Expense Tracker: Command-Line Python Application

By Hosen Sadeghiadl

Overview

This is a simple, easy to use command line app which is designed to help track daily expenses. The goal was to build something clean and functional that doesn't require a database or web interface, but still gives users clear insights into what their spending looks like.

While using it, You can:

- Add expenses
- View summaries
- Track trends
- Remove Accidental expenses
- Export reports

Everything is saved in a JSON file, and the reports are then displayed in CSV format.

My Approach & Design

Why did I choose command line?
 It's quick, easy to use, and it doesn't need external tools or dependencies.

Why JSON?
JSON is also easy to work with, human readable, and avoids the need for a full database setup.

How I organized the project:

- I separated user interaction which is my main.py from the logic which is tracker.py
- Added comments throughout to make it beginner-friendly and easy to understand
- Made sure the CSV report is formatted well and easy to read for real use

File & Folder Structure

- Expense_Tracker/
  - backend/
    - main.py – This handles the menu and user input
    - tracker.py – This contains all logic for managing expenses
  - Data/

- expenses.json – stores all expense records
- README.md - contains details about the project.

Features Implemented

Add Expense

Total Expense

Expense by Category

Expense Trend

Highest/Lowest Category

Delete Last Expense

Export to CSV

How to Run, Test & Verify

1. Make sure Python 3 is installed

2. Navigate to the backend/ folder

3. Run:

python3 main.py

4. Use the menu to:
   - Add sample expenses
   - Try deleting one
   - Choose "Export to CSV" which is #7 on the menu to generate the report

5. You can then open expenses_report.csv to verify your data looks correct

<u>Example Data for Testing:</u>

Category	Amount	Date
Groceries	45.25	2025-06-19
Gas	30.00	2025-06-19
Food	12.50	2025-06-18
Groceries	20.00	2025-06-17

<u>Future Improvements & Ideas</u>
- Having the feature of search by date or category
  - Being able to filter expenses by a specific date range or category would make tracking even more cleaner and precise..
- Budget Limits & Alerts
  - Users could set monthly budgets by category and get a warning if they're close to going over.
- Recurring Expense Reminders
  - Letting users mark some expenses as recurring like rent or for example netflix subscription and get notified would make the app more useful long-term.