EXPENSE TRACKER WITH MONTHLY ANALYTICS

1. Introduction

This project is a graphical Java application designed to help users track their daily expenses and analyze their monthly spending patterns. The application features a user-friendly interface built with JavaFX and uses JFreeChart to visualize data, making it easier to understand spending habits over time.

2. Abstract

Expense management is a crucial aspect of personal finance. This project allows users to add, update, view, and delete expense records while offering insightful analytics through a bar chart. The backend uses MySQL for data persistence, and the analytics module provides monthly totals, enabling informed financial decisions.

3. Tools Used

- **Programming Language:** Java

- **GUI Framework:** JavaFX

- **Database:** MySQL

- **Chart Library:** JFreeChart

- **IDE:** Eclipse IDE

- **JDBC:** For database connectivity

4. Steps Involved in Building the Project

1. **Database Setup:**

   o   MySQL database with expenses and categories tables.

   o   Used SQL scripts to initialize schema and sample data.

2. **JavaFX UI Design:**

   o   Built screens for adding, viewing, editing, and deleting expenses.

   o   Integrated form validations and responsive layout.

3. **Database Operations:**

   o   Used JDBC to connect to MySQL and perform CRUD operations via DAO classes.

4. **Analytics Module:**

   o   Extracted monthly data from the database.

   o   Generated bar charts using JFreeChart to visualize monthly expenses.

   o   Enabled dynamic filtering by year.

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5. Conclusion

The Expense Tracker project demonstrates how JavaFX, JDBC, and JFreeChart can be combined to build a functional and visually appealing desktop application. It promotes good financial tracking practices and provides valuable analytics for end users.