Simple Expense Tracker

Capgemini Assessment

Built by Kyle Day

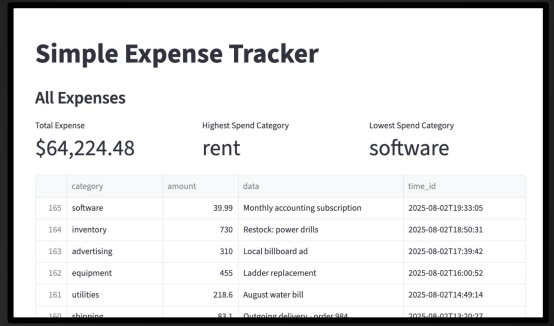
High-Level Design

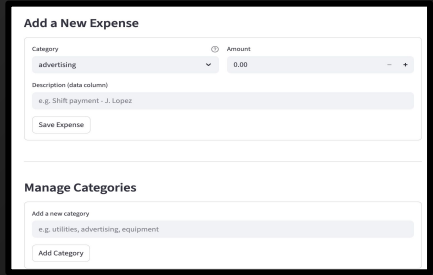
- File-based storage using expense_data.csv (no DB required)
- Streamlit UI with three pages:
  - View Expenses
  - Add Expense
  - Expense Trends
- Pandas for data processing (grouping, totals, trend aggregation)
- Altair for analytics visualization
- Modular engine-like functions inside app (load_expenses, add_expense, etc.)

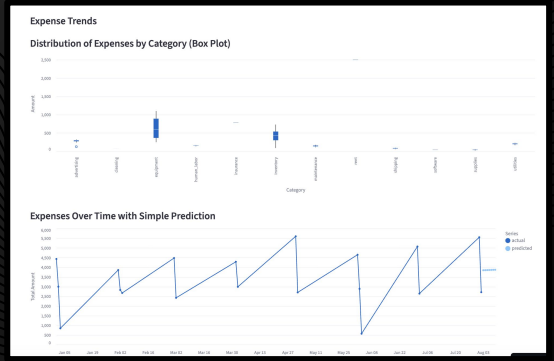
Core Functionality

- Add new expenses
- Add new categories dynamically
- Compute total expense
- Total expense by category
- Highest and lowest spend categories

- Visual analytics:
  - Category box plot
  - Daily spend trend
  - Simple 7-day spend prediction







Project Structure & Key Files

- `app.py` – Main Streamlit UI + logic
- `expense_data.csv` – Seed data (file-based storage)
- `requirements.txt` – Dependencies
- `README.md` – Documentation

How to Run Locally

1. Clone the repository

```
git clone https://github.com/<your-username>/<repo-name>.git
cd <repo-name>
```

2. Install dependencies

```
pip install -r requirements.txt
```

3. Run the application

```
streamlit run app.py
```

Your default browser will automatically open the app.

*CSV updates live as expenses are added

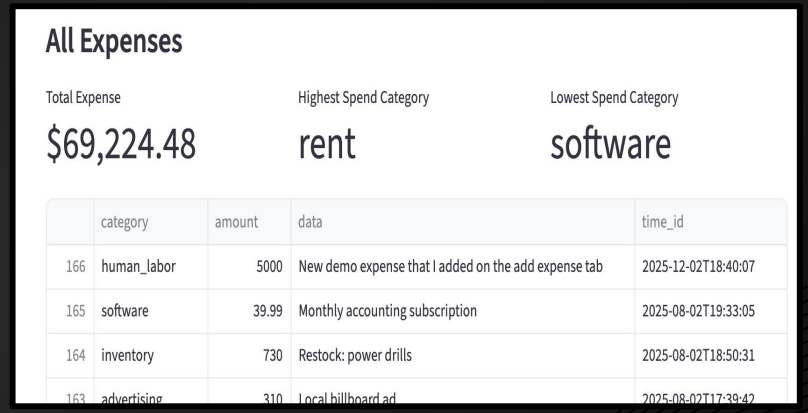
Hosted version:

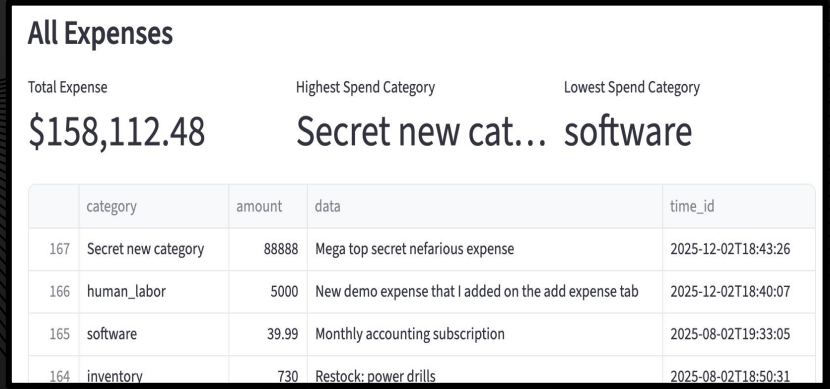
kd-capgemini-app.streamlit.app

*Persists data during runtime

Testing & Verification

- Add a new expense → verify:
  - Appears in table
  - Totals update
  - Category totals update
- Add a new category → appears in dropdown
- View trend page after updates:
  - Box plot renders
  - Trend line updates
  - Prediction line appears





Seed Data

```
category,amount,data,time_id
human_labor,142.50,Shift payment - J. Lopez,2025-01-01T08:15:02
inventory,324.99,Restock: 2x4 lumber bundle,2025-01-01T09:22:44
utilities,189.30,January electricity bill,2025-01-01T10:11:50
rent,2500.00,Monthly store rent,2025-01-01T10:59:41
supplies,45.20,Packaging tape refill,2025-01-01T12:03:27
inventory,88.75,Restock: galvanized nails,2025-01-01T13:42:18
equipment,599.99,New drill press maintenance kit,2025-01-01T14:50:09
human_labor,160.00,Shift payment - M. Lee,2025-01-01T16:12:48
cleaning,72.10,Weekly cleaning service,2025-01-01T17:20:31
advertising,310.00,Local radio ad slot,2025-01-01T18:43:04
```

- expense_data.csv includes ~160 rows of realistic hardware store expenses
- Categories include: labor, rent, inventory, materials, equipment, etc.
- Allows full demonstration of:
  - Category totals
  - Trends over time
  - Prediction quality

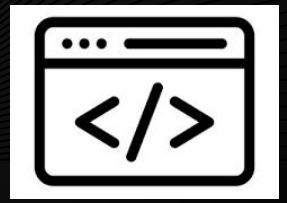
Future Enhancements

- Real database backend (PostgreSQL / SQLite)
- User authentication
- Export to CSV/Excel
- Multi-user expense separation

database

Local report download

app.py



Frontend Dashboard

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Thank you!

I’m excited to hear about the next steps of the recruitment process.

https://github.com/kwday888/CapgeminiTestApp/tree/main

https://www.linkedin.com/in/kyle-day-356233229/
day127@purdue.edu
847-463-0829

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