1.1 IDEATION PHASE

1.1 Literature Survey on the Selected Project & Information Gathering

Expense tracker is an android based application. This application allows the user to maintain a computerized diary. Expense tracker application which will keep a track of Expenses of a user on a day-to-day basis. This application keeps a record of your expenses and also will give you a category wise distribution of your expenses. With the help of this application user can track their daily/weekly/monthly expenses. This application will also have a feature which will help you stay on budget because you know your expenses. Expense tracker application will generate report at the end of month to show Expense via a graphical representation. We also have added a special feature which will distributes your expenses in different categories suitable for the user. An expense history will also be provided in application.
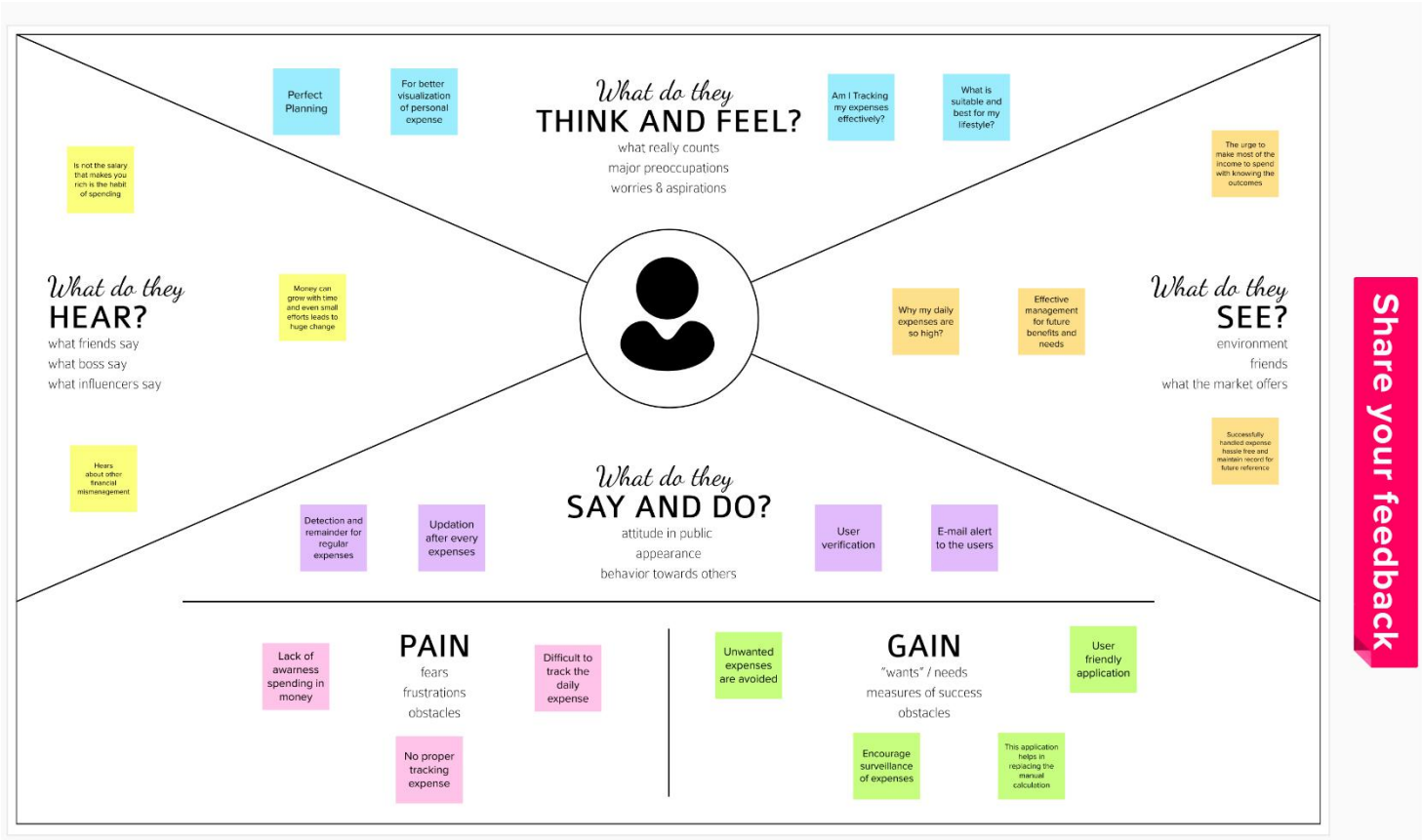
Now a day's people are concerned about regularity of their daily expenses. This is done mainly for keep a track of the users' daily expenses to have a control of users' monthly expenses. We have developed an android application named as "Expense Tracker Application" and this application is used to manage the user's daily expenses in a more coherent and manageable way. This application will help us to reduce the manual calculations for their daily expenses and also keep the track of the expenses. With the help of this application, user can calculate his total expenses per day and these results will stored for unique user. As the traditional methods of budgeting, we need to maintain the Excel sheets, Word Documents, notes, and files for the user daily and monthly expenses. There is no as such full-fledged solution to keep a track of our daily expenses easily. Keeping a log in diary is a very monotonous process and also may sometimes lead into problems due to the manual calculations.

Monitoring your everyday expenses can set aside you cash, yet it can likewise help you set your monetary objectives for what's to come. On the off chance that you know precisely where your sum is going much of a stretch see where a few reductions and bargains can be made. Expense Tracker project is for keeping our day-to-day expenditures will helps us to keep record of our money daily. The project what we have created is work more proficient than the other income and expense tracker. The project effectively keeps away from the manual figuring for trying not to ascertain the pay and cost each month.

Mobile applications are top in user convenience and have over passed the web applications in terms of popularity and usability. There are various mobile applications that provide solutions to manage personal and group expense but not many of them provide a comprehensive view of both cases. In this paper, we develop a mobile application developed for the android platform that keeps record of user personal expenses, his/her contribution in group expenditures, top investment options, view of the current stock market, read authenticated financial news and grab the best ongoing offers in the market in popular categories. The proposed application would eliminate messy sticky notes, spreadsheets confusion and data handling inconsistency problems while offering the best overview of your expenses. With our application can manage their expenses and decide on their budget more effectively.

Tracking your expenses daily can not only save your amount, but it can also assist you set financial goals for the longer term. If you know exactly where your amount goes every month, you will easily see where some cutbacks and compromises can be made. The project that we have developed is more efficient than the other income and expense trackers. The project successfully avoids the manual calculation which is performed usually in the absence of an expense tracker. The modules are developed efficiently and also in an attractive manner. The application will 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 and they will be better at managing the expenses.

1.2 Prepare Empathy Map

The empathy map contains the following:

THINK AND FEEL?
what really counts
major preoccupations
worries & aspirations

- Perfect Planning
- For better visualization of personal expense
- Am I Tracking my expenses effectively?
- What is suitable and best for my lifestyle?
- The urge to make most of the income to spend with knowing the outcomes
- Is not the salary that makes you rich is the habit of spending

HEAR?
what friends say
what boss say
what influencers say

- Money can grow with time and even small efforts leads to huge change
- Hears about other financial mismanagement

SEE?
environment
friends
what the market offers

- Why my daily expenses are so high?
- Effective management for future benefits and needs
- Successfully handled expense hassle free and maintain record for future reference

SAY AND DO?
attitude in public appearance
behavior towards others

- Detection and remainder for regular expenses
- Updation after every expenses
- User verification
- E-mail alert to the users

PAIN
fears
frustrations
obstacles

- Lack of awareness spending in money
- Difficult to track the daily expense
- No proper tracking expense

GAIN
"wants" / needs
measures of success
obstacles

- Unwanted expenses are avoided
- User friendly application
- Encourage surveillance of expenses
- This application helps in replacing the manual calculation

Share your feedback

1.3 Ideation

2. Project Design Phase – I

2.1 Proposed Solution

S. No	Parameter	Description
1	Problem Statement (Problem to be solved)	The problem to be solved is that people find it hard to keep track of the monthly expenses and also to prevent compulsive spending.
2	Idea / Solution description	Personal expense tracker application allows the user to add the income and expenses. Accordingly, the expense wallet gets updated. An analysis of the expenditure in graphical form could be obtained. The user also gets notified if the monthly limit for the budget is exceeded.
3	Novelty / Uniqueness	The personal expense tracker application helps the user not only in budgeting and accounting; it also provides the insights about money management through the analysis. The user also gets notified if the monthly limit is exceeded.
4	Social Impact / Customer Satisfaction	The application allows the user to budget, account and get insights on money management. So the users get satisfied with efficient planning.
5	Business Model (Revenue Model)	The application can have free and premium version where the user can upgrade to premium version to access additional features. Also, the premium version may be advertisement free.
6	Scalability of the Solution	This application is not only applicable for personal use but also can be extended to business organisations.

2.2 Problem Solution Fit

Problem-Solution fit canvas 2.0 — **PERSONAL EXPENSE TRACKER – TEAM ID (PNT2022TMID47667)**

1. CUSTOMER SEGMENT `CS`

The person who is busy and couldn't manage their expenses regularly and we will keep track of the expenses regularly and will notify them.

6. CUSTOMER CONSTRAINT `CC`

Taking high expenses, requires constant devices network connection to sync acdevices.

5. AVAILABLE SOLUTIONS `AS`

The application can be extended to include scanning of barcods on the price tag which decrease the effort of entering the data in the input fields.

A notification system can be enabled incase when the expenses cross over the Income generated by the user to warn him or her about the situation.

2. JOBS-TO-BE-DONE / PROBLEMS `J&P`

Personal finance application will ask user 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.

9. PROBLEM ROOT CAUSE `RC`

People think that their bank details might have sold to an unauthorised person. People think that their personal details might have sold.

Customer have to do it because of the change in the regulations
i.e. customers have to do it because of the change in regulations.

7. BEHAVIOUR `BE`

The customer believes more in manual tracking of their expenditure rather than virtual tracking applications.

The customer will exhibit this behaviour until an authenticated application serves it's purpose rightly.

3. TRIGGERS `TR`

The customer is triggered by their surrounding talking about the approach of tracking the expenses

4. EMOTIONS: BEFORE / AFTER `EM`

BEFORE:
Fear at spending lot of money and couldn't manage their expenses.

AFTER:
They can manage their expense regularly.

10. YOUR SOLUTION `SL`

The proposed system makes a attempt to track the user expenses daily and if their expenses exceeds the fixed budget we will notify them through mail and user will get an analysed report.

If the user spends large amount of money in a particular area continuously, we will notify them to reduce the spending in that particular area

8. CHANNELS of BEHAVIOUR `CH`

8.1 Online: Customer will take action as evaluate their expenses and can track it in online. The customer will exhibit this behaviour until an authenticated application serves it's purpose rightly.

8.2 Offline: Maintain a separate diary, note the expenses at the moment and calculate the daily expenses at the end of the day


2.3 Solution Architecture

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to: Find the best tech solution to solve existing business problems.

Describe the structure, characteristics, behaviour, and other aspects of the software to project stakeholders.
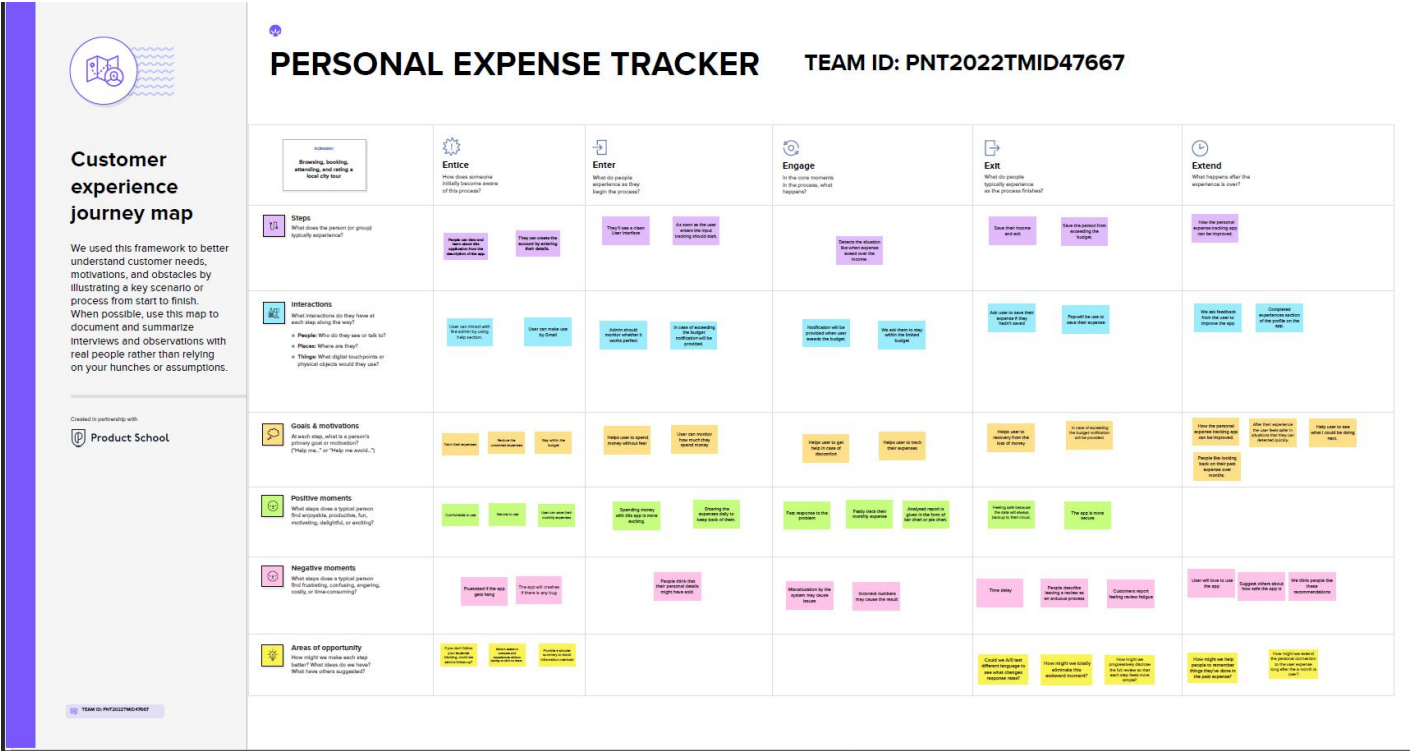
Define features, development phases, and solution requirements.

Provide specifications according to which the solution is defined, managed, and delivered.
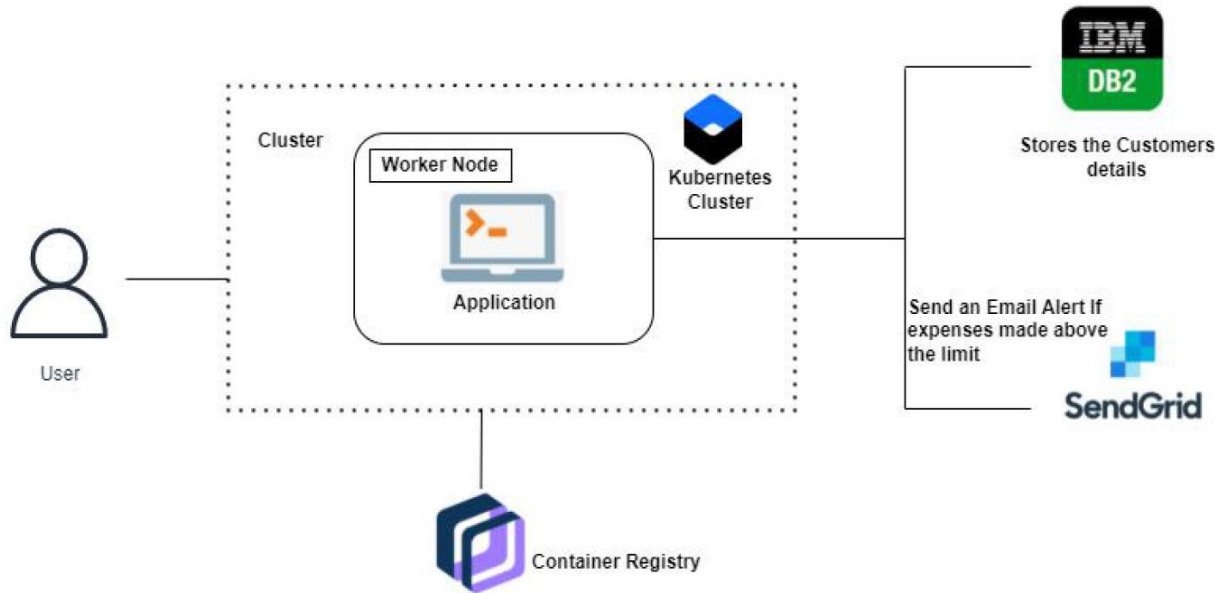
3. Project Design Phase – II

3.1 Customer Journey Map

3.2 Data Flow Diagrams and User Stories

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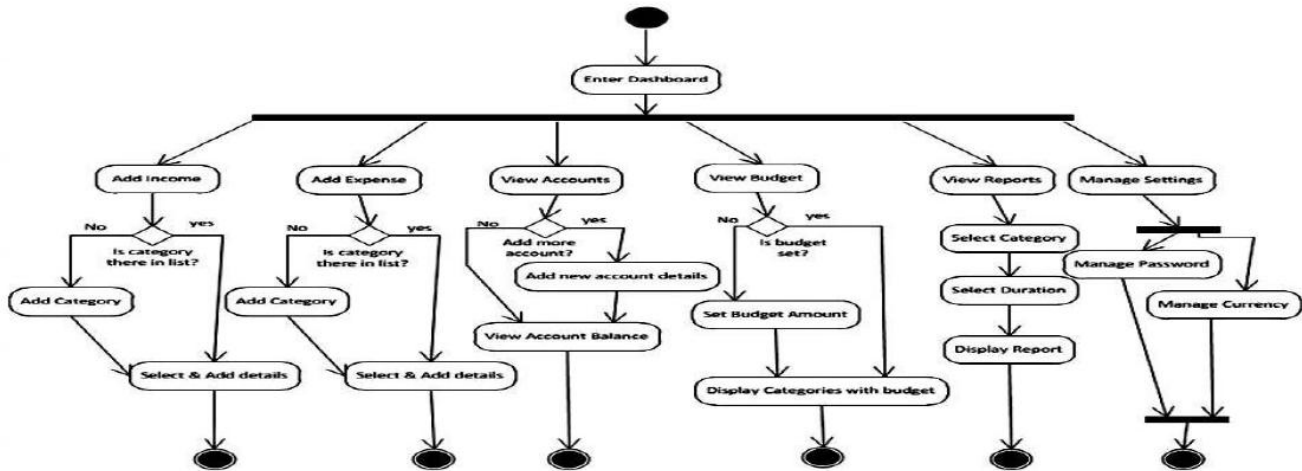
User Stories

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

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance 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	Sprint-1
		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	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	The mail id and password should be the same.	High	Sprint-1
	Dashboard	USN-6	As a user I can enter my income and expenditure details	I can view my daily expenses.	High	
Customer		USN-7	As a customer executive, I	I can provide support or	High	

Care Executive			can solve the log in issue and other issues of the application	solution at any time.		
Administrator		USN-8	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	

3.3 Solution Requirements

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through Linked IN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Access / Login	Login through email id & password
FR-4	User Data	Adding user expenses through input field & categories.
FR-5	User Alert	Alerting through their email id.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Capture and organize your payment receipts to keep track of your expenditure Monitoring the income and tracking all expenditures
NFR-2	Security	Increase your team productivity by providing access control to particular users through custom permissions.
NFR-3	Reliability	Increase efficiency and customer satisfaction with an app aligned to their needs. Seamlessly integrate with existing infrastructure
NFR-4	Performance	Deliver an outstanding customer experience through additional control over the app.
NFR-5	Availability	Website, Android App.
NFR-6	Scalability	Available anytime at anywhere. It have an ability of computing process to be used in the range of capabilities.

3.4 Technology Stack

Technical Architecture

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2
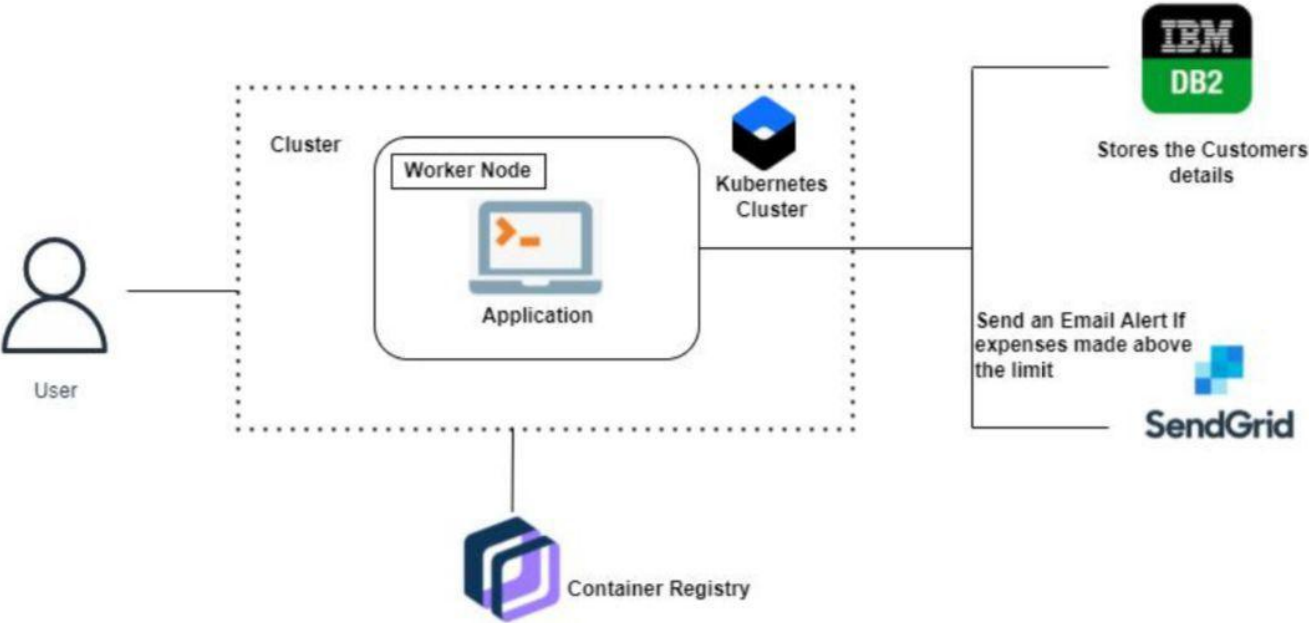
4. Project Planning Phase

3.	Project Design	Proposed Solution	19 Sept 2022– 23 Sept 2022

S.No	Milestones	Activities	Date
1.	Preparation Phase	Pre-requisites	24 Aug 2022
		Prior Knowledge	25 Aug 2022
		Project Structure	23 Aug 2022
		Project Flow	23 Aug 2022
		Project Objectives	22 Aug 2022
		Registrations	26 Aug 2022
		Environment Set-up	27 Aug 2022
2.	Ideation Phase	Literature Survey	29 Aug 2022 - 03 Sept 2022
		Empathy Map	05 Sept 2022 - 07 Sept 2022
		Problem Statement	08 Sept 2022 - 10 Sept 2022
		Ideation	12 Sept 2022 - 16 Sept
		Problem Solution Fit	24 Sept 2022– 26 Sept 2022
		Solution Architecture	27 Sept 2022– 30 Sept 2022

	Phase - 1		
4.	Project Design Phase - 2	Customer Journey Map	03 Oct 2022 – 08 Oct 2022
		Requirement Analysis	09 Oct 2022 – 11 Oct 2022
		Data Flow Diagrams	11 Oct 2022 – 14 Oct 2022
		Technology Architecture	15 Oct 2022 - 16 Oct 2022
5.	Project Planning Phase	Milestones & Tasks	17 Oct 2022 – 18 Oct 2022
		Sprint Schedules	19 Oct 2022 – 22 Oct 2022
6.	Project Development Phase	Sprint - 1	26 Oct 2022 –31 Oct 2022