PERSONAL EXPENSE TRACKER APPLICATION

IBM-Project-427861660709202

NALAIYA THIRAN PROJECT BASED LEARNING ON PROFESSIONAL READLINESS FOR INNOVATION, EMPLOYMENT AND ENTERPRENEURSHIP

A PROJECT REPORT BY

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1.INTRODUCTION

1.1Project Overview

Category: cloud app development

Team ID : PNT2022TMID44710

💻 **Skills Required:**

IBM Cloud,HTML,Javascript,IBM Cloud Object Storage,Python-Flask,Kubernetes,Docker,IBM DB2,IBM Container Registry

Project Description:

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

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

1.2Purpose

Personal finance management is an important part of people's lives. However, everyone does not have the knowledge or time to manage their finances in a proper manner. And, even if a person has time and knowledge, they do not bother with tracking their expenses as they find it tedious and time-consuming. Now, you don't have to worry about managing your expenses, as you can get access to an expense tracker that will help in the active management of your finances.Also known as expense manager and money manager, an expense tracker is a software or applicationthat helps to keep an accurate record of your money inflow and outflow. Many people in India live on a fixed income, and they find that towards the end of the month they don't have sufficientmoney to meet their needs. While this problem can arise due to low salary, invariably it is due topoor money management skills.

2.LITERATURE SURVEY

2.1Existing problem

In a study conducted by Forrester in 2016 surveying small and medium businesses (SMBs) across the world, 56% companies reported expense management as being the biggest challenge for their finance departments.

In another survey conducted by Level Research in 2018 in North America, respondents reported the following pain points in expense management before adopting automation:

- Manual entry and routing of expense reports (62%)
- Lack of visibility into spend data (42%)
- Inability to enforce travel policies (29%)
- Lost expense reports (24%)
- Lengthy expense approval system and reimbursement cycles (23%)

2.2 References

1.DAILY EXPENSE TRACKER BY SHIVAM MEHRA, PRABHAT PARASHAR IN INTERNATIONAL JOURNAL OF RESEARCH IN ENGINEERING AND SCIENCE (IJRES) ON DECEMBER 2021.

Daily Expense Tracker can be accessed from a web browser, such as Google Chrome or Mozilla Firefox, allowing for a portable work environment. The application contains all the features of digitally maintaining the records with some eye-catching visual representation and graphics of your spending and even eliminating the need of physical entries by provide voice instructions. This web application usually is developed using React Js as the framework and also uses its libraries like material Ui, chart. js to add and create the functionalities. React JS is a declarative, efficient, and flexible JavaScript frontend library for building reusable UI components. It is a, component-based front-end library and is available freely to everyone which is responsible only for how the application looks or the view layer of the application. The aim of React JS is to make it feasible for developers to develop User Interfaces (UI) easily by dividing it into various components and also to develop fast systems. It uses virtual DOM (JavaScript object), which enhances efficiency and the performance of the app. The JavaScript virtual DOM is faster than the conventional DOM. We can use React JS on both client and server-side as well as with other available frameworks. It uses component and data patterns that improve readability and helps to maintain and regulate larger apps. Component based development allows to break the system into various components and develop them separately, test them separately and then integrating them to make up the system. Also, the concept of virtual DOM improves the performance of system as the component on which the change is made is re rendered and the whole application is not re rendered again. Our application is divided into three major components that is income, expense and create transaction section. Create transaction component controls the rest of the system it 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 in real time showing the distribution of your income and expense respectively.All these features of creating and deleting transactions are also implemented by voice commanded using Speechly voice engine which is an AI powered engine providing voice recognition to implement in our system.The application make use of advanced react concepts of context apis and hooks. With Hooks, you can extract stateful logic from a component so it can be tested independently and reused. Hooks ensures and allow you to reuse stateful logic without changing your component hierarchy. This makes it easy to share and useHooks among many components or with the community.Styled components are used to style the web application and make it responsive for all the devices. Ultimately the best possible use of stack of technology is done to make sure that the user experience is unmatched and inimitable.

2.A NOVEL EXPENSE TRACKER USING STATISTICAL ANALYSIS BY MUSKAAN SHARMA1, AYUSHBANSAL, DR. RAJU RANJAN, SHIVAM SETHI PUBLISHED IN INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY ON JUNE 2021.

An exhaustive literature survey on related topic suggest that earlier tracking was performed manually. These things were done in an old school way you can say more likely in a notebook or copybook these things were written as per the willingness of a person in simple words you can call is as “The quite manually stuff”. Then after that they have calculate the entire expenditure at the end of the month or week and a report is generated against the expenditure in comparison to the previous month or information related to that. So, they face a certain problem that time:

• Data is not accurate

• Reports in not up to the mark

• A single mistake in a manual calculation and actually cost you much

• Its time consuming boring and most of the time insufficient

• Going through all the data back then rewriting them off actually makes way fussier

• It can be easily stolen or loss as well your information is not safe there(Babad and Balachandran, 1993) states that traditional cost accounting systems maintain all overheads in one pool and give equal weight to all activities and costs in it We always have known that "pen is mightier than sword" but that thing doesn"t fit with every specific tasks it varies from need-toneed or tasks-to-tasks these days when the amount data is quite enormous. It becomes way more difficult to handle them off.Soon excel also become a way on maintain a record of expenses and analysis. Though excel was an effective software to handle such stuff but still lacks in many things so some of the researchers even started using excel with certain tools designed by them.A research at university on Tennessee on expense tracker of by (Dan Underwood, 2011):In which using excel accounting team designed a Cost Allocation tool 1 in which a spreadsheet is used toallocate the product category both by site and the cooperation and a Cost allocation tool 2 which is a developed to further integrate and allocate cost to identify which manufacturer is profitable or which is not. This research used excel and designed this CAT tool in which both the spreadsheets are required to use to identify where we could reduce expenses or better managed it. (Girish Bekaroo, 2007) did a research on intelligent online budget that manages the expenses and used to give the graphical analysis of data.it uses a Rational Unified Method (RUP) which was way more efficient and advantageous in the way it used to promote code reuse and encapsulation.in which CSS and xml technologies has been used.Students of Sikkim Manipal University an income expense for housewives which not just counts the amount but also maintains date and calendar record of the person as well they used the clustering technique to maintain their data storage. (Stephan snow and Dhayal Vyas, 2015) mentioned in his paper. "Managing finances is a practice carried out daily in homes across the world. Despite this, the practice is not yet a strong focus for HCI work in the home".Researchers of Nandha and Anna university (2016) created an android version of expense manager in with they used post and remark techniques for underlining the expenses and some of the data mining features for analyzing the market value well.(R N Rajprabha, 2017) created an android version of family budget manager with later evolved in PDA and tablet features.(Ravi Sharma, 2017) stated users sometimes feels uncomfortable in sharing their personal information with an app and he suggested security and usability are two major concerns. Even the advanced UI needs to maintain retention.Researchers of Mother Terresa university, Andhra Pradesh (2019) also stated an online income and budget tracker in a website mode but that project used csv mode to store data but that project had a drawback in its existing model as it can"t handle the data efficiently in addition to that it wasn"t user-friendly and an unpopulated data project. Allthese researches above suggest some of the modern way of dealing with expense tracking. Many of the researches like these actually represents the evolution in ideas with time "evolution is not a necessity it"s more like change in thinking and time" in which we analyze estimate and evaluate the things according to new requirements. But still the kind of technology used in it is kind of projects were used in previous days there are certain android apps as well still they too also have different consequences as well as drawbacks in itself. And I also feel like these should be way easier to handle to a desktop device. As sometimes android apps will provide in accurate results if the information is incorrect and many of the times, we almost got forget to enter details too and most them don"t even provide notification for that as well.

3.A REVIEW ON BUDGET ESTIMATOR ANDROID APPLICATION BYNAMITA JAGTAP, PRIYANKA JOSHI, ADITYA KAMBLE PUBLISHED IN INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET) ON 4 APRIL 2019.

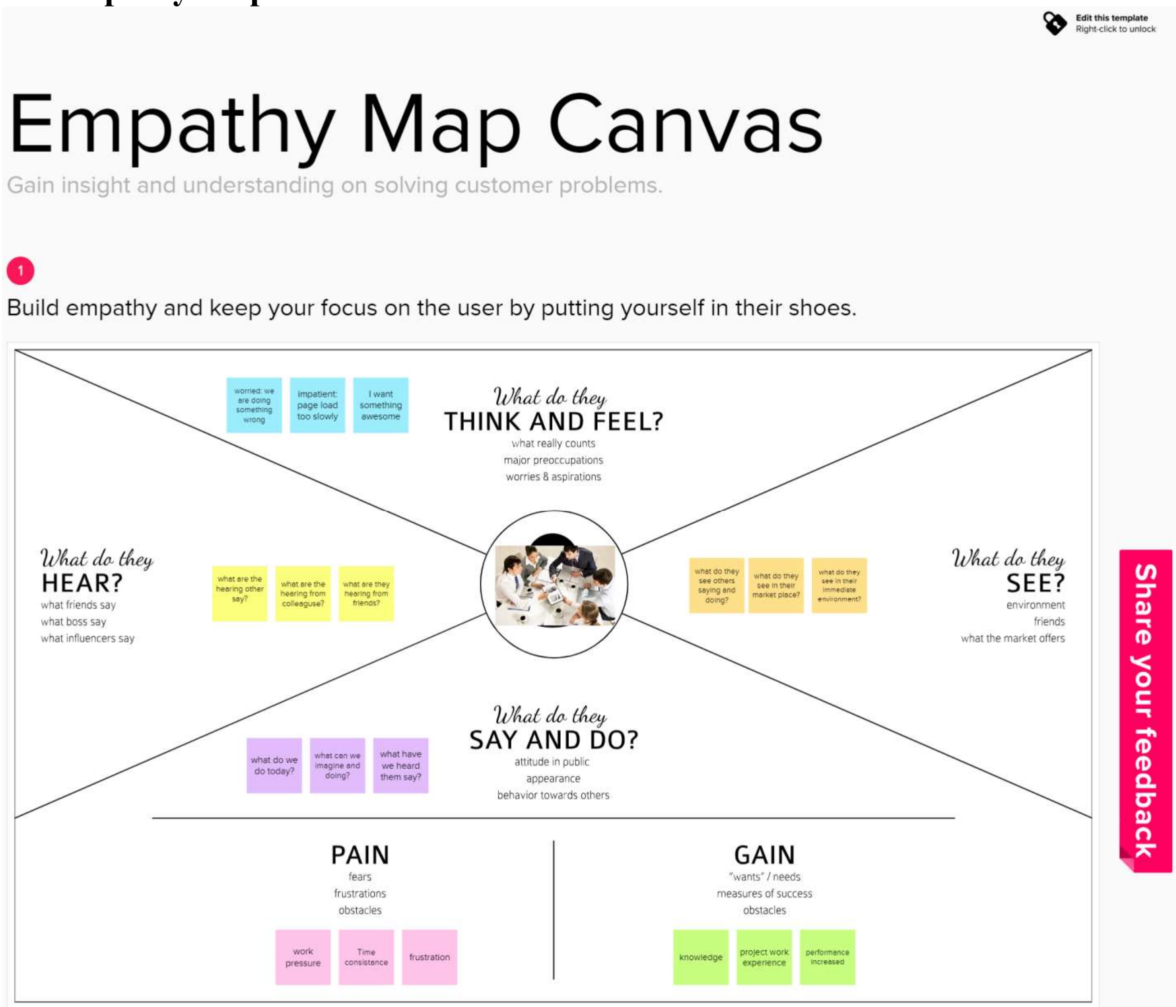
The Expense Manager is a mobile application intended to run on android device namely smart phone. Expense Manager is designed to efficiently cater the needs of users by eliminating imparting costs and settling vows to friends. The applicationen courages corresponding users help in who owes who, and for what. Aim is use better approaches to help users and their companions to share expenses easily. This new application will let bunch users and their companions to have detailed view inside this application around individual costs. The app allows its users to add a remark to an expense, click on the expense name in any expense list. Bill posting will have space for comments and notes container with a "Post" catch underneath. The Expense Manager has notification option to notify each time somebody adds a remark to an expense user is on, or user can withdraw to posted bill. The additional feature that we are going to add in this application that enable us to collect the sample data of users expenses and use this to study patterns of expenses in certain area or by specific kinds of spending for market analysis. These patterns can be derived using some data mining techniques [1][2][3][4] such as clustering, classification and association. Some of the conventional methods used to tackle this problem in normal circumstances are like making use of a sticky note by normal users, Proficient people deal with this kind problems by using spreadsheet to record expenses and using a ledger to maintain large amounts data by especially by experts. As this shows that it is variable methods used by different people. This makes using this data inconsistent. There are still problems in areas like there is no assurance for data consistency, there are chances of critical inputs can be missed and the manual errors may creep in. The Data recorders are not always handy and it could be hectic process to have overall view of those expenses. We believe a handy design a handy mobile application which handles these problems. Such that app is capable of recording the expenses and giving comprehensive view with easy to use user interface and this app is intelligent enough to answer : „ Who owes who ? And by how much ??‟ [5]. The mobile applications that are available in the market are very useful to the smartphone users and make their life easy. imparting costs and settling vows to friends. The application encourages corresponding users help in who owes who, and for what. Aim is use better approaches to help users and their in the field of expenditures of user. This idea serves as main objective of research project. The research also includes syncing of the applications with some social networks and emails as well[6].This section of paper is very important and this will guide our team to successfully accomplish the goals set for research. Here, the research project methodology describes the steps and approaches to be fallowed to attain final product. As explained above our project is of splitting the expenses between the groups and also to efficiently manage the personal expenses as well. However, our projects will have additional features included as part of our research so that it makes our project unique in the market. These features would make the project more efficient and very useful for our users. Apart from the benefits user gets and there is an important use of the system that enables us to use the data of the user with his prior permissions for the purpose of data mining for several other functionalities to be applied in market by analyzing user expenses[7][8][9]. suggest that this trend plays a bigger part in driving upgrades toexisting computer systems than technological advancements.

2.3 PROBLEM STATEMENT

Many organizations have their own system to record their income and expenses, which they feel is the main key point of their business progress. It is good habit for a person to record daily expenses and earning but due to unawareness and lack of proper applications to suit their privacy, lacking decision making capacity people are using traditional note keeping methods to do so. Due to lack of a complete tracking system, there is a constant overload to rely on the daily entry of the expenditure and total estimation till the end of the month.

3.IDEATION&PROBLEM SOLUTION

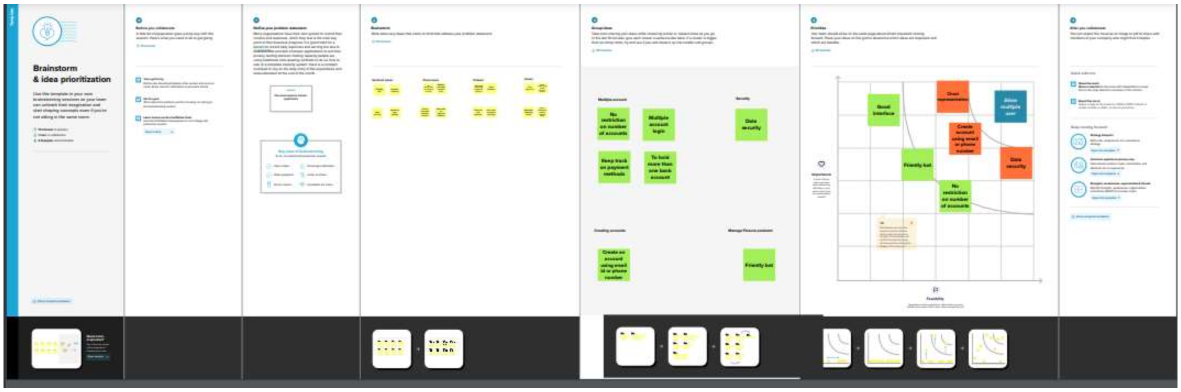
3.1 Empathy Map Canvas



3.2 IDEATION&BRAINSTORMING

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

Step-2 : Brainstorm,Idea Listing and Grouping



3.3 PROPOSED SOLUTION

In this project, we develop an application that keeps track of user personal expenses. The proposed application would eliminate sticky notes, spreadsheets, and ledgers that cause confusion, data inconsistency problems while recording and splitting expenses. With our application, users can manage their expenses more effectively.

3.3.1 NOVELTY

Able to include a payment method to this existing expenses system. For example, once a PayPal payment made, the record will automatically inserted to Geo-Location Expanses application .The Geo-Location Expenses may also come with storage backup plan. For example, user data can be hosted to cloud storage/drive to avoid data lost. In term of security design for future, Geo-Location Expenses system may implement a login authentication such as facebook login this function may bring more security confidence to user.

3.3.2 SOCIAL IMPACTS

It will help the people to track their expenses and also alerts when you exceed the limit of your budget. A mobile expense management app allows them to scan receipts in real time, thus avoiding data loss of any kind. And with the help of OCR, receipt data is extracted behind the scenes making expense submission a breeze. All the data your employees and financial controllers need is safe, backed up on the cloud. Smartphone and apps are ubiquitous nowadays, making it easy for your employees to adopt a mobile expense management solution, especially if it improves their experience of submitting expenses. For our organization , the benefits are just as clear: more mobility, additional opportunities to save money and increase productivity, better expense control and increased policy compliance.

3.3.3 BUSINESS MODEL

We can provide the application in a subscription based. It maybe a monthly

- subscription or yearly subscription In the begin we can get the donations from the user if they maybe interested to donate
- us In-app advertising was the easy way to earn money. Users may pay to remove the inapp advertisement
- In-app purchases allow users to buy some features, content or services within an app.
- They are quite a wide notion and include several types of revenue sources that can be utilized by developers

3.3.4 SCALABILITY

We have developed a mobile application that Keeps track of all of your daily transactions, keeps track of your money lent or borrowed ,suggests you with the most effective investment options, offers your discounts in popular categories , view exchange and to read latest authenticated financial news. This paper's main aim to eliminate the use of sticky notes, spreadsheets and handling of large chunks of data is successful , the new experience is hassle-free and very handy. Now, with our application user can manage his expenses more effectively. This application can also help digital marketing agencies in rolling out their advertising campaigns more effectively .

3.4 PROBLEM SOLUTION FIT

Personal finance entails all the financial decisions and activities that a Finance app makes your life easier by helping you to manage your finances efficiently. A personal finance app will not only help you with budgeting and accounting but also give you helpful insights about money management .Personal finance applications will ask users to add their expenses and based on their expenses wallet balance will be updated which will be visible to the user. Also, users can get an analysis of their expenditure in graphical forms. They have an option to set a limit for the amount to be used for that particular month if the limit is exceeded the user will be notified with an email alert. We have designed architecture diagrams and layouts which we are going to use in our user interface which is user friendly i.e. easy to understand and use .We have a clear objective to make the application efficient that can run even on low end devices. Each method that we follow are the best practices as per industry standards . the user details and expense are stored in the IBM DB2 and the limit of the expense are out then the SendGrid sends a email notification to the user . Container Registry allows you to build, store, and manage container images and artifacts in a private registry for all types of container deployments . Kubernetes Cluster now offers two modes of operations: Autopilot and Standard. Autopilot mode is a hands-off, fully managed solution that manages your entire cluster's infrastructure without worrying about configuring and monitoring, while still delivering a complete Kubernetes experience. And with per-pod billing, Autopilot ensures you pay only for your running pods, not system components, operating system overhead, or unallocated capacity. Standard mode is the experience we've been building since the launch of GKE, enabling additional customization options over the nodes with the ability to fine tune and run custom administrative workloads for when you need low level controls.

4. REQUIREMENT ANALYSIS

4.1Functional Requirements:

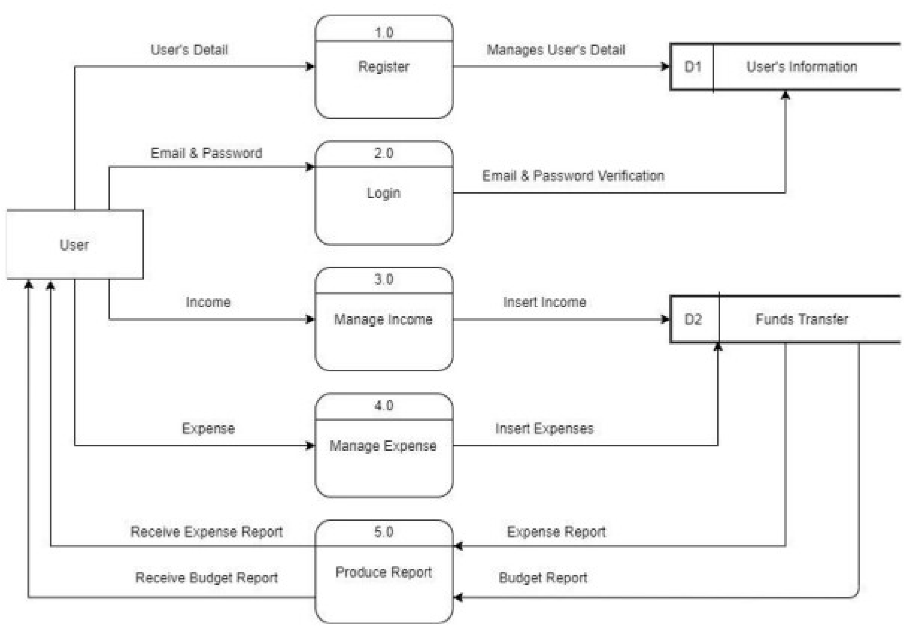
S. No	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
1	**User Registration**	To get user details
2	**Login**	Enter username and password
3	**Calendar**	Personal expense tracker application must allow user to add the data to their expenses.
4	**Expense Tracker**	This application should graphically represent the expense in the form of report.
5	**Report generation**	Graphical representation of report must be generated.
6	**Category**	This application shall allow users to add categories of their expenses.

4.2 Non-functional Requirements:

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

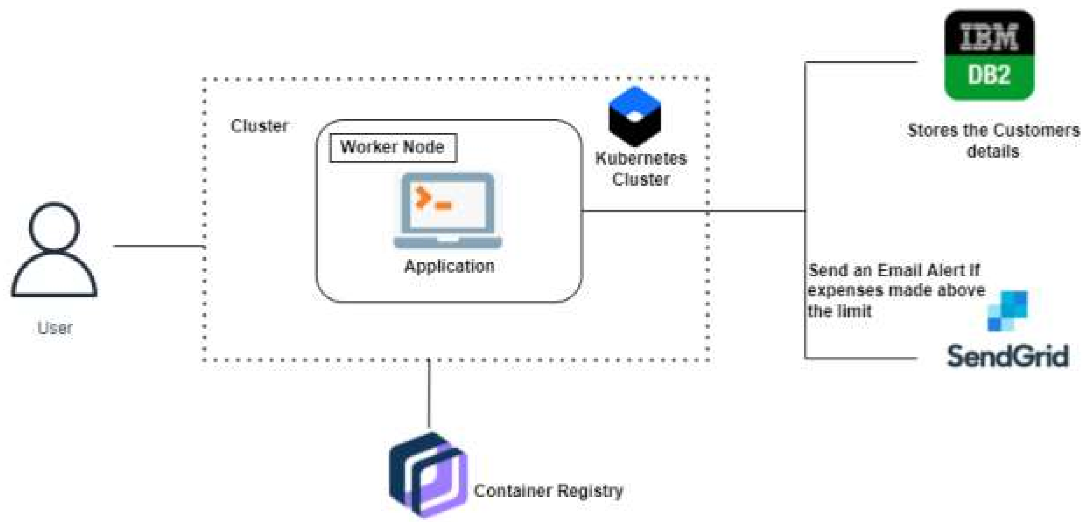
5.PROJECT DESIGN

5.1 DATA FLOW DIAGRAM



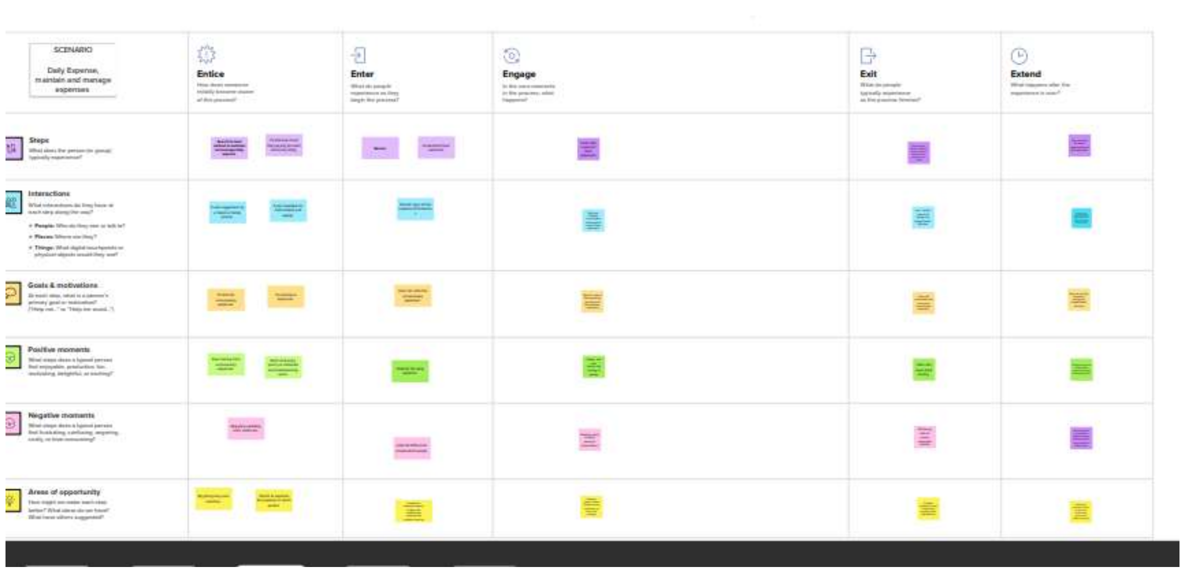
5.2 Solution &Technical Architecture

SOLUTION ARCHITECTURE



5.3 User Stories

COSTUMER JOURNEY MAP



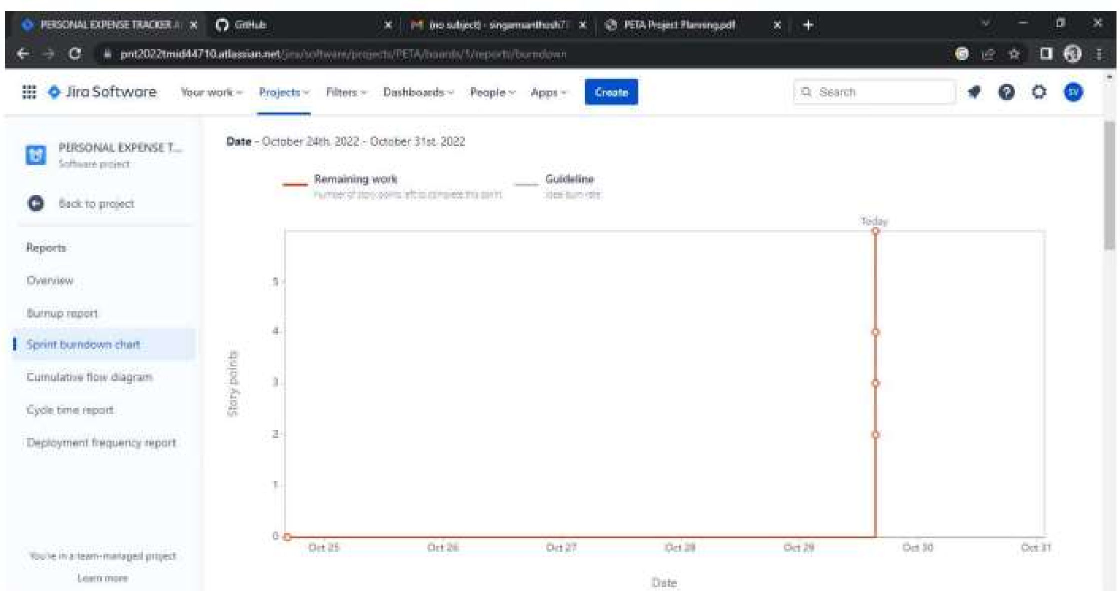
6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

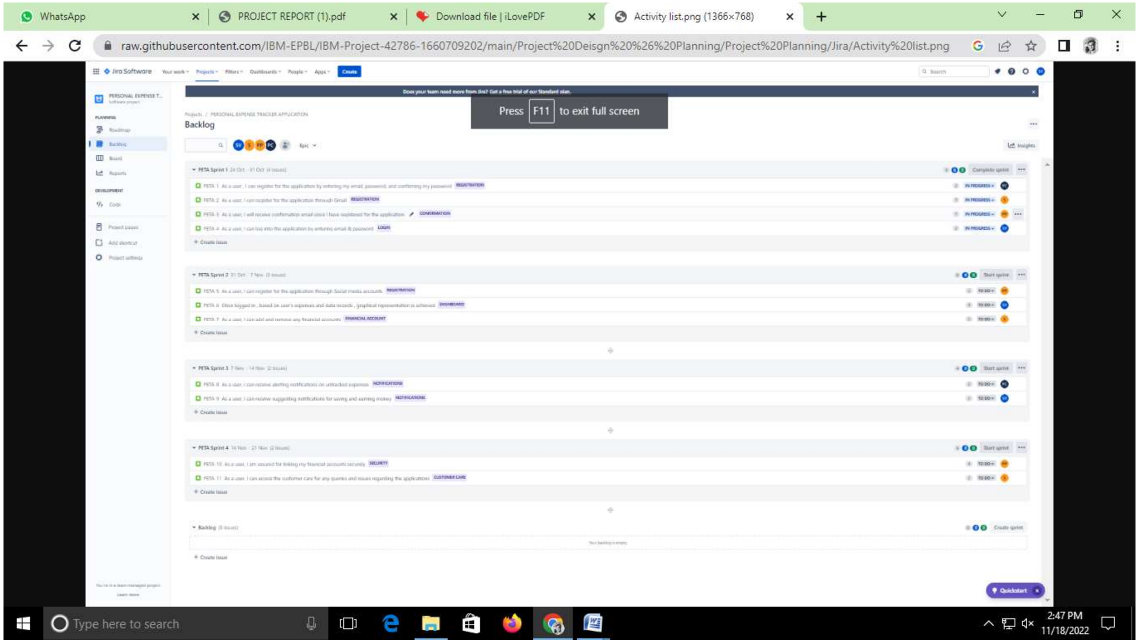
Project Tracker, Velocity & Burndown Chart:

Sprint	Total Story Points	Total Story Points	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date(Actual)
Sprint-1	20	4 Days	24 Oct 2022	27 Oct 2022	20	29 Oct 2022
Sprint-2	20	5 Days	28 Oct 2022	01 Nov 2022	20	04 Nov 2022
Sprint-3	20	8 Days	02 Nov 2022	09 Nov 2022	20	11 Nov 2022
Sprint-4	20	9 Days	10 Nov 2022	18 Nov 2022	20	19 Nov 2022

Burndown chart

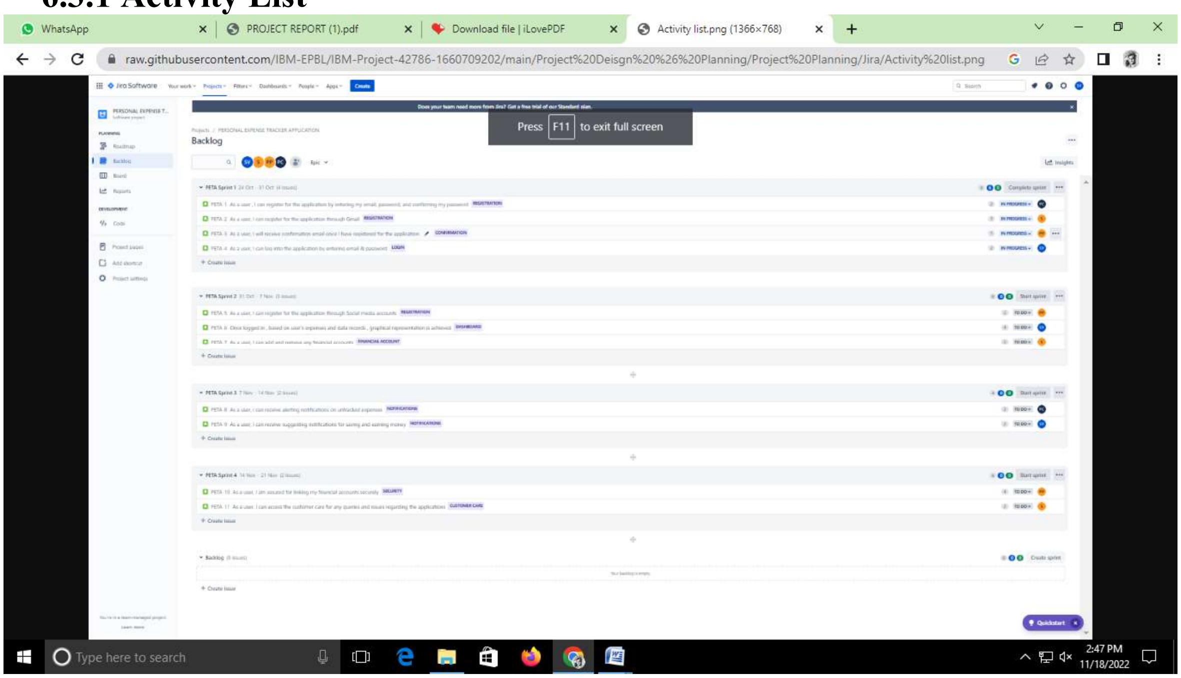


6.2 Sprint Delivery Schedule

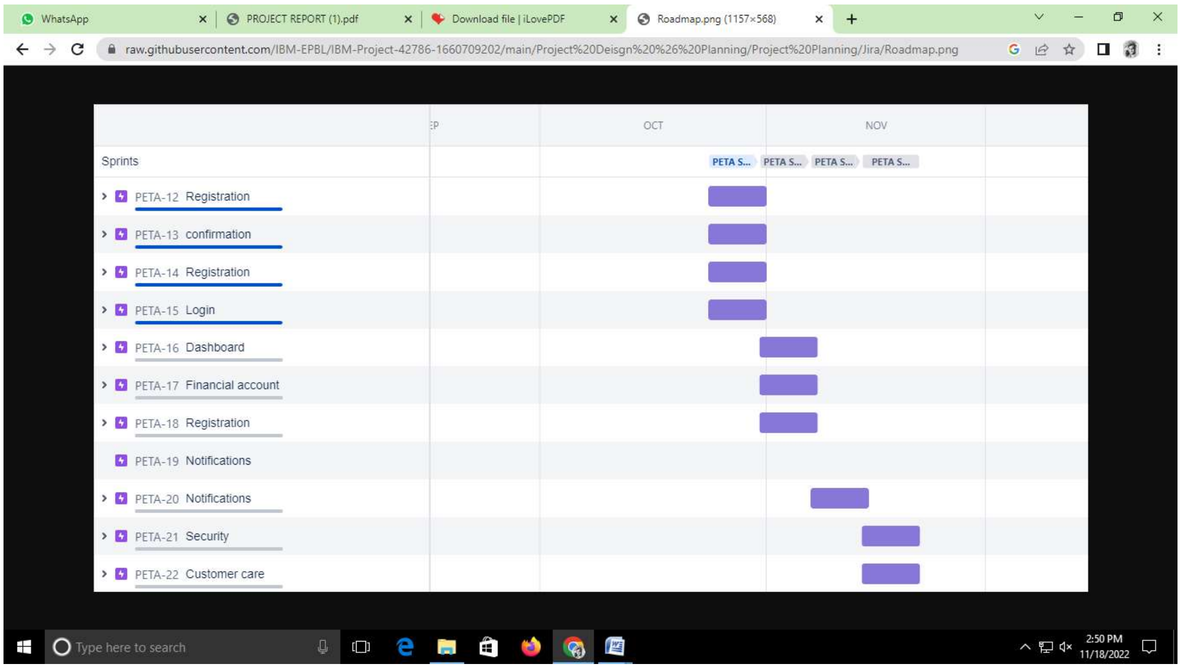


6.3 JIRA

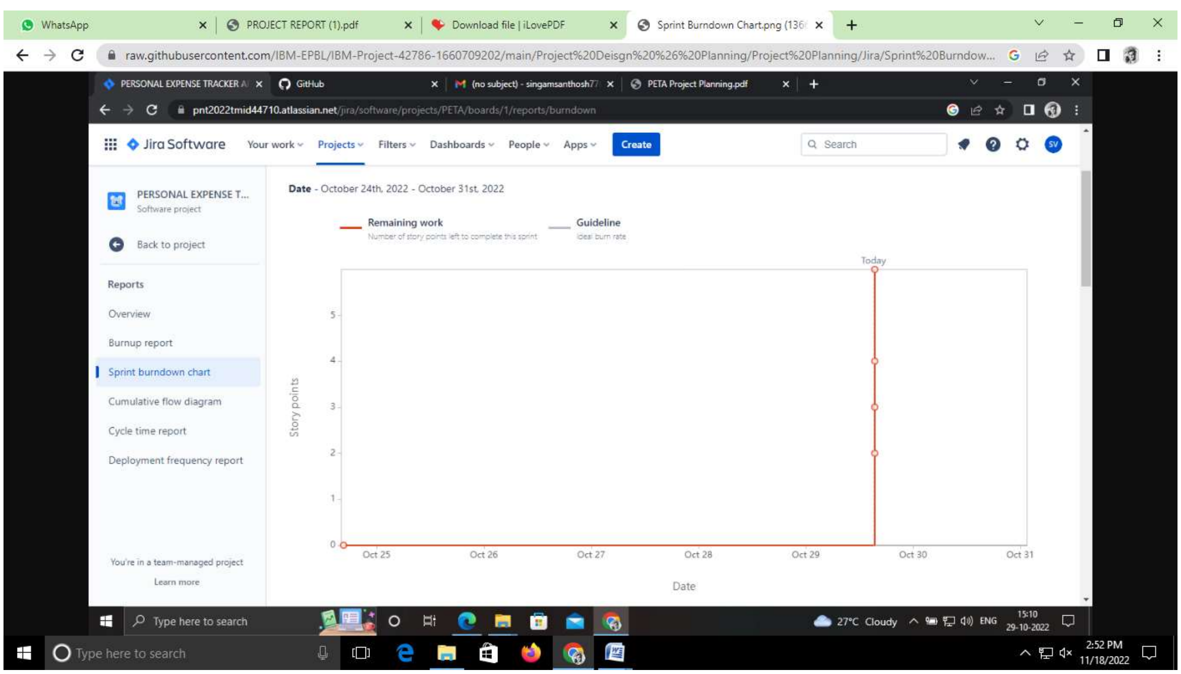
6.3.1 Activity List



6.3.2 Roadmap



6.3.3Sprint Burndown Chat



7. CODING & SOLUTIONING

7.1 Feature 1

We have added the data visualization on methods for expenditure. The pie chart have been used to represent the monthly expenses. The pie chart is a pictorial representation of data that makes it possible to visualize the relationships between the parts and the whole of a variable. For example, it is possible to understand the industry count or percentage of a variable level from the division by areas or sectors. The recommended use for pie charts is twodimensional, as three-dimensional use can be confusing. The dimensions form sectors of the measurement values; they can have one or two sizes and up to two measures. The first dimension is used to define the angle of each sector that makes up the chart and the second dimension optionally determines the radius of each sector. Additionally, these plots are useful for comparing data over a fixed period since they do not show changes over time. Therefore, their use should be considered if:

- You are looking to categorize and compare a set of data.
- You only have positive values.

- You have less than seven categories since a larger number can make it difficult to perceive each segment.

Login.html

```
<!DOCTYPE
html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>LOGIN</title>
        <!-- favicon -->
        <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
        <link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-32x32.png">
        <!-- bootstrap css cdn -->
        <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">
        <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.css">
        <!-- css stylesheet -->
        <link rel="stylesheet" href="css/style.css">
        <!-- font styles cdn -->
        <link rel="preconnect" href="https://fonts.gstatic.com">
        <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap"
```

```
rel="stylesheet">
        <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap"
rel="stylesheet">
<style>
body
{
background:#001253;
}
.login
[
position:center;
margin-top:500px;
]
</style>
</head>
<body>
    <!-- bootstrap navbar -->

      <!-- navbar ends -->
    <!-- Login form -->
    <div class="login text-center mt-5">
        <h2 style="color:white"> Login </h2><br><br>
        <form action="/login" method="post">

            <input type="text" name="username" placeholder="Enter Your Username"  id="username"
required></br></br>
                          <input type="password" name="password" placeholder="Enter Your
Password" id="password" required></br></br>
            </br>

        <button type="submit" id="button" class="btn btn-primary"> Login </button>
        </form>
    </div>
    <div class="note mt-3 text-center"> <!--Register form -->
    <p style="color:white"> Don't have an account yet? Click here to <a
href="file:///C:/Users/MONAL/Desktop/register.html">register! </a> </p>
    </div>

</div>
</body>
</html>
```

7.2Feature 2

Email notifications will be sent to the users once they cross the expenditure limit through send grid mail system. Most notifications are transactional, meaning a recipient’s action or account activity triggers them. But some notifications are marketing related, encouraging the recipient to take a specific action. Ecommerce product notifications inform recipients about new products or discounts. Plus, unlike general marketing emails, these are highly personalized and focus on a single product. For example, if a customer views an item on your website and that item goes on sale, you can send the customer a notification to let them know this is the best time to buy. Users can also opt into receiving notifications when an out-of-stock item is back in stock. Notification emails tend to perform well because the content is highly relevant to the recipient. But the only way for the recipient to know this is if you state the content clearly in the subject line. For example, the subject line “New Sign-in to Your Account” gets straight to the point, letting the user know why you sent this notification.

Register.html

```
<!DOCTYPE
html>
            <html lang="en">
              <head>
                <title>Sign Up | By Code Info</title>
                <link rel="stylesheet" href="Css/style.css" />
                <link
                  href="https://fonts.googleapis.com/css2?family=Roboto:wght@300&display=swap"
                  rel="stylesheet"
                />
            <style>
            body {
              font-family:cooper;
            background:#001253;
            }
            .signup-box {
              width: 360px;
              height: 620px;
              margin: auto;
             color:white;
              border-radius: 5px;
            }
            h1 {
              text-align: center;
              padding-top: 15px;
            }
            h4 {
              text-align: center;
            }
            form {
              width: 300px;
              margin-left: 20px;
            }
            form label {
              display: flex;
              margin-top: 20px;
              font-size: 18px;
            }
            form input {
              width: 100%;
              padding: 7px;
```

```
  border: none;
  border: 1px solid gray;
  border-radius: 6px;
  outline: none;
}
input[type="button"] {
  width: 320px;
  height: 35px;
  margin-top: 20px;
  border: none;
  background-color: #49c1a2;
  color: white;
  font-size: 18px;
}
</style>
  </head>
  <body>
    <div class="signup-box">
      <h1>Sign Up</h1>
      <form>
        <label>Email</label>
        <input type="email" placeholder="" />
        <label>Password</label>
        <input type="password" placeholder="" />
        <label>Confirm Password</label>
        <input type="password" placeholder="" />
<br><br>
        <input class="submit" type="button" value="Submit" />
      </form>


  </body>
</html>
```

8.TESTING

8.1 Test cases

Test Case ID	Purpose	TestCases	Result
TC1	Authentication	Password with length less than 4 characters	Password cannot be less than 4 characters
TC2	Authentication	User name with length less than 2 characters	User name cannot be less than 2 characters
TC3	Authentication	Valid user name with minimum 2 characters	User name accepted

8.2 User Acceptance Testing

Technical Requirment Document (TSD)	
Test Case ID	**Test Case Description**
TC_001	Verify if user is able to order single product.
TC_002	Verify if user is able to order multiple products.
TC_003	Verify if user can apply single or multiple filters
TC_004	Verify if user can apply different sort by
TC_005	Verify if user is able to pay by Master Card
TC_006	Verify if user is able to pay by Debit Card
TC_007	Verify if user is able to pay fully by reward points
TC_008	Verify if user is able to pay partially by reward points

9.RESULTS

9.1 Performance Metrics

● Tracking income and expenses: Monitoring the income and tracking all expenditures (through bank accounts, mobile wallets, and credit & debit cards).

● Transaction Receipts: Capture and organize your payment receipts to keep track of your expenditure.

● Organizing Taxes: Import your documents to the expense tracking app, and it will streamline your income and expenses under the appropriate tax categories.

● Payments & Invoices: Accept and pay from credit cards, debit cards, net banking, mobile wallets, and bank transfers, and track the status of your invoices and bills in the mobile app itself. Also, the tracking app sendsremindersfor payments and automatically matches the payments with invoices.

● Reports: The expense tracking app generates and sends reports to give a detailed insight about profits, losses, budgets, income, balance sheets, etc.,

● E-commerce integration: Integrate your expense tracking app with your eCommerce store and track your sales through payments received via multiple payment methods.

● Vendors and Contractors: Manage and track all the payments to the vendors and contractors added to the mobile app.

● Access control: Increase your team productivity by providing access control to particular users through custom permissions.

● Track Projects: Determine project profitability by tracking labor costs, payroll, expenses, etc., of your ongoing project.

● Inventory tracking: An expense tracking app can do it all. Right from tracking products or the cost of goods, sending alert notifications when the product is running out of stock or the product is not selling, to purchase orders.

● In-depth insights and analytics: Provides in-built tools to generate reports with easy-tounderstand visuals and graphics to gain insights about the performance of your business.

● Recurrent Expenses: Rely on your budgeting app to track, streamline, and automate all the recurrent expenses and remind you on a timely basis.

10. ADVANTAGES & DISADVANTAGES

1. Achieve your business goals with a tailored mobile app that perfectly fits your business.
2. Scale-up at the pace your business is growing.
3. Deliver an outstanding customer experience through additional control over the app.
4. Control the security of your business and customer data
5. Open direct marketing channels with no extra costs with methods such as push notifications.
6. Boost the productivity of all the processes within the organization.
7. Increase efficiency and customer satisfaction with an app aligned to their needs
8. Seamlessly integrate with existing infrastructure.
9. Ability to provide valuable insights.
10. Optimize sales processes to generate more revenue through enhanced data collection.

11.CONCLUSION

From this project, we are able to manage and keep tracking the daily expenses as well as income. While making this project, we gained a lot of experience of working as a team. We discovered various predicted and unpredicted problems and we enjoyed a lot solving them as a team. We adopted things like video tutorials, text tutorials, internet and learning materials to make our project complete.

12.FUTURE

The project assists well to record the income and expenses in general. However, this project has some limitations:

● The application is unable to maintain the backup of data once it is uninstalled.

● This application does not provide higher decision capability. To further enhance the capability of this application, we recommend the following features to be incorporated into the system:

● Multiple language interface.

● Provide backup and recovery of data.

● Provide better user interface for user.

● Mobile apps advantage.

13.APPENDIX

Source Code

Home .html

```
<!DOCTY
PE
html>
           <html lang="en">
           <head>
             <meta charset="UTF-8">
             <meta name="viewport" content="width=device-width, initial-scale=1.0">


             <link rel="stylesheet" href="..\static\css\home.css">
             <title>My Website</title>
           </head>
           <body>
             <!-- Header -->
             <section id="header">
               <div class="header container">
                 <div class="nav-bar">
                   <div class="brand">
                     <a href="#hero">
                       <h1><span>M</span>y <span>B</span>udget</h1>
                     </a>
                   </div>
                   <div class="nav-list">
                     <div class="hamburger">
                       <div class="bar"></div>
                     </div>
                     <ul>
                       <li><a href="#hero" data-after="Home">Home</a></li>
                       <li><a href="#services" data-after="Service">Services</a></li>

                       <li><a href="#about" data-after="About">About</a></li>
                       <li><a href="#contact" data-after="Contact">Contact</a></li>
                       <LI><a href="/signin" data-after="Login">-Login-</a></LI>
                     </ul>
                   </div>
                 </div>
               </div>
             </section>
```

```
  <!-- End Header -->
  <!-- Hero Section  -->
  <section id="hero">
    <div class="hero container">
      <div>
        <h1>Hello, <span></span></h1>
        <h1>Welcome To <span></span></h1>
        <h1>Expense Tracker Web application <span></span></h1>
        <a href="/signup" type="button" class="cta">Sign-up</a>
      </div>
    </div>
  </section>
  <!-- End Hero Section  -->
  <!-- Service Section -->
  <section id="services">
    <div class="services container">
      <div class="service-top">
        <h1 class="section-title">Serv<span>i</span>ces</h1>
        <p>MyBudget provides a many services  to the customer and industries.
Financial solutions to meet your needs whatever your money goals,there is a
MyBudget solution to help you reach them </p>
      </div>
      <div class="service-bottom">
        <div class="service-item">
          <div class="icon"><img
src="https://img.icons8.com/bubbles/100/000000/services.png" /></div>
          <h2>Personal Expenses</h2>
          <p>Budgeting is more than paying bills and setting aside savings.it's
about creating a money plan for the life you want</p>
        </div>
        <div class="service-item">
          <div class="icon"><img
src="https://img.icons8.com/bubbles/100/000000/services.png" /></div>
          <h2>Investments</h2>
          <p>Follow your investments and bring your portfolio into focus with
support for stocks,bonds,CDs,mutual funds and more</p>
        </div>
        <div class="service-item">
          <div class="icon"><img
src="https://img.icons8.com/bubbles/100/000000/services.png" /></div>
          <h2>Online Banking</h2>
          <p>MyBudget application can automatically download transactions and
send payments online from many financial institutions</p>
        </div>
        <div class="service-item">
          <div class="icon"><img
```

```
src="https://img.icons8.com/bubbles/100/000000/services.png" /></div>
          <h2>Financial Life</h2>
          <p>Get your Complete financial picture at a glance. With MyBudget
application you can view your all the financial activities
          </p>
        </div>
      </div>
    </div>
  </section>
  <!-- End Service Section -->

 <!-- About Section -->
  <section id="about">
    <div class="about container">
      <div class="col-left">
        <div class="about-img">
          <img src="..\static\images\img-2.png" alt="img">
          <div><h2>MyBudget ceo,Shridhar </h2></div>
        </div>
      </div>
      <div class="col-right">
        <h1 class="section-title">About <span>Us</span></h1>
        <h2>Financial Solution</h2>
        <p>MyBudget financial solution  is one among Leading financial company
from many years.MyBudget provides a many services  to the customer and
industries. Financial solutions to meet your needs whatever your money
goals,there is a MyBudget solution to help you reach them.u can Contact our
service center for further information and also follow our social media for
update on new services </p>
        <a href="#footer" class="cta">Follow Us</a>
      </div>
    </div>
  </section>
  <!-- End About Section -->
  <!-- Contact Section -->
  <section id="contact">
    <div class="contact container">
      <div>
        <h1 class="section-title">Contact <span>info</span></h1>
      </div>
      <div class="contact-items">
        <div class="contact-item">
          <div class="icon"><img
src="https://img.icons8.com/bubbles/100/000000/phone.png" /></div>
          <div class="contact-info">
            <h1>Phone</h1>
```

```
            <h2>+1 234 123 1234</h2>
            <h2>+1 234 123 1234</h2>
          </div>
        </div>
        <div class="contact-item">
          <div class="icon"><img
src="https://img.icons8.com/bubbles/100/000000/new-post.png" /></div>
          <div class="contact-info">
            <h1>Email</h1>
            <h2>info@gmail.com</h2>
            <h2>abcd@gmail.com</h2>
          </div>
        </div>
        <div class="contact-item">
          <div class="icon"><img
src="https://img.icons8.com/bubbles/100/000000/map-marker.png" /></div>
          <div class="contact-info">
            <h1>Address</h1>
            <h2>4th main-road,Bengaluru,Karnataka,India</h2>
          </div>
        </div>
      </div>
    </div>
  </section>
  <!-- End Contact Section -->
  <!-- Footer -->
  <section id="footer">
    <div class="footer container">
      <div class="brand">
        <h1><span>M</span>y <span>B</span>udget</h1>
      </div>
      <h2>Your Complete Financial Solution</h2>
      <div class="social-icon">
        <div class="social-item">
          <a href="#"><img
src="https://img.icons8.com/bubbles/100/000000/facebook-new.png" /></a>
        </div>
        <div class="social-item">
          <a href="#"><img
src="https://img.icons8.com/bubbles/100/000000/instagram-new.png" /></a>
        </div>
        <div class="social-item">
          <a href="#"><img
src="https://img.icons8.com/bubbles/100/000000/twitter.png" /></a>
        </div>
        <div class="social-item">
```

```
          <a href="#"><img
src="https://img.icons8.com/bubbles/100/000000/behance.png" /></a>
        </div>
      </div>
      <p>Copyright © 2021 Shridhar . All rights reserved</p>
    </div>
  </section>
  <!-- End Footer -->
  <script src="..\static\js\home.js"></script>
</body>
</html>
```

Base.html

```
 <!DOCTY
 PE
 html>
            <html lang="en">
            <head>
                <link rel="stylesheet"
            href="https://cdn.jsdelivr.net/npm/bootstrap@4.5.3/dist/css/bootst
            rap.min.css" integrity="sha384-
            TX8t27EcRE3e/ihU7zmQxVncDAy5uIKz4rEkgIXeMed4M0jlfIDPvg6uqKI2xXr2"
            crossorigin="anonymous">
                <script
            src="https://cdn.jsdelivr.net/npm/chart.js@3.2.1/dist/chart.min.js
            "></script>
               <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
            integrity="sha384-
            DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
            crossorigin="anonymous"></script>
            <script
            src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper
            .min.js" integrity="sha384-
            9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN"
            crossorigin="anonymous"></script>
            <script
            src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstr
            ap.min.js" integrity="sha384-
            B4gt1jrGC7Jh4AgTPSdUtOBvfO8shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV"
            crossorigin="anonymous"></script>
            <link rel="stylesheet"
            href="https://pro.fontawesome.com/releases/v5.10.0/css/all.css"
            integrity="sha384-
            AYmEC3Yw5cVb3ZcuHtOA93w35dYTsvhLPVnYs9eStHfGJvOvKxVfELGroGkvsg+p"
            crossorigin="anonymous"/>

                <title>Document</title>
```

```
</head>
<body>
  <nav class="navbar sticky-top  navbar-expand-lg navbar-light"
style="background-color: #e3f2fd;">
    <a class="navbar-brand" href="#">MyBudget</a>
    <button class="navbar-toggler" type="button" data-
toggle="collapse" data-target="#navbarSupportedContent" aria-
controls="navbarSupportedContent" aria-expanded="false" aria-
label="Toggle navigation">
      <span class="navbar-toggler-icon"></span>
    </button>

    <div class="collapse navbar-collapse"
id="navbarSupportedContent">
      <ul class="navbar-nav mr-auto">
        <li class="nav-item active">
          <a class="nav-link" href="/home">Home <span class="sr-
only">(current)</span></a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="/add">Add</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="/display">History</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="/limit">LIMIT</a>
        </li>
        <li class="nav-item dropdown">
          <a class="nav-link dropdown-toggle" href="#"
id="navbarDropdown" role="button" data-toggle="dropdown" aria-
haspopup="true" aria-expanded="false">
           Report
          </a>
          <div class="dropdown-menu" aria-
labelledby="navbarDropdown">
            <a class="dropdown-item" href="/today">TODAY</a>
            <a class="dropdown-item" href="/month">Month</a>

            <a class="dropdown-item" href="/year">Year</a>
          </div>
        </li>
      </ul>
        <div class="form-inline my-5 my-lg-1" style="position:
absolute; left: 1250px;">
      <ul class="navbar-nav mr-auto "  >  <li class="nav-item
```

```
dropdown btn-group open">
        <a class="btn btn-primary" href="#"><i class="fa fa-user
fa-fw"></i>User </a>
  <a class="btn btn-primary dropdown-toggle "href="#"
id="navbarDropdown"  data-toggle="dropdown" aria-haspopup="true"
aria-expanded="false">

  </a>

          <div class="dropdown-menu" aria-
labelledby="navbarDropdown">
            <a class="dropdown-item" href="#">Profile</a>
            <a class="dropdown-item" href="#">Settings</a>
            <a class="dropdown-item" href="#">Contact-Us</a>
            <div class="dropdown-divider"></div>
            <a class="dropdown-item" style="color: darkred;"
href="/logout">Log-Out <i class="fa fa-sign-out" aria-
hidden="true"></i></a>
          </div>
        </li>



        <div ">
       </ul>
      </div>

    </div>
  </nav>
    {% block body %}
    {% endblock %}
</body>
</html>
```

Login .css

```
 {
               padding: 0;
               margin: 0;
               box-sizing: border-box;
        }
        body{
            font-family: 'Poppins', sans-serif;
            overflow: hidden;
        }
        .wave{
               position: fixed;
               bottom: 0;
               left: 0;
```

```
        height: 100%;
        z-index: -1;
}
.container{
    width: 100vw;
    height: 100vh;
    display: grid;
    grid-template-columns: repeat(2, 1fr);
    grid-gap :7rem;
    padding: 0 2rem;
}
.img{
        display: flex;
        justify-content: flex-end;
        align-items: center;
}
.login-content{
        display: flex;
        justify-content: flex-start;
        align-items: center;
        text-align: center;
}
.img img{
        width: 500px;
}
form{
        width: 360px;
}
.login-content img{
    height: 100px;
}
.login-content h2{
        margin: 15px 0;
        color: #333;
        text-transform: uppercase;
        font-size: 2.9rem;
}
.login-content .input-div{
        position: relative;
    display: grid;
    grid-template-columns: 7% 93%;
    margin: 25px 0;
    padding: 5px 0;
    border-bottom: 2px solid #d9d9d9;
}
.login-content .input-div.one{
```

```
        margin-top: 0;
}
.i{
        color: #d9d9d9;
        display: flex;
        justify-content: center;
        align-items: center;
}
.i i{
        transition: .3s;
}
.input-div > div{
    position: relative;
        height: 45px;
}
.input-div > div > h5{
        position: absolute;
        left: 10px;
        top: 50%;
        transform: translateY(-50%);
        color: #999;
        font-size: 18px;
        transition: .3s;
}
.input-div:before, .input-div:after{
        content: '';
        position: absolute;
        bottom: -2px;
        width: 0%;
        height: 2px;
        background-color: #38d39f;
        transition: .4s;
}
.input-div:before{
        right: 50%;
}
.input-div:after{
        left: 50%;
}
.input-div.focus:before, .input-div.focus:after{
        width: 50%;
}
.input-div.focus > div > h5{
        top: -5px;
        font-size: 15px;
}
```

```
.input-div.focus > .i > i{
	color: #38d39f;
}
.input-div > div > input{
	position: absolute;
	left: 0;
	top: 0;
	width: 100%;
	height: 100%;
	border: none;
	outline: none;
	background: none;
	padding: 0.5rem 0.7rem;
	font-size: 1.2rem;
	color: #555;
	font-family: 'poppins', sans-serif;
}
.input-div.pass{
	margin-bottom: 4px;
}
a{
	display: block;
	text-align: right;
	text-decoration: none;
	color: #999;
	font-size: 0.9rem;
	transition: .3s;
}
a:hover{
	color: #38d39f;
}
.btn{
	display: block;
	width: 100%;
	height: 50px;
	border-radius: 25px;
	outline: none;
	border: none;
	background-image: linear-gradient(to right,
#32be8f, #38d39f, #32be8f);
	background-size: 200%;
	font-size: 1.2rem;
	color: #fff;
	font-family: 'Poppins', sans-serif;
	text-transform: uppercase;
	margin: 1rem 0;
```

```
        cursor: pointer;
        transition: .5s;
}
.btn:hover{
        background-position: right;
}
@media screen and (max-width: 1050px){
        .container{
                grid-gap: 5rem;
        }
}
@media screen and (max-width: 1000px){
        form{
                width: 290px;
        }
        .login-content h2{
         font-size: 2.4rem;
         margin: 8px 0;
        }
        .img img{
                width: 400px;
        }
}
@media screen and (max-width: 900px){
        .container{
                grid-template-columns: 1fr;
        }
        .img{
                display: none;
        }
        .wave{
                display: none;
        }
        .login-content{
                justify-content: center;
        }
}
.container{
        overflow:scroll
}
.container::-webkit-scrollbar {
    display: none;
}
ul {
        position:relative;
        top:-20px;
```

```
    left:0%;
    right:10%;
    transform: translate(-50%, -50%);
    margin: 75px;
    padding:0;
    display:flex;
    flex:auto;
}

ul li {
    list-style: none;
}

ul li a {
    position: relative;
    width:60px;
    height:60px;
    display:block;
    text-align:center;
    margin:0 10px;
    border-radius: 50%;
    padding: 6px;
    box-sizing: border-box;
    text-decoration:none;
    box-shadow: 0 10px 15px rgba(0,0,0,0.3);
    background: linear-gradient(0deg, #ddd, #fff);
    transition: .5s;
}

ul li a:hover {
    box-shadow: 0 2px 5px rgba(0,0,0,0.3);
    text-decoration:none;
}

ul li a .fab {
    width: 100%;
    height:100%;
    display:block;
    background: linear-gradient(0deg, #fff, #ddd);
    border-radius: 50%;
    line-height: calc(60px - 12px);
    font-size:24px;
    color: #262626;
    transition: .5s;
}
```

```
ul li:nth-child(1) a:hover .fab {
     color: #3b5998;
}

ul li:nth-child(2) a:hover .fab {
     color: #00aced;
}

ul li:nth-child(3) a:hover .fab {
     color: #dd4b39;
}

ul li:nth-child(4) a:hover .fab {
     color: #007bb6;
}

ul li:nth-child(5) a:hover .fab {
     color: #e4405f;
}
.app{
       position: relative;
       top: -70px;
       height: 5%;
}
#app1{
       font-style: oblique;
       color:blue ;
}
#png{
       position: relative;
       top: -300px;
       right: 50px;


}
```

Signup.css

```
@charset
"utf-8";
/* CSS Document */
body{
 background-color:#eef1f8;
 margin:0px;
 padding:0px;
}
a{
 text-decoration:none;
}
```

```
.container{
 width:100%;
 height:100%;
 background-color:#FFFFFF;
 position: absolute;
 left:50%;
 top:49%;
 transform:translate(-50%,-50%);
 box-shadow:2px 2px 30px rgba(66,57,238,0.2);
 border-radius:20px;
 display:flex;
 justify-content: center;
 align-items:center;
 background-image: url('../images/bg.gif');
 background-repeat:no-repeat;
 background-size:cover;
}
.sign-up{
       position: relative;
       left: -250px;
 width:50%;
 display:flex;
 flex-direction:column;
 align-items: center;

}
.text-container{
    position: relative;
    top:-100px; padding-bottom:-50px;
 width:50%;
 height:100%;
 display:flex;
 flex-direction:column;
 justify-content: center;
 align-items: center;
 margin-left:700px;
 margin-bottom:-10px;
 top:-40px

}
.heading{
 font-family:calibri;
 color:rgba(30,30,30,1);
position: relative;
left:80px ;
}
```

```
.text{
 width:350px;
 height:50px;
 box-shadow:2px 6px 18px rgba(66,57,238,0.3);
 border-radius: 30px;
 display:flex;
 align-items:center;
 margin:10px;
}
.text input{
 height:40px;
 width:80%;
 outline:none;
 border:none;
 font-size:14px;
 margin:5px;
}
.text img{
 margin-left:20px;
}
.conditions{
 font-family:myriad pro;
 color:#bbc1cb;
 font-size:14px;
}
.trems{
    top:20px ;
    position: relative;
        left:37px ;
 display: flex;
 align-items:center;
}
.conditions a{
 color:#7d22e3;
 font-weight:500;
}
button{
 width:200px;
 height:40px;
 outline:none;
 border:none;
 border-radius:20px;
 background:linear-gradient(-30deg,#3b02ed,#8e2ae0
55%);
 box-shadow:2px 6px 16px rgba(66,57,238,0.3);
 color:#FFFFFF;
```

```
 font-weight:600;
 letter-spacing:1px;
 font-weight: 13px;
}
button:active{
 transform:scale(1.1);
}
.text-container p{
 width:70%;
 text-align: center;
 font-family:arial;
 font-size: 15px;
 font-weight: 400;
 line-height:0px;
}
ul {
       position:relative;
       top:40px;
       left:25%;
       right:100px;
       transform: translate(-50%, -50%);
       margin: 75px;
       padding:0;
       display:flex;
       flex:auto;
  }

  ul li {
       list-style: none;
  }

  ul li a {
       position: relative;
       width:60px;
       height:60px;
       display:block;
       text-align:center;
       margin:0 10px;
       border-radius: 50%;
       padding: 6px;
       box-sizing: border-box;
       text-decoration:none;
       box-shadow: 0 10px 15px rgba(0,0,0,0.3);
       background: linear-gradient(0deg, #ddd,
#fff);
       transition: .5s;
```

```
  }

  ul li a:hover {
        box-shadow: 0 2px 5px rgba(0,0,0,0.3);
        text-decoration:none;
  }

  ul li a .fab {
        width: 100%;
        height:100%;
        display:block;
        background: linear-gradient(0deg, #fff,
#ddd);
        border-radius: 50%;
        line-height: calc(60px - 12px);
        font-size:24px;
        color: #262626;
        transition: .5s;
  }

  ul li:nth-child(1) a:hover .fab {
        color: #3b5998;
  }

  ul li:nth-child(2) a:hover .fab {
        color: #00aced;
  }

  ul li:nth-child(3) a:hover .fab {
        color: #dd4b39;
  }

  ul li:nth-child(4) a:hover .fab {
        color: #007bb6;
  }

  ul li:nth-child(5) a:hover .fab {
        color: #e4405f;
  }
  .toop{
      position: relative;
      top: 20px;
         left: 75px;
  }
  .check{
      position: relative;
```

```
    top: -8px;
    left: -5px;
}
.para{
    position: relative;
    top: 0px;
       left: -45px;
}
.diag{
       position: relative;

       top:0px;
       margin: 0px;
       padding: 0px;
       left:-10px;
}
.fig1{
       position: relative;
       size:200%;
}
#png{
       position: relative;
       left: -270px;
       top: -45px;
}
.or{
       position: relative;
       left:180px;
}
.s1{
       position: relative;
       left: 140px;
}
.t{
       position: relative;
       left:-100px ;
       top:10px;
}
```

App.py

```
# -*-
coding
: utf-
8 -*-
```

```
"""
Spyder Editor
This is a temporary script file.
"""
from flask import Flask, render_template, request, redirect, session
# from flask_mysqldb import MySQL
# import MySQLdb.cursors
import re
from flask_db2 import DB2
import ibm_db
import ibm_db_dbi
from sendemail import sendgridmail,sendmail
# from gevent.pywsgi import WSGIServer
import os
app = Flask(__name__)
app.secret_key = 'a'

#app.config['MYSQL_HOST'] = 'remotemysql.com'
#app.config['MYSQL_USER'] = 'D2DxDUPBii'
#app.config['MYSQL_PASSWORD'] = 'r8XBO4GsMz'
#app.config['MYSQL_DB'] = 'D2DxDUPBii'
"""
dsn_hostname = "125f9f61-9715-46f9-9399-
c8177b21803b.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud"
dsn_uid = "tjs18433"
dsn_pwd = "RP4I9giHkzkXYjva"
dsn_driver = "{IBM DB2 ODBC DRIVER}"
dsn_database = "bludb"
dsn_port = "30426"
dsn_protocol = "tcpip"
dsn = (
    "DRIVER={0};"
    "DATABASE={1};"
    "HOSTNAME={2};"
    "PORT={3};"
    "PROTOCOL={4};"
    "UID={5};"
    "PWD={6};"
).format(dsn_driver, dsn_database, dsn_hostname, dsn_port, dsn_protocol, dsn_uid,
dsn_pwd)
"""
# app.config['DB2_DRIVER'] = '{IBM DB2 ODBC DRIVER}'
app.config['database'] = 'bludb'
app.config['hostname'] = '125f9f61-9715-46f9-9399-
c8177b21803b.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud'
app.config['port'] = '30426'
```

```
app.config['protocol'] = 'tcpip'
app.config['uid'] = 'tjs18433'
app.config['pwd'] = 'RP4I9giHkzkXYjva'
app.config['security'] = 'SSL'
try:
    mysql = DB2(app)
    conn_str='database=bludb;hostname=ba99a9e6-d59e-4883-8fc0-
d6a8c9f7a08f.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;port=31321;protocol=t
cpip;\
            uid=vmk08423;pwd=3KfJl6HGDtPdbIWy;security=SSL'
    ibm_db_conn = ibm_db.connect(conn_str,'','')

    print("Database connected without any error !!")
except:
    print("IBM DB Connection error   :     " ,ibm_db.conn_errormsg())
# app.config['']
#mysql = MySQL(app)
#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']

        cursor = mysql.connection.cursor()
        cursor.execute('SELECT * FROM register WHERE username = % s', (username,
))
        account = cursor.fetchone()
        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:
            cursor.execute('INSERT INTO register VALUES (NULL, % s, % s, % s)',
(username, email,password))
            mysql.connection.commit()
            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']
        cursor = mysql.connection.cursor()
        cursor.execute('SELECT * FROM register WHERE username = % s AND password
= % s', (username, password ),)
        account = cursor.fetchone()
        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']
    expensename = request.form['expensename']
    amount = request.form['amount']
    paymode = request.form['paymode']
    category = request.form['category']

    cursor = mysql.connection.cursor()
    cursor.execute('INSERT INTO expenses VALUES (NULL,  % s, % s, % s, % s, % s,
% s)', (session['id'] ,date, expensename, amount, paymode, category))
    mysql.connection.commit()
    print(date + " " + expensename + " " + amount + " " + paymode + " " +
category)

    return redirect("/display")
#DISPLAY---graph
@app.route("/display")
def display():
    print(session["username"],session['id'])

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


    return render_template('display.html' ,expense = expense)

#delete---the--data
@app.route('/delete/<string:id>', methods = ['POST', 'GET' ])
def delete(id):
     cursor = mysql.connection.cursor()
     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()

    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']

      cursor = mysql.connection.cursor()

      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()
      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']
         cursor = mysql.connection.cursor()
         cursor.execute('INSERT INTO limits VALUES (NULL, % s, % s)
',(session['id'], number))
         mysql.connection.commit()
         return redirect('/limitn')


@app.route("/limitn")
def limitn():
```

```
    cursor = mysql.connection.cursor()
    cursor.execute('SELECT limitss FROM `limits` ORDER BY `limits`.`id` DESC
LIMIT 1')
    x= cursor.fetchone()
    s = x[0]


    return render_template("limit.html" , y= s)
#REPORT
@app.route("/today")
def today():
      cursor = mysql.connection.cursor()
      cursor.execute('SELECT TIME(date)   , amount FROM expenses  WHERE userid =
%s AND DATE(date) = DATE(NOW()) ',(str(session['id'])))
      texpense = cursor.fetchall()
      print(texpense)

      cursor = mysql.connection.cursor()
      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()

      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]

        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", 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():
        cursor = mysql.connection.cursor()
        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'])))
        texpense = cursor.fetchall()
        print(texpense)

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

        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]

    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", 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)

    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()
```

```
      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]

      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", 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(debug=True)
```

Github Link :

https://github.com/IBM-EPBL/ IBM-Project-42786-1660709202

Demo video Link

https://drive.google.com/file/d/1O20B-zDvePVh5p4WV7kSKx2-omgo7TyQ/view?usp=share_link