



RMK ENGINEERING COLLEGE

(An Autonomous Institution)

**R.S.M. Nagar, Kavaraipettai-601 206, Gummidipoondi Taluk,
Thiruvallur District.**

PROJECT

**PERSONAL EXPENSE
TRACKER APPLICATION**

DONE BY

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Project Report Format

1. INTRODUCTION

1.1 Project Overview

Personal Expense Tracker is a web application that allows you to track the daily expense of the user and help them to keep track of their expenses daily ,monthly ,weekly and yearly basis. It will also create a digital records for the user's income and various expenses spent by the user is calculated. It also gets the input from the user as how much income earned and the date of the income earned and further creates a transaction entry and sums up all the total income. Further we can give voice commands and it is responsive . It will be very helpful for the users to manage their needs and they can spend in a better way by keeping track of the application daily basis.

1.2 Purpose

The main purpose of personal expense tracker application is used to keep track of expenses based on the users income and how much they spent and also they can keep track of their expenses daily,monthly,weekly and yearly basis.

2. LITERATURE SURVEY

Paper 1 – Expense Tracker

Publisher: International Journal for Research in Applied Science & Engineering Technology
(IJRASET)

The Expense Tracker is a Web application that facilitates the users to keep track their expenses. This application records all the expenses of the users and the user can view them anytime. The

application provides monthly and year-wise expenditures which will let the user know where he is spending the most. It also provides graphical visualizations which helps the user to perform detailed analysis on the expenditure.

Pros

- Using paper is not easy to manage the expenses. This application eliminates the usage of paper and excel sheets to keep track the user's expenses.
- It saves time and requires less human effort.
- The user just needs to enter the income and the expenses, everything will be taken care by the application.

Cons

- There is not limit on the amount that can be used by the user
- The application does not send any notification regarding the usage of the amount by the user.

Paper 2 - eExpense: A Smart Approach to Track Everyday Expense

Publisher: IEEE

eExpense is a mobile application that runs on the Android smartphones. Using this application, users can save their expense by scanning the bills and the receipt copies. Optical Character Recognition (OCR) is used to extract the information from the bills or receipts. It is also capable of tracking savings from user's saving accounts by reading the SMS's automatically from the message application of the android device.

The application consists of four sections such as debit, credit, balance and history. Debit section records the expenses of the user. The input can be given either manually by the user or the system will take automatically by scanning. When users open the credit interface, the system reads all the

messages from the user's messaging inbox. The input can be given manually or it can be taken by the system automatically.

This application allows users to set the budget for a month or year. When the limit exceeds, it sends a notification to the user. Balance section shows the monthly and yearly balance. History section contains calendar. By selecting a particular date, it shows the expenses on that day.

Pros

- It is an automated system to store the expense of the user and the expenses are stored in the database category wise.
- This application extracts the textual information from the receipts and saves the amount and description for further processing.
- It also monitors user's income by tracking the received SMS's from the user's saving accounts. By calculating income and expense it produces the user's balance in monthly and yearly basis.
- It eliminates the usage of paper and excel sheets to keep track the user's expenses. It saves time and requires less human effort.

Cons

- This application is useful only for Android users.
- It does not provide graphical visualizations which could be helpful for detailed analysis of the expenditure.

Paper 3 – Expense Tracker

Publisher: International Research Journal of Modernization in Engineering Technology and Science (IRJMETS)

The Expense Tracker is a mobile application that allows the users to download in their mobile phones and can be used to track and update their daily costs. So that they can keep track of their earnings. The user can know easily on how much the amount they have spent on the various things for household, clothing and house rentals and we can easily depict the cost to the user using pie charts. Based on this we can keep track of daily expenses that we spent in a single day. Moreover, this is an automated solution for tracking the expenses.

Pros

- The application does not require a large number of users and only requires them to enter the expense amount, date, category, merchant, and other optional parameters
- It helps the android users in any situation by keeping track of their expenses every day.
- App also sends customized tips in the form of push notifications which helps users to manage expenses.

Cons

- This application is made only for android users.
- There is no limit for the amount that is been used by the user.

Paper 4 - Daily Expense Tracker

Publisher: International Journal of Research in Engineering and Science (IJRES)

Daily Expense Tracker is a web application that allows you to track the daily expense of the user and help them to keep track of their expenses daily ,monthly ,weekly and yearly basis. It will also create a digital records for the user's income and various expenses spent by the user is calculated. It

also gets the input from the user as how much income earned and the date of the income earned and further creates a transaction entry and sums up all the total income. Further we can give voice commands and it is responsive .It will be very helpful for the users to manage their needs and they can spend in a better way by keeping track of the application daily basis.

Daily Expense Tracker application can be accessed from any browsers like Google chrome, Mozilla Firefox and it allows for portable work environment. We can also digitally maintain the records with visual representation and also graphically view them using bar graphs and pie charts on how much amount is being spent and can also eliminate the physical entries by using voice commands.

Daily expense Tracker is an AI powered engine providing voice recognition which is very helpful for the users to do the work in easiest way. The application is divided into three major components that is income, expense and create transaction section. Create transaction component allows user to choose from two categories whether it is a Expense or an Income and also choose from list of types of income or expense enter the amount and date and create entry. After the creation of transaction pie charts are created in the income or expense section based on type of transaction. All of these features can also be updated or deleted using users voice commands.

Pros

- It is an AI powered engine so that is easy to store all the expenses of the user in a database.
- It eliminates the user by typing manually instead it is very helpful using voice recognition.
- It saves time and user friendly and also requires less human effort.

- It is a platform independent web application. Users can use this application either in their mobile phones or desktops. Both Income and Expenses pie chart will be created when we add any item and distributed according to the user need.
- If any user doesn't know how to add or delete then we can simply give voice commands.

Cons

- There is no option to scan the barcode on the price tag which may decreasing the efforts of entering the data.
- There is no notification system when the user expenses exceeds the income to warn the situation.

2.1 References

1. <https://www.ijraset.com/files/serve.php?FID=33797>
2. <https://ieeexplore.ieee.org/document/8628070>
3. https://www.irjmets.com/uploadedfiles/paper/issue_4_april_2022/21604/financial/fin_irjmets1651132467.pdf
4. <https://www.ijres.org/papers/Volume-9/Issue-12/Ser-4/L09127073.pdf>

2.2 Problem Statement Definition

The Expense Tracker is a mobile application that allows the users to download in their mobile phones and can be used to track and update their daily costs. So that they can keep track of their earnings. The user can know easily on how much the amount they have spent on the various things for household, clothing and house rentals and we can easily depict the cost to the user using pie charts. Based on this we can keep track of daily expenses that we spent in a single day. Moreover, this is an automated solution for tracking the expenses.

3 IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas

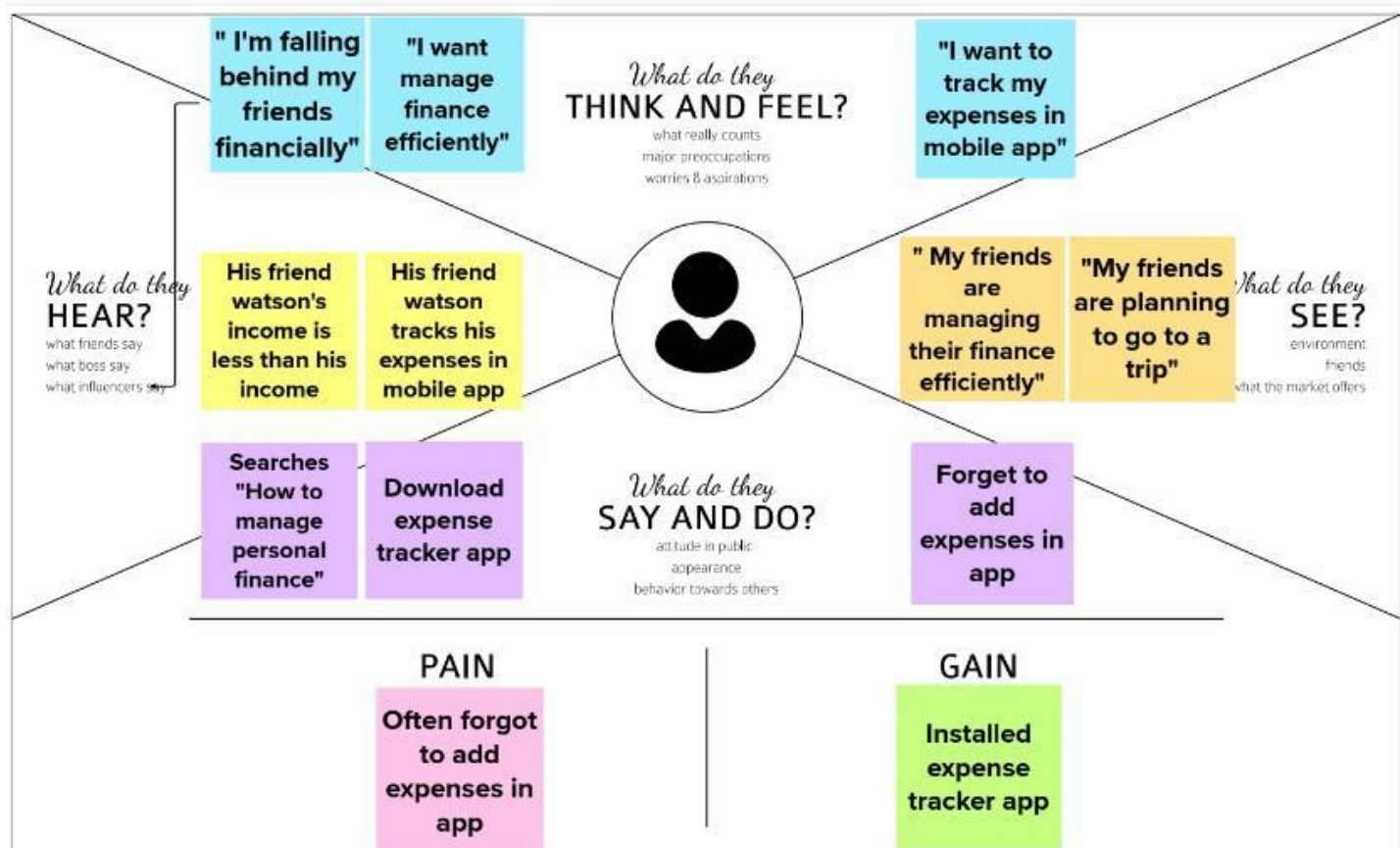
An empathy map is used to gain deeper insights on the customer's interaction with the system. It gives an idea on what the user feels and experiences while using the system, what fears the user has respective to the system, etc. It also specifies how supportive the system environment is and what the users are likely to hear from the people around them regarding the usage of the system.

Empathy Map Canvas

Gain insight and understanding on solving customer problems.

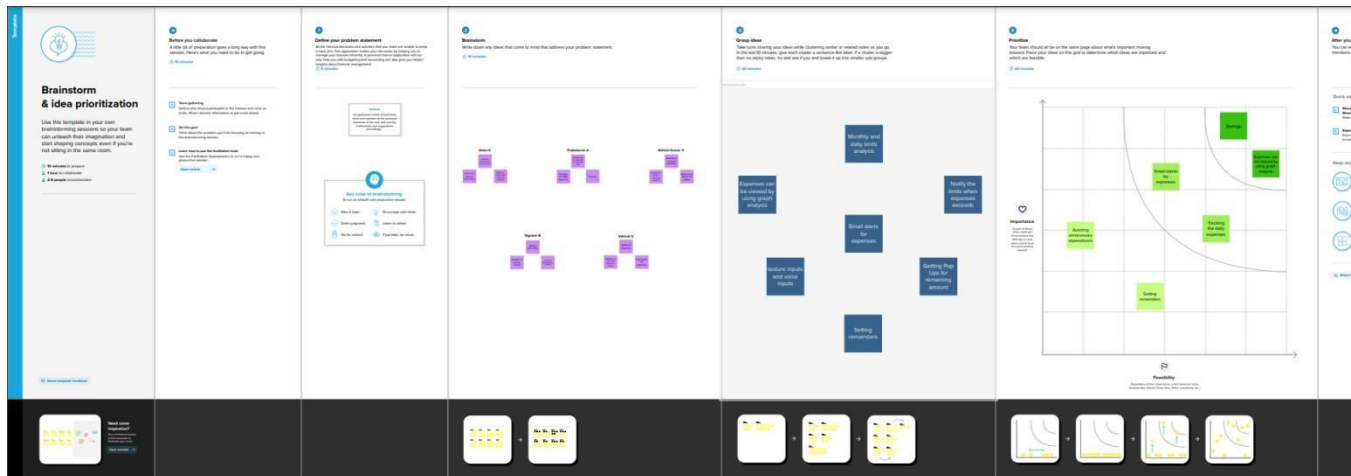
1

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



3.2 Ideation & Brainstorming

Ideation and Brainstorming are performed to generate ideas and solutions. Brainstorming is a group activity unlike ideation.



3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Expense tracking is essential in successful financial management. By knowing where our money goes, we can effectively sort out our financial priorities based on our budget. This will help us save for our financial goals and achieve the lifestyle we want.
2.	Idea / Solution description	To develop a personal finance application which allows users to add their expenses and based on their expense wallet balance will be updated and displayed. Also, users can get an analysis of their expenditure in graphical forms. They have an option to set a limit for the amount to be used for that particular month and if the limit is exceeded the users will be notified with an email alert.
3.	Novelty / Uniqueness	Integration of email alerting system Representation of expenditure analysis in graphical forms Categorisation and disclosure of business expenses Set boundaries on monthly expenses

4.	Social Impact / Customer Satisfaction	<p>Customers can maintain control of their finances and promote better financial habits like saving and investing.</p> <p>Customers can regularly track their expense wallet.</p> <p>By tracking personal expenses and keeping meticulous records, customers have everything ready come tax time.</p>
5.	Business Model (Revenue Model)	<p>The application can be used in every household where the significance of</p>
		<p>tracking personal expense is understood thereby serving as a good business model.</p>
6.	Scalability of the Solution	<p>The application can be scaled around every earning individual who wants to keep good track of his financial expenses.</p> <p>Also, scalability can extend around people working especially in Business sectors who pay higher grade of taxes.</p>

3.4 Problem Solution fit

The Problem-Solution Fit means that the solution that is realized can actually solve the problem that the customer faces.

Problem-Solution fit canvas 2.0

Purpose / Vision : Personal expense tracker

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 0-5 y.o. kids. <ul style="list-style-type: none"> The primary level of customers, targeted are those who are earning the source of income to lead a better life. To be more specific customers who are struggling to save money are the target customers. The next level of customers will be the individuals who are unable to manage their monthly credit card bills, EMI bills, loan debts and monthly expenses. 	6. CUSTOMER CONSTRAINTS CC What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices. <ul style="list-style-type: none"> The major constraint for the "primary customer" is that to find a suitable application, they need to make an analysis of each of the expenses they spent. In simple words, the number of applications are available in app store or extensions and it is complicated for the users to choose the best one and decide on which application to select and use, it takes a lot of time to choose the right application. 	5. AVAILABLE SOLUTIONS Which solutions are available to the customers when they face a problem or need to get the job done? What have they tried in the past? What solutions have they? i.e. pen and paper is an alternative to digital. <p>Websites and Applications for personal expense tracker is available, but the problem is that it is not available in most of the countries. Even if some are available, they are ineffective in predicting the expenditure.</p>
	2. JOBS-TO-BE-DONE / PROBLEMS J&P Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. <p>The main problem is to find the best application to track the customer's daily expenses easily, save money, the application should contain graphs, statistics, analysis etc.</p>	9. PROBLEM ROOT CAUSE RC What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations. <ul style="list-style-type: none"> The right way to set budget by the users is not known by them explicitly. As a result, the users are confused about which application will be suitable for them based on their income and expenditure. The users assume that the income obtained by him/her, is enough for a short period of time but time is uncertain as economy rises day to day. This is done by the users based on the analysis of the previous years of economy and typical advice from the elders to save money. Due to this, the users are ended in disappointment in not managing the money when prices raised. <p>The users fall into this cause because of the fact that some of the applications for the expenses tracking are based on the income obtained by them. But when they face the shortage of the money it makes them to realize to find the better way to save money. This makes the users in the position that, the user is unable to handle the situation.</p>	7. BEHAVIOUR What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage associated: customers spend free time on volunteering work (i.e. Green <ul style="list-style-type: none"> The primary reason of address is the problem to each application/website and checking saving money obtained by them to that they are been set by the users in that application. The secondary customers will not be involved, since they just provide their income the unavoidable (rent/loan/grocery/elect bills etc...) of the users based on the income by them.
Focus on J&P, tap into BE, understand RC	3. TRIGGERS TR What triggers customers to act? i.e. seeing their neighbor installing solar panels, reading about a more efficient solution in the news. <p>The benefits got by other users is triggering the individuals to make them try the application that are used by the other user. This allows them to make an effort to save the money for leading a standard way of living.</p>	10. YOUR SOLUTION SL If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. <ul style="list-style-type: none"> The project focuses on getting the data from the users and comparing them with the expenditure and preparing an analysis which results in the overall prediction of the daily expenses for the users. The project will provide a way to analyse the income obtained by the users and will compare them with the previous monthly or daily expenses and will provide the overall prediction of the expenses list that is suitable for the users. The organization developers will be updating their application features and with that, the prediction can be done to know the users availability of the better user experience. 	8. CHANNELS OF BEHAVIOUR 8.1 ONLINE What kind of actions do customers take online? Extract online channels. <p>The actions taken by the customer in the ways of online is that as application and their requirements but visiting each of them take time. There are many chances of missing the better feature to a</p>
	4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure, confident, in control - use it in your communication strategy & design. <ul style="list-style-type: none"> The users are very much worried about losing their valuable money in unaccounted expenses, before getting used to know this website. After the issue has been solved with the help of the website, the users are confident in selecting the right way to save and track the money and to save the money for the better future. 	8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels and use them for customer development. <p>The offline way of tracking expenditure is not similar to that manual way is time consuming not much effective in saving money a lot of stress among the users and their family as it takes a lot</p>	

4 REQUIREMENT ANALYSIS

4.1 Functional requirements

The suggested solution's functional requirements are listed below.

FR No.	Functional Requirement	Sub Requirement
FR-1	User Registration	This is a form that collects information from the user.
FR-2	Login	User needs to enter their username and password here.

FR-3	Expenses	The user must be able to add their expenses and set limit of their expenses in the application.
FR-4	Expense Tracker	The expenses should be represented graphically.

FR-5	Email Alert	The application sends an email if the expense exceeds the limit
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4.2 Non-Functional requirements

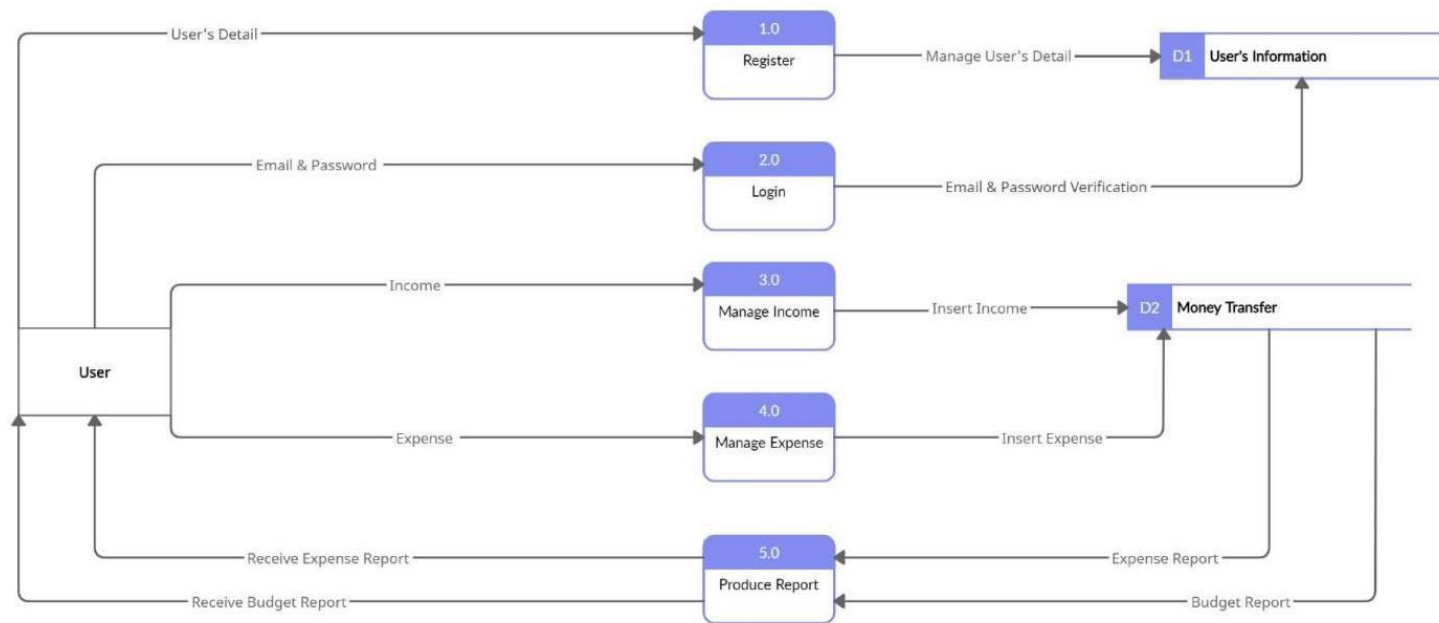
The non-functional requirements of the proposed solution are as follows.

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	The Application keeps an accurate record of the user's income and expenses.
NFR-2	Security	A detailed accounting of the user's income and expenses.
NFR-3	Performance	Because of lightweight database support, the system's throughput is increased.
NFR-4	Availability	The application must be completely operational at all times.
NFR-5	Scalability	The application must always function in its entirety.

5 PROJECT DESIGN

5.1 Data Flow Diagrams

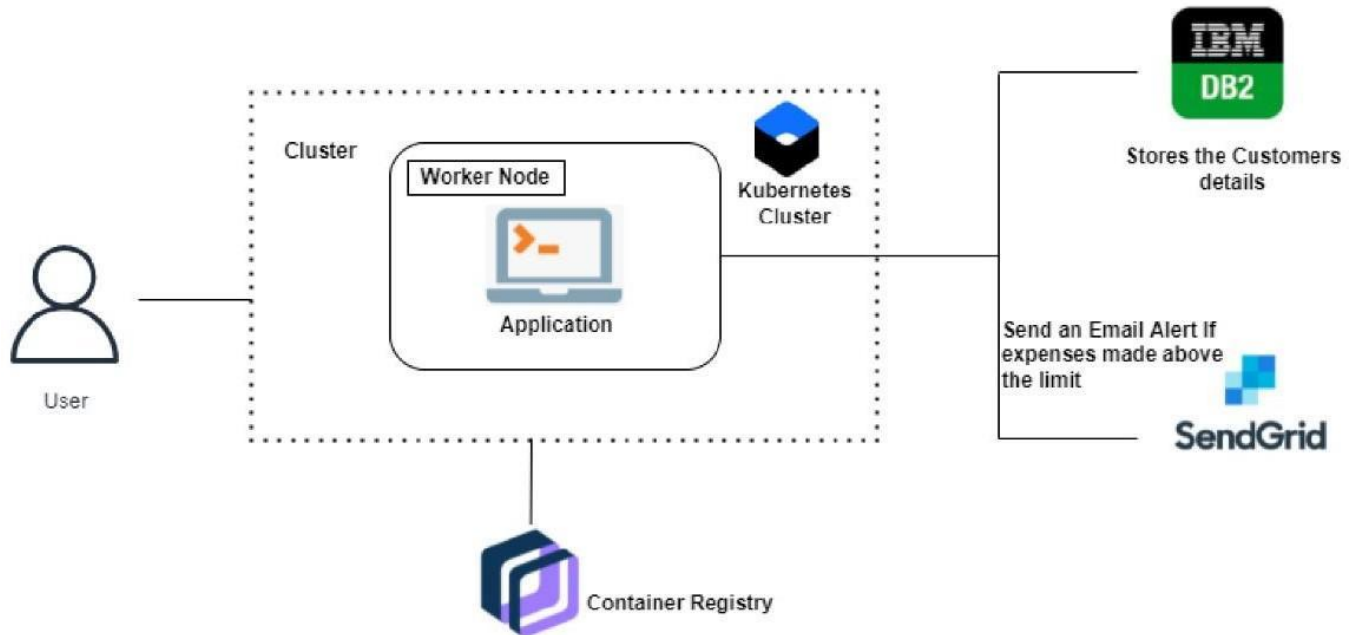
A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



5.2 Solution & Technical Architecture

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



5.2 User Stories

An informal, generic explanation of a software feature written from the viewpoint of the end user is known as a user story. Its objective is to explain how a software feature will benefit the user.

User Stories

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

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance cr
Customer (Mobile user & web user)	Registration	USN-1	As a user, I can register for the application by entering my email, and password, and confirming my password.	I can access m account/dashb o
		USN-2	As a user, I will receive a confirmation email once I have registered for the application	I can recei confirmation e click confirm
		USN-3	As a user, I can register for the application through Facebook	I can register & the dashboard Facebook Logi
		USN-4	As a user, I can register for the application through a Google account.	I can register & the dashboard Google Accou
	Login	USN-5	As a user, I can log into the application by entering my email & password	I can access th application.
	Dashboard	USN-6	As a user, I can see the expenditure details and the daily expense.	I can view the expenses and a expense details
Customer Care Executive		USN-7	As a customer care executive, I can solve the problem that customers face.	I can provide s customers at a 24*7.
Administrator	Application	USN-8	As an administrator, I can upgrade or update the application.	I can fix any bu by custom upgrade the ap

6 PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

The purpose of sprint planning is to define what can be delivered in the sprint and how that work will be achieved. Sprint planning is done in collaboration with the whole team.

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story P
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1
Sprint-2		USN-3	As a user, I can register for the application through Facebook	2
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1
Sprint-3	Dashboard	USN-6	As a user, I can view the expenditure details and can add new expenses on the dashboard	3
Sprint-3	Limits	USN-7	As a user, I can set my monthly expense limit and I will receive an email when the expense exceeds limit	4
Sprint-4	Reports	USN-8	As a user, I can view the expenditure details in the graphical form	5

6.2 Sprint Delivery Schedule

Agile sprints typically last from one week to one month. The goal of sprints is to put pressure on teams to innovate and deliver more quickly, hence the shorter the sprint, the better.

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

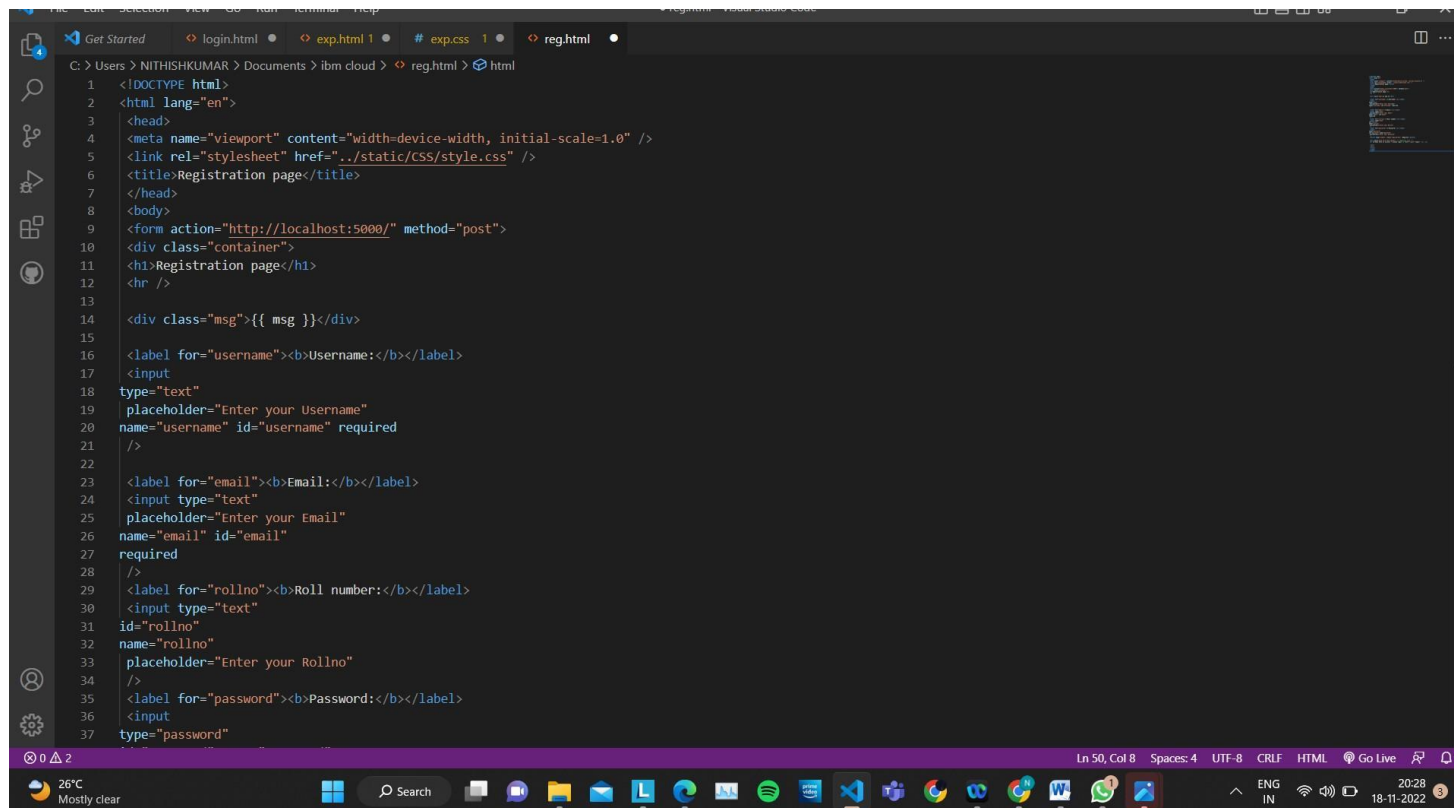
6.3 Reports from JIRA

The screenshot shows the Jira Software interface for the 'Expense Tracker' project. The top navigation bar includes 'Your work', 'Projects', 'Filters', 'Dashboards', 'People', 'Apps', and a 'Create' button. A search bar is located on the right. The left sidebar contains a 'Board' view and a 'DEVELOPMENT' section with options like 'Code', 'Project pages', 'Add shortcut', and 'Project settings'.

The main content area is titled 'All sprints' and shows a Kanban board with three columns: 'TO DO', 'IN PROGRESS 5 ISSUES', and 'DONE 9 ISSUES'. Each column contains a list of tasks with their respective sprint numbers and assignees.

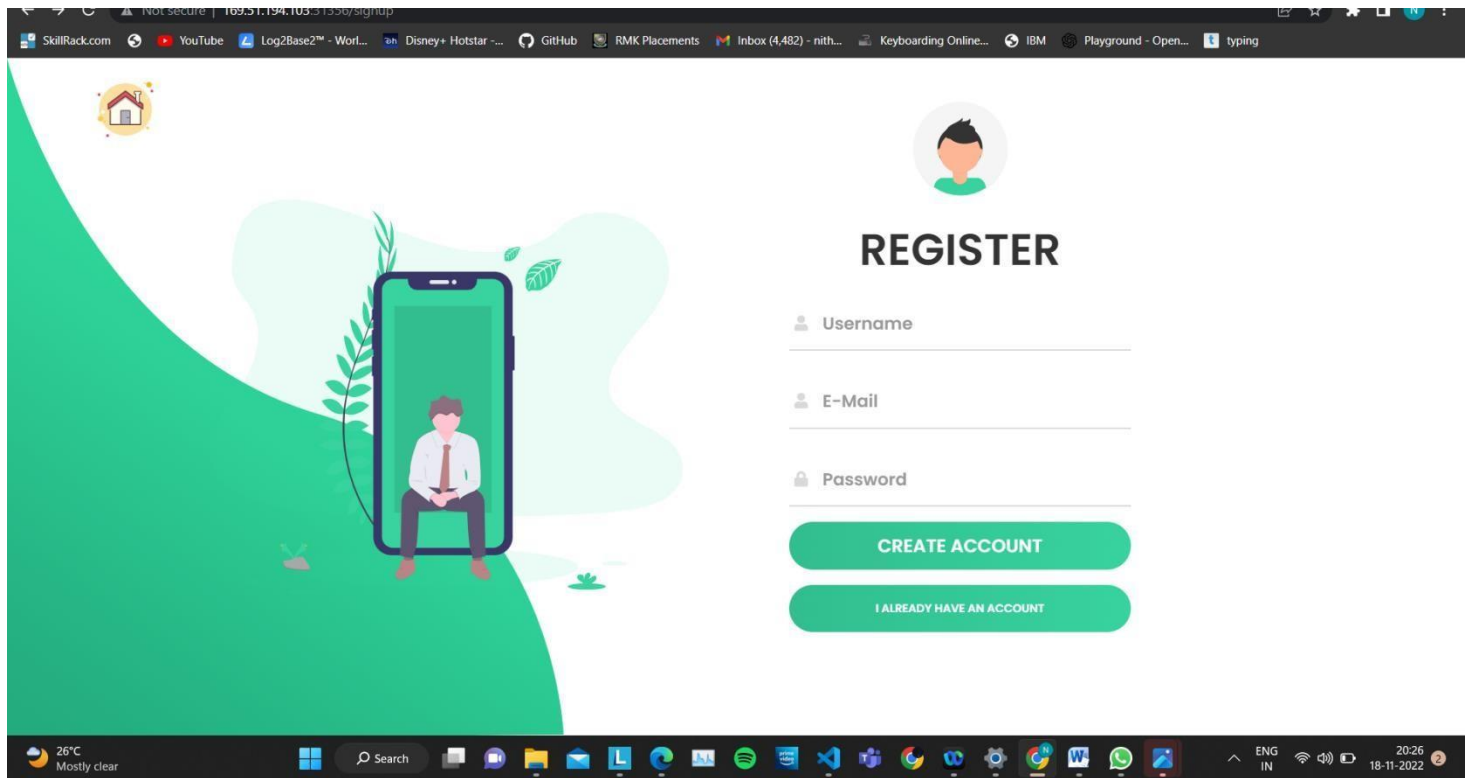
Column	Task	Sprint	Assignee
TO DO	Database Connection	SPRINT 3	NV
	Testing	SPRINT 3	V
	Deploy the app in the Cloud	SPRINT 3	VB
	Feedback	SPRINT 4	
	Maintenance		
IN PROGRESS 5 ISSUES	ET-10		NV
	ET-18		V
	ET-11		VB
	ET-12		
DONE 9 ISSUES	Login page	SPRINT 1	
	ET-5		
	Signup Page for New users	SPRINT 1	NV
	ET-6		
	Homepage and Dashboard	SPRINT 2	V

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




```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <meta name="viewport" content="width=device-width, initial-scale=1.0" />
5 <link rel="stylesheet" href="../static/CSS/style.css" />
6 <title>Registration page</title>
7 </head>
8 <body>
9 <form action="http://localhost:5000/" method="post">
10 <div class="container">
11 <h1>Registration page</h1>
12 <hr />
13
14 <div class="msg">{{ msg }}</div>
15
16 <label for="username"><b>Username:</b></label>
17 <input
18 type="text"
19 placeholder="Enter your Username"
20 name="username" id="username" required
21 />
22
23 <label for="email"><b>Email:</b></label>
24 <input type="text"
25 placeholder="Enter your Email"
26 name="email" id="email"
27 required
28 />
29 <label for="rollno"><b>Roll number:</b></label>
30 <input type="text"
31 id="rollno"
32 name="rollno"
33 placeholder="Enter your Rollno"
34 />
35 <label for="password"><b>Password:</b></label>
36 <input
37 type="password"
```


REGISTER PAGE




Not secure | 169.51.194.103:31335/signup


SkillRack.com YouTube Log2Base™ - Wor... Disney+ Hotstar -... GitHub RMK Placements Inbox (4,482) - nith... Keyboarding Online... IBM Playground - Open... typing






REGISTER

 Username

 E-Mail

 Password

CREATE ACCOUNT

I ALREADY HAVE AN ACCOUNT

26°C Mostly clear

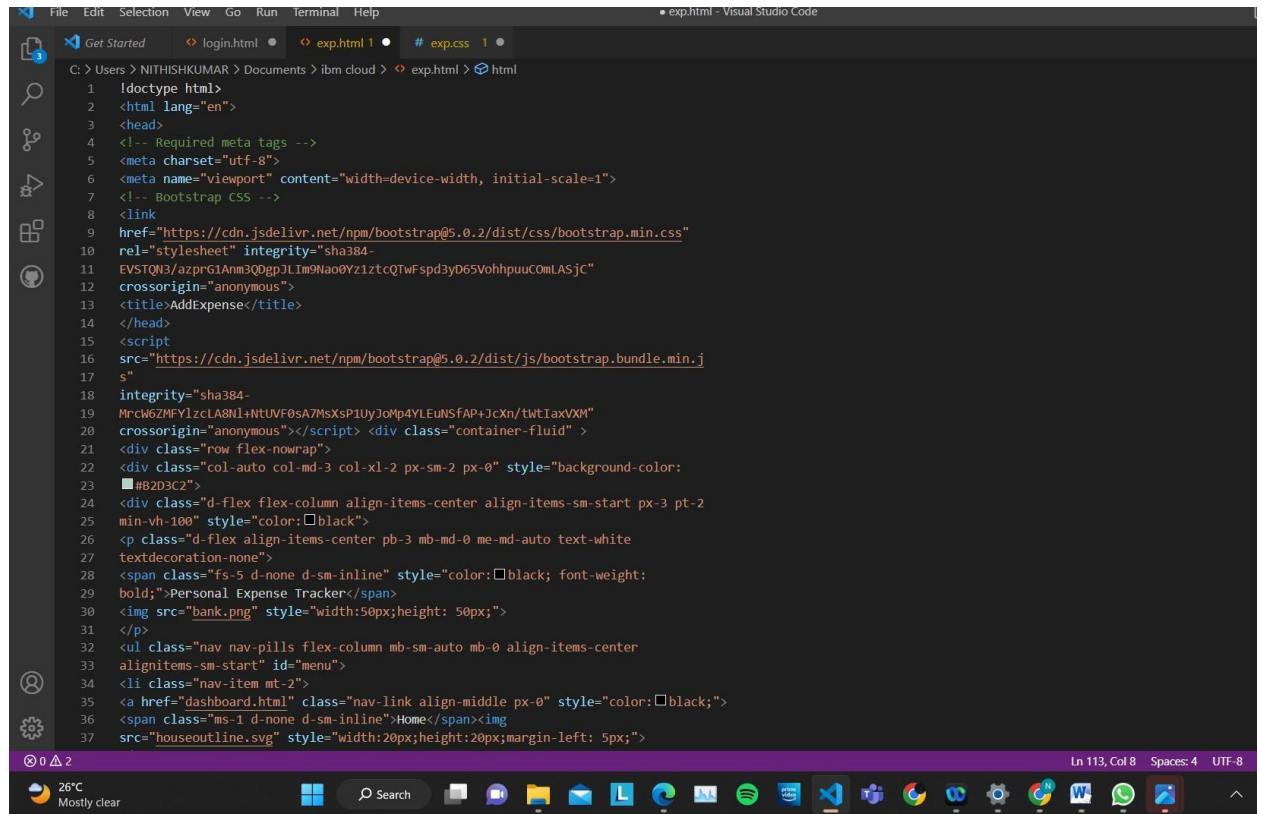
ENG IN 20:26 18-11-2022

```
File Edit Selection View Go Run Terminal Help
login.html - Visual Studio Code
C: > Users > NITHISHKUMAR > Documents > ibm cloud > login.html > ...
9 <link rel="stylesheet" href="../static/CSS/style.css" />
10 <!-- font styles cdn -->
11 </head>
12 <body>
13 <div class="container">
14 <div class="login text-center mt-5">
15 <h1>Login Form</h1>
16 <hr>
17 <form action="/login" method="post">
18 <div class="msg">{{ msg }}</div>
19 <label for="username"><b>Username:</b></label>
20 <input
21 type="text"
22 name="username"
23 placeholder="Enter Your Username"
24 id="username" required
25 />
26 <label for="password"><b>Password:</b></label>
27 <input
28 type="password" name="password"
29 placeholder="Enter Your Password"
30 id="password" required
31 />
32 <button type="submit" id="button" class="registerbtn">Login</button>
33 </form>
34 </div>
35 <div class="note mt-3 text-center">
36 <p>
37 Don't have an account yet? Click here to <a href="/">register! </a>
38 </p>
39 </div>
40 </div>
41 </div>
42 </div>
43 </body>
44 </html>
```

Ln 44, Col 9 Spac

27°C Haze

ADD EXPENSE PAGE



```
1 <!doctype html>
2 <html lang="en">
3 <head>
4 <!-- Required meta tags -->
5 <meta charset="utf-8">
6 <meta name="viewport" content="width=device-width, initial-scale=1">
7 <!-- Bootstrap CSS -->
8 <link
9 href="https://cdn.jsdelivrivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
10 rel="stylesheet" integrity="sha384-
11 EVSTQN3/azprG1Anm3QDgppJLIIm9Nao0Yz1ztcQTWfSpd3yD65VohhpuaComLASjc"
12 crossorigin="anonymous">
13 <title>AddExpense</title>
14 </head>
15 <script
16 src="https://cdn.jsdelivrivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"
17 integrity="sha384-
18 Mrcw6ZMFYlzcL8N1+NTUvF0sA7MsXsP1UyJ0Mpd4YLEuNSfAP+JcXn/twtIaxVXM"
19 crossorigin="anonymous"></script> <div class="container-fluid">
20 <div class="row flex-nowrap">
21 <div class="col-auto col-md-3 col-xl-2 px-sm-2 px-0" style="background-color:
22 #B2D3C2">
23 <div class="d-flex flex-column align-items-center align-items-sm-start px-3 pt-2
24 min-vh-100" style="color: black">
25 <p class="d-flex align-items-center pb-3 mb-md-0 me-md-auto text-white
26 text-decoration-none">
27 <span class="fs-5 d-none d-sm-inline" style="color: black; font-weight:
28 bold;">Personal Expense Tracker</span>
29 
30 </p>
31 <ul class="nav nav-pills flex-column mb-sm-auto mb-0 align-items-center
32 alignitems-sm-start" id="menu">
33 <li class="nav-item mt-2">
34 <a href="dashboard.html" class="nav-link align-middle px-0" style="color: black;">
35 <span class="ms-1 d-none d-sm-inline">Home</span>
37
```

Add Expense

Date

dd-mm-yyyy



Time

--:--



Expense name

Expense Amount

Pay-Mode



Category



Add



REPORT:

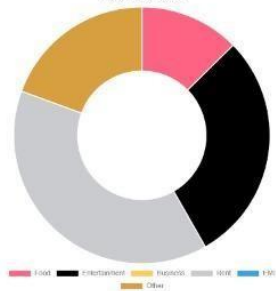
EXPENSES

2022-11-18	Meat	₹ 300	Cash	Food	Edit	Delete
2022-11-02	House Rent	₹ 20000	equipment	rent	Edit	Delete
2022-11-07	Gym Membership	₹ 10000	Creditcard	other	Edit	Delete
2022-11-14	Shopping	₹ 15000	equipment	online transaction	Edit	Delete
2022-11-16	Birthday Party Treat	₹ 6000	onlinebanking	food	Edit	Delete

Expense Breakdown

Food	6500
Entertainment	15000
Business	0
Rent	20000
EMI	0
Other	10000
Total	₹ 51500

EXPENSE BREAKDOWN



```
1 extends 'base.html' %}
2 {% block body %}
3
4 <div class="container">
5   <h3 class="mt-3">EXPENSES</h3>
6
7
8   {% if expense is defined %}
9   {% for row in expense %}
10
11
12     <div class="row">
13
14       <div class="col-md-12">
15         <div class="card shadow-sm mb-2 bg-white rounded"></div>
16         <div class="card-body">
17           <div class="row">
18             <div class="col-md-2">
19
20               <span class="btn btn-outline-dark">{{row[2]}}</span> </div>
21             <div class="col-md-2 mt-3"><h6>{{row[3]}}</h6></div>
22             <div class="col-md-2 mt-3"><span style="color: red;">{{row[4]}}</div>
23             <div class="col-md-2 mt-3">
24               <span class="badge badge-pill badge-info">{{row[5]}}</span>
25             </div>
26
27             <div class="col-md-2 mt-3">
28               <span class="badge badge-primary">{{row[6]}}</span>
29             </div>
30             <div class="col-md-1 mt-3">
31               <a href="/edit/{{row[0]}}" class="btn btn-sm btn-success">Edit</a>
32             </div>
33
34
35
36             <div class="col-md-1 mt-3">
37               <a href="/delete/{{row[0]}}" class="btn btn-sm btnDelete btn-success">Delete</a>
```

```
31       <a href="/edit/{{row[0]}}" class="btn btn-sm btn-success">Edit</a>
32     </div>
33
34
35
36     <div class="col-md-1 mt-3">
37       <a href="/delete/{{row[0]}}" class="btn btn-sm btnDelete btn-success">Delete</a>
38     </div>
39
40   </div>
41
42 </div>
43
44 </div>
45 <!--when no DATA-Found-->
46 {% else %}
47 <div class="card shadow-sm mb-2 bg-white rounded"></div>
48 <div class="card-body">
49 <div style="text-align: center ; font-family: monospace; color: red ; "><h5><a href="/add"> ADD-DATA </a> to Display</h5></div>
50 
51 </div>
52
53
54 {% endfor %}
55 {% endif %}
56 <div class="row">
57   <div class="col-md-6">
58     <h3 class="mt-5">Expense Breakdown</h3>
59
60     <div class="card shadow mb-2 bg-white rounded-bottom">
61       <div class="card-body">
62         <div class="row">
63           <div class="col-md-6">Food</div>
64           <div id="tfoot" class="col-md-6"> {{tfoot}} </div>
65         </div>
66       </div>
67     </div>
```


8 TESTING

8.1 Test Case:

Test cases are a set of actions performed on a system to determine if it satisfies software requirements and functions correctly as it claimed to perform.

8.2 User Acceptance Testing

Before deploying the software application to a production environment the end user or client performs a type of testing known as user acceptance testing, or UAT to ensure whether the software functionalities serve the purpose of development.

1. Purpose of Document

The purpose of this document is to briefly explain the test coverage and open issues of the [PERSONAL EXPENSE TRACKER APPLICATION] project at the time of the release to User Acceptance Testing (UAT).

2. Defect Analysis

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	10	0	0	10
Client Application	50	0	0	50
Security	1	0	0	1
Outsource Shipping	3	0	0	3

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	3	1	2	16
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1

Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	13	12	25	74

3. Test Case Analysis

This report shows the number of test cases that have passed, failed, and untested				
Exception Reporting	8	0	0	8
Final Report Output	4	0	0	4
Version Control	2	0	0	2

9 RESULTS

9.1 Performance Metrics

10 ADVANTAGES & DISADVANTAGES

Advantages:

1. **You have no control over your money** If you don't check your spending and create a budget, you will have no control whatsoever on your money. Instead, money will control you, and you will either have perpetual lack of funds or you will end up steeped in debt. A money manager app helps you decide between short-term and long-term spending .
2. **You have no financial goals** If you are spending money frivolously, you will not have money to set financial goals. However, when you have a daily expense manager, you will be able to work with limited resources and use your money in a wise manner so that you can create financial goals and ensure you meet them.
3. **You are unaware what is happening with your money** If you are clueless about how much is your inflow and how much you are spending, you will not know at the end of the month what happened to your money. An expense tracker helps you figure out what is happening to your money, and whether you can afford something you want.
4. **You spend and save in a haphazard manner** If you don't have great financial management skills, you will not know how to categorize your expenses. However, tracking your expenses and

budgeting them will help you become aware of how much you have to allocate to each expense category, and if you are short, you will be able to make adjustments with ease.

5. **You have no clue about making your money work for you,** In this day and age, when expenses are going through the roof, it has become crucial that you learn to make your money work for you so that you can create a nest egg for the future.

6. **You don't have funds for emergencies** Remember, emergencies come when you least expect. Hence, if you don't have money stashed away for a rainy day, you will end up borrowing from family and friends. This way you could get into debt that will be difficult to pay back due to your poor money management skills

Disadvantages:

1. Your information is less secure, and probably being used and sold. If the service is free, then the product is you. Mint.com, like other financial apps, is a free service. They have to pay their bills somehow, so regardless of what their privacy policy may or may not say, just assume that your spending history and trends are going to be recorded and analyzed, by someone, somewhere.

2. Now, you shouldn't have to worry about credit card fraud or identity theft, these companies are large enough and secure enough that you'll never have to worry about something like that. Just recognize that your information, most likely anonymous, will be used and potentially even sold.

3. Personally, I have no problem with that, but if you do, then make sure you avoid these types of services. Automating everything to do with your finances can make you financially lazy. If your bills are paid automatically and your finances are track automatically, then what is there left for you to do? Not a lot, to be honest. So you might stop caring about what you're spending and where your money is going. Eventually you may look at your Mint data and realize that you've blown your budget over the last two months, but by then it is too late. So if you do choose to use this program, ensure that you are also being diligent in checking in on your finances. Set up a weekly or biweekly check for yourself to go through your finances and hit on all the important points.

11 CONCLUSION

After making this application we assure that this application will help its users to manage the cost of their daily expenditure. It will guide them and aware them about there daily expenses. It will prove

to be helpful for the people who are frustrated with their daily budget management, irritated because of amount of expenses and wishes to manage money and to preserve the record of their daily cost which may be useful to change their way of spending money. In short, this application will help its users to overcome the wastage of money.

12 FUTURE SCOPE

The further enhancement that are planned for developing the application to be user friendly and further features like login with gmail or social media accounts using facebook or twitter and also using SSO login so that it is helpful for users to get into platform easily.

13 APPENDIX

GitHub & Project Demo Link

<https://github.com/IBM-EPBL/IBM-Project-25900-1664352739>

https://drive.google.com/file/d/1WLL5u4vx1BtACVRGIXKYf4ysboyz9I6p/view?usp=share_link