With a comprehensive view of potential savings, users can make informed decisions regarding investment opportunities. The integrated feature displaying the prices of the top 7 crypto coins allows users to stay informed about market trends effortlessly. Should users wish to delve deeper, they can navigate to the crypto websites directly from the app to access additional information, aiding them in their investment decisions.
With its intuitive design and robust features, FinView equips users with the tools they need to effortlessly track their finances and gain a deeper understanding of their financial landscape.

Features

01

Category Tracking

- Allows Users to add, delete and update Categories into their depository account to categorize their Income and/or Expenses.
- Allows for easy classification of the origins of Income and Expenses.

02

Category Activity

- Each Category will have the option to be either Active or Inactive.
- Active Categories will be accessible for us for Income and/or Expense records management.
- Inactive Categories will not be accessible nor visible when creating records for Income and/or Expense.

03

Income Management

- Allows Users to add, delete and update records of their earnings into the database for efficient tracking of their incomes.
- The information in each record include, category of the income, name, amount, description and date.
- The records are clear visible to the User in the Income Catalogue.

04

Expense Management

- Allows Users to add, delete and update records of their expenditure into the database for efficient tracking of their expenses.
- The information in each record include, category of the expense, name, amount, description and date.
- The records are clear visible to the User in the Expense Catalogue.

Features

05

Dashboard

- A user friendly dashboard that provides comprehensive insights into income and expenditure across various timeframes such as Today, Yesterday, This Month and This Year.
- It also provides information about the User's Total Income and Total Expenses.

06

Visual Budget Analysis

- Provides a Pie chart which will visually display the User's Income and Expenses with their respective categories.
- Should be dynamic to incorporate segments of new incomes and expenses and display them correctly in real-time.

07

Crypto Insights

- Allows user to see prices of top 7 cryptos and click them to open up a crypto website from where the cryptos info was taken from using its links/URL.
- User can use it to gain more information regarding the crypto of their choice.

08

User Feedback

- Allow Users to provide feedback. User enters feedback and a message is displayed saying thank you for your feedback.

Project Plan

Iteration	Module	Deliverable	Feature
0	Project Proposal	Project Statement and Scope	Requirement Specification and Documentation
1	User Account Set-Up And Category Management	User Account Management	Account Registration. Account Login
		Feedback Integration	User Feedback
		Category Management	Category Adding, Category Deletion, Category Updation, Category Activity
2	Budget Management	Income Management	Income Addition, Income Deletion, Income Updation
		Expense Management	Expense Addition, Expense Deletion, Expense Updation
		Crypto Information Integration	Crypto Insights
3	Budget Analysis and tweaking	Dashboard Insights	Dashboard Insights Page
		Visual Budget Analysis	Budget Analysis
		Tweaking the design and layout	Design Tweaks and improved Navigation

Modular Breakdown

Module	User Stories	Acceptance Criteria
User Account Set-Up And Category Management	**As a User, I want to** be able to create an account for the app, provide feedback and also be able to create and manage my categories, **So that I** can login to the app later and categorize my Income and Expenses.	**And I know I am done when:** • I can easily Sign-up and Login to the app. • When I can add, delete and update my categories. • I can also activate and deactivate the categories. • I can provide feedback for the app
Budget Management	**As a User, I want to** be able to track my Incomes, Expenses and Crypto market, **So that I** can better analyze my financial status.	**And I know I am done when:** • I can easily add, delete and update my Income. The added/updated Income can easily be seen in the Income Catalogue. • I can easily add, delete and update my Expense. The added/updated expense can easily be seen in the Expense Catalogue. • I can gain insights on the top performing Crypto coins in real-time.
Budget Analysis and tweaking	**As a User, I want to** be able to gain insights of my earning and expenditure in different time periods in one place with an intuitive interface; both visually and numerically, **So that I** can quickly gain insights on my economic position.	**And I know I'm done when:** • I can view my earnings of today, yesterday, this month and this year and total income. • I can view my expenditures of today, yesterday, this month and this year and total expenses. • I can view a chart displaying information regarding my Income and Expenditures.

Modular Breakdown

Module	Importance	Estimate	Type
User Account Set-Up And Category Management	Personal Account Set-Up and management of Categories for easy classification of Income and Expenses.	2 Weeks	Manage Data, Report
Budget Management	Keeping track of the User's Income and Expenses by manipulating the records of Income and Expenses. Records of Income and Expenses are visible to User in their respective catalogues. Crypto information for Strategic investing and foresight	2 Weeks	Manage Data, Report
Budget Analysis and tweaking	All-in-One place to gain insights of the User's earnings and expenditures, visually and numerically. User friendly interface.	2 Weeks	Report, View

User Stories

Story ID: 1
Title: Category Addition and Deletion

As a user,
I want to be able to add and delete my categories for Income and Expenses.
So that I can easily categorize my Income and Expenses, leading to efficient tracking.

Acceptance Criteria:

1. When I want to create a category, I should have the option to name the category, choose the category it is going to represent i.e. Income or Expense and then choose if the category is Active or Inactive [Usable or Unusable].
2. Once I have entered all fields and pressed “Add”, the category will be saved in the database and will be visible in the Category Catalogue.
3. I can also select a category from the Category Catalogue by simply clicking it, and then press the “Delete Button to delete it.

Story ID: 2
Title: Category Modification

As a user,
I want to be able to update my categories for Income and Expenses.
So that I can update my categories in-case there needs to be change in them.

Acceptance Criteria:

1. When I want to select a category by simply clicking on it.
2. Once clicked, the selected category’s data will be automatically filled in the blank fields for creating a category.
3. I can modify the data in the blank fields and either press “Update” to update that category or “Add” to add it as a new category.

Story ID: 3
Title: Income Addition and Deletion

As a user,
I want to be able to add and delete my earnings.
So that I manage and keep track of my Income.

Acceptance Criteria:

1. I have option to choose the category for the Income, choose the name of the income, amount, description and date.
2. Once I press “Add”, the Income is added to the database and is visible on the Income Catalogue.
3. I can delete any Income record by simply selecting it and pressing the “Delete” Button.

Story ID: 4
Title: Income Modification

As a user,
I want to be able to update my Income.
So that I can update my earnings in-case there needs to be a change.

Acceptance Criteria:

1. When I want to select an Income by simply clicking on it.
2. Once clicked, the selected income’s data will be automatically filled in the blank fields for creating an income.
3. I can modify the data in the blank fields and either press “Update” to update that income or “Add” to add it as a new income record.

Story ID: 5
Title: Expense Addition and Deletion

As a user,
I want to be able to add and delete my expenses.
So that I manage and keep track of my expenditure.

Acceptance Criteria:

1. I have option to choose the category for the expense, name of the expense, amount, description and date.
2. Once I press “Add”, the expense is added to the database and is visible on the Expense Catalogue.
3. I can delete any Expense record by simply selecting it and pressing the “Delete” Button.

Story ID: 6
Title: Expense Modification

As a user,
I want to be able to update my Expense.
So that I can update my expenditure in-case there needs to be a change.

Acceptance Criteria:
1. When I want to select an expense by simply clicking on it.
2. Once clicked, the selected income's data will be automatically filled in the blank fields for creating an expense.
3. I can modify the data in the blank fields and either press "Update" to update that expense or "Add" to add it as a new expense record.

Story ID: 7
Title: Income and Expense Analysis

As a user,
I want to be able to analyze my earnings and costs in different time periods.
So that I can get a better understanding of my economic well-being.

Acceptance Criteria:
1. Incomes and Expenses of today, yesterday, current month and current year should be calculated in real time and clearly visible.
2. Total Income and Expenses should also be included.

Story ID: 8
Title: User Account Set-up

As a user,
I want to be able to create my account for the app.
So that I can login and use the app.

Acceptance Criteria:
1. New Users will be asked to create a new account for the app. They will enter their password and username
2. Old Users will be able to log into the app by entering their account password and username
3. Each account will retain it's data from the database

Story ID: 9
Title: Feedback integration

As a user,
I want to be able to provide feedback of the app
So that I can feel heard and valued.

Acceptance Criteria:
1. A feedback box will be visible to the user.
2. Once clicked, user will be able to write a feedback and press Submit.
3. A message will be displayed to the user, confirming that their feedback has been sent.
4. User can also select an emoji to represent their overall experience of the app.

Story ID: 10
Title: Visual Budget Analysis

As a user,
I want to be able to see a visual representation of my earnings and expenses
So that I can proceed to better analyze my economic position.

Acceptance Criteria:
1. A doughnut chart will be easily visible to the user for both Income and Expenses.
2. The chart will be divided into segments.
3. Each segment will represent a category of the income/expense and it's size will be related to the corresponding amount.
4. There will be a separate chart for both Incomes and Expenses.

Story ID: 11
Title: Crypto Insights

As an Investor,
I want to be able to view information of the Top 7 crypto coins in the market
So that I can get a better idea of the market's trajectory and in which coin I need to invest in.

Acceptance Criteria:
1. Top 7 crypto coin from the market will be displayed to the user clearly.
2. The name of the coin, it's prices and it's change in price will be displayed.
3. I can press the refresh button to refresh the data being displayed.
4. By clicking any of the coins, I will be sent to that coin's webpage.

Structured Specifications

Structured Specification: 1
User Story: Category Addition and Deletion

Description:

- Users are able to add and delete categories for both Income and Expenses to facilitate efficient tracking of financial transactions.

Acceptance Criteria:

1. Users can create a new category by providing:
    - -Category name
    - -Category type (Income or Expense)
    - -Category status (Active or Inactive)
2. Upon pressing "Add", the category details are saved in the database and displayed in the Category Catalogue.
3. Categories can be deleted by selecting them from the Category Catalogue and pressing the "Delete" button.

Inputs:

- Category name
- Category type (Income or Expense)
- Category status (Active or Inactive)

Outputs:

- Confirmation of successful category addition or deletion.

Source:

- User input via the application interface.

Destination:

- Category Catalogue for display and database for storage.

Action:

- **Add:** Saves category details to the database upon user input.
- **Delete:** Removes selected category from the database upon user confirmation.

Requirements:

- User-friendly interface for category management.
- Database integration for storing and retrieving category data.

Pre-condition:

- None.

Post-condition:

- Category additions or deletions are reflected in the Category Catalogue and database.

Side Effects:

- None.

Structured Specification: 2
User Story: Expense Modification

Description:

- Users can update their expense records within the application to reflect changes in their expenditure.

Acceptance Criteria:

1. Users can select an expense by clicking on it.
2. Upon selection, the blank fields for creating an expense are automatically filled with the selected expense's data.
3. Users can modify the data in the blank fields and choose to update the existing expense or add it as a new expense record.

Inputs:

- User interaction with the application interface by clicking a record to select and modify expense records.

Outputs:

- Confirmation of successful expense modification or addition.

Source:

- Expense data retrieved from the application's database, displayed in the expenses catalogue.

Destination:

- Application interface for display and modification of expense records.

Action:

- **Modify:** Update existing expense record with modified data upon user request.
- **Add:** Add modified expense as a new record in the database if requested by the user.

Requirements:

- Integration with the application's database to retrieve and update expense data.
- Intuitive interface for selecting and modifying expense records.

Pre-condition:

- Existing expense records must be available for modification.

Post-condition:

- Updated expense details are saved in the database.

Side Effects:

- None.

Structured Specification: 3
User Story: Crypto Insights

Description:

- As an Investor, users can access information on the top 7 cryptocurrencies in the market to make informed investment decisions.

Acceptance Criteria:

1. The top 7 cryptocurrencies are clearly displayed to the user.
2. For each cryptocurrency, the following information is displayed:
    - Coin name
    - Current price
    - Change in price
3. Users can refresh the displayed data by pressing a "Refresh" button.
4. If coins are loaded, clicking on any of the coins redirects the user to the corresponding coin's webpage for detailed information, else user is redirected to the main page of the website.

Inputs:

- User interaction with the application interface (e.g., clicking on coins, pressing refresh button).

Outputs:

- Displayed information on the top 7 cryptocurrencies.
- Redirect to external webpages for detailed coin information.

Source:

- Cryptocurrency market data obtained from web-scraping.
- User interaction via the application interface.

Action:

- **Display:** Present the top 7 cryptocurrencies along with their relevant data.
- **Refresh:** Update displayed data with current market information upon user request.
- **Redirect:** Send users to external webpages for additional coin details.

Requirements:

- Internet connection to allow for web-scraping for real-time data retrieval
- User-friendly interface for displaying and navigating cryptocurrency information.

Pre-condition:

- Cryptocurrency market data from the website must be accessible and up-to-date.
- Website must not have dynamic class, allowing for easy data scraping.

Post-condition:

- Users are provided with current information on the top 7 cryptocurrencies in the market.

Side Effects:

- None.

Structured Specification: 4
User Story: Visual Budget Analysis

Description:

- Users can access visual representations of their incomes and expenses through doughnut charts for better analysis of their economic position.

Acceptance Criteria:

1. Doughnut charts are prominently displayed to the user for both Income and Expenses.
2. Each chart is divided into segments representing different categories of income or expenses.
3. The size of each segment corresponds to the amount associated with the category.
4. Separate doughnut charts are provided for both Incomes and Expenses.

Inputs:

- User interaction with the application interface to view charts.

Outputs:

- Visual representations of incomes and expenses in the form of doughnut charts.

Source:

- Data on incomes and expenses retrieved from the application's database.

Destination:

- Application interface for display of doughnut charts.

Action:

- **Display:** Present doughnut charts for Incomes and Expenses with categorized segments.
- **Update:** Reflect changes in earnings and expenses in real-time on the charts.

Requirements:

- Integration with the application's database to retrieve and update income and expense data.
- Chart tool for generating doughnut charts.

Pre-condition:

- Data on incomes and expenses must be available in the application's database.

Post-condition:

- Users are provided with visual insights into their economic position through doughnut charts representing their income and expenses.

Side Effects:

- None.

NFR Specifications

Performance:

- The system will respond to the user's login request within 2 seconds
- The system will complete any addition/deduct of expenses/incomes/categories within 2 seconds
- The system will load in the Crypto Insights within 2 seconds with a proper internet connection.
- The system will load in the Charts for incomes and expense in 2 seconds.
- The system will update the data in the dashboard in real-time within 2 seconds.

Scalability:

- The system will be able to hold up-to 6 expenses at a time
- The system will be able to hold up-to 6 incomes at a time
- The system will be able to hold up-to 12 categories at a time
- The system will be able to add/deduct amounts from the depository accounts at least 1000 times a day.
- The database will be able to hold the data of at least 10 users at a time

Reliability:

- The system will run 99.99% of the time, allowing for scheduled maintenance.
- In the event of a system failure, restarting the system will help fix the issues.
- Data integrity will be maintained, ensuring no loss of data

Security:

- Users will be able to log into their system using their password and usernames.
- Ensuring security of a user's data and account

Ease of Use:

- The app will be wrapped with user friendly Graphical User Interface (GUI).
- Allowing for easy navigation of the app.
- GUI will also allow for easy interaction between the user and the app's features

Need-to-Have Features

1. User Accounts Set-up: Essential feature that allows users to login and use the app.

2. Expenses Management: Core feature that allows users to management and keep track of their expenses.

3. Income Management: Core feature that allows users to management and keep track of their incomes.

4. Category Management: Core feature that allows users to management and keep track of their categories for categorizing their incomes and expenses.

5. Visual Budget analysis: Essential for allowing user to better understand their financial status by visually analyzing their earnings and expenditures.

6. Crypto insights: Important for providing Crypto insights to the users for investing.

7. Dashboard: Critical for providing numerical data about the user's incomes and expenses over different time periods for better understanding the user's economical position.

Nice-to-Have Features

1. Customer Support Chatbot: A chatbot that answer's common and simple questions of the customer regarding their budgeting data.

2. Predictive Savings Model: A section where the user can get a prediction of their future savings by a predictive model that analyzes the user's incomes and expenses.

3. Personalized Goals recommender: A recommender model that recommends the user to set personalized goals for themselves after analyzing the user's incomes and expenses.

4. Gamification of Savings: Create a gamified experience for the user to save money which are treated as points in a game.

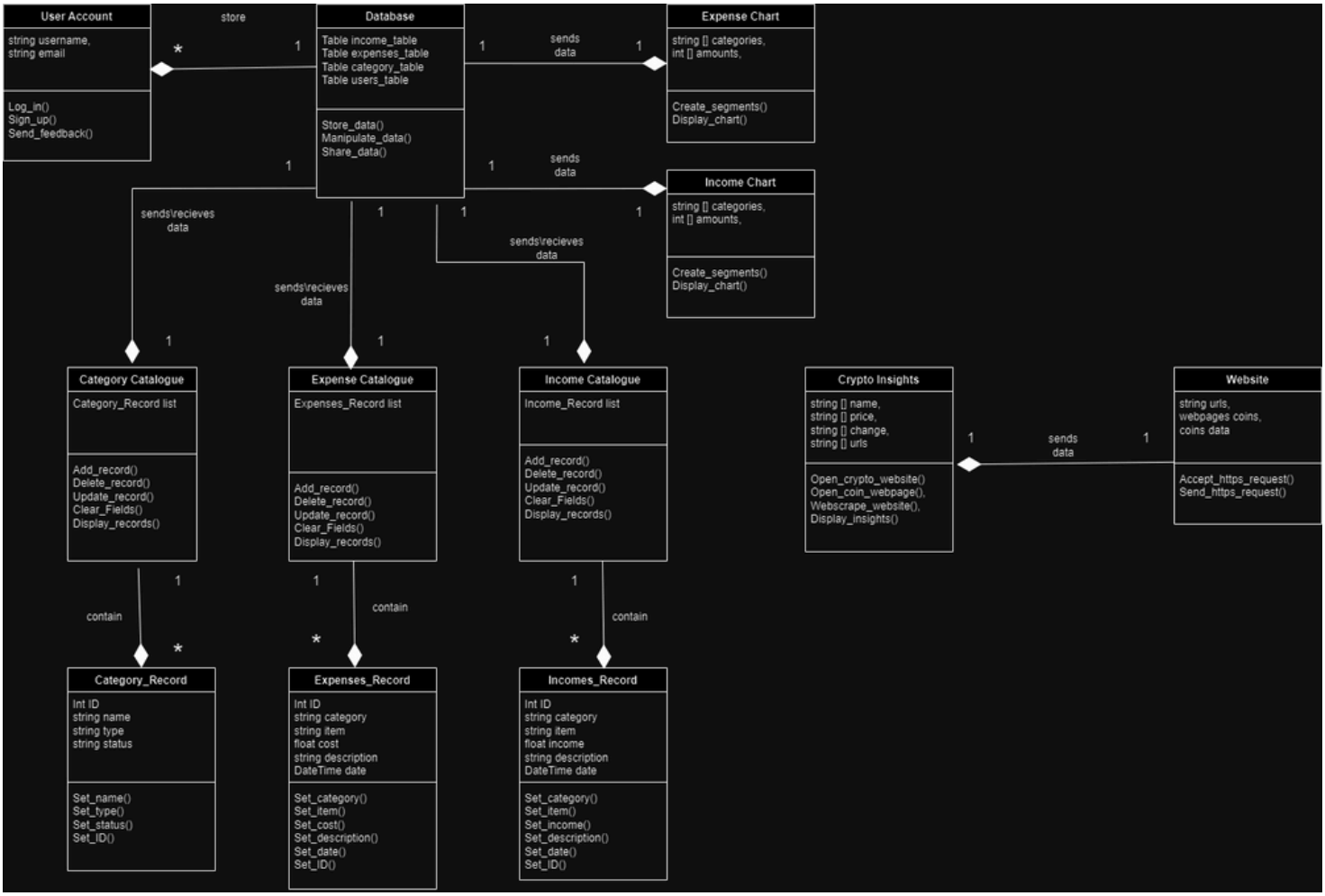
5. 2 Factor Authentication Logins\sign-ups for user account: Provides for a more secure experience for the user.

6. Goal setting: Allows users to set income and savings goals on their own.

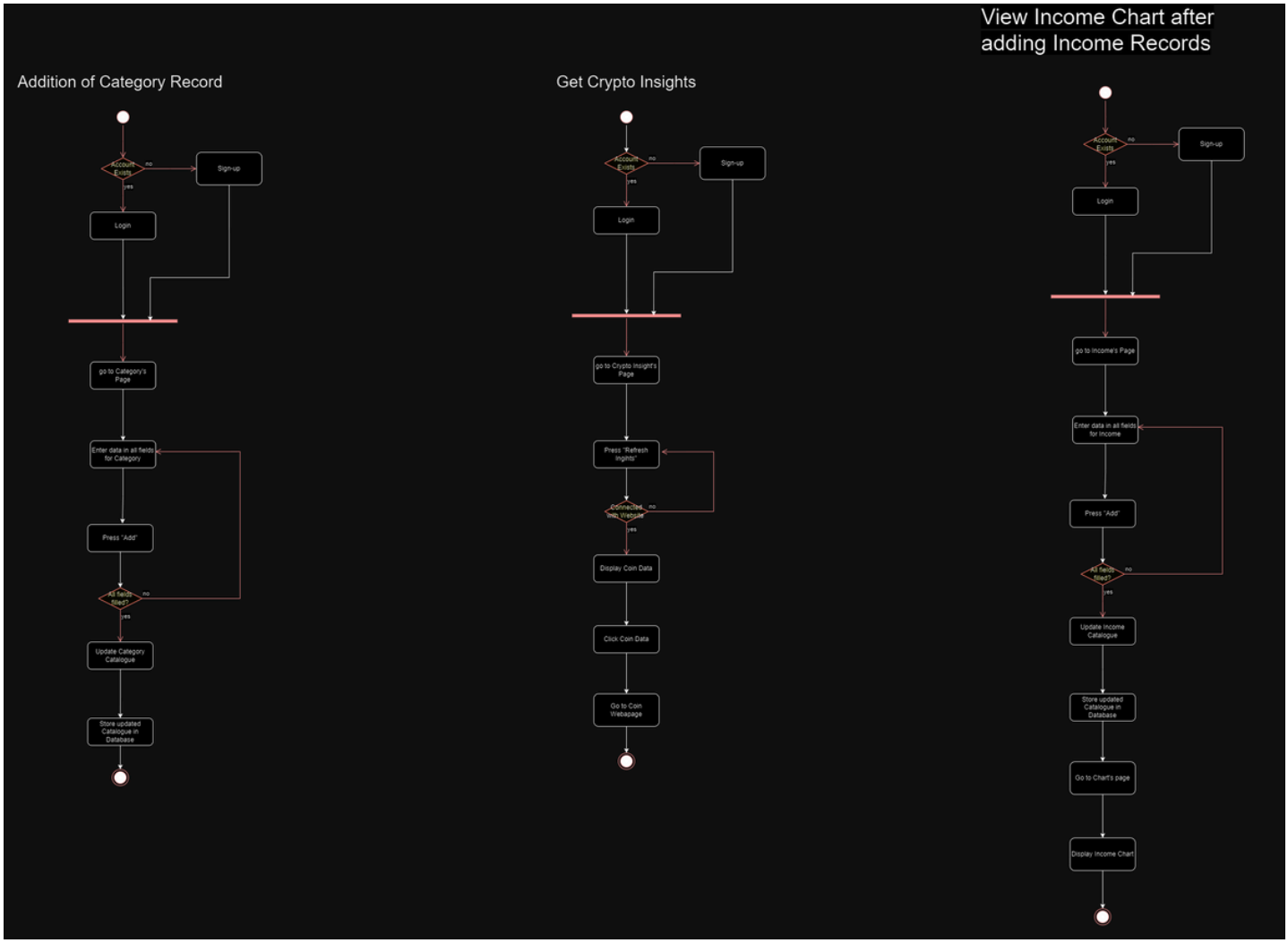
7. Report Creation: Allow users to generate a report of their incomes and expenses.

8. User Feedback: Important feature for the users to feel heard and valued.

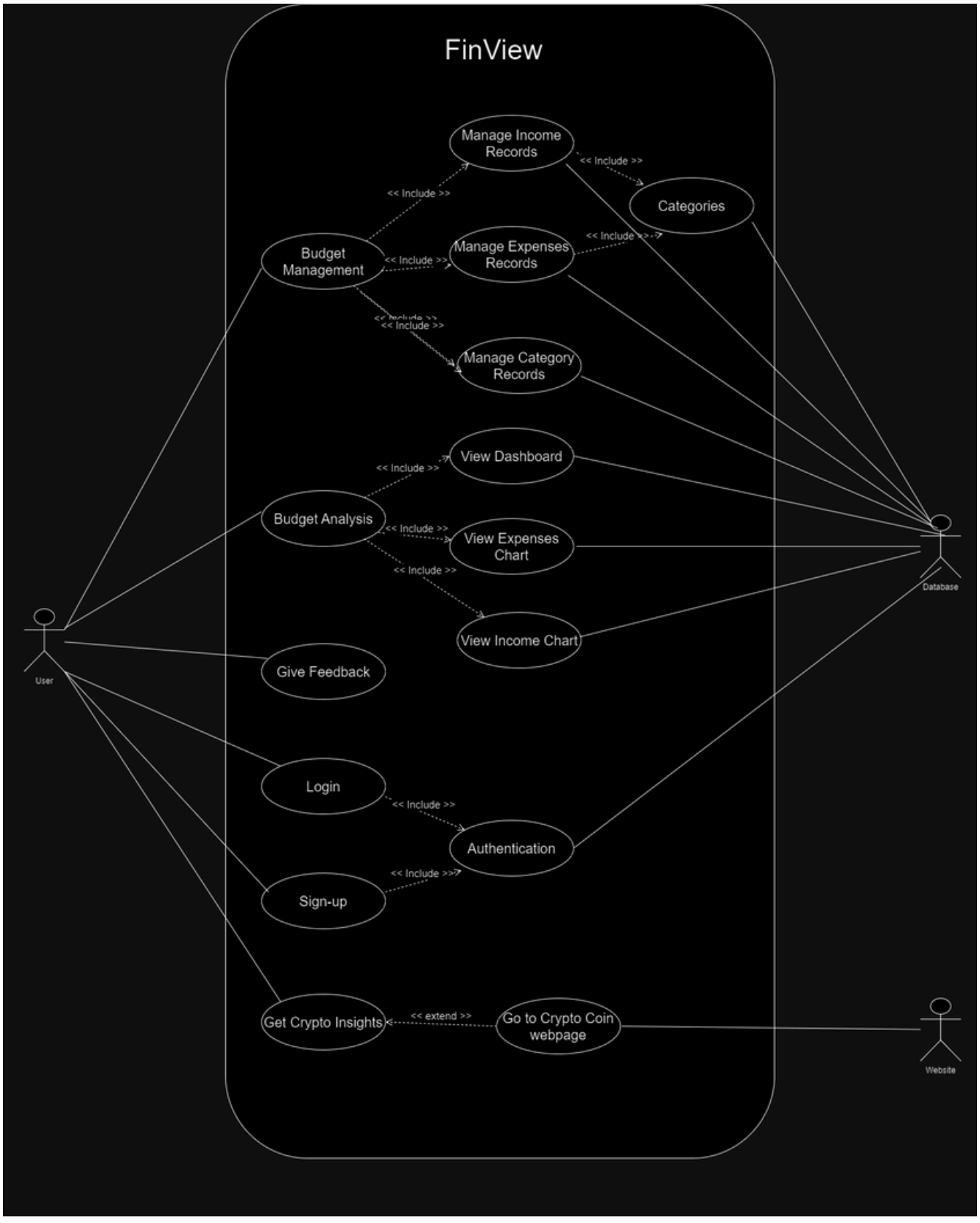
Class Diagram



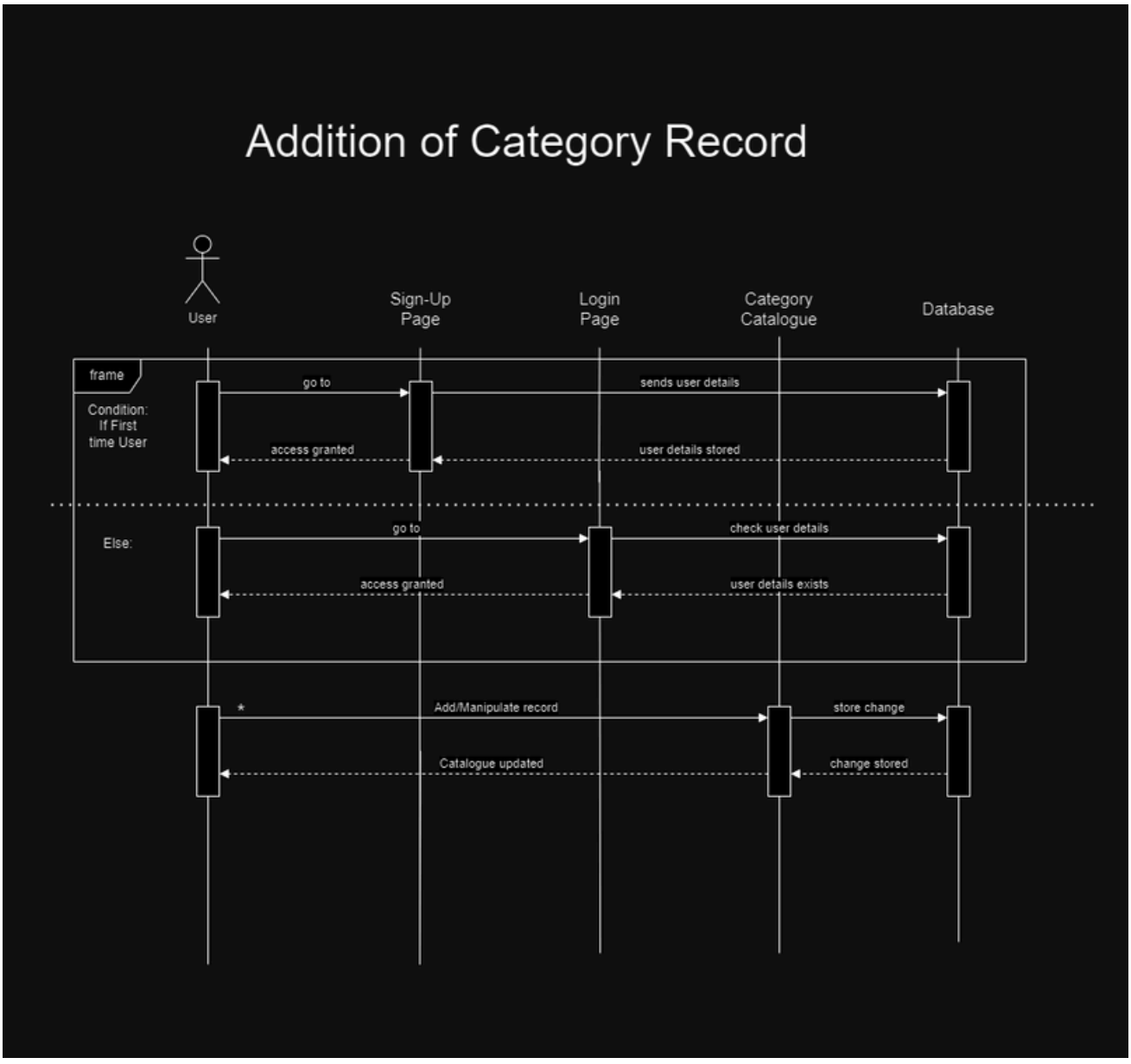
Activity Diagrams



Use-Case Diagram



Sequence Diagrams



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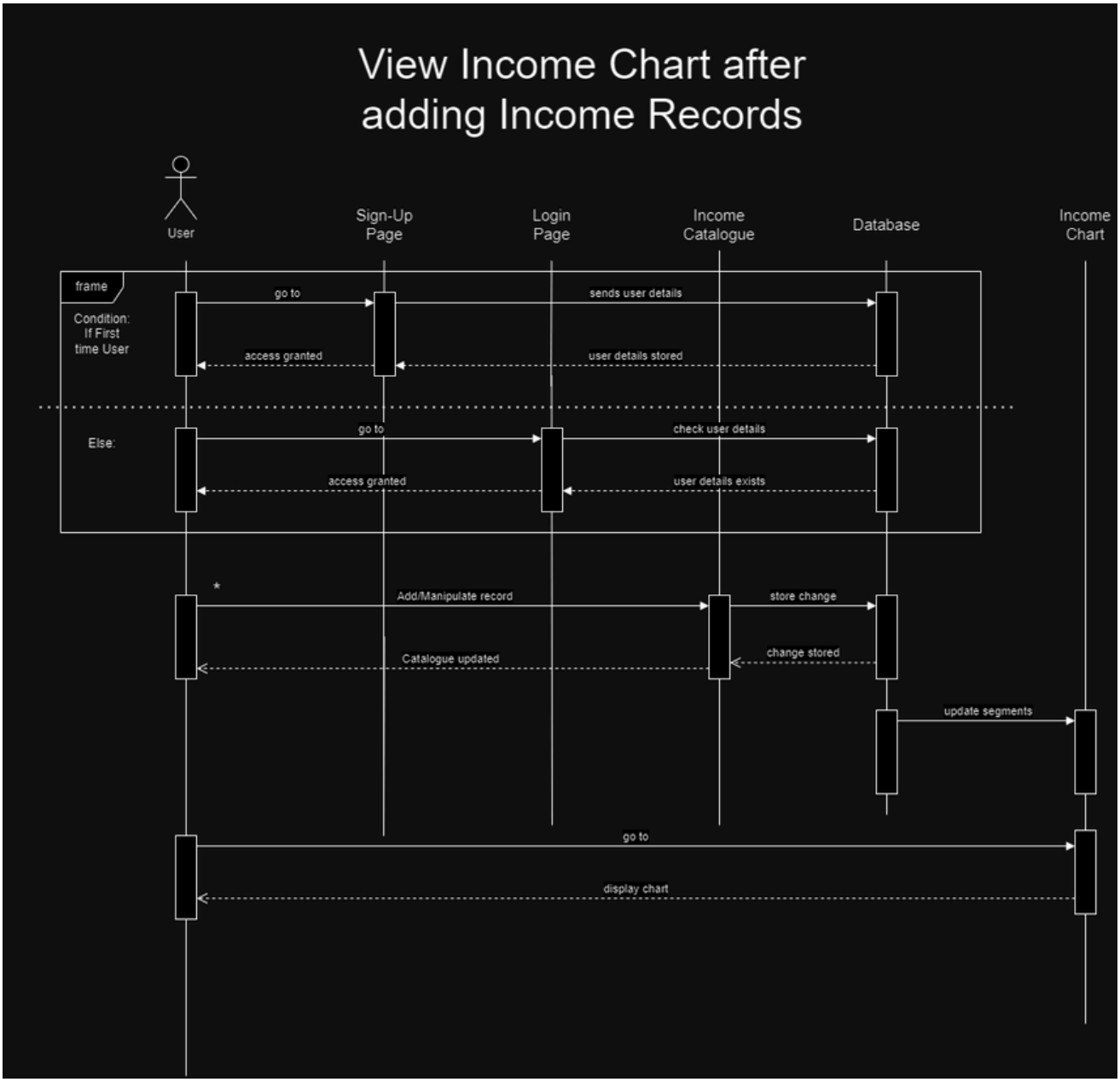

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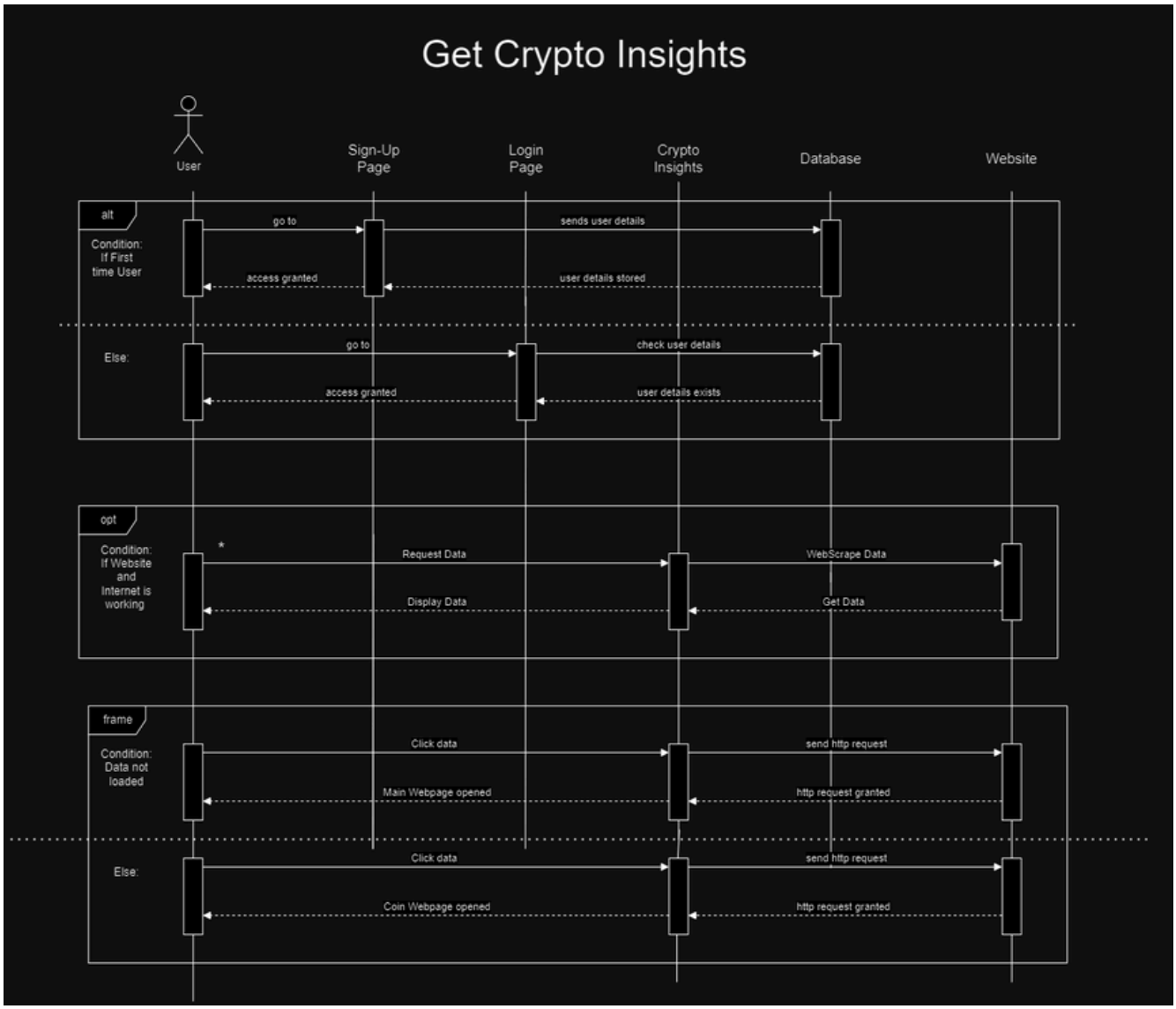
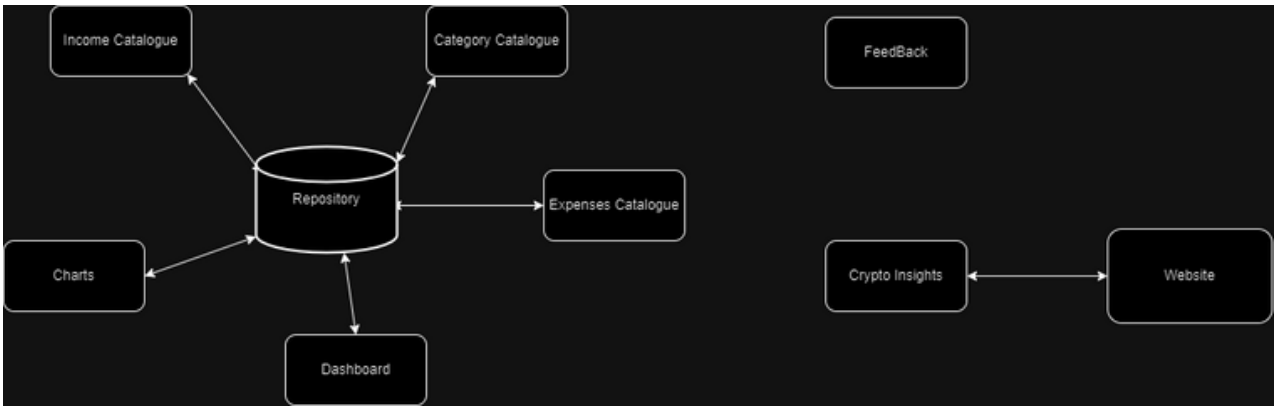


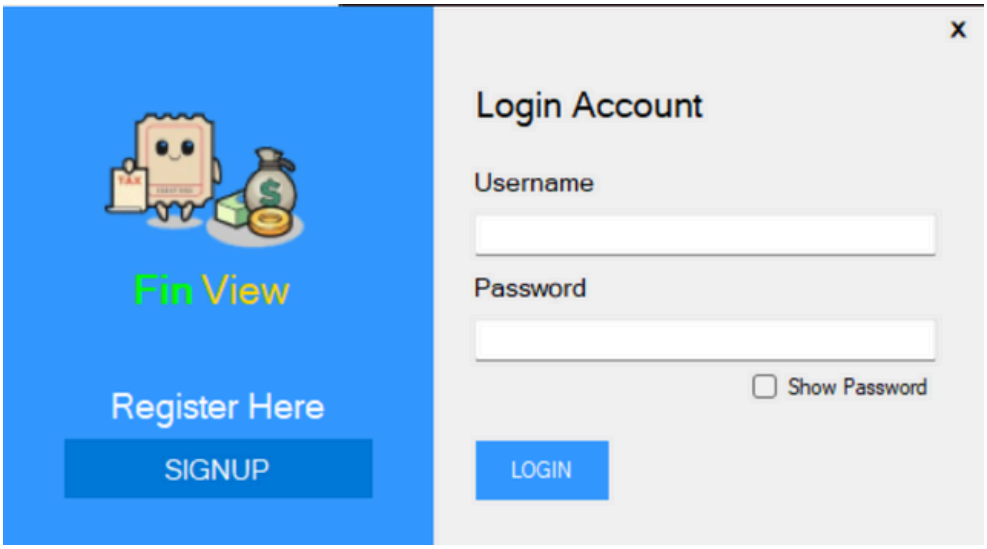
Architecture

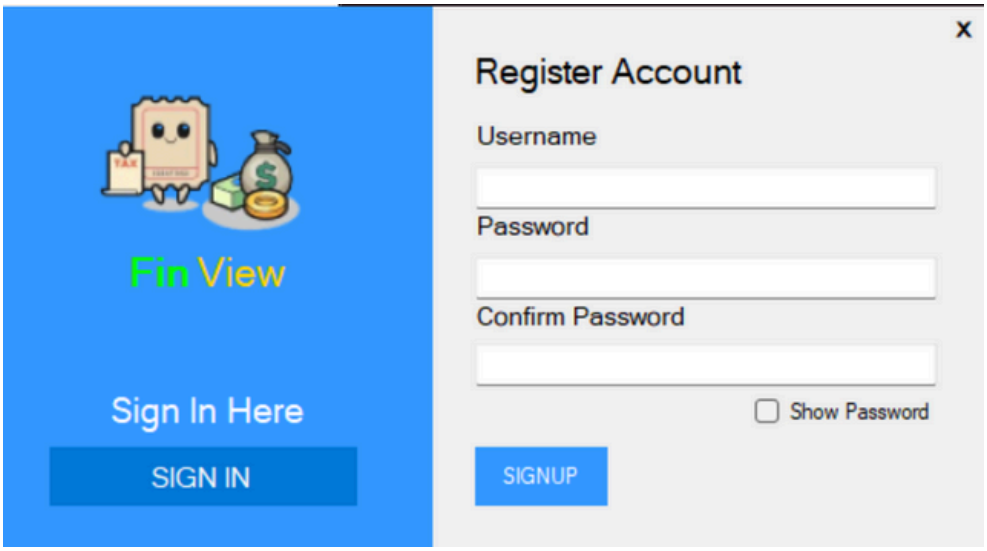
Repository Architecture:

A Respository Arhitecture is used for this system as there is a central repository/database that contains all information. Almost all component only interacts with the database, manipulating the data and storing the new changes back into the database. Other components will interact with the same database and use the updated data for their own use. Meaning a component can manipulate data from the database that can later be used by other components through the database. Only 2 components don't interact with the database or any other component connected to the database.



App pictures





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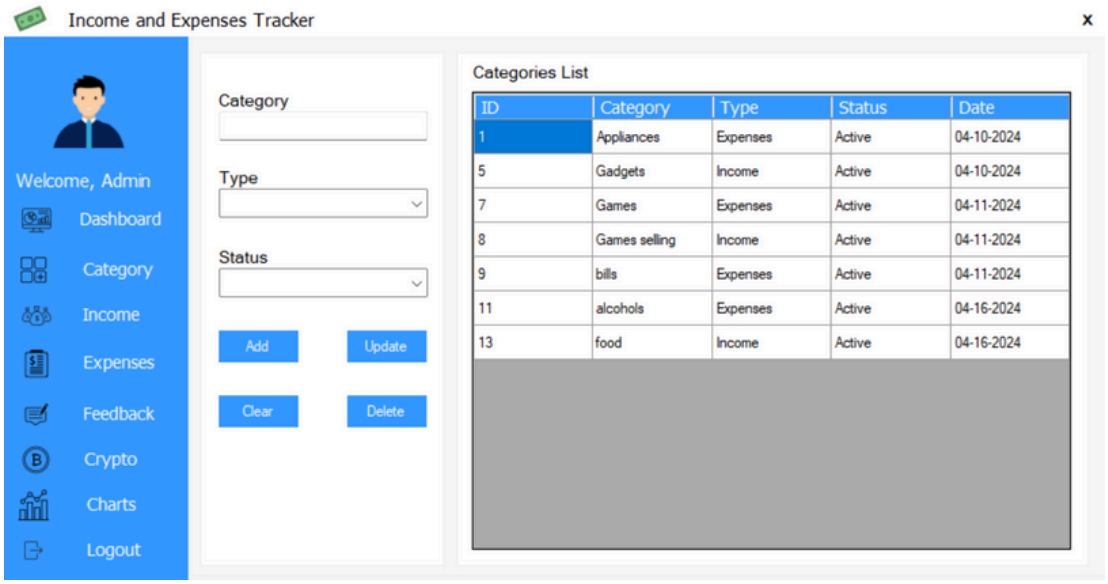

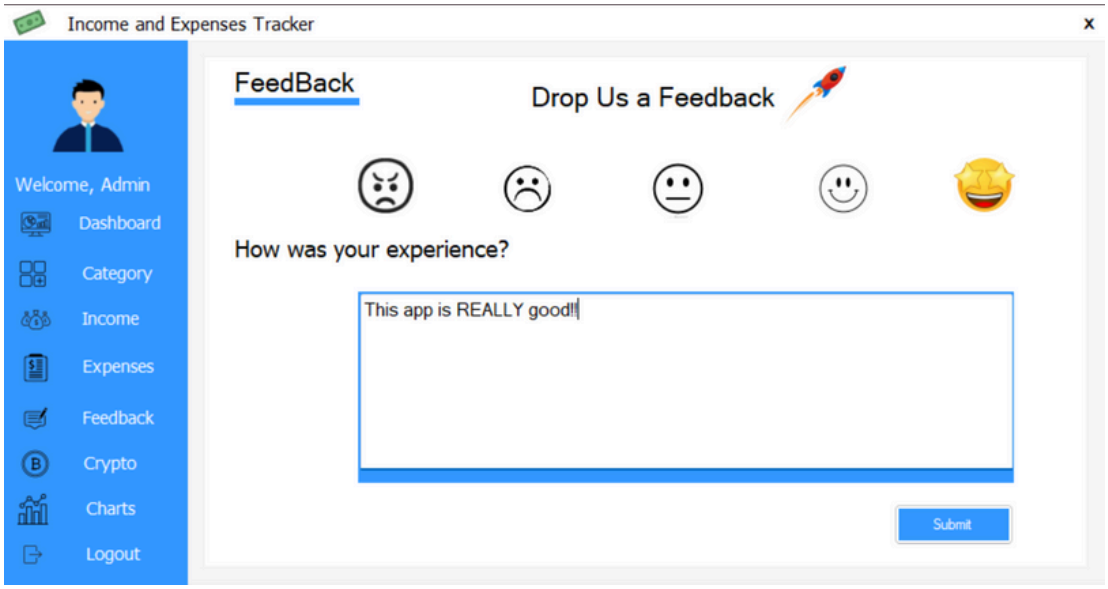

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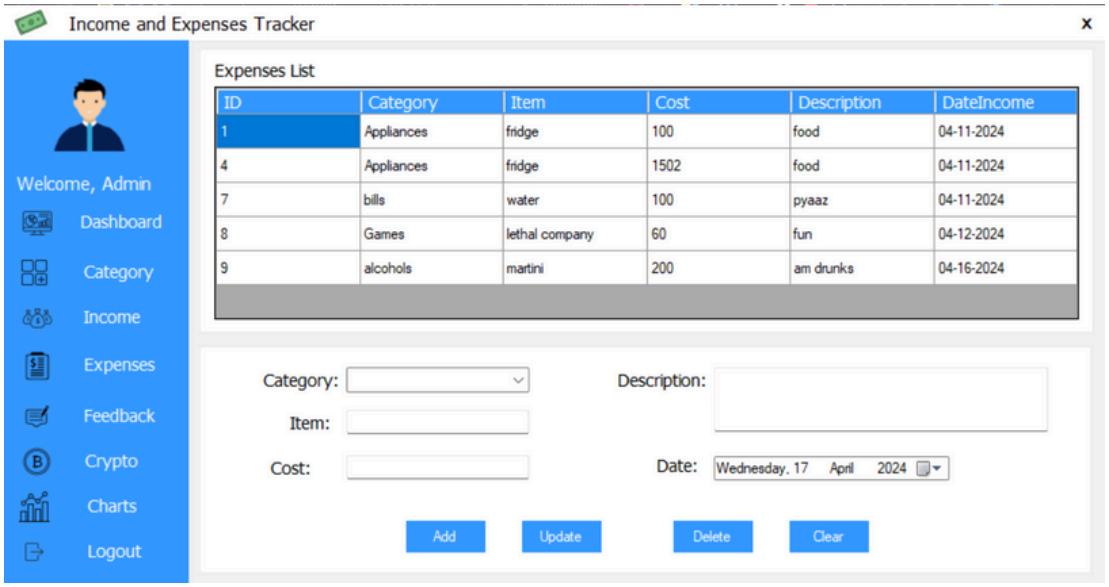

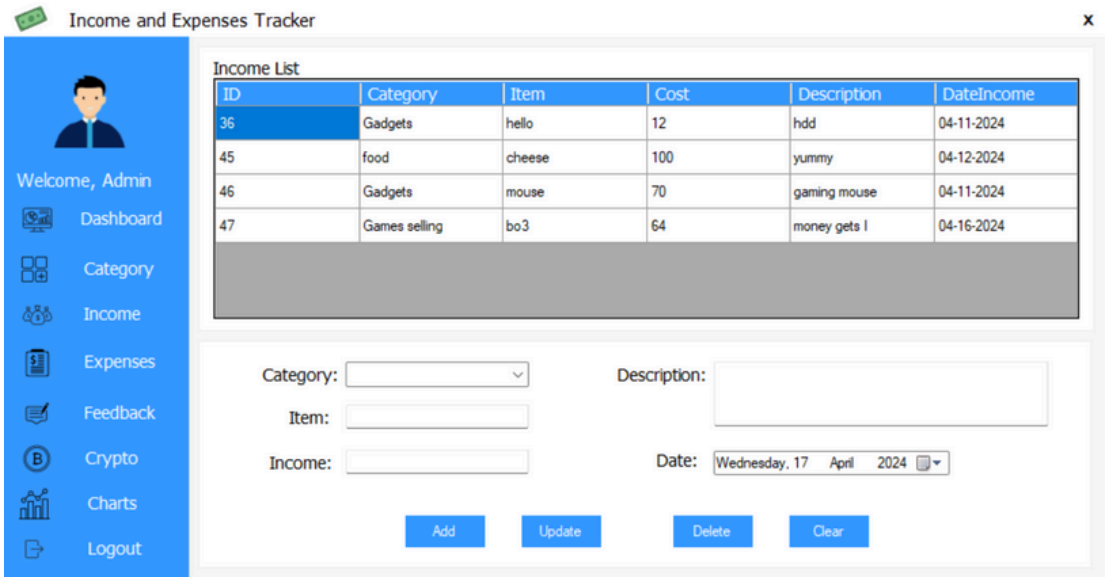

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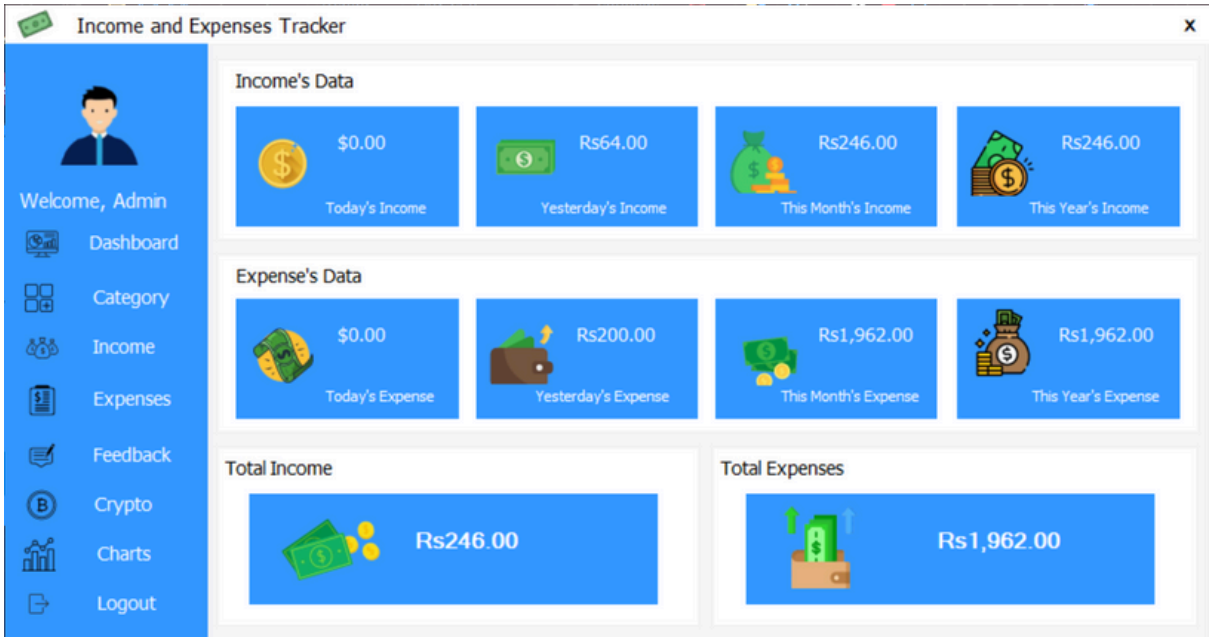
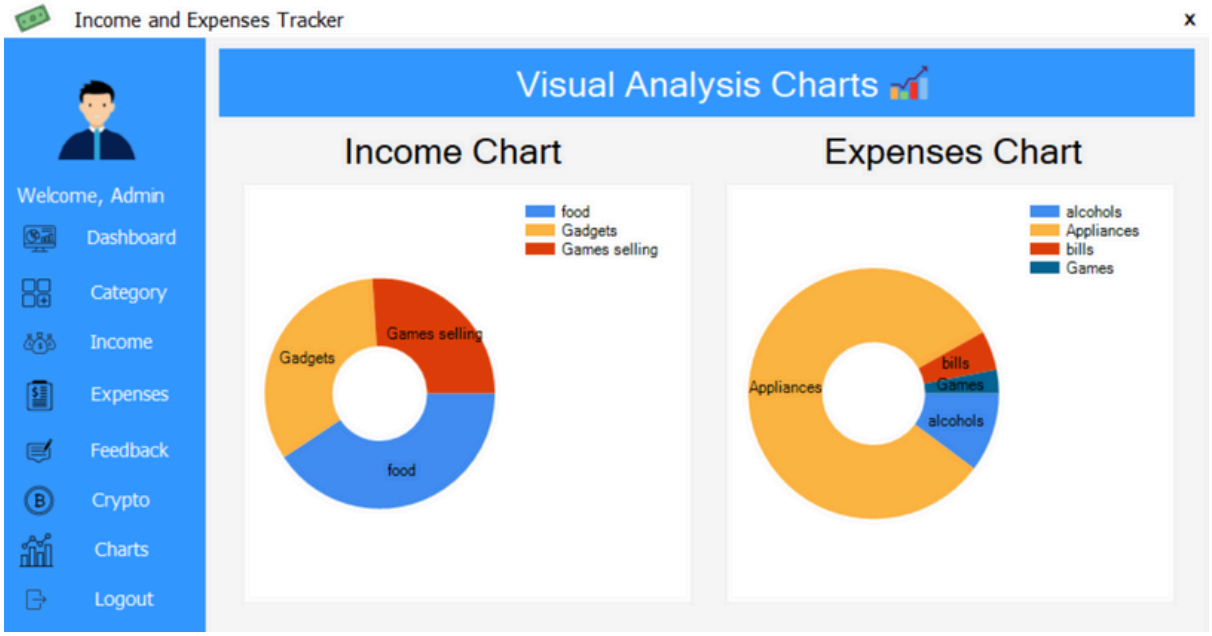
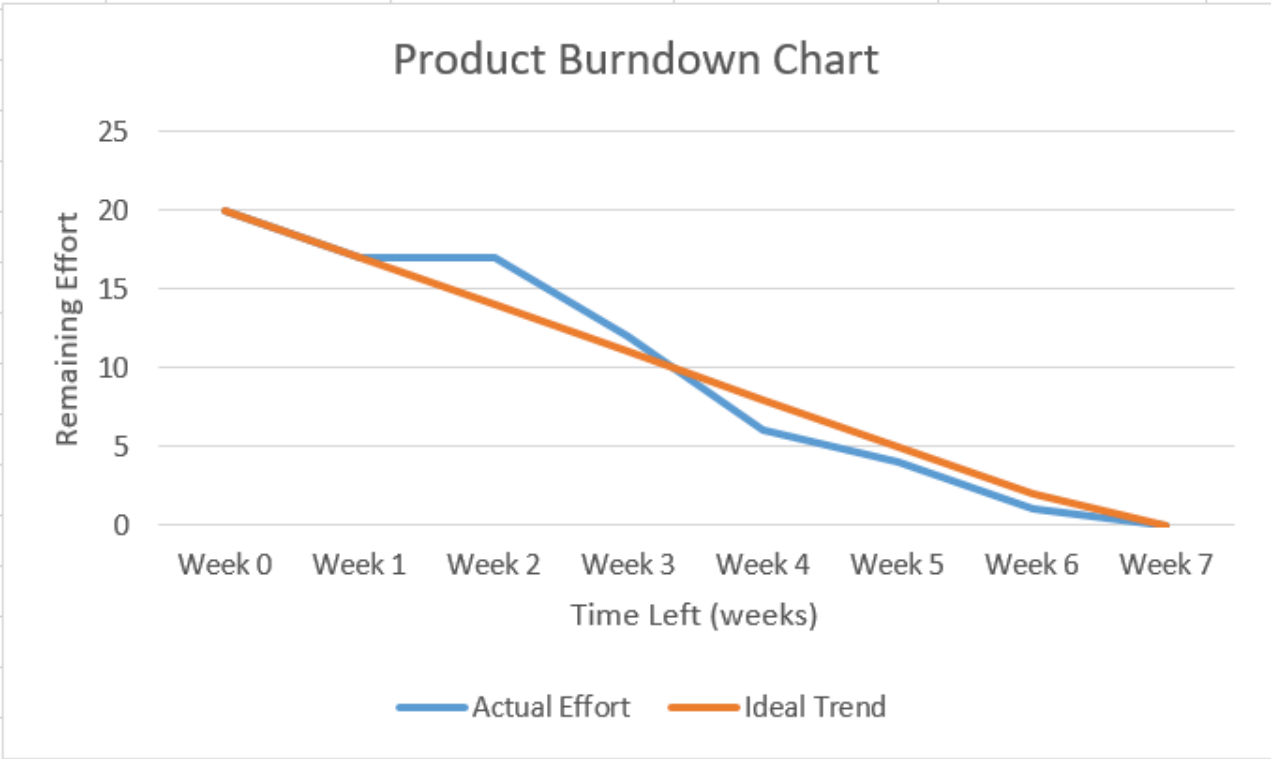


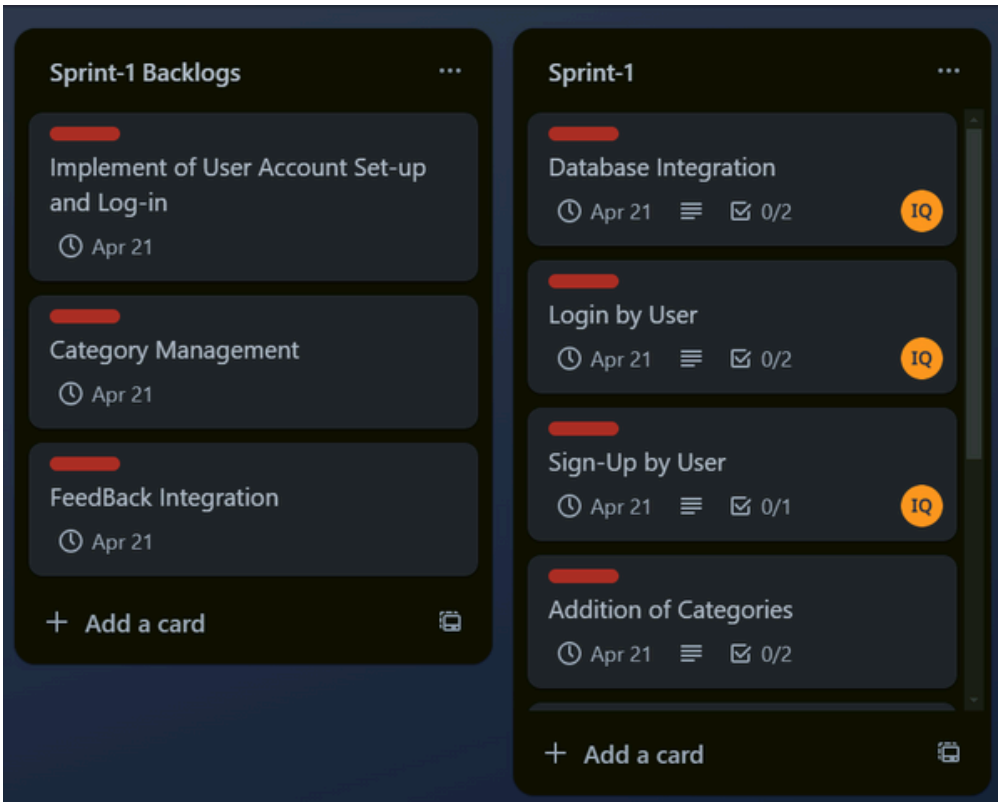


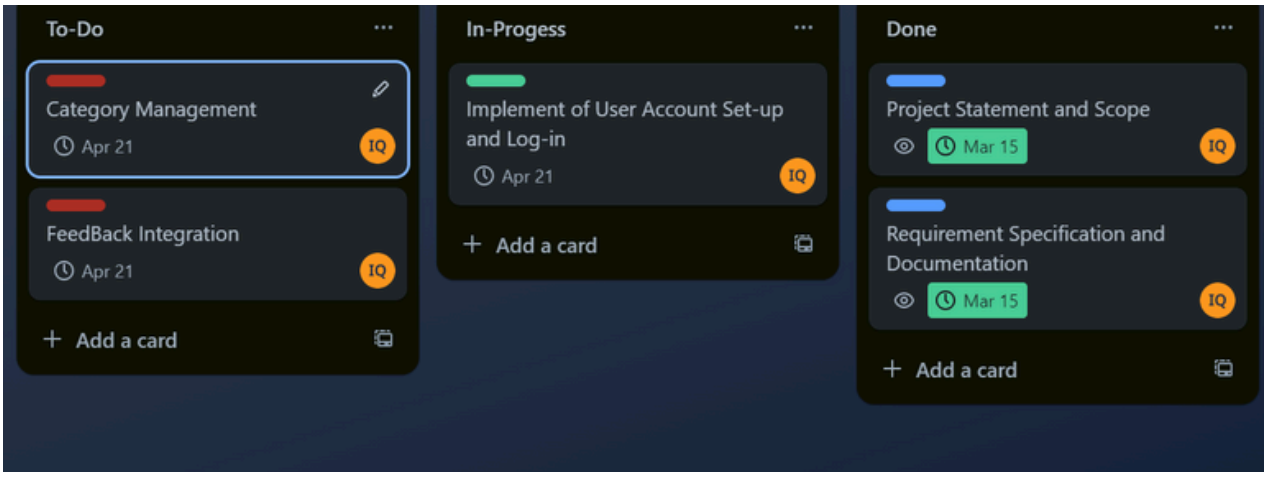
Burndown Chart

Product Burndown Chart									
ID	UserStories	Initial Estimate	March-23-2024	March-30-2024	April-07-2024	April-14-2024	April-21-2024	April-28-2024	May-07-2024
		Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
1	User Account Management	2	1	1					
2	Category Management	3	2	-1	2				
3	Feedback Integration	2			1	1			
4	Expense Mangement	3			1	1	1		
5	Income Management	3			1	2			
6	Crytpo Insights	2					1		1
7	Dashboard	3				2	-1	2	
8	Charts	2					1	1	
Actual Effort		20	17	17	12	6	4	1	0
Ideal Trend		20	17	14	11	8	5	2	0

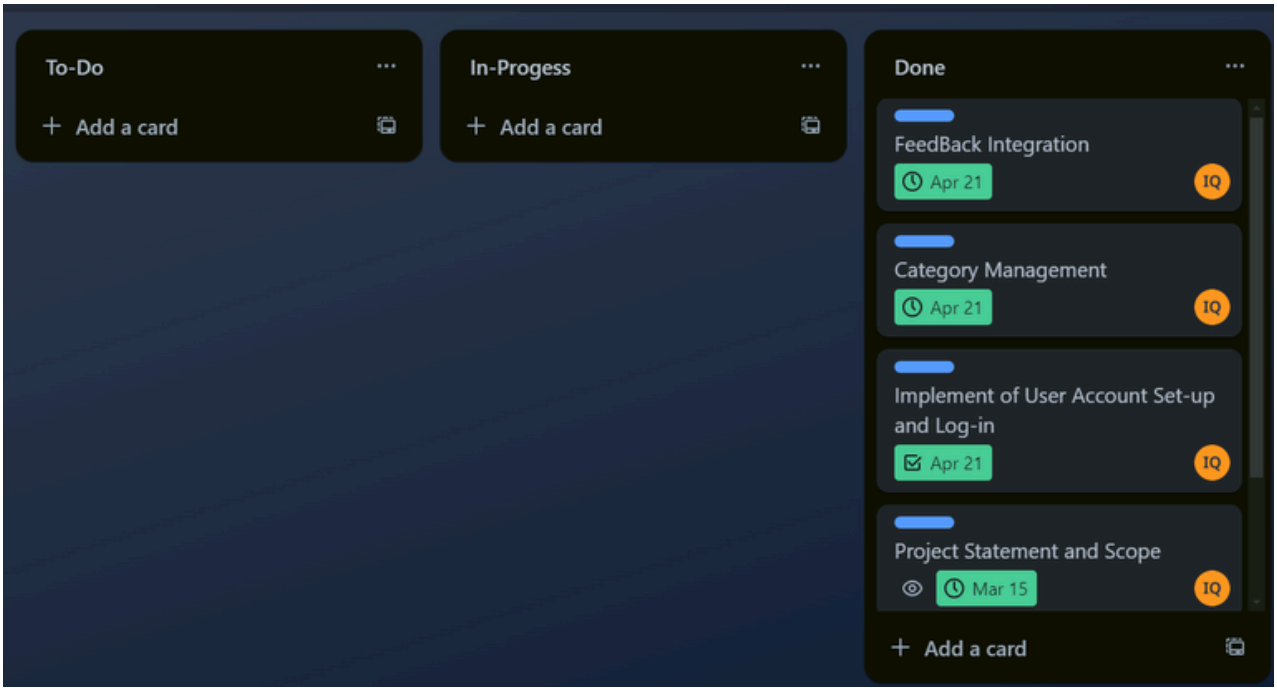


Scrum Board

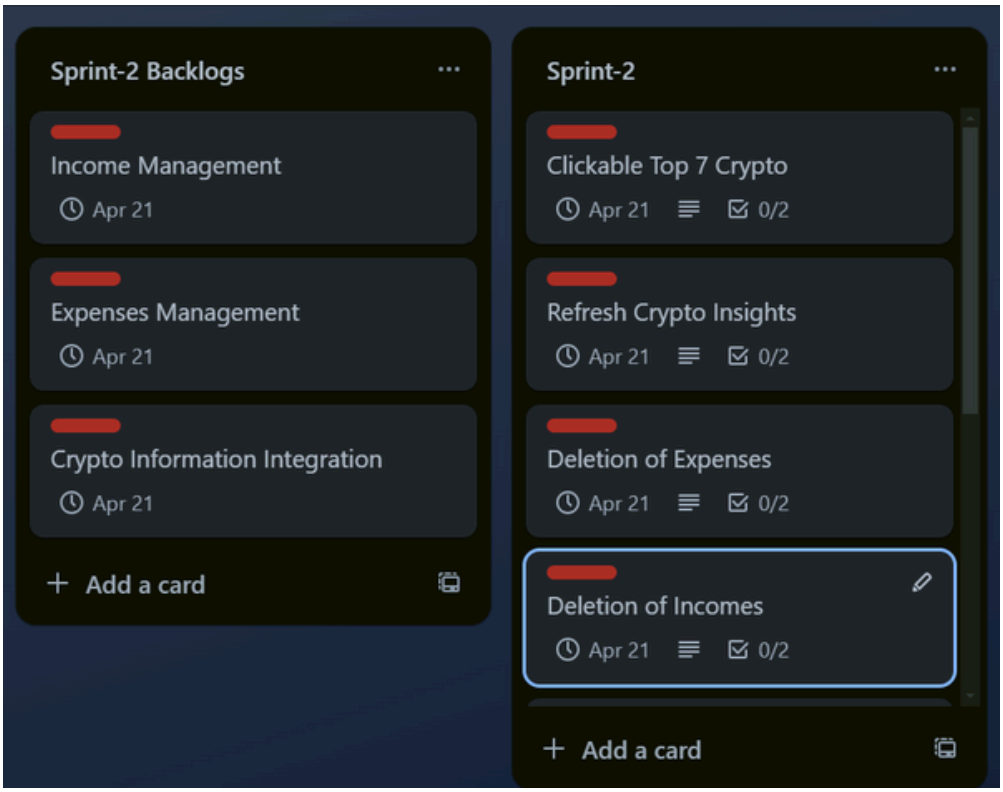

Sprint-1 Backlogs
Implement of User Account Set-up and Log-in
Apr 21
Category Management
Apr 21
FeedBack Integration
Apr 21
Add a card
Sprint-1
Database Integration
Apr 21
0/2
IQ
Login by User
Apr 21
0/2
IQ
Sign-Up by User
Apr 21
0/1
IQ
Addition of Categories
Apr 21
0/2
Add a card

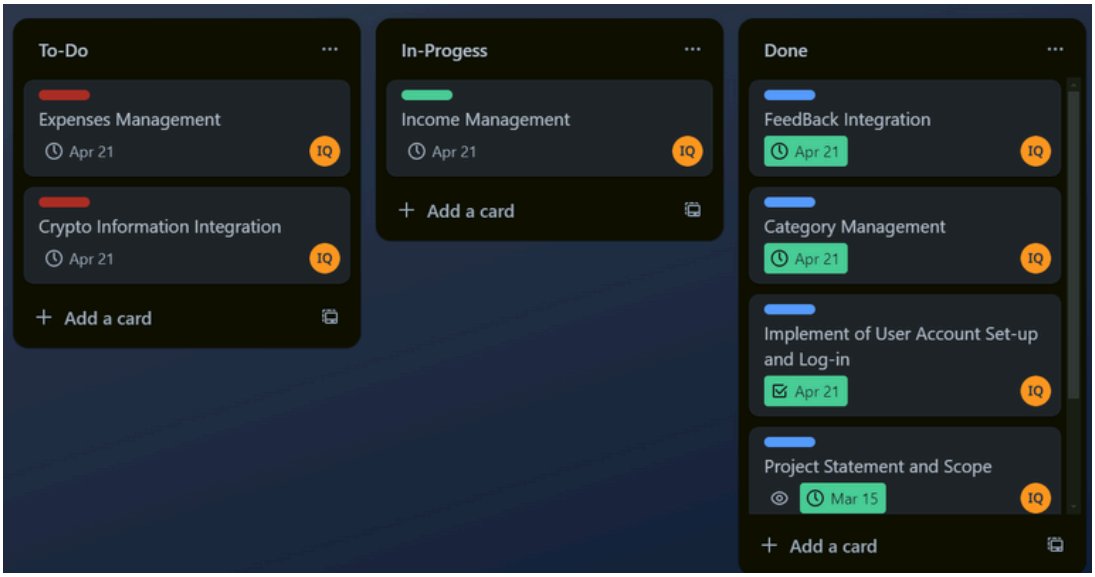

To-Do
Category Management
Apr 21
IQ
FeedBack Integration
Apr 21
IQ
Add a card
In-Progess
Implement of User Account Set-up and Log-in
Apr 21
IQ
Add a card
Done
Project Statement and Scope
Mar 15
IQ
Requirement Specification and Documentation
Mar 15
IQ
Add a card

Scrum Board

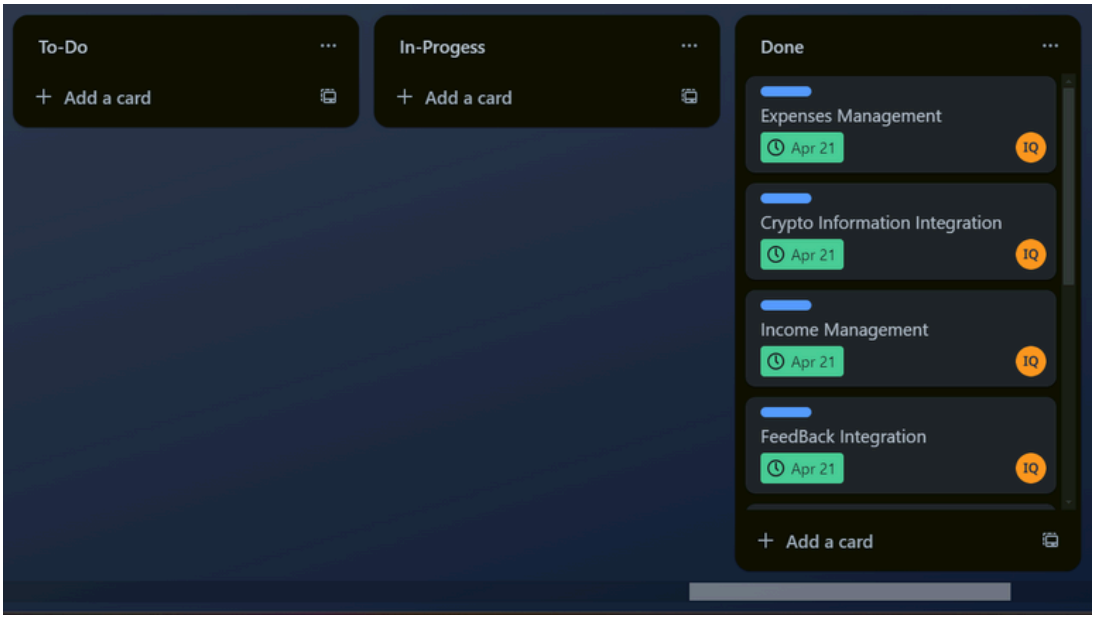

To-Do
Add a card
In-Progess
Add a card
Done
FeedBack Integration
Apr 21
IQ
Category Management
Apr 21
IQ
Implement of User Account Set-up and Log-in
Apr 21
IQ
Project Statement and Scope
Mar 15
IQ
Add a card

Scrum Board

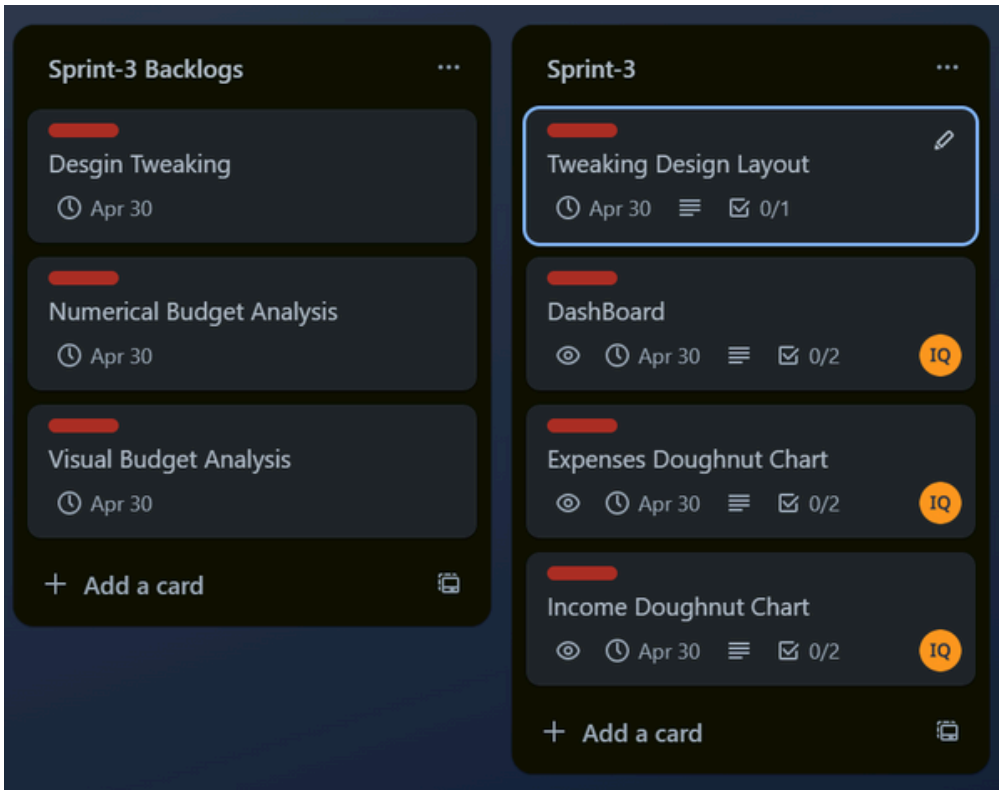

Sprint-2 Backlogs
Income Management
Apr 21
Expenses Management
Apr 21
Crypto Information Integration
Apr 21
Add a card
Sprint-2
Clickable Top 7 Crypto
Apr 21
0/2
Refresh Crypto Insights
Apr 21
0/2
Deletion of Expenses
Apr 21
0/2
Deletion of Incomes
Apr 21
0/2
Add a card

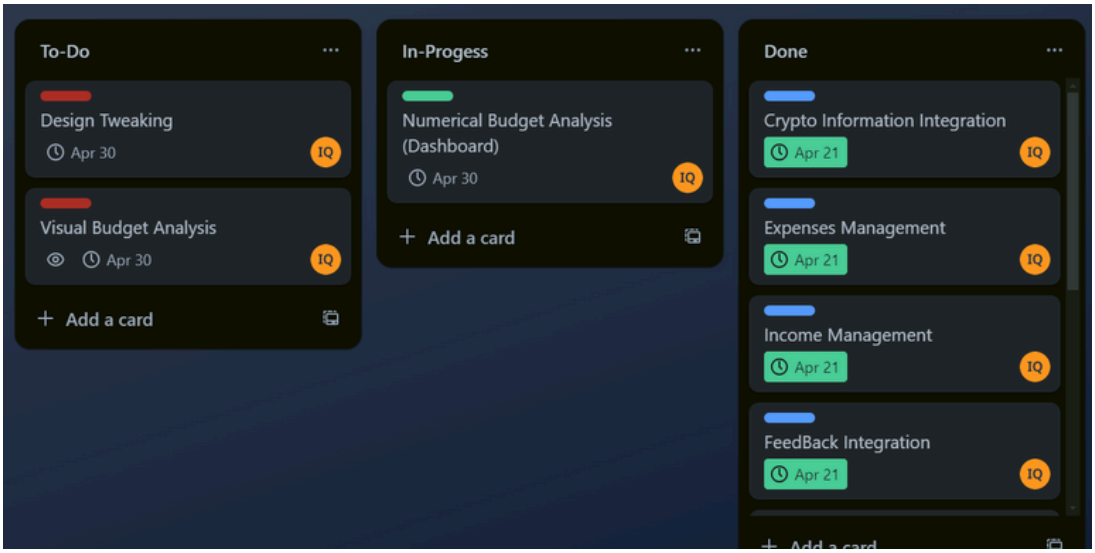

To-Do
Expenses Management
Apr 21
IQ
Crypto Information Integration
Apr 21
IQ
Add a card
In-Progess
Income Management
Apr 21
IQ
Add a card
Done
FeedBack Integration
Apr 21
IQ
Category Management
Apr 21
IQ
Implement of User Account Set-up and Log-in
Apr 21
IQ
Project Statement and Scope
Mar 15
IQ
Add a card

Scrum Board

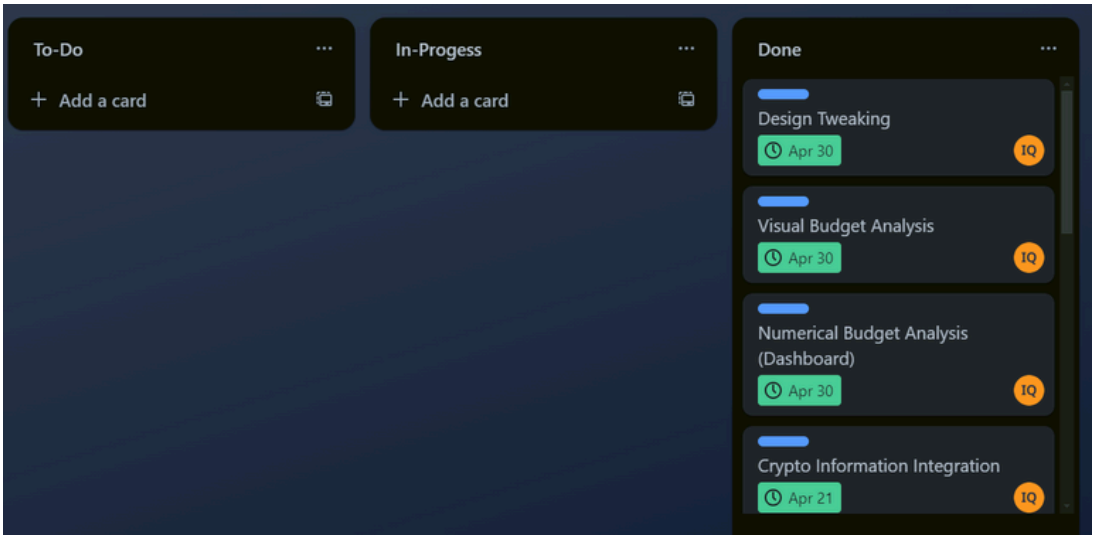

To-Do
Add a card
In-Progess
Add a card
Done
Expenses Management
Apr 21
IQ
Crypto Information Integration
Apr 21
IQ
Income Management
Apr 21
IQ
FeedBack Integration
Apr 21
IQ
Add a card

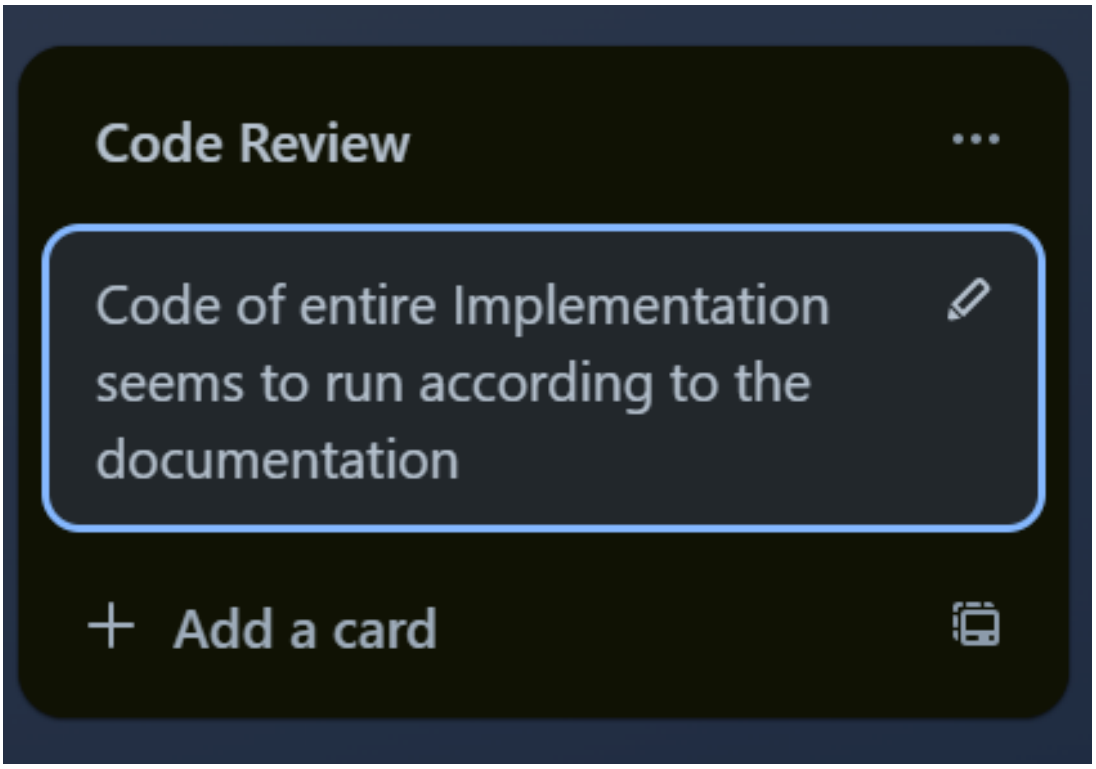
Scrum Board


Sprint-3 Backlogs
Desgin Tweaking
Apr 30
Numerical Budget Analysis
Apr 30
Visual Budget Analysis
Apr 30
Add a card
Sprint-3
Tweaking Design Layout
Apr 30
0/1
DashBoard
Apr 30
0/2
IQ
Expenses Doughnut Chart
Apr 30
0/2
IQ
Income Doughnut Chart
Apr 30
0/2
IQ
Add a card


To-Do
Design Tweaking
Apr 30
IQ
Visual Budget Analysis
Apr 30
IQ
Add a card
In-Progess
Numerical Budget Analysis (Dashboard)
Apr 30
IQ
Add a card
Done
Crypto Information Integration
Apr 21
IQ
Expenses Management
Apr 21
IQ
Income Management
Apr 21
IQ
FeedBack Integration
Apr 21
IQ

Scrum Board


To-Do
Add a card
In-Progess
Add a card
Done
Design Tweaking
Apr 30
IQ
Visual Budget Analysis
Apr 30
IQ
Numerical Budget Analysis
(Dashboard)
Apr 30
IQ
Crypto Information Integration
Apr 21
IQ


Code Review
Code of entire Implementation seems to run according to the documentation
Add a card

Boundary Value Test

For Boundary Value testing of Sign in and Log-in pages of the system, a condition is set to check if the entered password is at least 8 characters long. If it is not 8 characters long, a pop up will be displayed showing that the password is too short and needs to be at least 8 characters long.

An upper limit is also put into place where if the password length is above 20 characters, it will be considered as too long as a pop up displayed to show that the password is too long.

So for testing, I used 0 character password, 7 character password, 8 character password, 9 character password, 14 character password, 19 character password, 20 character password, 25 character password and 21 character password.

Results of 0 character password was Invalid, 7 character password was invalid, 8 character password was valid, 9 character password was valid, 14 character password was valid, 19 character password was valid, 20 character password was valid, 21 character password was invalid and 25 character password was invalid.

No Boundary Value test was applied on Username as Username had no restrictions.

Boundary Value Test

Password Length	Status
0	Invalid
7	Invalid
8	Valid
9	Valid
14	Valid
19	Valid
20	Valid
21	Invalid
25	Invalid

Boundary Value Test

The next conditions that are set for the password are:

1. Must have at least 1 uppercase letter
2. Must have at least 1 lowercase letter
3. Must have at least 1 digit
4. Must have at least 1 special character

For this Testing, I used a series of passwords and tested their validity based on the constraints set. The results are as follows:

Password Length	Password	Status	Constraint
0		Invalid	At least 8 characters long
5	muhid	Invalid	At least 8 characters long
7	muhiddd	Invalid	At least 8 characters long
8	muhidddd	Invalid	At least 1 Uppercase letter
8	MUHIDDDD	Invalid	At least 1 Lowercase letter
8	Muhidddd	Invalid	At least 1 Digit
8	Muhid123	Invalid	At least 1 Special Character
9	Muhid123$	Valid	None
13	Muhid123$$$$$	Valid	None
19	Muhid123$$$$$$$$$$$	Valid	None
20	Muhid123$$$$$$$$$$$$	Valid	None
21	Muhid123$$$$$$$$$$$$$	Invalid	Must be below 20 Characters
23	Muhid123$$$$$$$$$$$$$$$	Invalid	Must be below 20 Characters

Lessons Learned

1. Effective Time Allocation:
Mastering the skill of time management ensures optimal utilization of available resources within designated timelines.

2. Strategic Forethought:
Planning ahead allows for a proactive approach, anticipating challenges and opportunities, thus facilitating smoother project execution.

3. Methodical Project Organization:
The art of project planning involves structuring tasks, allocating resources, and setting milestones to achieve predefined objectives efficiently.

4. Agile Methodology Adoption:
Embracing agility in development and planning methodologies promotes adaptability, enabling rapid adjustments and iterations in response to evolving project dynamics.

5. Informed Pre-development Research:
Conducting comprehensive research on the desired software beforehand enhances the efficacy of documentation and design processes by ensuring alignment with user needs and industry standards.

Roles

Members	Roles
Muhid Qaiser (22i-0472)	Created the Entire App and documentation

Date of Submission: 07/05/2024