MONEY MANAGEMENT

A PROJECT REPORT

Submitted by

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In partial fulfillment of the award of the degree of

BACHELOR OF ENGINEERING
In
Computer Engineering Department
Government Engineering College, Bhavnagar

Gujarat Technological University, Ahmedabad

[April, 2022]

Government Engineering College, Bhavnagar
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CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship** has been carried out by **Kakadiya Vishwa Pareshbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2021-22.

Internal Guide

Prof. U. L. Solanki

Head of Department

Prof. K. P. Kandoriya

Lembark
solutions
obeys you...

Date: 18-04-2022

INTERNSHIP COMPLETION CERTIFICATE

TO WHOM IT MAY CONCERN

This is certified that **MS. Vishwa Kakadiya** student of Government Engineering Collage, Bhavnagar has successfully completed her internship program in **MOBILE APPLICATION DEVELOPMENT** at **LEMBARK SOLUTIONS.**

During this internship, she improved her technical skill and develop **MONEY MANAGER** application. she demonstrates good designing skill, programming skill and self-motivated attitude to learn new things.

Regards,
Mr. Niraj Patel
[CEO – Lembark Solutions]

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Bhavnagar, Gujarat - 364002

DECLARATION

I hereby declare that the Internship report submitted along with the **Internship in Android developer** entitled submitted in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me at Lembark Solutions under the supervision of **MS. Riddhi Hirapara** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student **Sign of Student**

Kakadiya Vishwa P.

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of this project would be incomplete without mentioning the people who made it possible, without whose constant guidance and encouragement would have made efforts go in vain. I consider myself privileged to express gratitude and respect towards all those who has guided through the completion of projects.

I convey thanks to my project guide **Prof. U. L. Solanki**, Computer Engineering Department, Government Engineering College – Bhavnagar for providing encouragement, constant support and guidance which was of a great help to complete this project work successfully.

I am grateful to my external guide **MS. Riddhi Hirapara, S**enior Developer at Lembark Solutions for giving me the support and encouragement that was necessary for the completion of this project.

I am grateful to **Prof. G. P. Vadodariya,** Principal of Computer Engineering, Government Engineering College – Bhavnagar and **Prof. K. P. Kandoriya**, Head of the Department, Computer Engineering, for giving us the support and encouragement that was necessary for the completion of this project.

I would like to thank all the faculty members for their patience, understanding and guidance that gave me strength and will power to work through the long tedious hours for developing a project and preparing the report.

Last but not the least, I would also like to thank my colleagues, who have co-operated during the preparation of our report and without them this project has not been possible. Their ideas helped me a lot to improve my project report.

VISHWA KAKADIYA
180210107020

ABSTRACT

Money management is an important and unavoidable activity which most people dread. Money management not only involves handling investments but also includes managing multiple analysis and tracking expenses. Each of these activities involves accessing information from different locations and so collecting and consolidating monetary information is not easy. Currently, there are some stand alone personal finance applications which address different issues of financial management. There are individual software packages available for portfolio management, budgeting and investment tracking. But each of these applications is limited to only a specific aspect of personal finance. Also, these applications being stand-alone in nature, their usage is limited to the specific system on which they have been installed.

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CHAPTER 1

COMPANY PROFILE

1.1 OVERVIEW OF THE COMPANY

Company Name: Lembark Solutions

Address: **247, Avalon Bussiness Hub, Katargam, Surat, Gujarat.**

Contact: **info@lembark.com**

Built on a strong foundation of solution innovation and dedication to customer success, Lembark Solutions is committed to offer customers flexible configurations, rapid time-to-value and 24×7 functional and technical supports and expertise. Our unique working strategy, world-class customer base, great employee strength and intellectual capital will ensure that Lembark continues to serve companies of every size and across a wide range of customers.

1.2 SERVICES

- Game Development
- IOS Application Development
- Android Application Development
- Web Development
- UI/UX interface
- 3D Game Designing
- E-Commerce Solutions

1.3 BRANCHES

- Gujarat, India

247, Avalon Business Hub, Katargam, Surat - 395010, Gujarat, India

CHAPTER 2

PROJECT INTRODUCTION

2.1 OVERVIEW

The aim of this project is to develop an android application that helps user to manage money easily and without pen and paper, so user can add daily income and expense activity category wise and visualize their monthly and yearly income-expanse. The main idea for application is to analyze cashflow of user so they aware about their distribution of money.

2.2 PROBLEM OF CURRENT SYSTEM

- Time Consumption
- Lack of visualization.
- Retrieval of data is time consuming.

2.3 SCOPE/APPLICATION

- Reduce the time of user
- User-friendly.
- Easy to find overview of money.

CHAPTER 3

TRAINING ACTIVITIES

TECHNOLOGIES

- **Front-end:** XML
- **Back-end:** Java
- **Database:** Firebase
- **FrameWork:** Android Studio.
- **MPAndroidCharts** to implement Charts

3.1 JAVA PROGRAMMING

Java is a high-level, class-based, object-oriented programming language

Java is used in all kinds of applications like Mobile Applications (Android is Java-based), desktop applications, web applications, client-server applications, enterprise applications, and many more.

Java is a programming language and computing platform first released by Sun Microsystems in 1995. It has evolved from humble beginnings to power a large share of today's digital world, by providing the reliable platform upon which many services and applications are built. New, innovative products and digital services designed for the future continue to rely on Java, as well.

3.1.1 Key Features

- It is one of the easy-to-use programming languages to learn.
- Write code once and run it on almost any computing platform.
- Java is platform-independent. Some programs developed in one machine can be executed in another machine.
- It is designed for building object-oriented applications.
- It is a multithreaded language with automatic memory management.
- It is created for the distributed environment of the Internet.
- Facilitates distributed computing as its network-centric.

Fig. 3.1 Java Programming

3.2 ANDROID STUDIO

Android Studio is the official Integrated Development Environment (IDE) for android application development. Android Studio provides more features that enhance our productivity while building Android apps.

3.2.1 Features

- A flexible Gradle-based build system
- A fast and feature-rich emulator
- A unified environment where you can develop for all Android devices
- Apply Changes to push code and resource changes to your running app without restarting your app
- Code templates and GitHub integration to help you build common app features and import sample code
- Extensive testing tools and frameworks
- Lint tools to catch performance, usability, version compatibility, and other problems
- C++ and NDK support
- Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud Messaging and App Engine.

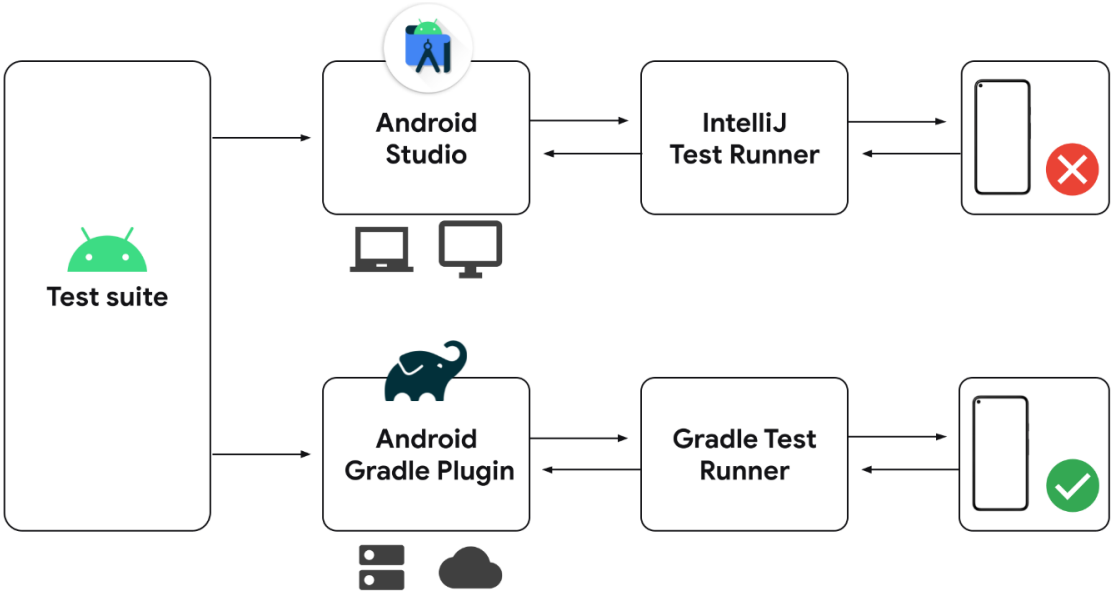


Fig. 3.2 Android Studio

3.3 MPANDROIDCHARTS

MPAndroidChart is a powerful Android chart view / graph view library, supporting line- bar- pie- radar- bubble- and candlestick charts as well as scaling, panning and animations.

- **Mobile Platform Destination:** Android Apps
- **Mobile Platform Support:** Native Android
- **Programming Languages:** Java
- **Gradle:** com.github.PhilJay:MPAndroidChart:v3.1.0

Fig. 3.3 MPAndroidChart

3.4 FIREBASE

Firebase is a Backend-as-a-Service (Baas). It provides developers with a variety of tools and services to help them develop quality apps, grow their user base, and earn profit. It is built on Google's infrastructure.

Firebase is categorized as a NoSQL database program, which stores data in JSON-like documents.

3.4.1 Key Features

3.4.1.1 Authentication

It supports authentication using passwords, phone numbers, Google, Facebook, Twitter, and more. The Firebase Authentication (SDK) can be used to manually integrate one or more sign-in methods into an app.

3.4.1.2 Realtime database

Data is synced across all clients in real-time and remains available even when an app goes offline.

3.4.1.3 Hosting

Firebase Hosting provides fast hosting for a web app; content is cached into content delivery networks worldwide.

3.4.1.4 Test lab

The application is tested on virtual and physical devices located in Google's data centers.

3.4.1.4 Notifications

Notifications can be sent with firebase with no additional coding.

Users can get started with firebase for free; more details can be found on the official website.

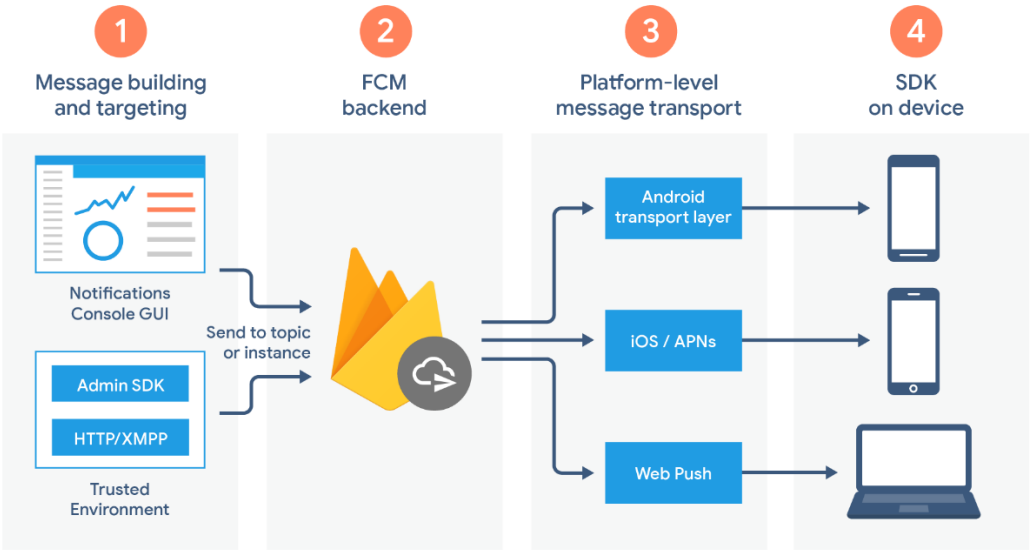


Fig. 3.4 Firebase

CHAPTER 4

SYSTEM PLANNING

4.1 PROJECT DEVELOPMENT APPROACH

- Agile model
- Agile modeling is a methodology for modeling and documenting software systems based on best practices
- Agile methodology overcomes the risk of spending a lot of time if there are any changes required. It allows teams to work directly with clients, instead of working with other teams. This provides a clear outcome with a focused goal and in an incremental way.
- Advantages of Agile model
  - Customer satisfaction by rapid, continuous delivery of useful software.
  - Working software is delivered frequently (weeks rather than months).
  - Face-to-face conversation is the best form of communication.
  - Close, daily cooperation between business people and developers.
  - Continuous attention to technical excellence and good design.
  - Regular adaptation to changing circumstances.
  - Even late changes in requirements are welcomed

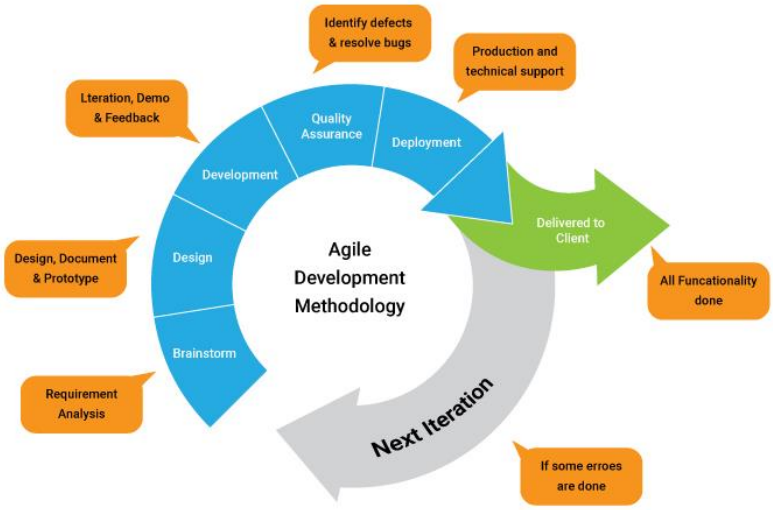


Fig. 4.1 Agile Methodology

4.2 SYSTEM MODULES

- Login And Registration
- User Module
- Profile Management

4.2.1 Login And Registration

To perform any task in the system, user first need to register themselves using mail id into the system. After successful registration, Registered candidates can login to the system using registered credentials and perform the tasks.

4.2.2 User Module

User add their daily income and expense in various categories with some note and see that record on daily fragment. They can manage their monthly and expense-income in Monthly and Yearly fragment. User also visualize the cashflow by chart and download data according preference.

4.2.3 Profile Management

Registered candidates can Log out from the application and if user forgot password, then system send mail for reset password on registered mail id..

4.3 NON FUNCTIONAL REQUIREMENTS

Internet Connection, Mobile with Android OS.

4.4 TIMELINE CHART

ACTIVITY	01 JAN-24 FEB	25FEB-10MAR	11MAR-25MAR	26MAR-10APR	11APR-25APR
Requirement Analysis					
Sprint – 1					
Sprint – 2					
Sprint – 3					
Sprint – 4					

Fig. 4.2 Timeline Chart

CHAPTER 5

SYSTEM DESIGN

5.1 DATABASE

5.1.1 Authentication Table

Table 5.1.1 Authentication Table

Column Name	Type	Extra
mail_id	Varchar	
password	Varchar	

5.1.2 Income-Expense Table

Table 5.1.2 Income-Expense Table

Column Name	Type	Extra
id	String	Auto generated
date	String	
category	String	
amount	int	
label	String	
note	String	
month	int	
year	int	
monthNlabel	String	
YearNlabel	String	

categotyNmonthNlabel	String	
categoryNyearNlabel	String	

5.1.3 Analysis Table

Table 5.1.3 Analysis Table

Column Name	Type	Extra
monthSelfcare	string	
monthShopping	string	
monthTax	string	
monthCoupons	string	
monthGrants	string	
totalExpense	string	
totalIncome	string	
yearBills	string	
yearCoupns	string	
yearDeposits	string	
yearGrants	string	
yearGroceries	string	
yearHealth	string	
yearOther	string	
yearSalary	string	

yearSaving	string	
yearSelfcare	string	
yearShoppong	string	
yearTax	string	
yeaeOtherexpense	string	

5.2 DATA FLOW DIAGRAM

Data flow diagrams are used to graphically represent the flow of data in a business information system.

5.2.1 DFD LEVEL 0

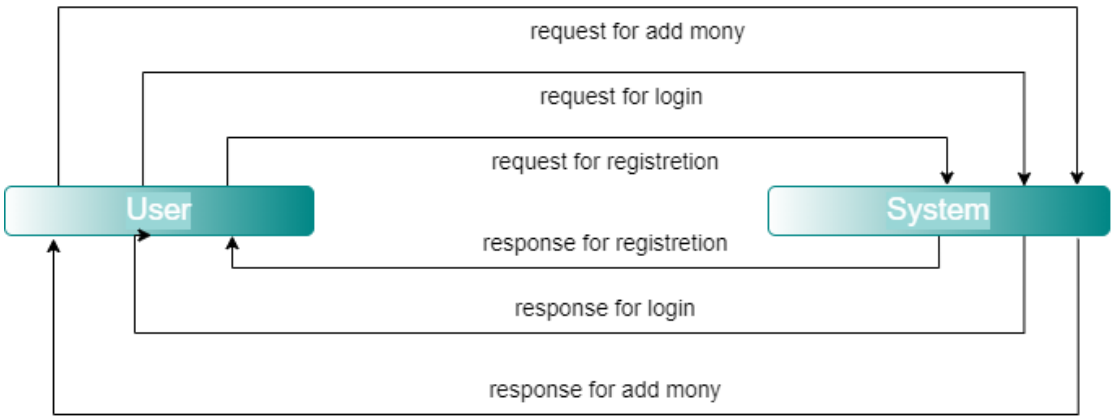


Fig. 5.2.1 Data flow diagram level 0

5.2.2 DFD LEVEL 1

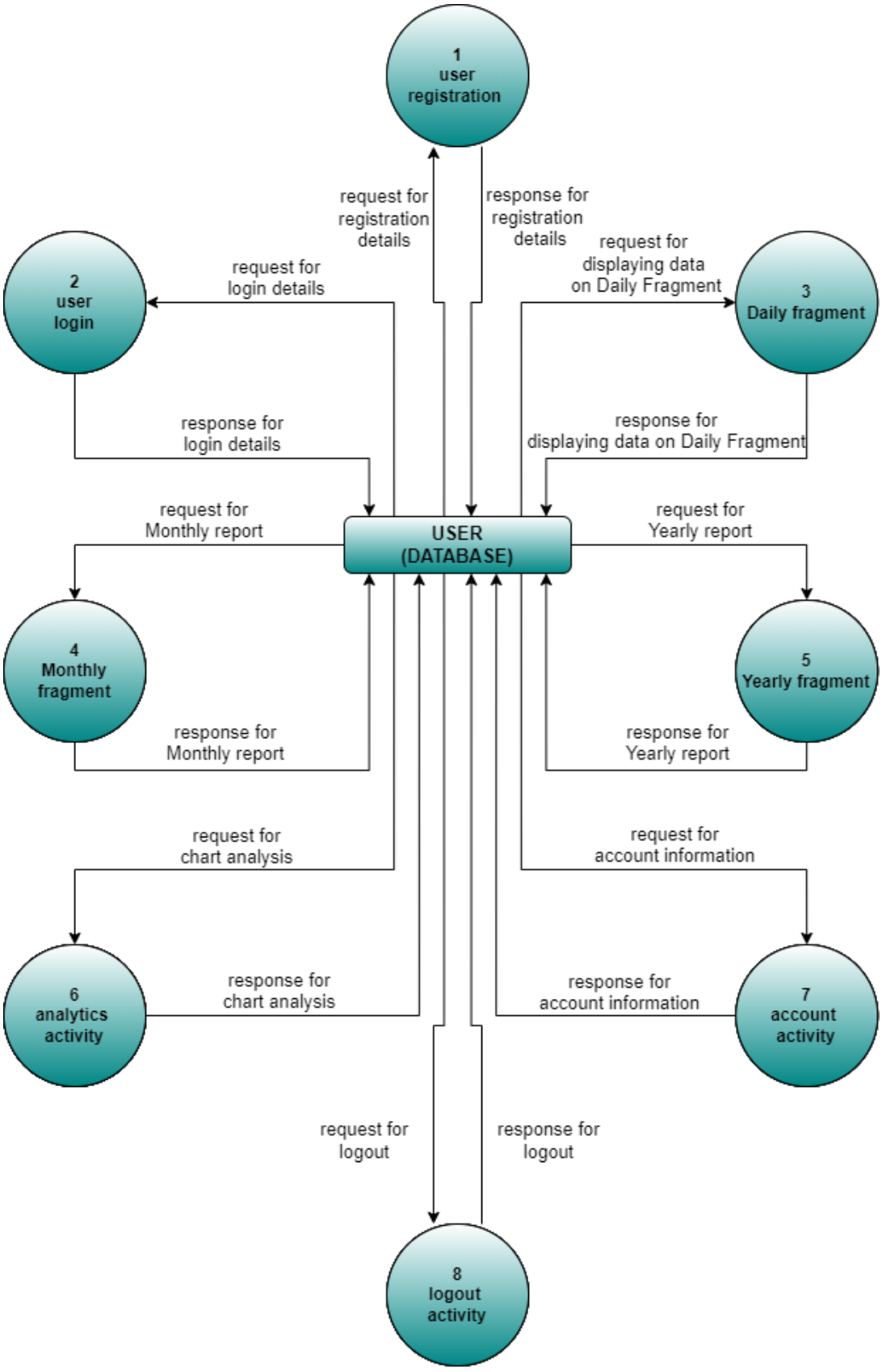


Fig. 5.2.2 Data flow diagram level 1

5.3 ER DIAGRAM

An entity relationship diagram (ERD) shows the relationships of entity sets stored in a database. An entity in this context is an object, a component of data. An entity set is a collection of similar entities. These entities can have attributes that define its properties. By defining the entities, their attributes, and showing the relationships between them, an ER diagram illustrates the logical structure of databases. ER diagrams are used to sketch out the design of a database.

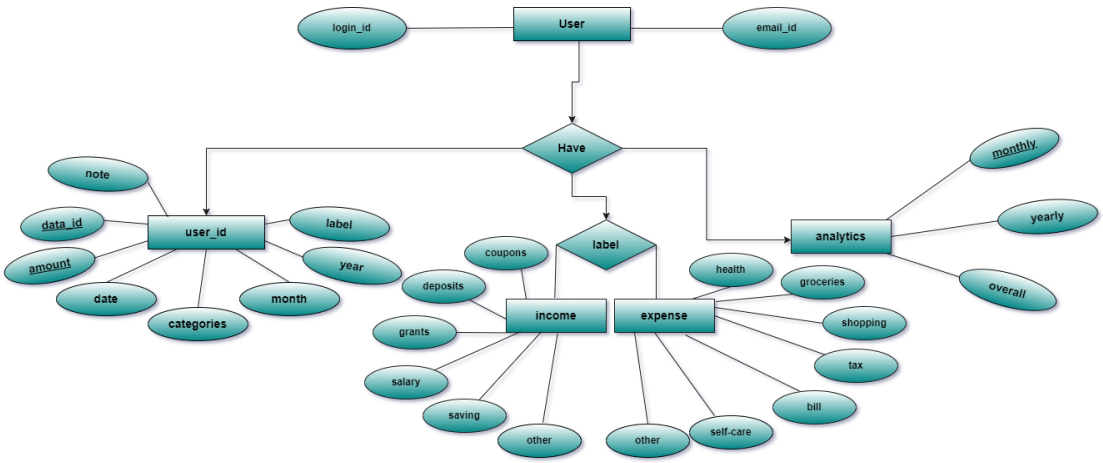


Fig. 5.3 E-R Diagram

5.4 SEQUENCE DIAGRAM

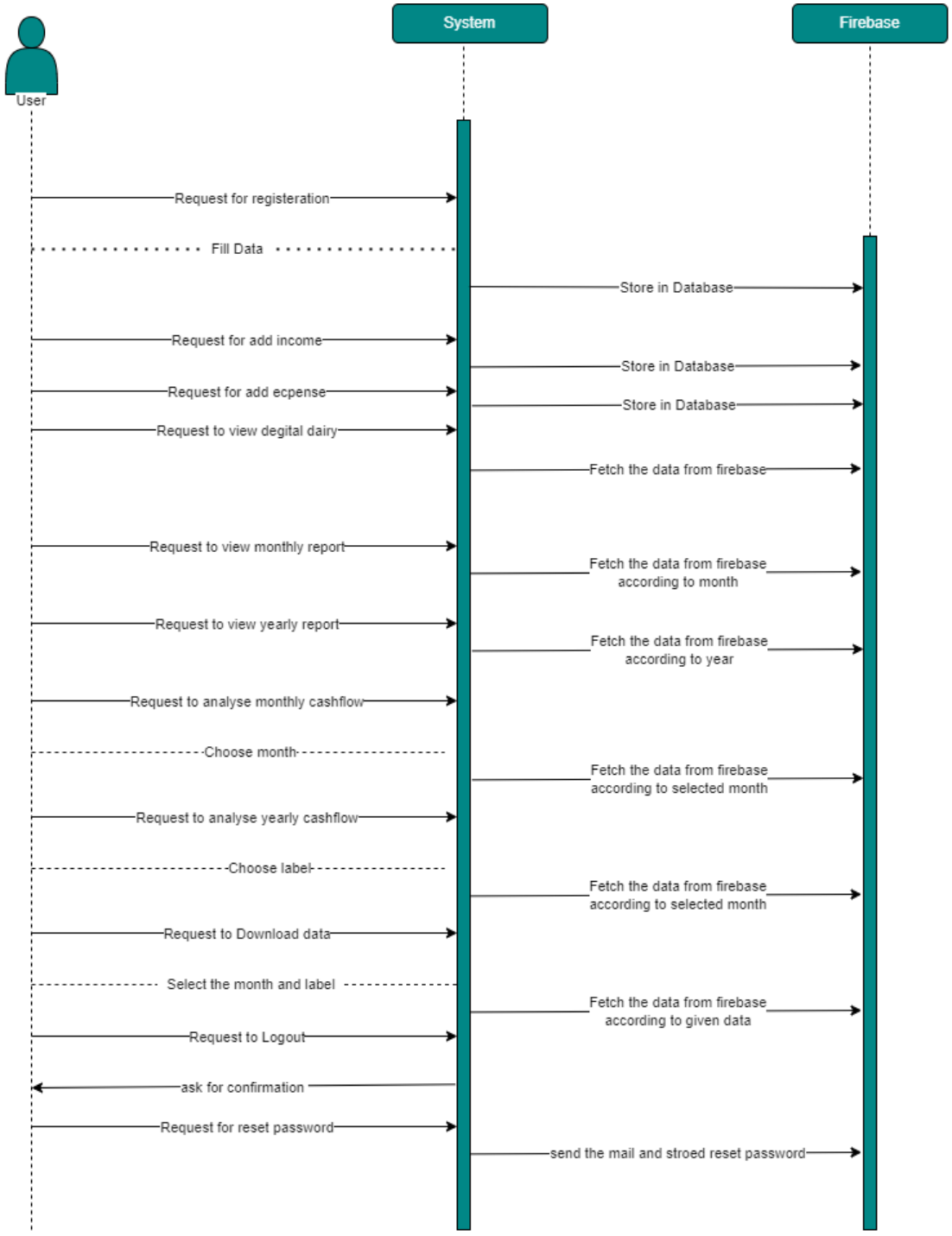


Fig. 5.4 Sequence Diagram

5.5 ACTIVITY DIAGRAM

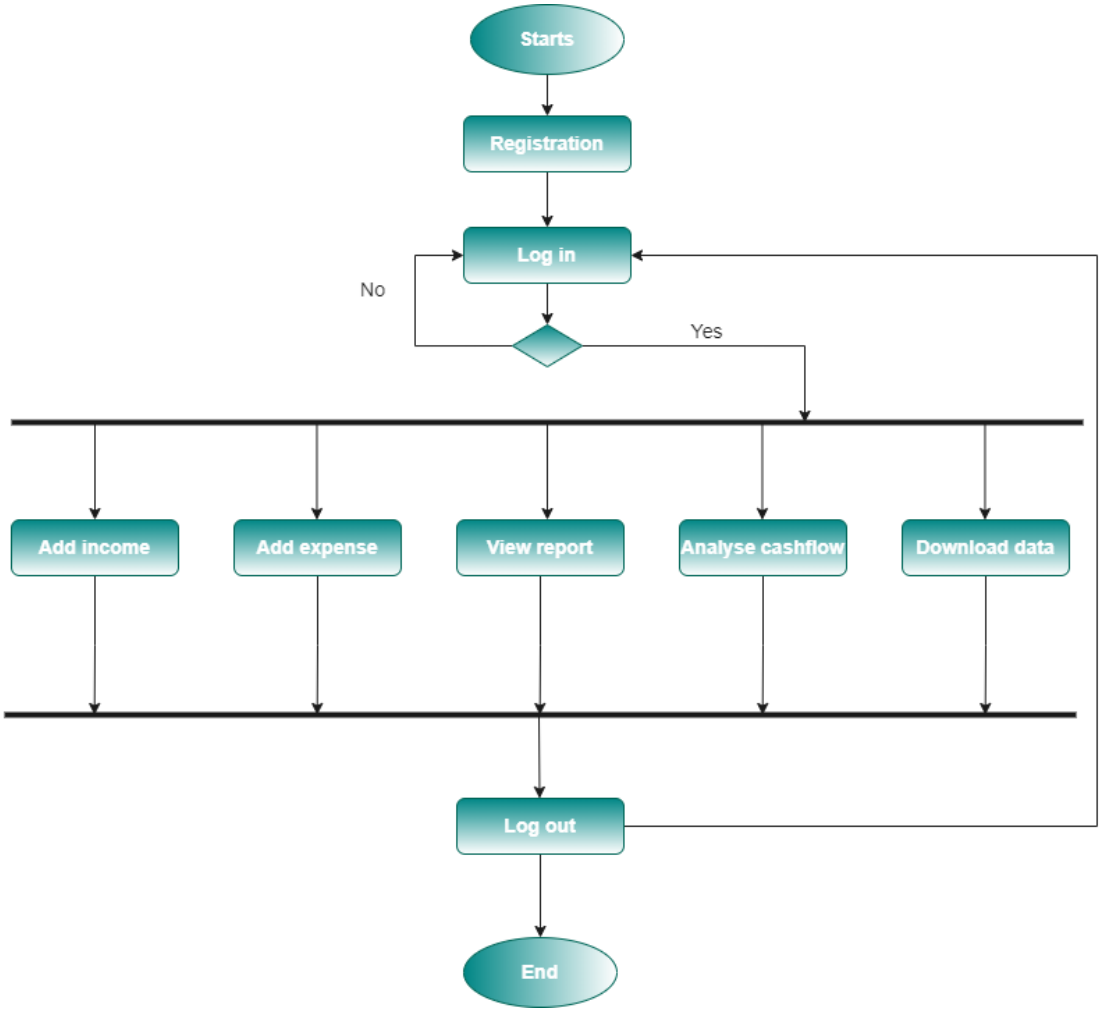


Fig. 5.5 Activity Diagram

CHAPTER 6

IMPLEMANTATION

6.1 HARDWARE AND SOFTWARE REQUIREMENTS

6.1.1 Hardware requirements

6.1.1.1Development side

Processor: Intel core i3

Ram: 8GB

Disk space: 16GB

6.1.1.2 Client side

Ram: 1GB

Internet enabled android device

6.1.1.3 Server side

Disk space: 1GB

6.1.2 Software requirements

6.1.2.1 Development side

Browser(Chrome)

6.1.2.2 Client side

Installed Application.

6.1.2.3 Server side

Firebase Database.

6.2 SNAPSHOTS

Registration and Login

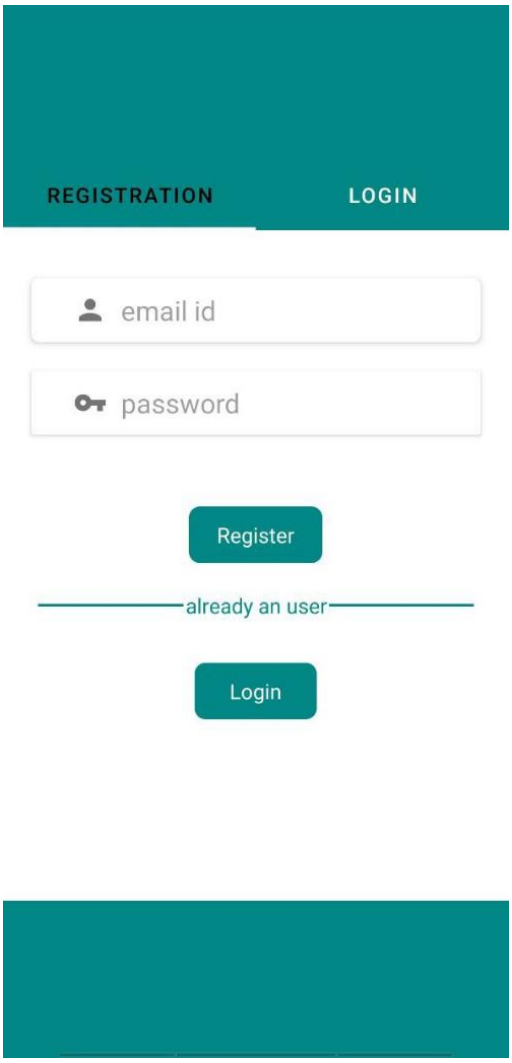


Fig. 6.2.1 Registration

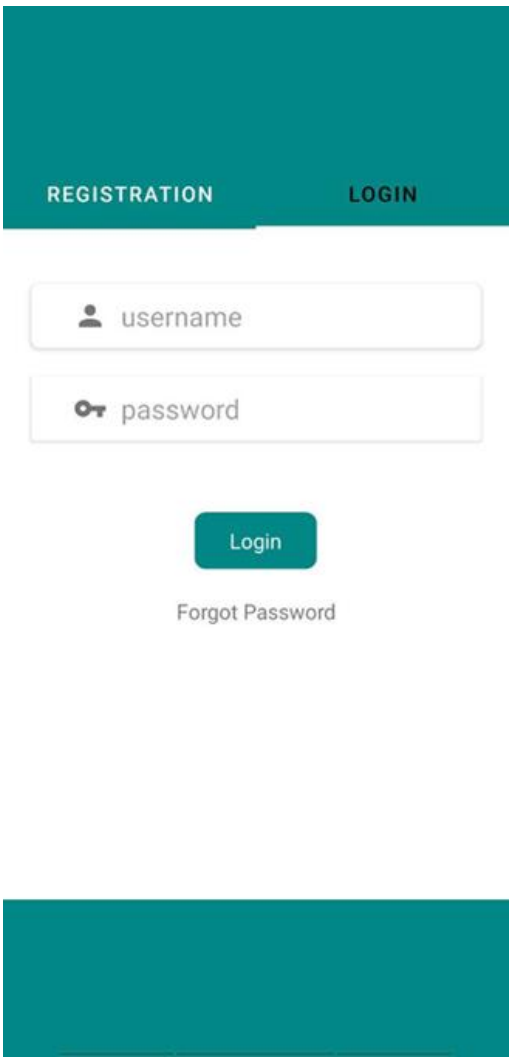


Fig. 6.2.2 Login

Digital Dairy

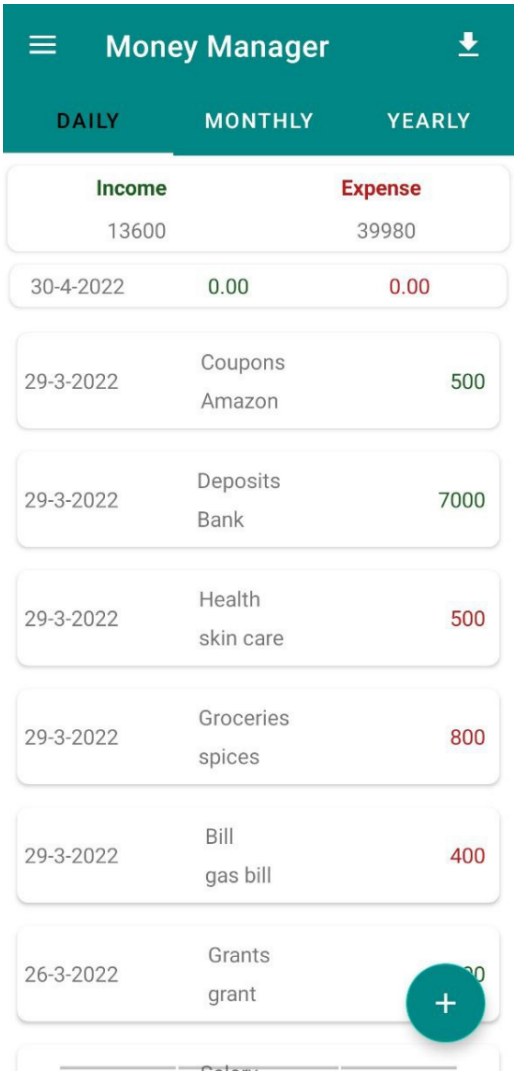


Fig. 6.2.3 Daily Overview

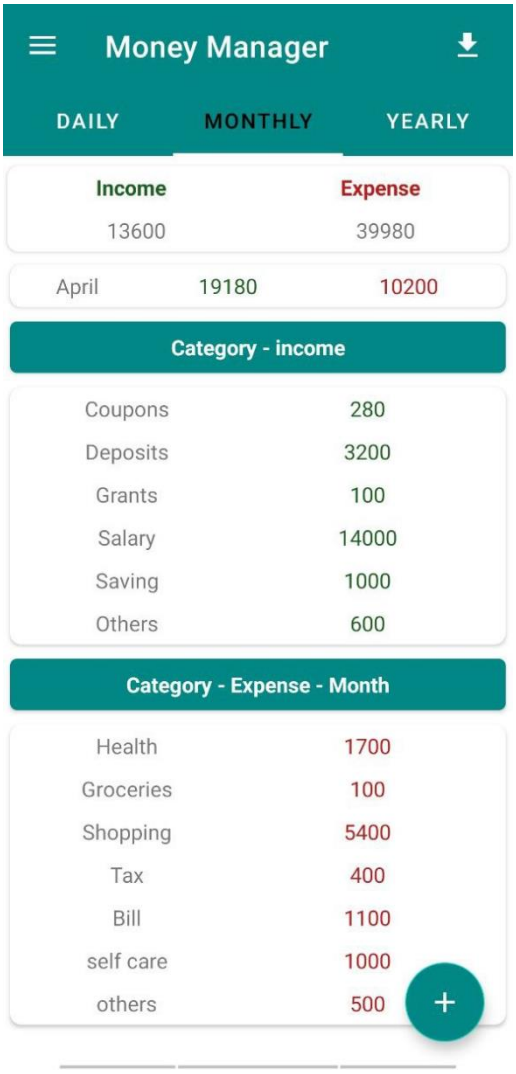


Fig. 6.2.4 Monthly Overview

- In daily fragment, user can get detail of every income and expense activity.
- Amount in red color indicate expense.
- Amount in green color indicate income.
- In monthly report, categories are left side and total amount are right side.
- Top of that total income and expense given for current month.

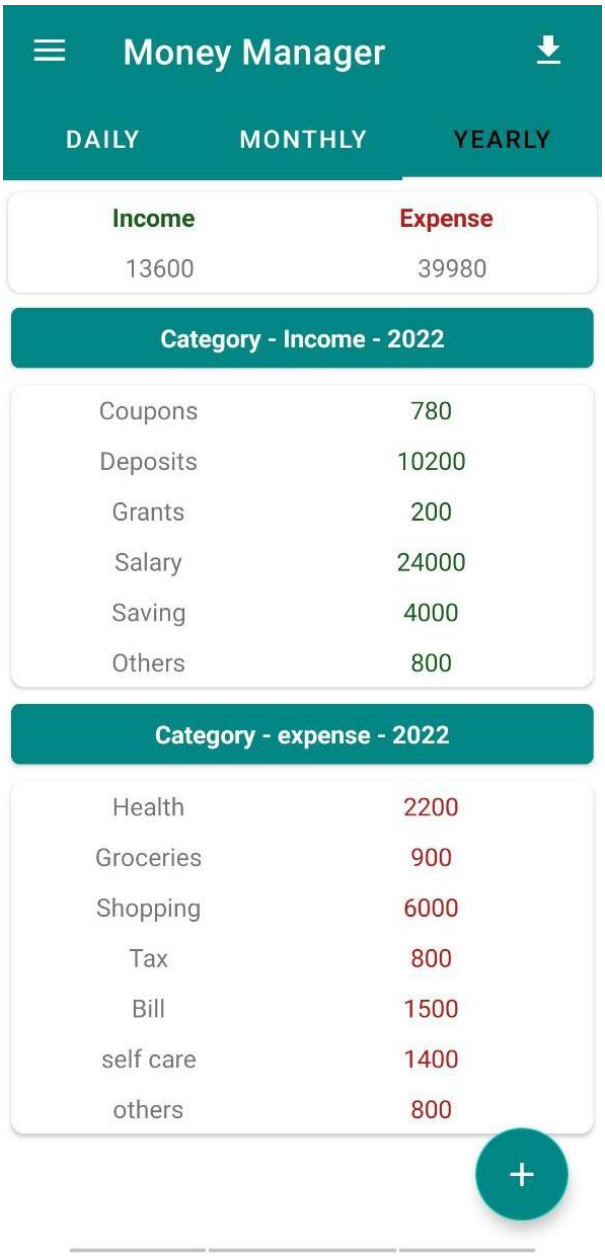


Fig. 6.2.5 Yearly Overview

- In Yearly report, categories are left side and total amount are right side.
- Top of that total income and expense given for current year.

Add Money

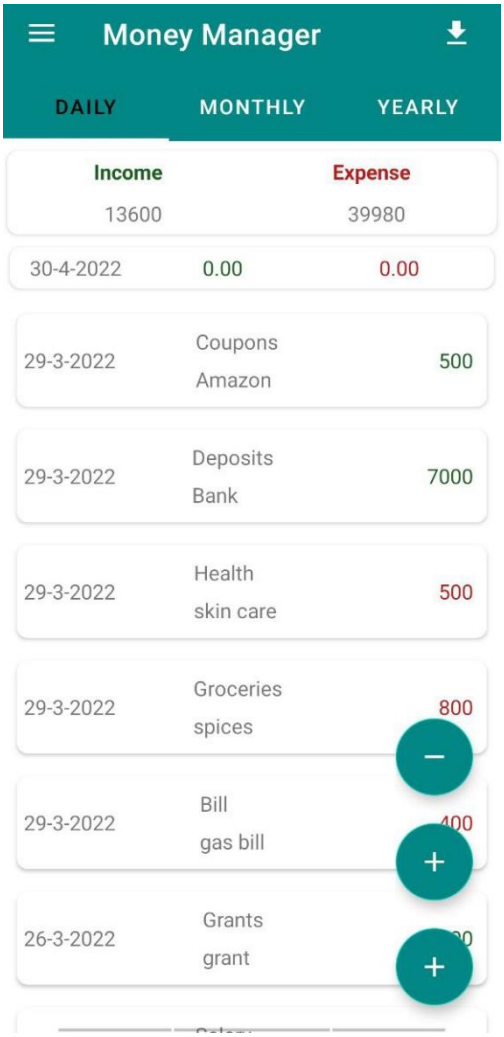


Fig. 6.2.6 Floating action button

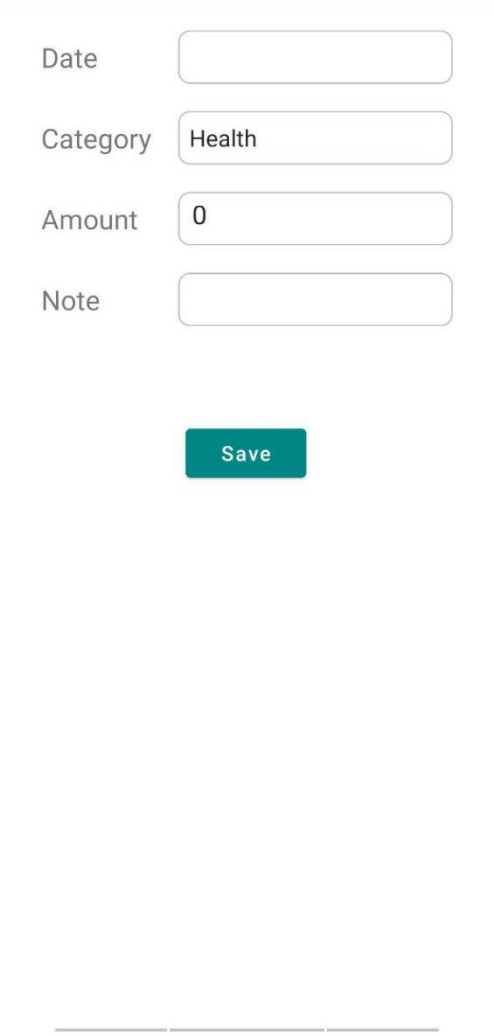


Fig. 6.2.7 Income add activity

- Plus sign is for add money in income label.
- Minus sign is for add expense

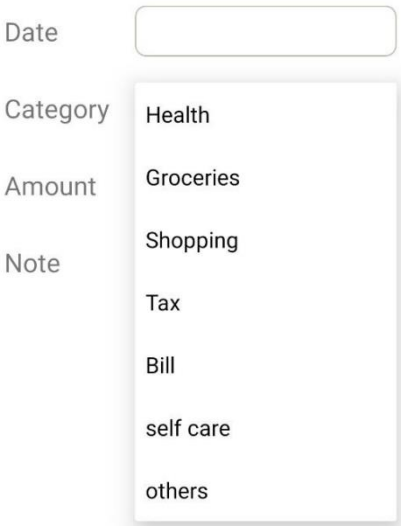


Fig. 6.2.8 Expense categories

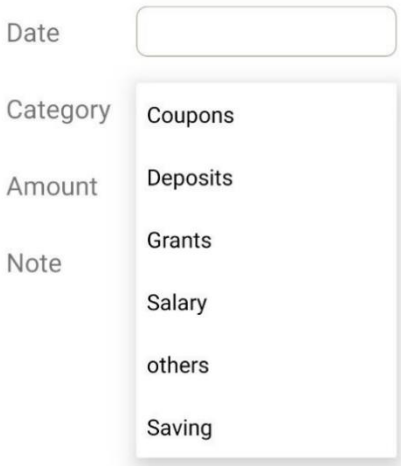


Fig. 6.2.9 Income categories

- User can add money in different categories of income and expense, so user can simplify cashflow easily.
- **Income Categories**
  - Coupons
  - Salary
  - Deposits
  - Grants
  - Saving
  - Others
- **Expense Categories**
  - Health
  - Groceries
  - Shopping
  - Self-care
  - Tax
  - Bills
  - others

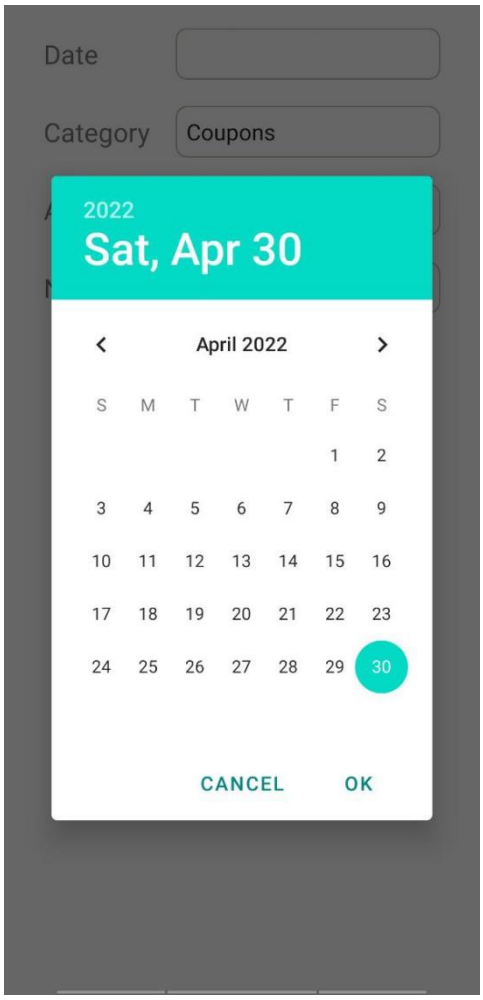


Fig. 6.2.10 Date Picker

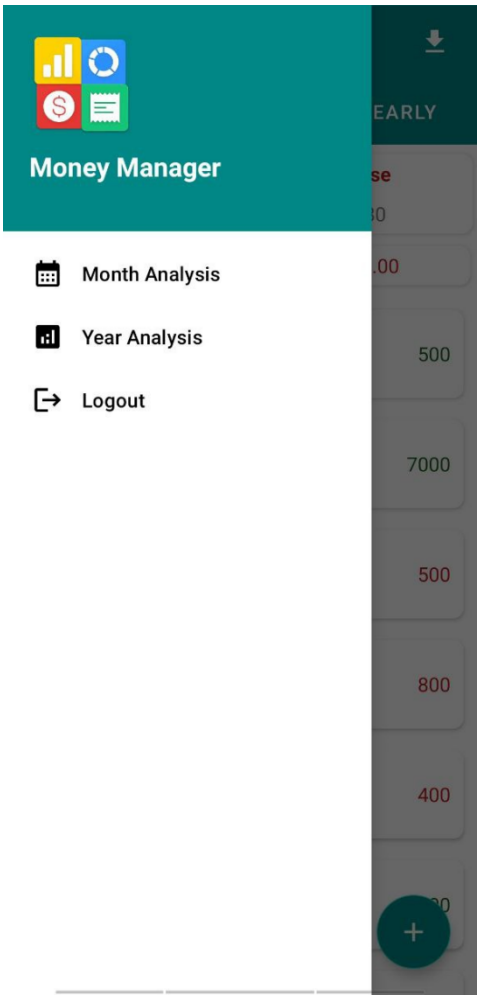


Fig. 6.2.11 Menu Slider

Analysis

For analysis, there are two activiy,

1. Monthly analysis
   1.1 Monthly – Income
   1.2 Monthly - Expense
2. Yearly analysis
   2.1 Income
   2.2 Expense
   2.3 Costom

Monthly Analysis

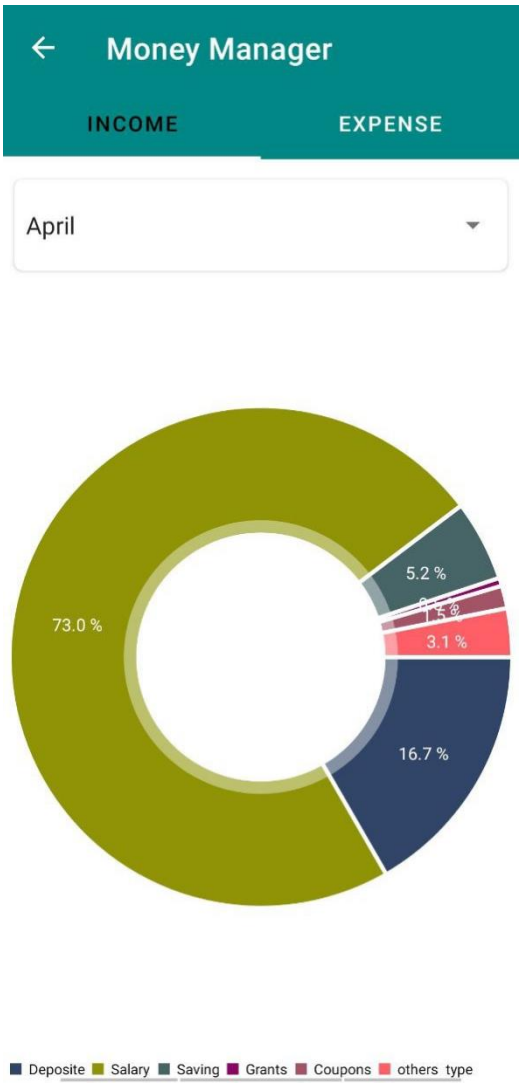


Fig. 6.2.12 Monthly-Income

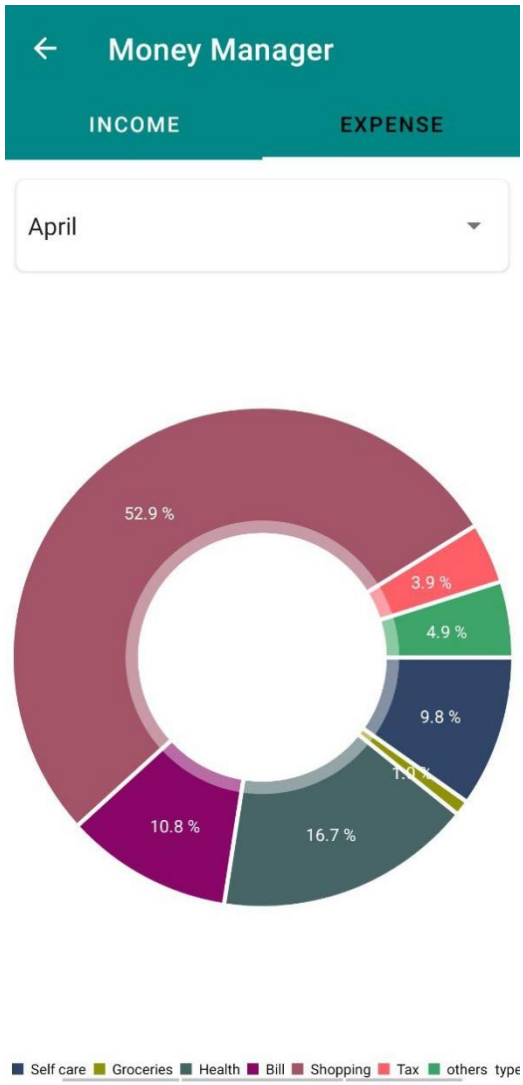


Fig. 6.2.13 Monthly-Expense

- In this activity, firstly user can select month from the spinner given on the top.

Year Analysis

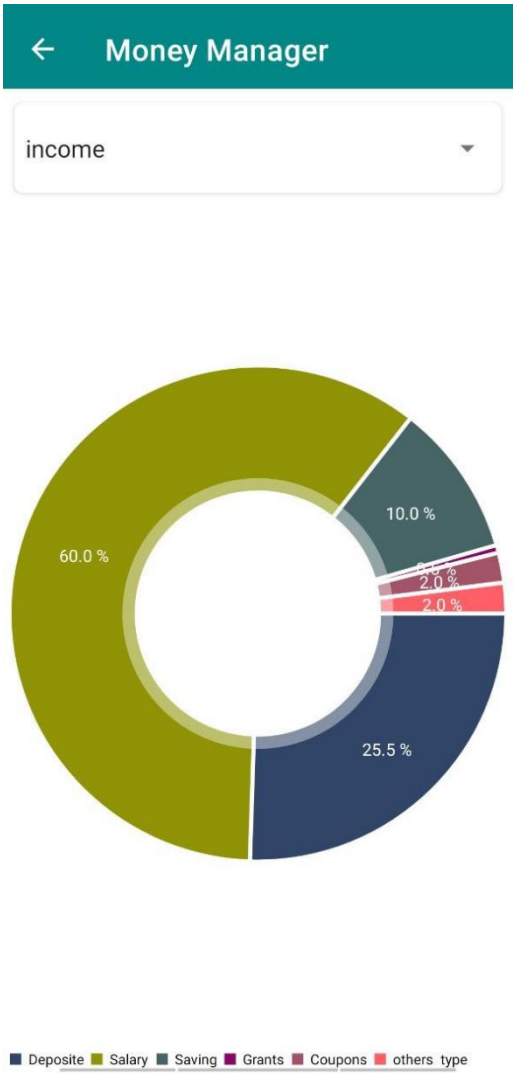


Fig. 6.2.14 Yearly-Income

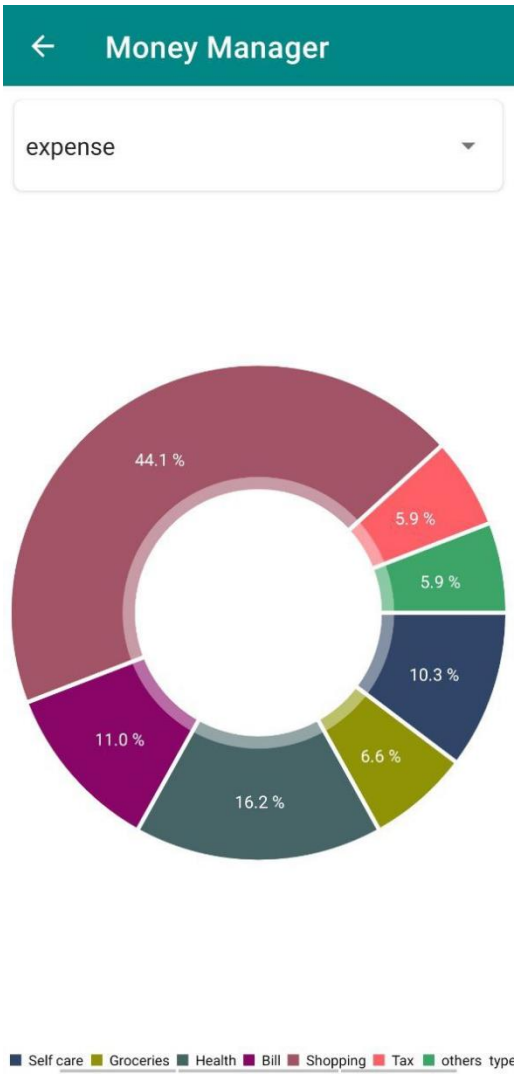


Fig. 6.2.15 Yearly-Expense

- In this activity, firstly user can select one option from the spinner given on the top
- By default income option is selected.

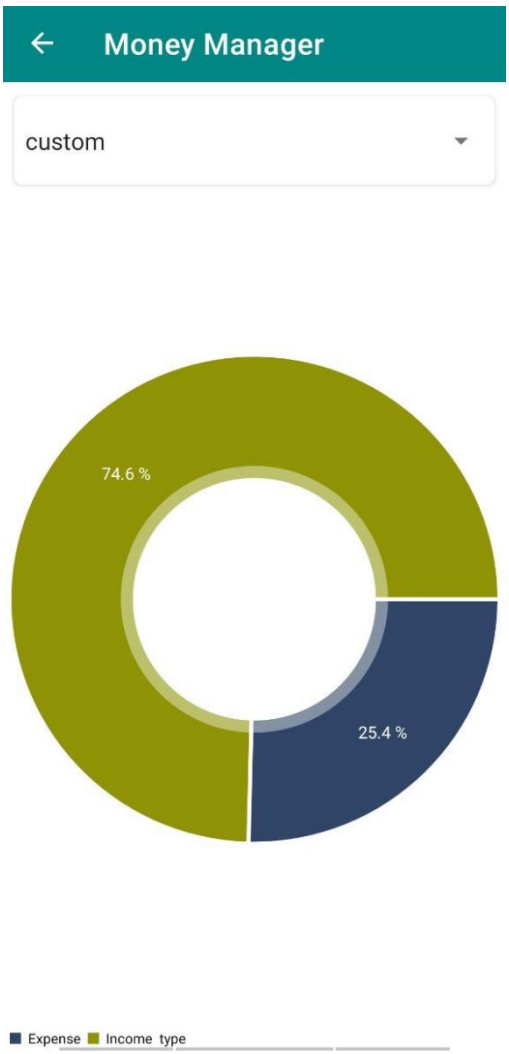


Fig. 6.2.16 Yearly-Costom

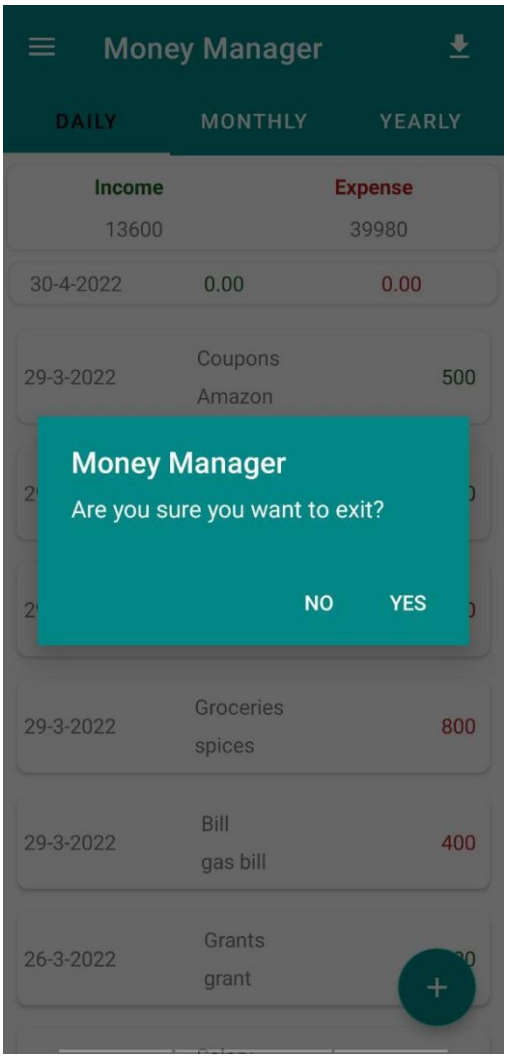


Fig. 6.2.17 Log out

- After logout, application directed at login Activity.

Download Data

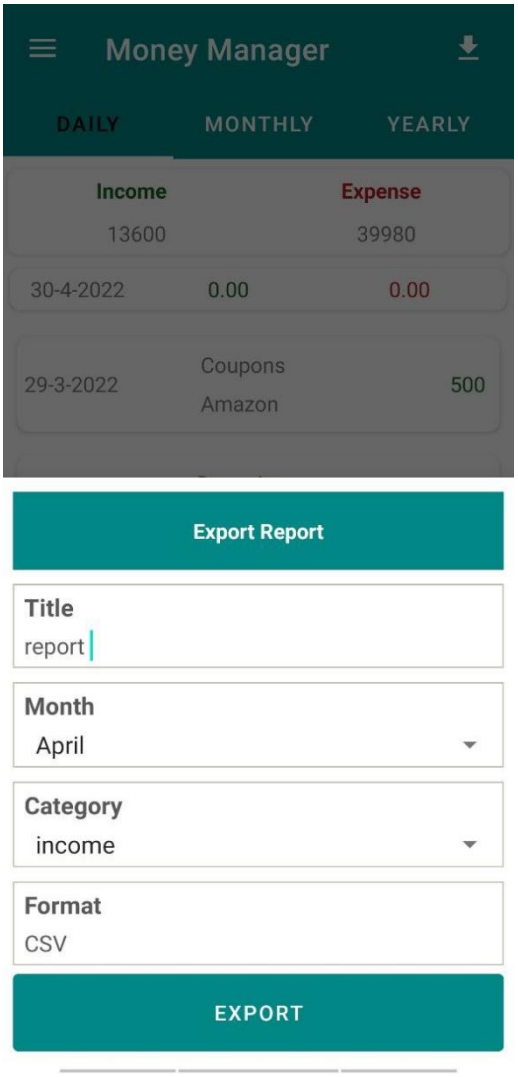
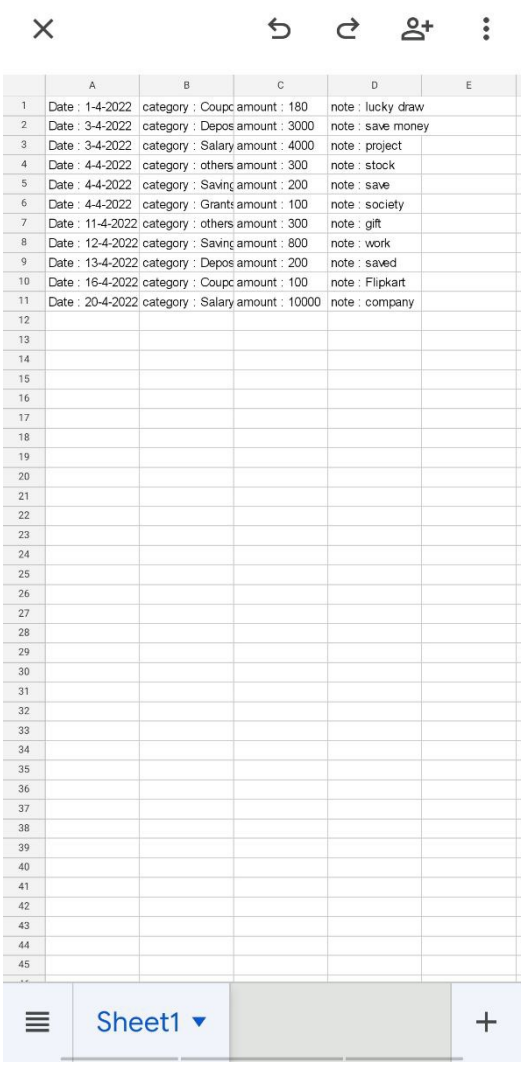


Fig. 6.2.18 Download Data



	A	B	C	D	E
1	Date : 1-4-2022	category : Coupc	amount : 180	note : lucky draw	
2	Date : 3-4-2022	category : Depos	amount : 3000	note : save money	
3	Date : 3-4-2022	category : Salary	amount : 4000	note : project	
4	Date : 4-4-2022	category : others	amount : 300	note : stock	
5	Date : 4-4-2022	category : Saving	amount : 200	note : save	
6	Date : 4-4-2022	category : Grants	amount : 100	note : society	
7	Date : 11-4-2022	category : others	amount : 300	note : gift	
8	Date : 12-4-2022	category : Saving	amount : 800	note : work	
9	Date : 13-4-2022	category : Depos	amount : 200	note : saved	
10	Date : 16-4-2022	category : Coupc	amount : 100	note : Flipkart	
11	Date : 20-4-2022	category : Salary	amount : 10000	note : company	

Fig. 6.2.19 Report.csv

Splash Activity and Forgot Password

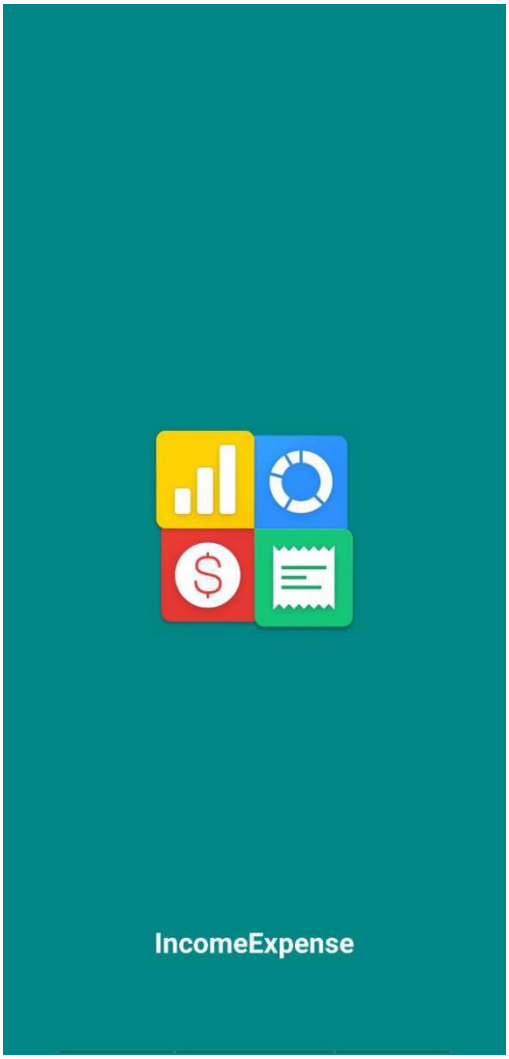


Fig. 6.2.20 Splash Activiy

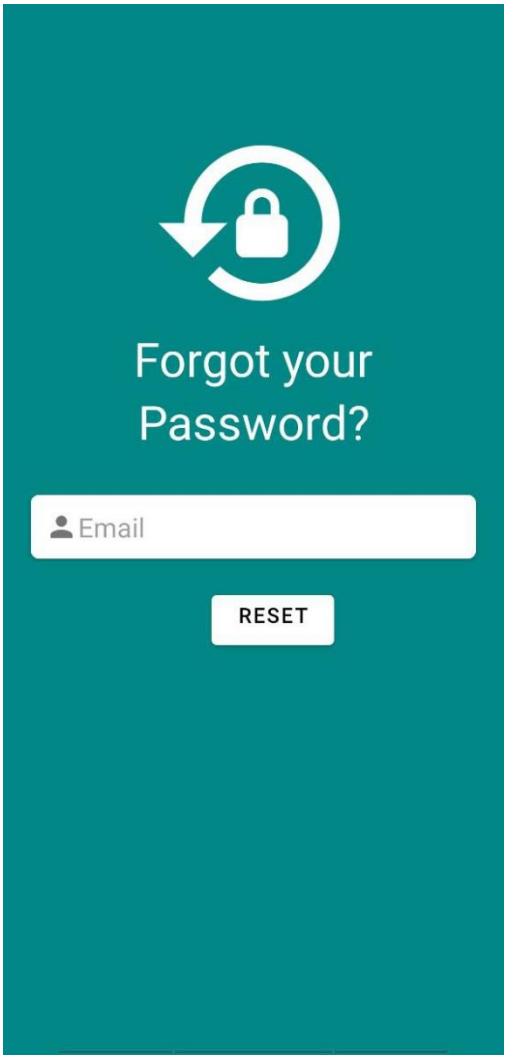


Fig. 6.2.21 Forgot Password

CHAPTER 7

TESTING

7.1 TEST CASES

Table 7.1 Test Case

Test ID	Case	Test Data	Expected Result	Actual Result	Pass/ Fail
1	**User Interface**	NA	UI should be perfect	Click on all buttons and check if they are working or not	Pass
2	**Required Fields**	NA	User should be signed up, A successful registration happened	Enter all the mandatory fields and click sign up	Pass
3	**Email**	testgmail.com test123@gmai.com	User should be prompted to enter valid email address and user should not be signed	You are not registered, Try again	Pass
4	**Password Validation**	yes	It should prompt the user to enter a value more then	Enter a password with more than 4	Pass

			four	characters	
5	**User check in Forgot Password**	Abcd,@gmail.com	It should show that user id not registered	There is no record corresponding to this identifier. The use may have been deleted	Pass

CHAPTER 8

CONCLUSION & FUTURE SCOPE

8.1 DATES OF CONTINUOUS EVELUATION

CE – 1: 05/03/2022

CE – 2:20/04/2022

8.2 CONCLUSION

This application will help it's users to manage the cost of their daily, monthly and yearly income and cost. It will aware them about there expense. It will prove to helpful for people who are frustrated with their daily budget management, irritated because of amount of expenses and wishes to manage money and to preserve the record of their daily cost, also this application provided visualization of your income and expense for month wise and year also so that users can clear their future vision for their cash flow.

8.3 FUTURE SCOPE

- Improve the visualization of cashflow.
- Add the reminder of exceeding money.
- Create content table with charts.
- Add history Activity.

REFERENCES

WEB REFERENCES

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- Real-time Database: https://firebase.google.com/