

Expense Tracker

1. Project Overview

Expense Tracker is a desktop application built using **Python** and **Tkinter** for managing and tracking daily expenses.

It allows users to record, edit, delete, and export expense data, which is stored locally in an **SQLite** database for persistence.

2. Objectives

- Simplify expense tracking for personal finance.
- Provide a clean and functional graphical user interface.
- Enable data storage, retrieval, and summary without external dependencies.
- Allow data export for reporting or backup.

3. Technologies Used

Component	Description
Language	Python 3.x
GUI Library	Tkinter
Database	SQLite3
Date Picker	Tkcalendar
File Handling	CSV module
Environment	Works on Windows, macOS, and Linux

4. System Requirements

- Python 3.8 or above
- tkinter (pre-installed with Python)
- Install tkcalendar library
- pip install tkcalendar

5. Application Workflow

Step 1: Add Expense

- Enter date, category, description, and amount.
- Click “**Add Expense**” → Data saved in database.

Step 2: View Expense List

- All records are displayed in a **Treeview table** sorted by date.

Step 3: Edit Expense

- Select a record → Click “**Edit Expense**” → Modify → Save changes.

Step 4: Delete Expense

- Select a record → Click “**Delete Expense**” → Confirms and removes entry.

Step 5: Export to CSV

- Saves all expense records as a .csv file.

Step 6: Category Summary

- Shows total spending for each category in a message box.

6. Database Schema

Column Name	Data Type	Description
id	INTEGER (Primary Key, Auto Increment)	Unique identifier
date	TEXT	Date of the expense
category	TEXT	Expense category
description	TEXT	Expense description
amount	REAL	Expense amount

7. Key Functions

Function	Description
add_expense()	Adds a new expense to the database
show_expenses()	Fetches and displays all expenses
delete_expense()	Deletes selected expense
edit_expense()	Opens popup window for editing
export_to_csv()	Exports records to CSV file
category_summary()	Displays category-wise totals
calculate_total()	Calculates total expenses

8. Error Handling

- Validates empty fields before saving.
- Checks if amount is numeric.
- Handles missing selections during edit/delete.
- Confirmation before deleting entries.