M.KUMARASAMY
COLLEGE OF ENGINEERING
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ISO 9001:2015 & ISO 14001:2015 Certified Institution
Thalavapalayam, Karur - 639 113.

A Project Report
on

# PERSONAL EXPENSE TRACKER APPLICATION

Submitted in partial fulfilment for the award of the degree
of

**BACHELOR OF ENGINEERING**

in

**COMPUTER SCIENCE AND ENGINEERING**

Under the Guidance of

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**KARUR - 639 113**

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# ABSTRACT

In this project we simply put, personal expense tracker includes all of the financial decisions and actions that a finance software facilitates by assisting you in effectively managing your finances. An app for personal finance will assist you with planning and accounting as well as give you useful financial management insights. In this project users of personal tracker applications will be prompted to enter their costs, after which their wallet balance will be updated and displayed to them. Users can also receive a graphical analysis of their expenses. They can choose to establish a cap on how much can be used in that month, and if the cap is surpassed, the user will receive an email alert.

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# CHAPTER 1

# INTRODUCTION

Tracking expenses play a significant role in people's daily lives. But not everyone has the time or the knowledge to manage their funds properly. And even if someone has the time and knowledge to manage their costs, they choose not to because they find it tiresome and time-consuming. In this project you have access to an expense tracker that will assist in the active management of your money, you no longer need to worry about keeping track of your costs.

## 1.1 Project Overview

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 into money management.

Personal finance applications will ask users to add their expenses and based on their expenses wallet balance will be updated which will be visible to the user. Also, users can get an analysis of their expenditures in graphical forms. They have the 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 with an email alert.

## 1.2 Purpose

A system for tracking expenses and income is the foundation of this project. The goal of this project is to provide a simple, quick, and efficient tracking system for expenses and income. A digital automated diary is one of the opportunities this technology provides to assist the user in maintaining all financial operations. So, we created a project that will be very helpful to the users to create a better spending tracking system. Most people struggle with money problems because they are unable to keep track of their income and costs. In these situations, a personal expense tracker can assist people in keeping track of their income and expenses daily and reduce stress. We cannot survive on the earth for even a single day without money, which is the most valuable aspect of our daily lives.Therefore, using a personal cost tracker app is crucial for creating content families. A personal spending tracker aids the user in preventing unforeseen costs and unfortunate financial circumstances. Time will be saved and a responsible lifestyle will be offered through this project. This system was developed, is being managed by professionals, and is user-friendly.

# CHAPTER 2

# LITERATURE SURVEY

## 2.1 Existing problem

The Existing system is developed using Angular 8 for the front end and SQL lite for the back end. The existing system helps to maintain the record of daily expenses and monthly income of users from anywhere and also generates a monthly report of the expenses in pdf format. The Existing system app tracks all the expenses and helps the user to manage his/her expenses so that the user is on the path to financial stability. The Tracking of expenses is categorized by week, month, and year, it helps to see the more expenses made. To use the Existing system the user has to sign up with a name, phone no., address, email address, username, and password and confirm the password of the user. The user can get enlisted just a single time, per user can just one record. The remainder is set if the type is the future expense. The whole subtleties of the income or expense can be seen or refreshed or can be erased by long pressing the specific rundown thing. The things in the rundown can be separated by month, year, and date. When the month's end arrives at the complete pay, all out the past expense and all-out future expenses are determined and shown to the user.

## 2.2 References

[1] A Novel Expense Tracker using Statistical Analysis: (June 2021)

[2] Expense Tracker: (April 2021)

[3] A Review on Budget Estimator Android Application: (April 2019)

[4] A Smart Approch to Track Everyday Expenses: ( December 2020)

[5] Expense Tracker Mobile Application: ( December 2012)

[6] AndroProf: A Profiling Tool for the Android Platform: (IEEE June 2014)

[7] A Case Study of Tracking Expenses by Commodity at Widget Farmers Cooperative: (December 2011)

## 2.3 Problem Statement Definition

Modern education does not focus on finance management. This is primarily due to a lack of resources and the Indian value system of giving money to children. Failing to teach this valuable knowledge had left many Indians to recklessly spend their income and fall into vicious cycles of EMI and debt. Many of them are just a month’s salary away from bankruptcy. This issue is tackled by providing a web application where people can plan their monthly expenses into categories, set alerts, and get visual insights from their spending patterns.

| | |
|---|---|
| I am | Young adults and earning middle-class citizens are facing the problem mostly. |
| I’m tryingto | Solve the lack of financial literacy among people issue. |
| But | The issue occurs primarily when the person moves from college to a job and starts earning their own money. |

| | |
|---|---|
| Because | The issue occurs especially among young engineers who are newly exposed to consumer-centric markets and services. |
| Which makesme feel | The recent BuyNowPayLater services and Credit apps have made people spend more than what they earn and repay. |

**TABLE 2.3 Problem Statement Definition**

# CHAPTER 3

# IDEATION & PROPOSED SOLUTION

## 3.1 Empathy Map Canvas

An empathy map is a collaborative tool team can use to gain a deeper insight into their customers. In this empathy map, we added What they Think and Feel, Hear, See, Say and do

.

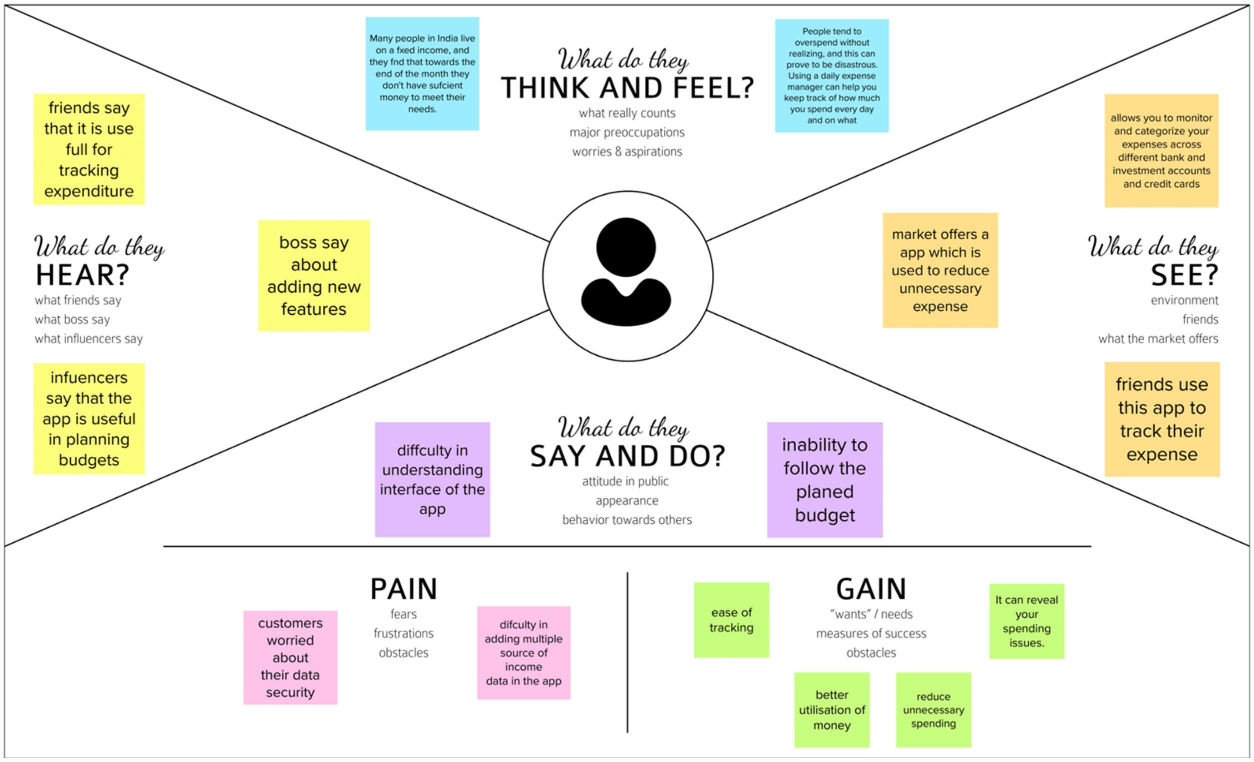
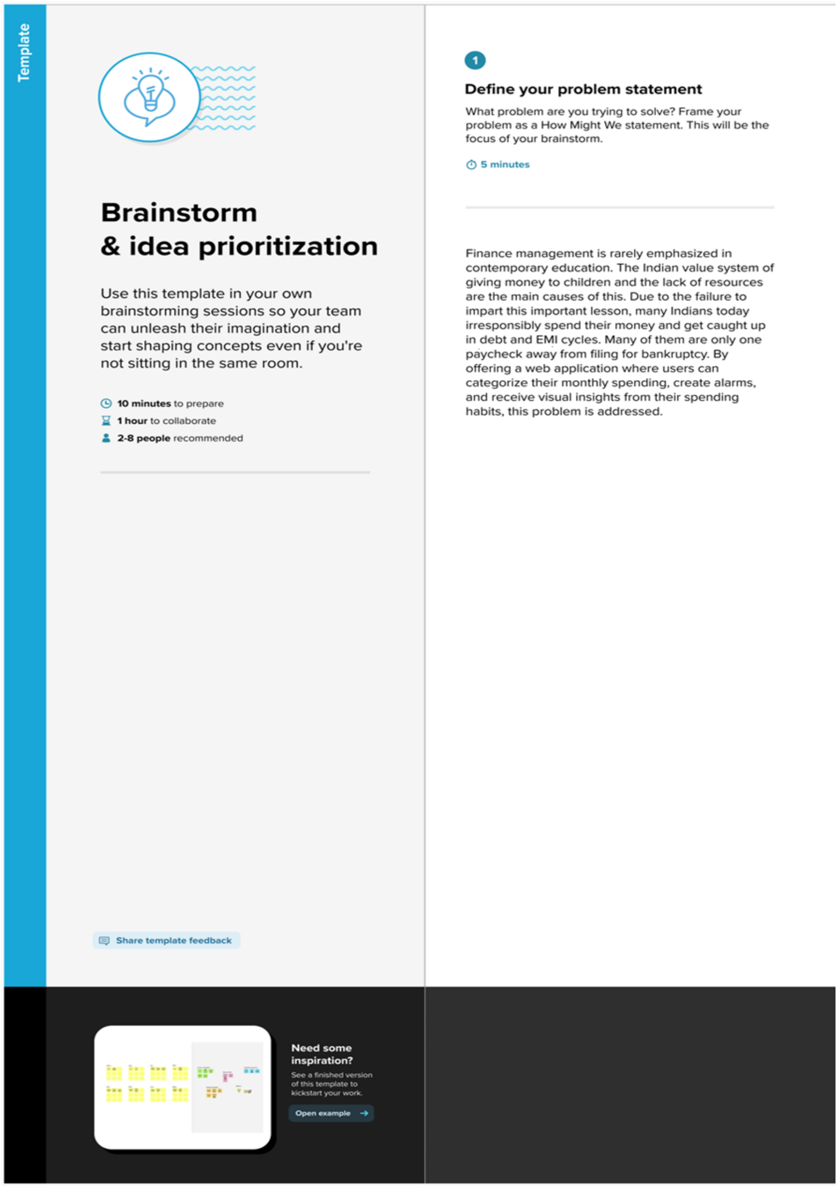

Many people in India live on a fxed income, and they fnd that towards the end of the month they don't have sufcient money to meet their needs.
What do they
THINK AND FEEL?
what really counts
major preoccupations
worries & aspirations
People tend to overspend without realizing, and this can prove to be disastrous. Using a daily expense manager can help you keep track of how much you spend every day and on what
friends say that it is use full for tracking expenditure
What do they
HEAR?
what friends say
what boss say
what influencers say
boss say about adding new features
infuencers say that the app is useful in planning budgets
allows you to monitor and categorize your expenses across different bank and investment accounts and credit cards
market offers a app which is used to reduce unnecessary expense
What do they
SEE?
environment
friends
what the market offers
friends use this app to track their expense
diffculty in understanding interface of the app
What do they
SAY AND DO?
attitude in public
appearance
behavior towards others
inability to follow the planed budget
PAIN
fears
frustrations
obstacles
customers worried about their data security
difculty in adding multiple source of income data in the app
GAIN
"wants" / needs
measures of success
obstacles
ease of tracking
It can reveal your spending issues.
better utilisation of money
reduce unnecessary spending

**Figure 3.1.1 Empathy Map Canvas**

## 3.2 Ideation

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

In this step, we gathered the data that was needed for the expense tracker and collaborated the data according to the problem statement.



**Brainstorm & idea prioritization**

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

**10 minutes** to prepare
**1 hour** to collaborate
**2-8 people** recommended

**Need some inspiration?**

See a finished version of this template to kickstart your work.

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.

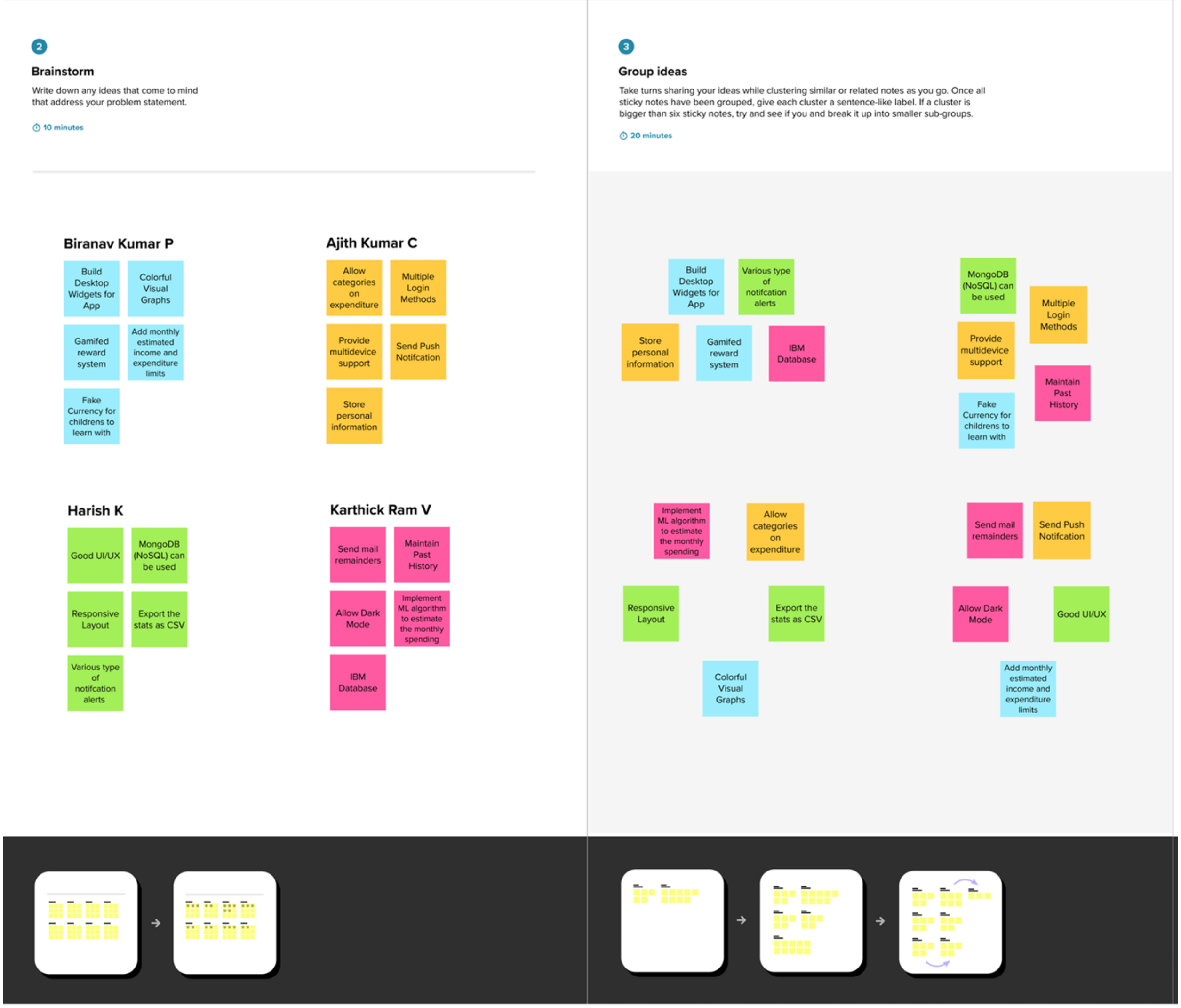
**5 minutes**

Finance management is rarely emphasized in contemporary education. The Indian value system of giving money to children and the lack of resources are the main causes of this. Due to the failure to impart this important lesson, many Indians today irresponsibly spend their money and get caught up in debt and EMI cycles. Many of them are only one paycheck away from filing for bankruptcy. By offering a web application where users can categorize their monthly spending, create alarms, and receive visual insights from their spending habits, this problem is addressed.

**Figure 3.2.1 Problem Statement**

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

In this step, we listed the idea for each member of the team and grouped the idea accordingly.



2

**Brainstorm**

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

10 minutes

**Biranav Kumar P**

- Build Desktop Widgets for App
- Colorful Visual Graphs
- Gamifed reward system
- Add monthly estimated income and expenditure limits
- Fake Currency for childrens to learn with

**Ajith Kumar C**

- Allow categories on expenditure
- Multiple Login Methods
- Provide multidevice support
- Send Push Notifcation
- Store personal information

**Harish K**

- Good UI/UX
- MongoDB (NoSQL) can be used
- Responsive Layout
- Export the stats as CSV
- Various type of notifcation alerts

**Karthick Ram V**

- Send mail remainders
- Maintain Past History
- Allow Dark Mode
- Implement ML algorithm to estimate the monthly spending
- IBM Database

3

**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 and break it up into smaller sub-groups.

20 minutes

- Build Desktop Widgets for App
- Various type of notifcation alerts
- Store personal information
- Gamifed reward system
- IBM Database

- MongoDB (NoSQL) can be used
- Multiple Login Methods
- Provide multidevice support
- Maintain Past History
- Fake Currency for childrens to learn with

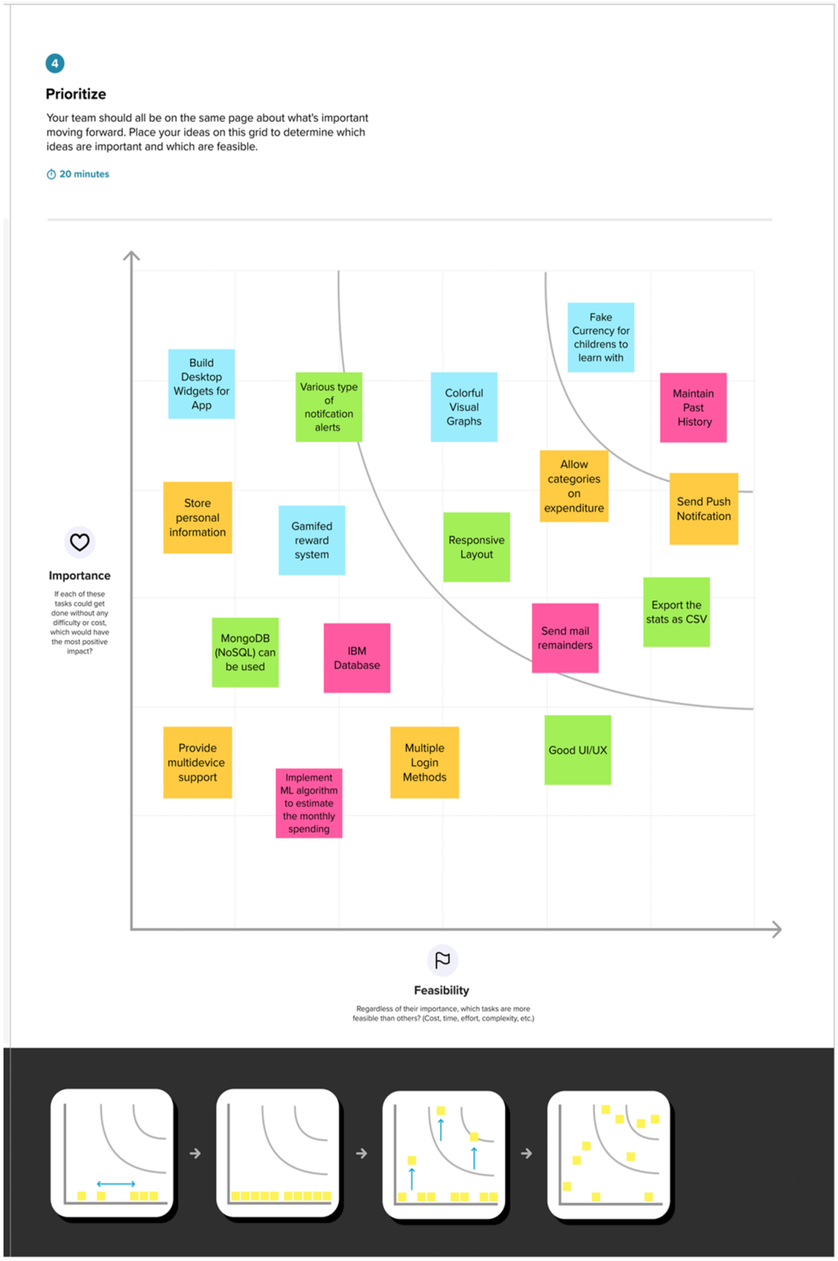
- Implement ML algorithm to estimate the monthly spending
- Allow categories on expenditure
- Responsive Layout
- Export the stats as CSV
- Colorful Visual Graphs

- Send mail remainders
- Send Push Notifcation
- Allow Dark Mode
- Good UI/UX
- Add monthly estimated income and expenditure limits

**Figure 3.2.2 Idea Listing and Grouping**

Step 3: Idea Prioritization

In this step, we decide the most prioritized process to do first to deploy the project using the cloud to give a complete executable application.



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

Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

Build Desktop Widgets for App
Various type of notifcation alerts
Colorful Visual Graphs
Fake Currency for childrens to learn with
Maintain Past History
Allow categories on expenditure
Send Push Notifcation
Store personal information
Gamifed reward system
Responsive Layout
Export the stats as CSV
MongoDB (NoSQL) can be used
IBM Database
Send mail remainders
Provide multidevice support
Implement ML algorithm to estimate the monthly spending
Multiple Login Methods
Good UI/UX

**Figure 3.2.3 Idea Prioritization**

## 3.3 Proposed Solution

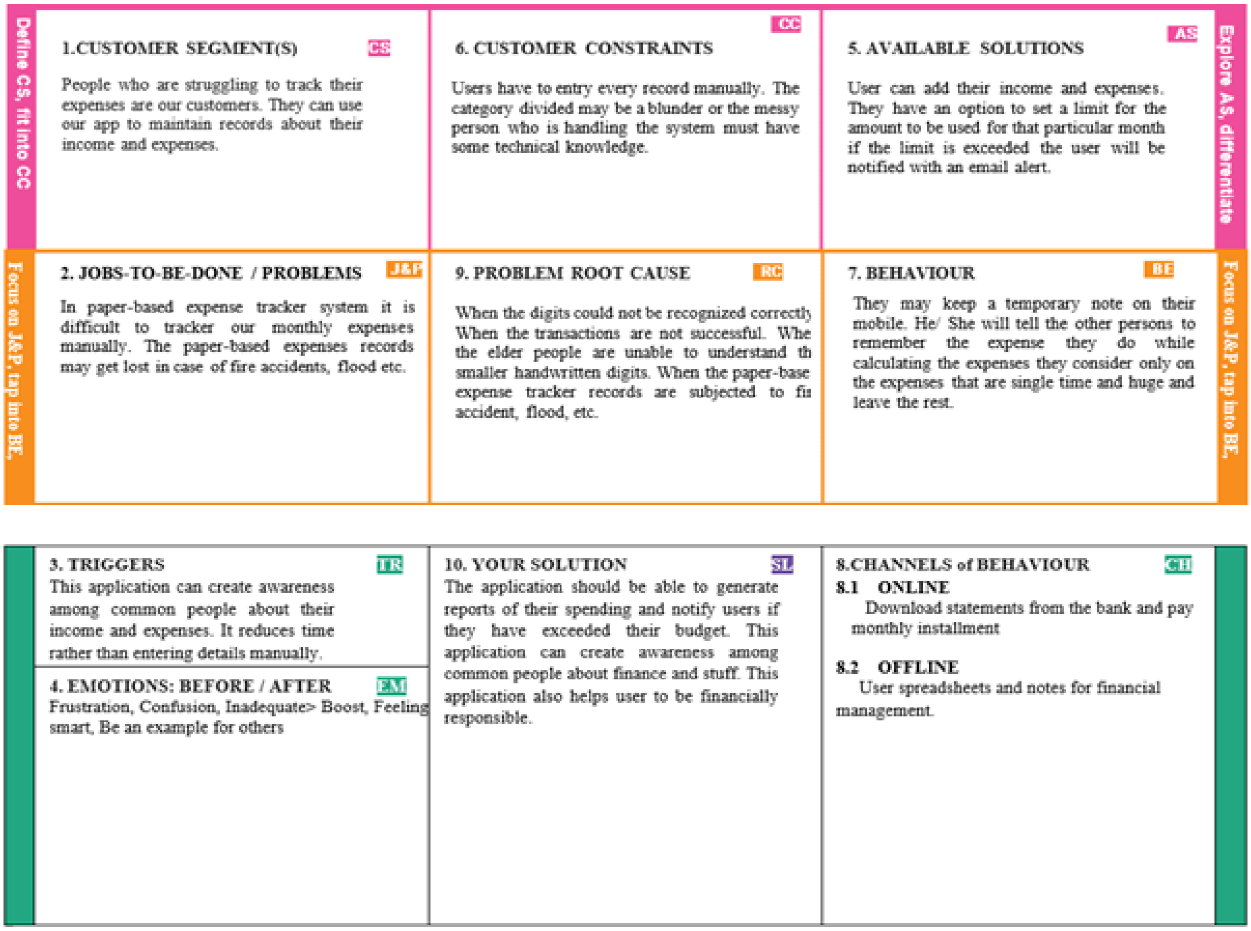
The project team shall fill in the following information in the proposed solution.

| S.No. | Parameter | Description |
|---|---|---|
| 1. | Problem Statement (Problem to be solved) | We first experience a financial issue at the end of the month. Our income wasn't well planned out. A person must maintain a log on a computer or a diary. The user is required to perform all calculations. Too much pressure to rely solely on the daily recording of expenses. |
| 2. | Idea / Solution description | We may manage and organize your spending across several credit cards, bank accounts, and investment accounts using an expense tracker app. Some of these apps also guide increasing your net worth, budgeting tools, credit monitoring, mileage tracking, and receipt keeping. |

| | | |
|---|---|---|
| 3. | Novelty / Uniqueness | To gather and categorize your purchases and find areas where you may cut costs, use expense tracker apps. Or, if you're trying to increase your net worth, consider investing or saving more money. You may keep track of your spending for a while to get a sense of where your money is going, or it may be a first step in creating and adhering to a budget. |
| 4. | Social Impact / Customer Satisfaction | Make a wise decision, Manage your expenses, Budget planning can be done, Makes report, and give an accurate survey. |
| 5. | Business Model (Revenue Model) | Cost Effective one. |
| 6. | Scalability of the Solution | Secure and safe to use, Improves financial security, Improves money management. |

**TABLE 3.3 Proposed Solution**

## 3.4 Problem Solution fit


Define CS, fit into CC
Explore AS, differentiate
Focus on J&P, tap into BE,
Focus on J&P, tap into BE,
CS
CC
AS
J&P
RC
BE
TR
EM
SL
CH

1.CUSTOMER SEGMENT(S)

People who are struggling to track their expenses are our customers. They can use our app to maintain records about their income and expenses.

6. CUSTOMER CONSTRAINTS

Users have to entry every record manually. The category divided may be a blunder or the messy person who is handling the system must have some technical knowledge.

5. AVAILABLE SOLUTIONS

User can add their income and expenses. 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 with an email alert.

2. JOBS-TO-BE-DONE / PROBLEMS

In paper-based expense tracker system it is difficult to tracker our monthly expenses manually. The paper-based expenses records may get lost in case of fire accidents, flood etc.

9. PROBLEM ROOT CAUSE

When the digits could not be recognized correctl When the transactions are not successful. Whe the elder people are unable to understand th smaller handwritten digits. When the paper-base expense tracker records are subjected to fi accident, flood, etc.

7. BEHAVIOUR

They may keep a temporary note on their mobile. He/ She will tell the other persons to remember the expense they do while calculating the expenses they consider only on the expenses that are single time and huge and leave the rest.

3. TRIGGERS

This application can create awareness among common people about their income and expenses. It reduces time rather than entering details manually.

4. EMOTIONS: BEFORE / AFTER

Frustration, Confusion, Inadequate> Boost, Feeling smart, Be an example for others

10. YOUR SOLUTION

The application should be able to generate reports of their spending and notify users if they have exceeded their budget. This application can create awareness among common people about finance and stuff. This application also helps user to be financially responsible.

8.CHANNELS of BEHAVIOUR

8.1 ONLINE

Download statements from the bank and pay monthly installment

8.2 OFFLINE

User spreadsheets and notes for financial management.

**Figure 3.4.1 Problem Solution fit**

# CHAPTER 4

# REQUIREMENT ANALYSIS

## 4.1 Functional requirement

Following are the functional requirements of the proposed solution.

| FRNo. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|---|---|---|
| FR-1 | User Registration | Form for collecting details. |
| FR-2 | Login | Enter username and password. |
| FR-3 | Calendar | Personal expense tracker applications must allow the users to add the data to their expenses. |
| FR-4 | Expense Tracker | This application should graphically represent the expense in the form of a report. |
| FR-5 | Report generation | A graphical representation of the report must be generated. |
| FR-6 | Category | This application shallallow users to add categories of their expenses. |

**TABLE 4.1 Functional requirement**

## 4.2 Non-functional Requirements

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

| FRNo. | Non-Functional Requirement | Description |
|---|---|---|
| NFR-1 | Usability | Helps to keep an accurate recordof your income and expenses. |
| NFR-2 | Security | Budget tracking apps are considered very safe from those who commit cyber crimes. |
| NFR-3 | Reliability | Each data record is stored on a well-built efficient database schema. There is no risk of data loss. |
| NFR-4 | Performance | The types of expenses are categories along with an option. The throughput of the system is increased due to lightweight database support. |
| NFR-5 | Availability | The application must have a 100% up-time. |
| NFR-6 | Scalability | The abilityto appropriately handleincreasing demands. |

**TABLE 4.2 Non-functional Requirements**

# CHAPTER 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 amountof the system requirement graphically. It shows how data entersand leaves the system,what changes the information, and where data is stored.

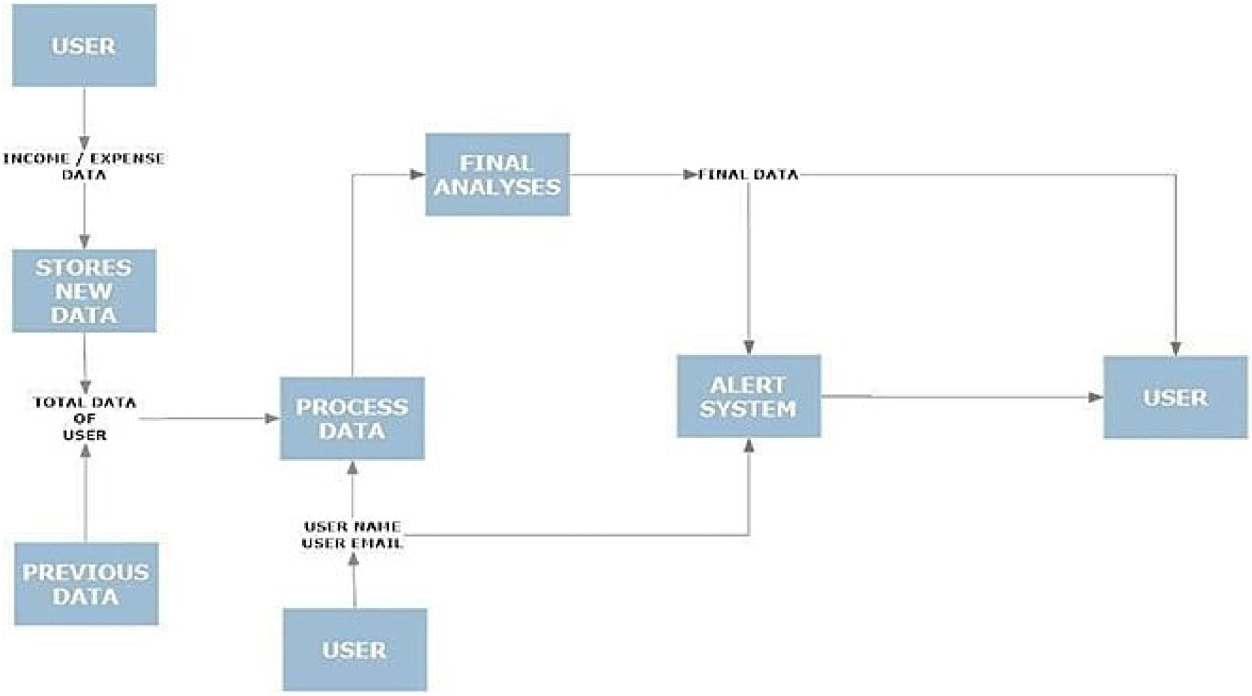


**Figure 5.1 Data Flow Diagram**

## 5.2 Solution & Technical Architecture

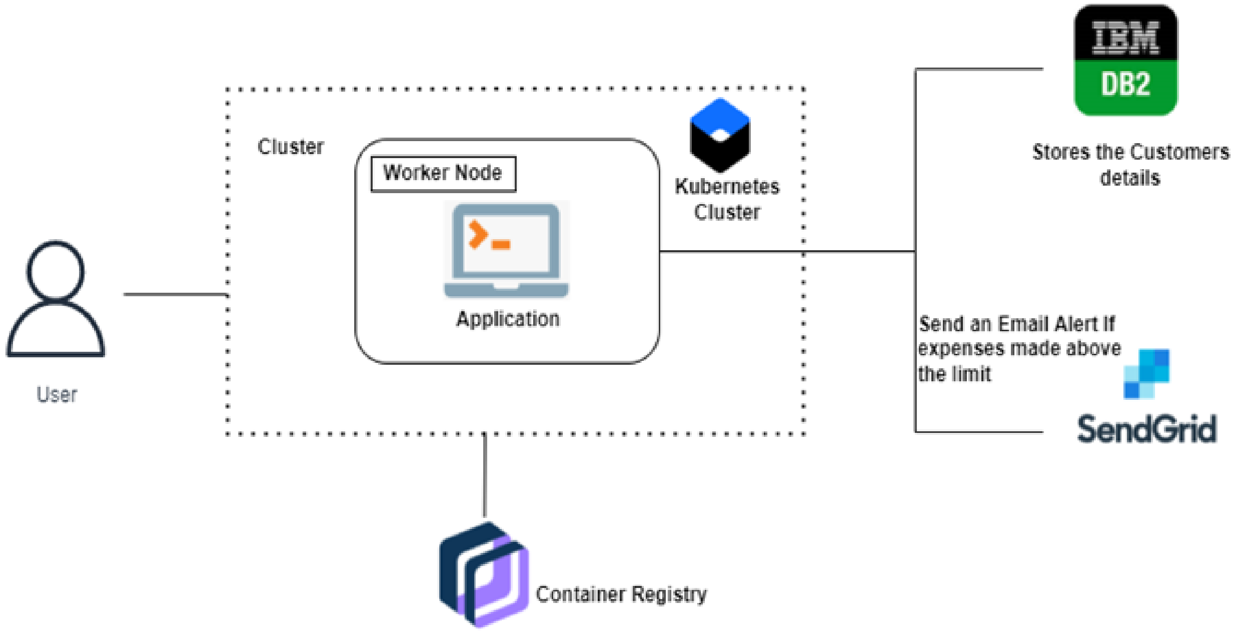


**Figure 5.2 Solution architecture**

## 5.3 User Stories

Use the below template to list all theuser stories for the product.

| User Type | Functional Requirement(Epic) | User Story Number | User Story/ Task | Acceptance criteria | Priority | Release |
|---|---|---|---|---|---|---|
| Customer (Mobile user& web user) | Registration | USN-1 | Asa user, I can register forthe applicationby entering my email, and password, and confirming my password. | I can access my account/ dash board | High | Sprint-1 |
| | | USN-2 | Asa user, I will receivea confirmation email once I have registered for the application | I can receive a confirmation email & clickconfirm | High | Sprint-1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | USN-3 | Asa user, I can register forthe application through Facebook | Ican register &accessthe dashboard with Facebook Login | Low | Sprint-2 |
| | | USN-4 | Asa user, I can register forthe application through a Google account. | I can register & accessthe dashboard with a GoogleAccount login. | Medium | Sprint-1 |
| | Login | USN-5 | Asa user, I can log into the application byentering my email & password | Ican access theapplication | High | Sprint-1 |
| | Dashboard | USN-6 | Asa user, I can see the expenditure detailsand the daily expense. | I can view the daily expenses and add theexpense details. | High | Sprint-1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Customer Care Executive | | USN-7 | Asa customer careexecutive, I can solve theproblem that customers face. | Ican provide support to customers at any time24*7. | Medium | Sprint-1 |
| Administrator | Application | USN-8 | As an administrator, I can upgrade orupdate theapplication. | I can fix any bugs raisedby customers and upgrade theapplication | Medium | Sprint-1 |

**TABLE 5.3 User Stories**

# CHAPTER 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, and password, and confirmingmy password. | 2 | High | Harish K, Biranav KumarP. |
| Sprint-1 |  | USN-2 | As a user, I will receive a confirmation email once I have registered for the application | 2 | High | Ajith KumarC, Karthik Ram V |

| | | | | | | |
|---|---|---|---|---|---|---|
| Sprint-2 | | USN-3 | As a user, I can register for the application through Social mediaaccounts | 2 | Low | Biranav KumarP, Karthik Ram V |
| Sprint-1 | Login | USN-4 | As a user, I can log into the application by entering my email & password | 2 | Medium | Ajith KumarC, Harish K. |
| Sprint-2 | Dashboard | USN-5 | Once logged in, based on the user’s expenses and data records, the graphical representation is achieved | 4 | High | Ajith KumarC, Biranav KumarP, Harish K, KarthikRam V |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint-2 | Expense Details | USN-6 | As a user, I can add and remove anyexpense | 2 | High | Ajith KumarC, Harish K. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Sprint-3 | Notifications | USN-7 | As a user, I can receive alert notifications on untracked expenses | 2 | High | Ajith KumarC,<br>Biranav Kumar P |
| Sprint-3 | | USN-8 | As a user, I can receive suggesting notifications for saving and earningmoney | 2 | Medium | Harish K,<br>KarthikRam V |
| Sprint-4 | Security | USN-9 | As a user, I am assured of linking my accounts securely | 4 | High | Ajith KumarC,<br>Biranav KumarP,<br>Harish K,<br>KarthikRam V |
| Sprint-4 | Customer care | USN-10 | As a user, I can access customer care forany queries and issues regarding the applications | 2 | Medium | Ajith KumarC,<br>Karthik Ram V |

**TABLE 6.1 Sprint Planning & Estimation**

## 6.2 Sprint Delivery Schedule

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

**TABLE 6.2 Sprint Delivery Schedule**

**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) periteration unit (storypoints per day).

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

## 6.3 Reports from JIRA

Reporting helps you track and analyze your team's work throughout a project. Jira Software has a range of reports that you can use to show information about your project, versions, epics, sprints, and issues. A burnup chart highlights the work you’ve completed against your total project scope while a burn-down chart highlights the amount of work remaining in a project. A burnup chart contains a work completed line and a project scope line.

**Burndown Chart 1**

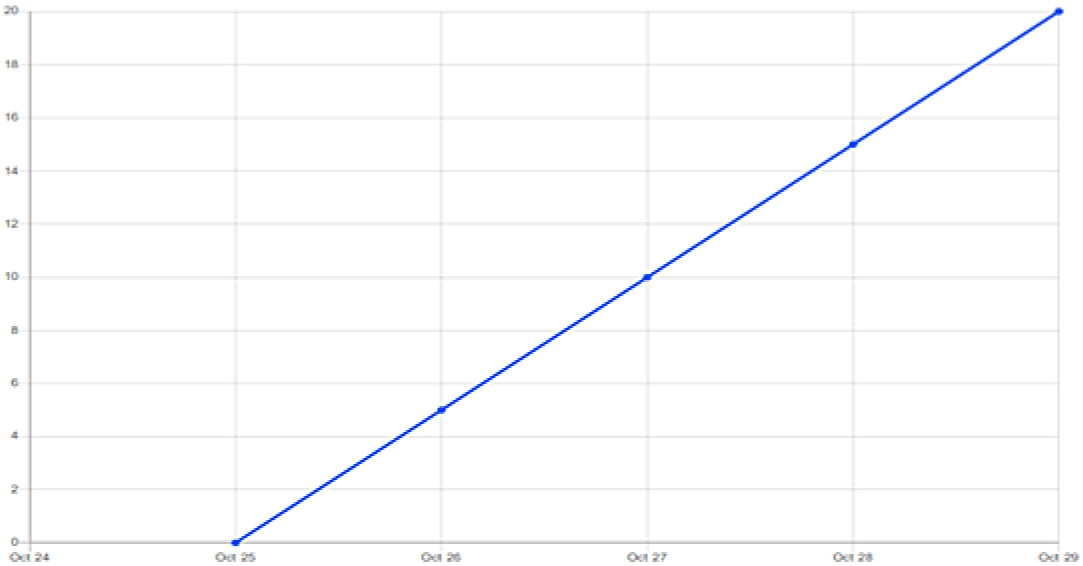


**Figure 6.3.1 It shows work that has been completed in a sprint, and the total work remaining.**

## Burndown Chart 2

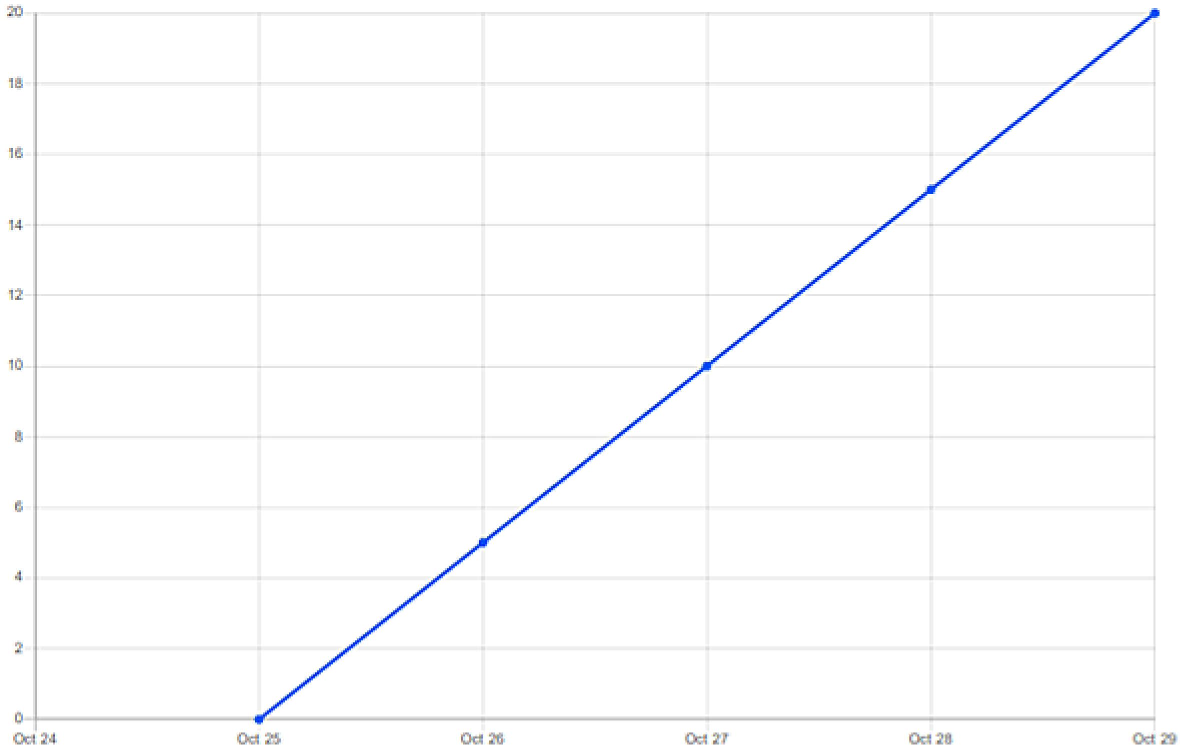


**Figure 6.3.2 It displays the scope of a project and the work completed**

# CHAPTER 7

# CODING & SOLUTIONING

## 7.1 Feature 1

Python flask is the first feature that helps to complete this project. It allows the user to create a local server and host the website on a local machine.Software programs are constructed using a framework as their foundation. It gives software developers a base upon which to build a range of apps for particular platforms. It is a collection of built-in classes and functions that link to the system software and manage inputs and outputs. It makes it easier for developers to work while still enabling them to employ certain extensions, and it makes web applications scalable and maintainable.

```
from flask import Flask, render_template, request

from Model import ConnectDb, Account

app=Flask(__name__)

conn=ConnectDb.connect()

u_name = None

@app.route("/")

@app.route("/login",methods=['POST','GET'])

def login():

    if request.method=="POST" :
        creds = Account.login(conn,request)
        expenses  = Account.getExpenseData(conn,request)
        global u_name
        u_name = creds['USERNAME']
        print('loginpage',expenses)
        if(not creds):
            return "Invalid Email or password:("
        else:
            return render_template('home.html',email=creds['EMAIL'],expenses=expenses,name = u_name)
    return render_template('loginpage.html')
@app.route("/register",methods=['POST','GET'])
def register():
    if request.method=="POST" :
        registered = Account.register(conn, request)
        if(registered):
            return render_template('loginpage.html', process="Registration Successful!")
        else:
            return render_template('registerpage.html',process="Email already exist!")
    return render_template('registerpage.html')
@app.route("/addExpense",methods=['POST'])
def addExpense():
    if request.method=="POST" :
        registered = Account.addExpense(conn, request)
        expenses  = Account.getExpenseData(conn,request)
        if(registered):
            return
render_template('home.html',email=registered,expenses=expenses,name =u_name)
        else:
            return "Oops failed!!"
    return render_template('registerpage.html')
@app.route("/reteriveData",methods=['POST'])
def reteriveDetails():
    if request.method=="POST" :
        result = Account.reteriveDetails(conn, request)
        print('Retrive Details:',result)
        if(result):
            return result
        else:
            return "Oops failed!!"
    return render_template('registerpage.html')
if __name__=="__main__":
    app.run(debug=True)
```

## 7.2 Feature 2

IBM DB is the second feature used in the project. The Python functions provided by the ibm_db API can be used to connect to databases, prepare and execute SQL statements, fetch rows from result sets, call stored procedures, commit and roll back transactions, handle errors, and extract metadata from databases that are hosted by IBM data servers.

```
import ibm_db
try:
    conn=ibm_db.connect("DATABASE=bludb;HOSTNAME=6667d8e9-9d4d-4ccb-ba32-21da3bb5aafc.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=30376;SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;PROTOCOL=TCPIP;UID=kmr99620;PWD=LobZeAIWWJi6zOdS;", "", "")
    print("Db connected")
    except:
```

```
    print("Error")

email = 'harish@gmail.com'

password = '12345'

sql =  f"select * from udetails;"

out = ibm_db.exec_immediate(conn,sql)

print(ibm_db.fetch_assoc(out))
```

# CHAPTER 8

# TESTING

## 8.1 Test Cases

| | | | |
|---|---|---|---|
| **TEST CASE ID** | 15358 | **TEST CASE DESCRIPTION** | PERSONAL EXPENSE TRACKER APPLICATION |

| S.No. | PREREQUISITES | TEST DATA |
|---|---|---|
| 1 | Access to Chrome Browser | By clicking the website link |
| 2 | Entering the details required | Details should be in an integerformat |
| 3 | Check for correct values | Data shouldbe filled |
| 4 | Application to add and maintain expense | Provide the expense to be added |

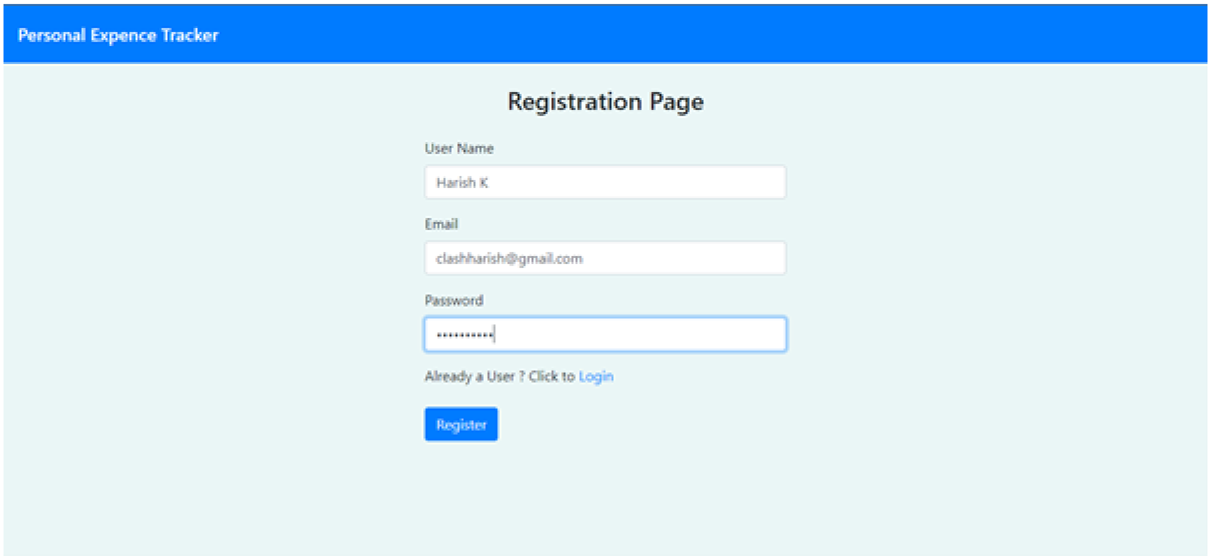
**TABLE 8.1 Test Cases**

## 8.2 User Acceptance Testing

**Test Scenario:** Verify whether the deployed projectpredicts as per expected

| Step | Step Details | Expected Results | Actual Results | Pass/Fail/Not/ Executed/ Suspended |
|---|---|---|---|---|
| 1 | Navigate towebsite link | Site should open | As Expected | pass |
| 2 | Enter the details | Details should be entered | As Expected | pass |
| 3 | Click Submit | Check the result | As Expected | Pass |
| 4 | Output results | Result isgenerated | As Expected | Pass |

**TABLE 8.2 User Acceptance Testing**

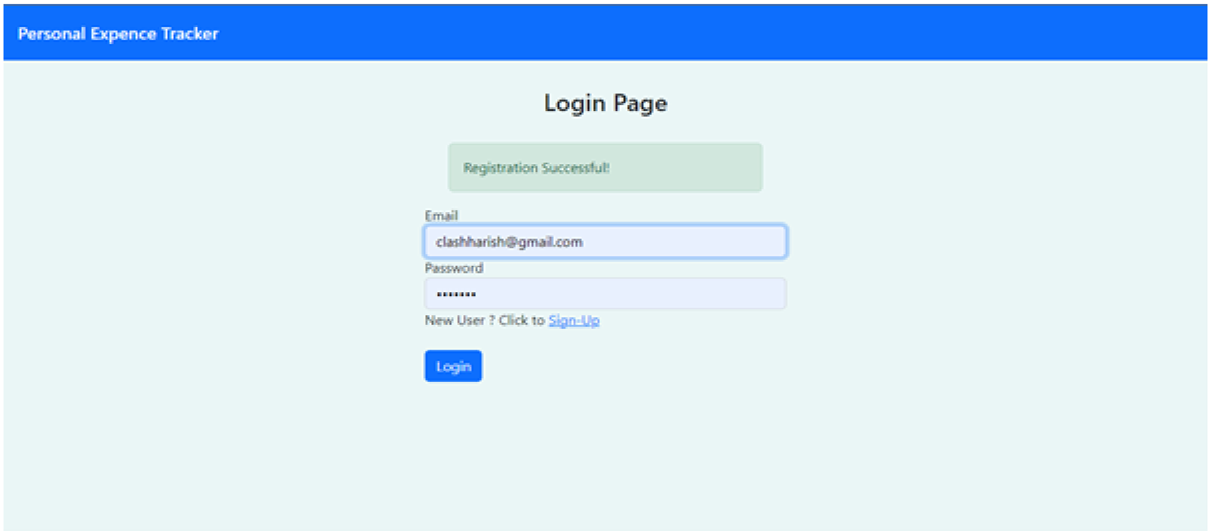


User Name: Harish K

Email: clashharish@gmail.com

Password: ••••••••••

**Figure 8.2.1 Registration page**



Personal Expence Tracker

Login Page

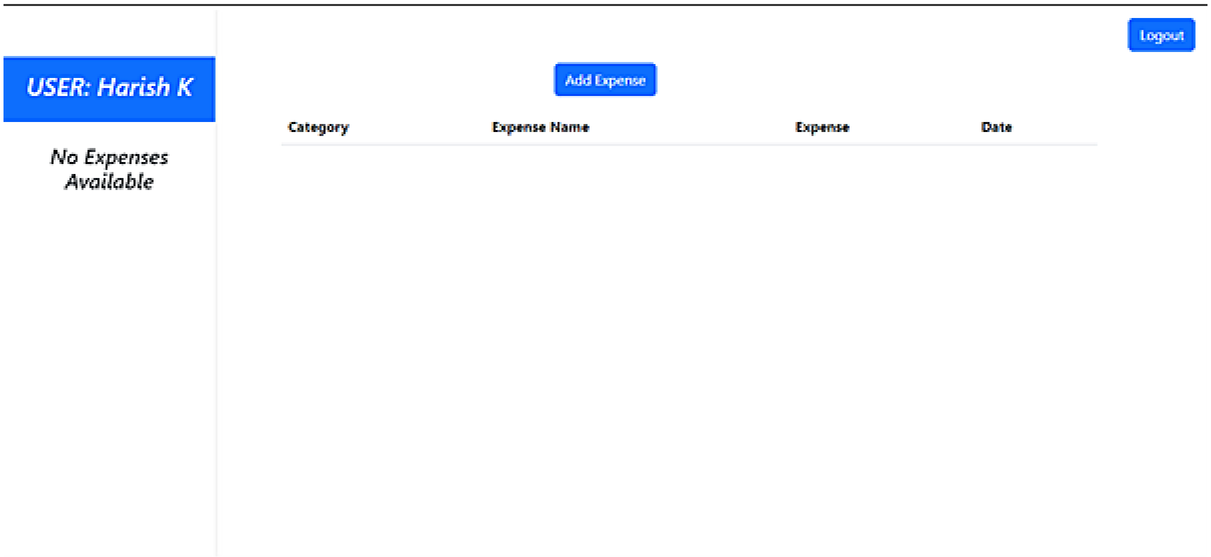
Registration Successful!

Email: clashharish@gmail.com

Password: •••••••

New User ? Click to Sign-Up

Figure 8.2.2 Login Page

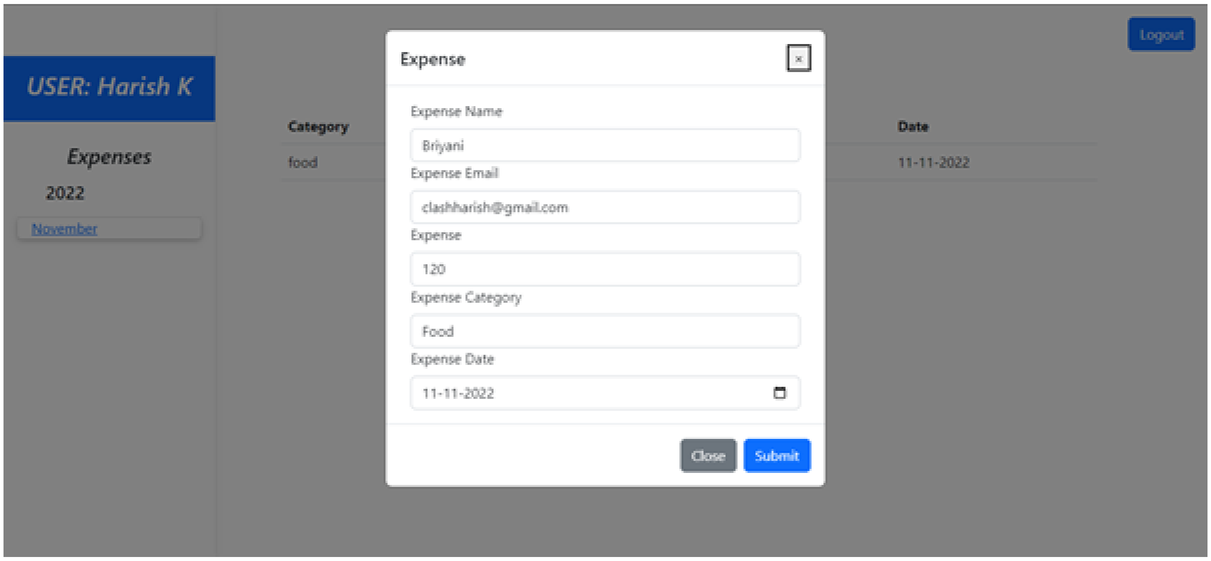


USER: Harish K

No Expenses Available

| Category | Expense Name | Expense | Date |
|---|---|---|---|

Figure 8.2.3 Home Page



Expense Name: Briyani

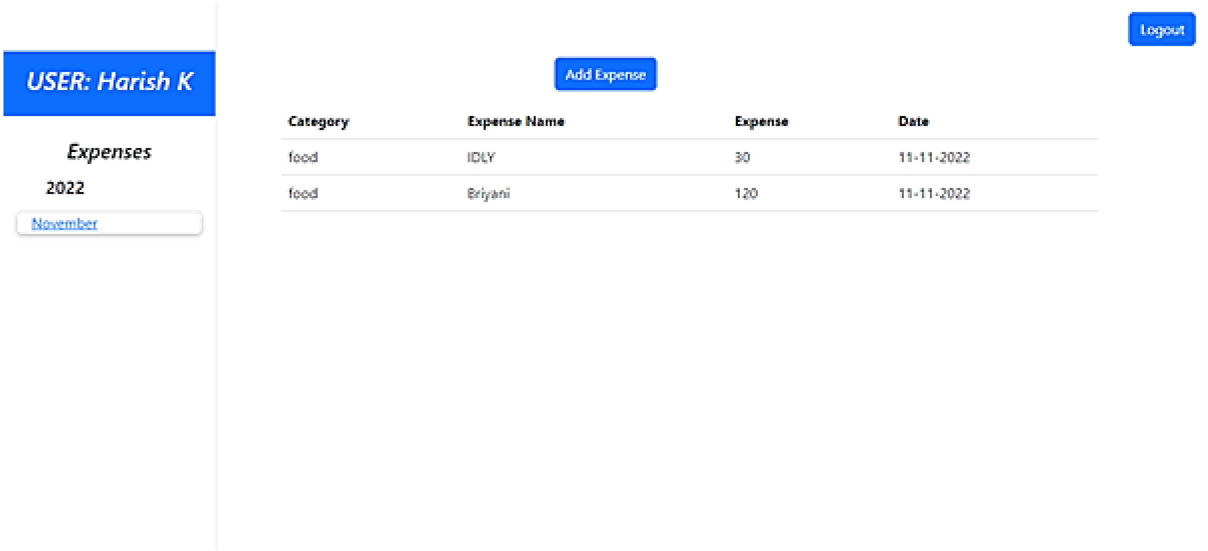
Expense Email: clashharish@gmail.com

Expense: 120

Expense Category: Food

Expense Date: 11-11-2022

Figure 8.2.4 Add Expense



| Category | Expense Name | Expense | Date |
|---|---|---|---|
| food | IDLY | 30 | 11-11-2022 |
| food | Briyani | 120 | 11-11-2022 |

Figure 8.2.5 Expense Details

# CHAPTER 9

# RESULT

## 9.1 PERFORMANACE MATRICS

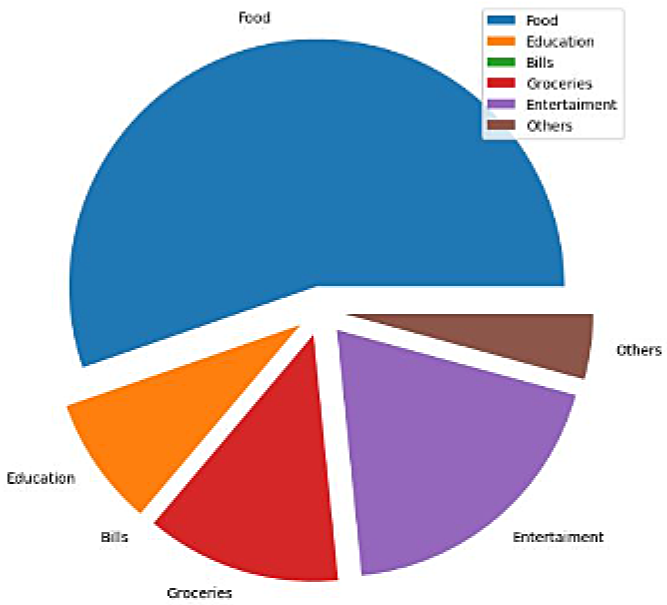


FIGURE 9.1  PERFORMANACE MATRICS

# CHAPTER 10

# ADVANTAGES AND DISADVANTAGES

## 10.1 Advantages

It Tracks your expenses anywhere, anytime. The application seamlessly manages your money and budget without any financial paperwork. Just click and submit your invoices and expenditures. It access, submit, and approve invoices irrespective of time and location. **It avoids data loss** by scanning your expense and bills and saving them in the app and approves bills and expenditures in real-time and gets notified instantly.

## 10.2 Disadvantages

The risk of limited accessibility. If you store your financial data on a remote server, it might not be available if the server goes down or you lose Internet access. Also, since the data isn't in your possession, if there's a problem at the site or it shuts down, you can lose everything. Mint's top rival years ago, Cake, shut down suddenly, leaving many users stranded.

Security issues. To use financial systems based in the cloud, you typically must enter account numbers, user IDs and passwords. While cloud-based services vow they protect your information, any data connected to the Internet, in theory, can be breached. This could make some people uncomfortable. If financial data are stored on your computer, you can access it anytime and make copies for backup, if needed.

# CHAPTER 11

# CONCLUSION

The constraints of the new product, problems encountered, and solutions to those restrictions are now presented and discussed. The main goal in developing this cost-monitoring software program was to increase user productivity while reducing user involvement. Only the USA is covered by the first iteration of this program. If I had included currency converters in the application which I will do in the subsequent version. It may have been used in other nations. While using this tool, a few problems arose, and some crucial considerations were made.

# CHAPTER 12

# FUTURE SCOPE

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

# CHAPTER 13

# APPENDIX

## 13.1 Source Code

```
from flask import Flask, render_template, request
from Model import ConnectDb, Account


 app=Flask(__name__)
 conn=ConnectDb.connect()
 u_name = None
@app.route("/")
@app.route("/login",methods=['POST','GET'])
def login():
    if request.method=="POST" :
        creds = Account.login(conn,request)
        expenses  = Account.getExpenseData(conn,request)
        global u_name
        u_name = creds['USERNAME']
        print('loginpage',expenses)
        if(not creds):
            return "Invalid Email or password:("
        else:
            return 
render_template('home.html',email=creds['EMAIL'],expenses=expenses,name = 
u_name)
    return render_template('loginpage.html')


 @app.route("/register",methods=['POST','GET'])
def register():
    if request.method=="POST" :
        registered = Account.register(conn, request)
        if(registered):
            return render_template('loginpage.html', process="Registration 
Successful!")
        else:
            return render_template('registerpage.html',process="Email already 
exist!")
```

```
    return render_template('registerpage.html')


 @app.route("/addExpense",methods=['POST'])
def addExpense():
    if request.method=="POST" :
        registered = Account.addExpense(conn, request)
        expenses  = Account.getExpenseData(conn,request)

        if(registered):
            return
render_template('home.html',email=registered,expenses=expenses,name =u_name)
        else:
            return "Oops failed!!"
    return render_template('registerpage.html')


 @app.route("/reteriveData",methods=['POST'])
def reteriveDetails():
    if request.method=="POST" :
        result = Account.reteriveDetails(conn, request)
        print('Retrive Details:',result)


        if(result):
            return result
        else:
            return "Oops failed!!"
    return render_template('registerpage.html')


if __name__=="__main__":
    app.run(debug=True)
```

## 13.2 GitHub & Project Demo Link

https://github.com/IBM-EPBL/IBM-Project-21691-1659788305