

# IBM Project Report

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**Team Details:** Project: Personal Expense Tracker Application

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**Team ID:** PNT2022TMID21261

## **1.INTRODUCTION**

### **1.1 Project Overview**

A personal expense tracker is a software or application that helps to keep an accurate record of your money inflow and outflow. Many people in India live on a fixed income, and they find that towards the end of the month they don't have sufficient money to meet their needs. While this problem can arise due to low salary, invariably it is due to poor money management skills.

People tend to overspend without realizing, and this can prove to be disastrous. Using a daily expense manager can help you keep track of how much you spend every day and on what. At the end of the month, you will have a clear picture where your money is going. This is one of the best ways to get your expenses under control and bring some semblance of order to your finances.

In simple words, personal finance entails all the financial decisions and activities that a Finance app makes your life easier by helping you to manage your finances efficiently. A personal finance app will not only help you with budgeting and accounting but also give you helpful insights about money management.

Personal finance applications will ask users to add their expenses and based on their expense's wallet balance will be updated which will be visible to the user. Also, users can get an analysis of their expenditure in graphical forms. They have an option to set a limit for the amount to be used for that particular month if the limit is exceeded the user will be notified.

### **1.2 Purpose**

Personal expense tracker is an important part of people's lives. However, everyone does not have the knowledge or time to manage their finances in a proper manner. And, even if a person has time and knowledge, they do not

bother with tracking their expenses as they find it tedious and time-consuming. Now, you don't have to worry about managing your expenses, as you can get access to an expense tracker that will help in the active management of your finances.

Expense tracking is essential in successful financial management. By knowing where our money goes, we can effectively sort out our financial priorities based on our budget. This will help us save, and achieve our financial goals and make the desired lifestyle we want.

### **Need for a Personal Expense Tracker:**

#### ✓ **Prioritize Your Spending:**

Remember you are on a fixed income and have a limited amount of money to spend. If you begin analyzing what you are spending your hard earned money on, you will be able to prioritize the spending. This way, you will spend just on things you really need, like paying your EMI's, utility bills, rent and grocery shopping, rather than spending frivolously.

#### ✓ **Become Aware of Poor Spending Habits:**

If you have a tendency to spend money on a whim, using an expense manager will help you identify those habits. When you see this spending in black and white, you will be able to take corrective measures. Primarily, you will think twice before spending on things you don't really need.

#### ✓ **Identify Fraud:**

With India slowly shifting to digital payment, it is important you keep close track of your credit card statements, bank accounts and spending. Otherwise, you can fall prey to financial fraud and not even realize it. If your hard-earned money gets stolen due to poor financial management, it can be devastating and it will be very difficult to come out of it.

#### ✓ **Take Control of Your Finances:**

When you track your expenses, you take control of your finances. It empowers you to control spending impulses and eliminate frivolous spending, thereby avoiding debt. You can, instead, work to create financial security for yourself by spending your money more wisely.

## 2 LITERATURE SURVEY

### 2.1 Existing problem

If your goal is to build a budget spreadsheet that works, you must start by tracking your expenses. You can't live on a budget where the numbers are pulled out of thin air. You must track where your money is actually going, so that you know where you're starting from.

When tracking your spending, spend as you normally would. Tracking isn't meant to make you feel guilty or to stop you from spending. It's meant to highlight what your habits are so that you can make some choices and changes later.

The availability of personal expense tracking applications is vast, but some fail to notify the consumer if they exceed the set threshold.

These apps use existing technologies and we try to implement them with Python, Flask, and Docker.

### 2.2 References

S. NO	PAPER TITLE	AUTHOR NAME	PUBLICATION YEAR	RESULTS
1.	Expense Tracker : A Smart Approach to Track Everyday Expense	Hrithik Gupta, Anant Prakash Singh, Navneet Kumar and J. Angelin Blessy	2020	After making this application we assure that this application will help its users to manage the cost of their daily expenditure. It will guide them and aware them about their daily expenses. It will prove to be helpful for the 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 which may be useful to change their way of spending money. In short, this application will help its users to overcome the wastage of

				money
2.	IRJET- Online Income andExpense Tracker	S. Chandini1, T. Poojitha2, D. Ranjith3, V.J. Mohamme d Akram4, M.S. Vani5, V. Rajyalakshmi	2019	Tracking your expenses daily can save your amount, but it can also help you setfinancial goals for the future. If you know exactly where your amount is going every month, you can easily see where some cutbacks and compromises can be made. The project what we have developed is work more efficient than theother income and expense tracker. The project successfully avoids the manual calculation for avoiding calculating the income and expense per month.The modules are developed with efficient and also in an attractive manner.
3.	Personal Expense Assistant Management: An Android Based Application	Sali, Moussa a; Abbo,Abdel Salam	2016	The application attempts to free the user with as much as possible the burden of manual calculation andto keep the track of hisexpenditure. Instead ofkeeping a dairy or a log of the expenses on the smartphones or laptops, it enables the user to not just keep the tab on the expensesbut also to plan ahead keeping the past budget in mind. With the help of this application, a user maybe able to add, delete or change the current entered bill entry efficiently.
4.	Expense Manager	A Velmuruga, J Albert	2020	We have developed a mobile application that

	Application	Mayan, P Niranjana and Richard Francis		<p>Keeps track of all of your daily transactions, keeps track of your moneylent or borrowed ,suggests you with the most effective investment options, offers your discounts in popular categories , view exchange and to read latest authenticated financialnews. This paper's main aim to eliminate the use of sticky notes,spreadsheets and handling of large chunks of data is successful, the new experience is hassle-free and very handy. Now, with our application user can manage his expenses more effectively. This application can also help digital marketing agencies in rolling out their advertising campaigns more effectively. As a part offurther research, we considered adding certain features to create more enhancedexperience to the user .We are also going to link this profile with their mobile number, email account, social networks so that the application offers portability, other features to be added are discussed above below within the future enhancement section. The application delivered efficiently in calculating split expenses and recording the expensetogether accurately with date and time.</p>
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5.	Income and Expense Tracker	P. Thanapal , Mohammed Yaseen Patel, T.P. Lokesh Rajand J. Sathesh Kumar	2015	<p>The project what we have developed is work more efficient than the other income and expense tracker. The project successfully avoids the manual calculation for avoiding calculating the income and expense per month.</p> <p>The modules are developed with efficient and also in an attractive manner. The remainder will help us to remind us each and every second what we have set to remind.</p>
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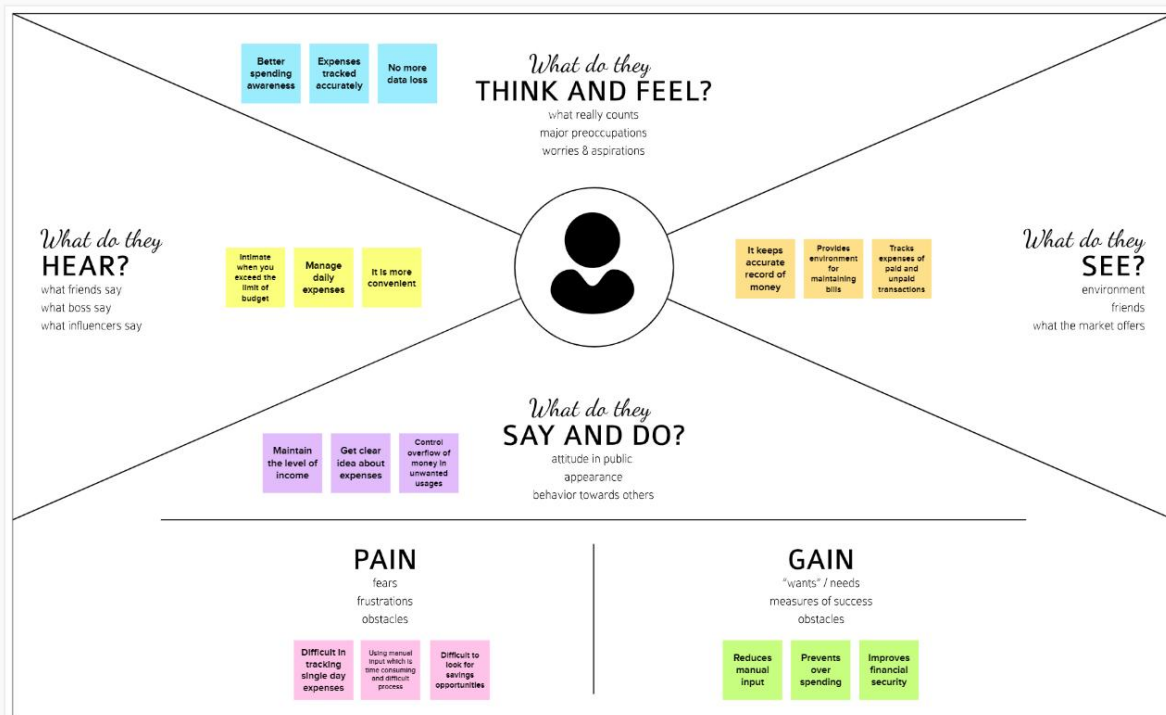
### 2.3 Problem Statement Definition

Personal finance entails all the financial decisions and activities that a Finance app makes your life easier by helping you to manage your finances efficiently. A personal finance app will not only help you with budgeting and accounting but also give you helpful insights about money management.

Many organizations have their own system to record their income and expenses, which they feel is the main key point of their business progress. 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. Thus, we need a Personal expense tracker.

### 3.1 Empathy Map Canvas

Build empathy and keep your focus on the user by putting yourself in their shoes.



A Customer Empathy Map is a tool used when collecting data about customers to better understand your target customer base. They allow you to visualize customer needs, condense customer data into a clear, simple chart, and help you see what customers want — not what you think they want. By following this map, you can systematically find answers.

### 3.2 Ideation & Brainstorming

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

#### Step-1: Team Gathering, Collaboration and Select the Problem Statement





## Brainstorm and Idea prioritization

As per this project we will be creating some important visualization , creating a dashboard and going through these we will get more insight about Personal Expenses Tracker

- 🕒 15 minutes to prepare
- 🕒 30-60 minutes to collaborate
- 👤 3-8 people recommended

Created in partnership with



### 1 Define your problem statement

What problem are you trying to solve?  
Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

#### Personal Expense Tracker Application

Personal finance entails all the financial decisions and activities that a Finance app makes your life easier by helping you to manage your finances efficiently.

A personal finance app will not only help you with budgeting and accounting but also give you helpful insights about money management.

## Step-2: Brainstorm, Idea Listing and Grouping

2

### Brainstorm

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

🕒 10 minutes

**TIP**  
You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

#### Nivedha G

Show the monthly expenses	Categorize the bills	Set up some built-in budget plans
Automatically feeds the data from SMS or any app	Control all your expenses	Suggestions for budget planning
Visualize the expenses monthly	Connect UPI apps which will have history of expenses	Provide security to the application

#### Mohamadh Harrish A

Prepare excel sheet of the monthly budget	Automate the process	Managing the expenses
Checking account statements	Tracking expenses regularly	Finding suitable tool for tracking the expenses
Keep a thorough paper trail	Subtract your expenses from your income	Stick to your spending limits

#### Dhinesh Kumar B

Keep track of purchases, savings	prioritize spending	make alert when over budget
setting goals	make reminders to pay bills	allocate certain amounts to each categories
categorize expenses	for major expenses use QR to track how much you spend	adjust budget based on balance

#### Dhatshaeni E

Helps to solve problems	Categorize the expenses	connects all UPI id's
Keep monthly expenses	offline mode	Joint accounts with family
Monthly report for expenses	Save money for future plans	Helps you to stick on your budget

3

### Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

🕒 20 minutes

#### Categorizing the expenses



#### Other Important Features



#### Tracking the Expenses



## Step-3: Idea Prioritization

4

### 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 be solved)	Expense tracking is essential in successful financial management. By knowing where our money goes, we can effectively sort out our financial priorities based on our budget. This will help us save for our financial goals and achieve the lifestyle we want.

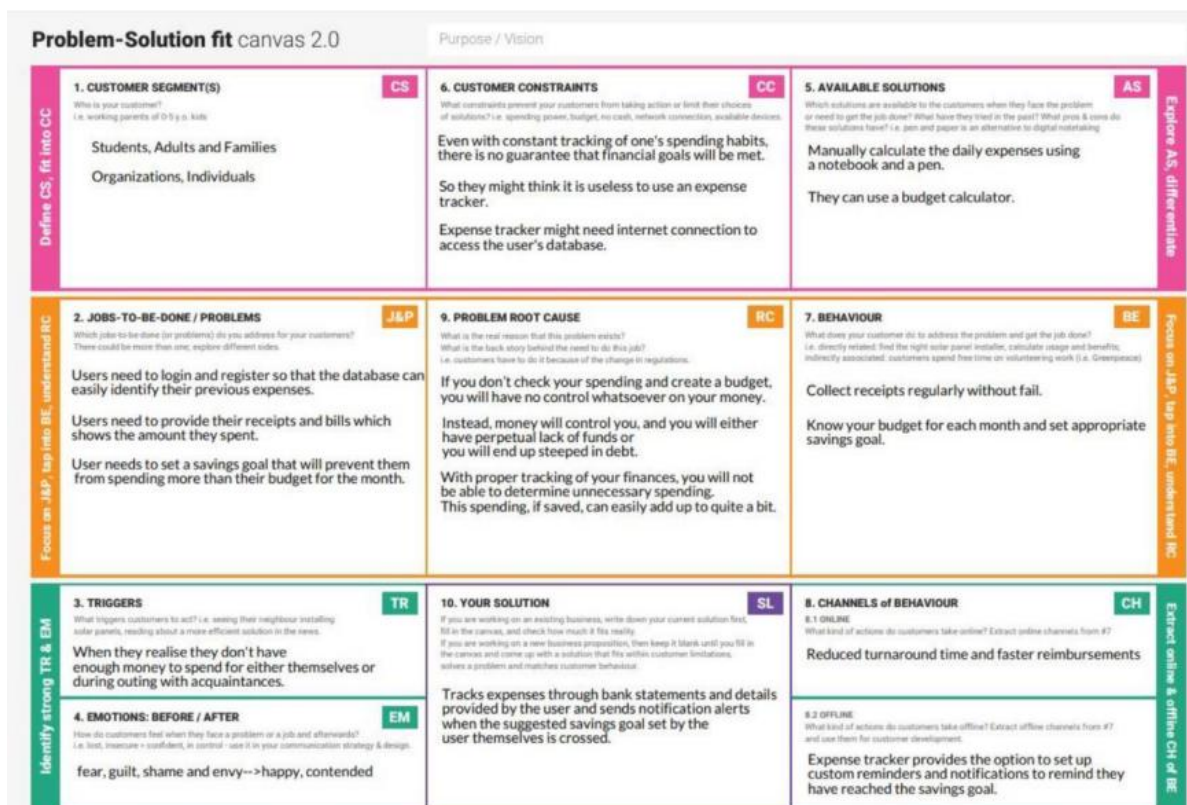
2.	Idea / Solution description	To develop a personal finance application which allows users to add their expenses and based on their expense wallet balance will be updated and displayed. Also, users can get an analysis of their expenditure in graphical forms. They have an option to set a limit for the amount to be used for that particular month and if the limit is exceeded the users will be notified with an email alert.
3.	Novelty / Uniqueness	<ul style="list-style-type: none"> <li>➤ Integration of email alerting system</li> <li>➤ Representation of expenditure analysis in graphical forms</li> <li>➤ Categorisation and disclosure of business expenses</li> <li>➤ Set boundaries on monthly expenses</li> </ul>
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> <li>➤ Customers can maintain control of their finances and promote better financial habits like saving and investing.</li> <li>➤ Customers can regularly track their expense wallet.</li> <li>➤ By tracking personal expenses and keeping meticulous records, customers have everything ready come tax time.</li> </ul>
5.	Business Model (Revenue Model)	The application can be used in every household where the significance of tracking personal expense is understood thereby serving as a good business model.
6.	Scalability of the Solution	<ul style="list-style-type: none"> <li>➤ The application can be scaled around every earning individual who wants to keep good track of his financial expenses.</li> <li>➤ Also, scalability can extend around people</li> <li>➤ working especially in Businesssectors who pay higher grade of taxes.</li> </ul>

### 3.4 Problem Solution fit

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioural patterns and recognize what would work and why.

## Purpose:

- ❑ Solve complex problems in a way that fits the state of your customers.
- ❑ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behaviour.
- ❑ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ❑ Increase touch-points with your company by finding the right problem-behaviour fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ❑ Understand the existing situation in order to improve it for your target group.



## 4 REQUIREMENT ANALYSIS

### 4.1 Functional requirement

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail

FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Access / Login	Login through e-mail ID & Password
FR-4	User Data	Adding user expenses through input field & categories
FR-5	User Alert	Alerting user through registered e-mail ID

## 4.2 Non-Functional requirements

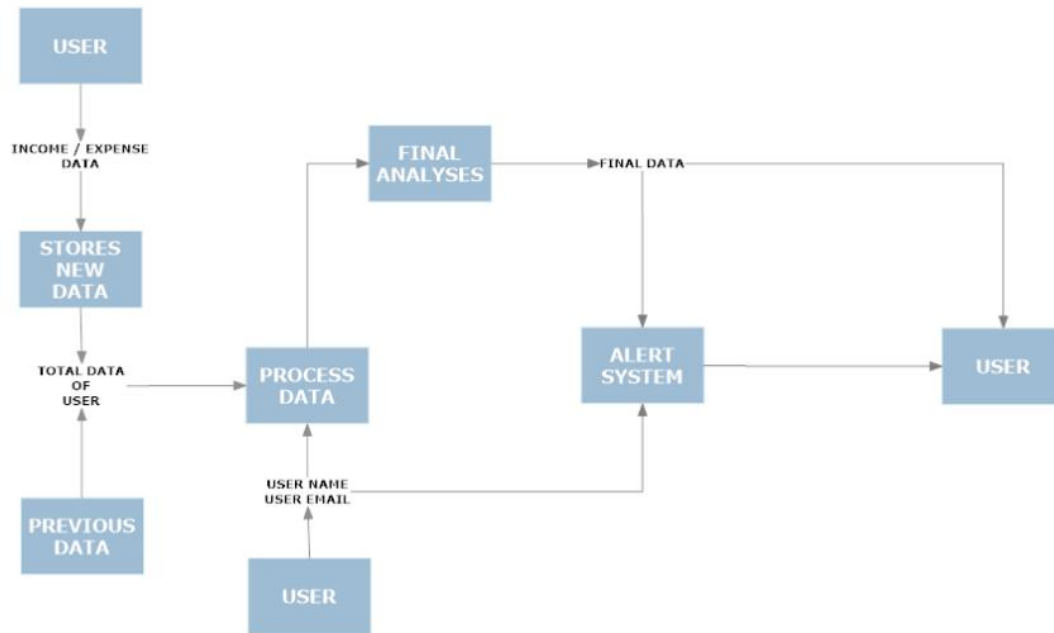
Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	User friendly interface
NFR-2	<b>Security</b>	Strong security system
NFR-3	<b>Reliability</b>	Highly reliable for the old age people to track the expenses
NFR-4	<b>Performance</b>	Low data usage, instant email alerts while exceeding limits.
NFR-5	<b>Availability</b>	Available for all platforms (Mobile User, Web User)
NFR-6	<b>Scalability</b>	Access Anywhere Anytime

## 5 PROJECT DESIGN

### 5.1 Data Flow Diagrams

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

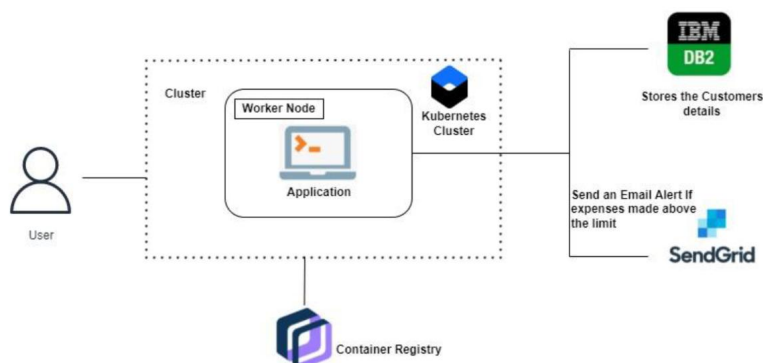


## 5.2 Solution & Technical Architecture

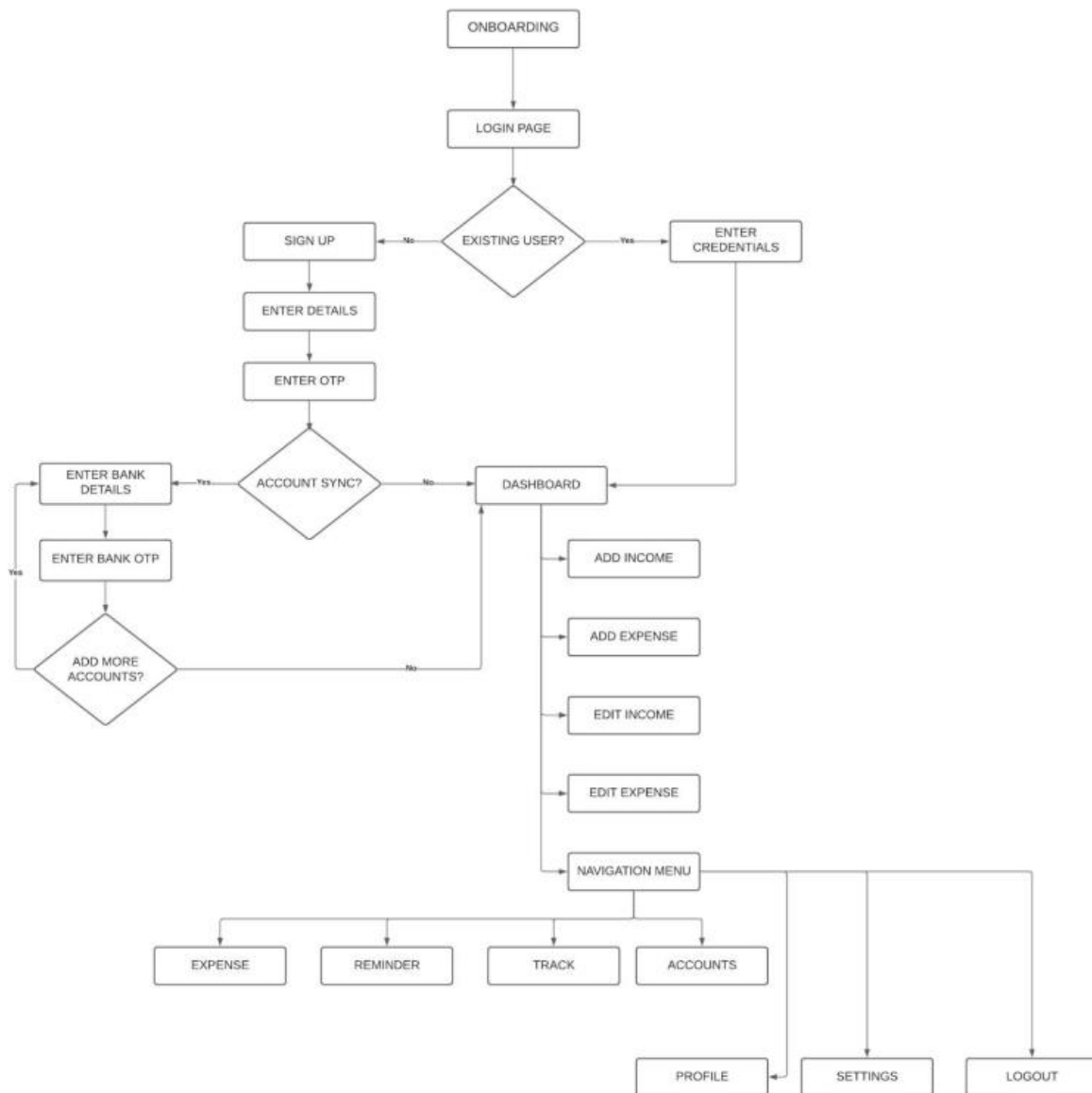
Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

### Architecture Diagram:



## Solution architecture:





## 5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority
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
		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
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low
	Login	USN-4	As a user, I can log into the application by entering email & password	I can access the application	High
	Dashboard	USN-5	As a user I can enter my income and expenditure details.	I can view my daily expenses	High
Customer Care Executive		USN – 6	As a customer care executive, I can solve the log in issues and other issues of the application.	I can provide support or solution at any time 24*7	Medium
Administrator	Application	USN – 7	As an administrator I can upgrade or update the application.	I can fix the bug which arises for the customers and users of the application	Medium

## 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.	2	High	Nivedha G
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	Dhinesh Kumar B
Sprint-1		USN-3	As a user, I can register for the application through gmail	2	High	Mohamadh Harrish A
Sprint-2	Login	USN-4	As a user, I can log into the application by entering email & password	2	High	Dhatshaeni E
Sprint-2	Dashboard	USN-5	As a user I can link the bank account to access transaction history	2	High	Nivedha G
Sprint-2		USN-6	As a user I can access the labels to update for each transaction.	1	High	Dhinesh Kumar B
Sprint-3		USN-7	As a user I can set Budget limit for monthly expenses	2	Medium	Mohamadh Harrish A

Sprint-3		USN-8	As a user I can create separate label and set budget limit for each and every label	2	Medium	Dhatshaeni E
Sprint-3		USN-9	As a user I can add expenses manually	2	Low	Nivedha G
Sprint-4	Alerts	USN-10	As a user I can customize the notification alertsfor budget limits.	1	Medium	Mohamadh Harrish A
Sprint-4		USN-11	As a user I can only change the budget limit with a limited time period.	1	Medium	Dhinesh Kumar B
Sprint-4	Graph	USN-12	As a user I can view the Expense-Time graph	3	High	Dhatshaeni E

## 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	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	10	07 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	10	07 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	10	14 Nov 2022

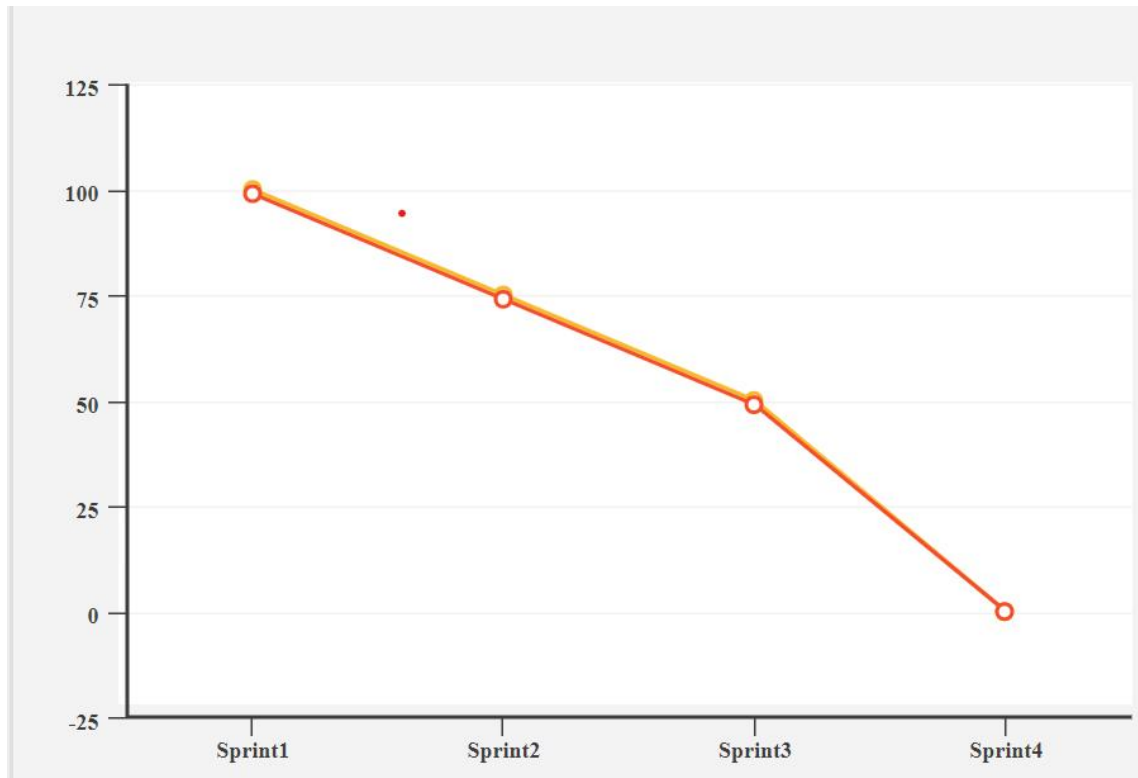
### Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

### Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.



## 6.3 Reports from JIRA

	NOV				NOV							
	10	11	12	13	14	15	16	17	18	19	20	21
Sprints			CBPET S...	CBPET S...	CBPET S...	CBPET S...						
>  CBPET-9 Registration												
>  CBPET-10 Login												
>  CBPET-11 Add												
>  CBPET-12 Remove												
>  CBPET-13 View												
CBPET-14 Get alert message												
CBPET-15 Add / remove user												
>  CBPET-16 Dashboard												
>  CBPET-17 Set												
>  CBPET-18 IBM-DB2												
>  CBPET-19 Sendgrid												
>  CBPET-20 Integration												
>  CBPET-21 Docker												
>  CBPET-22 IBM Container Registry												
>  CBPET-23 Kubernetes												
>  CBPET-35 Watson assistant												

## 7 CODING & SOLUTIONING

### 7.1 SendGrid

SendGrid is a cloud-based SMTP provider that allows you to send email without having to maintain email servers. SendGrid manages all of the technical details, from scaling the infrastructure to ISP outreach and reputation monitoring to whitelist services and real time analytics.

SendGrid provides two ways to send email: through our SMTP relay or through our Web API. SendGrid provides client libraries in many languages. This is the preferred way to integrate with SendGrid. If you choose to use SendGrid without a client library, the Web API is recommended in most cases as it is faster, provides some benefit with encoding, and tends to be easier to use. SMTP provides many features by default, but is harder to setup.

### 7.2 Web API

- The Web API has some advantages over SMTP:
- If your ISP blocks all outbound mail ports and your only option is HTTP.
- If there is high latency between your site and ours, the Web API might be quicker since it does not require as many messages between the client and server.
- If you do not control the application environment and cannot install and configure an SMTP library.
- If you build a library to send email, developing against a web API provides quicker development.

#### SMTP Relay

- If you are integrating SendGrid with an existing application, setting up the application to use our SMTP relay is easiest, as it only requires modifying SMTP configuration.
- Change your SMTP username and password to your SendGrid credentials.
- Set the server host name to `smtp.sendgrid.net`
- Use ports 25 or 587 for plain/TLS connections and port 465 for SSL connections.

**Code:**

```
import os
from dotenv import load_dotenv
load_dotenv()
from sendgrid import SendGridAPIClient
from sendgrid.helpers.mail import Mail

def sendmail(usermail,subject,content):
    message =
    Mail(from_email='mohamadh@student.tce.edu',to_emails=usermail,subject=subject,html_content='<strong> {} </strong>'.format(content))
    try:
        sg = SendGridAPIClient(os.getenv('SENDGRID_API_KEY'))
        response = sg.send(message)
        print(response.status_code)
        print(response.body)
        print(response.headers)
    except Exception as e:
        print(e.message)
```

## **8 TESTING**

### **8.1 Authentication Module**

- **Sign Up**

New user can create an account to use and create a password for account verification and create an identity.

- **Login**

User can login to the account for viewing or making use of our personal expense tracker.

- **Account Verification**

If user changes their password or if they forget the password then we have to verify their account using mail verification.

### **8.2 Service Provider Module**

- **Add New User**

Admin can be able to register to add user details.

- **List All Users**

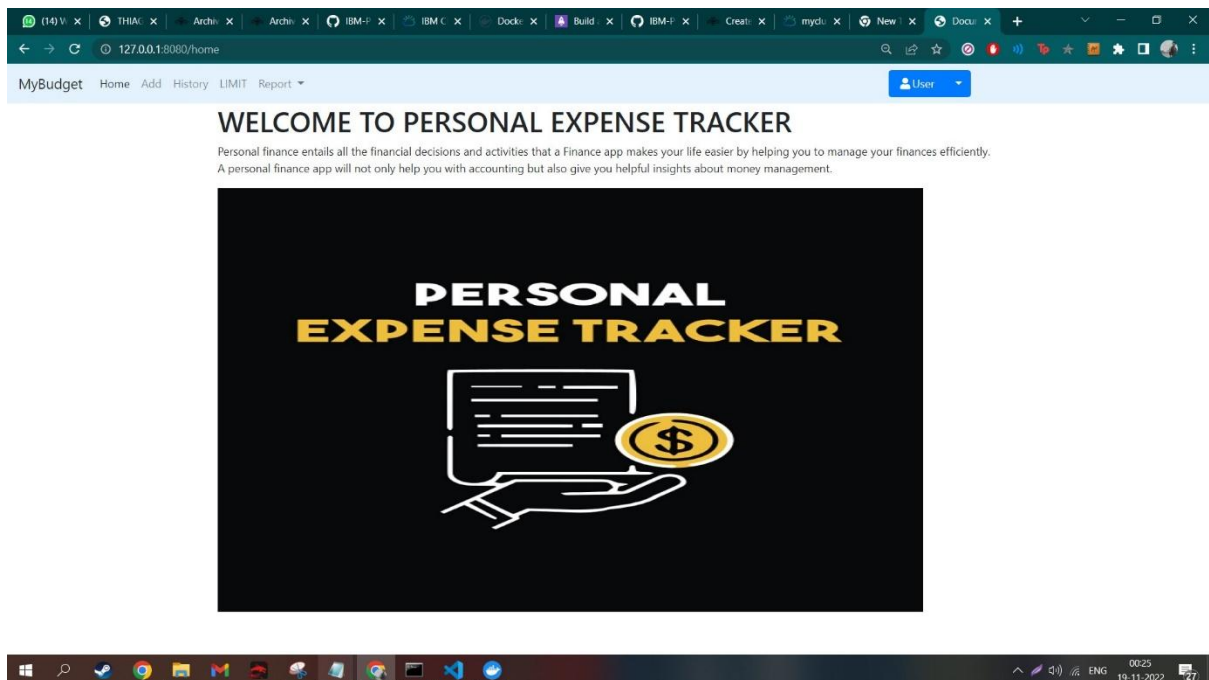
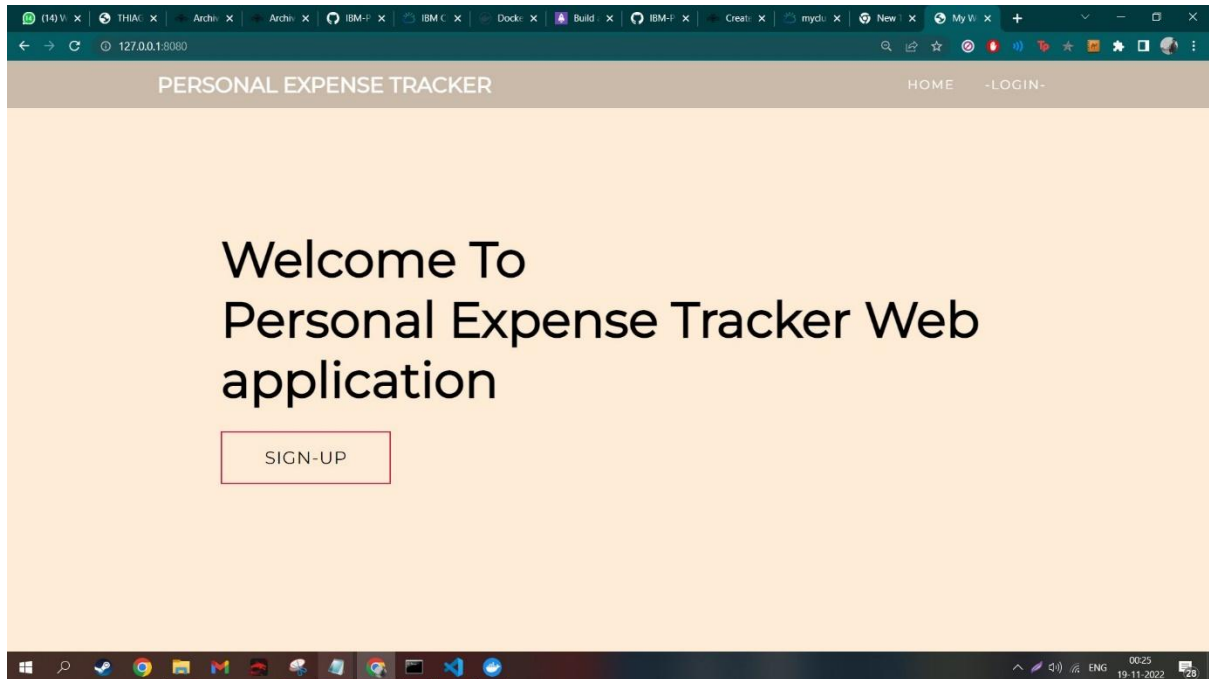
Admin can be able to view all users who all use our personal expense tracker Application.

- **Edit Customer Plan Details**

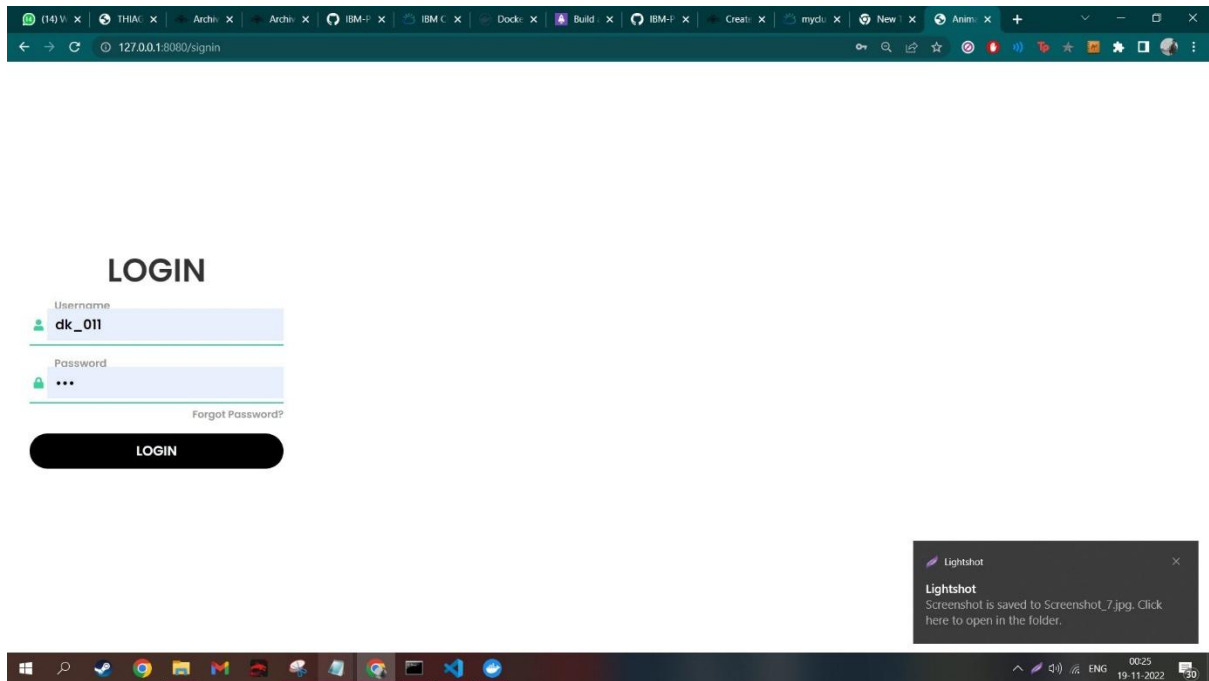
User can be able to edit the existing user details as per the user's wish.

## 8.3 Screen Layouts

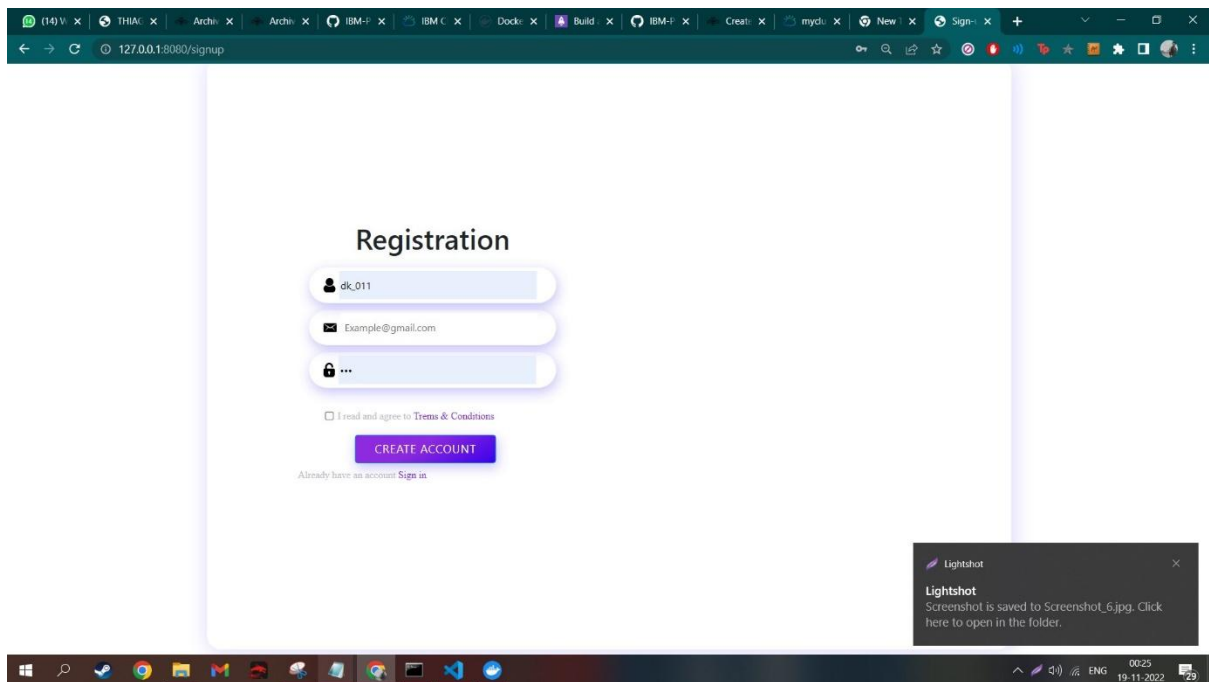
### Home page



## Login page

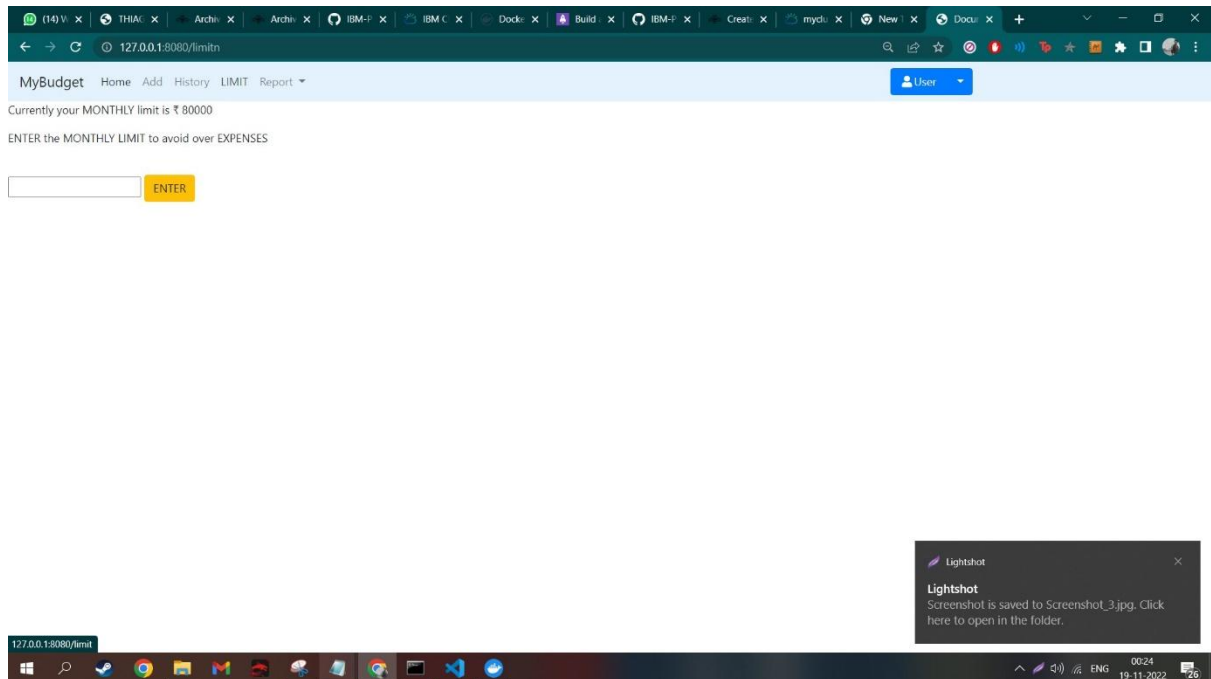


## Sign up page



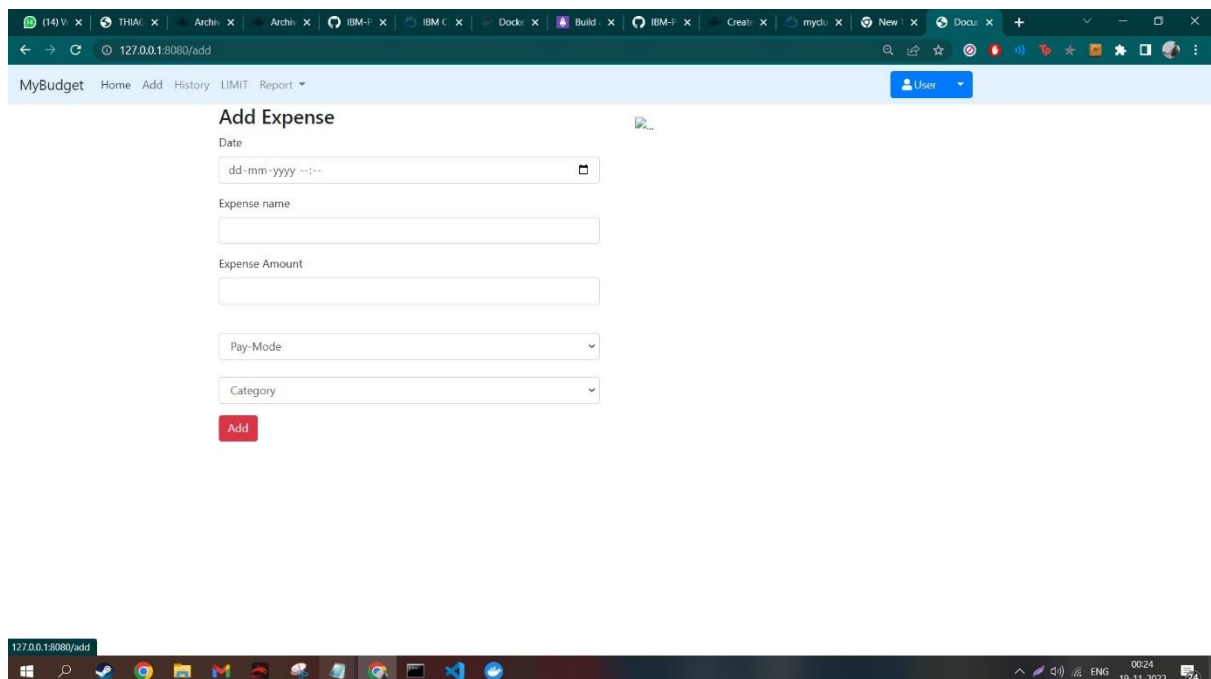


**Once logged in to you account, you can enter your monthly limit**



The screenshot shows a web browser window with the URL `127.0.0.1:8080/limit`. The page header includes the text "MyBudget" and navigation links: "Home", "Add", "History", "LIMIT", and "Report". A user profile icon labeled "User" is in the top right. The main content area displays the message "Currently your MONTHLY limit is ₹ 80000" and "ENTER the MONTHLY LIMIT to avoid over EXPENSES". Below this is a text input field and a yellow "ENTER" button. A Windows taskbar at the bottom shows the time as 00:24 on 19-11-2022. A Lightshot notification box in the bottom right corner states: "Screenshot is saved to Screenshot\_3.jpg. Click here to open in the folder."

**You can add details like what kind of expense you made, how much you spent and when**



The screenshot shows a web browser window with the URL `127.0.0.1:8080/add`. The page header is identical to the previous screenshot. The main content area is titled "Add Expense" and contains the following form fields: "Date" (with a calendar icon), "Expense name", "Expense Amount", "Pay-Mode" (a dropdown menu), and "Category" (a dropdown menu). A red "Add" button is located at the bottom of the form. The Windows taskbar at the bottom shows the time as 00:24 on 19-11-2022.

## You can view the list of expenses you made that month

127.0.0.1:8080/display

MyBudget Home Add History LIMIT Report User

### EXPENSES

2022-11-18-19.50.00	truck	₹ 100	cash	entertainment	Edit	Delete
2022-11-18-19.34.00	Bike	₹ 20000	debitcard	EMI	Edit	Delete
2022-11-18-19.19.00	house	₹ 12000	cash	entertainment	Edit	Delete
2022-11-18-19.16.00	house	₹ 30000	cash	rent	Edit	Delete
2022-11-18-19.14.00	Car	₹ 12000	cash	EMI	Edit	Delete
2022-11-18-19.13.00	Food	₹ 6000	cash	food	Edit	Delete

127.0.0.1:8080/display

Windows taskbar: 00:24 19-11-2022

127.0.0.1:8080/month

MyBudget Home Add History LIMIT Report User

### Today Expense Breakdown

TIME	AMOUNT
2022-11-18	80100

### Expense Breakdown BY Category

Food	6000
Entertainment	12100
Business	0
Rent	30000
EMI	32000
Other	0

### EXPENSE BREAKDOWN

Legend: Food, Entertainment, Business, Rent, EMI, Other

Windows taskbar: 00:24 19-11-2022

## **9 ADVANTAGES & DISADVANTAGES**

### **Advantages**

- Speed

This website is fast and offers great accuracy as compared to manual registered keeping.

- Maintenance

Less maintenance is required

- User Friendly

It is very easy to use and understand. It is easily workable and accessible for everyone.

- Fast Results

It would help you to track your expense easily.

### **Disadvantages**

- Internet

It would require an internet connection for the working of the website.

- Auto- Verification

It cannot automatically verify the genuine users.

## 10 CONCLUSION

People tend to overspend without realizing, and this can prove to be disastrous. Using a daily expense manager can help you keep track of how much you spend every day and on what. At the end of the month, you will have a clear picture where your money is going. This is one of the best ways to get your expenses under control and bring some semblance of order to your finances.

In simple words, personal finance entails all the financial decisions and activities that a Finance app makes your life easier by helping you to manage your finances efficiently. Our personal finance app will not only help you with budgeting and accounting but also give you helpful insights about money management.

Our application will ask users to add their expenses and based on their expense's wallet balance will be updated which will be visible to the user. Also, users can get an analysis of their expenditure in graphical forms. They have an option to set a limit for the amount to be used for that particular month if the limit is exceeded the user will be notified. Basically, you can keep your expenses in check every now and then and the chance of you spending excessively can be stopped. We have implemented this using latest technologies of IBM cloud, docker etc.

## **11 FUTURE SCOPE**

It will have various options to keep record (for example Food, Travelling Fuel, Salary etc.). Automatically it will keep on sending notifications for our daily expenditure. In today's busy and expensive life, we are in a great rush to make moneys, but at the end of the month we broke off. As we are unknowingly spending money on title and unwanted things. So, we have come over with the plan to follow our profit. Here user can define their own categories for expense type like food, clothing, rent and bills where they have to enter the money that has been spend and likewise can add some data in extra data to indicate the expense.

## **12 APPENDIX**

<https://github.com/IBM-EPBL/IBM-Project-27866-1660069762>