Personal Expense Tracker Application By Cloud Computing

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INTRODUCTION

1.1 Project Overview

The art of money management is all about turning your money into wealth by reframing your mindset; instead of thinking of managing money in terms of just expenses, you should also think of money as an investment tool. A defined money management plan incorporates wealth accumulation, protection of accumulated wealth, and preservation of wealth. These key financial concepts are tied to your specific needs, objectives, financial goals, priorities, and risk factors. In a B2B scenario, businesses often find it hard to focus on money management due to varied cash flows. Therefore, businesses shift their focus to behavioral influences (spending, savings, investments) that affect their decision-making strategies for managing their money.

1.2 Purpose

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

2. Literature Survey

2.1. Existing Problem

The Expense tracker existing system does not provide the user portable device management level, existing system only used on desktop software so unable to update anywhere expenses done and unable to update the location of the expense details disruptive that the proposed system provides [6]. In existing, we need to maintain the Excel sheets, CSV files for the user daily, weekly and monthly expenses. In existing, there is no as such complete solution to keep a track of its daily expenses easily. To do so a person as to keep a log in a diary or in a computer system, also all the calculations need to be done by the user which may sometimes results in mistakes leading to losses. The existing system is not user friendly because data is not maintained perfectly. But this project will not have any reminder to remain a person in a specific date, so that is the only drawback in which the remainder is not present. This project will be an unpopulated information because it has some disadvantages by not remind a person for each and every month. But it can used to perform calculation on income and expenses to overcome this problem we propose the new project.

2.2 Daily Expense Tracker - Tamia Ruvimbo Masendu, Aanajey Mani Tripath.

Income and Expense Tracker will maintain data of daily, weekly, monthly, yearly expenses, Manages your expenses and earnings in a simple and intuitive way. User can select category of expense, enter other information like user can capture photo, add location, select amount of expense etc. And this will save to the

local database. User can view and sort expense as per weekly, monthly, yearly. By using this, we can reduce the manual calculations for their expenses and keep the track of the expenditure. In this, user can provide his income to calculate his total expenses per day and these results will stored for unique user. People when usually go for trips or movies with friends they can use this tracker to maintain their expense. It will be easy for them to share the bill in this tracker. This will display graph as per selected view. And user can enter his monthly income or limit of monthly Expense in this tr. This tracker system provides an integrated set of features to help you to manage yourexpenses and cash flow.

2.3 ONLINE INCOME AND EXPENSE TRACKER - S. Chandini, T.

Poojitha, D. Ranjith, V.J. Mohammed Akram, UG Students, M.S. Vani, V. Rajyalakshmi .

To avoid Income and Expense calculations and in the same manner to remind a person, we develop an android application which may helpful in all the situations and it can be installed in our android phones. It help us to remind and add some information that what are the income comes from other persons and what are all the expenses or payments we have to pay in specific date or month. In expense tracker we have categories like add expense, expenses of each month, add new expense, view categories of expenses, export expenses in a date range, remove export files, view categories wise expenses..

2.4 EXPENSE MANAGER APPLICATION – A Velmurugan, J AlbertMayan, P Niranjana and Richard Francis.

In today's frantic and expensive society, we are in a great hurry to make money. We did, however, split ways at the conclusion of the month. We are unknowingly squandering money on insignificant and unwanted products. As a result, we've devised a system for keeping track of our earnings. Expense Tracker is a tool that can assist anyone in keeping track of their expenses and reducing their spending. Expense Tracker is a mobile application that users may download to their phones and use to track and update their daily costs so they are always aware of how much they are spending. The user can establish their own spending categories, such as food, clothing, rent, and bills, and then enter the amount spent as well as any notes. Include more information in the Additional information area to specify the expense. A pie chart of costs will be available to the user. Every Day Expense Tracker System is a software program that keeps track of a user's daily income and expenses. The daily costs are divided using this technique. Overall, this is a smart automated solution for tracking expense. Keywords: Mobile Application, Money, Spending Categories, Daily Income And Expenses, Pie Chart.

2.5 INCOME AND EXPENSE TRACKER - P. Thanapal, Mohammed Yaseen Patel, T.P. Lokesh Raj and J. Satheesh Kumar.

Expense Tracker is a day-to-day expense management system designed to easily and efficiently track the daily expenses of unpaid and unpaid staff through a computerized system that eliminates the need for manual paper tasks that systematically maintains records and easily accesses data stored by the user. We have tried to design the window application in such a way that the user does not have to bother using this application without much effort. End users with window running devices can use this software. The language databases we use to develop this system are Java (Apache Net bins 11.3) and MySQL Workbench 8.0 CE. This application is a GUI (Graphics User Interface) based application. If you are a window user, you can download the application and work accordingly. This system is used by any person to control his income expenditure from daily to annual basics. And to keep an eye on their spending. This app is very easy to use and mutli-language. The main feature of this app is that you can track by day and category. You can use it according to your category.

2.6 DAILY EXPENSE TRACKER MOBILE APPLICATION - Nuura Najati
Binti Mustafa.

Daily Expense Tracker Mobile Application is an application meant for all type of people concerned and cautious about their daily expenses. With the help of this application, users will be able to more careful of their spending and save more. Also, this application is an easier alternative to keeping track of users' use of

money than the traditional way of writing their expenses in their diary. This application implements least squares method which helps to predict an outcome by finding the best fit line for a set of data. The use of the least squares method will help users in obtaining a successful budget planned with the prediction of the outcome of the budget based on expenses. In conclusion, this application will incorporate the function of generating a monthly expense report and budget outcome predictions.

2.7 EXPENSE TRACKER - Hrithik Gupta and Anant Prakash Singh .

Budgeting, tracking expenses has been well known to most people and it is necessity to survive in this not so decent economic environment. Poor budgeting or not budgeting has come to a big issue and a major concern for most people, especially the younger generation. Recently, everyone can use their devices such as smartphones or tablets, which are more convenient, compared to a laptop to record their expense and set budget. In this day and age, most people are trying to find other ways to get a more precise analysis without having to depend on experts consistently. For instance, using a smart device that has a built in budget analysis and advisory for personal expenses. This project title as "Personal Expenses Advisory System" will focuses on the poor budgeting performance issues. In this project, the input will be the user income, saving amount and budget amount and the output will be the expenses analysis and some expenses advices to help the user achieve their saving goal effectively. This system will be built around the concept of Business Intelligence (BI) technology, which means it will provide historical, current and predictive views or data to the user to support their decision making

2.8 Daily Expense Tracker - Tamia Ruvimbo Masendu, Aanajey Mani Tripath.

Personal financial management is undeniably a worthwhile practice to establish a financial security during a struggling economy and make intelligent monetary decisions regardless of the plethora of spending temptations. Monitoring personal cash flow is part of achieving financial independence, and it is now undemanding to perform because of the available personal budget apps and finance tools. Nevertheless, a missing feature of these technology-driven innovations is the recording, tracking, and monitoring of receipts as well as the generation of personal expenses reports based on these collected pieces of papers. With this application, "Mobile Bookkeeper", financial enthusiasts can just scan the receipt using the inbuilt camera of any smartphone and details will be automatically transcribed using Optical Character Recognition (OCR). To measure the satisfaction and test the usability of the mobile app, subjective and objective measures via ISO 25062 and ISO 9241 standards were collected, and QUIS 7.0 questionnaire, respectively. The testing results established Mobile Bookkeeper particularly on its receipt scanner feature as a needed mobile finance app. Together with this acceptance is the report highlighting issues and challenges in developing such mobile application especially with OCR integration and its accuracy in text recognition.

2.9 EXPENSE TRACKER MOBILE APPLICATION - Angad Manchanda

In this work, a personal finance management system is developed. The relevance of the system construction is proved. It was considered the introduction of various technologies, which will help to create a system that is easy to use and user-friendly. It was analyzed the market of similar software solutions and

technologies. The analysis of the methods corresponding to the topic was carried out and the most expedient ones were chosen. The subject area of the research and the imperfection of software solutions in the market is determined, which outlined the problem, and the requirements to the system are formulated. The structural processes of system creation were described. Rational unified process was used as a methodology for creating the lost part of the product because the most important emphasis in this case is the working product. All precedents in this methodology have been described. The following types of diagrams are presented: sequence diagram, packet diagram, class diagram. Methods of realization of the chosen system which provide the minimum requirements to the software and hardware are formulated and described. A software and hardware solution that meets the requirements for building a personal finance management system necessary for its implementation was chosen. The system of personal finance management in the form of the appendix is constructed; a detailed description of the designed system and test variants of its operation are given. A personal financial management system was created.

2.10 CLOUD BASED EXPENSE TRACKER - Asthha Wahal and Muskan Aggarwal.

Daily Expense Tracker is a small rule in imitation of successfully bossing one's costs easily. It is raised in imitation of superintending the daily expenses in an extra efficient and manageable way. By using the software, we perform decrease the guide calculations regarding-by-day by fees care of period these effects desire stay stored because of each user. Daily Expense Trackers lets in the person in accordance with hold a computerized diary. It offers a class dole on one's expenses. We also hold brought a distinct characteristic as wish apportion

cover costs in one-of-a-kind categories suitable for the user. It is an application as users do accomplish between their computers. It is capable after begetting one's fees yet deliverance document so care of duration up to expectation be able to keep selected. Daily Expense Tracker systematically continues the file of transactions done and effortlessly helps the person after getting admission to in the formation stalls all call as I back according to strengthen that system is Java (Apache NetBeans IDE 13) and my MySQL Workbench. This application is a GUI (Graphics User Interface) based application. Daily Expense Tracker is chronic by someone character in imitation of rule one's income-expenditure of daily groundwork upon after the end regarding the month longevity. The essential function that thatutility is so much you can tune your costs by looking out the date, month, or year. By doing hence whole the leading will show accordingly. Many humans right here in India continue to exist regarding a constant income, and that choice located oversea month gives up so those function ate no longer hold adequate cash to pair their needs. This trouble is triggered by using vile salaries to that amount certain receives month-end, continuously that is due by terrible money management skills longevity. Daily Expense Tracker helps in figuring out fraud, with India mildly moving according to digital charge such is vital you maintain close tune regarding your savings visiting card statements, financial institution debts yet spend. Otherwise, ye execute read exhaust according to monetary fraud and no longer even realize it. This challenge also offers half possibilities that choice help the person by maintaining all pecuniary things to do kind of digital computerized diary. So, because of the higher fee tracking system, I raised my assignment so pleasure helps customers a lot. This venture pleasure shop epoch or grant an accountable lifestyle. This law is chronic via any individual in imitation of power his income-expenditure from every day to annual basis yet in imitation preserving an eye over theirs spending. This software is entirely effortless in

imitation usage and that have multi-language features. The important characteristic about this application is that amount you perform tune thane expense by means of citing date, month yet year. You may utilize it according to preserve thane expenses then additionally enhance your savings.

2.11 SPENDING TRACKER: A SMART APPROACH TO TRACK DAILY EXPENSE - Uday Pratap Singh.

Personal Expense Assistant Management is an application aiming to manage our daily expenses in a more efficient and manageable way. The application attempts to free the user with as much as possible the burden of manual calculation and to keep the track of his expenditure. Instead of keeping a dairy or a log of the expenses on the smartphones or laptops, it enables the user to not just keep the tab on the expenses but also to plan ahead keeping the past budget in mind. With the help of this application, a user may be able to add, delete or change the current entered bill entry efficiently. The graphical representation of the budget is the lucrative part of the system as it appeals the user more and is easy to understand and incorporate for future planning. The user interface of the system ticks the boxes of consistency, easy readable dialogue boxes, easy exit and easy to get used to requirements for any ideal user interface.

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Scienceand Engineering, SCSVMV,Kanchipuram) , ReddygariSandhya Rani(B.E
Graduate(IV year), Department of Computer Science and Engineering,SCSVMV,
Kanchipuram) , Mrs. R. Prema(Assistant Professor, Department of Computer
Scienceand Engineering, SCSVMV,Kanchipuram).
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2.2 Problem Statement Definition

At the instant, there is no as such complete solution present easily or we should say free of cost which enables a person to keep a track of its daily expenditure easily. To do so a person has to keep a log in a diary or in a computer, also all the calculations needs to be done by the user which may sometimes results in errors leading to losses. 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. As the name itself suggests, this project is an attempt to manage our daily expenses in a more efficient and manageable way. The system attempts to free the user with as much as possible the burden of manual calculation and to keep the track of the expenditure..
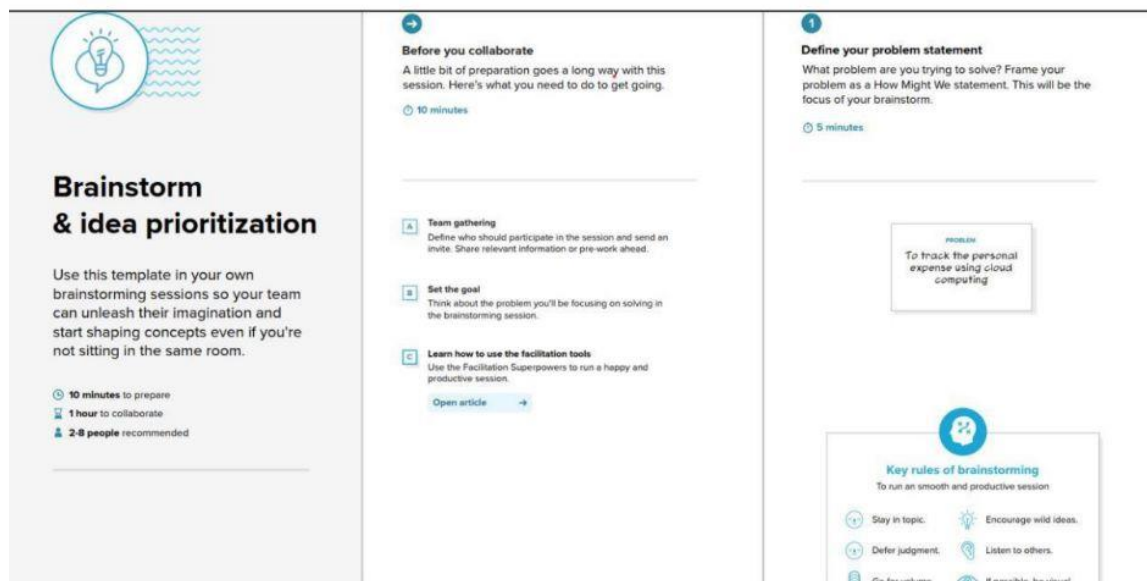
3. Ideation and Proposed Solution

3.1 Empathy Map Canvas
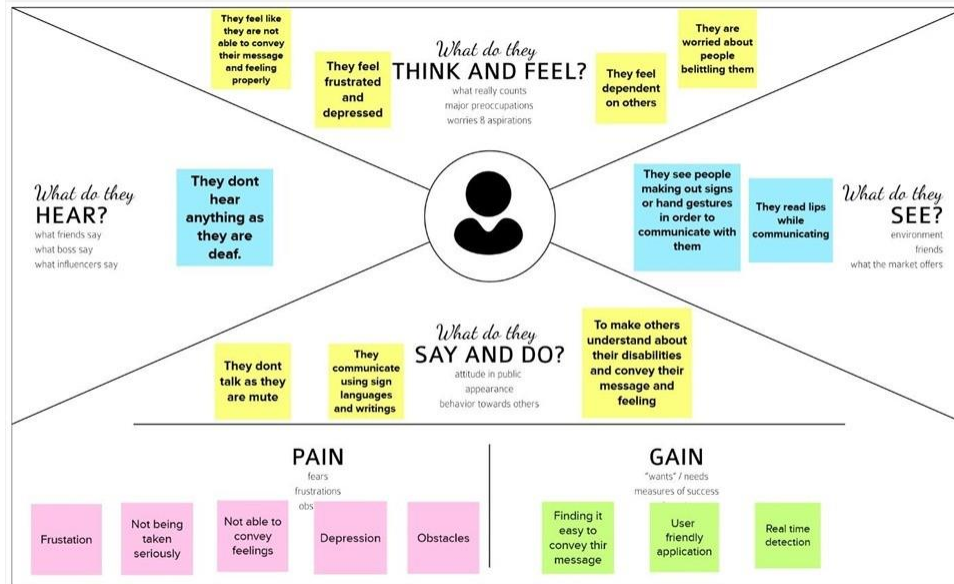
3.2 Ideation and Brainstorming

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

3.2.2   Step - 2 : Brainstorm, Idea Listing and Grouping

3.2.3 Step – 3 : Idea Prioritization
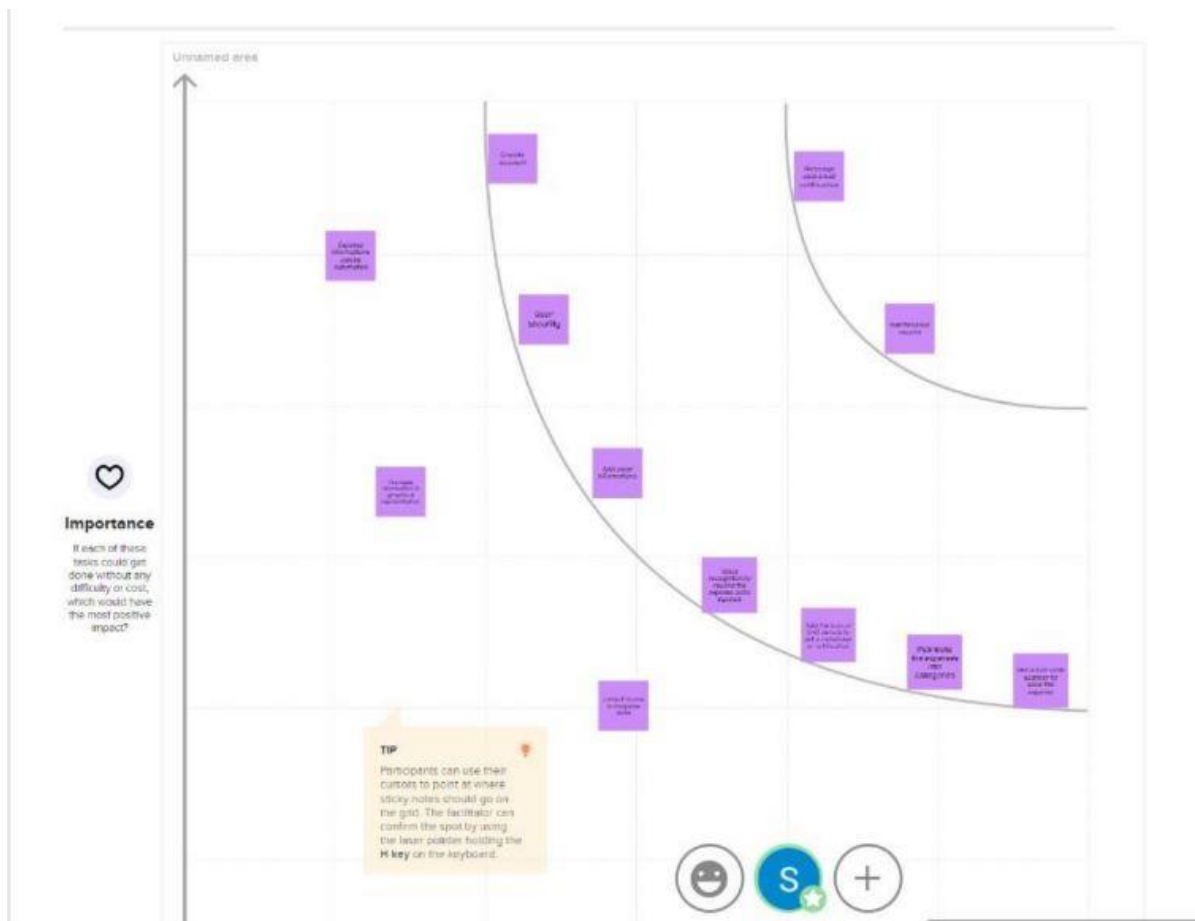
3.3 Proposed Solution

S No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Attempting to manage the expenses of an individual in an efficient and manageable manner, as compared to the traditional way of expense tracking.
2.	Idea / Solution description	The application will be helpful for the individuals in not just managing their expenses, but also in enabling them to improve their investments.
3.	Novelty / Uniqueness	The application gives the user a chance to plan his/her monthly expenses at the start of the month. Besides this, the user gets a notification when he/she exceeds the limit that is set.
4.	SocialImpact / Customer Satisfaction	With such applications, the public will start to plan their expenses better leading to their own financial stability. With more users, this application will ensure that financial state of our society improves
5.	Business Model (Revenue Model)	Free trial for 1 month can be given to the users, so that a significant userbase is created. Following the free trial, the users can be given subscription for 3 months, 6 months or 1 year.
6.	Scalability of the Solution	Since the application takes the same set of input from all the users and does not perform many complex computations, it will be easy for us to scale the application to a larger set of users

3.4 Problem solution fit

Canvas 1

Define CS, fit into CC | **Explore AS, differen...**

1. CUSTOMER SEGMENT(S) CS
Who is your customer?
Deaf-mute people are our customers

6. CUSTOMER CONSTRAINTS CC
What constraints prevent your customers from acting or limit their choices
of solutions?
Network connection, customization, battery limit of phones, slow response

5. AVAILABLE SOLUTIONS AS
Which solutions are available to the customers when they face the problem

or need to get the job done? What have they tried in the past?
What pros & cons do these solutions have? pen and paper is an alternative to digital communication.

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS
Which jobs-to-be-done (or problems) do you address for your customers? Real time translation and emotion detection. Customization. User friendly UI.

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?

The root cause of the problem is even with a good level of advancement in technology we find deaf-mute people struggling to even have a normal conversation. This is happening so because not all understands sign language.

7. BEHAVIOUR BE
What does your customer do to address the problem and get the job done?

In order to get the job done they either use pen and paper or communicate using a person who understands sign language and translate it accordingly to the other person with whom the deaf-mute person is trying to communicate.

Focus on J&P, tap into BE, understand RC

Explore... Emotions...

3. TRIGGERS TR
What triggers customers to act?
Other deaf-mute people finding it very easy to install and use the application for communication triggers our customer

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.
The solution that we offer is a web application that is capable of detecting emotions and translating sign language to speech and vice versa simultaneously. It also offers language customization.

8. CHANNELS of BEHAVIOUR CH
8.1 ONLINE
What kind of actions do customers take online? Customers try communicating through messages in social media application. They try to reach out to people who are similar to them. Customers try online sign language detection system for communicating.
8.2 OFFLINE
What kind of actions do customers take offline? Customers use sign language or pen and paper to communicate.

Canvas 2

Define CS, fit into CC | **Explore AS, differentiate**

1. CUSTOMER SEGMENT(S) CS
- Businessman
- Housewife
- Professionals

6. CUSTOMER CC
- It is a fear of not having the resources available to meet our needs.
- Most of them don't have a reminder to warn them of their expenses and help to overcome the high expenses.

5. AVAILABLE SOLUTIONS AS
- The available solution is to provide a platform for the customer to keep track of the expenses.
- To reduce the expenses and increase the income.
- Think about all of your expenses you usually tend to spend your money on and prioritize which is important and plan accordingly.

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS J&P
- Solve unexpected expenses and financial anxiety.
- Lack of awareness.
- Remind the customer about their financial status and how to compensate the expenses.
- To set a limit of a particular amount and keep track of the expenses without exceeding the limit.

9. PROBLEM ROOT CAUSE RC
- Users are not very much careful about their savings and spend money without keeping track of it.
- It often leads them to spend extra and it will lead them to a financial crisis.
- Also, They are less motivated about the cause of this and it will trouble their savings and may end up in many financial problems.

7. BEHAVIOUR BE
- To develop a web application which includes all the factors to keep track of their expenses.

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS TR
- Seeking for self-gratification by earning the thing.

4. EMOTIONS: BEFORE / AFTER EM
- **Before** : Fear , Hopeless , Depressed
- **After** : Confident , Aware

10. YOUR SOLUTION SL
- This application will help the users to add their expenses so they can get an analysis of their expenditure in a graphical form. They have an option to set a limit of the amount to be used for a particular month and if the limit is exceeded the user will be notified with an alert message.

8. CHANNELS of BEHAVIOUR CH
ONLINE
- Google advertisements.
- Social media platforms.

OFFLINE
- Through words.
- Recommendation from the customers.

Extract online & offline CH of BE

4. Requirement Analysis

4.1 Functional Requirement

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Login	Enter the valid username and password
FR-4	Calender	Personal expense tracker application shall allow user to add the data to their expenses.
FR-5	Expense Tracker	This application should graphically represent the expense in the form of report.
FR-6	Report generation	Report generation through Message Report generation through Gmail
FR-7	Category	This application shall allow users to add categories of their expenses.

4.2 Non-Functional Requirements

| FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Helps to keep an accurate record of your money inflow and outflow.
NFR-2	Security	Budget tracking apps are considered very safe from cybercriminals.
NFR-3	Reliability	Each data record is stored on a well built efficient database schema. There is no risk of data loss
NFR-4	Performance	The types of expense are categories along with an option. Through put of the system is increased due to light weight database support.
NFR-5	Availability	t is available all the time. No time constraint
NFR-6	Scalability	The ability to appropriately handle increasing demands.

5. Project Design
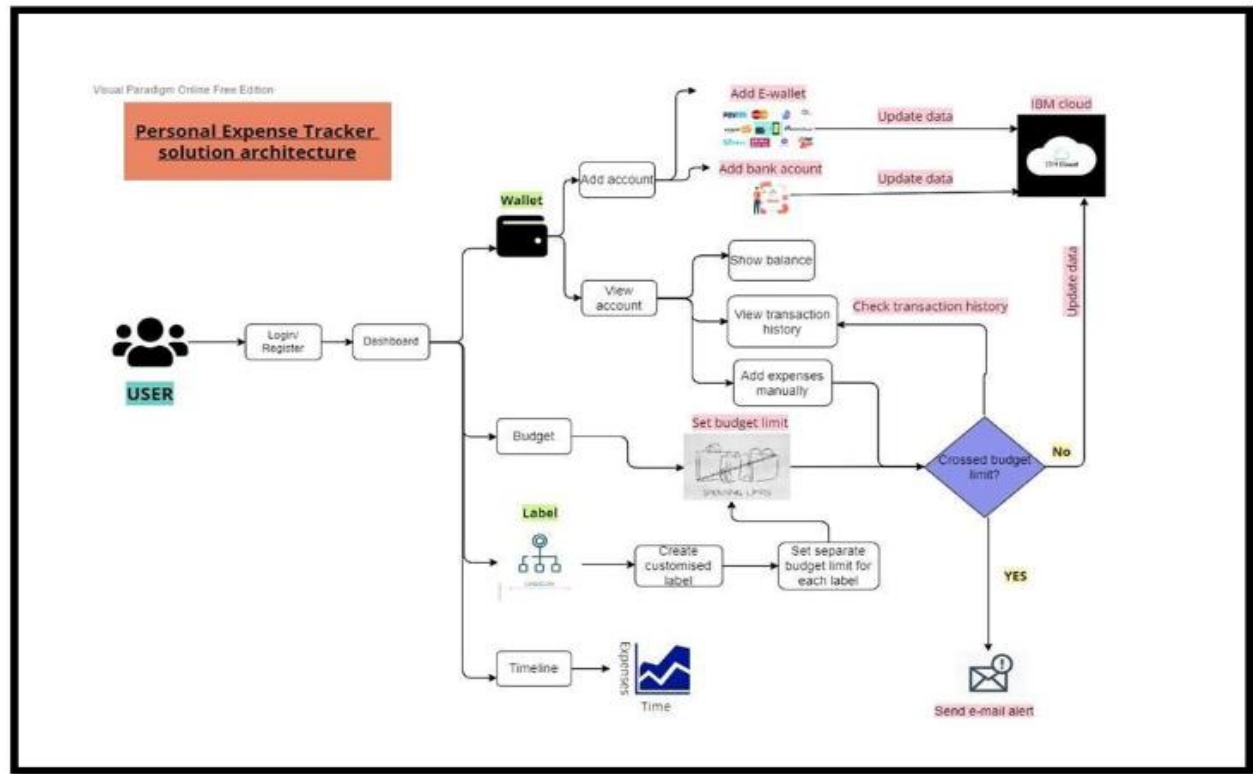
5.1 Dataflow Diagram
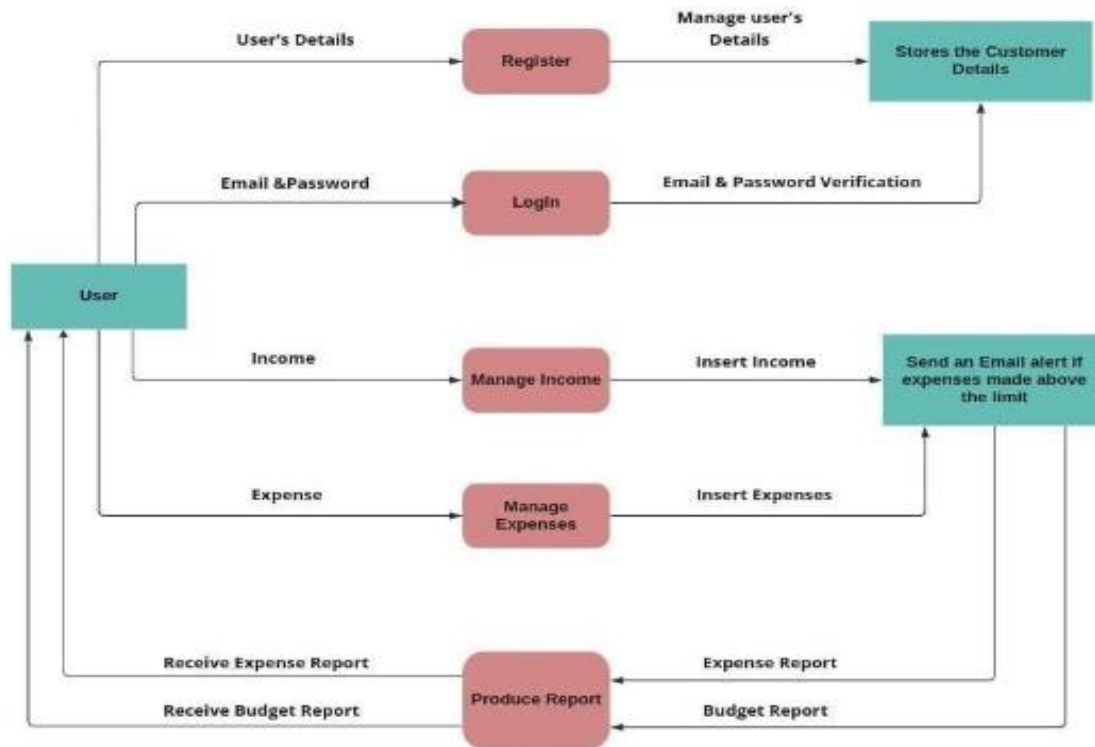
5.2 Solution and Technical Architecture

Solution Architecture
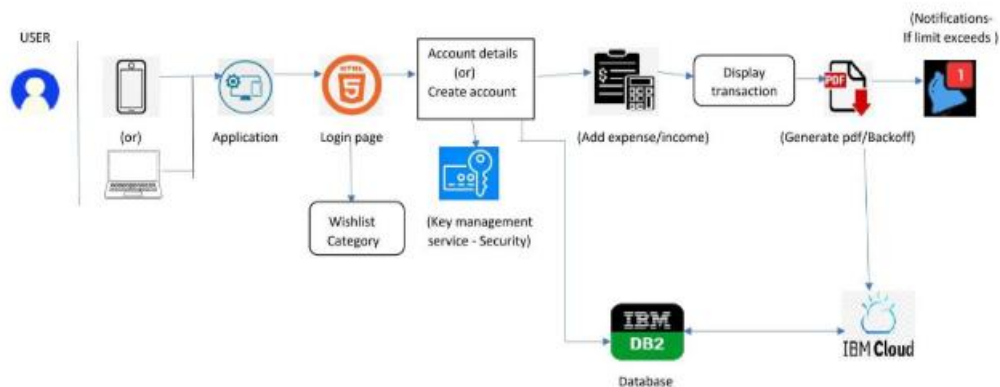
Technical Architecture

5.3 User Story

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	
	Login	USN-4	As a user, I can log into the application by entering email & password	I can access the application	High	
	Dashboard	USN-5	As a user I can enter my income and expenditure details.	I can view my daily expenses	High	
Customer Care Executive		USN – 6	As a customer care executive, I can solve the log in issues and other issues of the application.	I can provide support or solution at any time 24*7	Medium	
Administrator	Application	USN – 7	As an administrator I can upgrade or update the application.	I can fix the bug which arises for the customers and users of the application	Medium	

6. Project Planning and Scheduling

6.1 Sprint Planning and Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	I can sign up for the application as a user by providing my email address with password, and a password for confirmation.	2	High	2
Sprint-1		USN-2	When I register for the application as a user, I will get a confirmation email.	1	High	1
Sprint-1		USN-3	I can sign up for the application as a user through Gmail.	1	High	1
Sprint-1	Login	USN-4	I may access the program as a user by providing my email address and password.	3	High	3

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint -2	Login	USN-5	After logging in, I as a user, must be able to update my profile by adding all the necessary information.	4	High	4
Sprint-3	Income update	USN-6	I can add wallet balance and add income as a user.	4	Medium	4
Sprint-3	Income update	USN-7	I can update all income in the wallet as a user.	2	Medium	2
Sprint-4	Expense update	USN-8	I can add wallet balance, add or remove expenses as a user.	3	High	3
Sprint-1	Expense update	USN-9	I can add Categories for expenses.	2	High	2
Sprint-2	Graphical Representation	USN-10	I can get my expenses in a graphical representation.	4	High	4
Sprint-3	improvisation	USN-11	Application is tested for improvisation and bugs to provide Quality of service to the user.	3	High	3
Sprint-4	Output	USN-12	I can protect my privacy as a user with the aid of a username and password.	3	High	4

6.2 Sprint Delivery Schedule

Project Tracker, Velocity & Burndown Chart: (4 Marks)

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

Velocity:

We have a 6-day sprint duration, and the velocity of the team is 20 (points per sprint).
Let's calculate the team's average velocity (AV) per iteration unit (story points per day):
AV = sprint duration / velocity = 20/6 = 3.33

6.3 Reports From JIRA

7 . Coding and Solutioning

7.1 Libraries to be installed (feature 1)

pip install fer
pip install
flask pip
installcv2
pip install
numpy pip
install keras
pip install
tensor flow pip
install cv zone
pip install pyttsx3
pip install scikit-image

7.2 Real time sign to speech(feature 2)

Sign language is generally used by the people who are unable to speak, for communication. Most people will not be able to understand the Universal Sign Language (unless they have learnt it) and due to this lack of knowledge about the language, it is very difficult for them to communicate with mute people. A device that helps to bridge a gap between mute persons and other people forms the crux of this project. Our system makes use of a model build using CNN that is capable of detection sign languages real time.

7.3 Facial Emotion Detection

Our system makes use of the FER model. Facial Emotion Recognition (commonly known as FER) is one of the most researched fields of computer vision till date and is still in continuous evaluation and improvement. The model is a convolutional neural network with weights saved to HDF5 file in the data folder relative to the module's path. It can be overridden by injecting

it into the FER() constructor during instantiation with the emotion model parameter.

Language Customization

Google Translate is a free multilingual machine translation service. It can translate the Website's text content from one language to another. It offers a huge list of languages to translate and has an efficient, reliable and easy wayto translate the webpage in whatever language the user wants. It supports over100 languages. Use this website translator to convert webpages into your choice of language.

8. Testing

8.1 Test Cases

- Verify if user can see the options when user clicks the URL

- Verify if the UI elements are getting displayed properly

- Verify if the user can choose any languages

- Verify if the user is getting redirected to the sign to speech page

- Verify if the application can convert the sign to speech

- Verify if the user can exit the sign to speech page

- Verify if the user is getting redirected to the speech to sign page

- Verify if the UI elements are being displayed

- Verify if the application can convert speech to text on clicking voice to text button.

- Verify if the user can exit the spee ch to sign page.

8.2 UAT Testing

Defect Analysis

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	11	7	4	2	24
Duplicate	1	0	2	0	3
External	2	3	2	1	8
Fixed	10	5	3	14	32
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	1	0	0	0	1
Totals	25	15	13	18	71

10.Advantages and DisadvantagesAdvantages:

One of the major pros of tracking spending is always being aware of the state of one's personal finances. Tracking what you spend can help you stick to your budget, not just in a general way, but in each category such as housing, food, transportation and gifts. While a con is that manually tracking all cash that is spent can be irritating as well as time consuming, a pro is that doing this automatically can be quick and simple.

Disadvantages:

A con with any system used to track spending is that one may start doing it then taper off until it's forgotten about all together. Yet, this is a risk for any new goal such as trying to lose weight or quit smoking. If a person first makes a budget plan, then places money in savings before spending any each new pay period or month, the tracking goal can help. In this way, tracking spending and making sure all receipts are accounted for only needs to be done once or twice a month.

11. Conclusion

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. A part of further research, considered adding certain features to create more enhanced experience to the user. And also going to link this profile with their mobile number, email account, social networks so that the application offers portability, other features to be added are discussed above below within the future enhancement section. The application delivered efficiently in calculating split expenses and recording the expenses together accurately with date and time.

12. Future Scope

The Future Enhancements of the application can be allowed to support in all the upcoming android versions [9]. History can be set to view all the details in the app even if the particular data is deleted from the database. Statistics could be prepared based on the Income, Expense details of the user. Sharing files via Bluetooth, WhatsApp can be allowed. Printing the details of the particular income or expense details can be made. Some of the extra components are like enabling users to register to the application using existing email or social network account, it will synchronize the users profile data to the application

13 APPENDIX

GITHUB LINK

https://github.com/IBM-EPBL/IBM-Project-26692-1660033657