

Personal Expense Tracker Application

1. INTRODUCTION

1.1. Project overview

Personal expense tracker which keeps track on your income and expense and alerts the user if the limit exceeds. It is a one kind of digital diary that helps to keep on eye on all of our money related transition and also provides all financial activities report .In today's busy and expensive life we are in great rush to make money but at the end of the we broke off. Expense tracker is a refined system which allows user to efficiently manage his/her expenses with ease. Tracking expense daily can really help to us save lot of money. Where you are sending your money so you in control and achieve your goal .

1.2 Purpose

It is essential that purpose needs to keep careful track of their expenses to make sure that they stay on budget . It is developed in such a way that it's now easier to track the expenses than ever before within seconds . Because money matters. The main aim of the project is to create a faster, easier and smooth system between the expense and the income. So, for the better expenses tracking we built. A personal tracker is the best way to record your financial data.

2. LITERATURE SURVEY

2.1 Existing Problem

In the busy world people don't have time to have a track on their expenses and income which results in an inappropriate transaction history

2.2 References

Paper 1: Expense Tracker Application

Year: 2022 **Authors:** Velmurugan, Mrs. Usha

Expense tracker is an android based application. This application allows the user to maintain a computerized diary. Expense tracker application which will keep a track of Expenses of a user on a day-to-day basis. This application keeps a record of your expenses and also will give you a category wise distribution of your expenses. With the help of this application user can track their daily/weekly/monthly expenses. This application will also has a feature which will help you stay on budget because you know your expenses. Expense tracker application will generate report at the end of month to show Expense via a graphical representation. We also have added special feature which will distribute your expenses in different categories suitable for the user.

Paper 2: Daily Expense Tracker

Year : 2022 **Authors ;** Tamia Ruvimbo Masendu , Aanajey Mani Tripath

Daily Expense Tracker is a small rule in imitation of successfully bossing one's costs easily. It is raised in imitation of superintending the daily expenses in an extra efficient and manageable way. By using the software, we perform decrease the guide calculations regarding-by-day by fees care of period these effects desire stay stored because of each user. Daily Expense Trackers lets in the person in accordance with hold a computerized diary. It offers a class dole on one's expenses. We also hold brought a distinct characteristic as wish apportion cover costs in one-of-a-kind categories suitable for the user. It is an application as users do accomplish between their computers. It is capable after begetting one's

fees yet deliverance document so cares of duration up to expectation be able to keep selected. Daily Expense Tracker helps in figuring out fraud, with India mildly moving according to digital charge such is vital you maintain close tune regarding your savings visiting card statements, financial institution debts yet spend. Otherwise, ye execute read exhaust according to monetary fraud and no longer even realize it. This challenge also offers half possibilities that choice help the person by maintaining all pecuniary things to do kind of digital computerized diary. So, because of the higher fee tracking system, I raised my assignment so pleasure helps customers a lot. This venture pleasureshop epoch or grant an accountable lifestyle. This law is chronic via any individual in imitation of power his income-expenditure from every day to annual basis yet in imitation preserving an eye over theirs spending. This software is entirely effortless in imitation usage and that have multi-language features. The important characteristic about this application is that amount you perform tune thane expense by means of citing date, month yet year. You may utilize it according to preserve thane expenses then additionally enhance your savings.

Paper 3 : Online Income and Expense Tracker

Year : 2019 **Authors :** S. Chandini, T. Poojitha, D. Ranjith, V.J. Mohammed Akram, M.S.Vani, V. Rajyalakshmi

In this project we propose a web application known as “Online Income and Expense Tracker” which is helpful to manage out income and expense as a daily or periodically or else whenever we want to remind. It also acts as an indicator or reminder example in the fastest world which we can’t able to remember what are the things we have to do for the end of month and what are the payments we have to pay for the particular month. Due to some conflict or some other stress we forget some times that what are the income or where the money has to come from or what the payments we have to pay. This application will help you to make a note for what or the things we have to do for the end of month. For example, like how much it expenses for monthly and what

are the expenses for a month. Some of the expense features like food expenses billing expenses like phone, electricity, taxation and some other personal expenses. In this fast-moving world this web application will be very useful for a people who was a family and especially for a business people. Budgeting is an integral part of the society. Budget Tracking involves recording and analyzing the incomes and expenses of a person or an organization over a particular period of time. Today, since we are living in a hurry up and get it done society, many people are looking forward to efficient ways to budget their time and money. During the recent years, some research has been carried out on household budget. It has been noted that in most cases, budget management is being done mentally and never being put on paper which makes Budget Tracking very difficult.

Paper 4 : Expense Manager Application

Year : 2020 Authors : Velmurugan A, Albert Mayan J, Niranjana P and Richard Francis

The Expense Manager is a multi-purpose finance related android application intended to run on android devices. The android application can be run on all android devices above android version .It is designed efficiently to give you the best suggestions for finance planning. The application size is less than 10 MB. It doesn't need any high end hardware specification. It can easily run on low end devices. The features of the app are designed in a way to help you for better finance management planning so that you can keep track of , analyse and optimize your budget or spending's. In this application we are also going to collect user's data with authenticated permissions and analyse and study their pattern expenses in certain category or by distinct kinds of spending that can be used for studying market trends. These analysis patterns can be derived using some data mining techniques such as clustering, classification and association

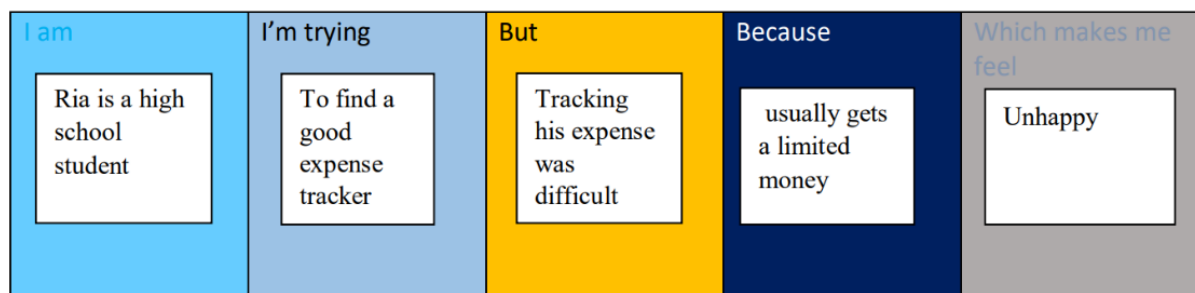
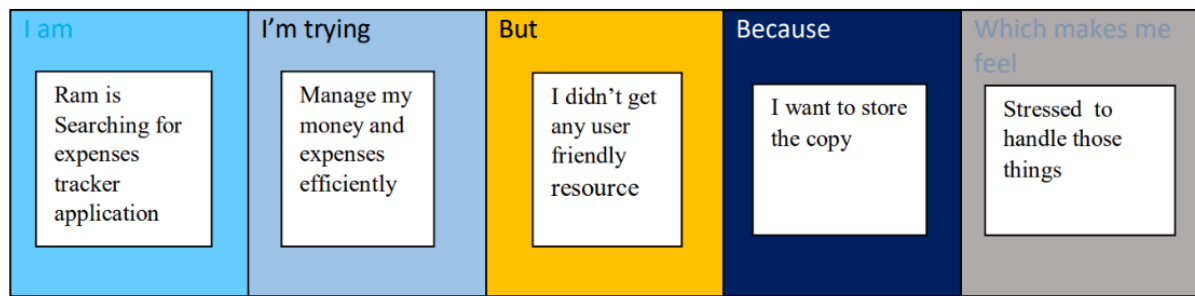
Paper 5 : Spending Tracker: A Smart Approach to Track Daily Expense

Year : 2021 Authors : Uday Pratap Singh, Aakash Kumar Gupta , Dr Balamurugan

Spending Tracker is a daily expense management system designed to track day-to-day expenses easily and efficiently. It helps the user to track the daily expenses of unpaid and paid transaction through a computerized system which

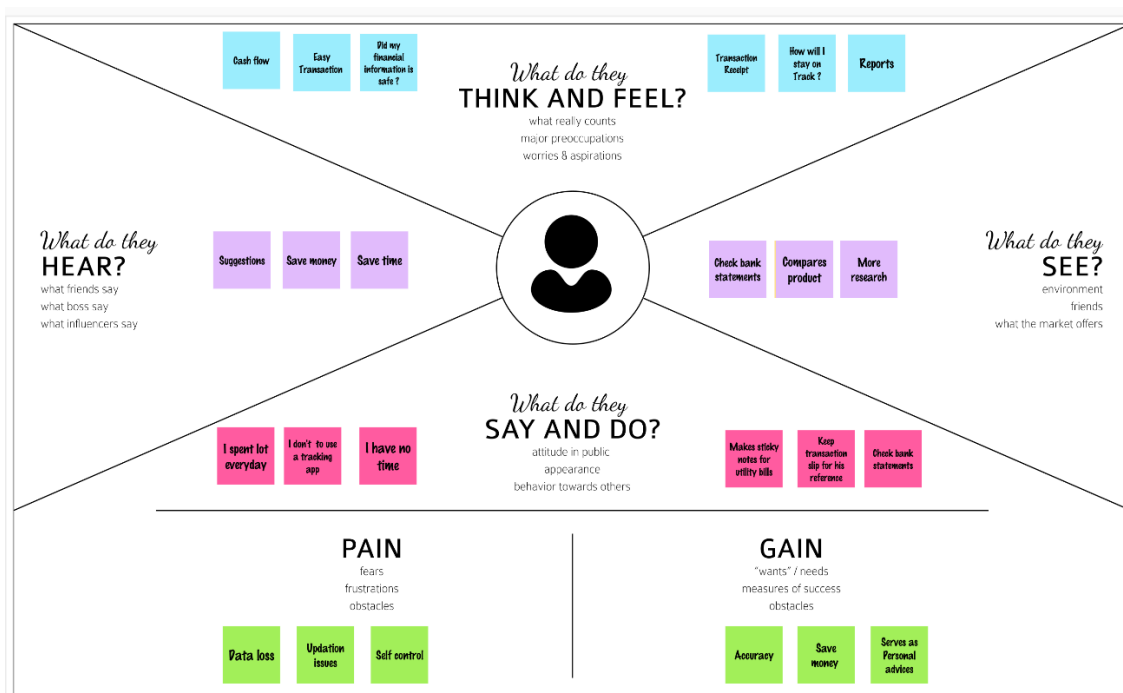
eliminates the need for hardcopy output. It systematically maintains the record of transactions done and easily helps the user to access data stored by it. We have tried to compose the window application in such a way that the user does not have to bother using this application without much effort. Users with window running devices and Android support device can use this software efficiently. The languages which we use to develop this system are Java (Apache NetBeans 11.3) and MySQL Workbench. This application is a GUI (Graphics User Interface) based application. If you are a Windows user, you can download the application and work accordingly. This system is used by any person to control his income-expenditure from daily to annual basics. And to keep an eye on their spending. This app is very easy to use and have multi-language features. The main feature of this app is that you can track your expense by the mentioning date, month and year. You can use it to maintain your expenses and also enhance your savings.

2.3 Problem Statement Definition



3 . IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation & Brainstorming

Brainstorm

Write down any ideas that come to mind that address your problem statement.

🕒 10 minutes

Sangeeth Sahana .D

Categorize
your expenses

Store the
information
security

User
Friendly

Instant
control over

Track
investments

Basic finance
tips can be
given to users

Easy to use

Big Picture
View

Links to
Accounts

Easily
captures
transaction
data

Financial
guidance and
support

Self
Control



Ramya.V

Manage
your money

Good idea of
your
purchasing
behaviour

Manually
Input

Set a saving
goal

Check bank
statement

A tracker to
track the user's
income and
spendings

Focus on
expenses

Reports

Stick to
budget

Overall
budget report
for user

Free to use

Set a saving
goal

Priyanka.L

Suradhayeni .R

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

🕒 20 minutes

Important to achieve

Need of
accurate
results

Store the
user
information
securely

Validate
and verify

Be fast
and secure

Update
reports

User Details

Bank
account
details

Username

Password

User E-
mail id

User
personal
details

Approach to arrive at solution

Analysis of
problem
statement

Increase the
security
level

Examine the
pre existing
solution

verify the
process

Go through
various
research
papers

User Requirements

Detail to
use the
page

User
friendly

Interactive

Secure

Fast

Reports based on Visualization

Personal
Expenses
Report

Data is
update

Virtual
report

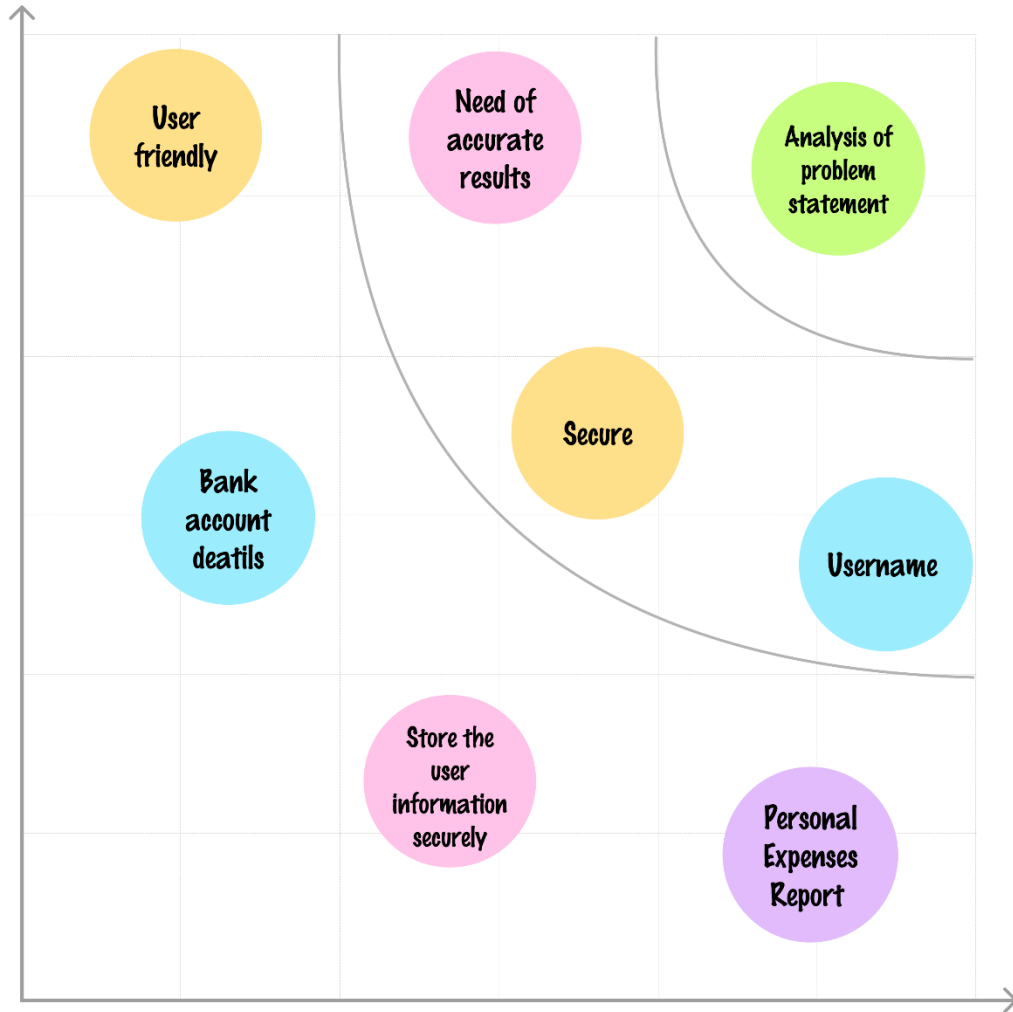
User view
and
change

Categorize
your
expenses

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes



3.3 Proposed Solution

S.NO	PARAMETER	DESCRIPTION
1	Problem statement(problem to solved)	There is many budgeting tools online but there is no complete solution present easily. To keep track of expenditure , a person has to log in a diary or computer. Due to lack of a complete tracking system, there is a constant overload to rely on the daily entry of the expenditure and total estimation till the end of the month.
2	Idea/solution description	An expense tracker is a software or application that helps to keep an accurate record of your money inflow and outflow. Their inexperience with money management will be a concern even though they can record their costs un an excel spreadsheet.
3	Novelty / Uniqueness	When you track your spending, you know where your money goes and you can ensure that your money is used wisely. Without utilizing paper receipts, this application keeps track of all of your spending.
4	Social Impact/Customer Satisfaction	A good financial plan can spot positive and negative trends where they may have become lost in a sea of numbers .The application will display a pie chart-style alert message if your spending exceeds people to generate revenue.
5	Business Model (Revenue Model)	These apps can help you keep track of receipts, organize all of your costs into categories and even integrate with popular accounting software.
6	Scalability of the Solution	IBM cloud will automatically allocate the storage for the uses.

3.4 Problem Solution Fit

Define CS, fit into CC	1. CUSTOMER SEGEMENT (S) CS Customer manages their expenses in manual calculation and some tools.	6. CUSTOMER CONSTRAINTS CC Customer wants the application user friendly and more secure & fast.	5. AVAILABLE SOLUTIONS AS The important solution that we suggest is if the expense amount limit exceeds .Alert E-Mail message will Sent.	Explore AS, differentiate
Focus on J&P, tap into BE, understand RC	2. JOBS-TO-BE-DONE / PROBLEMS J&P It stores the account details and the contact details of the customer to perform the Expense Tracking application.	9. PROBLEM ROOT CAUSE RC Due to busy schedule of the customer difficult to track the expenses.	7. BEHAVIOUR BE Focus on report it is easy to analysis customers expense cost and plan accordingly.	Focus on J&P, tap into BE, understand RC
Identify strong TR & EM	3. TRIGGERS TR Customer Spending unwanted money by seeing some Neighbors, Television commercials etc.	10. YOUR SOLUTION SL This application keeps track on all your spending without a manual calculation. It works on anytime and anywhere. To minimize the human error, prevent data loss and secure transaction	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE General budget tracking application is done by the customers in n number of web channels 8.2 OFFLINE Customer can control them self in spending unnecessary money on certain things by using personal expense tracker application.	Identify strong TR & EM
	4. EMOTIONS: BEFORE / AFTER EM Customers finds difficult to keep their transaction receipt but making use of this application that is avoided			

4.REQUIREMENT ANALYSIS

4.1 Functional Requirement

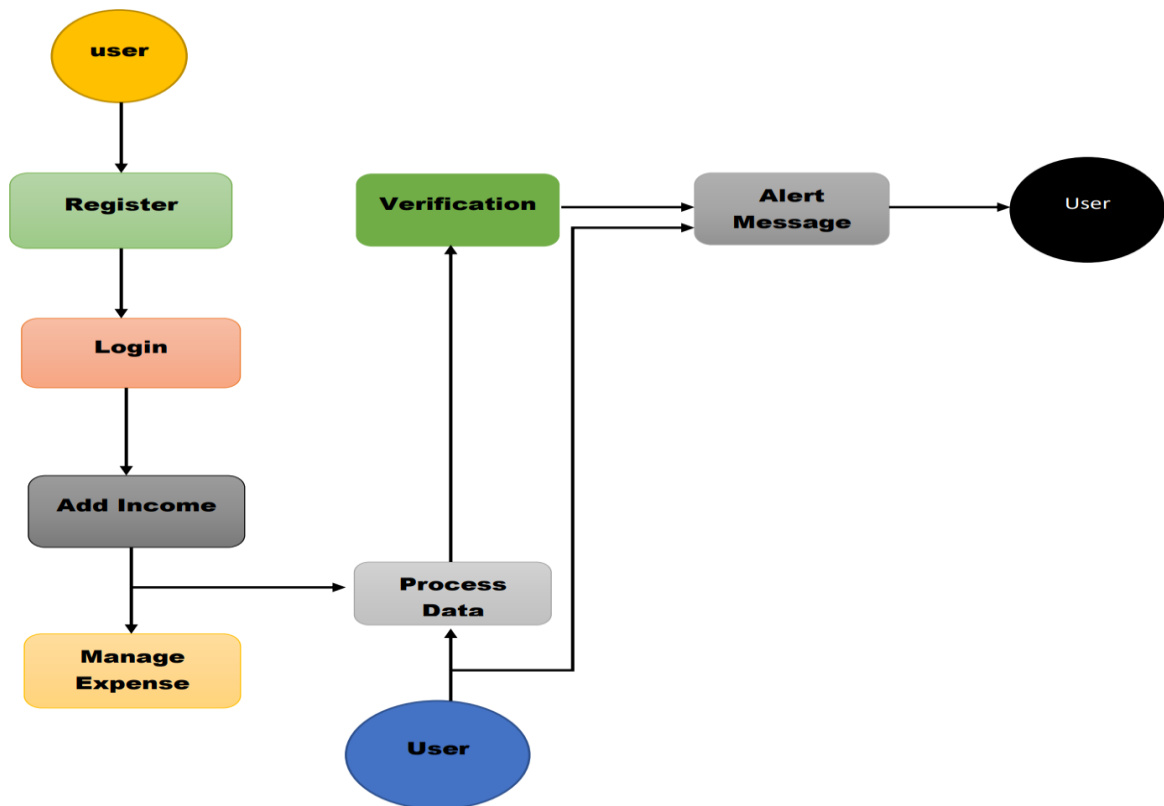
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Register	Registration is done by the user using registration form .Details like username, password and email must be submitted
FR-2	Login	The user can access using password and username
FR-3	Dashboard	On a main page that consists of credit ,debit and check balance buttons for user it is user friendly application .
FR-4	Update Daily Expense	The customer can upload their daily expensive that what they spending on each day .The things like education, books, food, rent etc.
FR-5	Set Alert	The customer attempts to spend more than the amount limit the application wil.l automatically send a alert message to the customer
FR - 6	Credit And Debit	User can make transaction in the saving account and the page has href link is provide to back to the dashboard .

4.2 Non-Functional Requirements

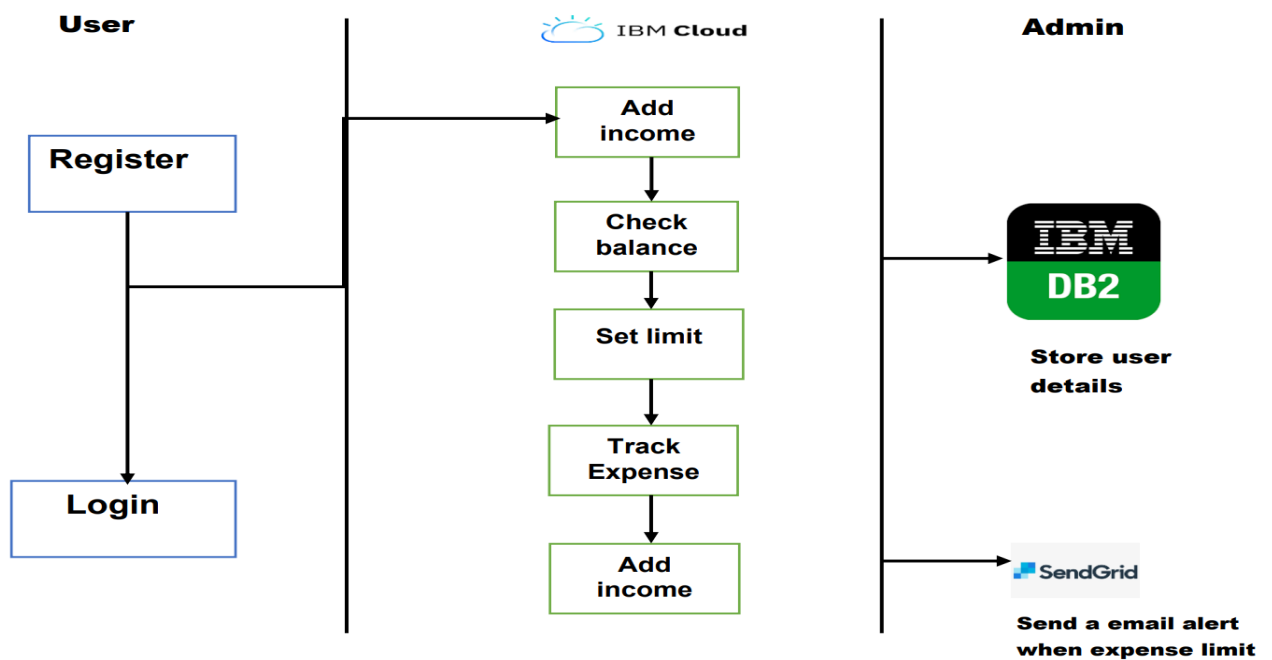
FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The application is user friendly. It allows user to access the system PC using web application.
NFR-2	Security	A system has many security properties and features in the application .
NFR-3	Reliability	T he system has 100% reliable due to user data .The will run 24/7 daily.
NFR-4	Performance	The information is update every second in day .The system is response to the user at a sec their ask .It take time when it is a large data information to update .
NFR-5	Availability	The system is available 100% for the user and it is used 24 hours a day and 365 days in year. It works 24 hours a day 7 days in week
NFR-6	Scalability	Scalability is the measure of a system has ability to increase or decrease in performance.

5.PROJECT DESIGN

5.1 Data Flow Diagram



5.2 Solution & Technical Architecture



5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
	Login	USN-4	As a user, I can log into the application by entering email & password	I can access the application	Medium	Sprint-1
	Dashboard	USN-5	As a user I can enter my income and expenditure details.	I can view and update my expenses	High	Sprint-1
Customer Care Executive		USN-6	As a customer care executive, I can solve the log in and update issues	I can perform 24/7 for better solutions	Medium	Sprint-1
Administrator	Application	USN-7	As a admin I can update the application	I can update the changes	Medium	Sprint-1

6. PROJECT PLANNING & SCHEDULING

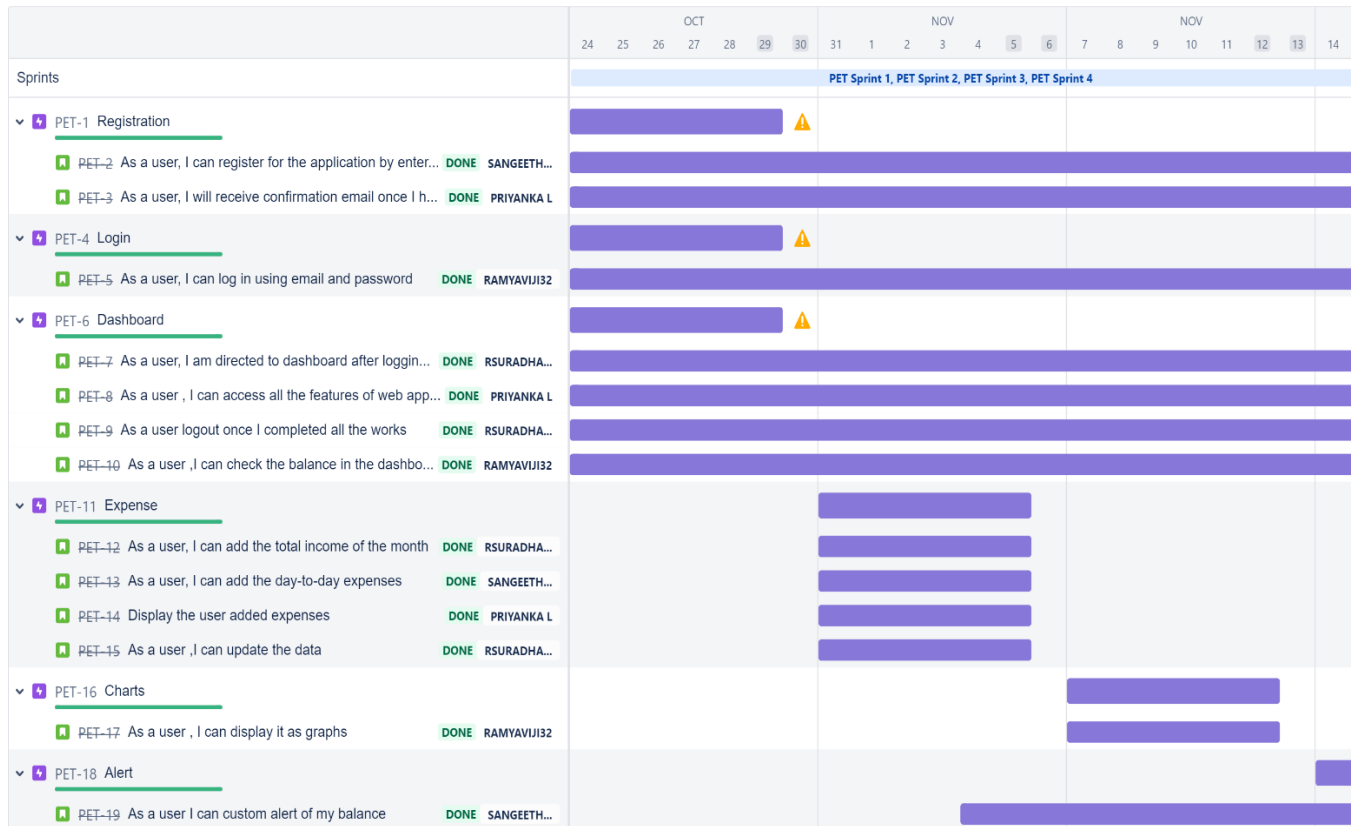
6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	8	High	Sangeeth Sahana.D
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	3	Medium	Priyanka.L
Sprint-1	Login	USN-3	As a user, I can log in using email and password	2	Low	Ramya.V
Sprint-1	Dashboard	USN-4	As a user, I am directed to dashboard after logging in.	5	Medium	Suradhayeni.R
Sprint-1		USN-5	As a user , I can access all the features of web application.	6	High	Priyanka.L
Sprint-1		USN-6	As a user logout once I completed all the works	3	Low	Suradhayeni.R
Sprint-1		USN-7	As a user ,I can check the balance in the dashboard	4	Medium	Ramya.V
Sprint-2	Expense	USN-8	As a user, I can add the total income of the month	4	Medium	Suradhayeni.R
Sprint-2		USN-9	As a user, I can add the day-to-day expenses	7	High	Sangeeth Sahana.D
Sprint-2		USN-10	Display the user added expenses	3	Low	Priyanka.L
		USN-11	As a user ,I can update the data	2	Low	Suradhayeni.R
Sprint-3	Charts	USN-12	As a user , I can display it as graphs	8	High	Ramya.V
Sprint-4	Alert	USN-13	As a user I can custom alert of my balance	5	Medium	Sangeeth Sahana.D

6.2 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	31	6 Days	24 Oct 2022	29 Oct 2022	31	29 Oct 2022
Sprint-2	16	6 Days	31 Oct 2022	05 Nov 2022	16	05 Nov 2022
Sprint-3	8	6 Days	07 Nov 2022	12 Nov 2022	8	12 Nov 2022
Sprint-4	5	6 Days	14 Nov 2022	19 Nov 2022	5	19 Nov 2022

6.3 Reports From JIRA

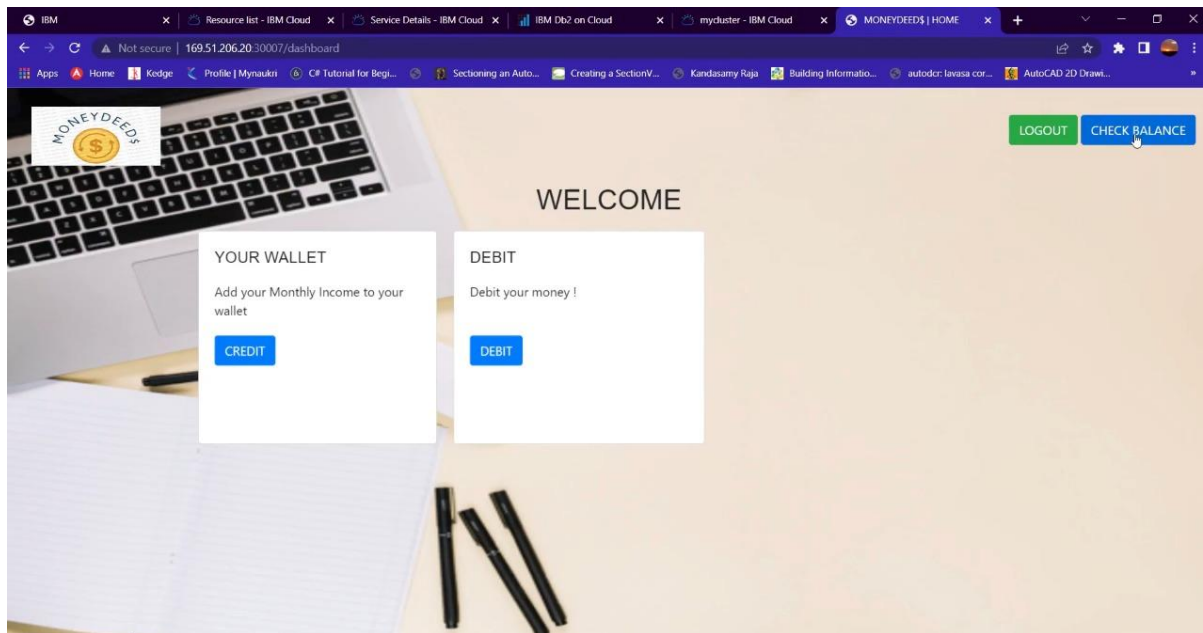


7. CODING & SOLUTIONING

7.1 Feature 1

DASHBOARD

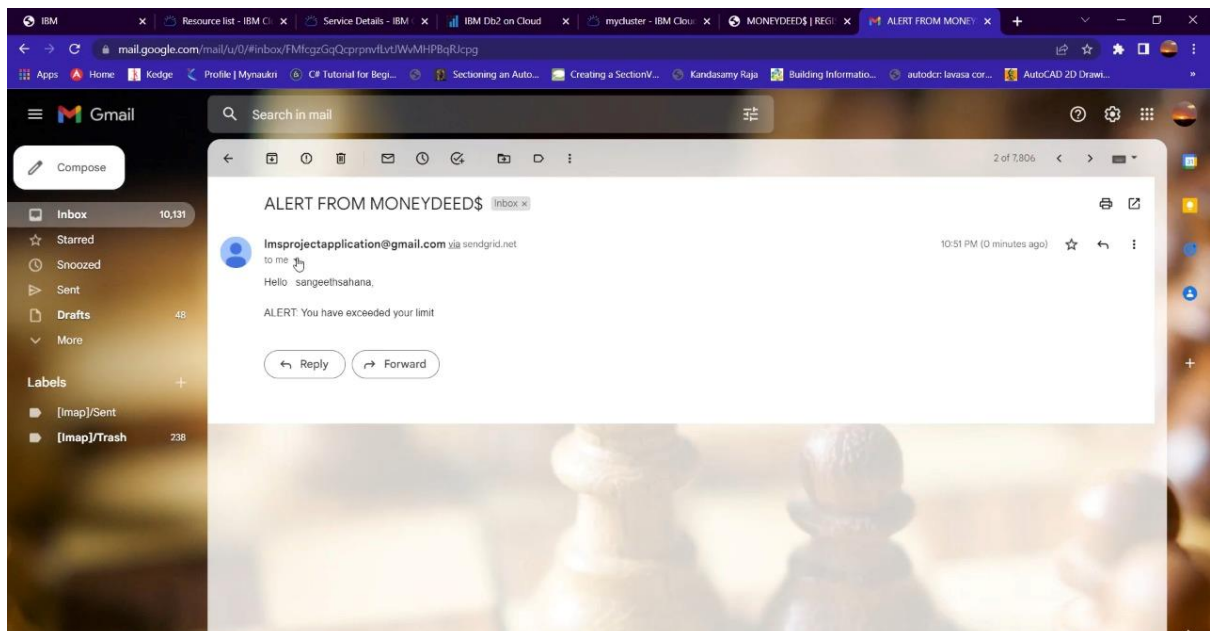
The dashboard is created to visualizes a data. It consists of credit, debit, check balance and logout buttons for access. It also provides excellent insights on various data



7.2 Feature 2

ALERT MESSAGE

The customer attempts to spend more than the amount limit the application will automatically send a alert message to customer



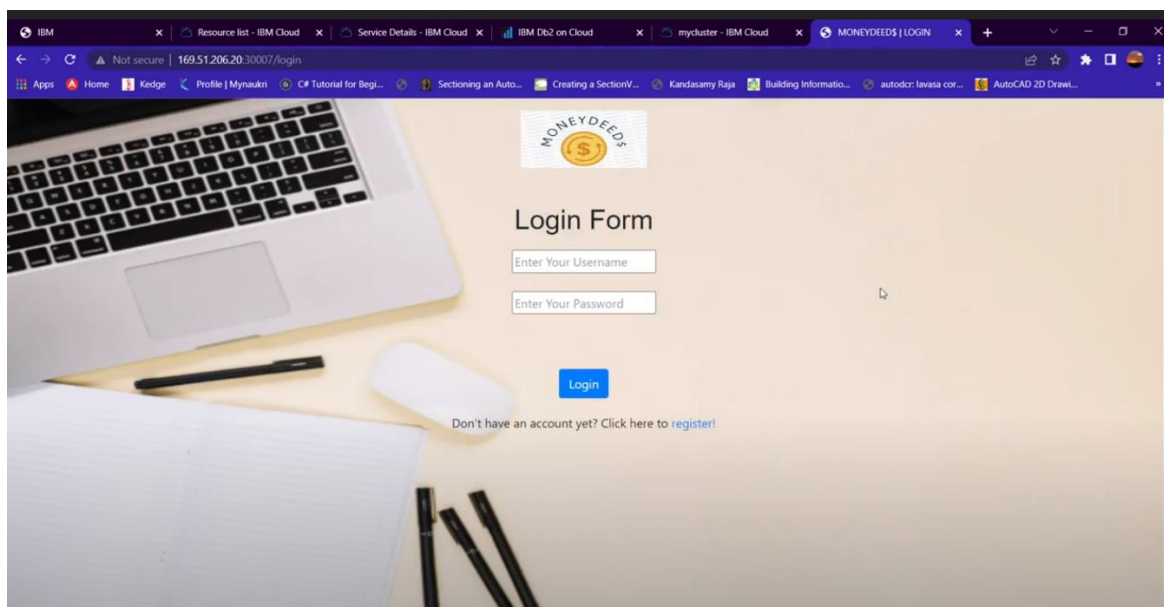
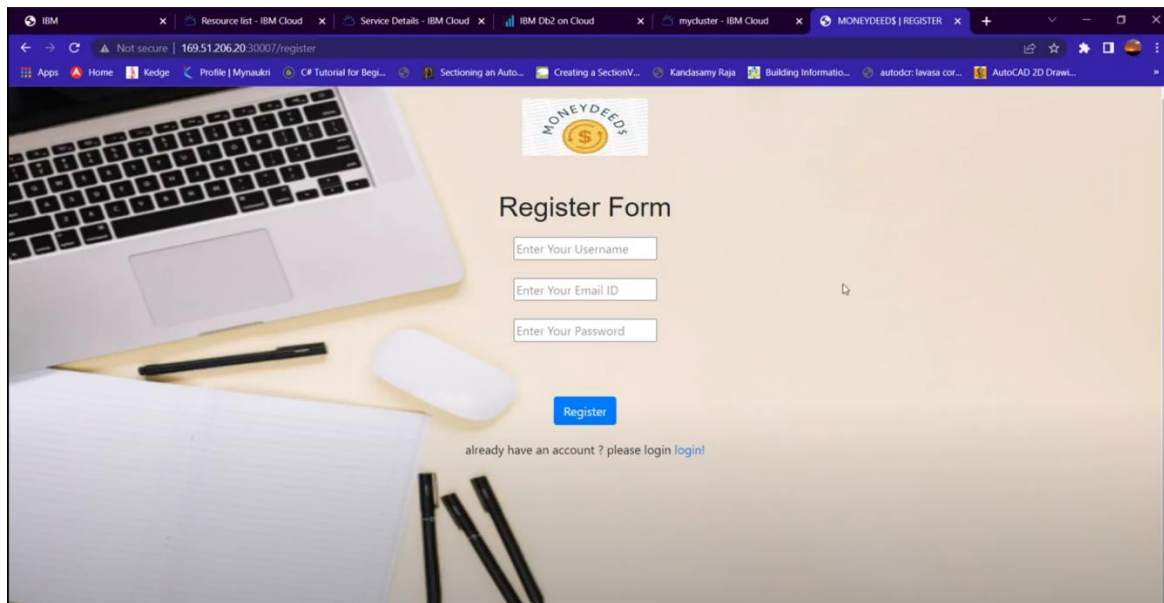
8. TESTING

8.1 Test Cases

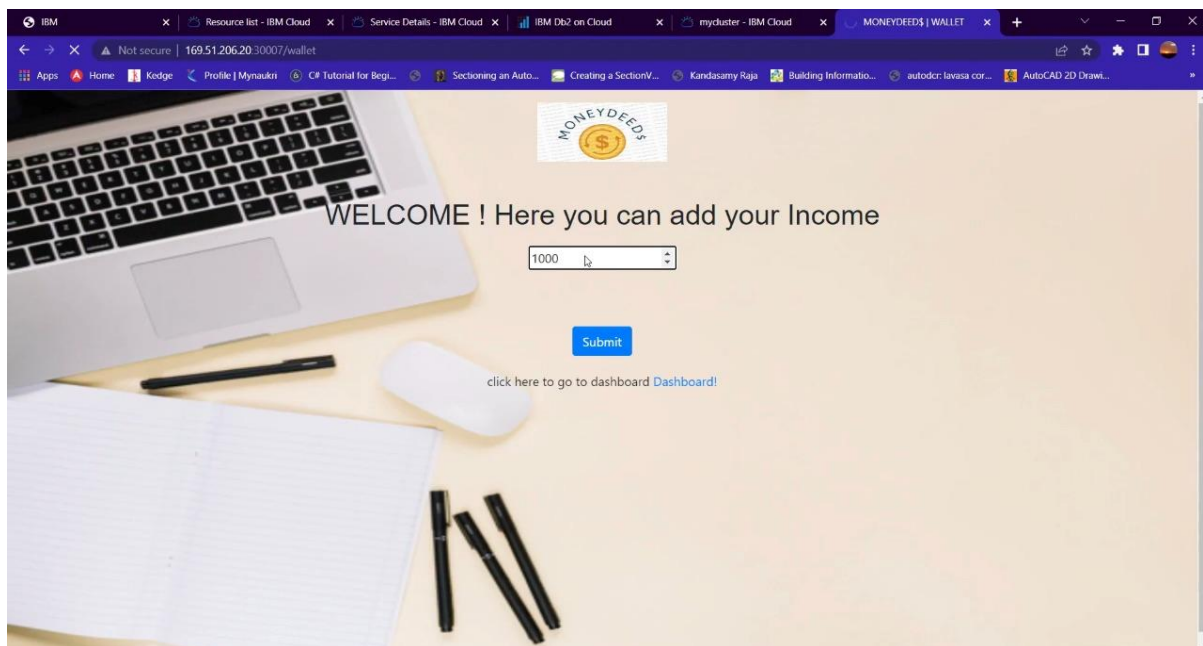
- Register and login using username , email id and password
- Add your Expenses
- Limit exceeds alert message

8.2 User Acceptance Testing

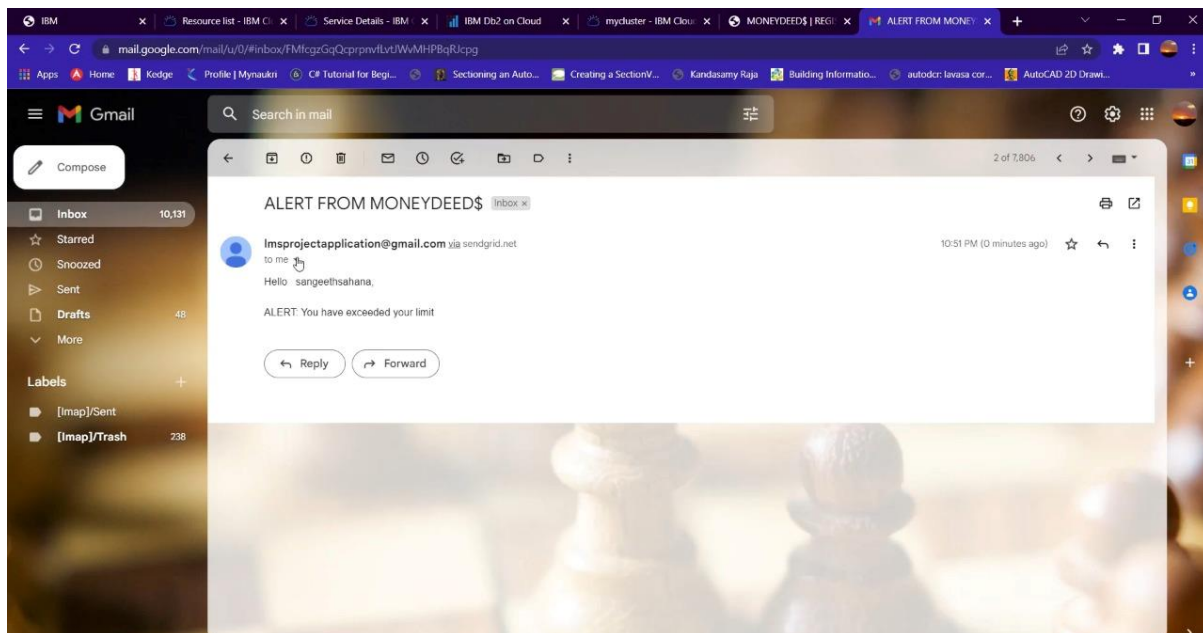
- Register and login using username , email id and password



➤ Add your Expenses



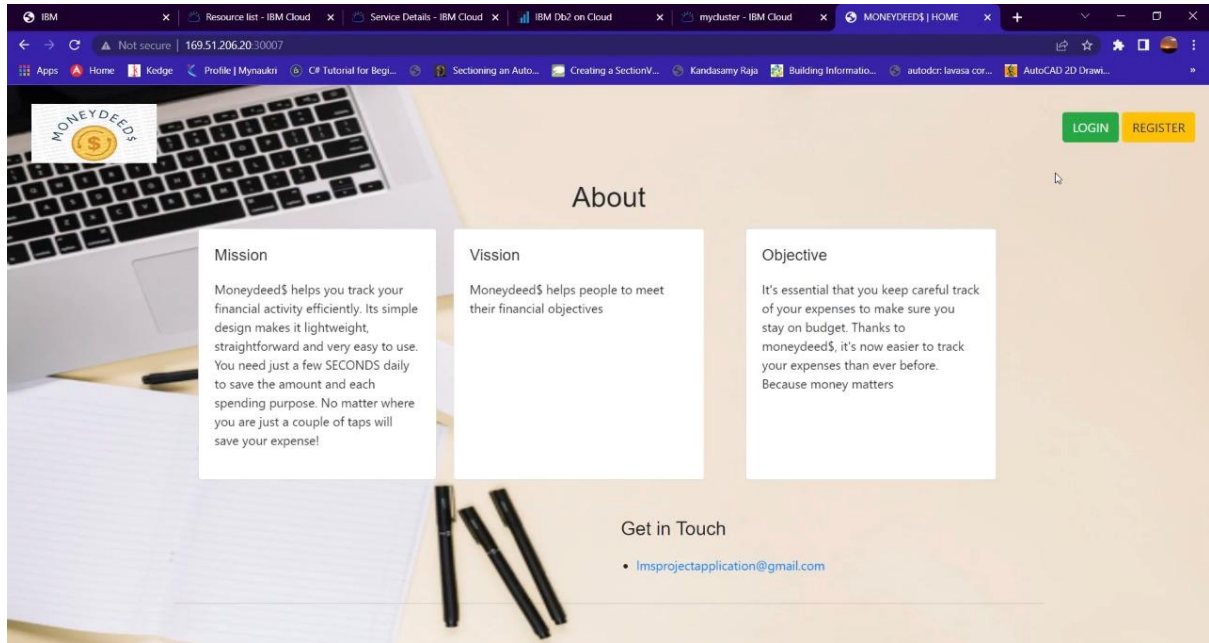
➤ Alert Message



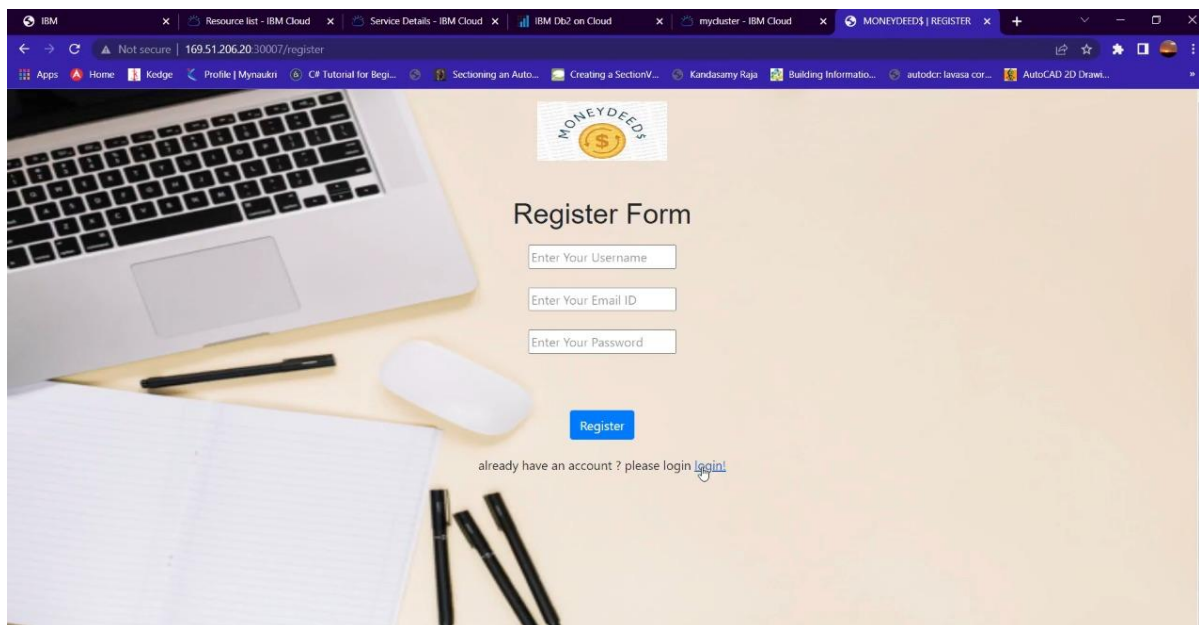
9. RESULTS

Web Page

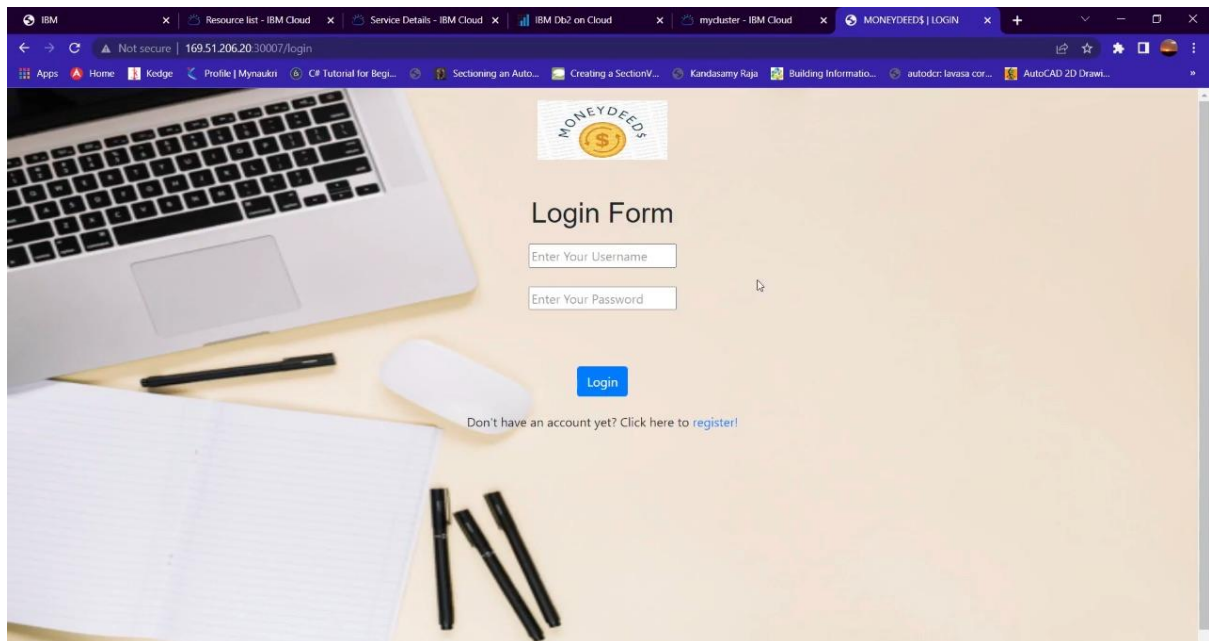
➤ Home Page



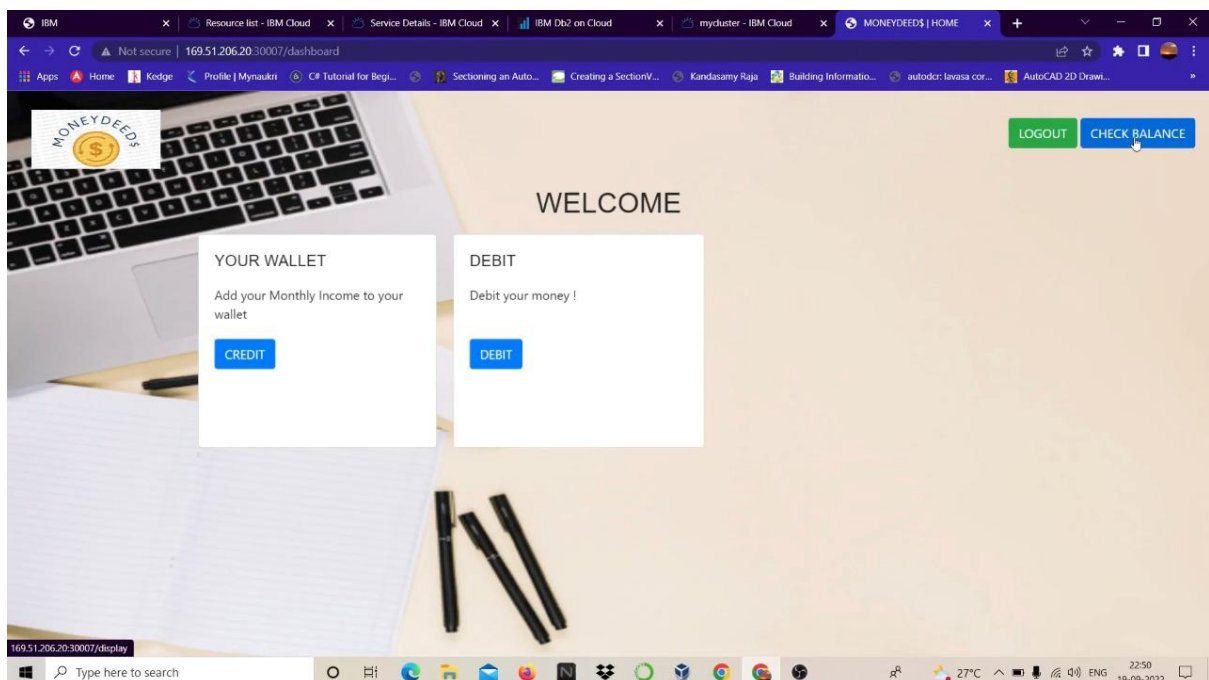
➤ Register Page



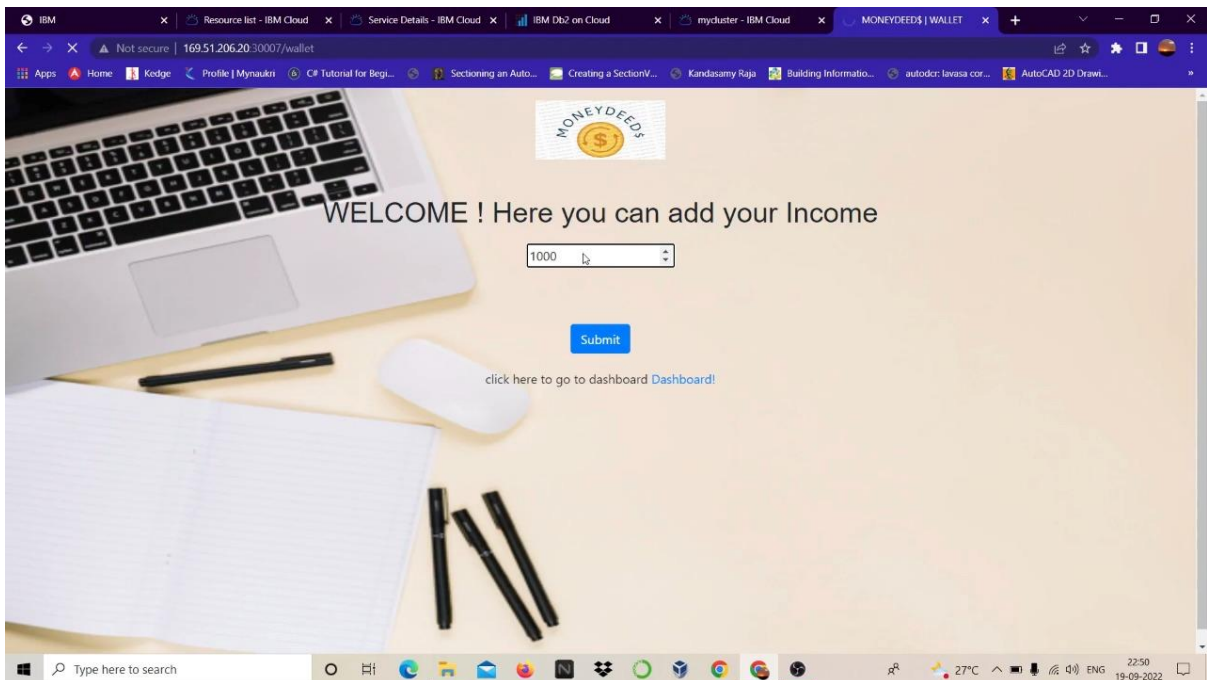
➤ Login page



➤ Dashboard



➤ Add your Income



The screenshot shows a web browser window with the URL `169.51.206.20:30007/wallet`. The page features a background image of a laptop, a mouse, and some pens. At the top center is the MONEYDEEDS logo, which consists of a yellow coin with a dollar sign and the text "MONEYDEEDS" above it. Below the logo, the text "WELCOME ! Here you can add your Income" is displayed. Underneath this text is a text input field containing the number "1000". Below the input field is a blue "Submit" button. At the bottom of the form area, there is a link that says "click here to go to dashboard Dashboard!". The browser's taskbar at the bottom shows various application icons and the system clock indicating 22:50 on 19-09-2022.

MONEYDEEDS

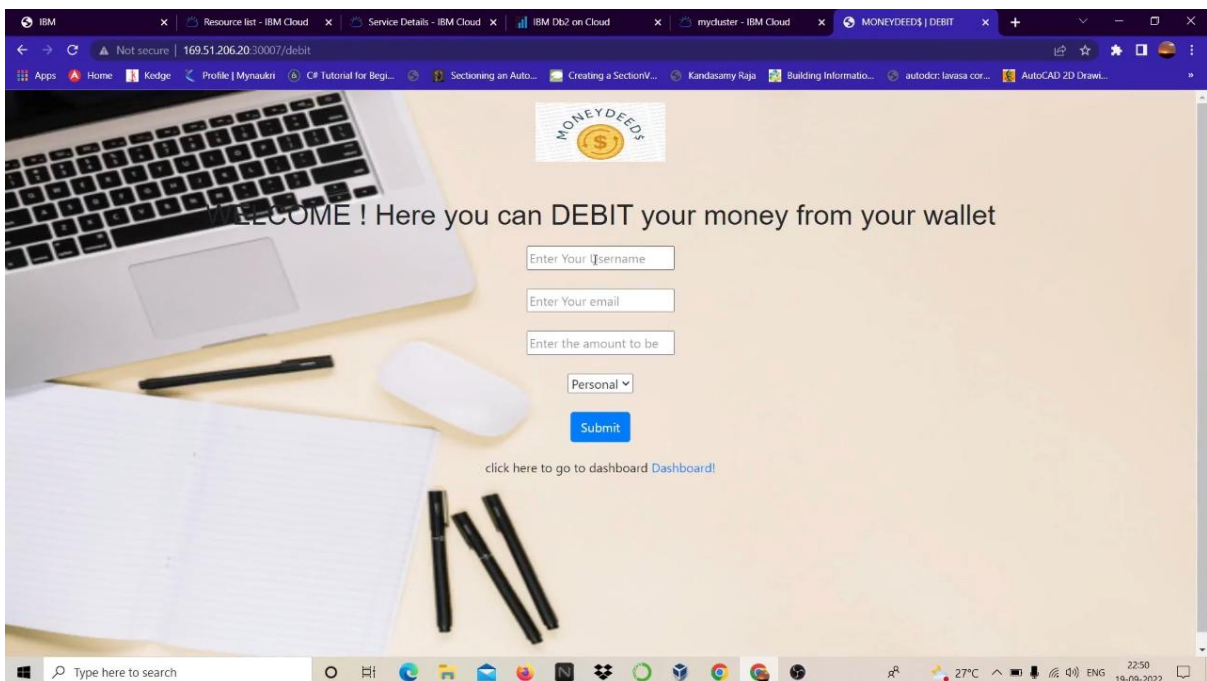
WELCOME ! Here you can add your Income

1000

Submit

[click here to go to dashboard Dashboard!](#)

➤ Debit Your money



The screenshot shows a web browser window with the URL `169.51.206.20:30007/debit`. The page features the same background image as the previous screenshot. At the top center is the MONEYDEEDS logo. Below the logo, the text "WELCOME ! Here you can DEBIT your money from your wallet" is displayed. Underneath this text are three text input fields: "Enter Your Username", "Enter Your email", and "Enter the amount to be". Below these fields is a dropdown menu currently set to "Personal". Below the dropdown menu is a blue "Submit" button. At the bottom of the form area, there is a link that says "click here to go to dashboard Dashboard!". The browser's taskbar at the bottom shows various application icons and the system clock indicating 22:50 on 19-09-2022.

MONEYDEEDS

WELCOME ! Here you can DEBIT your money from your wallet

Enter Your Username

Enter Your email

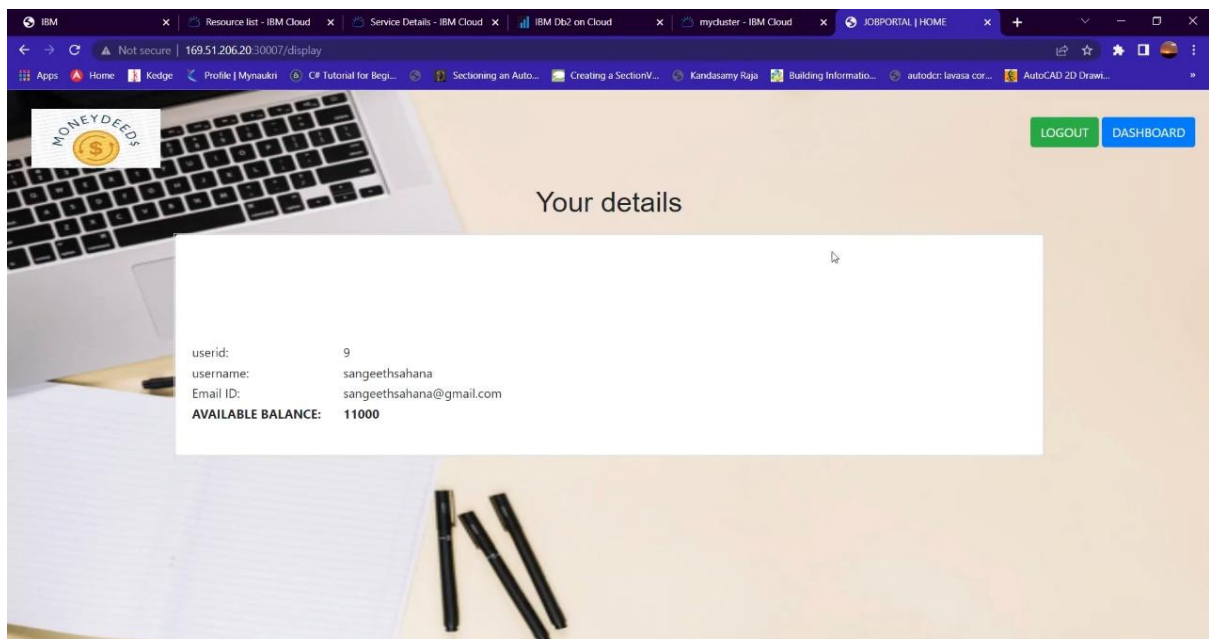
Enter the amount to be

Personal

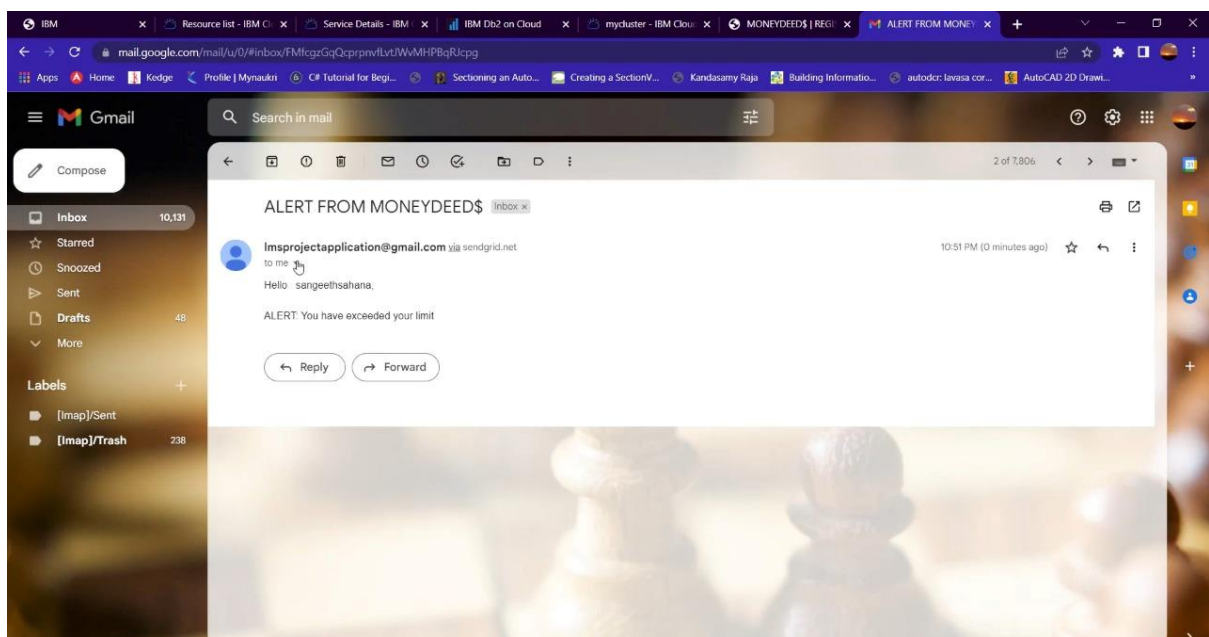
Submit

[click here to go to dashboard Dashboard!](#)

➤ Check Balance



➤ Alert Message



10. ADVANTAGES & DISADVANTAGES

Advantages

- Easy to use
- Only seconds needed to save money
- It is under control
- Very Efficient

Disadvantage

- Not used for Complex data analytics
- Only used for simple daily expenses

11. CONCLUSION

Thus, the proposed personal expense tracker used to help people to track their expenses there by reducing their stress to maintain a budget. No matter when, just a couple of taps and a few seconds will save the expense . Because money matters ! !

12. FUTURE SCOPE

The Creation of visualization charts takes numerous steps and procedures. As a future work to do done the results to analyse the attribute can be done by reducing the number of procedure steps. The results of analysis can be improved by optimizing the algorithm selection procedure and by using large inventory datasets.

13. APPENDIX

GitHub Link: Source Code

<https://github.com/IBM-EPBL/IBM-Project-17678-1659675169/tree/main/Final%20Deliverables/Source%20Code>

GitHub :

<https://github.com/IBM-EPBL/IBM-Project-17678-1659675169>

Project Demo Link

<https://drive.google.com/file/d/1GcOXX6bdimzXmJveagU-azFAhdhfQQ1I/view?usp=drivesdk>