

PERSONAL EXPENSE TRACKER

PROJECT REPORT

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*in partial fulfillment of the requirements for the award of the
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in

COMPUTER SCIENCE AND ENGINEERING

**SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY
COIMBATORE**

(An Autonomous Institution)



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SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution)

(Approved by AICTE and Affiliated to Anna University, Chennai)

ACCREDITED BY NAAC WITH “A” GRADE

BONAFIDE CERTIFICATE

Certified that this project report titled **Personal Expense Tracker”** is the bonafide work of **OBED SAMUEL J (19EUCS103), NAVANEETH K B (19EUCS097), NITHIN G S (19EUCS101), NAVEEN M (19EUCS099)** who carried out the project work under my supervision.

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This project report is submitted for the Autonomous Project Viva-Voce examination held on

INTERNAL EXAMINER

EXTERNAL EXAMINER

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TABLE OF CONTENTS

CHAPTER NO	TITLE ABSTRACT	PAGE NO
1	INTRODUCTION	
	1.1 Project Overview	
	1.2 Purpose	
2	LITERATURE SURVEY	
	2.1 Existing problems	
	2.2 References	
	2.3 Problem Statement Definition	
3	IDEATION & PROPOSED SOLUTION	
	3.1 Empathy Map Canvas	
	3.2 Ideation & Brainstorming	
	3.3 Proposed Solution	
	3.4 Problem Solution fit	
4	REQUIREMENT ANALYSIS	
	4.1 Functional requirement	
	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 Planning & Estimation
- 6.2 Sprint Delivery Schedule

7 CODING & SOLUTIONING

- 7.1 Feature 1 : Register Page
- 7.2 Feature 2 : Login Page
- 7.3 Feature 3 : Dashboard
- 7.4 Feature 4 : Stats Page

8 TESTING

- 8.2 Test Cases
- 8.3 User Acceptance Testing

9 RESULTS

- 9.1 Performance Metrics

10 ADVANTAGES & DISADVANTAGES

11 CONCLUSION

12 FUTURE SCOPE

13 APPENDIX

1.INTRODUCTION

1.1 Project overview

Money management has become a necessary part in our lives. Starting from big tech companies right to individuals, money management is the key for financial development. Although Big Tech companies have their own techniques and methods to monitor and manage the flow of money, common people don't have this privilege. To solve this problem we have developed a Personal Expense Tracking Application, with the help of this application every single individual can manage their money and track its flow. By using our application financial development and management is easily achieved by common people, they can add their daily expenses and incomes and analyse how much money they spent and how much money has been credited to them. Our aim is to make every individual financially literate and . The front end of this application is done using HTML5 and CSS3 the back end is done using Python and flask, IBM DB2 Database is used to store and process the daily expenses of the user. IBM DB2 is configured using Python.

1.2 Purpose

To solve this problem we have developed a Personal Expense Tracking Application, with the help of this application every single individual can manage their money and track its flow. By using our application financial development and management is easily achieved by common people, they can add their daily expenses and incomes and analyse how much money they spent and how much money has been credited to them.

2. LITERATURE SURVEY

2.1 Existing Problem

- The already existing model is trained with minimal parameters by leaving the necessary parameter
- Low accuracy in prediction
- No feature extraction done
- High complexity.

2.2 References

1. Adiwijaya, K., Wahyuni, S., & Mussry, J. S. (2017). Marketing ambidexterity and marketing performance: Synthesis, a conceptual framework, and research propositions. In *Enhancing Business Stability Through Collaboration* 431–442. CRC Press.
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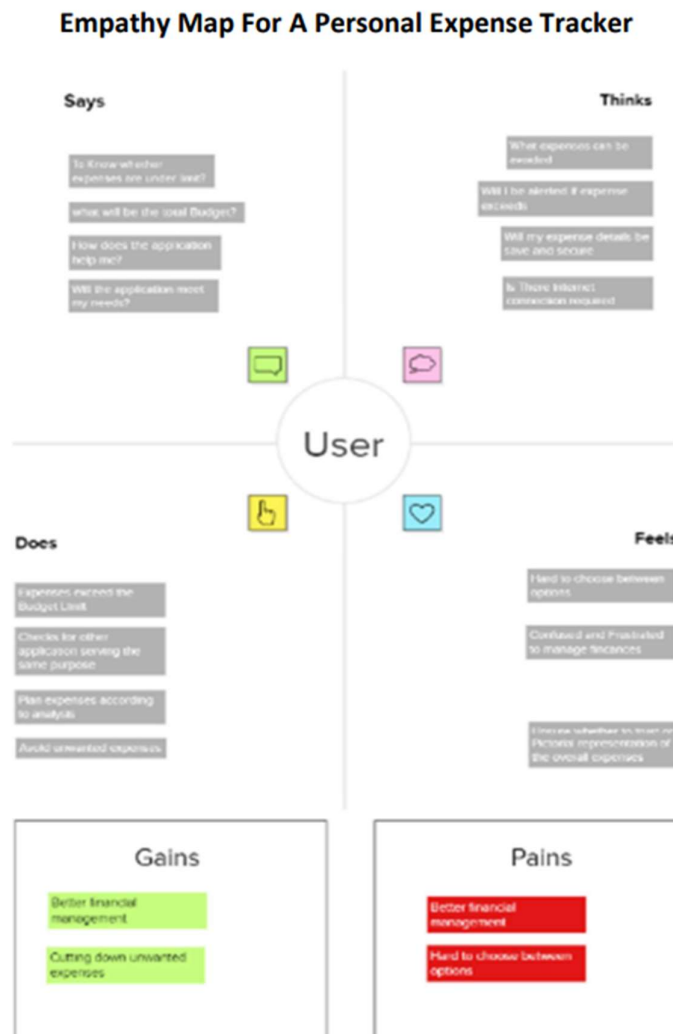
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10. Foltean, F. S., Trif, S. M., & Tuleu, D. L. (2019). Customer relationship management capabilities and social media technology use: Consequences on firm performance. *Journal of Business Research*, 104, 563–575.
11. Fu, H. P., & Chang, T. S. (2016). An analysis of the factors affecting the adoption of cloud consumer relationship management in the machinery industry in Taiwan. *Information Development*, 32(5), 1741–1756.

2.3 Problem Statement Definition

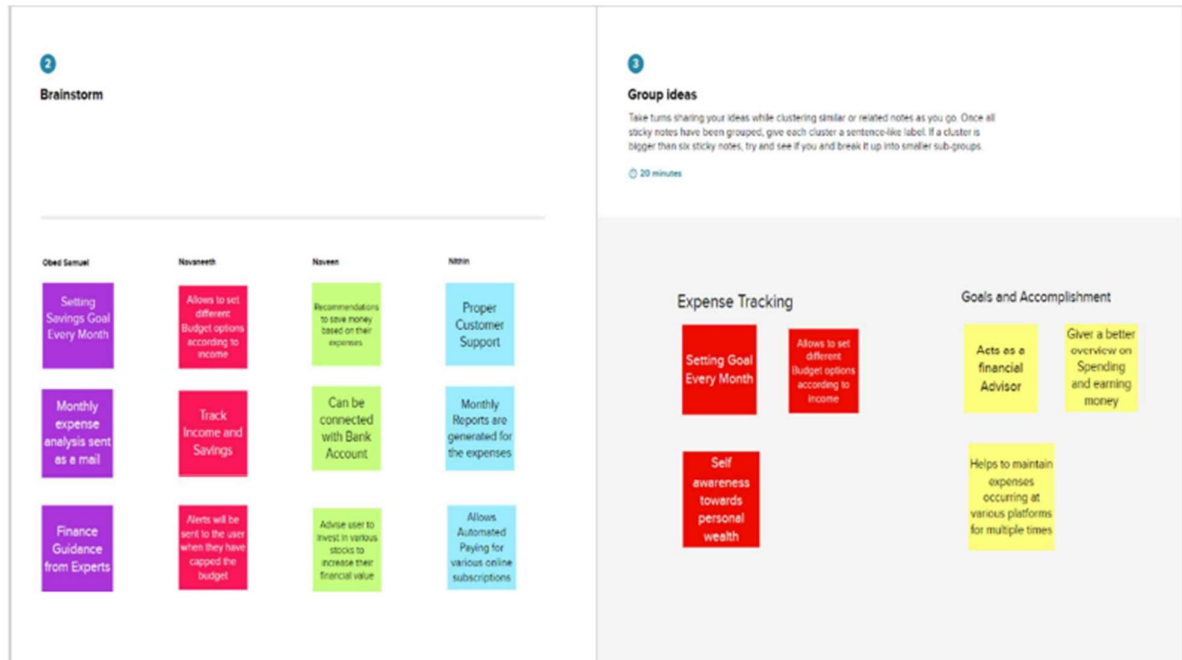
- The goal is to accurately predict the Length of Stay for each patient on case by case basis so that the Hospitals can use this information for optimal resource allocation and better functioning.
- The length of stay is divided into 11 different classes ranging from 0-10 days to more than 100 days.

3. IDEATION AND PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation & Brainstorming



3.3 Proposed Solution

The personal expense tracker is a web based application that enables users to record each and every expense so they have a better knowledge on their own finances. Our application's architecture ensures in the application is very light and doesn't utilize much of the system computing resources. The expense tracker offers features such as recording each and every expense, setting a budget and if the expenses exceed the budget.

A expense analysis can be generated for a given time frame and email can be sent from the application to the user. These features help the user to get a better idea on their finances. The data is saved in the database, which enables user to access their expense data from anywhere by logging into their account. User can also add category of expense which adding a expense, when an expense analysis generated a clear view on how much money was spent for which categories. The Personal Expense Tracker is a web-application ,so it is completely platform independent ,any user having browser and a internet connection can use and get benefited from the application.

3.4 Problem Solution fit

Project: Personal Expense Tracker

Project Design Phase-I - Solution Fit Template

Team ID: PNT2022TMID02770

Define CS, fit into CL	1. CUSTOMER SEGMENT(S) CS <ul style="list-style-type: none">Individuals or companies who want to manage and analyse their expense (student, working professional, family members <u>etc.</u>)	6. CUSTOMER LIMITATIONS CL <small>EG. BUDGET, DEVICES</small> <ul style="list-style-type: none">User must have an email accountUser must have clear knowledge on his/her income and expense	5. AVAILABLE SOLUTIONS AS <small>PROS & CONS</small> <ul style="list-style-type: none">Personal Expense Tracker – Limited expenditure optionsGood budget – Complex UI Interface.	Explore AS, differentiate
	2. PROBLEMS / PAINS PR <small>+ ITS FREQUENCY</small> <ul style="list-style-type: none">Single platform to track monitor their expenses and also producing a visual representation.It gives a comparison between income and expense it gives more control towards their own wealth.	9. PROBLEM ROOT / CAUSE RC <ul style="list-style-type: none">Humans mostly are <u>tend</u> to make errorsKeeping track of expense on a large scale for a long period of time is hardAnalysis of expense for every period can't be achieved manually	7. BEHAVIOR BE <small>+ ITS INTENSITY</small> <ul style="list-style-type: none">For a long period of time people tracked their expense manually, when income is coming from various sources handling manually is hard and time consuming so the application does the job more efficiently.	Focus on PR, tap into BE, understand RC
Identify strong TR & EM	3. TRIGGERS TO ACT TR <ul style="list-style-type: none">People who wish to see an analysis to their expenses without much <u>effort</u>.People who wish to save more.	10. YOUR SOLUTION SL <ul style="list-style-type: none">Build a cloud based personal expense tracker application which can track their income and expense and notify when limit is crossed.Provide a pictorial representational expense analysis which can provide a better idea.Gives advise on saving and avoiding unwanted expense	8. CHANNELS of BEHAVIOR CH <p>ONLINE</p> <ul style="list-style-type: none">Digital Marketing through social media which allows great reach among students or working professionals <p>OFFLINE</p> <ul style="list-style-type: none">Word of mouth among existing customer	Extract online & offline CH of BE
	4. EMOTIONS EM <small>BEFORE / AFTER</small> <ul style="list-style-type: none">People get frustrated when expense goes beyond their budget.Proper financial management helps at crucial moments of life.			

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

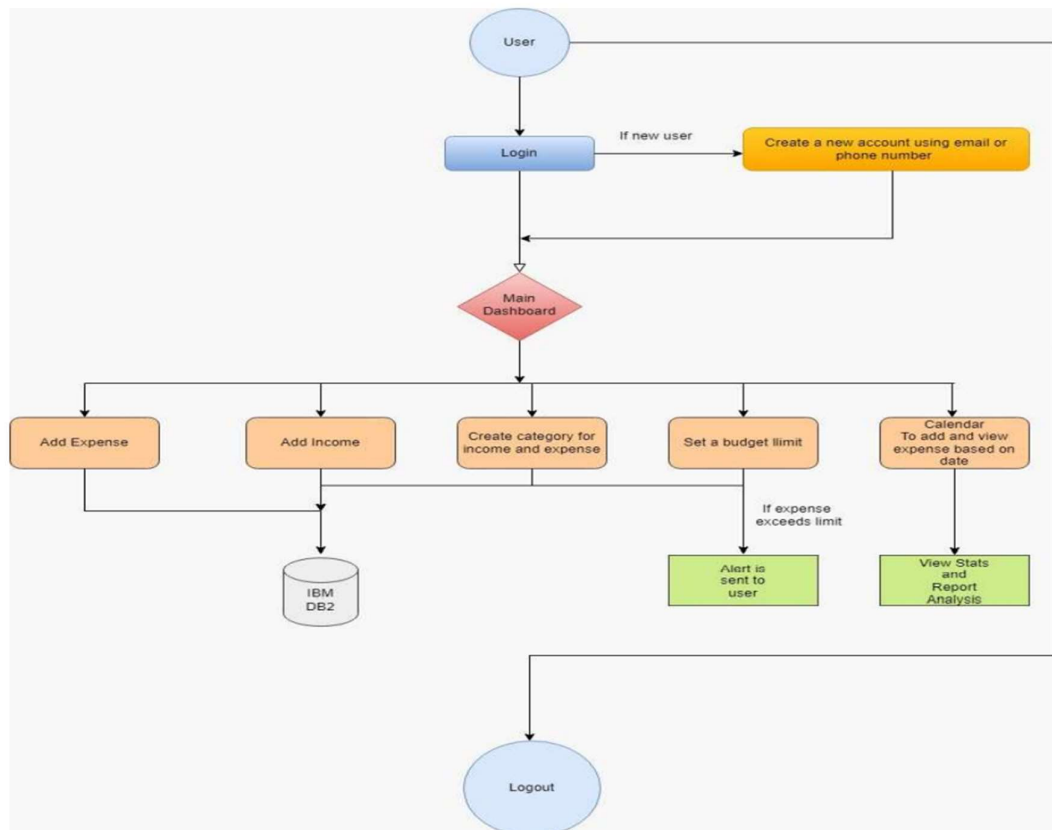
Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
Functional Requirement-1	Registration and account creation.
Functional Requirement-2	Enter the expenses on a daily basis.
Functional Requirement-3	Set a budget and alerts will be sent if the budget exceeds.
Functional Requirement-4	An expense analysis can be generated and sent as email to the user.

4.2 Non-Functional requirements

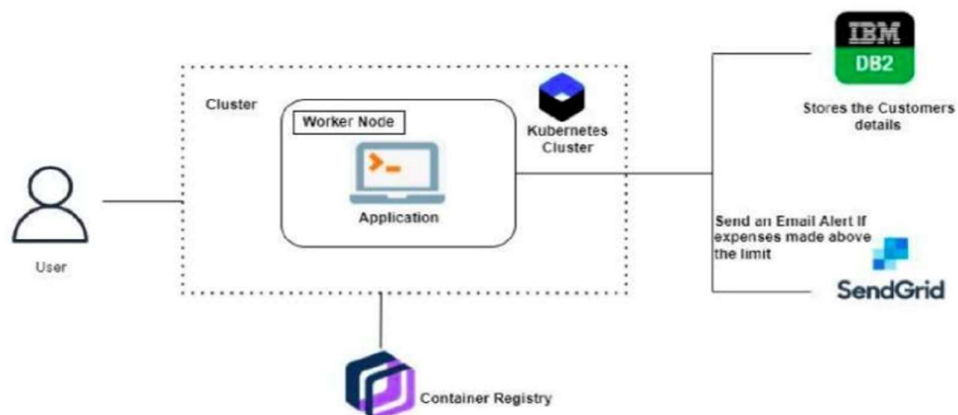
Non-Functional Requirement	Description
Usability	User can view and visualise the data through the interactive dashboard and get a better view on their expenses.
Security	IBM Cognos provides better security. The expenses data is saved very safely.
Reliability	The applications runs seam lessly without any errors
Performance	The application is made from its core architecture to work without any errors
Availability	All the entered data of expenses are saved safely and can be accessed when logged in.
Scalability	The software is scalable and extendable. Because it allow multiple user to handle the data at the same time.

5. PROJECT DESIGN

5.1 Data Flow Diagrams



5.2 Solution & Technical Architecture

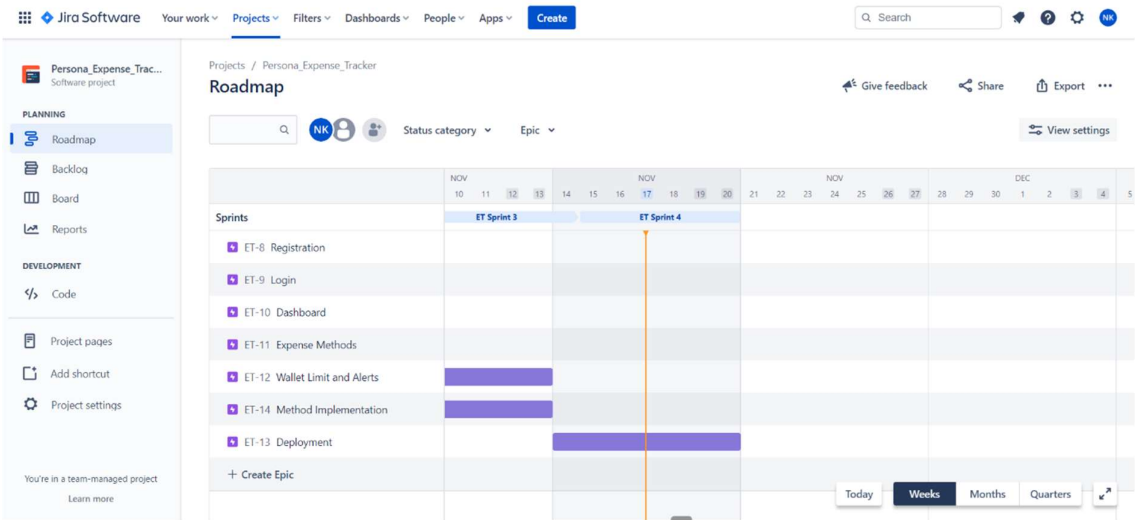


5.3 User Stories

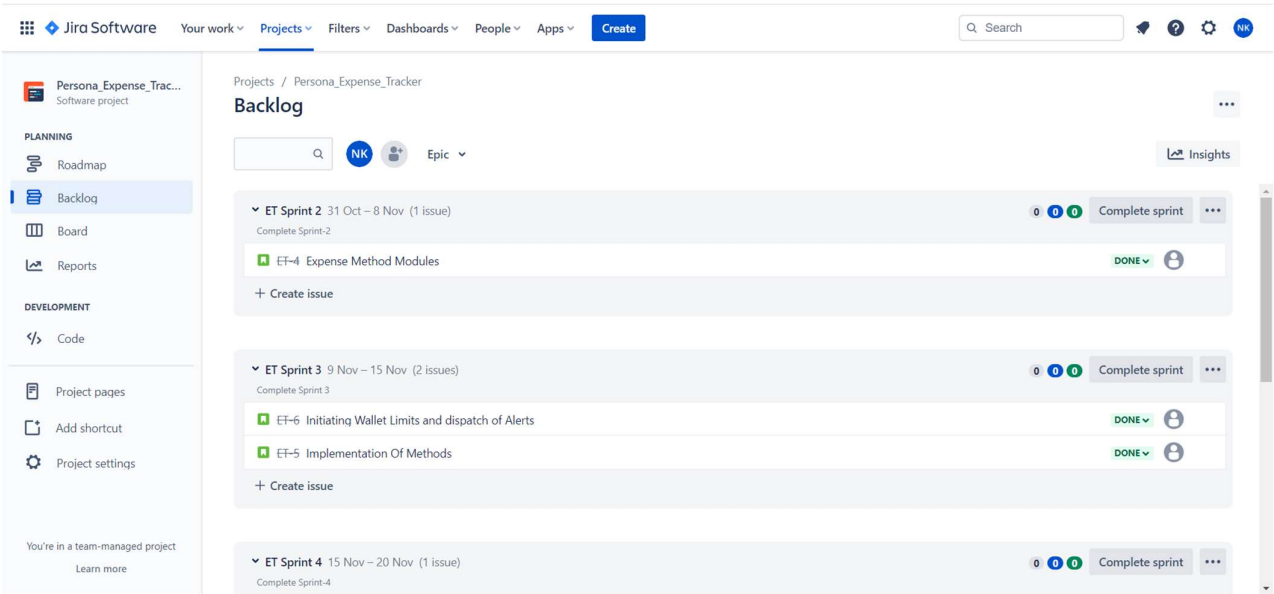
User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer	Registration	USN-1	As a user, I can register for the application by entering my email, password, mobile number, weekly expense, monthly salary	I can access my account / dashboard	High	Sprint-1
	Login	USN-2	As a user, I can log into the application by entering email & password	I can access my account / dashboard	High	Sprint-1
	Landing page		As a user, I can view my entire expenses throughout a particular period of time	I can view my expenses	High	Sprint-1
			As a user, I can generate reports based on my previous expenditures.	Report is successfully generated	Medium	Sprint-2
			As a user, I can logout	Successfully logout	High	Sprint-1
			As a user, I can create expense	Expense is successfully added	High	Sprint-1
			As a user, I can edit ,delete, update expense	The corresponding action is made to the expense	High	Sprint-1
			As a user, I can view credit and	The expenses are filtered accordingly	Medium	Sprint-2

6. PROJECT PLANNING

6.1 Sprint Planning & Estimation

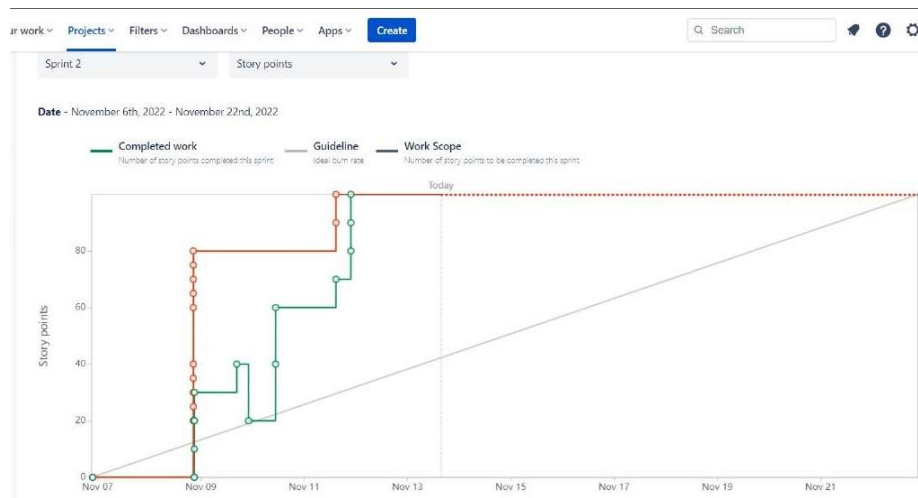


6.2 Sprint Delivery Schedule

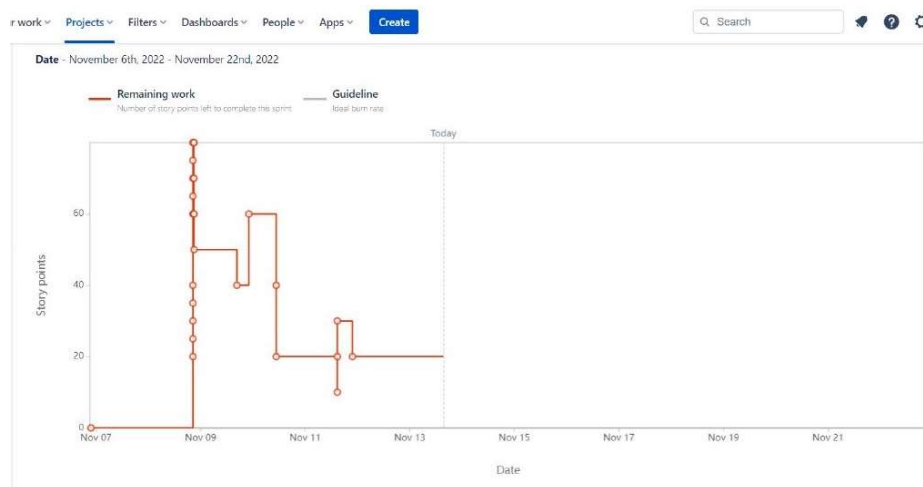


6.3 Reports from JIRA

Burnt Up Chart



Burnt Down Chart



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


7.1 Feature 1


Persona_Expense_Tracker - Agile x Sign Up


127.0.0.1:5000/register


Classes


Sign up



 Your Name

 Your Email

 Password

 Repeat your password

☐ I agree all statements in [Terms of service](#)

[Register](#)


[I am already member](#)

7.2 Feature 2


Persona_Expense_Tracker - Agile x Login


127.0.0.1:5000/login

Classes



Login




 Your Name

 Password

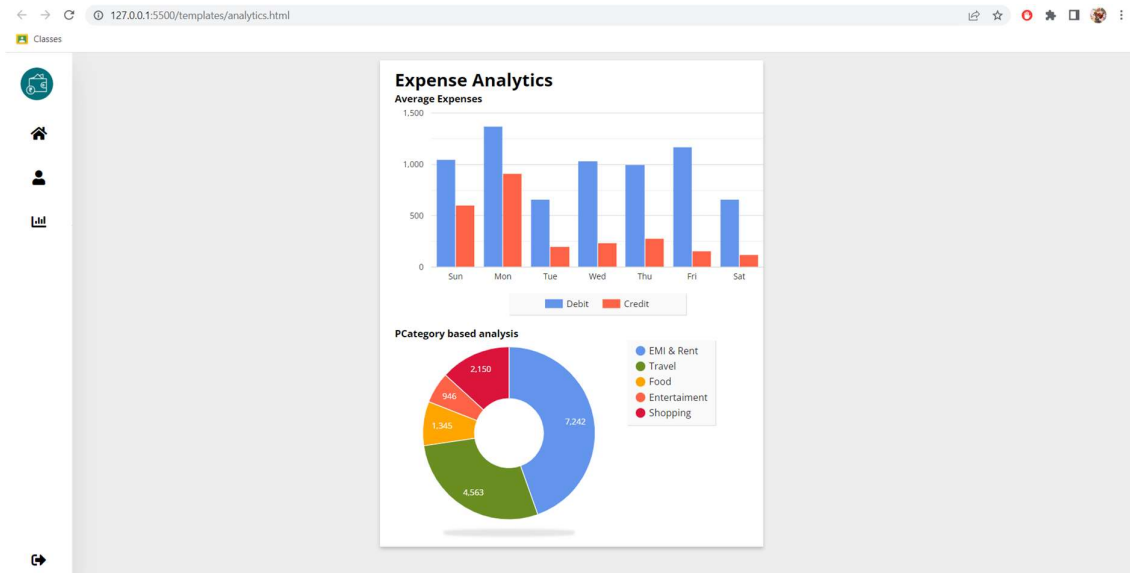
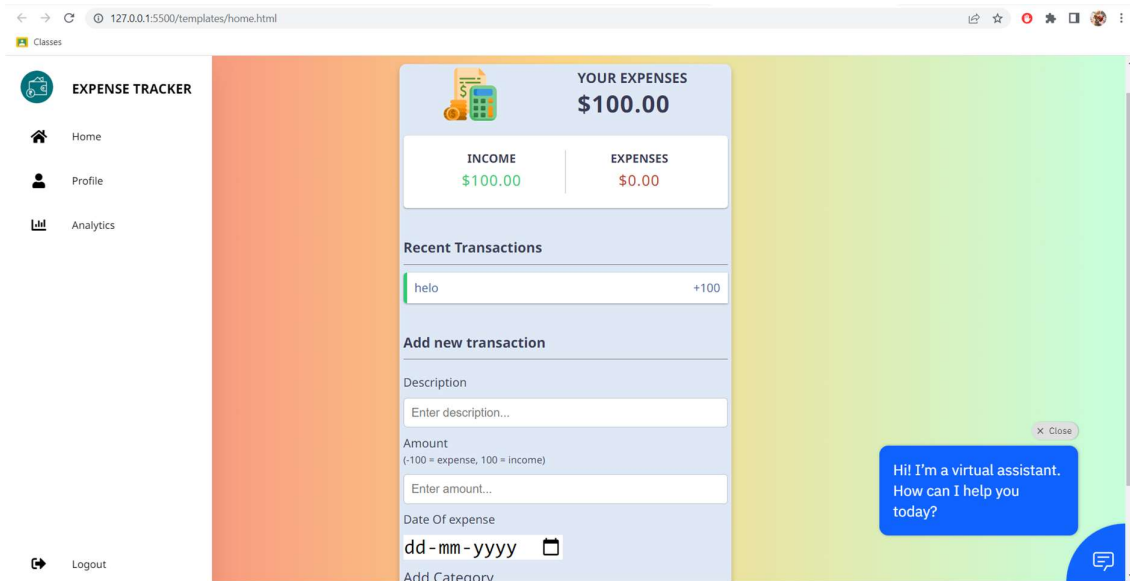
☐ Remember me

[Log in](#)

[Create an account](#)

Or login with   

7.3 Feature 3



9. ADVANTAGES & DISADVANTAGES

Advantages :

- Which allows users to track their expenses daily, weekly, monthly, and yearly in terms of summary, bar graphs, and pie-charts.
- Separate view for credit and debit transactions
- no burden of manual calculations
- generate and save reports.
- You can insert, delete records

Disadvantages

- User have entry every records manually
- The category divided may be blunder or messy

10. CONCLUSION

This application will help its users to manage the cost of their daily expenditure. It gives a better clarity on their own finances. It will prove to be helpful for the people who are find it hard with handling their own budget, irritated because of the amount of expenses and wish 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 overspending.

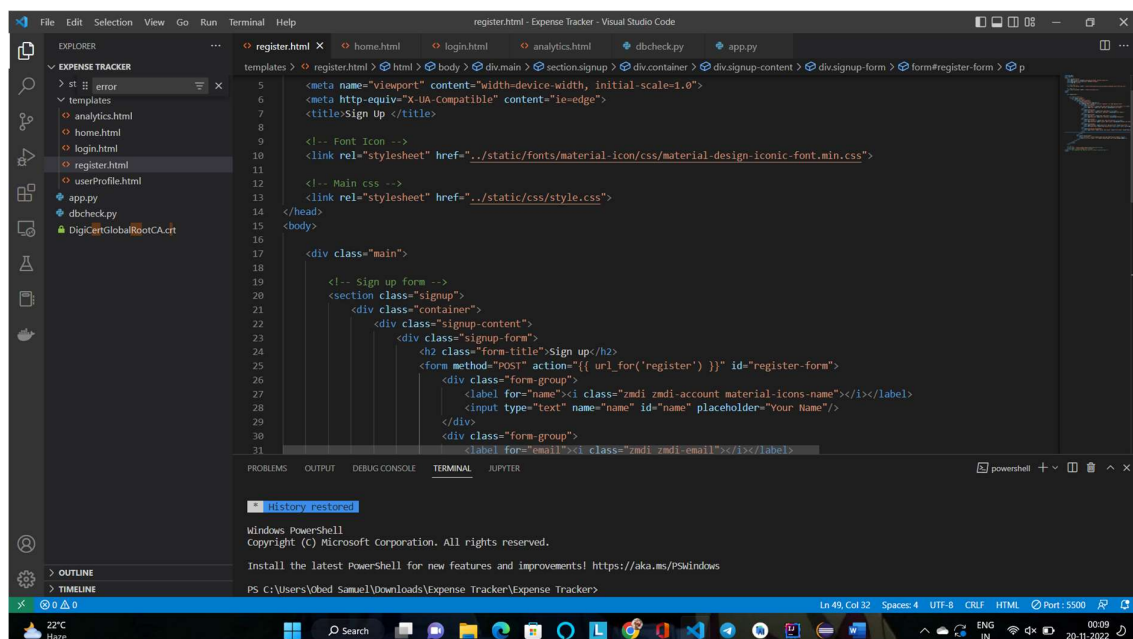
11. FUTURE SCOPE

Expense management software solutions have come a long way from being mere reporting tools. They have evolved because of the advances in the spheres of automation and artificial intelligence. Expense management software that employ the latest technology are an absolute must-have for every organization, irrespective of the size or industry. Companies have been gradually adopting expense management software in a bid to mitigate the losses associated with expense frauds and wasted time. The speed of adoption and change, however, needs to keep pace with emerging trends in the industry. The features that could be added in the near future are,

- Mobility
- Travel Booking
- Integrated
- Artificial Intelligence

12. APPENDIX

Source Code



```
register.html - Expense Tracker - Visual Studio Code
register.html X home.html login.html analytics.html dbcheck.py app.py
templates > register.html > html > body > div.main > section.signup > div.container > div.signup-content > div.signup-form > form#register-form > p
5 <meta name="viewport" content="width=device-width, initial-scale=1.0">
6 <meta http-equiv="X-UA-Compatible" content="ie=edge">
7 <title>Sign Up </title>
8
9 <!-- Font Icon -->
10 <link rel="stylesheet" href="static/fonts/material-icon/css/material-design-iconic-font.min.css">
11
12 <!-- Main css -->
13 <link rel="stylesheet" href="static/css/style.css">
14 </head>
15 <body>
16
17 <div class="main">
18
19 <!-- Sign up form -->
20 <section class="signup">
21 <div class="container">
22 <div class="signup-content">
23 <div class="signup-form">
24 <h2 class="form-title">Sign up</h2>
25 <form method="POST" action="{ { url_for('register') } }" id="register-form">
26 <div class="form-group">
27 <label for="name"><i class="zmdi zmdi-account material-icons-name"></i></label>
28 <input type="text" name="name" id="name" placeholder="Your Name"/>
29 </div>
30 <div class="form-group">
31 <label for="email"><i class="zmdi zmdi-email"></i></label>
```

```
3 <head>
4   <meta charset="UTF-8">
5   <meta http-equiv="X-UA-Compatible" content="IE=edge">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>analytics</title>
8   <script src="https://kit.fontawesome.com/5b1503190b.js" crossorigin="anonymous"></script>
9 </head>
10 <script>
11   const balance = document.getElementById("balance");
12   const moneyPlus = document.getElementById("money-plus");
13   const moneyMinus = document.getElementById("money-minus");
14   const list = document.getElementById("list");
15   const form = document.getElementById("form");
16   const text = document.getElementById("text");
17   const amount = document.getElementById("amount");
18   const notification = document.getElementById("notification");
19
20   // const dummyTransactions = [
21   //   { id: 1, text: "Flower", amount: -20 },
22   //   { id: 2, text: "Salary", amount: 300 },
23   //   { id: 3, text: "Book", amount: -10 },
24   //   { id: 4, text: "Camera", amount: 150 },
25   // ];
26
27   // let transactions = dummyTransactions;
28
29   // localStorage is not enabled in codepen for security reasons
```

```
384 <input type="number" id="amount" placeholder="Enter amount..." />
385 </div>
386 <div class="form-control">
387   <label for="amount">
388     <div>date of expense <br />
389     </div>
390   </label>
391   <input style="font-size: 1.7rem;"
392   " type="date" id="amount" placeholder="Enter amount..." />
393 </div>
394 <div class="form-control">
395   <label style="font-size: 1.2rem;" for="text">Add Category</label>
396   <br/>
397   <select style="font-size: 1.2rem;" name="category" id="category" class="form-control" placeholder="Select a category">
398     <option value="">EMI & Rent</option>
399     <option value="">Travel</option>
400     <option value="">Food</option>
401     <option value="">Entertainment</option>
402     <option value="">Shopping</option>
403     <option value="">Credit</option>
404   </select>
405 </div>
406 <div class="btn">Add transaction</button>
```

```
1 import bcrypt
2 import ibm_db
3 from flask import Flask, redirect, render_template, request, session, url_for
4
5 from werkzeug.security import generate_password_hash, check_password_hash
6
7 conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=6667d8e9-9d4d-4ccb-ba32-21da3bb5aafc.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=3
8
9 app = Flask(__name__)
10 app.secret_key = b'$_my2L7f4Q@z(n\xec)/'
11
12 @app.route('/', methods=['GET'])
13 def home():
14     if 'email' not in session:
15         return redirect(url_for('login'))
16     return render_template('home.html')
17
18 @app.route("/register", methods=['GET', 'POST'])
19 def register():
20     if request.method == 'POST':
21         email = request.form['email']
22         password = request.form['pass']
23         name = request.form['name']
24
25         if not email or not password or not name:
26             return render_template("register.html", error="enter all the details")
27
```

History restored

Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Obed Samu\Downloads\Expense Tracker\Expense Tracker>

GitHub & Project Demo Link

Video Link: <https://youtu.be/N-iMoDQbajI>

GitHub Repository: <https://github.com/IBM-EPBL/IBM-Project-14221-1659545972>