Personal Expense Tracker Application

Project Report

Team ID	PNT2022TMID04980
Project Name	Project – Personal Expense Tracker Application
Team Members	**KARTHICKNAVEEN** **KISHORE NISHANTH** **MOHAMED AFRITH** **KABILAN**

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1. INTRODUCTION

1.1 Project overview

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. With our application can manage their expenses and decide on their budget more effectively.

1.2 Purpose

It also known as expense manager and money manager, an expense tracker is a software or application that 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 sufficient money to meet their needs.

2. LITERATURE SURVEY

2.1 Existing Problem

The problem of current generation population is that they can't remember where all of the money they earned have gone and ultimately have to live while sustaining the little money they have left for their essential needs. In this time there is no such perfect solution which helps a person to track their daily expenditure easily and efficiently and notify them about the money shortage they have. For doing so have to maintain long ledgers or computer logs to maintain such data and the calculation is done manually by the user, which may generate error leading to losses.

Not having a complete tracking.

2.2 Reference

- https://nevonprojects.com/daily-expense-tracker-system/
- https://data-flair.training/blogs/expense-tracker-python/
- https://phpgurukul.com/daily-expense-tracker-using-php-and-mysql/
- https://ijarsct.co.in/Paper391.pdf
- https://kandi.openweaver.com/?landingpage=python_all_projects&utm_source=google&utm_medium=cpc&utm_campaign=promo_kandi_ie&utm_content=kandi_ie_search&utm_term=python_devs&gclid=Cj0KCQiAgribBhDkARIsAASA5bukrZgbI9UZxzpoyf0PofB1mZNxzcokUP-3TchpYMclHTYFYiqP8aAmmwEALw_wcB

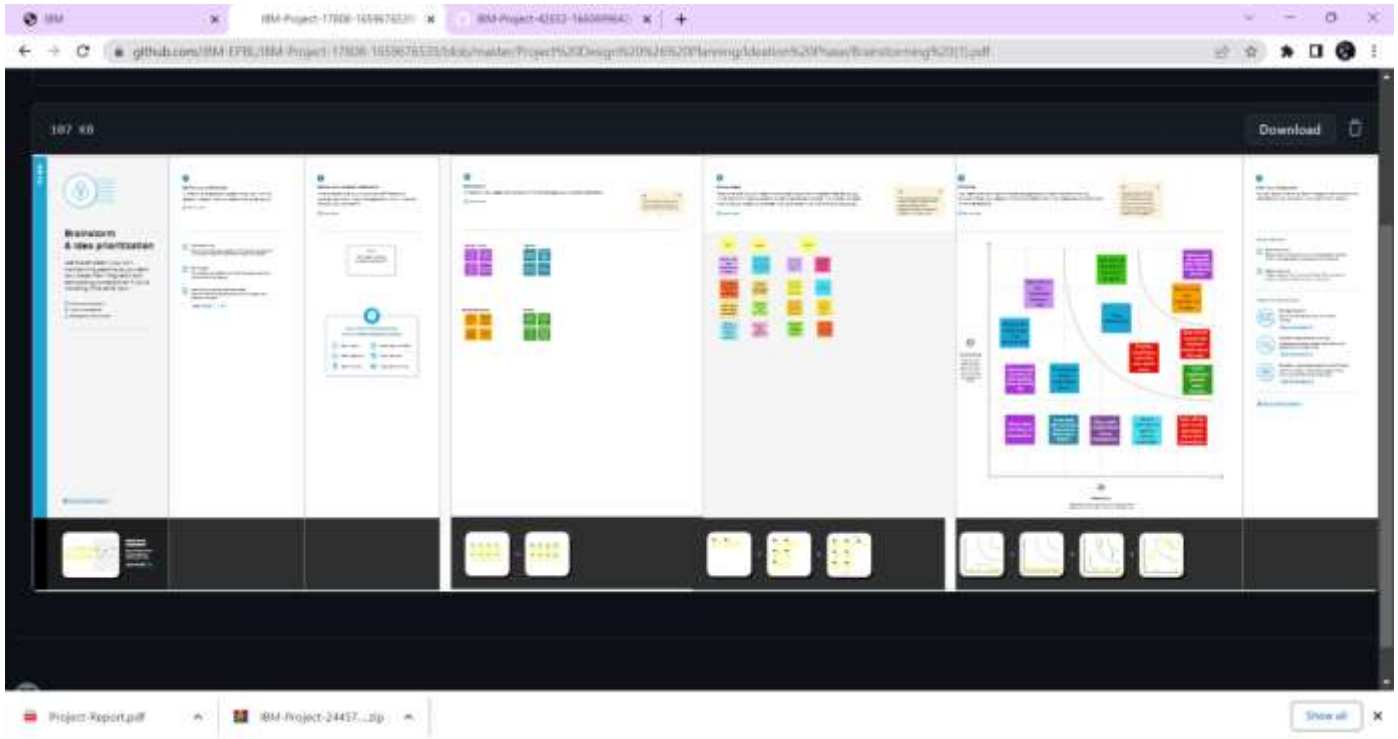
2.3 Problem Statement Definition

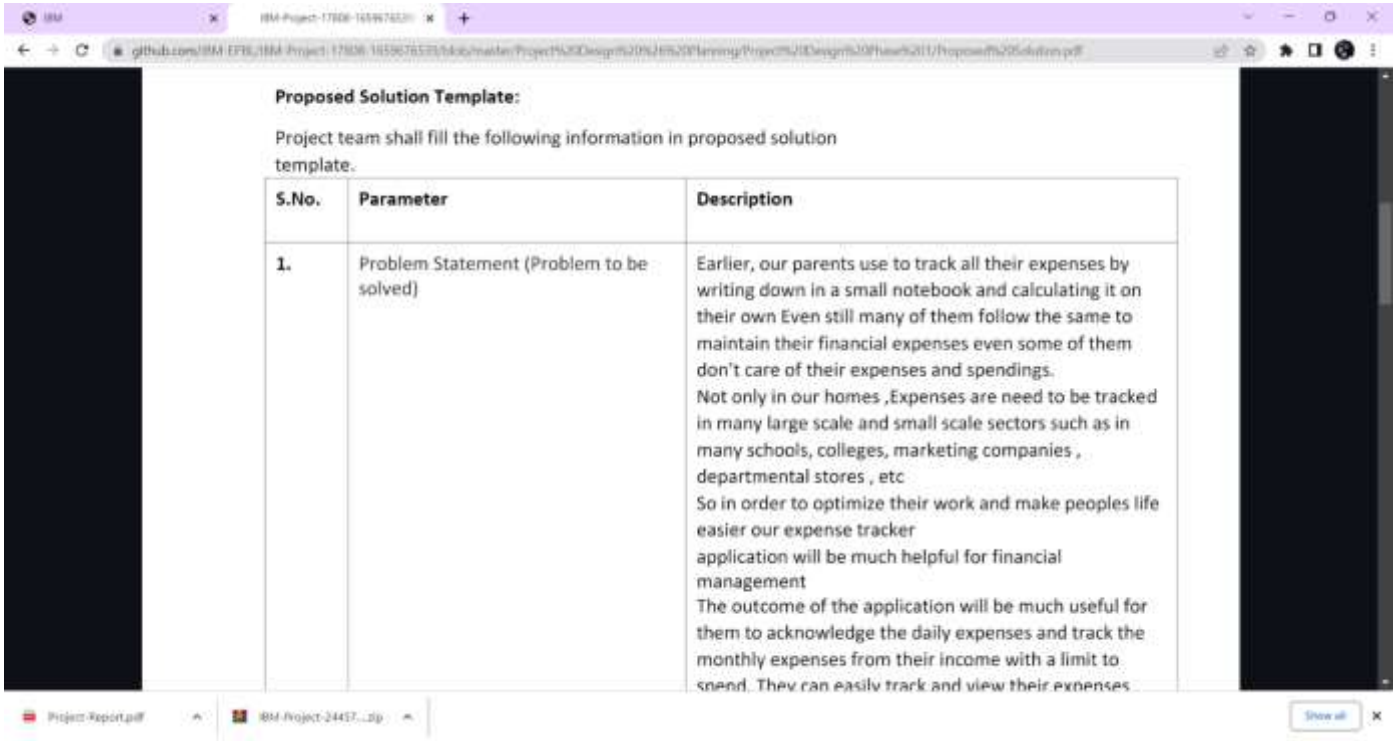
This Expense Tracker is a web application that facilitates the users to keep track and manage their personal as well as business expenses. This application helps the users to keep a digital diary. It will keep track of a user's income and expenses on a daily basis. The user will be able to add his/her expenditures instantly and can review them anywhere and anytime with the help of the internet. He/she can easily import transactions from his/her mobile wallets without risking his/her information and efficiently protecting his/her privacy. This expense tracker provides a complete digital solution to this problem. Excel sheets do very little to help in tracking Furthermore, they don't have the advanced functionality of preparing graphical visuals automatically. Not only it will save the time of the people but also it will assure error free calculations. The user just has to enter the income and expenditures and everything else will be performed by the system. Keywords: Expense Tracker, budget, planning, savings, graphical visualization of expenditure.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map canvas

3.2Ideation & Brainstorming



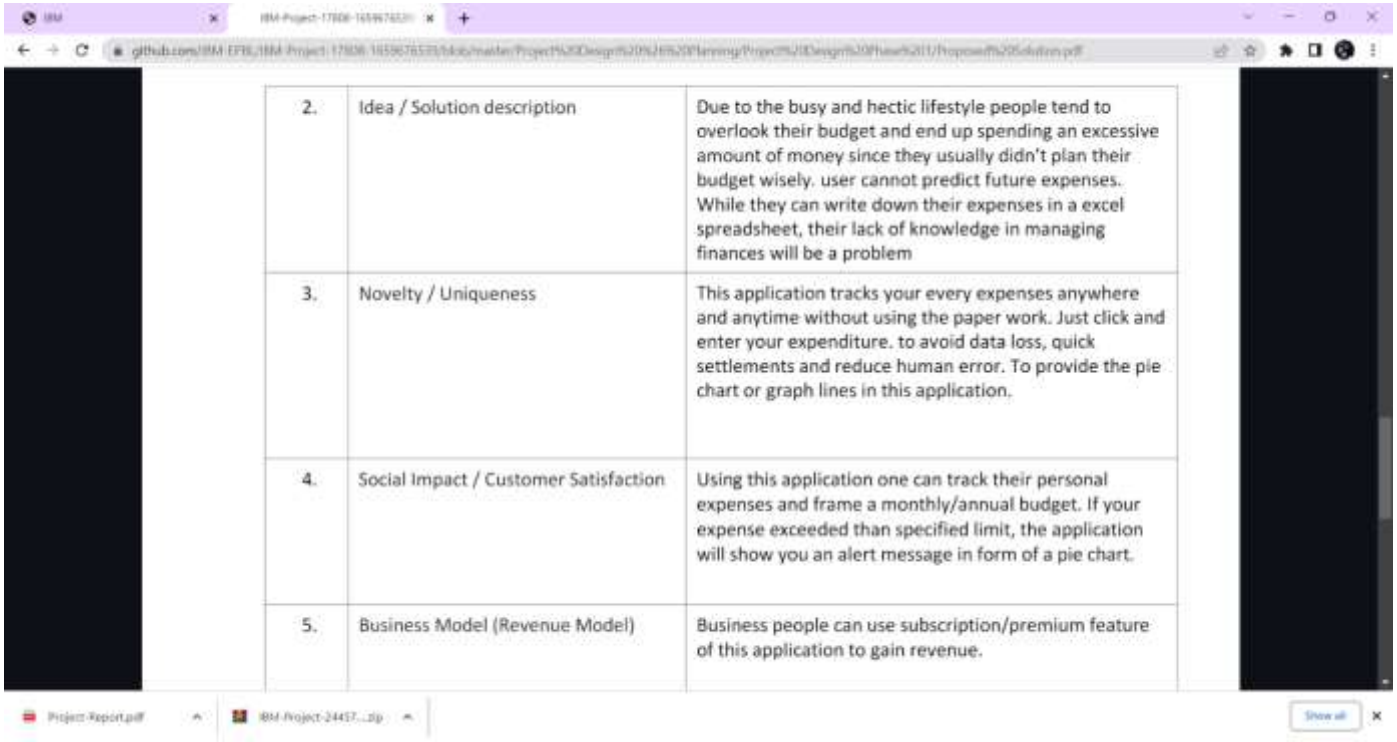


Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Earlier, our parents use to track all their expenses by writing down in a small notebook and calculating it on their own Even still many of them follow the same to maintain their financial expenses even some of them don't care of their expenses and spendings. Not only in our homes ,Expenses are need to be tracked in many large scale and small scale sectors such as in many schools, colleges, marketing companies , departmental stores , etc So in order to optimize their work and make peoples life easier our expense tracker application will be much helpful for financial management The outcome of the application will be much useful for them to acknowledge the daily expenses and track the monthly expenses from their income with a limit to

Proposed Solution



2.	Idea / Solution description	Due to the busy and hectic lifestyle people tend to overlook their budget and end up spending an excessive amount of money since they usually didn't plan their budget wisely. user cannot predict future expenses. While they can write down their expenses in a excel spreadsheet, their lack of knowledge in managing finances will be a problem
3.	Novelty / Uniqueness	This application tracks your every expenses anywhere and anytime without using the paper work. Just click and enter your expenditure. to avoid data loss, quick settlements and reduce human error. To provide the pie chart or graph lines in this application.
4.	Social Impact / Customer Satisfaction	Using this application one can track their personal expenses and frame a monthly/annual budget. If your expense exceeded than specified limit, the application will show you an alert message in form of a pie chart.
5.	Business Model (Revenue Model)	Business people can use subscription/premium feature of this application to gain revenue.

3.4Proposed Solution Fit

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)

- Working Individuals
- Students
- Budget conscious consumers

6. CUSTOMER CONSTRAINTS

- Internet Access
- Device (Smartphone) to access the application
- Data Privacy
- Cost of existing applications
- Trust

5. AVAILABLE SOLUTIONS

- Expense Diary or Excel sheet

PROS : Have to make a note daily which helps to be constantly aware

CONS : Inconvenient, takes a lot of time

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

2. JOBS-TO-BE-DONE / PROBLEMS

- To keep track of money lent or borrowed
- To keep track of daily transactions
- Alert when a threshold limit is reached

9. PROBLEM ROOT CAUSE

- Reckless spendings
- Indecisive about the finances
- Procrastination
- Difficult to maintain a note of daily spendings (Traditional methods like diary)

7. BEHAVIOUR

- Make a note of the expenses on a regular basis.
- Completely reduce spendings or spend all of the savings
- Make use of online tools to interpret monthly expense patterns

Identify strong TR & EM

3. TRIGGERS

- Excessive spending
- No money in case of emergency

4. EMOTIONS

BEFORE	AFTER
• Anxious	• Confident
• Confused	• Composed
• Fear	• Calm

10. YOUR SOLUTION

Creating an application to manage the expenses of an individual in an efficient and manageable manner, as compared to traditional methods

8. CHANNELS OF BEHAVIOUR

ONLINE

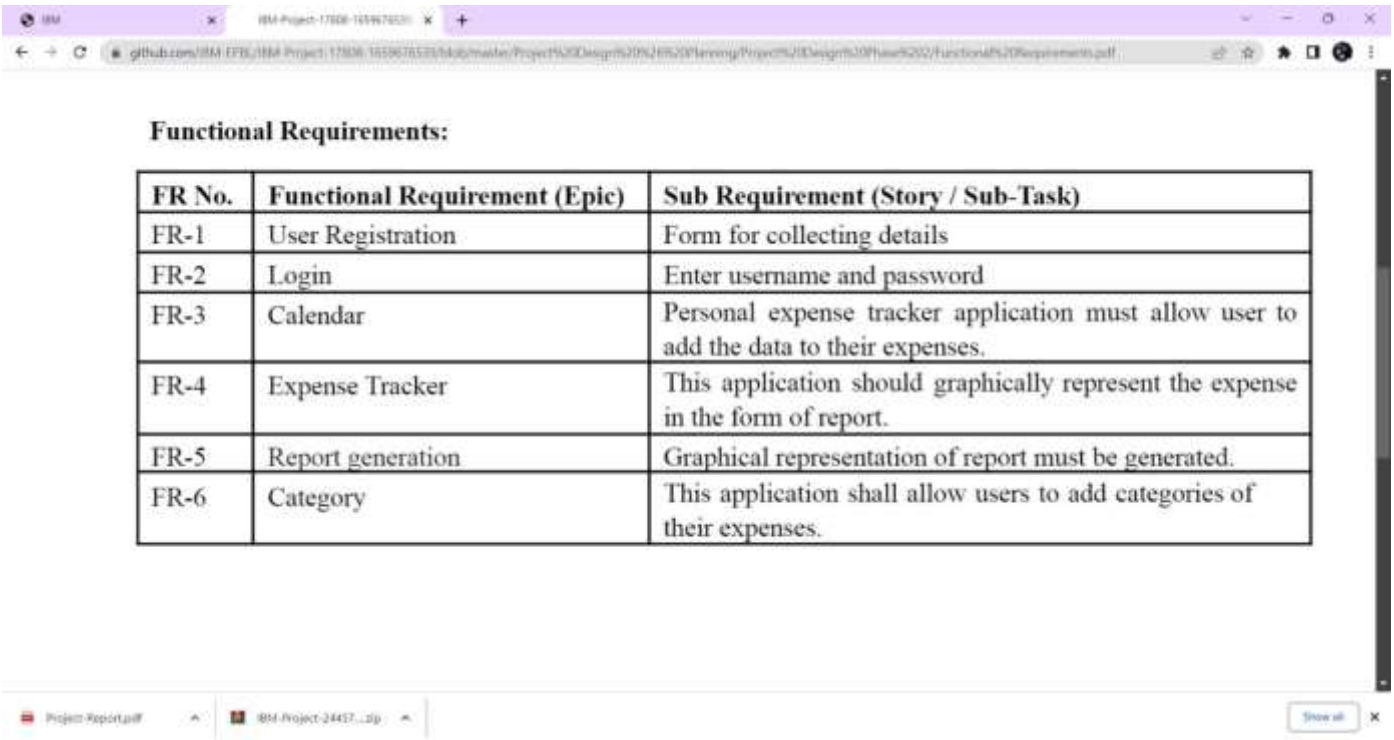
Maintain excel sheets and use visualizing tools

OFFLINE

Maintain an expense diary

4. REQUIREMENT ANALYSIS

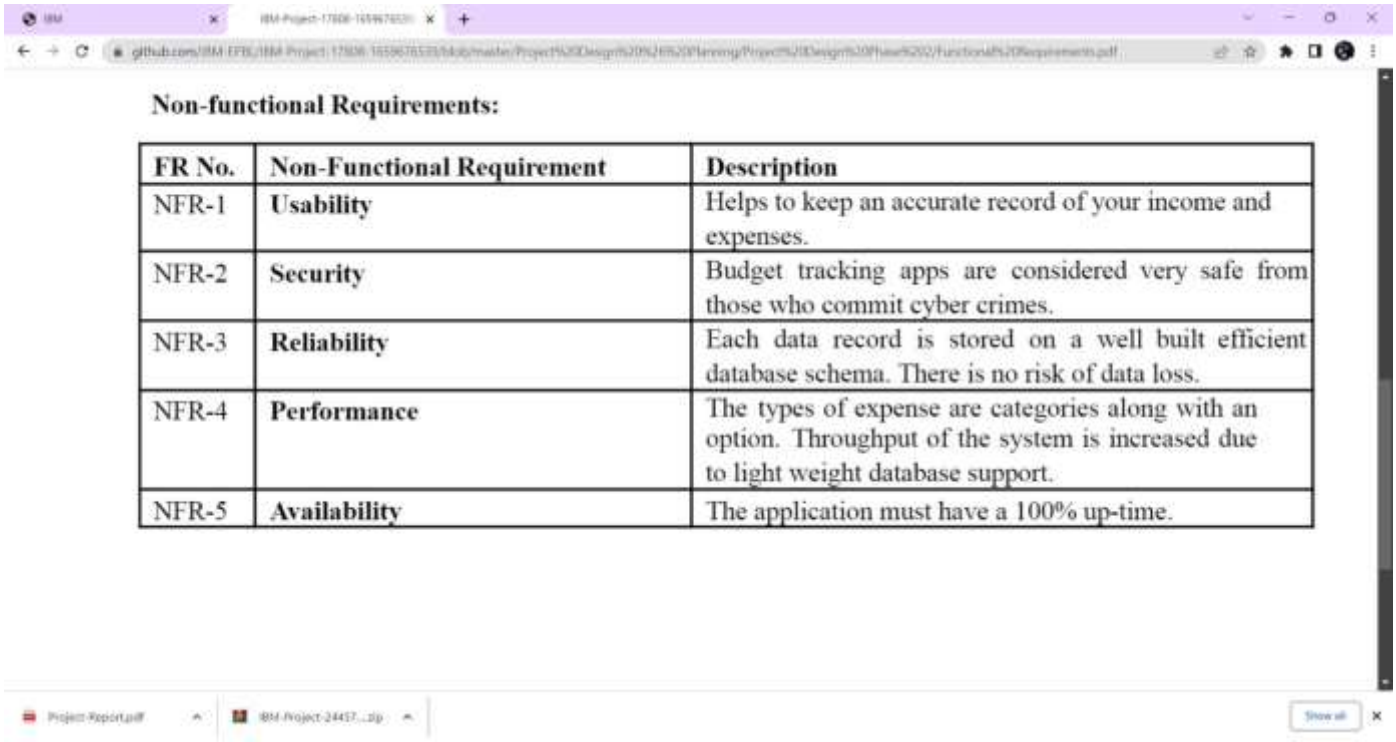
4.1 Functional requirement



Functional Requirements:

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

4.2 Non-Functional requirement



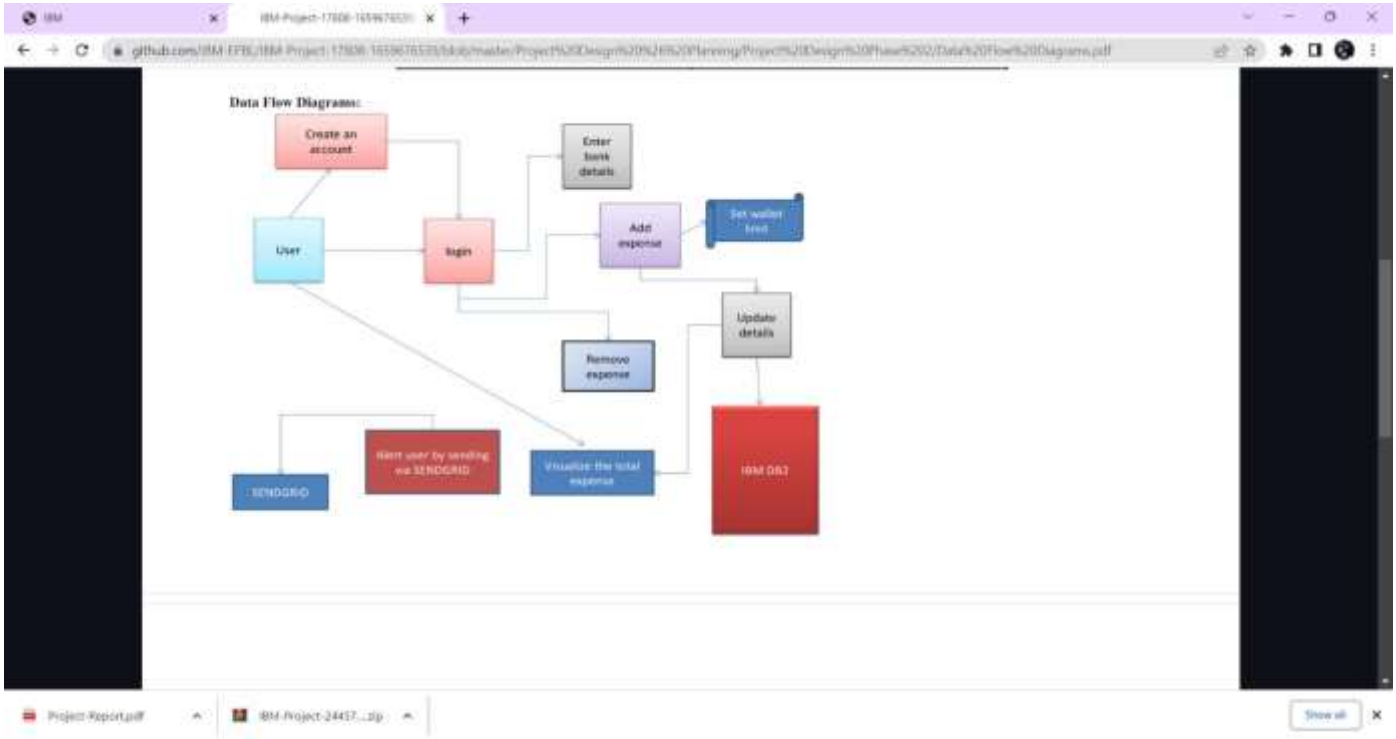
Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Helps to keep an accurate record of your income and expenses.
NFR-2	**Security**	Budget tracking apps are considered very safe from those who commit cyber crimes.
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. Throughput of the system is increased due to light weight database support.
NFR-5	**Availability**	The application must have a 100% up-time.

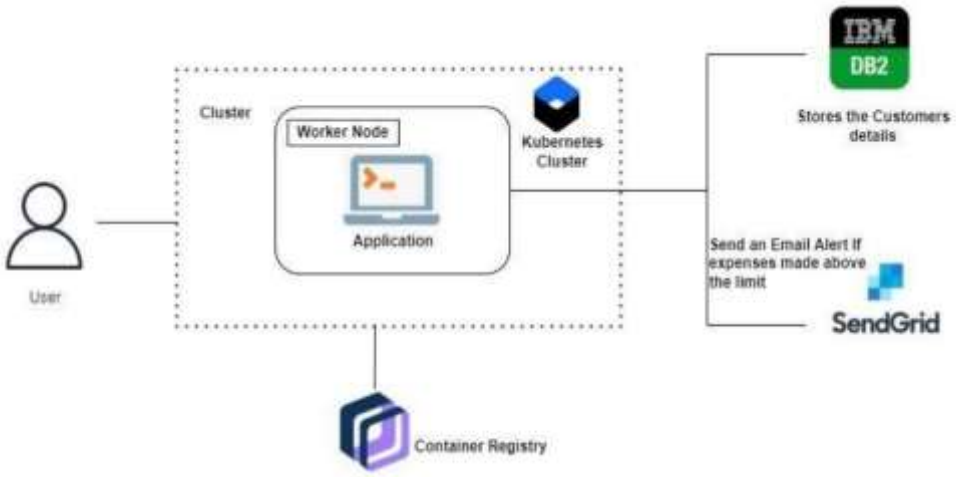
5. PROJECT DESIGN

5.1 Data Flow Diagrams

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



5.2 Solution & Technical Architecture



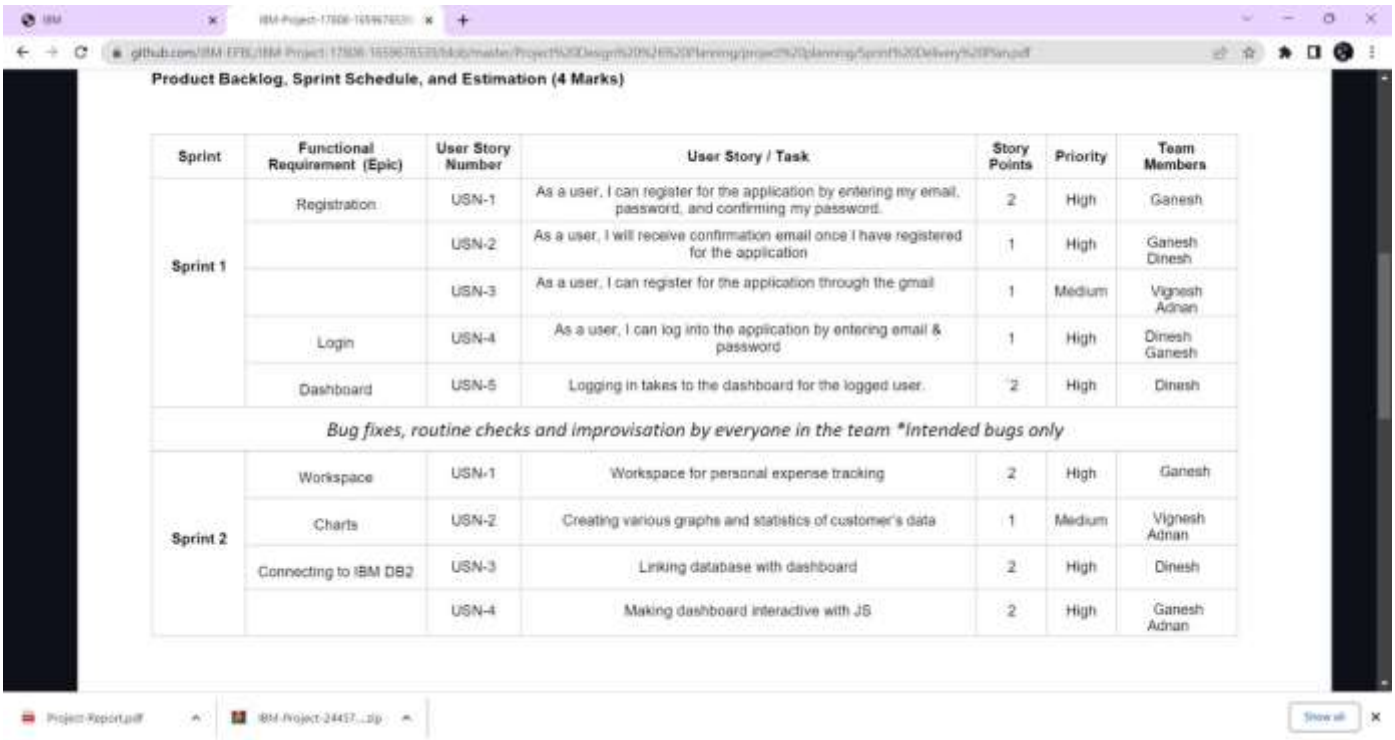
5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release

Customer (Mobile user & web user)	Registration	USN-1	As a user, I can register for the application by entering my email, and password, and confirming my password.	I can access my account/dash board	High	Sprint-1
		USN-2	As a user, I will receive a confirmation email once I have registered for the application	I can receive a 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 a Google account.	I can register & access the dashboard with a Google Account login.	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering my email & password	I can access the applicati on.	High	Sprint-1
	Dashboard	USN-6	As a user, I can see the expenditure details and the daily expense.	I can view the daily expenses and add the expense details.	High	Sprint-1
Customer Care Executive		USN-7	As a customer care executive, I can solve the problem that customers face.	I can provide support to customers at any time 24*7.	Medium	Sprint-1
Administrator	Application	USN-8	As an administrator, I can upgrade or update the application.	I can fix any bugs raised by customers and upgrade the application.	Medium	Sprint-1

6.PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation



Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint 1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	Ganesh
		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	Ganesh Dinesh
		USN-3	As a user, I can register for the application through the gmail	1	Medium	Vignesh Adnan
	Login	USN-4	As a user, I can log into the application by entering email & password	1	High	Dinesh Ganesh
	Dashboard	USN-5	Logging in takes to the dashboard for the logged user.	2	High	Dinesh
*Bug fixes, routine checks and improvisation by everyone in the team *Intended bugs only*						
Sprint 2	Workspace	USN-1	Workspace for personal expense tracking	2	High	Ganesh
	Charts	USN-2	Creating various graphs and statistics of customer's data	1	Medium	Vignesh Adnan
	Connecting to IBM DB2	USN-3	Linking database with dashboard	2	High	Dinesh
		USN-4	Making dashboard interactive with JS	2	High	Ganesh Adnan

Sprint-3		USN-1	Wrapping up the server side works of frontend	1	Medium	Vignesh Adnan
	Watson Assistant	USN-2	Creating Chatbot for expense tracking and for clarifying user's query	1	Medium	Ganesh Adnan
	SendGrid	USN-3	Using SendGrid to send mail to the user about their expenses	1	Low	Dinesh
		USN-4	Integrating both frontend and backend	2	High	Vignesh Adnan
*Bug fixes, routine checks and improvisation by everyone in the team *Intended bugs only*						
Sprint-4	Docker	USN-1	Creating image of website using docker/	2	High	Dinesh Adnan
	Cloud Registry	USN-2	Uploading docker image to IBM Cloud registry	2	High	Dinesh
	Kubernetes	USN-3	Create container using the docker image and hosting the site	2	High	Ganesh Adnan
	Exposing	USN-4	Exposing IP/Ports for the site	2	High	Vignesh

6.2Sprint 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	26 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	02 Nov 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	09 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	16 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). Calculating the team's average velocity (AV).

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{6} = 3.33$$

7. Coding and Solutioning:

7.1 Features

Feature 1: Add Expense

Feature 2: Update Expense

Feature 3: Delete Expense

Feature 4: Set Limit

Feature 5: Send Alert Emails to users

7.2 Other Features

Track your expenses anywhere, anytime. Seamlessly manage your money and budget without any financial paperwork. Just click and submit your invoices and expenditures. Access, submit, and approve invoices irrespective of time and location. Avoid data loss by scanning your tickets and bills and saving in the app. Approval of bills and expenditures in real-time and get notified instantly. Quick settlement of claims and reduced human errors with an automated and streamlined billing process.

Code

```
import os
import re
import expenze_categories
```

```
from flask import request, session
from flask_session import Session
from sqlalchemy import create_engine
from sqlalchemy.orm import scoped_session, sessionmaker
from datetime import datetime
from helpers import convertSQLToDict

# Create engine object to manage connections to DB, and
scoped session to separate user interactions with DB
engine = create_engine(os.getenv("DATABASE_URL"))
db = scoped_session(sessionmaker(bind=engine))


# Get the users budgets
def getBudgets(userID):
results = db.execute(
"SELECT id, name, year, amount FROM budgets WHERE
user_id = :usersID ORDER BY name ASC", {"usersID":
userID}).fetchall()

budgets_query = convertSQLToDict(results)

if budgets_query:
# Create a dict with budget year as key and empty list as
value which will store all budgets for that year
```

```
budgets = {budget['year']: [] for budget in
budgets_query}

# Update the dict by inserting budget info as values
for budget in budgets_query:
budgets[budget['year']].append(
{'amount': budget['amount'], 'id': budget['id'],
'name': budget['name']})

return budgets
else:
return None


# Get a users budget by the budget ID
def getBudgetByID(budgetID, userID):
results = db.execute(
"SELECT name, amount, year, id FROM budgets WHERE
user_id = :usersID AND id = :budgetID", {"usersID": userID,
"budgetID": budgetID}).fetchall()

budget = convertSQLToDict(results)

return budget[0]
```

```
# Get total amount budgeted by year
def getTotalBudgetedByYear(userID, year=None):

# Default to getting current years budgets
if not year:
year = datetime.now().year

amount = db.execute(
"SELECT SUM(amount) AS amount FROM budgets
WHERE user_id = :usersID AND year = :year", {"usersID":
userID, "year": year}).fetchone()[0]

if amount is None:
return 0
else:
return amount


# Generates a budget data structure from the users input
when submitting a new or updated budget
def generateBudgetFromForm(formData):
budget = {"name": None, "year": None, "amount": None,
"categories": []}
counter = 0
```

```
    # Loop through all of the form data to extract budgets
    details and store in the budget dict
    for key, value in formData:
    counter += 1
    # First 3 keys represent the name/year/amount from the
 form, all other keys represent dynamically loaded categories
    from the form
    if counter <= 3:
    # Check name for invalid chars and uniqueness
    if key == "name":
    # Invalid chars are all special chars except
underscores, spaces, and hyphens (uses same regex as what's
    on the HTML page)
    validBudgetName = re.search("^([a-zA-Z0-9_\s\-
    ]*)$", value)
    if validBudgetName:
    budget[key] = value.strip()
    else:
    return {"apology": "Please enter a budget name
   without special characters except underscores, spaces, and
    hyphens"}
    # Check if year is valid
    elif key == "year":
    budgetYear = int(value)
    currentYear = datetime.now().year
```

```
if 2020 <= budgetYear <= currentYear:
budget[key] = budgetYear
else:
return {"apology": f"Please select a valid budget
year: 2020 through {currentYear}"}
# Convert the amount from string to float
else:
amount = float(value.strip())
budget[key] = amount
# All other keys will provide the *category* name /
percent budgeted
else:
# Skip iteration if value is empty (empty means the
user doesnt want the category in their budget)
if value == '':
continue

# Need to split the key since the HTML elements are
loaded dynamically and named like 'categories.1',
'categories.2', etc.
cleanKey = key.split(".")

# Store the category name and associated % the user
wants budgetd for the category
category = {"name": None, "percent": None}
if cleanKey[0] == "categories":
```

```
    category["name"] = value.strip()

    # Get the percent value and convert to decimal
    percent = (int(formData[counter][1].strip()) / 100)
    category["percent"] = percent

    # Add the category to the list of categories within
    the dict
    budget[cleanKey[0]].append(category)
    # Pass on this field because we grab the percent
    above (Why? It's easier to keep these 2 lines than rewrite
    many lines. This is the lowest of low pri TODOs)
    elif cleanKey[0] == "categoryPercent":
    pass
    else:
    return {"apology": "Only categories and their
 percentage of the overall budget are allowed to be stored"}

    return budget


    # Create a new budget
# Note: due to DB design, this is a 2 step process: 1) create a
budget (name/year/amount) in budgets table, 2) create 1:M
    records in budgetCategories (budgetID + categoryID +
    percentAmount)
```

```
def createBudget(budget, userID):
# Verify the budget name is not a duplicate of an existing
budget
uniqueBudgetName =
isUniqueBudgetName(budget["name"], None, userID)
if not uniqueBudgetName:
return {"apology": "Please enter a unique budget name,
not a duplicate."}

# Insert new budget into DB
newBudgetID = db.execute("INSERT INTO budgets (name,
year, amount, user_id) VALUES (:budgetName, :budgetYear,
:budgetAmount, :usersID) RETURNING id",
{"budgetName": budget["name"],
"budgetYear": budget["year"], "budgetAmount":
budget["amount"], "usersID": userID}).fetchone()[0]
db.commit()

# Get category IDs from DB for the new budget
categoryIDS =
getBudgetCategoryIDS(budget["categories"], userID)

# Insert a record for each category in the new budget
addCategory(newBudgetID, categoryIDS)

return budget
```

```
    # When creating or updating a budget, add the spending
categories and % budgeted per category to a budgets record
    in the DB
    def addCategory(budgetID, categoryIDS):
    # Insert a record for each category in the new budget
    for categoryID in categoryIDS:
    db.execute("INSERT INTO budgetCategories
    (budgets_id, category_id, amount) VALUES (:budgetID,
    :categoryID, :percentAmount)",
    {"budgetID": budgetID, "categoryID":
categoryID["id"], "percentAmount": categoryID["amount"]})
    db.commit()


    # Update an existing budget
# Note: due to DB design, this is a 3 step process: 1) update a
  budget (name/year/amount) in budgets table, 2) delete the
    existing spending categories for the budget, 3) create 1:M
    records in budgetCategories (budgetID + categoryID +
    percentAmount)
    def updateBudget(oldBudgetName, budget, userID):
    # Query the DB for the budget ID
    oldBudgetID = getBudgetID(oldBudgetName, userID)
```

```
# Verify the budget name is not a duplicate of an existing
budget
uniqueBudgetName = isUniqueBudgetName(
budget["name"], oldBudgetID, userID)
if not uniqueBudgetName:
return {"apology": "Please enter a unique budget name,
not a duplicate."}

# Update the budget name, year, and amount in DB
db.execute("UPDATE budgets SET name = :budgetName,
year = :budgetYear, amount = :budgetAmount WHERE id =
:oldBudgetID AND user_id = :usersID",
{"budgetName": budget["name"], "budgetYear":
budget["year"], "budgetAmount": budget["amount"],
"oldBudgetID": oldBudgetID, "usersID": userID})
db.commit()

# Delete existing category records for the budget
db.execute("DELETE FROM budgetCategories WHERE
budgets_id = :oldBudgetID",
{"oldBudgetID": oldBudgetID})
db.commit()

# Get category IDs from DB for the new budget
categoryIDS =
getBudgetCategoryIDS(budget["categories"], userID)
```

```
# Insert a record for each category in the new budget
addCategory(oldBudgetID, categoryIDS)

return budget


# Get a budgets associated category ids
def getBudgetCategoryIDS(categories, userID):
# Get the category IDs from the DB for the updated
budget
categoryIDS = []
for category in categories:
# Get the category ID
categoryID = db.execute("SELECT categories.id FROM
userCategories INNER JOIN categories ON
userCategories.category_id = categories.id WHERE
userCategories.user_id = :usersID AND categories.name =
:categoryName",
{"usersID": userID, "categoryName":
category["name"]}).fetchone()[0]

# Store the category ID and associated percent amount
into a dict
id_amount = {"id": None, "amount": None}
id_amount["id"] = categoryID
```

```
id_amount["amount"] = category["percent"]

# Add the dictionary to the list of categoryIDs
categoryIDS.append(id_amount)

return categoryIDS


# Delete an existing budget
def deleteBudget(budgetName, userID):
# Query the DB for the budget ID
budgetID = getBudgetID(budgetName, userID)

if budgetID:
# Delete the records for budgetCategories
db.execute("DELETE FROM budgetCategories WHERE
budgets_id = :budgetID",
{"budgetID": budgetID})
db.commit()

# Delete the budget
db.execute("DELETE FROM budgets WHERE id =
:budgetID",
{"budgetID": budgetID})
db.commit()
```

```
return budgetName
else:
return None


# Get budget ID from DB
def getBudgetID(budgetName, userID):
# Query the DB for a budget ID based on the user and the
supplied budget name
budgetID = db.execute("SELECT id FROM budgets WHERE
user_id = :usersID AND name = :budgetName",
{"usersID": userID, "budgetName":
budgetName}).fetchone()[0]

if not budgetID:
return None
else:
return budgetID


# Get and return a bool based on whether or not a
new/updated budget name already exists for the user
def isUniqueBudgetName(budgetName, budgetID, userID):
if budgetID == None:
# Verify the net-new created budget name is not already
existing in the users existing budgets
```

```
results = db.execute(
"SELECT name FROM budgets WHERE user_id =
:usersID", {"usersID": userID}).fetchall()
existingBudgets = convertSQLToDict(results)
else:
# Verify the updated budget name is not already
existing in the users existing budgets
results = db.execute(
"SELECT name FROM budgets WHERE user_id =
:usersID AND NOT id = :oldBudgetID", {"usersID": userID,
"oldBudgetID": budgetID}).fetchall()
existingBudgets = convertSQLToDict(results)

# Loop through all budgets and compare names
isUniqueName = True
for budget in existingBudgets:
if budgetName.lower() == budget["name"].lower():
isUniqueName = False
break

if isUniqueName:
return True
else:
return False
```

```
# Generate a complete, updatable budget that includes the
 budget name, amount, and all categories
 (selected/unselected categories and % budgeted for)
 def getUpdatableBudget(budget, userID):

 # Get the users library of spend categories
 categories =
 expenze_categories.getSpendCategories(userID)

 # Get the budget's spend categories and % amount for
 each category
 results = db.execute("SELECT DISTINCT categories.name,
budgetCategories.amount FROM budgetCategories INNER
 JOIN categories ON budgetCategories.category_id =
 categories.id INNER JOIN budgets ON
 budgetCategories.budgets_id = budgets.id WHERE
 budgets.id = :budgetsID",
 {"budgetsID": budget["id"]}).fetchall()
 budgetCategories = convertSQLToDict(results)

 # Add 'categories' as a new key/value pair to the existing
 budget dict
 budget["categories"] = []

 # Populate the categories by looping through and adding
 all their categories
```

```
for category in categories:
for budgetCategory in budgetCategories:
# Mark the category as checked/True if it exists in the
budget that the user wants to update
if category["name"] == budgetCategory["name"]:
# Convert the percentage (decimal) into a whole
integer to be consistent with UX
amount = round(budgetCategory["amount"] * 100)
budget["categories"].append(
{"name": category["name"], "amount": amount,
"checked": True})
break
else:
budget["categories"].append(
{"name": category["name"], "amount": None,
"checked": False})

return budget 8.TESTING:
```

8.1 TESTING:

- Login Page (Functional)
- Login Page (UI)
- Add Expense Page (Functional)

8.2User Acceptance Testing:

1.Purpose of Document

The purpose of this document is to briefly explain the test coverage and open issues of [product name] project time of the release to user acceptance testing (UAT)

2. Defect Analysis

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

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	2	8	15
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	9	2	4	11	20
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	0	1	8
Totals	22	14	11	22	51

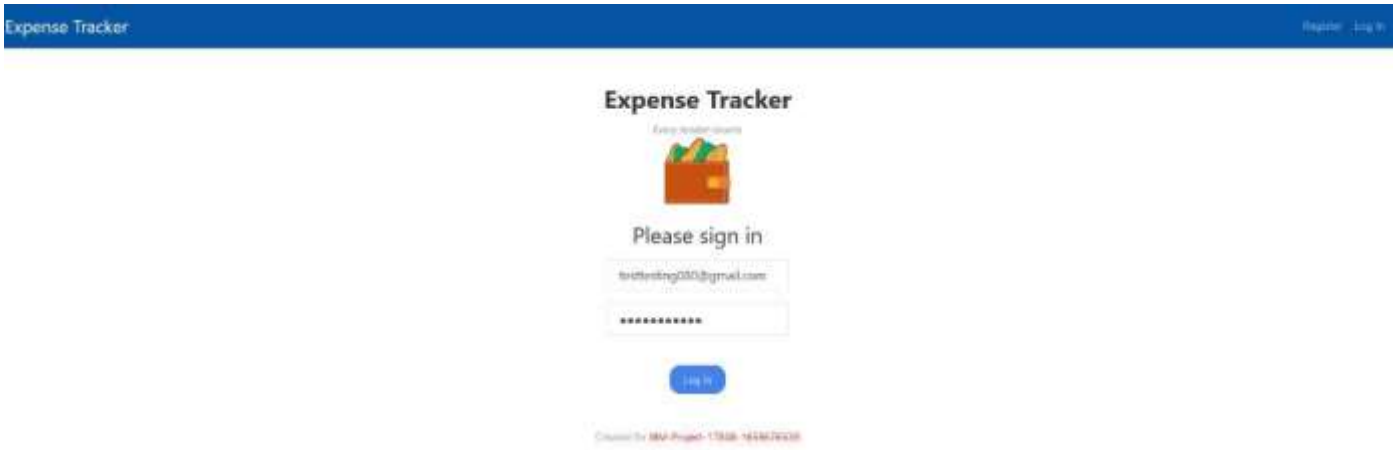
3. Test Case Analysis

This report shows the number of test cases that have passed, failed, and untested

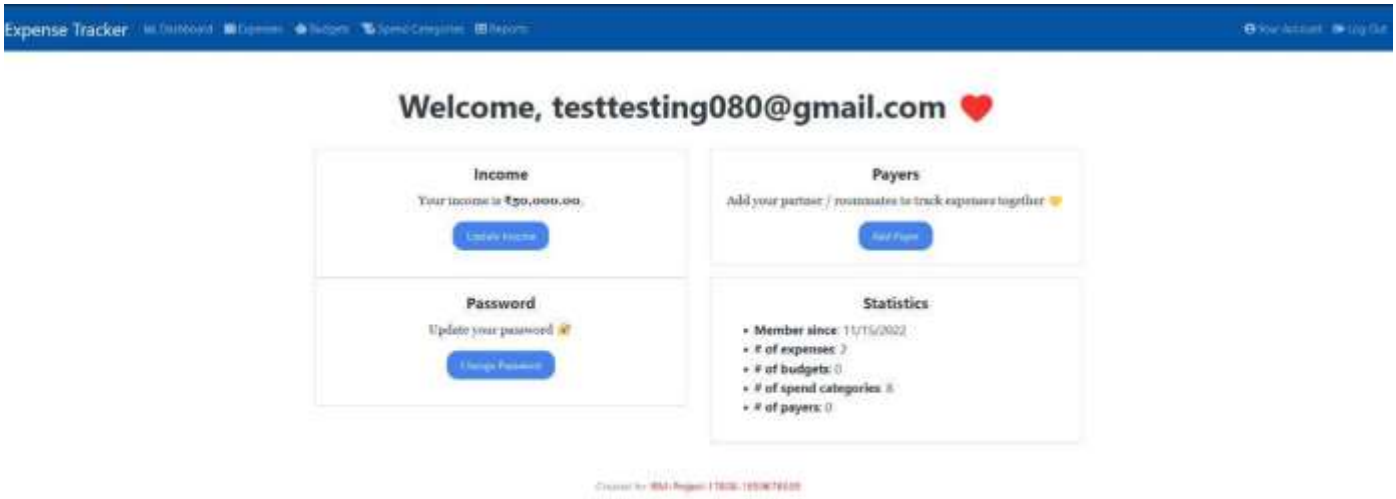
Section	Total Cases	Not Tested	Fail	Pass
Interface	7	0	0	7
Login	43	0	0	43
Logout	2	0	0	2
Limit	3	0	0	3

9.2 Sign Up

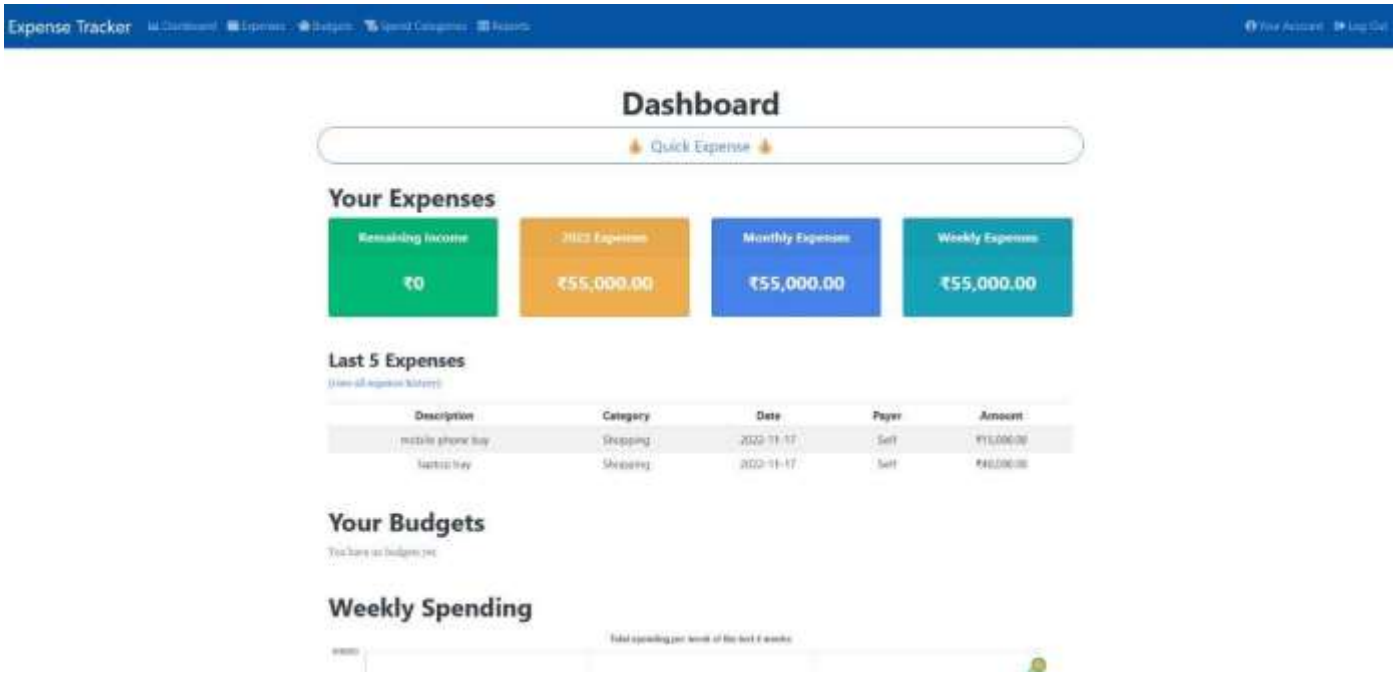
9.3Login Page:



Break down of Expense Page:



10.ADVANTAGES AND DISADVANTAGES



ADVANTAGES:

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. Another pro is that many automatic spending tracking software programs are available for free. Having

the program on a hand-held device can be a main pro since it can be checked before spending occurs in order to be sure of the available budget.

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. Even with constant tracking of one's spending habits, there is no guarantee that financial goals will be met. Although this can be considered to be a con of tracking spending, it could be changed into a pro if one makes up his or her mind to keep trying to properly manage all finances.

11.CONCLUSION

A comprehensive money management strategy requires clarity and conviction for decision- making. You will need a defined goal and a clear vision for grasping the business and personal finances. That’s when an expense tracking app comes into the picture. An expense tracking app is an exclusive suite of services for people who seek to handle their earnings and plan their expenses and savings efficiently. It helps you track all transactions

like bills, refunds, payrolls, receipts, taxes, etc., on a daily, weekly, and monthly basis.

12. FUTURE SCOPE

- Achieve your business goals with a tailored mobile app that perfectly fits your business.
- Scale-up at the pace your business is growing.
- Deliver an outstanding customer experience through additional control over the app.
- Control the security of your business and customer data.
- Open direct marketing channels with no extra costs with methods such as push notifications.
- Boost the productivity of all the processes within the organization.
- Increase efficiency and customer satisfaction with an app aligned to their needs.
- Seamlessly integrate with existing infrastructure.
- Ability to provide valuable insights.
- Optimize sales processes to generate more revenue through enhanced data collection.
- Chats: Equip your expense tracking app with a bot that can understand and answer all user queries and address their needs such as account balance, credit score, etc.
- Prediction: With the help of AI, your mobile app can predict your next purchase, according to your spending behavior. Moreover, it can recommend products and provide unique insights on saving money. It brings out the factors causing fluctuations in your expenses.