Mini Project Report on

Expense Manager

Submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Engineering

in

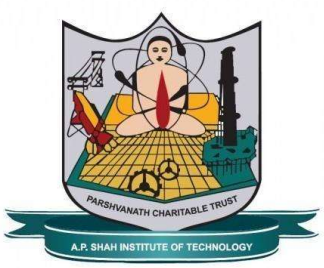
Branch Name

by

Rakshit Shah(19102008)
Tejas Sheth(19102026)
Het Patel(19102005)
Vikas Kumar Sethiya (19102028)

Under the Guidance of

Prof. Mayuri Jain



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UNIVERSITY OF MUMBAI

Academic Year 2020-2021

Approval Sheet

This Mini Project Report entitled ***"Expense Manager"*** Submitted by ***" Rakshit Shah "(19102008)," Tejas Sheth "(19102026)," Het Patel "(19102005)," Vikas Kumar Sethiya "(19102028)*** is approved for the partial fulfillment of the requirement for the award of the degree of ***Bachelor of Engineering*** in ***Computer Engineering*** from ***University of Mumbai***.

(Prof. Mayuri Jain)
Guide

Prof. Sachin H Malave
Head Department of Computer Engineering

Place: A.P.Shah Institute of Technology,
Thane Date:

CERTIFICATE

This is to certify that the mini project entitled ***"Expense Manager"*** submitted by ***"Rakshit Shah" (19102008), "Tejas Sheth" (19102026), "Het Patel" (19102005), "Vikas Kumar Sethiya" (19102028)*** for the partial fulfillment of the requirement for the award of a degree ***Bachelor of Engineering*** in ***Computer Engineering.***, to the University of Mumbai, is a bonafide work carried out during the academic year 2020-2021.

(Prof. Mayuri Jain)
Guide

Prof. Sachin H Malave
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Principal

External Examiner(s)

1.

2.

Place: A.P.Shah Institute of Technology, Thane
Date:

Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, We have adequately cited and referenced the original sources. We also declare that We have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

_____

(Signature)

_____

(Rakshit Shah - 19102008)
(Tejas Sheth - 19102026)
(Het Patel - 19102005)
(Vikas Sethiya - 19102028)

Date:

Abstract

According to a 2019 paper by Sumit Agarwal, Pulak Ghosh, Jing Li, and Tianyue Ruan available on the Asian Bureau of Finance and Economic Research, the advent of digital payments has led to overspending, especially among Indians. While curtailing digital transactions isn't the answer, monitoring one's spending could definitely help.

With this aim in mind, we have planned a Java-encoded application to keep track of the user's daily, monthly as well as yearly debited and credited amount. The program would also feature a threshold that the user can set and adjust, spending above which would be notified to the user. On the backend, JDK 8 would be used for Java implementation, with MySQL service for database and JDBC to connect the database. The user interface is to be designed using Java Swing.

In conclusion, we intend for our program to be a financial management assistant, especially for the young and the millennial cluster. We believe that the program has the potential to be a success in the market, especially among the young and millennial dynamic.

Contents

List of Figures (page 16-27)

Chapter 1 Introduction

1.1 Problem Statement

To create a Java-based Program for managing day-to-day expenses allowing the user to Login and keep a track of his/her Debited and Credited Amounts. To allow the user to generate a report of his expenditure by adding custom dates and even providing a way to add user based categories and delete them.

1.2 Objectives

- The main purpose of the Program is to manage daily expenditure.
- The program will comfort individuals as they will not have to keep track of their penned expenses whilst having the fear of misplacing them.
- Expense Management automation is the means by which - a person can significantly track their expenses.
- Improve budget control, while calculating and monitoring personal expenses and have a clear picture of their credited and debited expenses in a report format.

Chapter 2 Technology Stack

- Programming language: Java
- Database : Mysql
- JDBC (for connecting to Database)
- User Interface: Java Swing
- Tools :
    - NetBeans
    - Eclipse IDE
    - Visual Studio Code Editor

Chapter 3 Benefits and Applications

The use of expense management software reduces the unnecessary effort of creating expense reports manually, collecting and verifying the receipts of each expense. It can eliminate all these non-value adding activities, reducing the manual expense reporting time by 90%.

Users do not have to remember and collect the receipts, but rather note them down in the Expense Manager. It will help the User to contribute to saving the environment, by going truly Digital, and hence reducing the use of paper to keep a track of the expense.

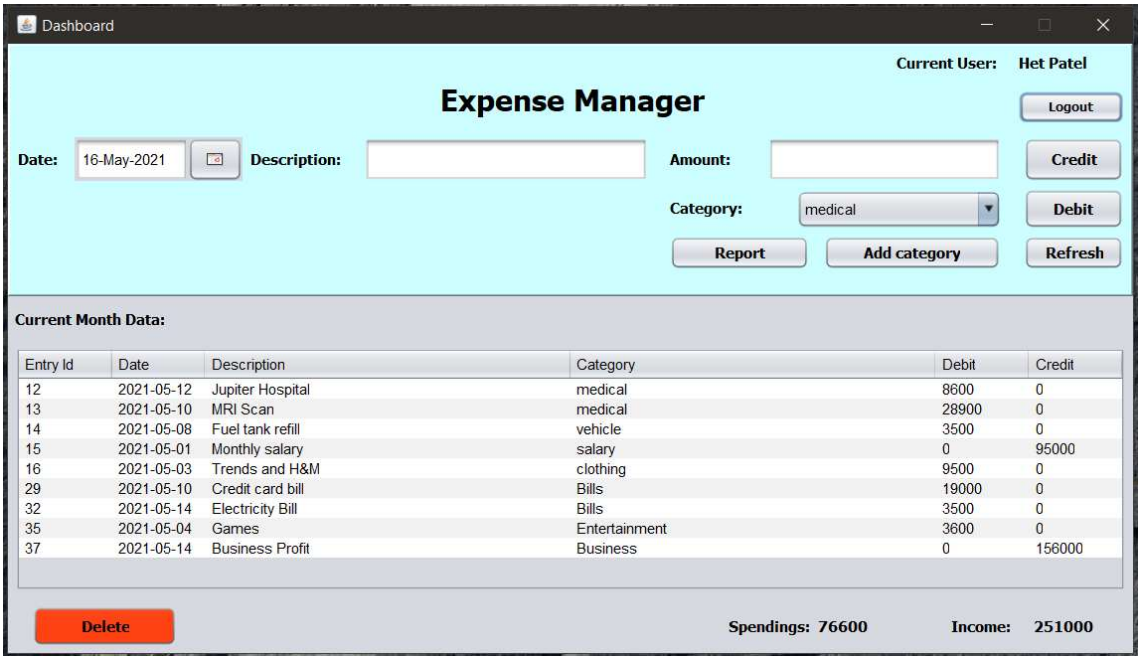
Users can compare the actual plan with the estimated plan and spend in the future accordingly. Maintenance and Generation of expense reports are quick and hassle-free.

Expense management software lets you track spending on the go, set-up spending rules, and analyze reports that give you the kind of insight you need to cut down on expenses.

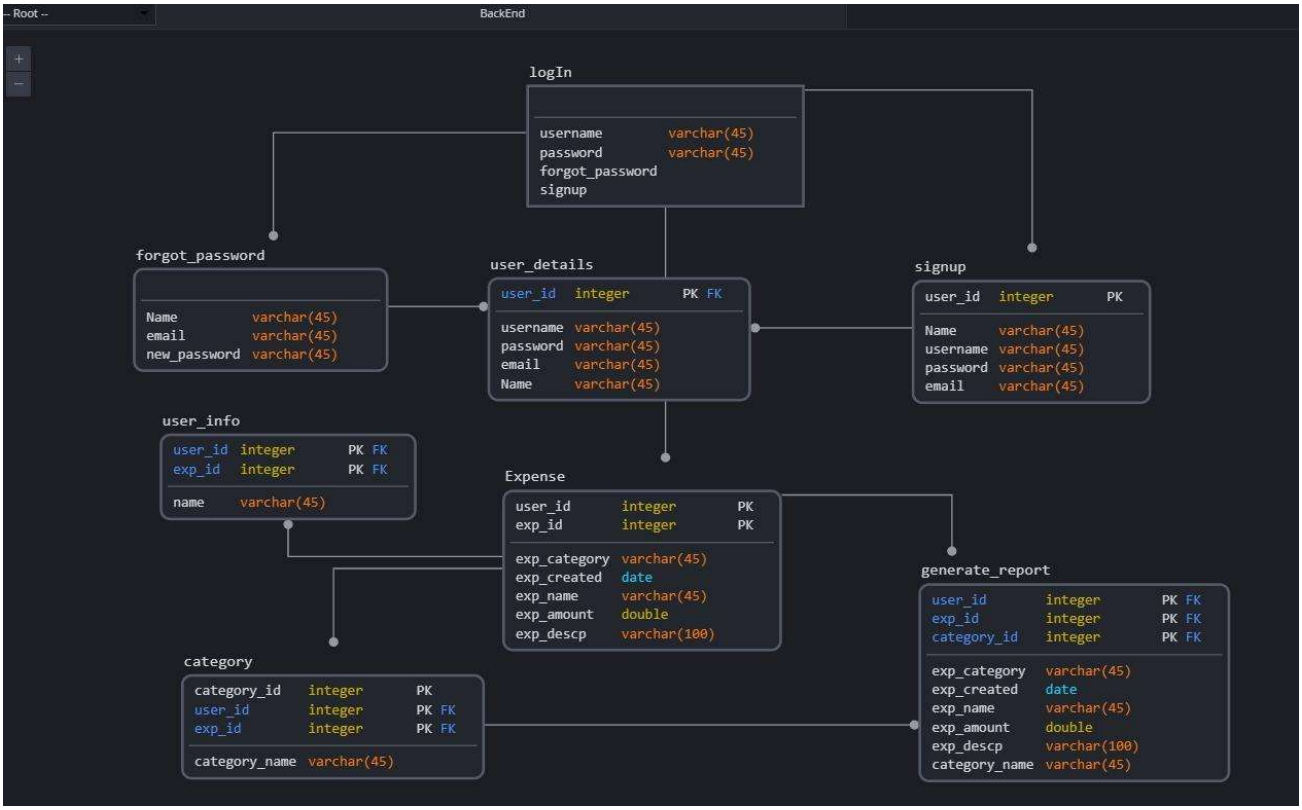
By using an Expense Manager, you'll get fewer “oh I lost my expense track” and end up with more real data about where your money goes.

Chapter 4 Project Design

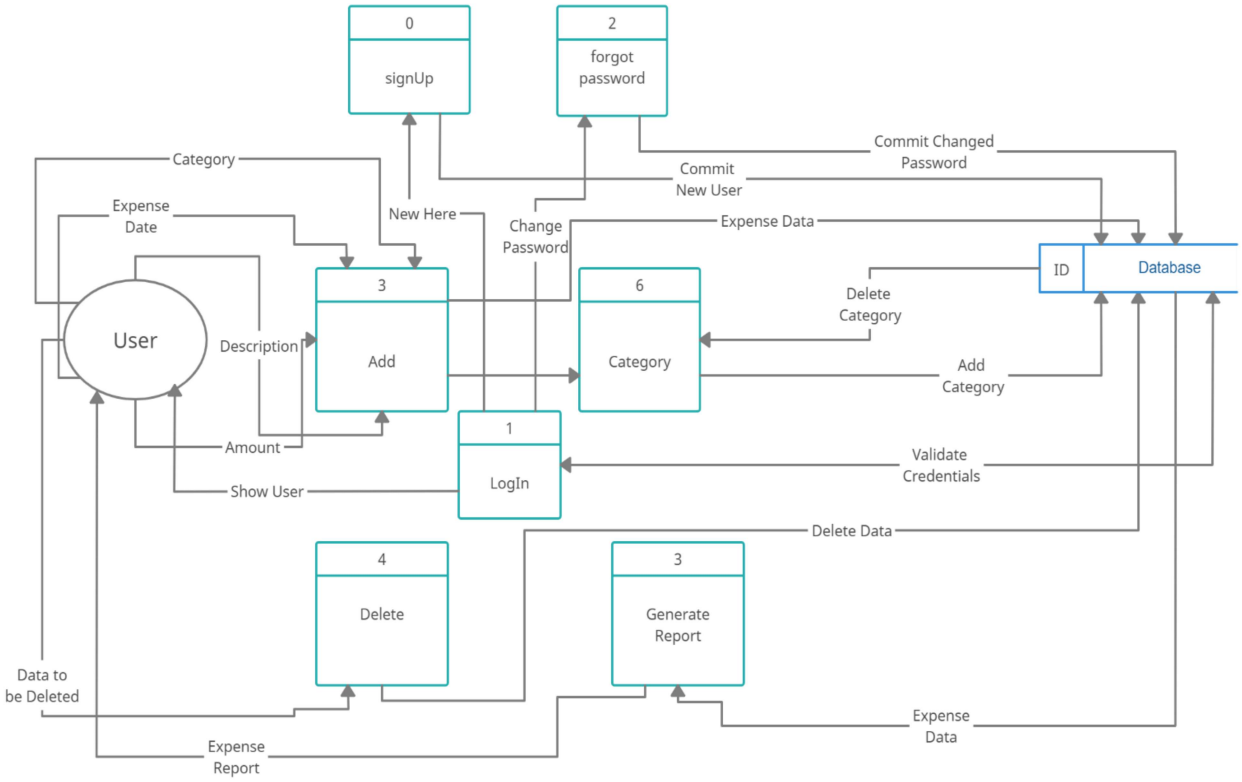
4.1 Frontend



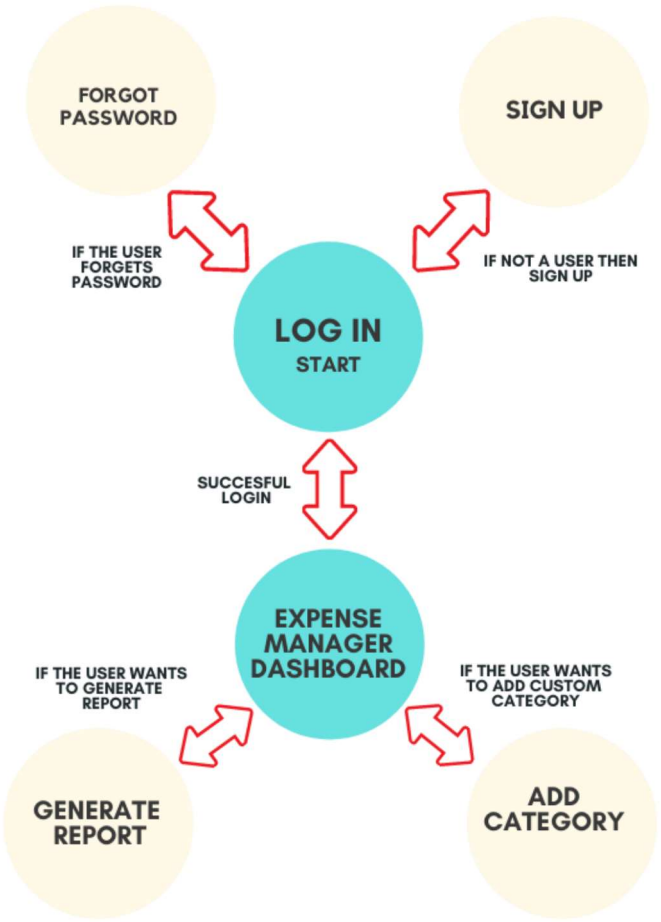
4.2 Backend


-- Root --
BackEnd
logIn
username varchar(45)
password varchar(45)
forgot_password
signup
forgot_password
Name varchar(45)
email varchar(45)
new_password varchar(45)
user_details
user_id integer PK FK
username varchar(45)
password varchar(45)
email varchar(45)
Name varchar(45)
signup
user_id integer PK
Name varchar(45)
username varchar(45)
password varchar(45)
email varchar(45)
user_info
user_id integer PK FK
exp_id integer PK FK
name varchar(45)
Expense
user_id integer PK
exp_id integer PK
exp_category varchar(45)
exp_created date
exp_name varchar(45)
exp_amount double
exp_descp varchar(100)
generate_report
user_id integer PK FK
exp_id integer PK FK
category_id integer PK FK
exp_category varchar(45)
exp_created date
exp_name varchar(45)
exp_amount double
exp_descp varchar(100)
category_name varchar(45)
category
category_id integer PK
user_id integer PK FK
exp_id integer PK FK
category_name varchar(45)

4.3 Data Flow Diagram



4.4 Flow Of Module



Chapter 5

Module of System

The project is divided into various module to help the work divide into small yet efficient modules. Each and every module are connected to each other and are called as and when required or by the input provided by the user.

5.1 Login

The Login module is the main module that runs when the program is initiated and a Login page is presented consisting of the following things:

- Username : The username will take the users credential for allowing him/her to use the expense manager.
- Password : The password will give the username confirmation by checking the database entry for the same.
- Sign in : The Sign in Button will act as an entry point to the dashboard of expense manager.
- Forgot Password : The forgot password will help the user to reset the password for the user.
- Create an account : The Create an Account button is for a new user to sign up and then use the expense manager.

5.2 Sign up

The Sign Up page is called when the user clicks on “Create an Account” button on the Login page. It consist of the following things :

- Name : The name of the user is taken for registering it in the database.
- Username : The username allows the user to type his/her username.
- Password and Confirm password : These option take and confirm the user's password in database and are used next time when the user wants to login.
- Email : The email-id of the user is taken to store in the database.

5.3 Forgot Password

The Forgot Password page helps the user to reset the password and help to Login again.

It takes Username and email to from the database to cross verify the user and then change the password.

5.4 Dashboard

The DashBoard module is called when the user click on "Sign in" in the login module. The Dashboard provides the User Interface screen of the expense manager to the user. It consists of the following things:

- Current User : The current user shows the Name of the user that is operating the expense manager.
- Date : The Date Column in provided to chose the date of the expense made and keep a track of it. If the user doesnt chose any date, it will bydefault take the present date.
- Description : The Description Column is added to provide the description/name of the expense made, inorder to remember it in the future.
- Amount : The Amount Column is provided to add the amount of the expense made.
- Category : The Category column is provided to select the type of category of the kind of

expense made.

- Add Category : The Add Category Button is provided to add user choice category which is then added to the Category column.
- Refresh : The Refresh Button is provided to refresh the Category everytime a new category is added.
- Credit : The Credit Button is provided to add the amount in the credit category.
- Debit : The Debit Button is provided to add the amount in the debit category.
- Table : All the data that is fetched is displayed in the table provided below in the frame. It shows Date, Description, Category, and Credit or Debit amount.
- Delete : The Delete Button is provided to remove any data or entry from the table.
- Logout : The logout button will allow the user to logout of the Dashboard.

5.5 Category

When the Add Category button is clicked on the dashboard frame, the Category module is called and a new window is generated saying “Add New Category”, wherein a box category is provided to type the name of the category the user wants to save and then an “ADD” Button is provided to add the new category in the list.

A “Remove” Button at the bottom is the screen is also available if incase the user wants to discard any category.

5.6 Report

When Report Button is clicked on the dashboard frame, The Report module is called and a new window is generated with the title “Report” on it. The following parameters are seen in the Report window:

- From : The “from” box is used to take the date input from the user to know the “Start

Date" of the report.

- To : The "To" box is used to take the date input from the user to know the "End Date" of the report.
- Category : The category is provided if incase the user wants the report to be be generated for a particular category only.

The user can use various combinations to generate the report, for example:

- The user can generate report on the basis of just Start date and End date.
- The user can generate report on the basis of just Category.
- The user can generate report on the basis of both Start date, End date and Category.

5.7 DB Class

The Db Class module is generated in order to establish automatic connection between java and the database, every time the Program runs.

Chapter 6

Project Implementation

6.1 GUI :

The GUI of the project was created on the NetBeans IDE using Java Swing which is a GUI widget toolkit for Java. It is part of Oracle's Java Foundation Classes (JFC) – an API for providing a graphical user interface (GUI) for Java programs. Swing provides a look and feel that emulates the look and feel of several platforms, and also supports a pluggable look and feel that allows applications to have a look and feel unrelated to the underlying platform. It has more powerful and flexible components than AWT. The Login page, Signup page, Forget Password page, Dashboard, Report window and Add Category window are the GUI components of this project.

6.2 Database :

The Frontend is connected to the database using MySQL 8.0. A relational database organizes data into one or more data tables in which data types may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. The Name, email id, password, username, Amount, Credit, Debit, Date and Category fields are stored in Database and are used to generate report in the Report module by fetching data from the database.

Chapter 7

Output

Figure 1 Login Page

Figure 2 Sign-up Page

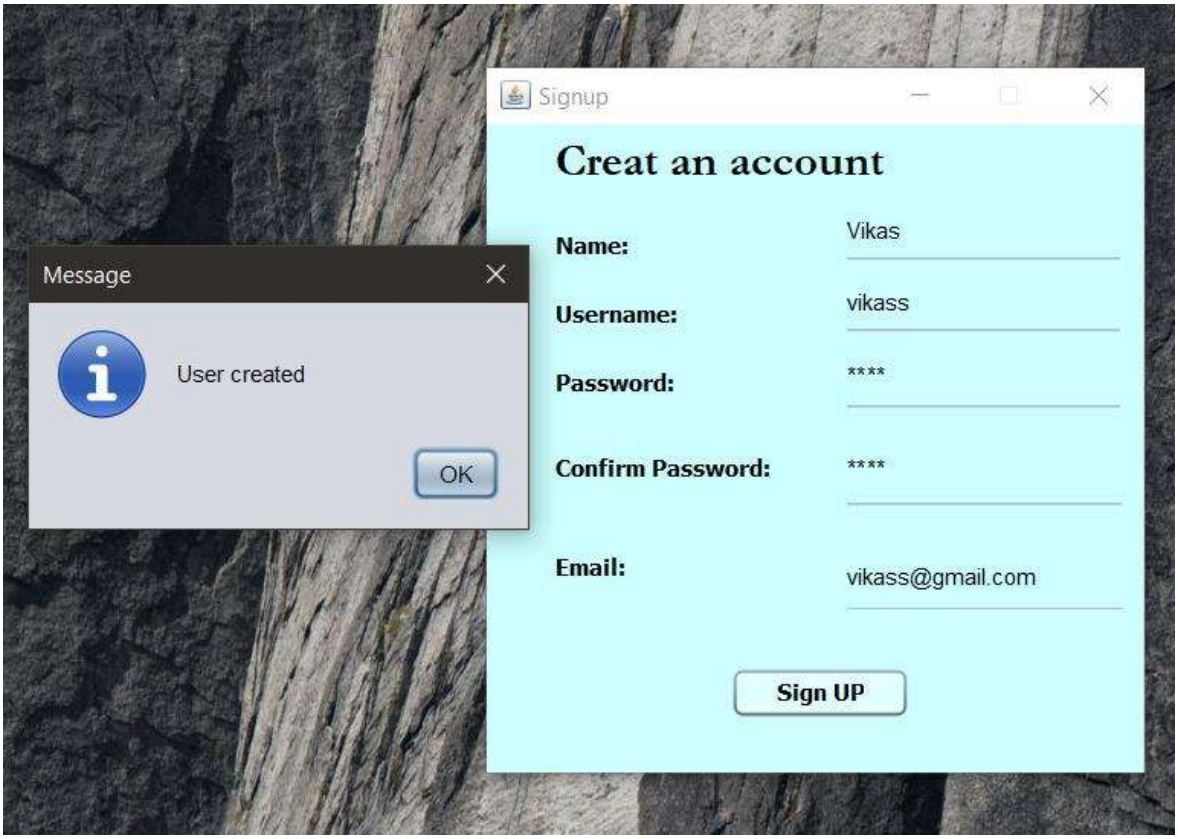


Figure 3 Sign-up process completion

Figure 4 Forgot Password page

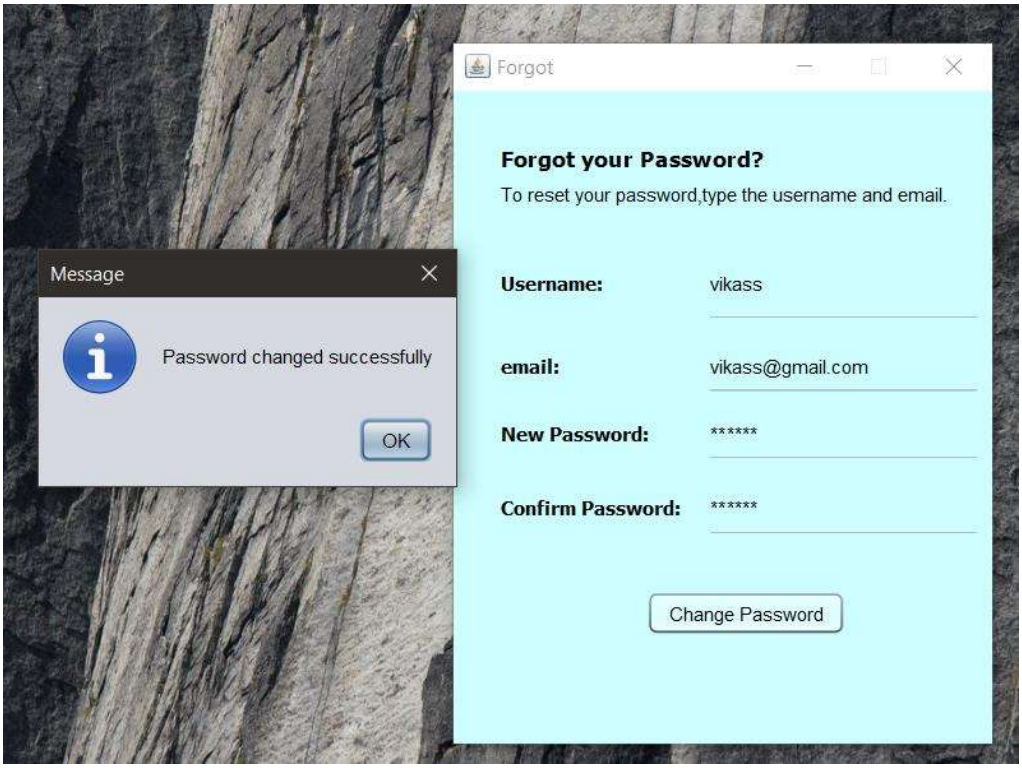


Figure 5 Changing password successfully

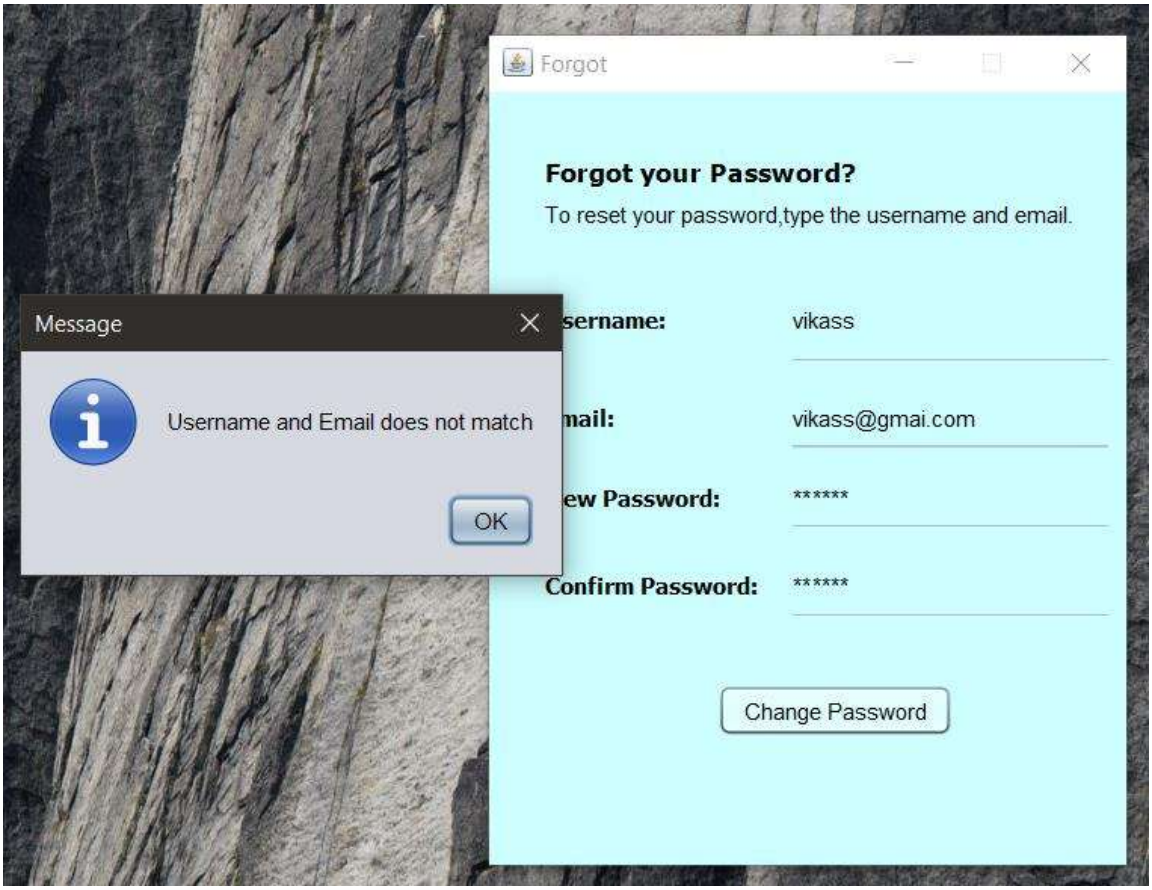


Figure 6 Incase of wrong credentials

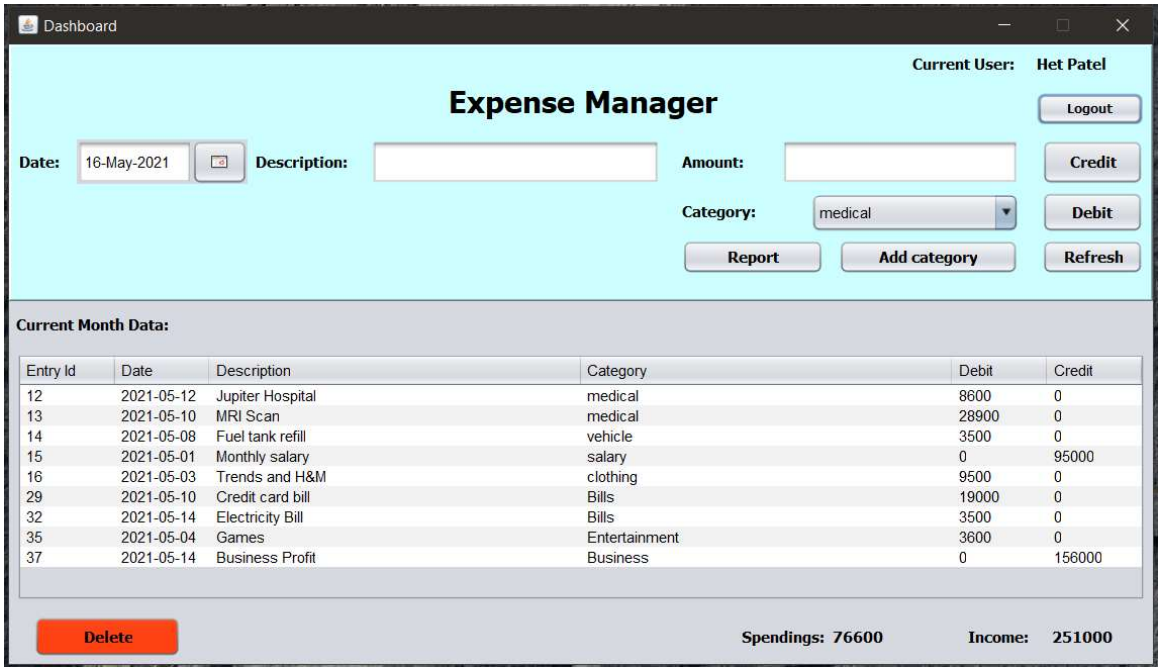


Figure 7 Expense Manager Dashboard

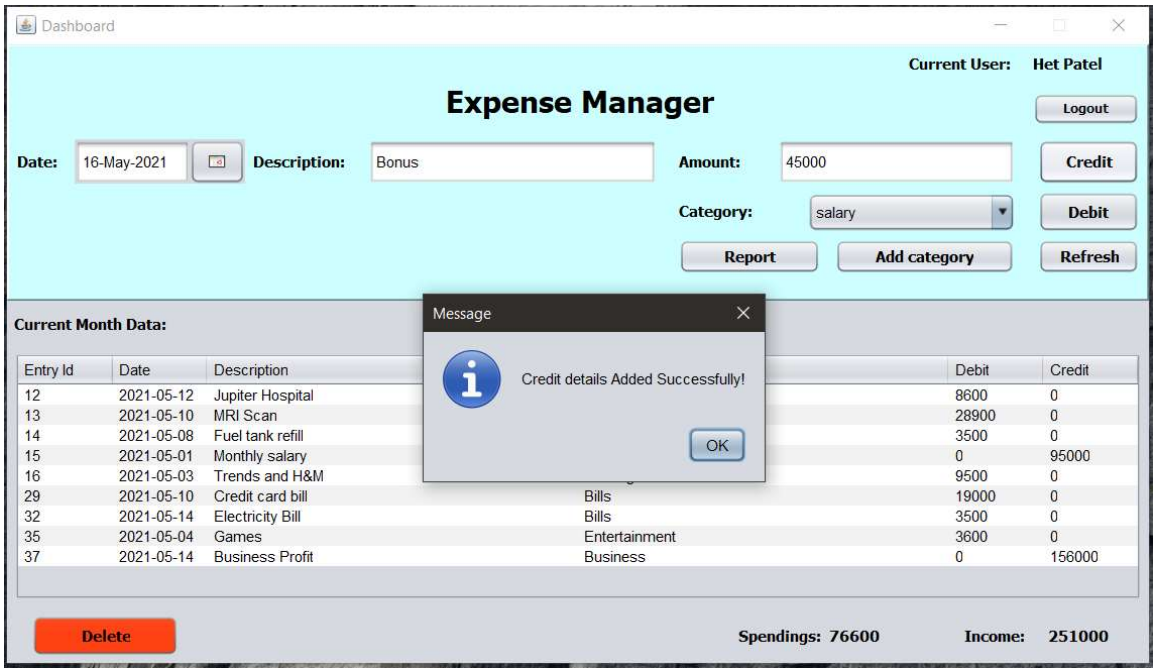


Figure 8 Adding Details

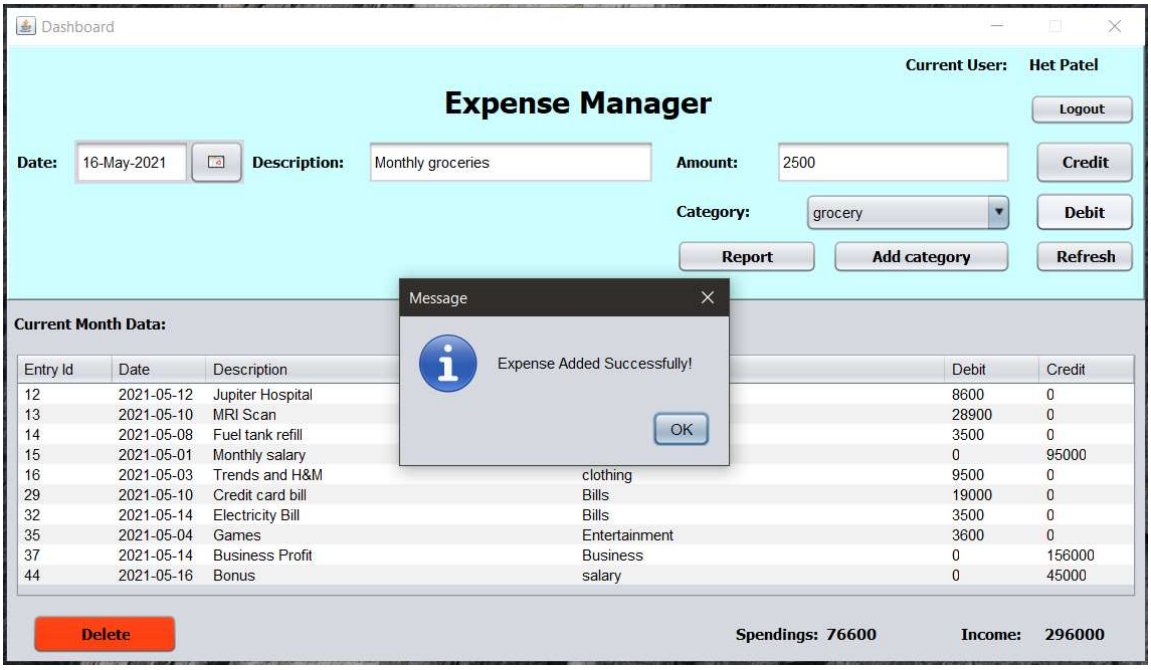


Figure 9 Saving the Detail

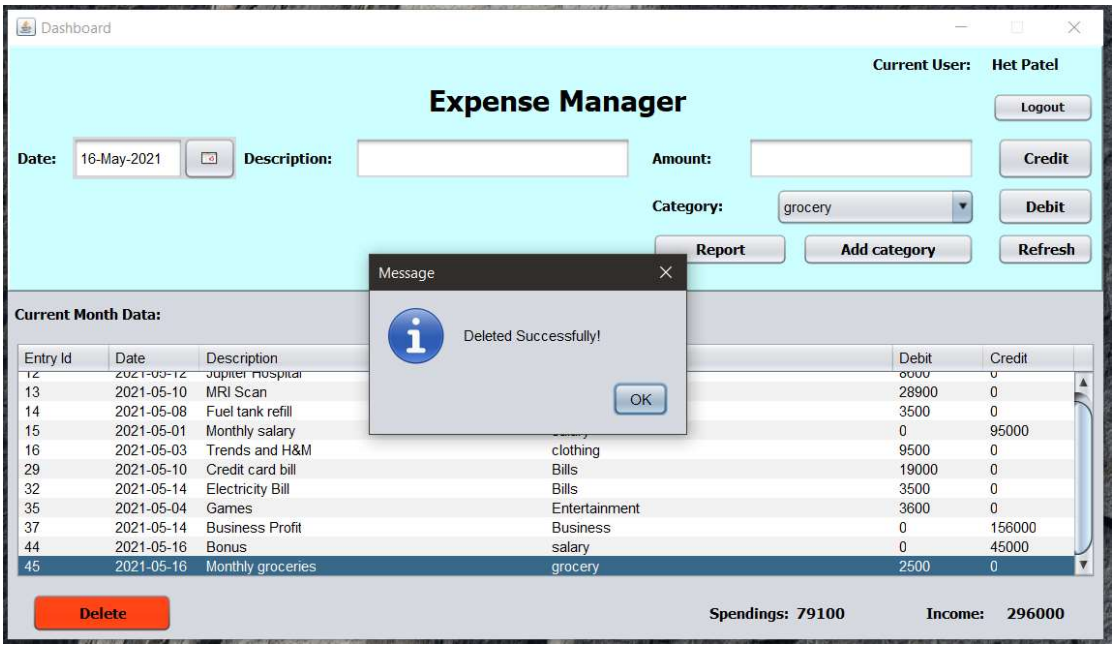


Figure 10 Deleting an entry

Figure 11 Report Page

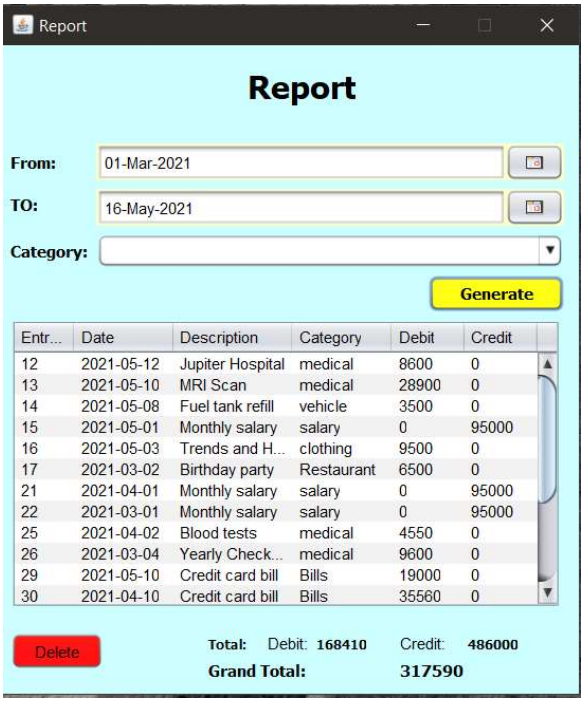


Figure 12 Date Wise Report

Figure 13 Date and Category wise report

Figure 14 Category wise report

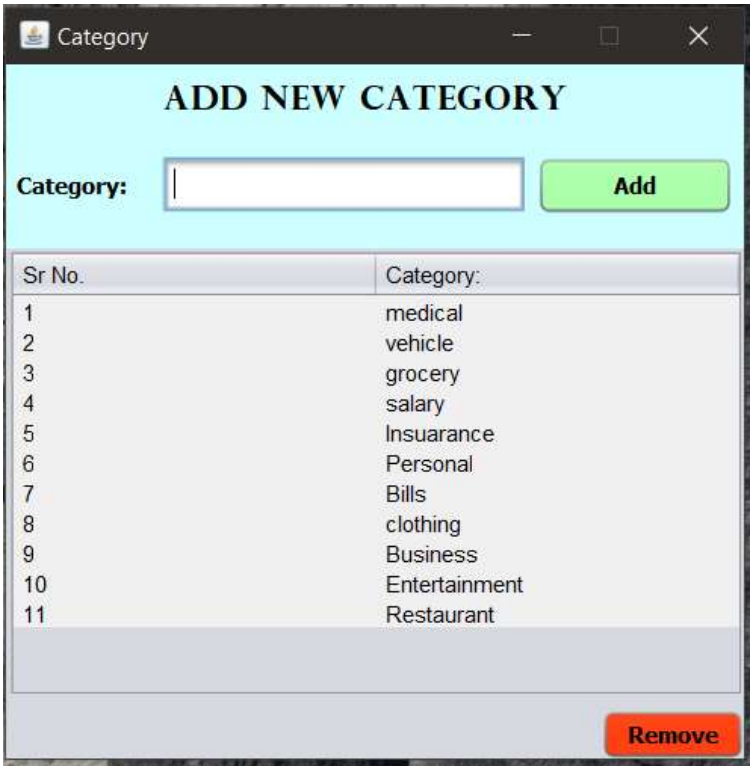


Figure 15 Add New Category page

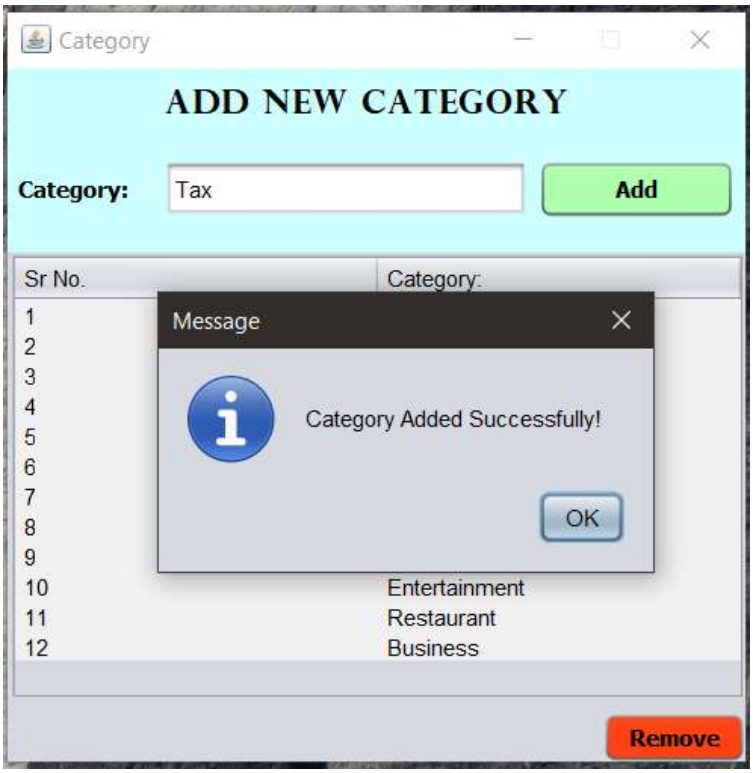


Figure 16 Adding a custom category

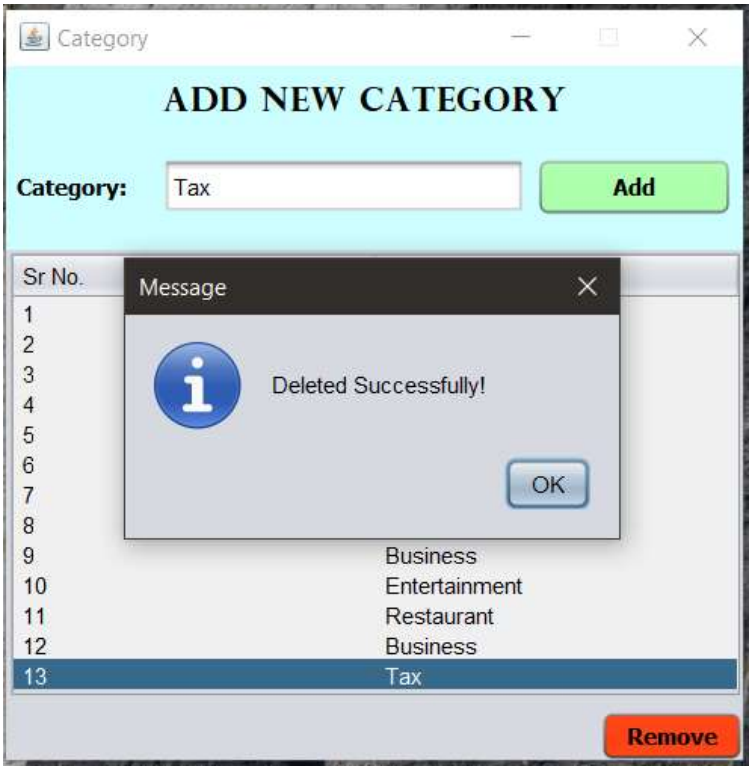


Figure 17 Deleting a Category

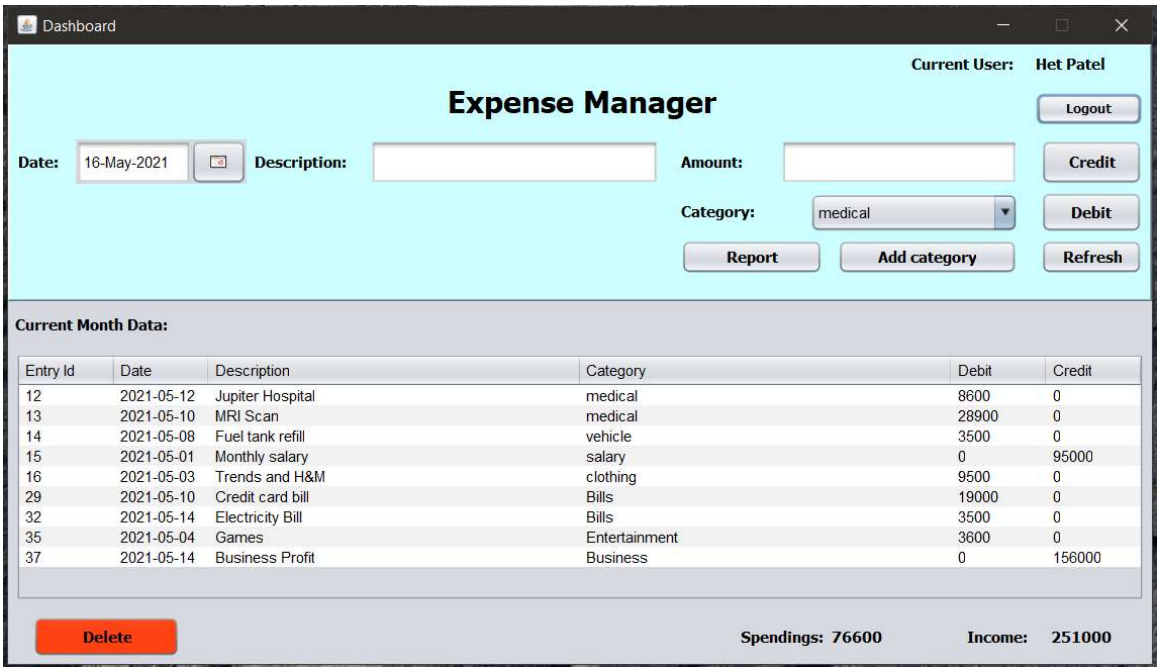


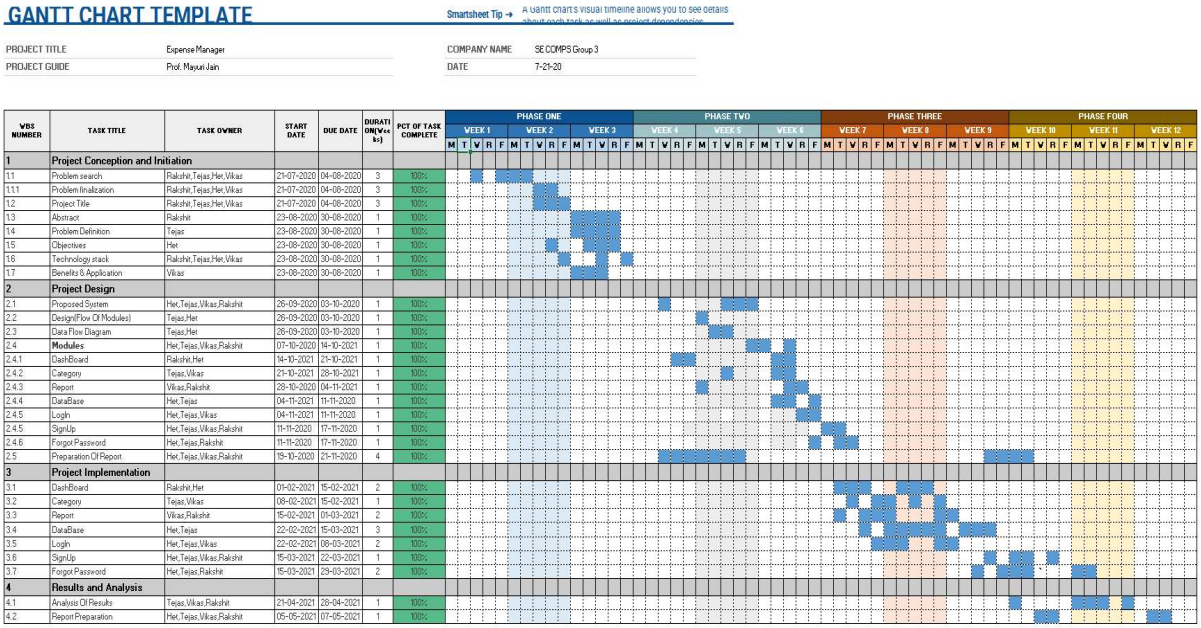
Figure 18 Logout

Figure 19 Back to Login

Chapter 8

Annexure

8.1 Gantt Chart



GANTT CHART TEMPLATE

Smartsheet Tip → A Gantt chart's visual timeline allows you to see details about each task as well as project dependencies.

PROJECT TITLE	Expense Manager	COMPANY NAME	SE COMPS Group 3
PROJECT GUIDE	Prof. Mayuri Jain	DATE	7-21-20

WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION(Weeks)	PCT OF TASK COMPLETE
1	**Project Conception and Initiation**					
1.1	Problem search	Rakshit,Tejas,Het,Vikas	21-07-2020	04-08-2020	3	100%
1.1.1	Problem finalization	Rakshit,Tejas,Het,Vikas	21-07-2020	04-08-2020	3	100%
1.2	Project Title	Rakshit,Tejas,Het,Vikas	21-07-2020	04-08-2020	3	100%
1.3	Abstract	Rakshit	23-08-2020	30-08-2020	1	100%
1.4	Problem Definition	Tejas	23-08-2020	30-08-2020	1	100%
1.5	Objectives	Het	23-08-2020	30-08-2020	1	100%
1.6	Technology stack	Rakshit,Tejas,Het,Vikas	23-08-2020	30-08-2020	1	100%
1.7	Benefits & Application	Vikas	23-08-2020	30-08-2020	1	100%
2	**Project Design**					
2.1	Proposed System	Het,Tejas,Vikas,Rakshit	26-09-2020	03-10-2020	1	100%
2.2	Design(Flow Of Modules)	Tejas,Het	26-09-2020	03-10-2020	1	100%
2.3	Data Flow Diagram	Tejas,Het	26-09-2020	03-10-2020	1	100%
2.4	**Modules**	Het,Tejas,Vikas,Rakshit	07-10-2020	14-10-2021	1	100%
2.4.1	DashBoard	Rakshit,Het	14-10-2021	21-10-2021	1	100%
2.4.2	Category	Tejas,Vikas	21-10-2021	28-10-2021	1	100%
2.4.3	Report	Vikas,Rakshit	28-10-2020	04-11-2021	1	100%
2.4.4	DataBase	Het,Tejas	04-11-2021	11-11-2020	1	100%
2.4.5	LogIn	Het,Tejas,Vikas	04-11-2021	11-11-2020	1	100%
2.4.5	SignUp	Het,Tejas,Vikas,Rakshit	11-11-2020	17-11-2020	1	100%
2.4.6	Forgot Password	Het,Tejas,Rakshit	11-11-2020	17-11-2020	1	100%
2.5	Preparation Of Report	Het,Tejas,Vikas,Rakshit	19-10-2020	21-11-2020	4	100%
3	**Project Implementation**					
3.1	DashBoard	Rakshit,Het	01-02-2021	15-02-2021	2	100%
3.2	Category	Tejas,Vikas	08-02-2021	15-02-2021	1	100%
3.3	Report	Vikas,Rakshit	15-02-2021	01-03-2021	2	100%
3.4	DataBase	Het,Tejas	22-02-2021	15-03-2021	3	100%
3.5	LogIn	Het,Tejas,Vikas	22-02-2021	08-03-2021	2	100%
3.6	SignUp	Het,Tejas,Vikas,Rakshit	15-03-2021	22-03-2021	1	100%
3.7	Forgot Password	Het,Tejas,Rakshit	15-03-2021	29-03-2021	2	100%
4	**Results and Analysis**					
4.1	Analysis Of Results	Tejas,Vikas,Rakshit	21-04-2021	28-04-2021	1	100%
4.2	Report Preparation	Het,Tejas,Vikas,Rakshit	05-05-2021	07-05-2021	1	100%

PHASE ONE: WEEK 1, WEEK 2, WEEK 3 — PHASE TWO: WEEK 4, WEEK 5, WEEK 6 — PHASE THREE: WEEK 7, WEEK 8, WEEK 9 — PHASE FOUR: WEEK 10, WEEK 11, WEEK 12

Chapter 9

Future Scope

1. Converting it into a Mobile Application for user friendly and handy use.
2. Providing a HR view so that a company's Expense on its employees and staff can be tracked.
3. A notification enabled system which will notify the user when He/She has very minimum balance.

Bibliography

[1] Digital Payments Induce Over-Spending: Evidence from the 2016 Demonetization in India [Sumit Agarwal (National University of Singapore), Pulak Ghosh (Indian Institute of Management Bangalore), Jing Li (Singapore Management University), Tianyue Ruan (National University of Singapore

Appendices

Appendix-A: Download and Installation of NetBeans IDE

Step 0: Install JDK

To use NetBeans for Java programming, you need to first install Java Development Kit (JDK). See "JDK - How to Install".

Step 1: Download

Download "NetBeans IDE" installer from http://netbeans.org/downloads/index.html. There are many "bundles" available. For beginners, choose the 1st entry "Java SE" (e.g., "netbeans-8.2-javase-windows.exe" 95MB).

Step 2: Run the Installer

Run the downloaded installer.

Appendix-B: Download and Installation of MySQL 8.0

Step 0: Create a directory to keep all your works
Step 1: Download and Install MySQL
Step 2: Start the "Server"
Step 3: Start a "Client"
Step 4: Change the Password for the Superuser "root"
Step 5: Create a New User
Step 6: Create a new Database, a new Table in the Database, Insert Records, Query and Update

Acknowledgment

We have great pleasure in presenting the mini project report on **Expense Manager.** We take this opportunity to express our sincere thanks towards our guide **Prof. Mayuri Jain** Department of Computer Engineering, APSIT thane for providing the technical guidelines and suggestions regarding line of work. We would like to express our gratitude towards his constant encouragement, support and guidance through the development of the project.

We thank **Prof.Sachin Malave, Head of Department**, Computer Engineering, APSIT for his encouragement during the progress meeting and providing guidelines to write this report.

We also thank the entire staff of APSIT for their invaluable help rendered during the course of this work. We wish to express our deep gratitude towards all our colleagues of APSIT for their encouragement.

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Student Name4: Vikas Kumar Sethiya
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