PERSONAL EXPENSE TRACKER

CLOUD APPLICATION DEVELOPMENT DOMAIN

TEAM ID: PNT2022TMID07421

A PROJECT REPORT

Submitted by

ABINANDHAN.M

DHARANITHARAN.A.P

DURUVANTHRAJ.B.G

GANESHKUMAR.G

COMPUTER SCIENCE AND ENGINEERING

P. A. COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Pollachi, Coimbatore Dt. - 642 002

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P. A. COLLEGE OF ENGINEERING AND TECHNOLOGY

BONAFIDE CERTIFICATE

Certified that this project report **"Personal Expense Tracker Application"** is the work of **"ABINANDHAN.M (721719104001), DHARANITHARAN.A.P(721719104016), DURUVANTHRAJ.B.G (721719104025), GANESHKUMAR.G (721719104027)"** who carried out the project work under our supervision.

SIGNATURE
Dr. D. CHITRA
Professor
HEAD OF THE DEPARTMENT
Computer Science and Engineering
P. A. College of Engineering and Technology

SIGNATURE
FACULTY MENTOR
Dr.A.KALIAPPAN
Associate Professor
Computer Science and Engineering
P. A. College of Engineering and Technology

SIGNATURE
FACULTY EVALUATOR
Mr.S.SURESH KUMAR
Assistant Professor
Computer Science and Engineering
P. A. College of Engineering and Technology

Submitted to the Viva- Voce Examination held on ----------

INTERNAL EXAMINER

EXTERNAL EXAMINER

TABLE OF CONTENTS

1

l. **INTRODUCTION**

1.1 Project Overview

1.2 Purpose

2. LITERATURE SURVEY

2.1 Existing problem

2.2 Reference s

2.3 Problem Statement Definition

3. IDEATION & PROPOSED SOLUTION

3.1 Em pathy Map Canvas

3.2 Ideation & Brai nstormi ng

3.3 Proposed Solution

3.4 Problem Solution fit

4. REQUIREMENT ANALYSIS

4.1 Functional requiremen t

4.2 Non-Functional requirements

5. PROJECT DESIGN

5.1 Data Flow Diagrams

5.2 Solution &Technical Architecture

5.3 User Stories

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Pl anni ng & Estimation

6.2 Sprint Delivery Sched ule

6.3 Reports from JIRA

7. CODING & SOLUTIONING (Explain the features added in the project along with code)

7.1 Feature 1

7.2 Feature 2

7.3 Database Schema (if Applicable)

8. TESTING

8.1 Test Cases

8.2 User Acceptance Testing

9. RESULTS

9.1 Performance Metrics

10. ADVANTAGES & DISADVANTAGES

11. CONCLUSION

12. FUTURE SCOPE

13. APPENDIX

Source Code

GitHub & Project Demo Lin

INTRODUCTION

1.1 Project Overview

As everyone are busy these days we are spending alot and not giving importance to tracking the expenses .So,here the Personal expense tracker help in tracking all the expenses.The expenses like daily,weekly,monthly and gives a report on the financial actions of our life.So everyone should have their track on spending because they can be stable financially.This application helps everyone to track and they can use for day-to-day purpose.

1.2 Purpose

Many people spend unwantedly and they don't know where their money is going and they are weak in calculating the expenses.This make to spend more and does not make them to save money.So our application make them to track their expense and make the track of their each and every expense they making.Without recognising it, people frequently overspend, which can be harmful. You may keep track of how much money you spend every day and on what by using a daily spending tracker. You'll know exactly where your money is going at the end of the month. One of the best ways to control your spending and create some semblance of order in your finances is to do this.

LITERATURE SURVEY

1.3 Existing Solutions:

LITERATURE SURVEY – 1

TOPIC : A Smart Approach to Track Daily Expenses

AUTHOR : AK Gupta, UP Singh, Dr. B. Balamurugan

OVERVIEW :

- A Java GUI-based application was suggested in this research to guarantee that it will aid users in managing the cost of their everyday expenses. They would be led by it and made aware of their everyday spending. The fundamental modules for adding and displaying costs as well as controlling expense categories were included in the suggested design. CRUD operations on expenditure data are supported.

ADVANTAGES :

- Category-wise management of expenses.
- Daily, monthly, annual basis tracking.
- Simple and user-friendly.

DISADVANTAGES :

- Lack of visual analytics for expense data.
- Lack of support for splitting group expenses.
- Supports manual data monitoring only.

LITERATURE SURVEY – 2

TOPIC : Expense Tracker

AUTHOR : Lekshmi P, Dr. Mahalekshmi T, Prof Miriam Thomas

OVERVIEW :

- The Daily Expense Tracker System is intended to keep track of an organization's income and expenses on a daily basis. This system splits income depending on daily costs. If the daily expenditure exceeds the daily allowance, the system will compute income and issue a new daily spending allowance. At the end of the month, the daily spending monitoring system will provide a report that displays an income-expense graph. Employees also send reports to the boss for verification. Manager sends final reports to administrator. The system forecasts the next month's expenses based on the final reports. It will assist in keeping track of all expenses and revenue.

ADVANTAGES :

- Maintenance of expense data in the form of Excel sheets, CSV files, thereby avoiding entering individual expenses manually.
- Better visual analytics of data for various timelines.
- Supports handling for reimbursements.
- Least squares regression, a statistical procedure, is used to predict the expense limits.

DISADVANTAGES :

- Suitable for organization scale, too complex for personal use.
- Expense prediction is not really necessary for small transactions made on personal use.
- Involves the participation of 3 roles Admin, Manager, Employee.

LITERATURE SURVEY – 3

TOPIC : Expense Tracker Application

AUTHOR : Mrs.P.Usha ,Velmurugan.R

OVERVIEW :

- This is an android-based application that allows users to keep a computerised diary to monitor spending on a daily basis in order to remain on budget and know expenses that are shown via a graphical representation with unique capabilities for categorising expenses suited for the user. Java, XML, and MySQL are utilised. View analytics, filtering transaction views, and a PDF report are all available.

ADVANTAGES :

- Has various components of updating and viewing users expenditure.
- User can track his expenses by choosing a day and using various filtering options to study expenses.
- Visualization using pie chart with percentage view shows graphical representation.

DISADVANTAGES :

- Doesn't support upcoming android versions.
- If a particular data is deleted, it cannot be viewed again.
- Statistics about income and expense detail of user can be prepared.

LITERATURE SURVEY – 4

TOPIC : Online Income and Expense Tracker

AUTHOR : S. Chandini, T. Poojitha, D. Ranjith, V.J. Mohammed Akram, M.S. Vani, V. Rajyalakshmi

OVERVIEW :

- It is a web application which is helpful to manage out income and expense as a daily or periodically or else whenever we want to remind and 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.

ADVANTAGES :

- Generates report at the end of week or month to show Income.
- Expense via multiple graphs.
- There is also an option to view owe and lend expenses which adds or gets deducted fromthe overall budget according without bothering the user.
- User friendly and data is maintained efficiently.

DISADVANTAGES :

- Does not provide any option to handle shared expense of a group.
- Effort has to be made to include each and every transaction into the input field.

LITERATURE SURVEY – 5

TOPIC : A Review on Budget Estimator Android Application

AUTHOR : Priyanka Joshi, Aditya Kamble ,Namita Jagtap,

OVERVIEW :

- The Budget Estimator system is intended to manage the programme user's daily spending in a more effective and manageable manner. This project is about a mobile application Expenses system with geolocation tracking. Based on the user's location, it uses Google Places to verify the availability of stores in the vicinity and delivers a notice for offers. In terms of security design, this system may include a login authentication such as an OTP message to your mobile device; this feature may provide the user with more security trust. We propose an android-developed application to reduce manual calculations. This programme enables users to keep a digitally automated journal.

ADVANTAGES :

- In this paper, an algorithm was proposed to show offers in nearby places using geo- location tracking.
- This mobile application with 2-step verification method provides the security to the users.

DISADVANTAGES :

- Suitable for only Personal use.
- It does not provide any analytics.

1.4 Proposed Solution

Personal finance encompasses all financial decisions and activities that a Finance app facilitates by assisting you in managing your finances efficiently. A personal finance app will notonly assist you with budgeting and accounting, but will also provide you with valuable information about money management.

Personal finance applications will ask users to enter their expenses, and their wallet balance will be updated based on their expenses, which will be visible to the user. Users can also get a graphical breakdown of their spending. They can set a limit for the amount to be used for thatmonth, and if the limit is exceeded, the user will receive an email alert.

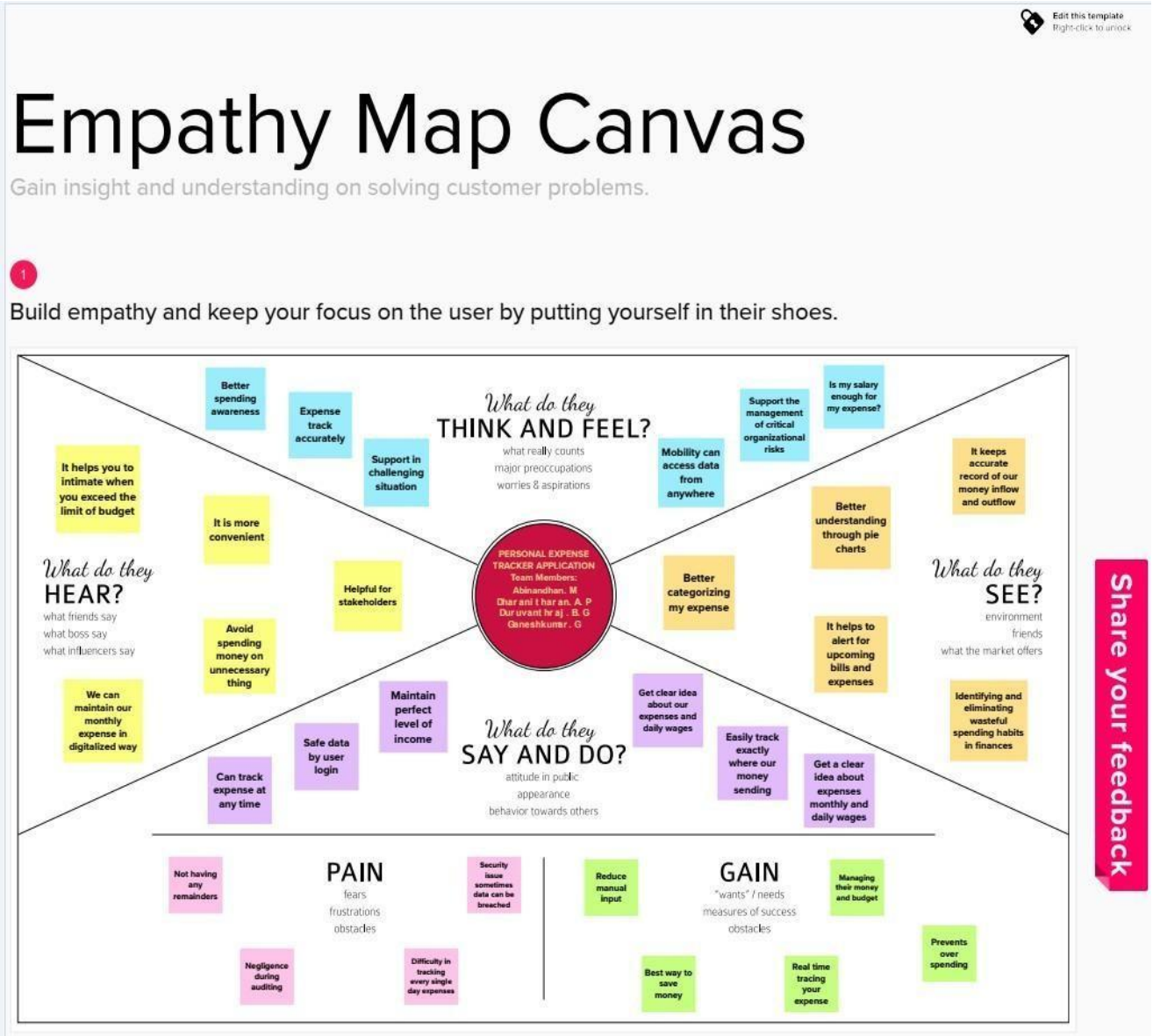
2.2 Reference s

S.NO	JOURNAL TITLE	FIRST AUTHOR	CITATION
1	A Smart Approach to Track Daily Expenses	UP Singh	UP Singh, AK Gupta, Dr. B. Balamurugan (2021) - Spending Tracker : A Smart Approach to Track Daily Expenses – Turkish Journal of Computer and Mathematics Education Vol.12 No.6 , 5095-5103
2	Expense Tracker	Prof Miriam Thomas	Prof Miriam Thomas, Lekshmi P, and Dr. Mahalekshmi T (2022) - Expense Tracker - International
			Journal of Advanced Research in Science, Communication and Technology (IJARSCT) Volume 9, Issue 4, September 2020 ISSN (Online) 2581-9429
3	Expense Tracker Application	Velmurugan.R	Velmurugan.R , Mrs.P.Usha (2021) - Expense Tracker Application - International Journal of Innovative Research in Technology (IJIRT) Volume 7, Issue 10, March 2021 ISSN: 2349-6002
4	Online Income and Expense Tracker	S. Chandini	S. Chandini, T. Poojitha, D. Ranjith, V.J. Mohammed Akram, M.S. Vani, V. Rajyalakshmi -Online Income and Expense Tracker, International Research Journal of Engineering and Technology (IRJET) Volume 6, Issue 3, March 2019 e-ISSN: 2395-0056, p-ISSN: 2395-0072
5	Budget Estimator Android Application	Namita Jagtap	Namita Jagtap, Priyanka Joshi, Aditya Kamble (2019)- A Review on Budget Estimator Android Application- International Journal of Innovative Research in Technology (IJIRT) Volume 6, Issue

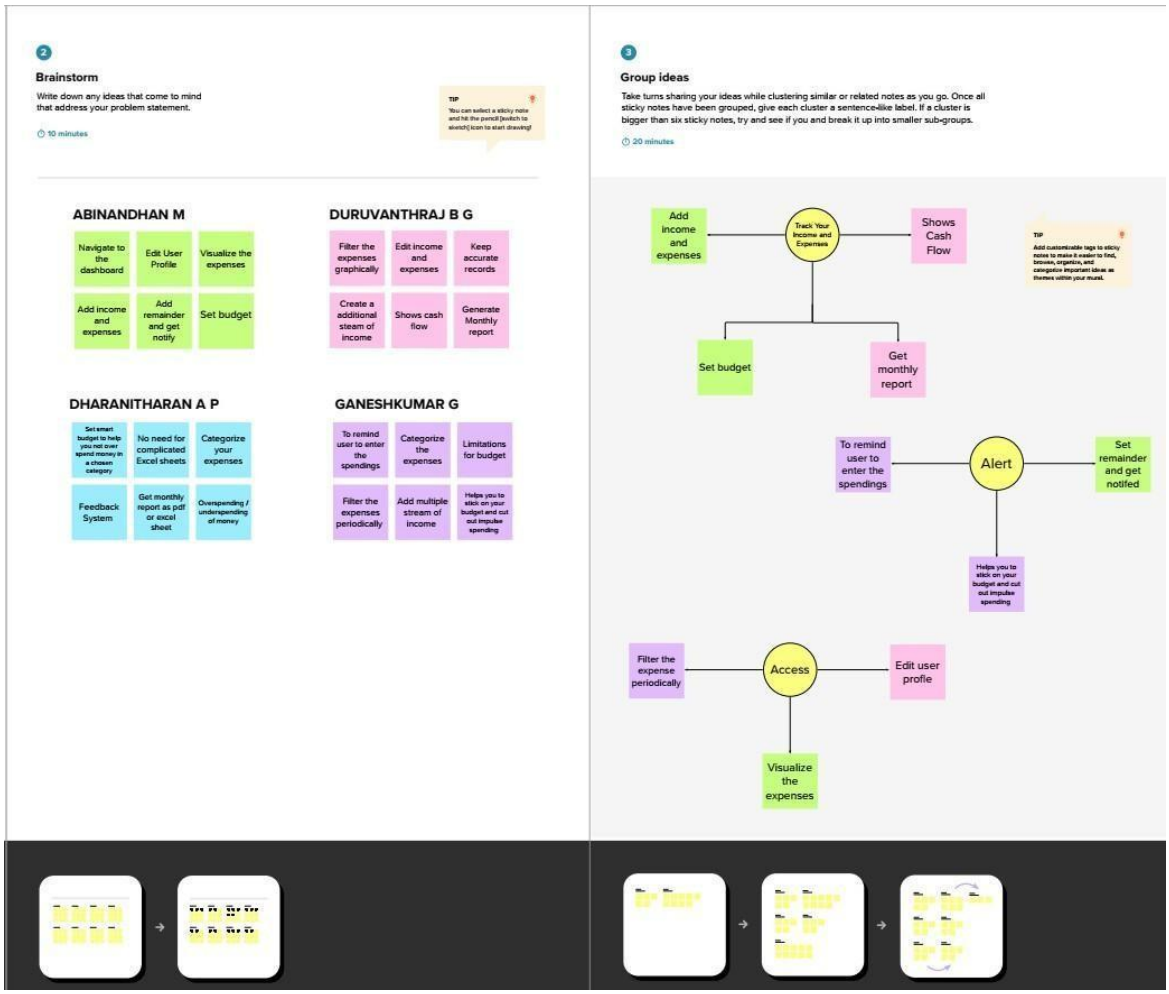
			4, March 2021 ISSN: 2395-0056

IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.1 Ideation & Brainstorming

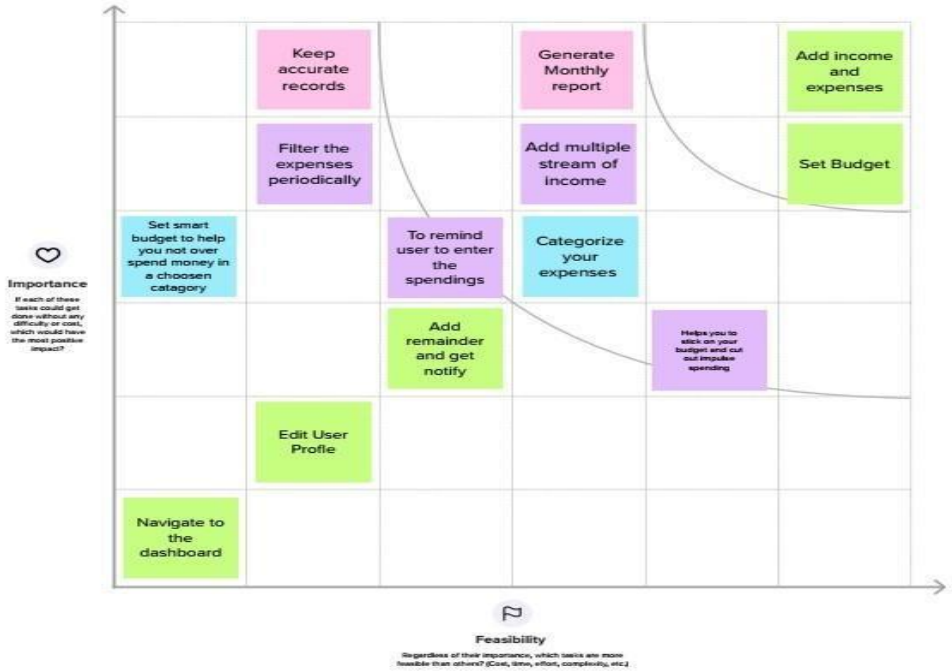


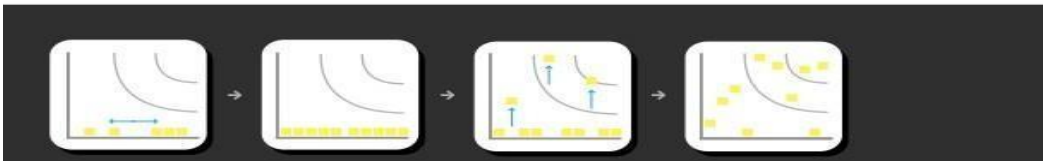
4

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

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S.No.	Parameter	Description
1.	Problem Statement (Problem to besolved)	The problem is that people find it difficult to maintain track of their monthly expenses and to avoid obsessive spending.
2.	Idea / Solution description	The user can enter income and expenses into the personal cost tracker programme. As a result, the expense wallet is updated. A graphical breakdown of the expense could be obtained. The user is also notifiedif the budget's monthly maximum is surpassed.
3.	Novelty / Uniqueness	The personal expense tracker application helps the user not only in budgeting and accounting; it also provides the insights about money management through the analysis. The user also gets notified if the monthly limit is exceeded.
4.	Social Impact / Customer Satisfaction	The personal spending tracker programme not only assists the user in budgeting and accounting, but it also provides insights intomoney management through analysis. If the monthly limit is surpassed, the user is also notified.
5.	Business Model (Revenue Model)	The application may have a free and premium version, with the user having the option to upgrade to the premium versionto gain access to additional features. Furthermore, the premium version may be ad-free.
6.	Scalability of the Solution	This application is not only for personal use, but it can also be extended to business organisations.

3.4 Problem Solution fit

2. EQUIREMENT ANALYSIS

4.1 Functional Requirements

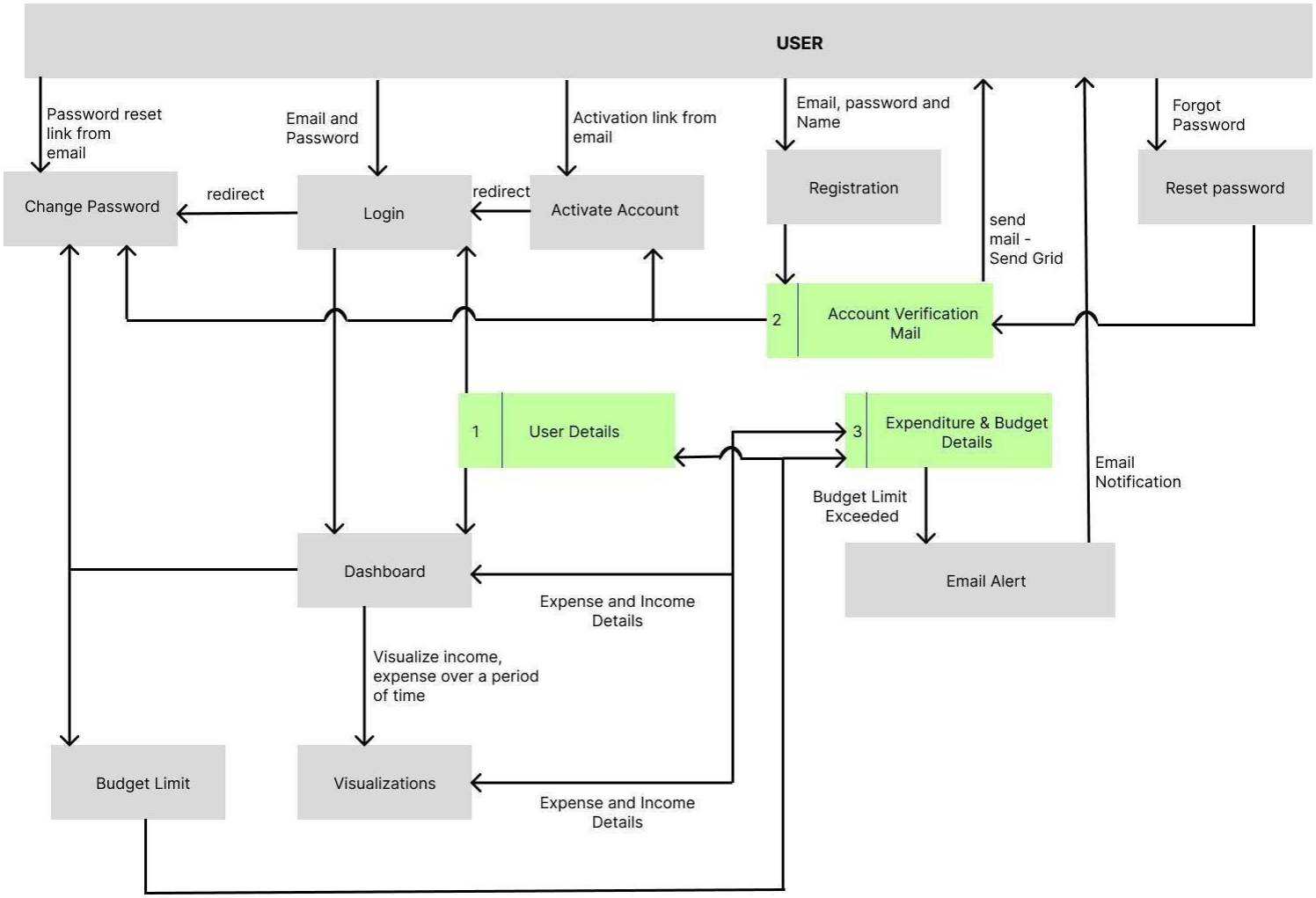
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration Form for collecting details.
FR-2	User Login	Enter username and password.
FR-3	Forget Password	Reseting the password by sending an OTP to user's mail.
FR-4	Calendar	Personal expense tracker application must allow user to add the data to their expenses.
FR-6	Dashboard	User can add the expense and can evaluate them using the provided options.
FR-5	Expense Tracker	This application must graphically represent the expense like report.
FR-6	Report generation	Report must be generated in a graphical form.
FR-7	Category	This application shall allow users to add categories of their expenses.
FR-8	Result Page	Show the user result.

4.2 Non-Functional Requirements

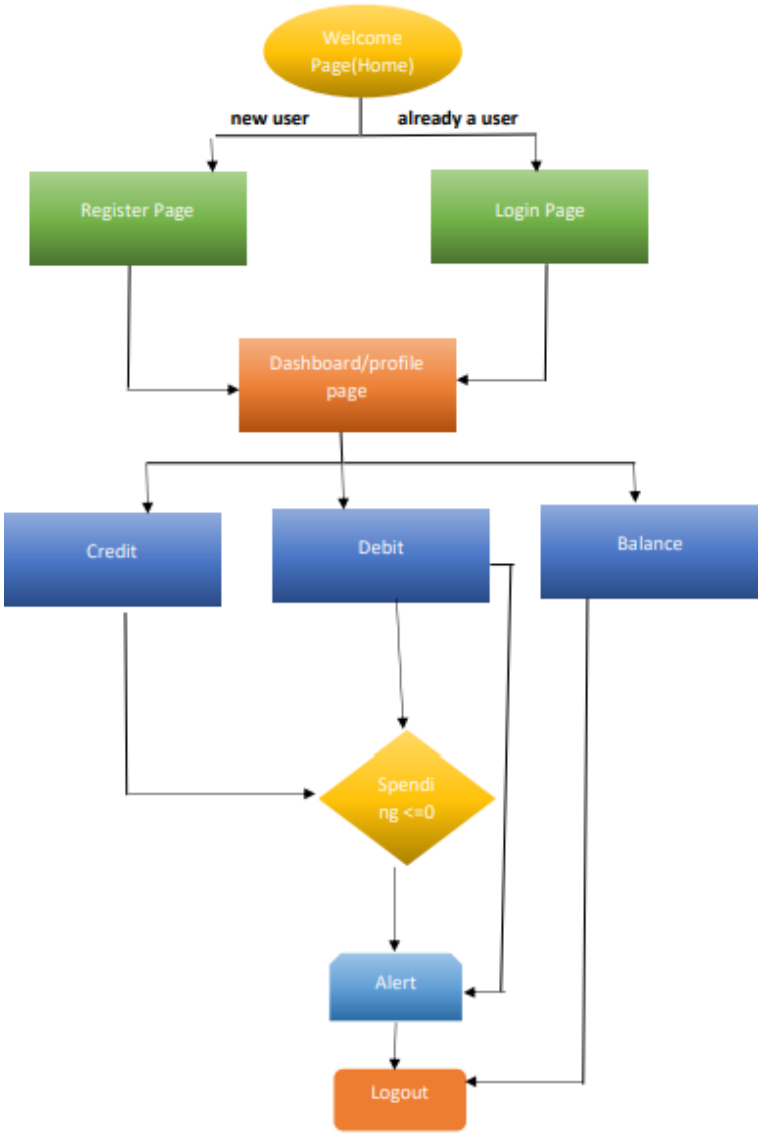
FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Most web browsers allow users to access the application. The application's attractive and detaileduser interface makes it easier to use. It makes it easier for you to monitor your earnings and expenses.
NFR-2	**Security**	Customers are required to set up an account for themselves using their email, which is secured by a longer password of six characters. This application might prevent you from engaging in online crimes.
NFR-3	**Reliability**	Each data record is kept in an effective database schema that is well built. No chance of data loss exists.
NFR-4	**Performance**	Expense types include categories and an option. Thesystem's throughput is increased thanks to the lightweight database support.

3. **PROJECT DESIGN**

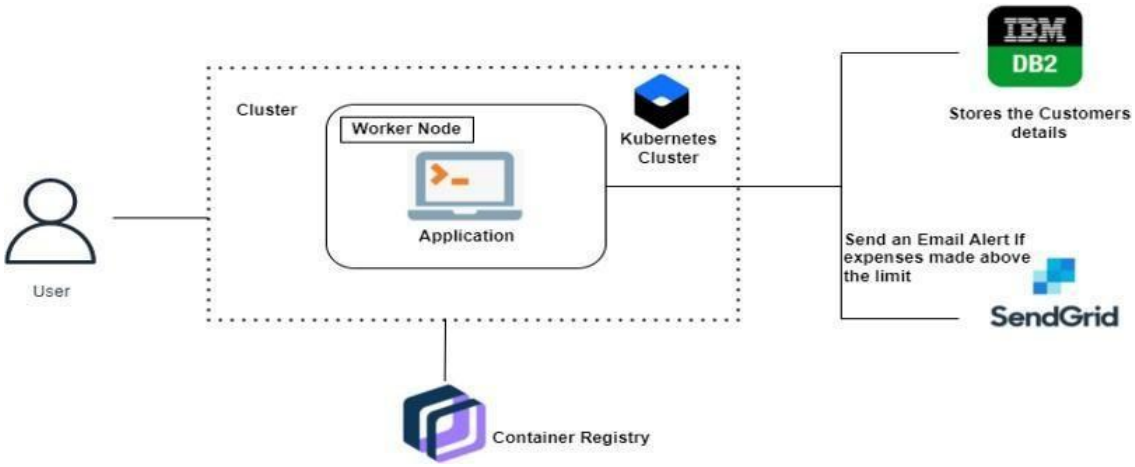
5.1 Data Flow Diagrams



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	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
Customer	Account Activation	USN-2	As a user, I will receive confirmation emailonce I have registered for the application	I can receive confirmationemail & click confirm	High	Sprint-1
Customer	Login	USN-3	As a user, I can log into the application by entering email & password	I can login on correct credentials	High	Sprint-1
Customer	Dashboard	USN-4	As a user, I can add expenses and income	I can enter the amountand category to save	High	Sprint-2
Customer	Login	USN-5	As a user, I can change my password	I can change password ifi'm logged in	Low	Sprint-4

Customer	Dashboard	USN-6	As a user, I can view my past expenses and income over a period of time, and visualize them	I can view past recordsprovided if records available	High	Sprint-2

Customer	Notification	USN-7	As a user, When my monthly limit exceeds, iget a email notification	I can get alert notification,if i have set a limit	Low	Sprint-4
Customer	Dashboard	USN-8	As a user, I can set a monthly expense limit	I can set a valid limit	Low	Sprint-4
Customer	Forgot password	USN-9	As a user, I can get a reset password link if i forget it through mail	I need to have access tomy email	High	Sprint-3
Customer	Forgot password	USN-10	As a user, I can change my password if Iforget it	The link should be valid	High	Sprint-3

6 PROJECT PLANNING AND SCHEDULING

6.1 Product Backlog,Sprint Schedule,and 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	Abinandhan M
Sprint-3	Security	USN-2	As a user, I will receive confirmation email oncel have registered for the application	1	High	Abinandhan M
Sprint-3	Registration	USN-3	As a user, I can register for the application through Facebook	2	Low	Dharanitharan A P
Sprint-1	Registration	USN-4	As a user, I can register for the applicationthrough Gmail	2	Medium	Dharanitharan A P
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	Duruvanthraj B G
Sprint- 2	Dashboard	USN-6	As a user, I can view, edit, delete my expenses and budget.	2	High	Duruvanthraj B G
Sprint- 3	Report	USN-7	As a user, I can group the expenses	1	Medium	Ganeshkumar G

Sprint- 4	Graphical Representatio n	USN-8	As a administrator, I can view if there are anyspam accounts and I should be able to ban them	2	Medium	Ganeshkumar G

6.1 Project Tracker,Velocity & Burndown chart

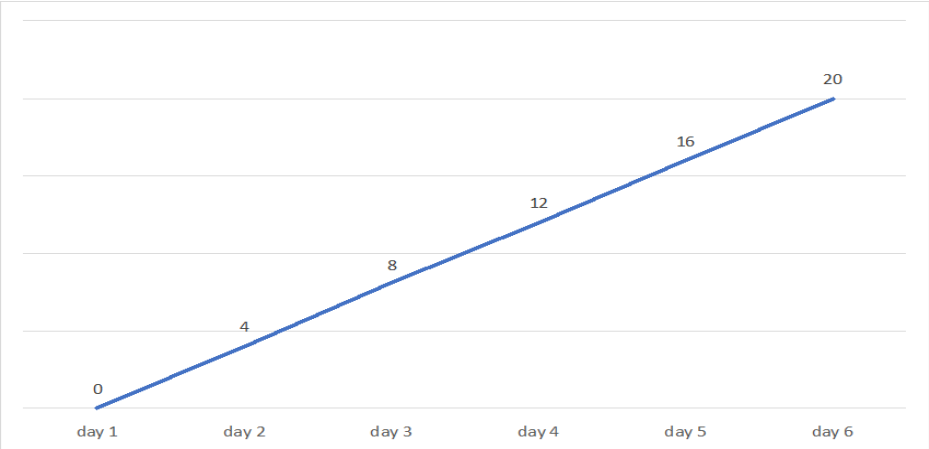
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 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)

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

Burdown 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 chartscan be applied to any project containing measurable progress over time.



Sprint duration

7. CODING AND SOLUTIONING

7.1 Server Side

```
from flask import Flask, render_template, request, redirect, session
import ibm_db
import re
from datetime import datetime


app = Flask(__name__)


app.secret_key = 'safste5eyhrsgh'
try:
    conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=b0aebb68-94fa-46ec-a1fc-
1c999edb6187.c3n41cmd0nqnrk39u98g.databases.appdomain.cloud;PORT=31249;SECURITY=SSL;SSLServerCertific
ate=DigiCertGlobalRootCA.crt;UID=mwz43368;PWD=Xt9nRoZW5RemaaTu",",")
except Exception as e:
    print(e)


#HOME--PAGE
@app.route("/home"
) def home():
    return render_template("homepage.html")

@app.route("/")
def add():
    return render_template("home.html")



#SIGN--UP--OR--REGISTER


@app.route("/signup")
def signup():
    return render_template("signup.html")
```

```
@app.route('/register', methods =['GET', 'POST'])
def register():
    msg = ''
    if request.method == 'POST' :
        username = request.form['username']
        email = request.form['email']
        password = request.form['password']

        query = 'SELECT * FROM register WHERE username =?;'
        stmt=ibm_db.prepare(conn,query)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        print(account)
        if account:
            msg = 'Account already exists !'
        elif not re.match(r'[^@]+@[^@]+\.[^@]+', email):
            msg = 'Invalid email address !'
        elif not re.match(r'[A-Za-z0-9]+', username):
            msg = 'name must contain only characters and numbers !'
        else:
            query = "INSERT INTO register (username,email,password) VALUES (?,?,?)"
            stmt=ibm_db.prepare(conn,query)
            ibm_db.bind_param(stmt,1,username)
            ibm_db.bind_param(stmt,2,email)
            ibm_db.bind_param(stmt,3,password)
            ibm_db.execute(stmt)
            msg = 'You have successfully registered !'
    return render_template('signup.html', msg = msg)



 #LOGIN--PAGE

@app.route("/signin"
) def signin():
    return render_template("login.html")

@app.route('/login',methods =['GET', 'POST'])
def login():
    global userid
```

```
    msg = ''


    if request.method == 'POST' :
        username = request.form['username']
        password = request.form['password']
        query = "SELECT * FROM register WHERE username = ? AND password =
        ?;" stmt = ibm_db.prepare(conn,query)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.bind_param(stmt,2,password)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_tuple(stmt)
        print (account)

        if account:
            session['loggedin'] = True
            session['id'] = account[0]
            userid= account[0]
            session['username'] = account[1]

            return redirect('/home')
        else:
            msg = 'Incorrect username / password !'
    return render_template('login.html', msg = msg)
```

```
#ADDING     DATA


@app.route("/add")
def adding():
    return render_template('add.html')


@app.route('/addexpense',methods=['GET', 'POST'])
def addexpense():
```

```
    date = request.form['date']
    date = str(datetime.strptime(date.replace("T"," "),"%Y-%m-%d %H:%M"))
    expensename = request.form['expensename']
    amount = request.form['amount']
    paymode = request.form['paymode']
    category = request.form['category']
    print(date + " " + expensename + " " + amount + " " + paymode + " " + category)
    query = 'INSERT INTO expenses (userid,date,expensename,amount,paymode,category) VALUES (?, ?, ?, ?, ?, ?)'
    stmt = ibm_db.prepare(conn,query)
    ibm_db.bind_param(stmt,1,session['id'])
    ibm_db.bind_param(stmt,2,date)
    ibm_db.bind_param(stmt,3,expensename)
    ibm_db.bind_param(stmt,4,amount)
    ibm_db.bind_param(stmt,5,paymode)
    ibm_db.bind_param(stmt,6,category)
    ibm_db.execute(stmt)
    # cursor.execute('INSERT INTO expenses VALUES (NULL, % s, % s, % s, % s, % s, % s)', (session['id'] ,date,
expensename, amount, paymode, category))

    return redirect("/display")



#DISPLAY---graph

@app.route("/display")
def display():
    print(session["username"],session['id'])
    # query = 'SELECT * FROM expenses WHERE userid = ' + str(session['id']) + 'ORDER BY date DESC'
    # stmt = ibm_db.prepare(conn,query)
    # ibm_db.bind_param(stmt,1,(str(session['id'])))
    # ibm_db.execute(stmt)
    # tuple =
    ibm_db.fetch_tuple(stmt) #
    expense = []
    # while tuple != False:
    #     expense.append(list(tuple))
    #     tuple = ibm_db.fetch_tuple(stmt)
    # query = 'SELECT SUM(amount) FROM expenses WHERE userid= ?'
    # stmt = ibm_db.prepare(conn,query)
    # ibm_db.bind_param(stmt,1,(str(session['id'])))
    # ibm_db.execute(stmt)
    # texpense = []
    # tuple =
    ibm_db.fetch_tuple(stmt) # while
```

tuple!=False:

```
#     print(tuple)
#     texpense.append(tuple)
#     tuple = ibm_db.fetch_tuple(stmt)
# print(texpense)
# total=0
# t_food=0
# t_entertainment=0
# t_business=0
# t_rent=0
# t_EMI=0
# t_other=0

# for x in expense:
#
#       total +=
float(x[4]) #     if x[6]
== "food":
#           t_food += float(x[4])

#       elif x[6] == "entertainment":
#           t_entertainment += float(x[4])

#       elif x[6] == "business":
#           t_business += float(x[4])
#       elif x[6] == "rent":
#           t_rent += float(x[4])

#       elif x[6] == "EMI":
#           t_EMI += float(x[4])

#       elif x[6] == "other":
#           t_other += float(x[4])


param = "SELECT * FROM expenses WHERE userid = " + str(session['id']) + " ORDER BY date DESC"
res = ibm_db.exec_immediate(conn, param)
dictionary =
ibm_db.fetch_assoc(res) expense =
[]
while dictionary !=
   False: temp = []
   temp.append(dictionary["ID"])
   temp.append(dictionary["USERID"])
   temp.append(dictionary["DATE"])
   temp.append(dictionary["EXPENSENAME"])
```

```
temp.append(dictionary["AMOUNT"])
```

```
        temp.append(dictionary["PAYMODE"])
        temp.append(dictionary["CATEGORY"].strip())
        expense.append(temp)
        dictionary =
    ibm_db.fetch_assoc(res) total=0
    t_food=0
    t_entertainment=0
    t_business=0
    t_rent=0
    t_EMI=0
    t_other=0


    for x in expense:
            total += x[4]
            if (x[6] == ("food")):
                t_food += x[4]
            elif x[6] ==
                "entertainment":
                t_entertainment += x[4]

            elif x[6] == "business":
                t_business += x[4]
            elif x[6] == "rent":
                t_rent += x[4]

            elif x[6] == "EMI":
                t_EMI += x[4]

            elif x[6] == "other":
                t_other += x[4]
    if expense:
            return render_template('display.html' ,expense = expense,title="History", total = total ,
                        t_food = t_food,t_entertainment = t_entertainment,
                        t_business = t_business, t_rent = t_rent,
                        t_EMI = t_EMI, t_other = t_other)
    return redirect('/add')



# #delete---the--data

@app.route('/delete/<string:id>', methods = ['POST', 'GET' ])
def delete(id):
    query = 'DELETE FROM expenses WHERE id = ?'
```

```
    stmt =
    ibm_db.prepare(conn,query)
    ibm_db.bind_param(stmt,1,str(id))
    ibm_db.execute(stmt)
    # cursor.execute('DELETE FROM expenses WHERE id = {0}'.format(id))
    # mysql.connection.commit()
    print('deleted successfully')
    return redirect("/display")


# #UPDATE---DATA

@app.route('/edit/<id>', methods = ['POST', 'GET' ])
def edit(id):
    # cursor = mysql.connection.cursor()
    # cursor.execute('SELECT * FROM expenses WHERE id = %s', (id,))
    # row = cursor.fetchall()
    query = 'SELECT * FROM expenses WHERE id =?'
    stmt = ibm_db.prepare(conn,query)
    ibm_db.bind_param(stmt,1,str(id))
    ibm_db.execute(stmt)
    row = []
    tuple =
    ibm_db.fetch_tuple(stmt) while
    tuple!=False:
       row.append(tuple)
       tuple = ibm_db.fetch_tuple(stmt)
    print(row[0])
    return render_template('edit.html', expenses = row[0])




@app.route('/update/<id>', methods = ['POST'])
def update(id):
  if request.method == 'POST' :

      date = request.form['date']
      expensename =
      request.form['expensename'] amount =
      request.form['amount']
      paymode = request.form['paymode']
      category = request.form['category']

      query = 'UPDATE expenses SET date = ? , expensename = ? , amount = ?, paymode = ?, category = ? WHERE
```

```
expenses.id = ? '
    # cursor.execute("UPDATE `expenses` SET `date` = % s , `expensename` = % s , `amount` = % s, `paymode` = % s,
```

```
`category` = % s WHERE `expenses`.`id` = % s ",(date, expensename, amount, str(paymode), str(category),id))
    # mysql.connection.commit()
      stmt = ibm_db.prepare(conn,query)
      ibm_db.bind_param(stmt,1,date)
      ibm_db.bind_param(stmt,2,expensename)
      ibm_db.bind_param(stmt,3,amount)
      ibm_db.bind_param(stmt,4,str(paymode))
      ibm_db.bind_param(stmt,5,str(category))
      ibm_db.bind_param(stmt,6,id)
      ibm_db.execute(stmt)
      print('successfully updated')
      return redirect("/display")




# #limit
@app.route("/limit" )
def limit():
       return redirect('/limitn')

@app.route("/limitnum" , methods = ['POST' ])
def limitnum():
     if request.method == "POST":
         number= request.form['number']
         print(number)
         query = 'INSERT INTO limits (userid,limitss) VALUES (?, ?) '
         stmt = ibm_db.prepare(conn,query)
        # cursor.execute('INSERT INTO limits VALUES (NULL, % s, % s) ',(session['id'], number)) #
        mysql.connection.commit()
         ibm_db.bind_param(stmt,1,session['id'])
         ibm_db.bind_param(stmt,2,number)
         ibm_db.execute(stmt)
         return redirect('/limitn')


@app.route("/limitn"
) def limitn():
    query = "SELECT limitss FROM limits ORDER BY limits.id DESC LIMIT 1"
    stmt = ibm_db.prepare(conn,query)
```

```
    # cursor.execute('SELECT limitss FROM `limits` ORDER BY `limits`.`id` DESC LIMIT 1')
    ibm_db.execute(stmt)
    x= ibm_db.fetch_tuple(stmt)
    if x:
        s = x[0]
        return render_template("limit.html" ,title="Limit", y=s)
    else:
        return render_template("limit.html",title="Limit" , y=0)

# #REPORT

@app.route("/today"
) def today():
      query = 'SELECT TIME(date), amount FROM expenses WHERE userid = ? AND DATE(date) = DATE(NOW())'
    # cursor.execute('SELECT TIME(date), amount FROM expenses WHERE userid = %s AND DATE(date) =
DATE(NOW()) ',(str(session['id'])))
      stmt = ibm_db.prepare(conn,query)
      ibm_db.bind_param(stmt,1,session['id'])
      ibm_db.execute(stmt)
      tuple = ibm_db.fetch_tuple(stmt)
      texpense = []
      while tuple!=False:
        texpense.append(tuple)
        tuple = ibm_db.fetch_tuple(stmt)
      print(texpense)
    # query = 'SELECT * FROM expenses WHERE userid = ? AND DATE(date) = DATE(NOW()) ORDER BY
expenses.date DESC'
    # stmt = ibm_db.prepare(conn,query)
    # ibm_db.bind_param(stmt,1,session['id'])
    # ibm_db.execute(stmt)
    # expense = []
    # while tuple!=False:
    #       temp = []
    #       temp.append(tuple["ID"])
    #
    temp.append(tuple["USERID"]) #
            temp.append(tuple["DATE"])
    #
    temp.append(tuple["EXPENSENAME"]) #
            temp.append(tuple["AMOUNT"])
    #       temp.append(tuple["PAYMODE"])
    #       temp.append(tuple["CATEGORY"].strip())
    #       expense.append(temp)
    #       tuple =
    ibm_db.fetch_tuple(stmt) #
```

```
print(expense)
# cursor.execute('SELECT * FROM expenses WHERE userid = % s AND DATE(date) = DATE(NOW()) AND date
```

```
ORDER BY `expenses`.`date` DESC',(str(session['id'])))
   # expense = cursor.fetchall()
    param = "SELECT * FROM expenses WHERE userid = " + str(session['id']) + " AND DATE(date) = DATE(current
timestamp) ORDER BY date DESC"
    res = ibm_db.exec_immediate(conn, param)
    dictionary = ibm_db.fetch_assoc(res)
    print(dictionary)
    expense = []
    while dictionary != False:
        temp = []
        temp.append(dictionary["ID"])
        temp.append(dictionary["USERID"])
        temp.append(dictionary["DATE"])
        temp.append(dictionary["EXPENSENAME"])
        temp.append(dictionary["AMOUNT"])
        temp.append(dictionary["PAYMODE"])
        temp.append(dictionary["CATEGORY"].strip())
        expense.append(temp)
        dictionary =
    ibm_db.fetch_assoc(res) total=0
    t_food=0
    t_entertainment=0
    t_business=0
    t_rent=0
    t_EMI=0
    t_other=0


    for x in expense:
        total += x[4]
        if x[6] == "food":
            t_food +=
            float(x[4])

        elif x[6] == "entertainment":
            t_entertainment += float(x[4])

        elif x[6] == "business":
            t_business += float(x[4])
        elif x[6] == "rent":
            t_rent += float(x[4])

        elif x[6] == "EMI":
            t_EMI += float(x[4])
```

```
        elif x[6] == "other":
            t_other += float(x[4])

    print(total)

    print(t_food)
    print(t_entertainment)
    print(t_business)
    print(t_rent)
    print(t_EMI)
    print(t_other)



    return render_template("today.html",title="Today" ,texpense = texpense, expense = expense, total = total ,
                    t_food = t_food,t_entertainment = t_entertainment,
                    t_business = t_business, t_rent = t_rent,
                    t_EMI = t_EMI, t_other = t_other )


@app.route("/month"
) def month():
    query = 'SELECT DATE(date), SUM(amount) FROM expenses WHERE userid= ? AND MONTH(DATE(date))=
MONTH(now()) GROUP BY DATE(date) ORDER BY DATE(date) '
   # cursor.execute('SELECT DATE(date), SUM(amount) FROM expenses WHERE userid= %s AND
MONTH(DATE(date))= MONTH(now()) GROUP BY DATE(date) ORDER BY DATE(date) ',(str(session['id'])))
    stmt = ibm_db.prepare(conn,query)
    ibm_db.bind_param(stmt,1,session['id'])
    ibm_db.execute(stmt)
    tuple = ibm_db.fetch_tuple(stmt)
    texpense = []
    while tuple!=False:
      texpense.append(tuple)
      tuple = ibm_db.fetch_tuple(stmt)
    print(texpense)

   # cursor = mysql.connection.cursor()
   # query = 'SELECT * FROM expenses WHERE userid = ? AND MONTH(DATE(date))= MONTH(now()) ORDER
BY expenses.date DESC'
   # # cursor.execute('SELECT * FROM expenses WHERE userid = % s AND MONTH(DATE(date))=
MONTH(now()) AND date ORDER BY `expenses`.`date` DESC',(str(session['id'])))
   # stmt = ibm_db.prepare(conn,query)
   # ibm_db.bind_param(stmt,1,session['id'])
   # ibm_db.execute(stmt)
```

```
    # expense = []
    # tuple = ibm_db.fetch_tuple(stmt)
    # while tuple!=False:
    #     expense.append(tuple)
    #     tuple = ibm_db.fetch_tuple(stmt)
    # expense = cursor.fetchall()
      param = "SELECT * FROM expenses WHERE userid = " + str(session['id']) + " AND MONTH(date) =
MONTH(current timestamp) AND YEAR(date) = YEAR(current timestamp) ORDER BY date DESC"
      res = ibm_db.exec_immediate(conn, param)
      dictionary = ibm_db.fetch_assoc(res)
      expense = []
      while dictionary != False:
          temp = []
          temp.append(dictionary["ID"])
          temp.append(dictionary["USERID"])
          temp.append(dictionary["DATE"])
          temp.append(dictionary["EXPENSENAME"])
          temp.append(dictionary["AMOUNT"])
          temp.append(dictionary["PAYMODE"])
          temp.append(dictionary["CATEGORY"].strip())
          expense.append(temp)
          dictionary = ibm_db.fetch_assoc(res)

      total=0
      t_food=0
      t_entertainment=0
      t_business=0
      t_rent=0
      t_EMI=0
      t_other=0


      for x in expense:
          total +=
          float(x[4]) if x[6]
          == "food":
              t_food += float(x[4])

          elif x[6] == "entertainment":
              t_entertainment += float(x[4])

          elif x[6] == "business":
              t_business += float(x[4])
          elif x[6] == "rent":
              t_rent += float(x[4])
```

```
        elif x[6] == "EMI":
            t_EMI += float(x[4])

        elif x[6] == "other":
            t_other += float(x[4])

    print(total)

    print(t_food)
    print(t_entertainment)
    print(t_business)
    print(t_rent)
    print(t_EMI)
    print(t_other)



    return render_template("month.html",title="Month", texpense = texpense, expense = expense, total = total ,
                    t_food = t_food,t_entertainment = t_entertainment,
                    t_business = t_business, t_rent = t_rent,
                    t_EMI = t_EMI, t_other = t_other )

@app.route("/year")
def year():
   # cursor = mysql.connection.cursor()
   # cursor.execute('SELECT MONTH(date), SUM(amount) FROM expenses WHERE userid= %s AND
YEAR(DATE(date))= YEAR(now()) GROUP BY MONTH(date) ORDER BY MONTH(date) ',(str(session['id'])))
   # texpense = cursor.fetchall()
   # print(texpense)
    query = 'SELECT DATE(date), SUM(amount) FROM expenses WHERE userid= ? AND YEAR(DATE(date))=
YEAR(now()) GROUP BY DATE(date) ORDER BY DATE(date)'
    stmt = ibm_db.prepare(conn,query)
    ibm_db.bind_param(stmt,1,session['id'])
    ibm_db.execute(stmt)
    texpense = []
    tuple = ibm_db.fetch_tuple(stmt)
    while tuple!=False:
      texpense.append(tuple)
      tuple = ibm_db.fetch_tuple(stmt)

   # cursor = mysql.connection.cursor()
   # cursor.execute('SELECT * FROM expenses WHERE userid = % s AND YEAR(DATE(date))= YEAR(now())
AND date ORDER BY `expenses`.`date` DESC',(str(session['id'])))
```

```
    # expense = cursor.fetchall()
    # query = 'SELECT * FROM expenses WHERE userid = ? AND YEAR(DATE(date))= YEAR(now()) ORDER BY expenses.date DESC'
    # stmt = ibm_db.prepare(conn,query)
    # ibm_db.bind_param(stmt,1,session['id'])
    # ibm_db.execute(stmt)
    # expense = []
    # tuple = ibm_db.fetch_tuple(stmt)
    # while tuple!=False:
    #     expense.append(tuple)
    #     tuple = ibm_db.fetch_tuple(stmt)
      param = "SELECT * FROM expenses WHERE userid = " + str(session['id']) + " AND YEAR(date) = YEAR(current timestamp) ORDER BY date DESC"
      res = ibm_db.exec_immediate(conn, param)
      dictionary = ibm_db.fetch_assoc(res)
      expense = []
      while dictionary != False:
          temp = []
          temp.append(dictionary["ID"])
          temp.append(dictionary["USERID"])
          temp.append(dictionary["DATE"])
          temp.append(dictionary["EXPENSENAME"])
          temp.append(dictionary["AMOUNT"])
          temp.append(dictionary["PAYMODE"])
          temp.append(dictionary["CATEGORY"].strip())
          expense.append(temp)
          dictionary = ibm_db.fetch_assoc(res)


      total=0
      t_food=0
      t_entertainment=0
      t_business=0
      t_rent=0
      t_EMI=0
      t_other=0

      for x in expense:
          print(x)
          total += float(x[4])
          if x[6] == "food":
              t_food += float(x[4])

          elif x[6] == "entertainment":
```

```
            t_entertainment += float(x[4])

        elif x[6] == "business":
            t_business += float(x[4])
        elif x[6] == "rent":
            t_rent += float(x[4])

        elif x[6] == "EMI":
            t_EMI += float(x[4])

        elif x[6] == "other":
            t_other += float(x[4])

    print(total)

    print(t_food)
    print(t_entertainment)
    print(t_business)
    print(t_rent)
    print(t_EMI)
    print(t_other)



    return render_template("today.html",title="Year", texpense = texpense, expense = expense, total = total ,
                    t_food = t_food,t_entertainment = t_entertainment,
                    t_business = t_business, t_rent = t_rent,
                    t_EMI = t_EMI, t_other = t_other )

#log-out
@app.route('/logout'
) def logout():
  session.pop('loggedin', None)
  session.pop('id', None)
  session.pop('username', None)
  return
  render_template('home.html')



if_name____== "_main_":
   app.run()
```

8. Testing

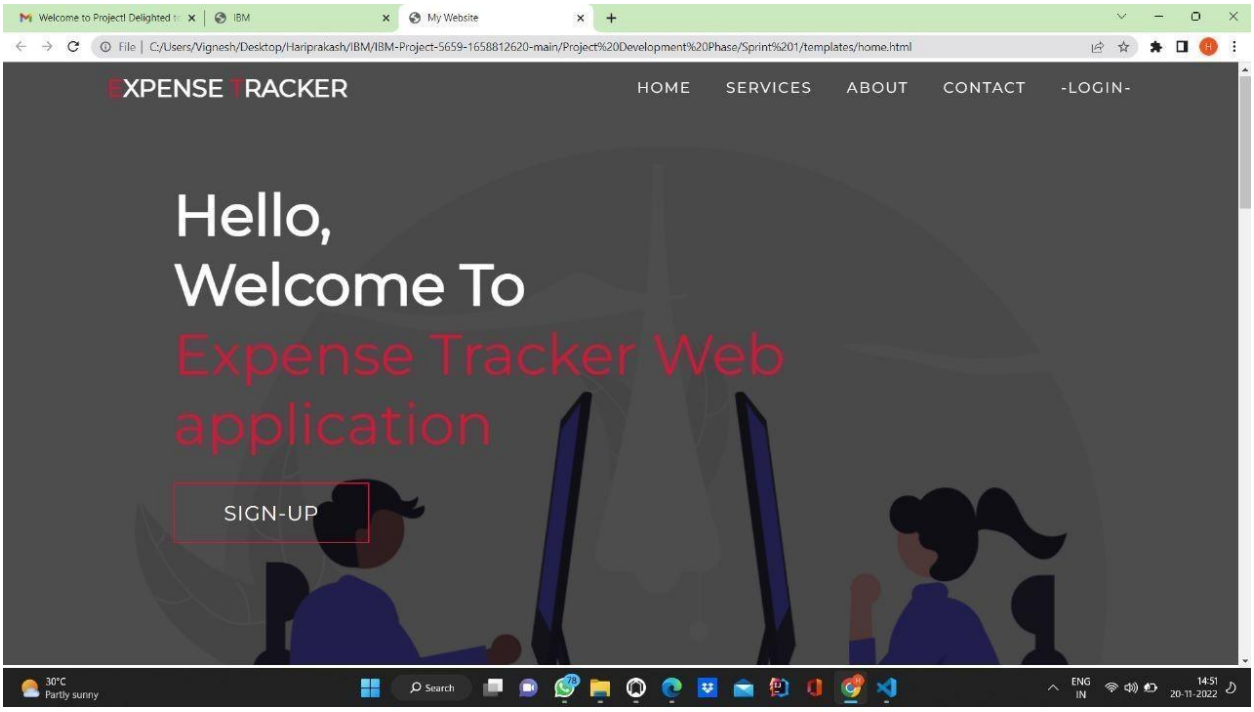
8.1 Acceptance Testing

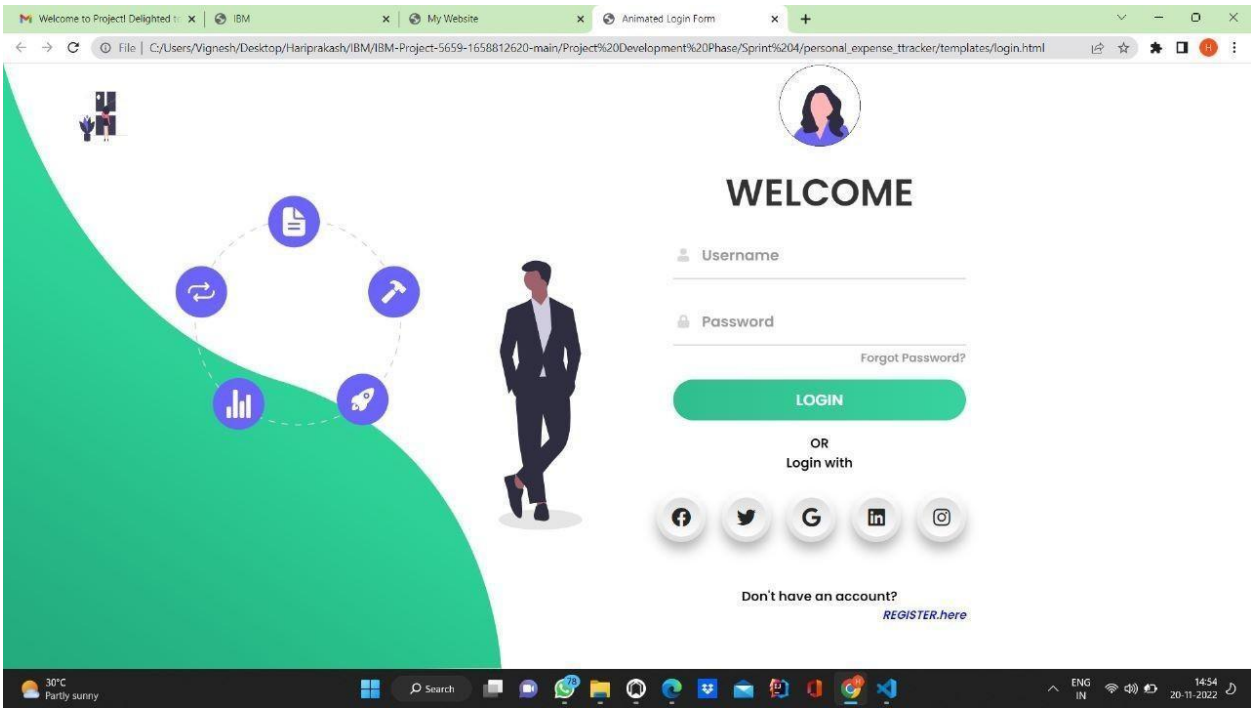
S.No	Test Cases	Yes/ No
1.	Keyword driven	Yes
2.	Responds in manually drafted rules	Yes
3.	Manages multiple users	Yes
4.	Conversational Paradigm	Yes
3.	Learns from real interactions	No
4.	Training via historical data	No
5.	Has decision-making skills	No

8.1 TestCase Report

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	1	0	0	0	1
Duplicate	1	0	0	0	1
External	3	1	0	0	4
Fixed	4	1	0	0	5
Not Reproduced	0	0	0	0	1
Skipped	0	0	0	0	0
Won't Fix	0	0	0	0	0
Totals	9	2	0	0	11

9. **Results**


Welcome to Project! Delighted t:
IBM
My Website
File | C:/Users/Vignesh/Desktop/Hariprakash/IBM/IBM-Project-5659-1658812620-main/Project%20Development%20Phase/Sprint%201/templates/home.html
EXPENSE TRACKER
HOME
SERVICES
ABOUT
CONTACT
-LOGIN-
Hello,
Welcome To
Expense Tracker Web application
SIGN-UP
30°C
Partly sunny
Search
ENG
IN
14:51
20-11-2022


Welcome to Project! Delighted t:
IBM
My Website
Animated Login Form
File | C:/Users/Vignesh/Desktop/Hariprakash/IBM/IBM-Project-5659-1658812620-main/Project%20Development%20Phase/Sprint%204/personal_expense_ttracker/templates/login.html
WELCOME
Username
Password
Forgot Password?
LOGIN
OR
Login with
Don't have an account?
REGISTER.here
30°C
Partly sunny
Search
ENG
IN
14:54
20-11-2022

10. ADVANTAGES & DISADVANTAGES

10.1 Advantages:

- Enhanced clientele services
- Cloud-based approach
- Order completion

10.2 Disadvantages:

- System Conflict
- less frequent physical audits
- There is no available fix to shorten the service cycle or improve the bottleneck**.**

11. FUTURE SCOPE

1) It will have different record-keeping options.
2) It will continue to send notifications about our daily spending automatically.
3. Despite being in a haste to make money in today's hectic and expensive world, we eventually gave up. As we naively waste money on unnecessary items and titles. We so came over with theintention of following our profit**.**

12. REFERENCES

1) https://github.com/IBM-EPBL/IBM-Project-53220-1661319171