

Crypto Maniac- Real-time Crypto Trading Simulator

Developed For (Name of the Company, City.)

Report Part-1 (Sem – V) Submitted For
The Partial Fulfilment Towards The Degree of
Bachelor of Computer Applications (BCA)

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CERTIFICATE

This is to certify that

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Students of Semester-V, **BCA (TY), FCAIT, GLS University** have completed the System Development Project Part-1, System Analysis work on “**Crypto Maniac- Real-time Crypto Trading Simulator**” as partial fulfillment of the study of **Third-Year Semester-V, Bachelor of Computer Applications (BCA)**.

Date of Submission:

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Project Guide

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Project Coordinator

Acknowledgment

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Table of Contents

1. Introduction
2. Project Profile
3. Tools and Technologies
4. Existing System
5. Proposed System
6. UML Diagrams
7. Data Dictionary
8. Sample Screen Layouts
9. Conclusion

Introduction

As people have started accepting cryptocurrency as a digital form of investment, there is a need for an on-demand platform where users can practice and learn crypto trading and investment without risking their wealth. App also provides them with knowledge related to crypto in various forms in one place.

The main goal of this app is to educate users about cryptocurrency and how they can benefit from it by trading, investing, and being updated with all the crypto-currency-related news.

Hereby, our main objective is to create a centralized platform where users can practice trading and be updated with the latest crypto news and prices to eliminate the hassle of finding and keeping multiple apps and websites. At the same time getting a gist of what real crypto trading is and how it works in real life.

Project Profile

Title: Crypto Maniac- Real-time Crypto Trading Simulator

Objective: To create a centralized platform where users can practice trading and be updated with the latest crypto news and prices to eliminate the hassle of finding and keeping multiple apps and websites.

Overview:

1. Users will be able to create an account or log in to the app with their email and password or with their Google account.
2. After the creation of an account or login users can view data of various cryptocurrencies and other statistical data regarding the crypto market.
3. Users can also set their currency based on their region for better usability.
4. Users can also create their virtual portfolios of their crypto-assets and can add, update or remove coins in and out of it.
5. After creating a portfolio users can then get data of their daily gains, overall gains, no. of transactions made, etc.
6. Users can also get detailed data of a particular coin.
7. Users can also view the news which is updated every 24hrs.

Tools and Technologies

- **Mobile Application:**
 - Flutter
- **API:**
 - REST API
- **Database:**
 - Firebase
 - Shared Preferences (Local Storage)
- **Business Logic:**
 - Dart
- **Languages:**
 - Dart

Existing System

- Only 16.9% of investors who have bought crypto “fully understand” the value and potential of cryptocurrency, while 33.5% of buyers have either zero knowledge about the space or would call their level of understanding “emerging.”
- More than 1 in 3 cryptocurrency investors know little to nothing about it, survey finds.
- Despite the inherent risks, cryptocurrencies and the blockchain industry are consistently growing stronger. Much-needed financial infrastructure is being built, and investors are increasingly able to access institutional-grade custody services. Professional and individual investors are gradually receiving the tools they need to manage and safeguard their crypto assets.
- Investing in crypto assets is risky but also potentially extremely profitable. Cryptocurrency is a good investment if you want to gain direct exposure to the demand for digital currency, while a safer but potentially less lucrative alternative is to buy the stocks of companies with exposure to cryptocurrency.

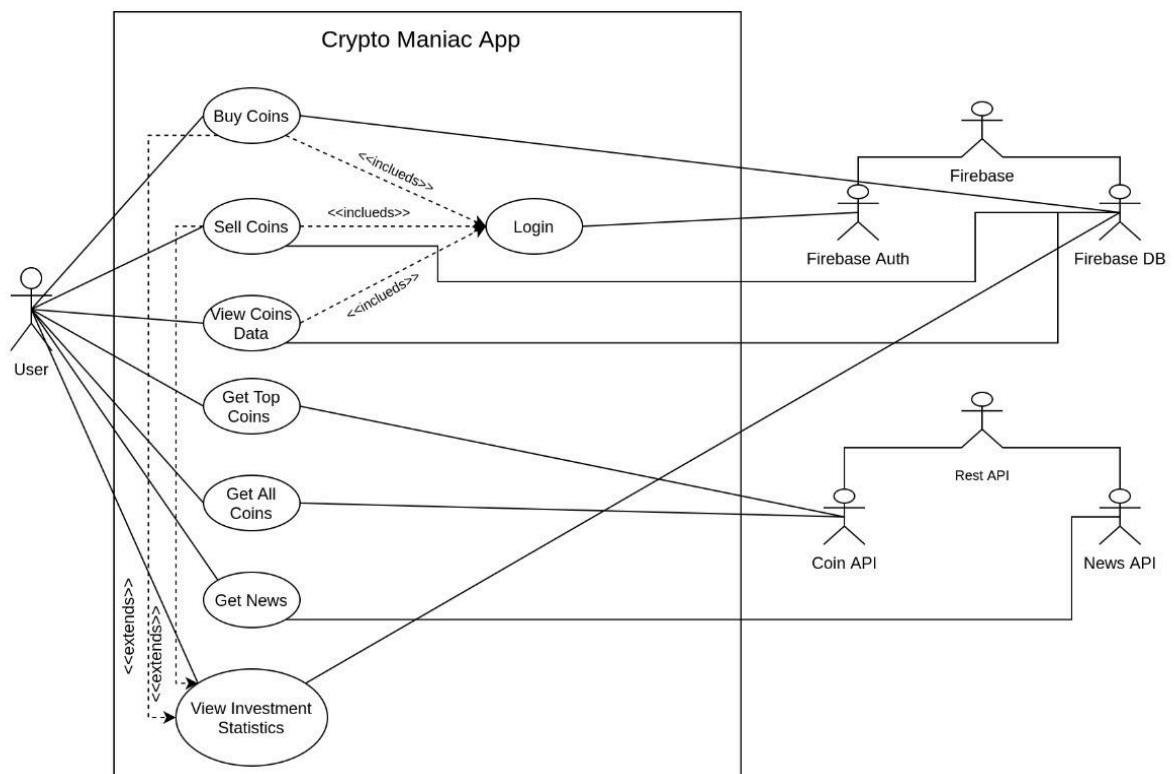
Proposed System

- The main purpose of the app is to give the platform where they can practice and have an overview of their gains or losses and so the app also has a virtual portfolio management feature where users can create, update, and delete their portfolio and keep track over their virtual investments.
- As the cryptocurrency market is similar to the stock market, the value of real-time data is high as it can affect the trading decisions and so the mobile app will help in keeping users updated with real-time prices so that they can make better trade decisions.
- As the crypto market is very volatile in nature users constantly need to be updated with market status and important news to pull off a better investment and so the app also provides the news related to crypto markets so users do not need to keep multiple apps.

UML Diagrams

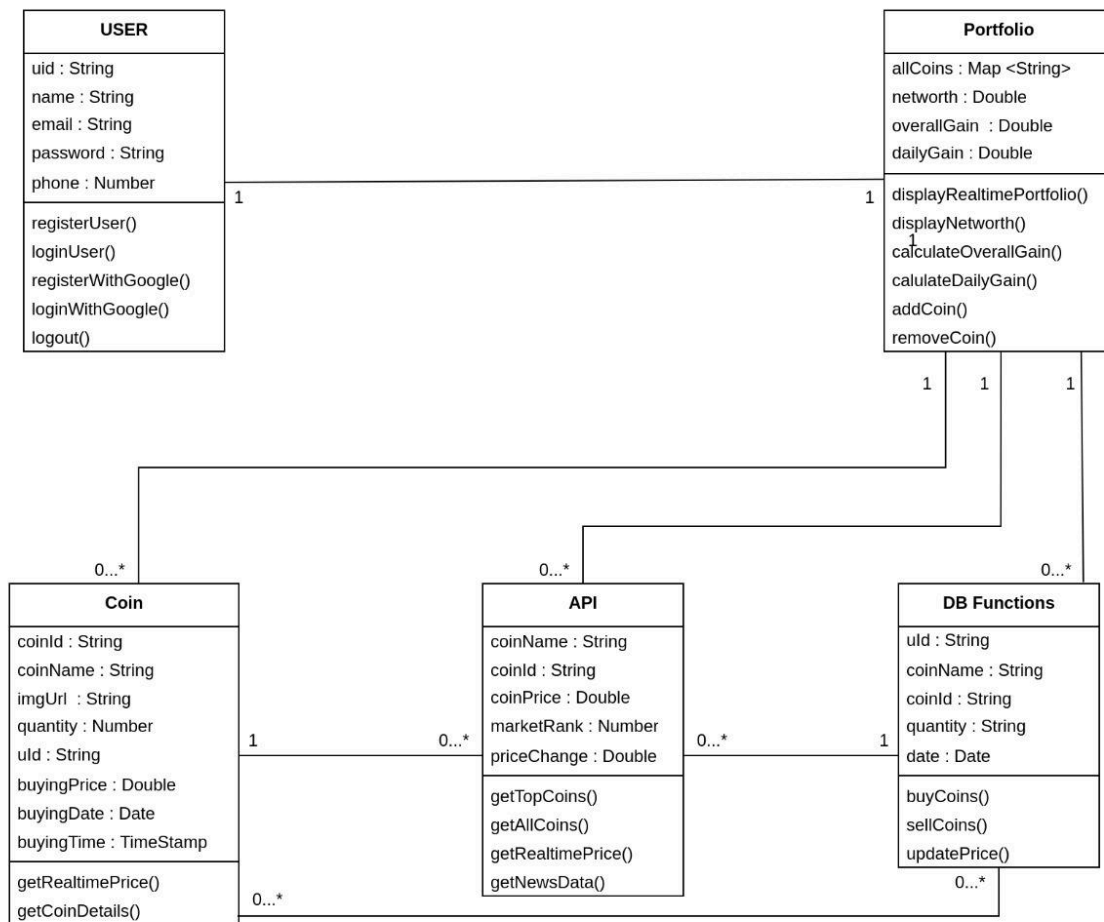
- Use-Case Diagram

A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses.



- Class Diagram

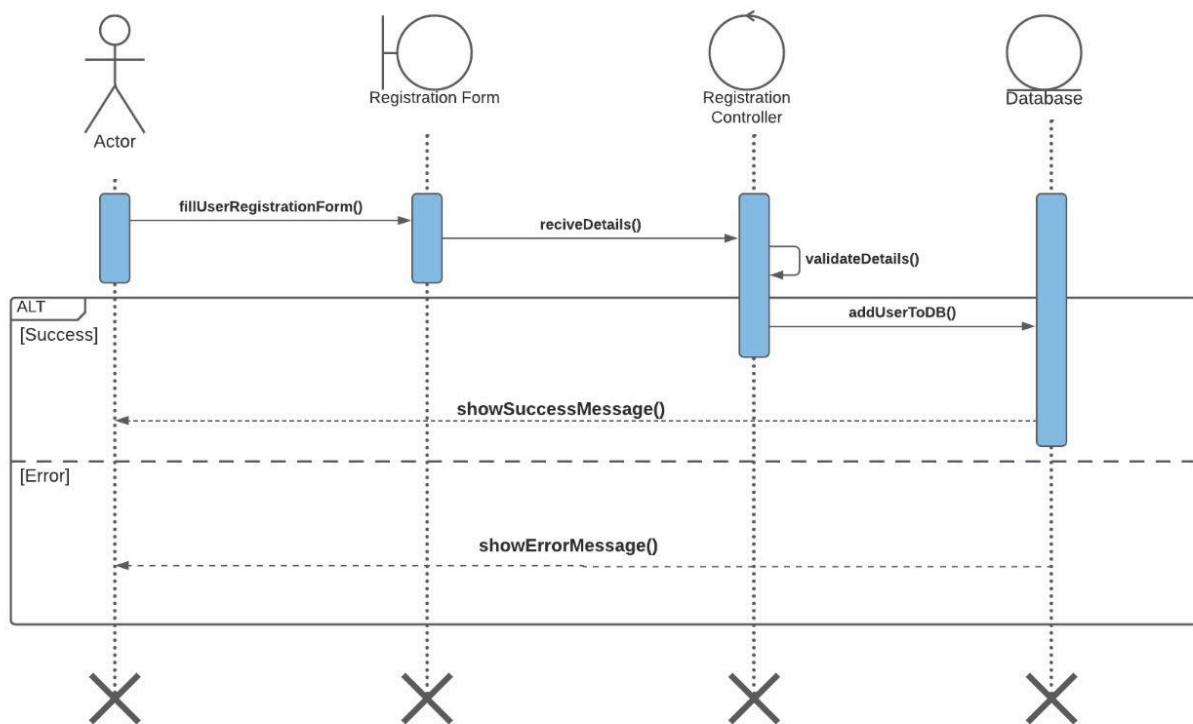
The Class Diagram captures the static structure of the system by showing the system's classes, their attributes, operations (or methods), and the relationship among objects. Our system uses 4 main classes interrelated to each other.



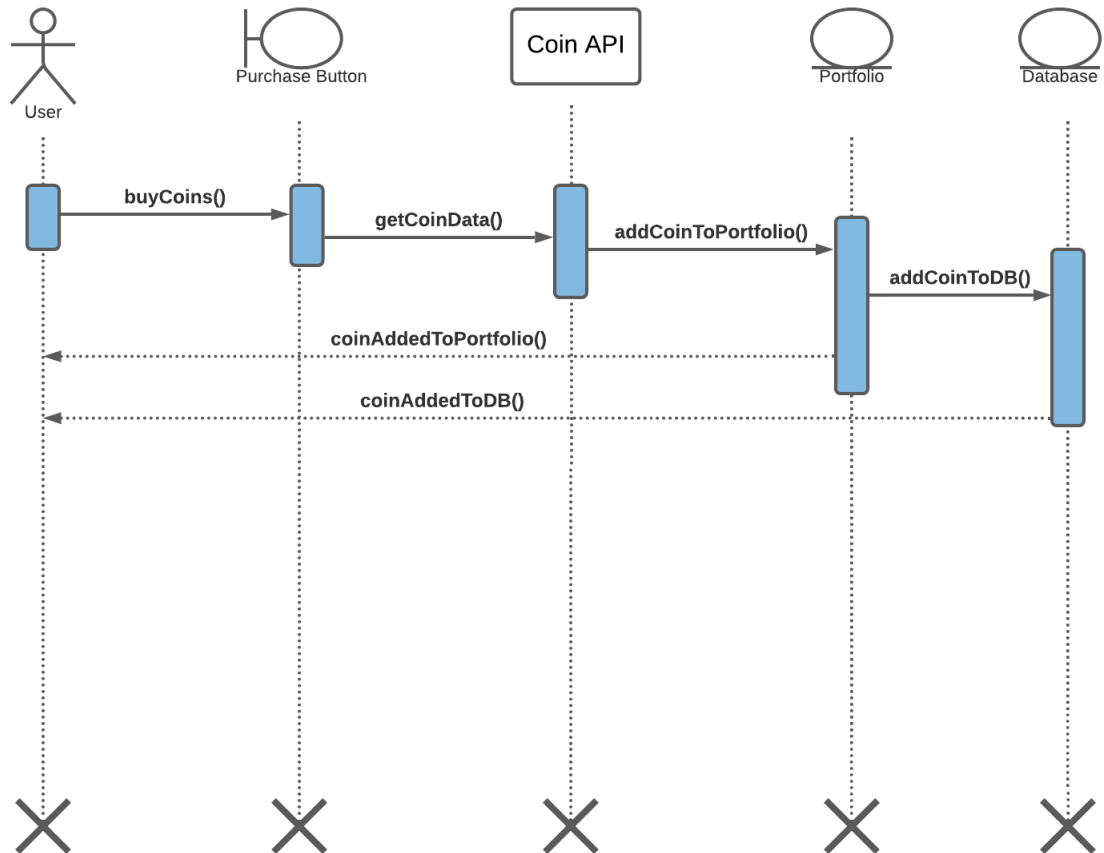
- Sequence Diagram

The Sequence Diagram depicts an interaction between objects in sequential order i.e. the order in which these interactions take place. It represents individual use cases.

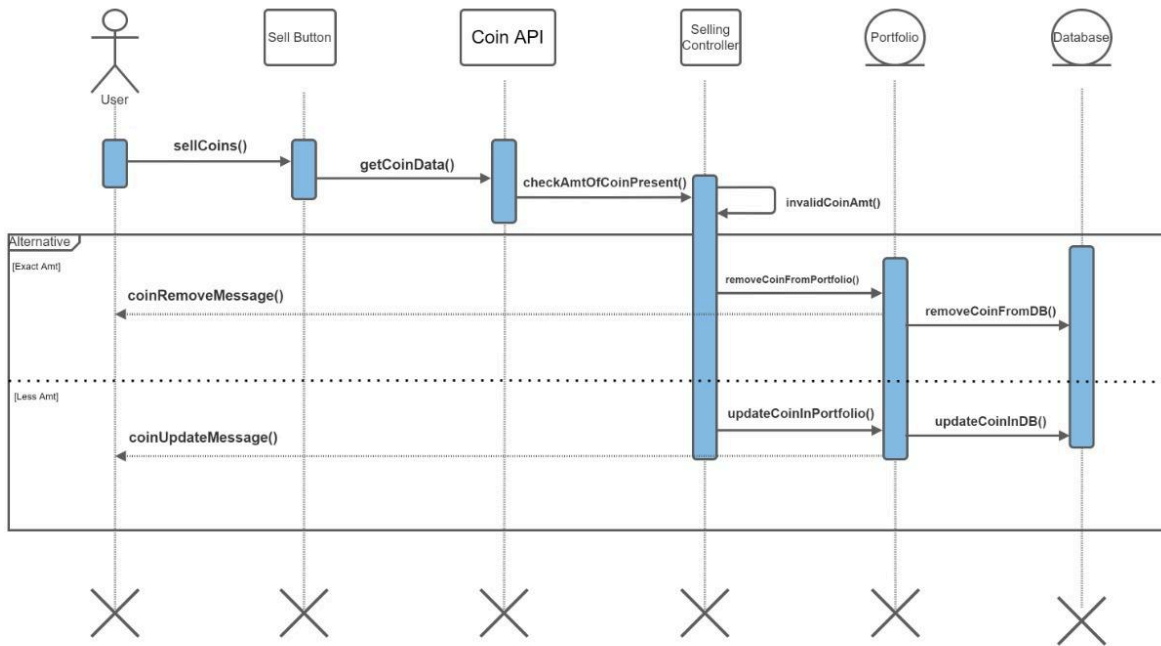
Registration Sequence Diagram



Purchase Sequence Diagram



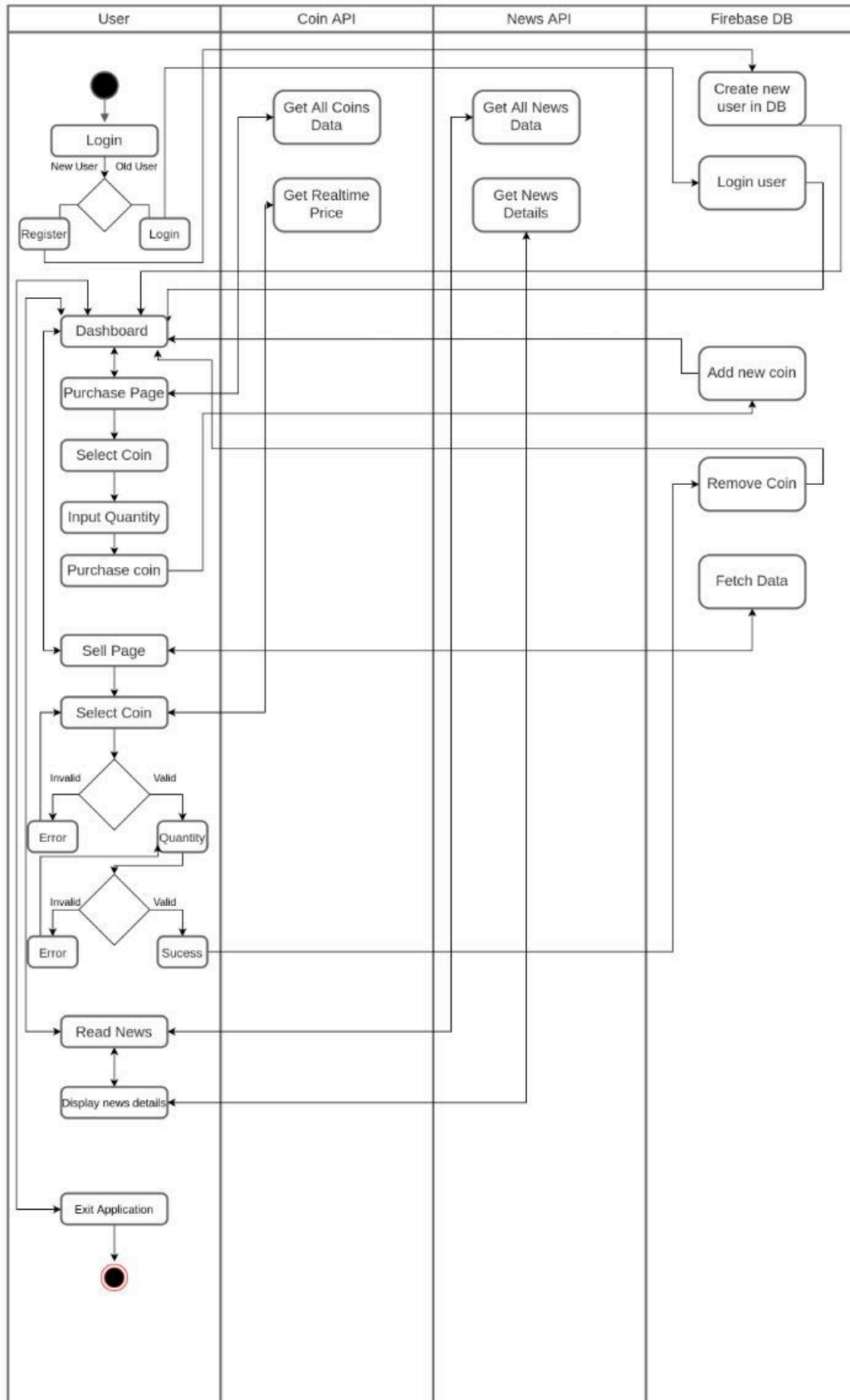
Sell Sequence Diagram



- Activity Diagram

The Activity Diagram shows the dynamic aspect of the system. It is a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control flow is drawn from one operation to another. Different users and roles are by swimlanes.

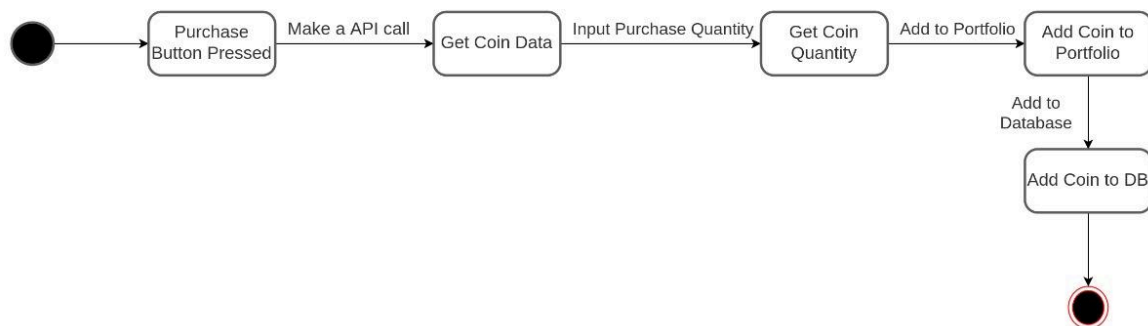
Activity Diagram



- State Chart Diagram

State Chart diagram defines the behavior of the system and represents different states of an object during its lifetime. These states are changed by events. It is useful in capturing reactive systems.

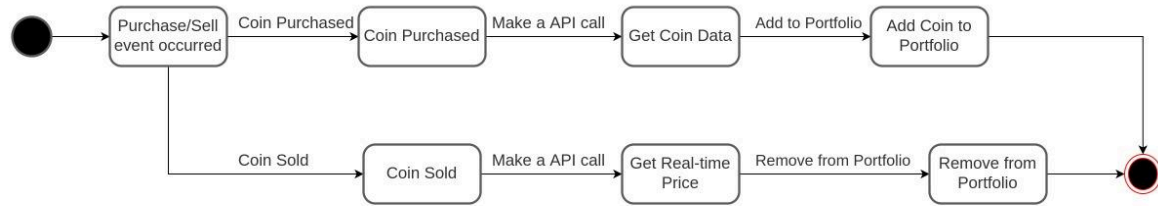
Purchase State Chart Diagram



Sell State Chart Diagram



Portfolio State Chart Diagram



Data Dictionary

1. Users: This *Table/Collection* contains the data of users of our system.

Column	Type	Null	Links To	Comments
userID	ObjectID	No		Primary Key
first_name	String	No		
last_name	String	No		
phone	Number/Int	No		Unique
email	String	No		Unique
password	String	No		

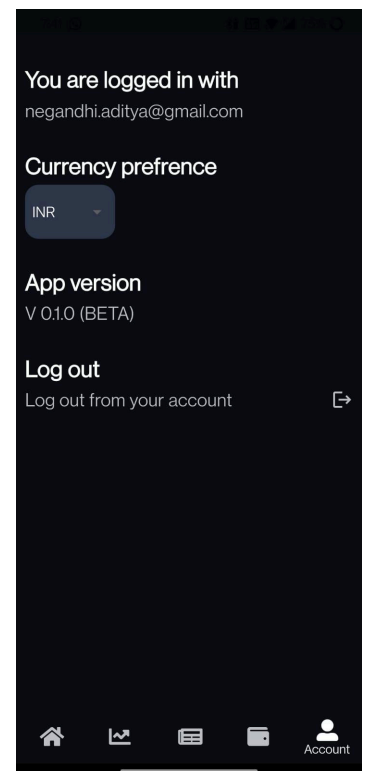
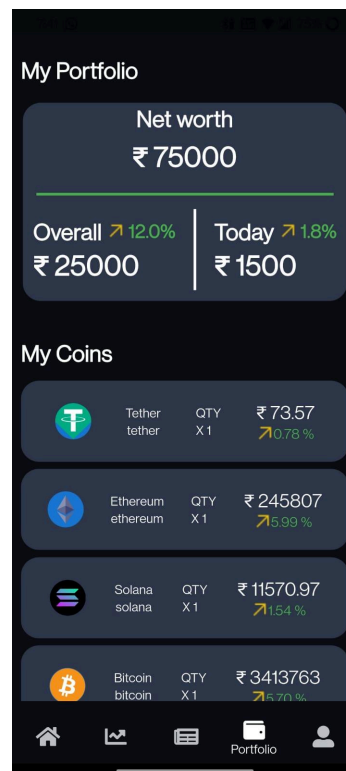
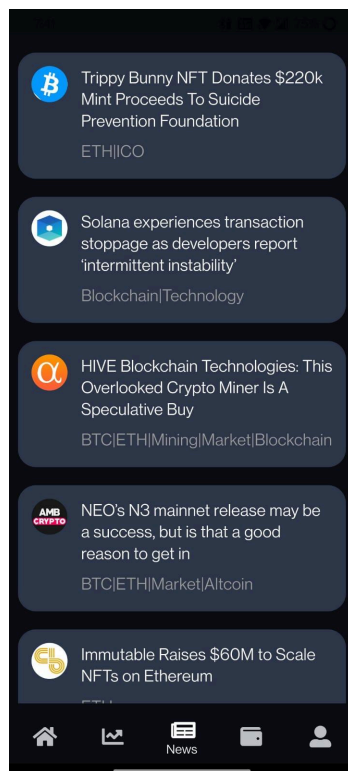
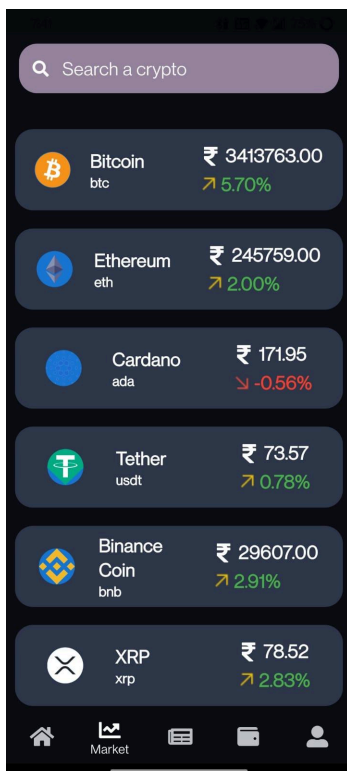
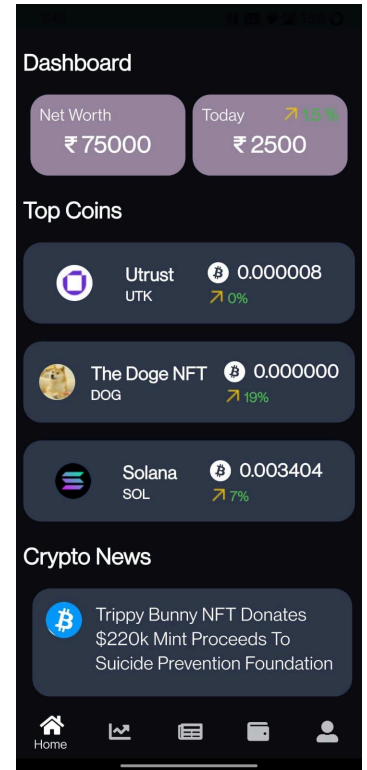
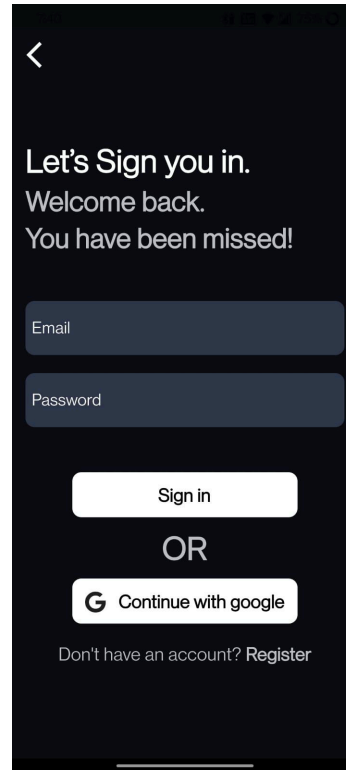
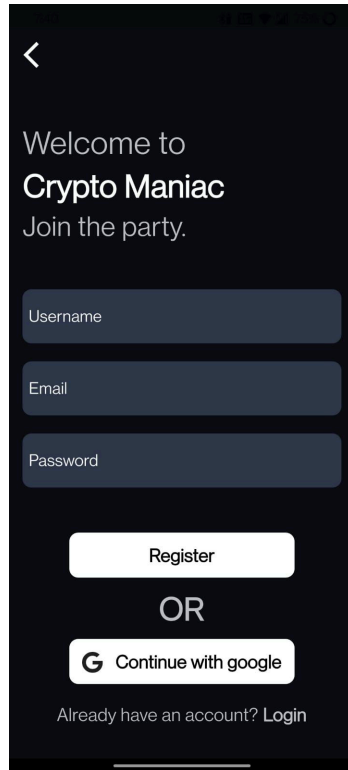
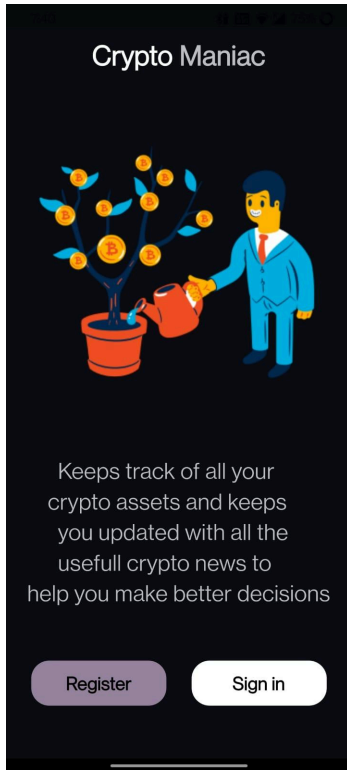
- 2. Portfolio:** This *Table/Collection* contains the data for the coin/s in which our system is installed. It contains the uID field which holds a reference to the *User's Table/Collection* to help us provide appropriate admin accessibilities.

Column	Type	Null	Links To	Comments
allCoins	Map<String>	Yes	allCoins->Coins	Ref. to coin table
networth	Double	Yes		
overallGain	Double	Yes		
dailyGain	Double	Yes		
uID	String	No	Portfolio->uID	Foreign Key

- 3. Coin:** This Table/Collection contains the data of users Coins our system.

Column	Type	Null	Links To	Comments
coinID	ObjectID	No		Primary Key
coin_name	String	No		
img_url	String	No		
quantity	Number/double	No		
uID	String	No	Coins -> uID	Unique
buying_price	Number/double	No		
buying_time	Date/Timestamp	No		

Sample Screen Layouts



Conclusion

The practical implementation of this system is needed to avoid taking avoidable risks while Learning to trade in cryptocurrency. And the three primary features provided by our system are :

1. VIRTUAL PORTFOLIO MANAGEMENT
2. REAL-TIME PRICE
3. MARKET NEWS

One should avoid trading or investing in real cryptocurrency until and unless they are thorough with their knowledge and experience to avoid facing huge losses or losing hard-earned money.

As of 2021, we estimated global crypto ownership rates at an average of 3.9%, with over 300 million crypto users worldwide. And over 18,000 businesses are already accepting cryptocurrency payments.

We aim to prevent this deprivation and help you practice your trading and investing skills and provide you with the latest news to keep you updated with every bit of information you need for successful trading or investing.

CREDITS

- <https://lucid.app/>
- <https://www.youtube.com/>
- <https://www.stackoverflow.com/>
- <https://www.github.com/>
- <https://en.wikipedia.org/>
- <https://www.google.com/>
- <https://www.figma.com/>