OBJECT ORIENTED ANALYSIS AND DESIGN WITH JAVA

MINI PROJECT - EXPENSE TRACKER

Team Details:

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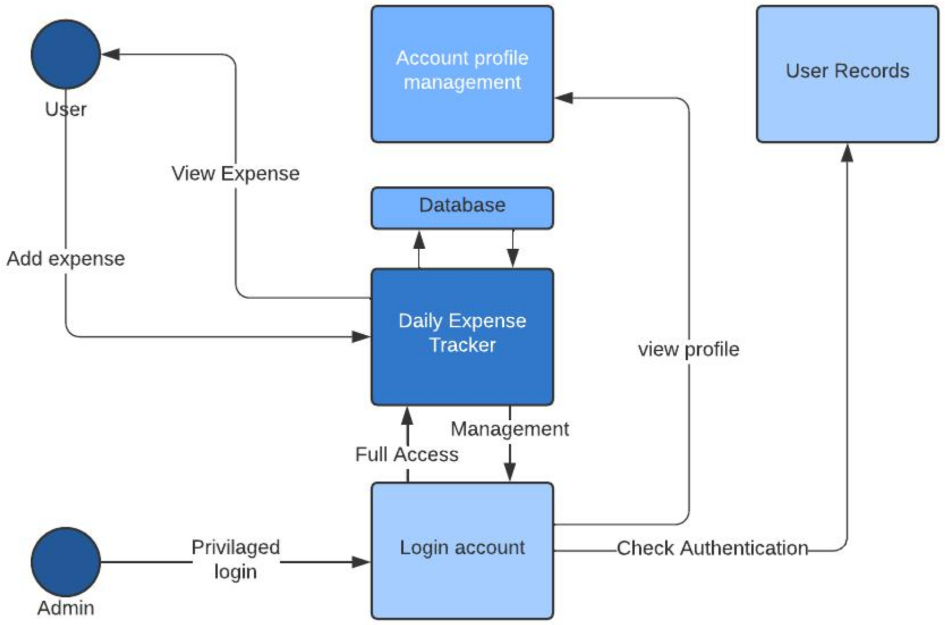
Abstract:

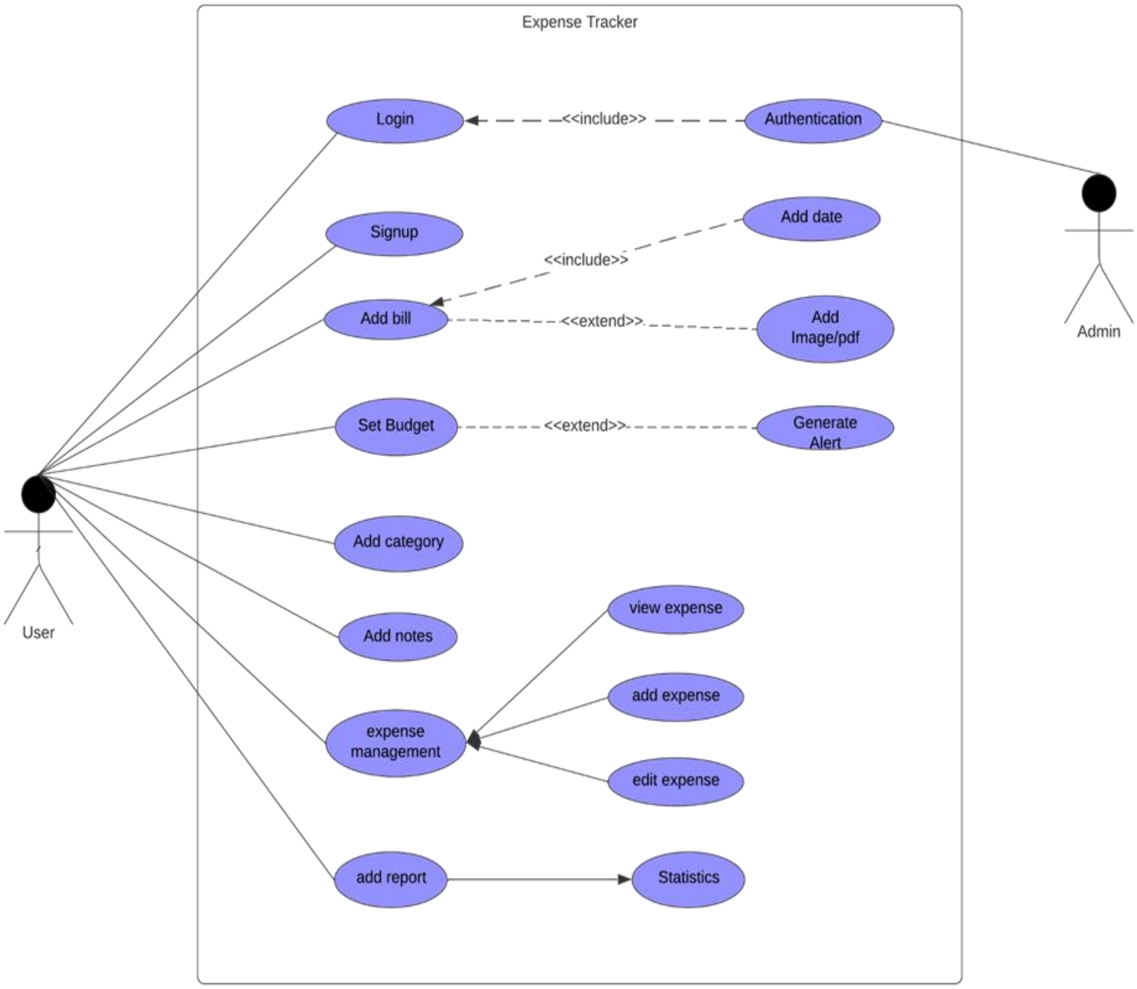
An expense tracker is a software tool or application that helps individuals or organisations keep track of their expenses. It allows users to record their daily expenses, categorise them into different categories, and track their spending over time. With an expense tracker, users can monitor their spending patterns, and identify areas where they can cut costs or save money. Overall, an expense tracker is a valuable tool for anyone looking to manage their finances more effectively.

The project utilises Java programming language and a graphical user interface (GUI) to provide users with an easy-to-use interface for entering and tracking their expenses. It allows each user to create separate accounts to track their expenses along with a report which helps track their expenses wrt each category and also a graph to depict the purchase rate in a month.

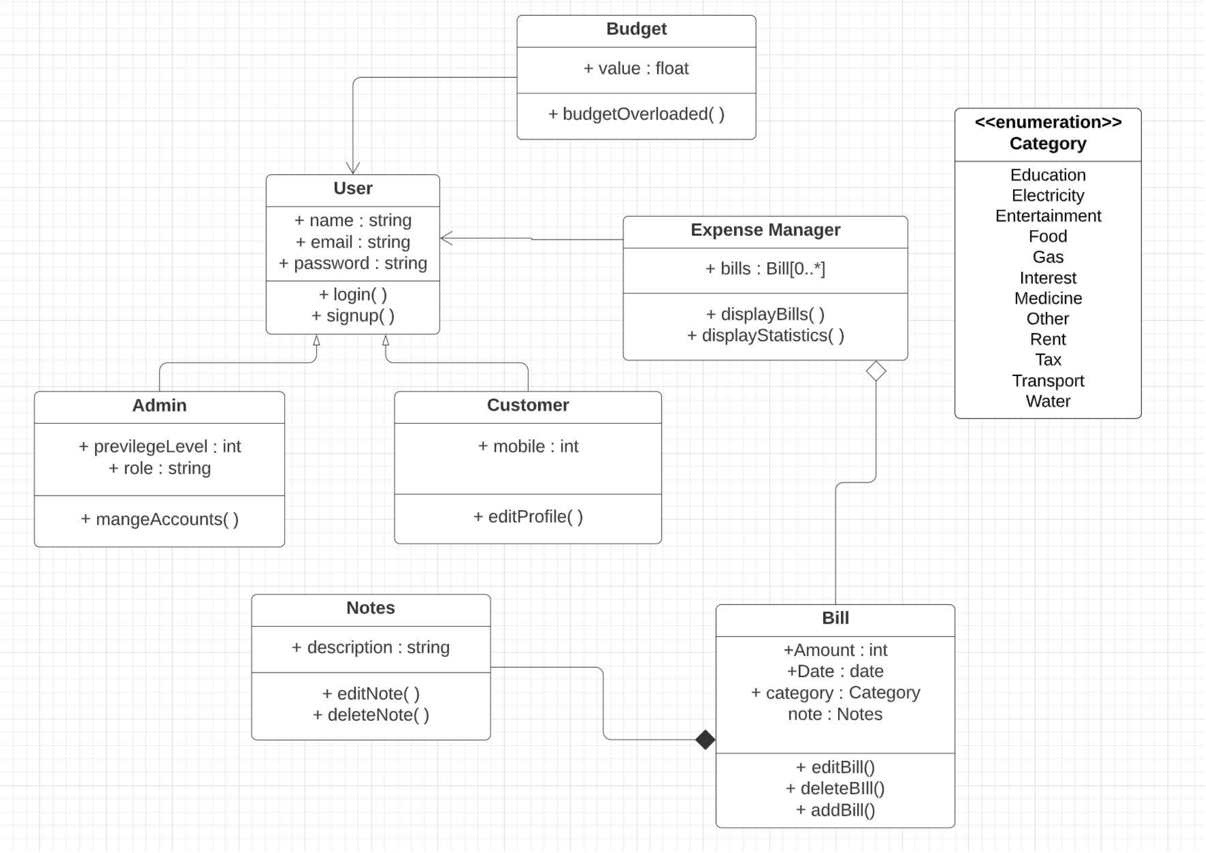
Block Diagram:



Use Case Diagram:



Class Diagram:



Architecture used:

This project was built using the Model-View-Controller(MVC) architecture. It is an architectural pattern that separates an application into three main logical components: the model, the view, and the controller. The MVC pattern provides a clear separation of concerns, which makes it easier to maintain and modify the application over time. It also allows different parts of the application to be developed independently, which can improve the overall development process

Design Patterns:

1. Chain of Responsibility: This particular design pattern is used in our UserController where we have 2 handlers to check if a user already exists and next to check if either the user is logged in or is registered.
2. Repository Pattern:The ExpenseRepository and UserRepository classes follow the Repository design pattern, which provides a standard interface for accessing data from a persistent storage mechanism. (ExpenseController.java)
3. Singleton: The UserRepository instance is injected into the UserContorller class using @Autowired, which means that Spring will automatically create a single instance of the UserRepository class and inject it into the userRepo field of the UserContorller class. This ensures that there is only one instance of the UserRepository class being used across the entire application, which is an example of the singleton design pattern.
4. Single Responsibility Principle: Every controller has only particular functionality.

Github Repository:

https://github.com/phaneesh707/Expense-tracker

Contributions:

Phaneesh: SpringBoot setup, Delete expense, Report generation along with the statistics in the front end .

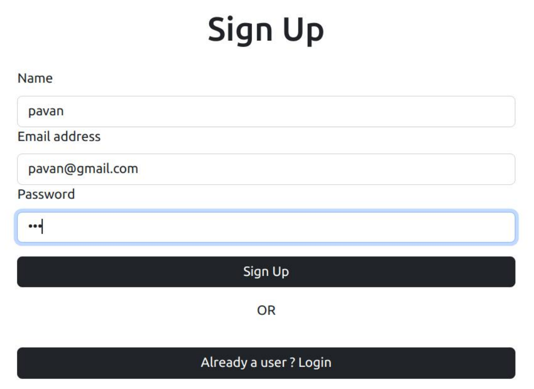
Pavan: Update expense. Front end for Update and delete.

Lagan: Signup and Login. (Front and back-end)

Swathi: Creating expense , Viewing expense. (Front end for adding the expense)

<u>Webapp Interface:</u>

User sign up



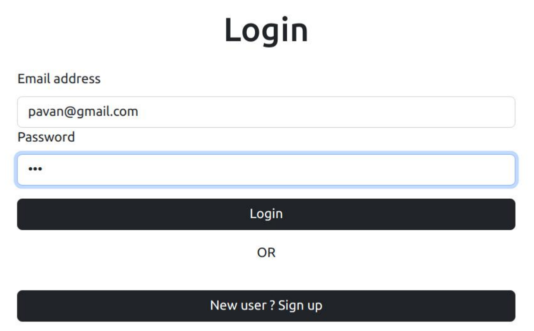
Sign Up

Name: pavan

Email address: pavan@gmail.com

Password: •••

Login

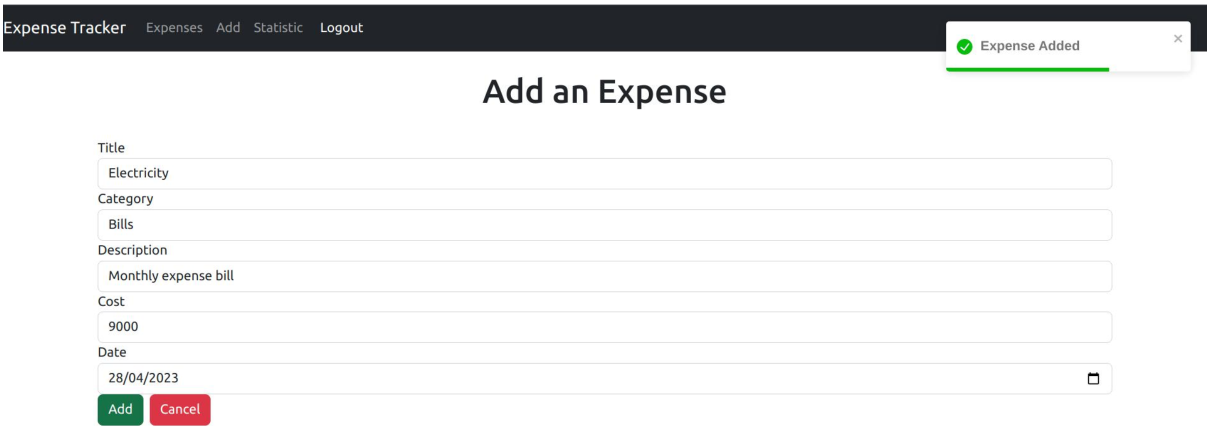


Login

Email address: pavan@gmail.com

Password: •••

Add expense



Add an Expense

Title: Electricity

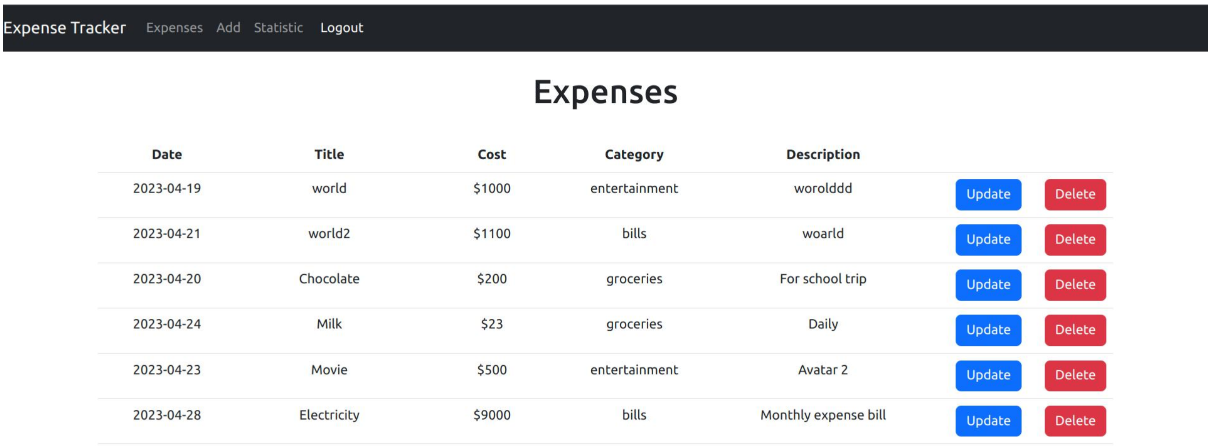
Category: Bills

Description: Monthly expense bill

Cost: 9000

Date: 28/04/2023

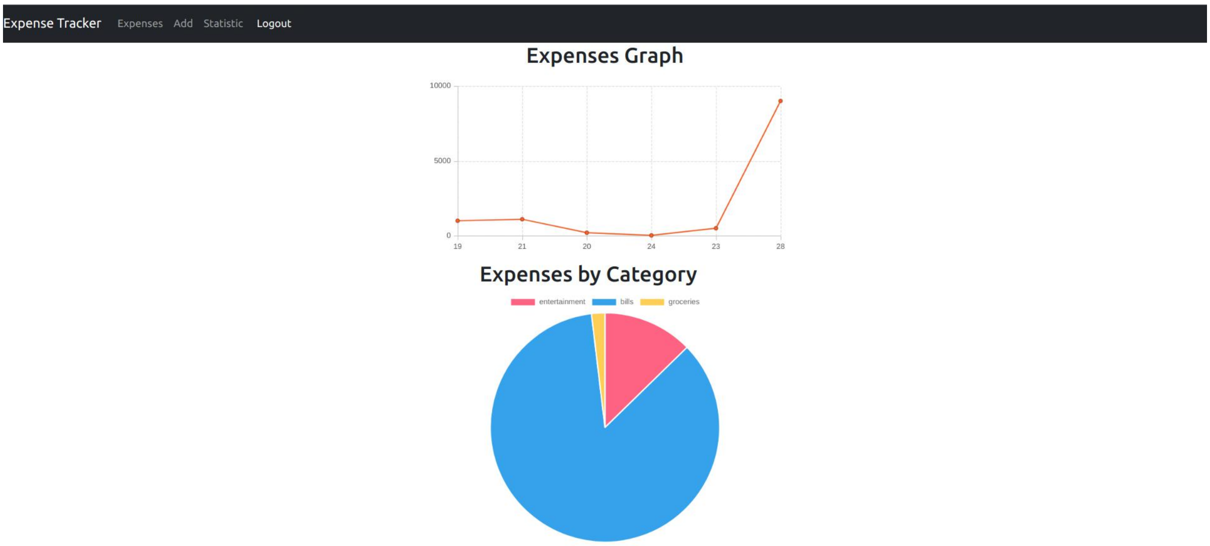
Expense table



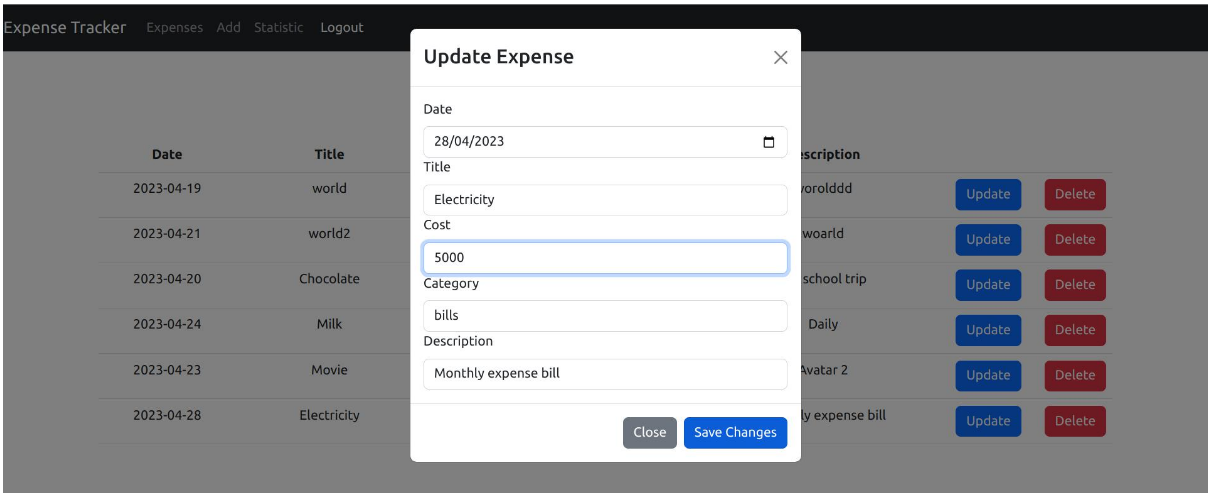
Expenses

Date	Title	Cost	Category	Description		
2023-04-19	world	$1000	entertainment	worolddd	Update	Delete
2023-04-21	world2	$1100	bills	woarld	Update	Delete
2023-04-20	Chocolate	$200	groceries	For school trip	Update	Delete
2023-04-24	Milk	$23	groceries	Daily	Update	Delete
2023-04-23	Movie	$500	entertainment	Avatar 2	Update	Delete
2023-04-28	Electricity	$9000	bills	Monthly expense bill	Update	Delete

Statistic Report



Update expense



Update Expense

Date

28/04/2023

Title

Electricity

Cost

5000

Category

bills

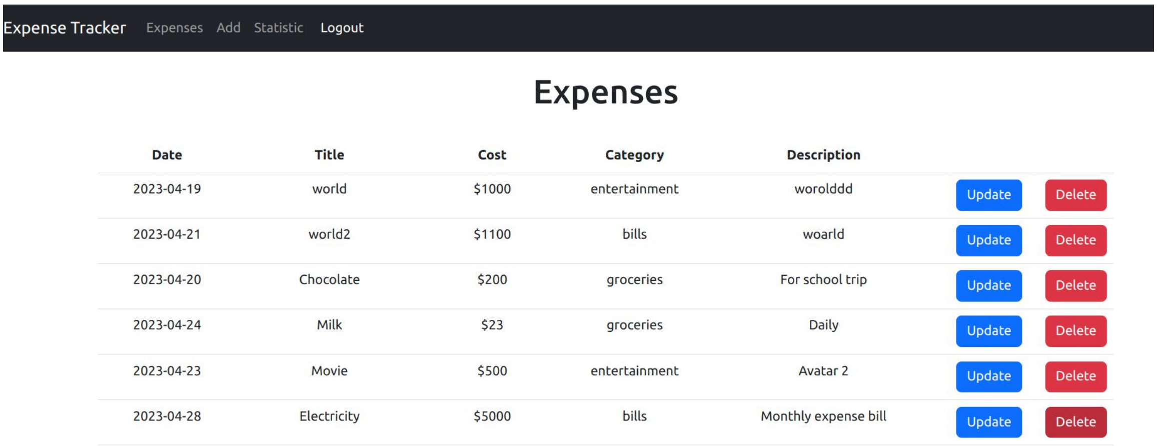
Description

Monthly expense bill

Date	Title	escription		
2023-04-19	world	orolddd	Update	Delete
2023-04-21	world2	woarld	Update	Delete
2023-04-20	Chocolate	school trip	Update	Delete
2023-04-24	Milk	Daily	Update	Delete
2023-04-23	Movie	Avatar 2	Update	Delete
2023-04-28	Electricity	ly expense bill	Update	Delete

Delete expense

Before:



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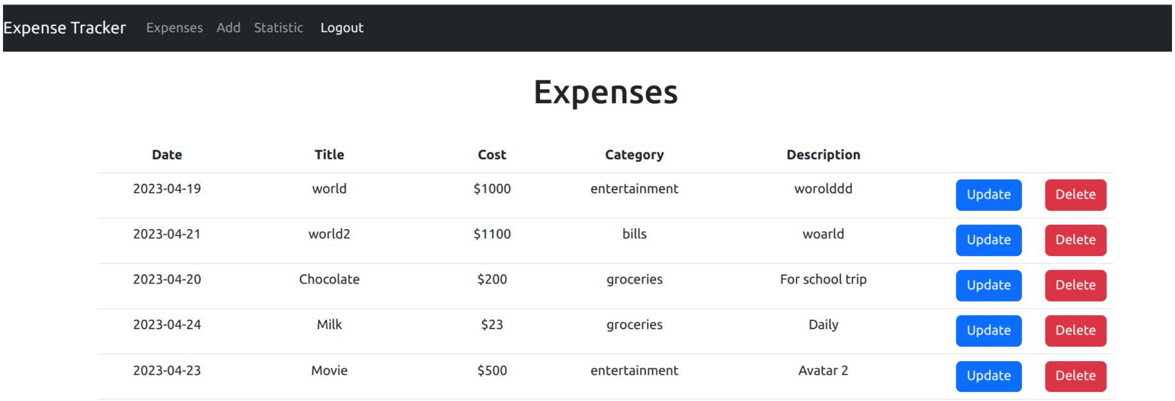
2023-04-23	Movie	$500	entertainment	Avatar 2	Update	Delete
2023-04-28	Electricity	$5000	bills	Monthly expense bill	Update	Delete

After:



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