

23VSECCE401 - Programming Skills Development

Laboratory I Mini Project

Expense Tracker System

UCE2023627 - Naysa Jambhorkar

UCE2023628 - Sae Kale

UCE2023630 - Shreya Kalshetti

UCE2023632 - Anushka Kelkar

Synopsis

1. Problem Statement

To design and implement a console-based expense tracking system that allows users to manage their personal finances by adding, updating, deleting, categorizing and displaying expenses, as well as exporting data to CSV.

2. Keywords

- Expense Tracker
- Personal Finance
- MySQL
- Python
- Tkinter GUI
- Machine learning-graph plotting
- Data Management
- CSV Export
- Category Handling

3. Abstract

This project focuses on creating a user-friendly **Expense Management System** that helps users record and analyze their expenses efficiently. The system is built using Python with a graphical user interface (GUI) developed in Tkinter, and uses a MySQL database for backend storage. Users can perform operations like adding, updating, and deleting expense records, categorizing expenses, and exporting expense reports to CSV for further analysis. Additionally, the project includes a machine learning module using **regression** to analyze historical expense data and predict future expenses. The application promotes better

budgeting and transparency in expense tracking, making it suitable for students and individuals aiming to manage daily expenditures.

4. Module-wise Description

- **Expense Module:**
Allows users to add, update, delete, and view expense records. It supports filter by category.
- **Category Module:**
Enables creation, modification, and deletion of expense categories, aiding better classification of transactions.
- **Export Module:**
Facilitates export of all expenses to a CSV file for offline access, sharing, or analysis.
- **Database Module:**
Includes all MySQL operations (CRUD) for Expenses and Categories tables.
- **GUI Module (Planned or optional):**
A Tkinter-based user interface for user interaction. Currently in development or handled by a teammate.
- **Machine Learning Module:** Uses regression to predict upcoming expenses based on previous trends.

5. Technology Selected and Technology Features Covered

- **Python 3.13:**
Used for core logic and scripting of the application.
- **MySQL:**
Serves as the backend relational database storing persistent data like expense records and categories.
- **mysql-connector-python:**
A Python library for MySQL connectivity and query execution.
- **Machine Learning:**
Regression algorithm used to predict future expenses.
- **Tkinter:**
Python's standard GUI library, considered for developing an intuitive user interface.
- **CSV Module:**
Used for exporting data into .csv format for external use.

6. References

- [Python Official Documentation](#)
- [MySQL Documentation](#)
- [GeeksforGeeks - Python MySQL Connectivity](#)
- [Real Python - Working with CSV Files in Python](#)

