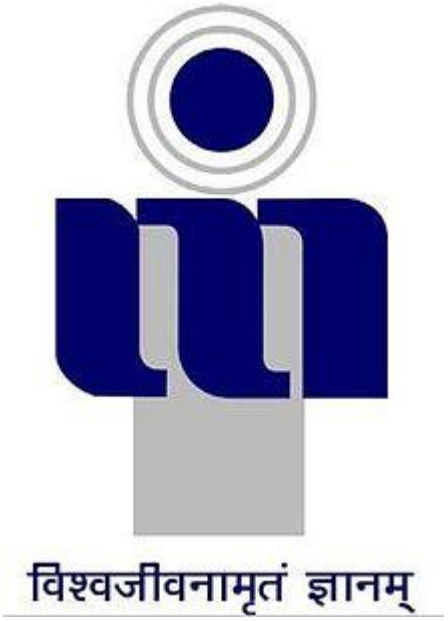

Atal Bihari Vajpayee Indian Institute of Information Technology and Management Gwalior

ITIT-3203 Mini Project

Final Evaluation Report

ON

EQUITY TRAINER

Submitted by

Shivam Soni

2018IMT-095

ABSTRACT

Trade in the Stock Market means the transfer of stocks (ownership of some interest in a company) from seller to buyer in exchange of money on the agreed price. In online trading, trading of Equities takes place on online platforms. These platforms take some brokerage to let customers trade on their platform. With the introduction of high-speed and affordable computer technology around the mid to late 90's, online trading has come into existence. This came up with many benefits like work from home, low commissions, quick returns, no-experience required, and etc.

But with so many advantages it came up with some disadvantages and one such is, when new investors started trading they may be sucked into it and forget that they are actually using real money. Just to try their hands on the new and easy online trading they sometimes lose their valuable money.

So to overcome this issue we came up with an idea for an Equity Trainer project. It is an all-in-one application for stock trading for the new Investors to learn. Users can use this application as a regular stock exchange application for trading but instead of investing real money they get tokenized or pseudo money. So this application gives a complete experience of a regular stock exchange application without risk of losing their valuable money.

Keywords: online trading, new Investors, equity trainer

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1. INTRODUCTION

Today, the online stock exchange is getting popular day by day and people want to know about it and want to get involved in it. And, with the introduction of high-speed and affordable computer technology around the mid to late 90's, online trading has come into existence. This came up with many benefits for the investors like work from home, low commissions, quick returns, no-experience required, and etc.

But, as it needs real money to get into it and it involves so much risk of losing it. And, now with such benefits of online trading, more and more people want to get into it. Now, the investors are trying to invest their money into it without any prior experience and instead of getting profits they are losing their real money. So this project is just to resolve this problem and help people to learn about online equity exchange. In this project users get a simulation of a real stock exchange application with tockenised or pseudo money. This helps users to freely learn and get familiar with online stock exchanges.

1.1 MOTIVATION

The motivation behind this project is to give customers an application that helps and satisfies their over-excitement of stock trading. As customers want to know about it and want to try their hand on it without letting risk on their money. So in this application users will be allocating a fixed amount of pseudo-money which enables them to trade on the application. Users can try their hands on the application for some time and see their growth which enables them to understand how the stock market works.

1.2 OBJECTIVES

These are main objectives of this project:

- To get maximum knowledge about the online Stock Market without letting risk on the real money.
- To help new investors to try their hands on online stock exchanges without any fear.

- To give them a simulation of a regular online stock market trading application.
- To get users familiar with the stock market.
- To give them an easy and handy way of learning online stock trading.
- To give them a beautiful and interactive experience for learning.

2. LITERATURE REVIEW

With the introduction of high-speed and affordable computer technology around the mid to late 90's, online trading has come into existence. This came up with many benefits like work from home, low commissions, quick returns, no-experience required, and etc.

Girnara, Mona. (2020) conclude that growth of online stock trading is increasing year by year. There are many problems and challenges involved in online stock trading like time consuming, more chances of fraud, high transaction cost, etc. he also added novices not familiar with the in and outs of the brokerage software can make costly mistakes.

Dr. A Abdhul Rahim (2013) He discovered many pitfalls related to online trading. He also added that equities are high risk investments and high risk also indicates that the investor stands to lose some or all his investments if prices move unfavorably. One needs to study equity markets and stocks in which investments are being made carefully before investing.

Krishna Mohan Vaddadi, Merugu Pratima (2016) revealed that majority of the respondents do online trading on a daily basis and capital appreciation is the primary objective driving online investors, followed by earning regular income, investment diversification, tax savings and stock safety.

Dr.N.Sakthivel, A.Saravanakumar (2018) found that Operational difficulties, E-mail association and Lack of analytical skills are the most important technical problems faced by the investors in online share trading.

There is some research available for tracking the impact of online stock trading systems on investors, but most of them have ended up with mainly benefits of online stock trading systems. But very few of them have written about the disadvantages of online trading systems. So in this project we will try to resolve one of the major problems in online trading for the new investor with no experience of online trading who wants to try it without risk of losing their real money.

As there isn't much research done on the particular topic, but some real world applications have been developed for the same issue. But after analysing them we have endup with some limitations and issues like:

UX : The user experience for such apps was not so good, as such apps have not much real functionality so USER EXPERIENCE for such apps should be highly satisfactory.

UI Design : As such kinds of applications are not much used in our daily life, to attract customers or users to try, these should have a good design that appeals to users to give a try. Also, most such applications have so many design bugs that leads to user dissatisfaction.

User data : By seeing reviews from several users, I found out some issues in managing user data on such applications. Many users have faced issues in saving data.

Robust : Some applications have frequent crashes while using such applications.

Data Updation : Also for such applications real time updation of data should be implemented so that users should get updated as early as possible. For example if a user is logged in more than one device on such applications then any events in one device should update the information to all the devices in real time.

So in this project besides making a complete application we will also try to minimize these issues.

3. FEATURES

This application has all the features of a regular stock exchange application, accept real-money transaction, like :

- It enables users to buy or sell stocks with real time prices.
- Users can see their transaction history.
- Users can manage their portfolio.
- Users can modify their Information.
- This application gives them a beautiful UI which attracts users to the application.
- Users can sign-in in multiple devices though the same account and application provides them a real-time updated UI means any event or data modification in one device would be reflected in all other devices in real-time.
- Instead of real-money transactions, this application provides a pseudo-money transaction.

4. TECHNOLOGY

This project will be built on a cross platform application Framework called Flutter. It is Google's UI toolkit for building beautiful, natively compiled applications for mobile, web, and desktop from a single codebase. In this project we will mainly focus on building Android applications. But this project can easily be exported to different platforms with some minor changes.

This application will be using darts built in packages to get information about different stocks. Dart is the language used in Flutter for Development.

Users information and data will be stored in Firebase. It is a platform developed by Google for creating mobile and web applications.

5. SYSTEM ARCHITECTURE

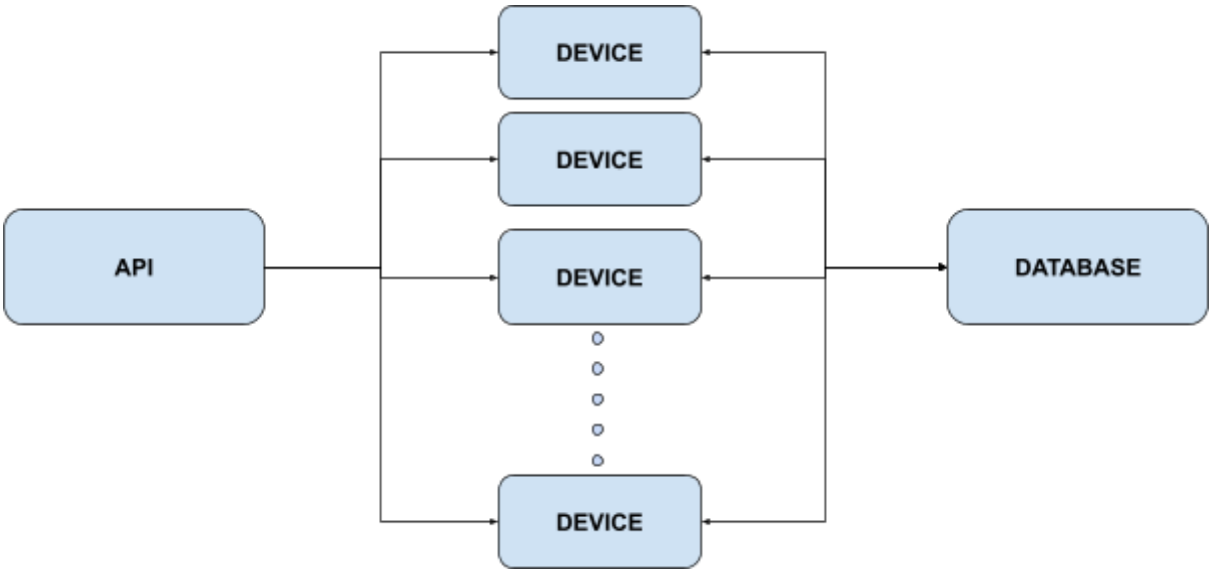

Fig 1 : Data-Flow Diagram

As shown in figure 1, all the devices are connected to the database and API. Data can be fetched or sent from the database to the devices. And queries can be sent from device to API and data is sent to device.

When the user first loads the application a login screen will be displayed to the user. If the user has a login id and password then the user can enter the id and password to login the application. The data is sent to the database and a session id is assigned to the device to remember the user if id and password matched in the database.

If the user is new to the system then, can register in the application by tapping on the registration icon and then a new page is displayed to the user to register the application.

Users have access to the application interface and when the user logged-in the application a query is sent to API, to fetch the data of some Stocks to display real-time prices and their loss and gain percentage. when users tap on a particular stock tile a new page is loaded with the detailed information of the particular stock.

In this Stock detail page users have some more information about stock and can buy and sell stocks from here.

To buy or sell stocks users need to enter the required number of stocks to buy or sell and then a real-time price of stock is fetched again from API for the transaction and data is written to the database.

Users can see the transaction history, portfolio and user data by tapping on the particular icon on the navigation bar on the user interface.

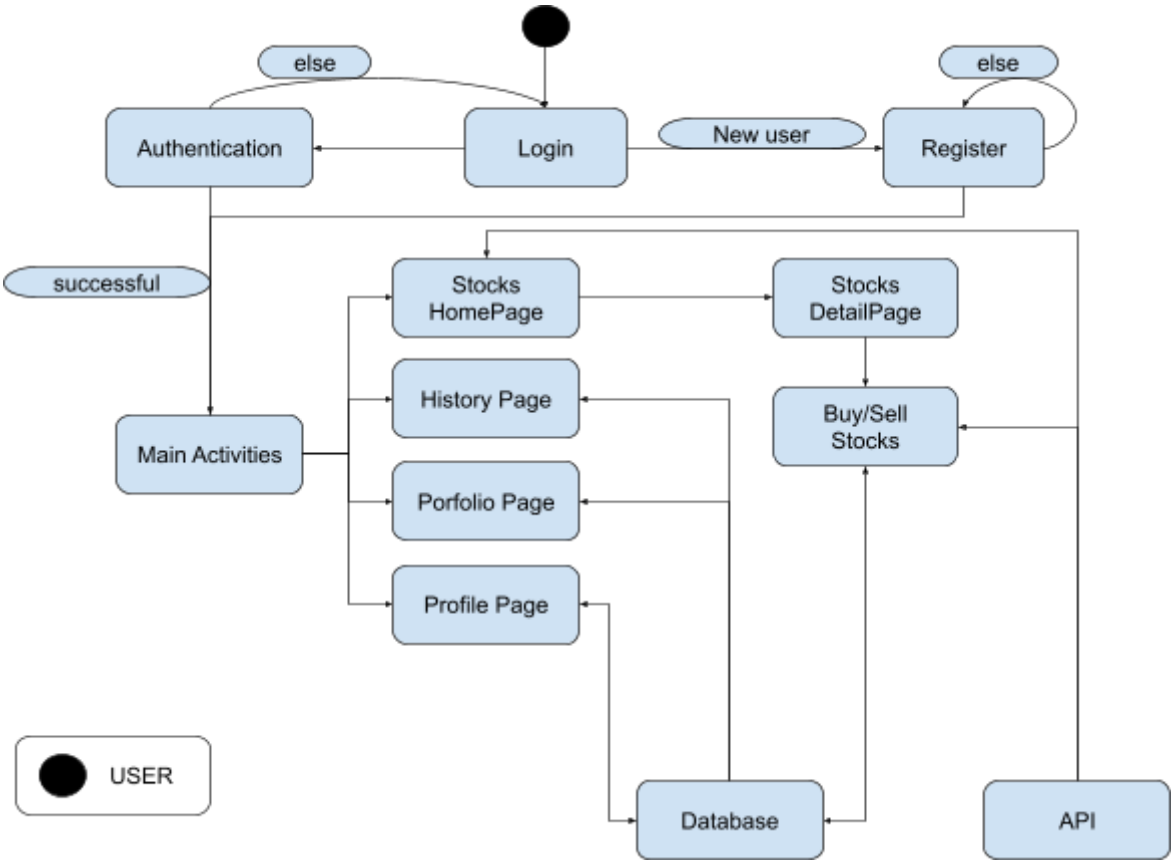

Fig 2 : Flow-Chart of the Application

6. RESULT

This project have been divided into many modules like:

a. UI - Design

UI-design for the project is completed. This project uses mainly three colors.

- Black
- White
- Pink

And, some shades of these colors.

b. Backend database

The backend of this project has been set-up successfully. We have used firebase for the backend database and user authentication and registration.

For the user registration user data is stored on the database and a new user account is created in firebase-users.

To store user data and activities we have divided our data into 2 halves:

- Stock data
- User data

c. User-RegistrationPage

User registration is also completed. User need to enter

- Name
- Phone Number
- User ID
- Password

to register on the application.

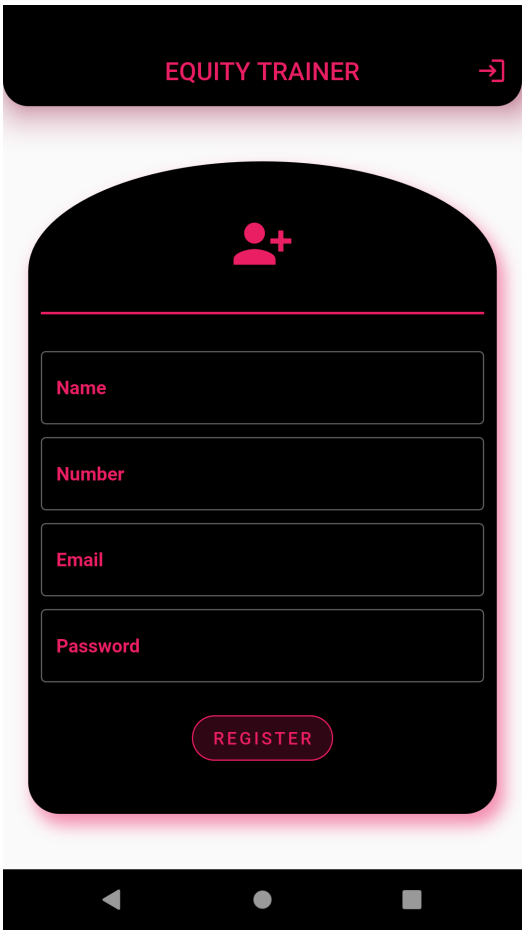

Fig 3 : Registration Screen

A new user account is created with the given details and user data is stored on the database.

d. User-LoginPage

User Login is also completed. Users need to enter the UserId and Password to login on the application.

User id and password sent to the authentication system provided by firebase to authenticate users from a list of registered users. If user authentication successfully completed then the user logged-into the application .

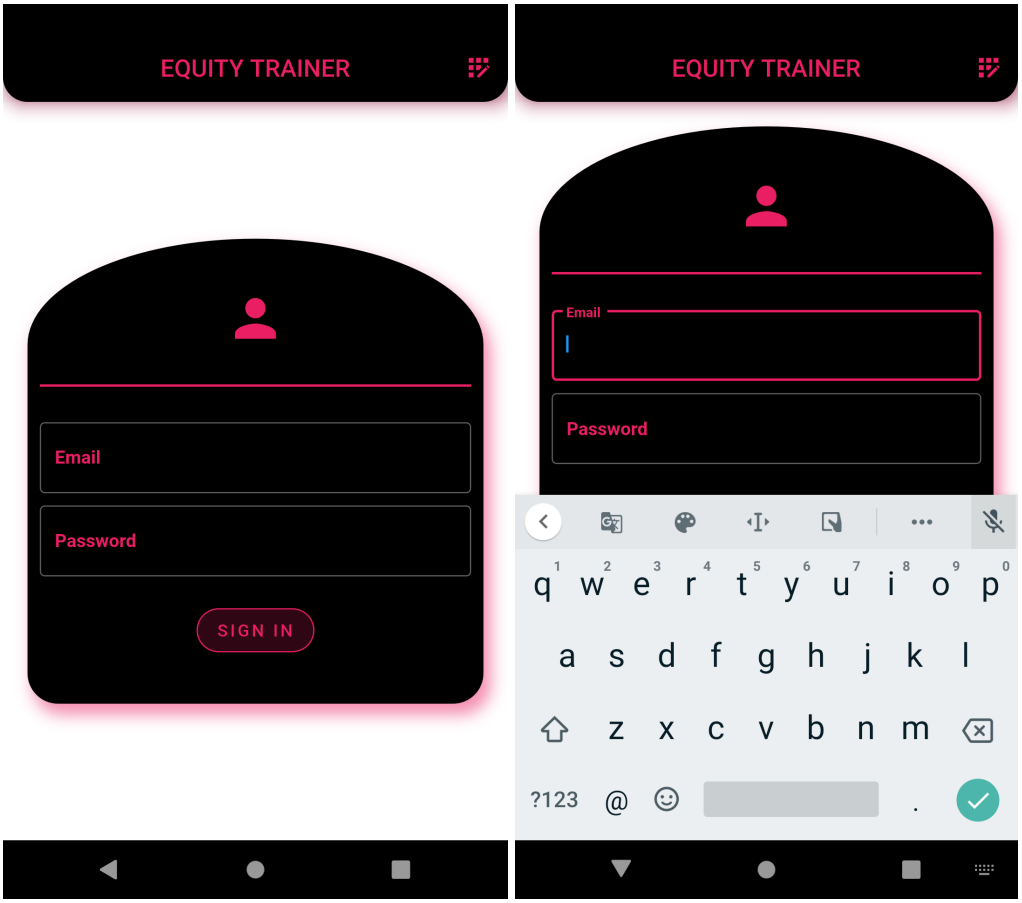

Fig 4 : User Login Page

e. Stocks-HomePage

In this page users see some list of Stocks with their current price and their percentage gain.

To display stock details, a query is sent to the API to get the stocks data in JSON format. Then this data is parsed to extract information.

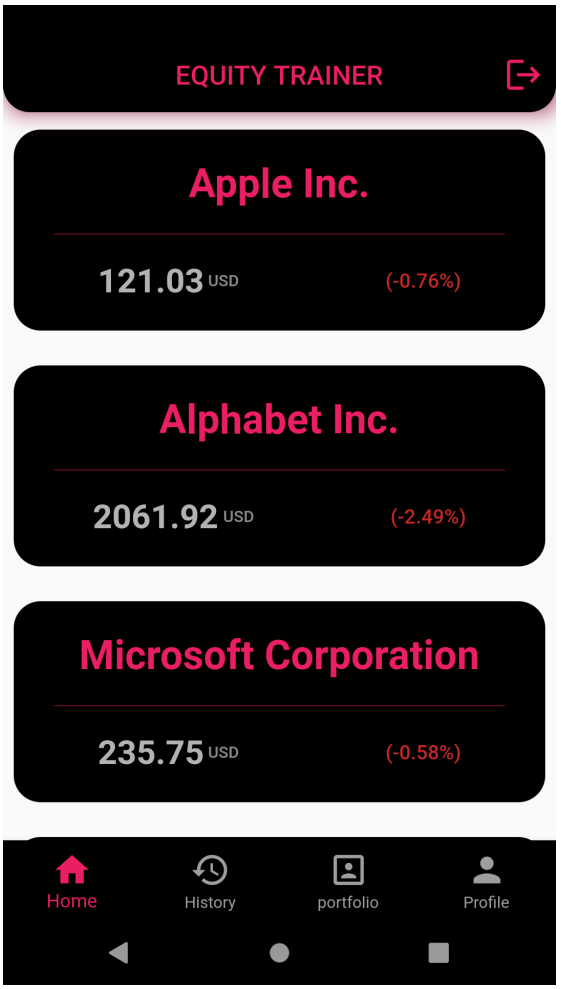

Fig 5 : Application Home Screen

f. User-ProfilePage

This page displays the user information. The data is extracted from the database to display the user information. As shown in the fig 6, on first registration the application user gets $100000 of pseudo-money. This can be used for stock transactions.

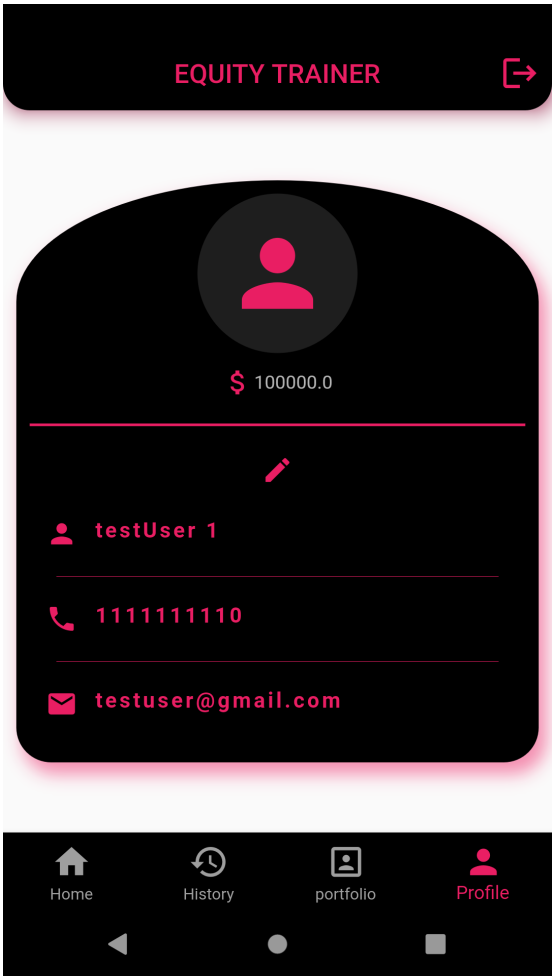

Fig 6 : User Profile Page

g. Transaction-HistoryPage

This page displays the transaction details of the user. The data is extracted from the database to display the transaction details. As shown in fig 7.

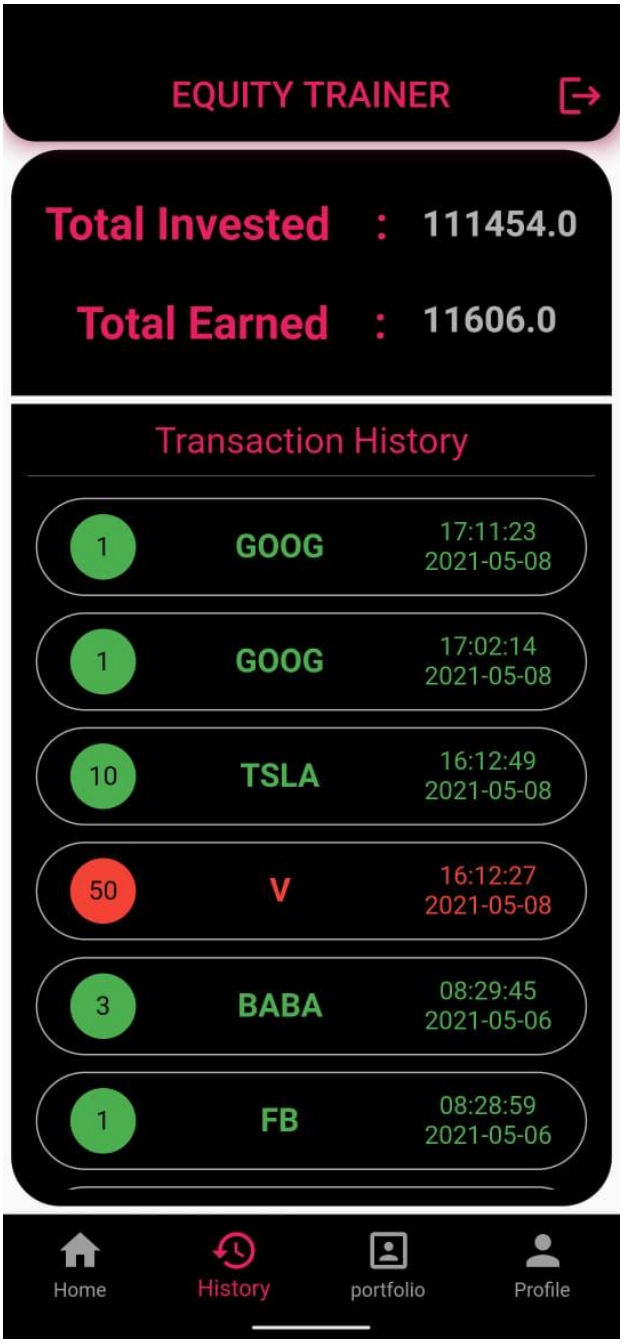

Fig 7: Transaction history Page

h. Users-PortfolioPage

This page displays the user's portfolio details. Here all the stocks acquired by the users displayed in a horizontal list.

Fig 8: User Portfolio page

i. Stocks-DetailsPage

This page displays the Stock Details. This page displays the various data about the stocks as shown in the fig 9. Here users can buy and sell stocks from here. By tapping the buy/sell button a dialog is displayed to the user to make the transaction as shown in fig 10.

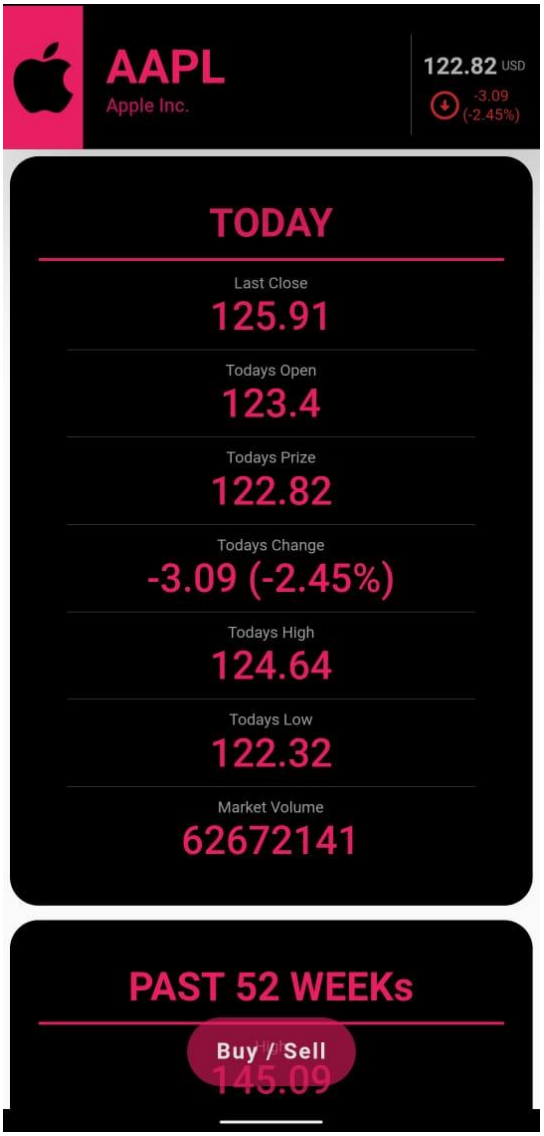

Fig 9: Stocks details page

fig 10: Transaction page

All the modules of the application are working fine and we have built a working android application with some basic features and a nice UI.

7. TESTING

Unit testing of some modules is carried out Like:

UserLogin : login of the user is successfully tested and no error found in it.

User-Registration : registration of the users is tested and successfully carried out with no errors.

Users History : transaction history page is successfully tested.

Stocks Detail : Stocks detail page is successfully tested.

Stock buy-activity : all stocks buy and sell activities are successfully tested.

Portfolio Management : portfolio management page is successfully tested.

Complete testing of the application is also successfully carried out. There were some issues found in user profile updation of the application.

8. FUTURE SCOPE

As this project is based on Flutter Framework which is a cross-platform framework, this application can be easily exported to other platforms like IOS, web, Windows, Linux, etc. with some minor modifications.

Because of time constraints this project has some limitations of features, so we can also add more features to this project from a regular stock trading application.

As of now we were using a free plan for the database, so there are some limits on the number of requests and memory. This can be overcome by taking a paid plan for these services.

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