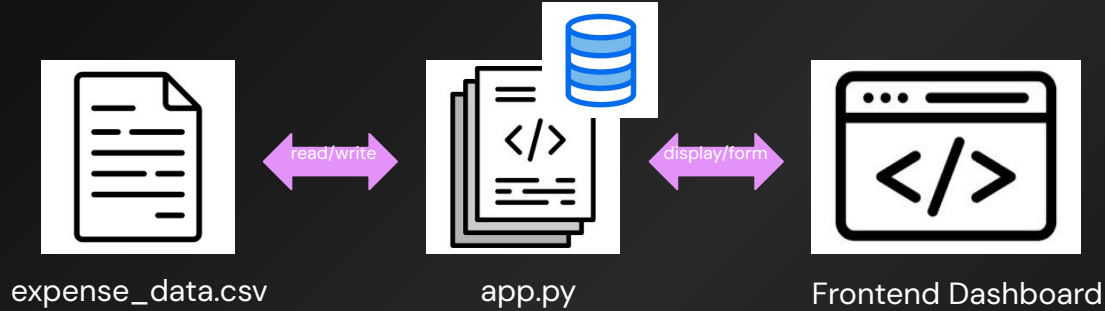


Simple Expense Tracker

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

Simple Expense Tracker

All Expenses

Total Expense

\$64,224.48

Highest Spend Category

rent

Lowest Spend Category

software

	category	amount	data	time_id
165	software	39.99	Monthly accounting subscription	2025-08-02T19:33:05
164	inventory	730	Restock: power drills	2025-08-02T18:50:31
163	advertising	310	Local billboard ad	2025-08-02T17:39:42
162	equipment	455	Ladder replacement	2025-08-02T16:00:52
161	utilities	218.6	August water bill	2025-08-02T14:49:14
160	advertising	13.1	Christmas delivery order 884	2025-08-02T13:26:37

Add a New Expense

Category Amount

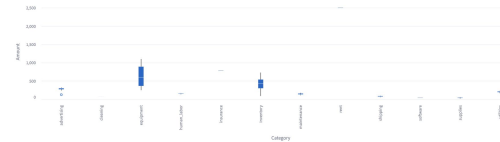
Description (data column)

Manage Categories

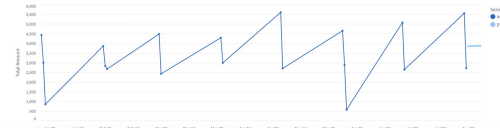
Add a new category

Expense Trends

Distribution of Expenses by Category (Box Plot)



Expenses Over Time with Simple 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**

All Expenses

Total Expense

\$69,224.48

Highest Spend Category

rent

Lowest Spend Category

software

	category	amount	data	time_id
166	human_labor	5000	New demo expense that I added on the add expense tab	2025-12-02T18:40:07
165	software	39.99	Monthly accounting subscription	2025-08-02T19:33:05
164	inventory	730	Restock: power drills	2025-08-02T18:50:31
163	advertising	310	Local billboard ad	2025-08-02T17:39:42

All Expenses

Total Expense

\$158,112.48

Highest Spend Category

Secret new cat... software

Lowest Spend Category

	category	amount	data	time_id
167	Secret new category	88888	Mega top secret nefarious expense	2025-12-02T18:43:26
166	human_labor	5000	New demo expense that I added on the add expense tab	2025-12-02T18:40:07
165	software	39.99	Monthly accounting subscription	2025-08-02T19:33:05
164	inventory	730	Restock: power drills	2025-08-02T18:50:31

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,210.00,Local radio ad slot,2025-01-01T18:43:04
```

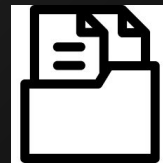
- **expense_data.csv** includes ~160 rows of realistic hardware store expenses
- **Categories** include: labor, rent, inventory, materials, equipment, etc.
- **Allows full demonstration of:**
 - **Category totals**
 - **Trends over time**
 - **Prediction quality**

Future Enhancements

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



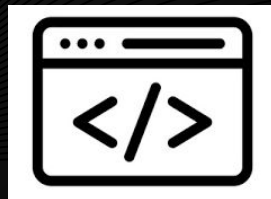
database



Local report download



app.py



Frontend Dashboard



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