

Expense Tracker App Documentation



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1. Introduction

Expense Tracker App is a full-stack web application designed to help users manage and track their personal expenses. The application features a public landing page, secure user authentication, comprehensive expense management (adding, editing, and deleting expenses), data filtering, dashboard visualization using interactive charts, and CSV export functionality.

2. Project Overview

2.1 Purpose

The primary goals of the Expense Tracker App are:

- To provide an intuitive interface for users to manage their daily expenses.
- To demonstrate user authentication and secure data handling.
- To offer features like filtering, visualization, and exporting of expense data.
- To serve as a professional and feature-rich project for a CV or portfolio.

2.2 Key Features

- Public Homepage: A landing page that welcomes visitors and offers clear call-to-action buttons for login or registration.
- User Authentication: Secure registration, login, and logout functionality using Flask-Login. Each user has a personalized expense list.
- Expense Management: Users can add, view, update, and delete expenses. Each expense is associated with the logged-in user.
- Expense Filtering: Ability to filter expenses by specifying a date range.
- Dashboard Visualization: An interactive dashboard displays a pie chart (via Chart.js) that summarizes expenses by category.
- CSV Export: Users can export their expense data as a CSV file for further analysis.

3. Technologies Used

Backend: Python, Flask, Flask-SQLAlchemy, Flask-Login, SQLAlchemy

Database: SQLite

Frontend: HTML, CSS, Bootstrap 5, Chart.js

Other Tools: Python's CSV module (for exporting data)

4. Installation and Setup

4.1 Prerequisites

- Python 3.x installed on your system.
- Basic knowledge of using the command line/terminal.

4.2 Steps to Install

1. Clone or Download the Project.
2. Set up a Virtual Environment:
`python -m venv venv`
3. Activate the Virtual Environment:
 - On Windows: ```venv\Scripts\activate```
 - On macOS/Linux: ```source venv/bin/activate```
4. Install Dependencies:
`pip install -r requirements.txt`
5. Run the Application:
`python app.py`
6. Open your browser and navigate to: `http://127.0.0.1:5000`

5. Usage Instructions

5.1 Public Homepage

URL: ``/`` – Visitors are greeted with a welcoming landing page that includes options to log in or register.

5.2 User Registration and Login

- Registration: Visit ``/register`` to create a new account.
- Login: Visit ``/login`` to sign in. After logging in, you are redirected to the expense management page.

5.3 Expense Management

- Expense List: Authenticated users can view their expenses at ``/expenses`` with filtering options by date range.
- Adding Expenses: Use the “Add Expense” link (or navigate to ``/add``) to add a new expense entry.
- Editing/Deleting Expenses: Each expense entry includes options to edit or delete it.

5.4 Dashboard and CSV Export

- Dashboard: Visit `/dashboard` to view an interactive pie chart summarizing expenses by category.
- CSV Export: Click the "Export CSV" link in the navigation bar to download your expense data in CSV format.

6. Project Structure

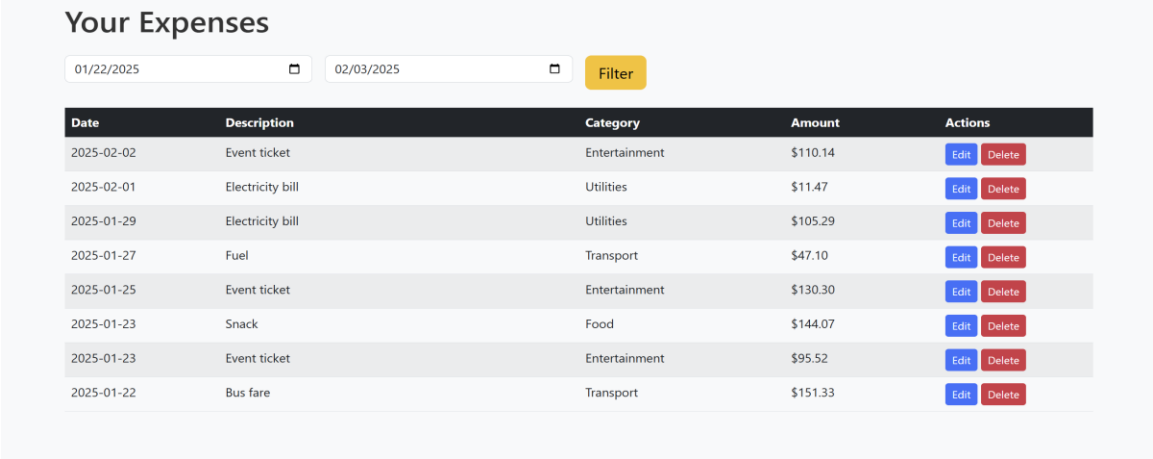
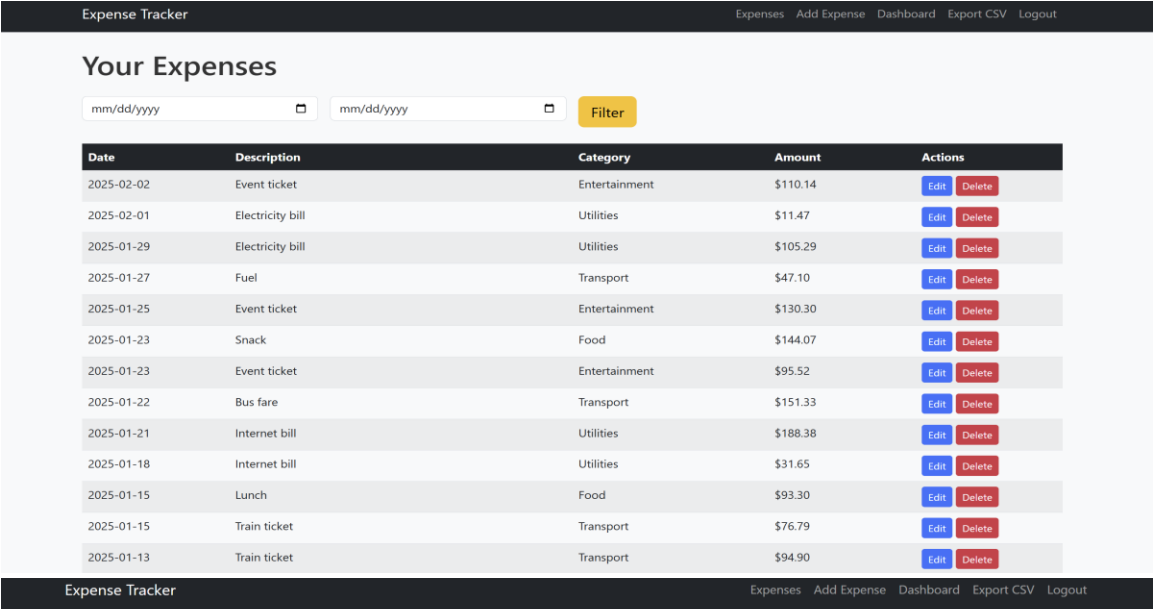
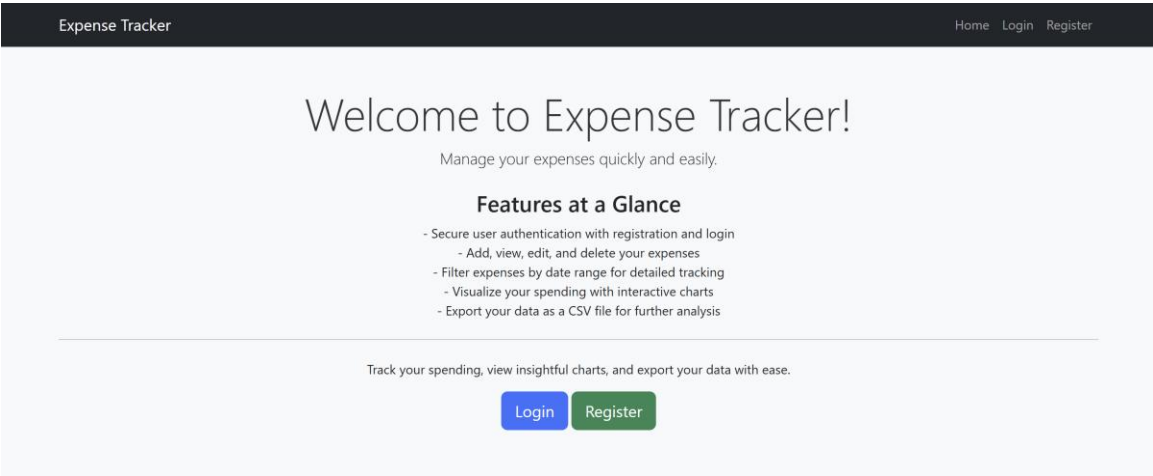
expense_tracker/

- ├── app.py - Main Flask application file.
- ├── requirements.txt - List of project dependencies.
- ├── static/
 - ├── style.css - Custom CSS styles.
- ├── templates/
 - ├── layout.html - Base template with Bootstrap and dynamic navbar.
 - ├── home.html - Public landing page.
 - ├── expenses.html - Expense management page for authenticated users.
 - ├── add_expense.html - Form for adding a new expense.
 - ├── edit_expense.html - Form for editing an existing expense.
 - ├── dashboard.html - Dashboard with a Chart.js pie chart.
 - ├── login.html - User login form.
 - └── register.html - User registration form.

7. Future Enhancements

- Password Reset: Implement password recovery/reset functionality.
- Enhanced Analytics: Add more detailed reporting and analytical features (e.g., monthly summaries, trend analysis).
- Mobile Optimization: Further refine the responsive design for improved mobile experience.
- Cloud Deployment: Deploy the application to a cloud platform (e.g., Heroku, AWS) for public access.
- Additional Features: Consider integrating budget tracking, notifications, or third-party API integrations.

8. User interface



Add Expense

Description

Amount

Date

mm/dd/yyyy



Category

Edit Expense

Description

T-Shirt

Amount

30.0

Date

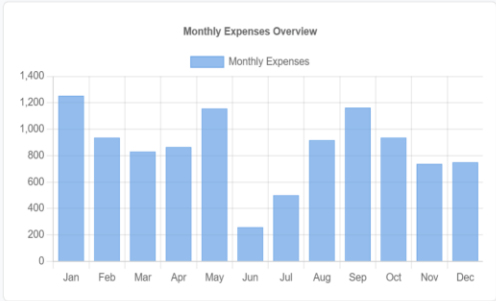
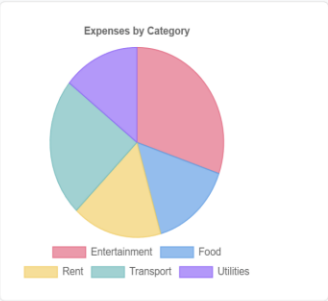
02/04/2025



Category

Clothes

Expense Dashboard



	A	B	C	D
1	Date	Description	Category	Amount
2	2/2/2025	Event ticket	Entertainm	110.14
3	2/1/2025	Electricity b	Utilities	11.47
4	1/29/2025	Electricity b	Utilities	105.29
5	1/27/2025	Fuel	Transport	47.1
6	1/25/2025	Event ticket	Entertainm	130.3
7	1/23/2025	Snack	Food	144.07
8	1/23/2025	Event ticket	Entertainm	95.52
9	1/22/2025	Bus fare	Transport	151.33
10	1/21/2025	Internet bill	Utilities	188.38
11	1/18/2025	Internet bill	Utilities	31.65
12	1/15/2025	Lunch	Food	93.3
13	1/15/2025	Train ticket	Transport	76.79
14	1/13/2025	Train ticket	Transport	94.9
15	1/11/2025	Electricity b	Utilities	94.88
16	12/22/2024	Event ticket	Entertainm	160.4
17	12/12/2024	Monthly rer	Rent	154.53
18	12/11/2024	Monthly rer	Rent	181.89
19	12/9/2024	Monthly rer	Rent	26.55
20	12/4/2024	Monthly rer	Rent	63.44
21	12/1/2024	Dinner	Food	163.92
22	11/30/2024	Electricity b	Utilities	38.24
23	11/30/2024	Monthly rer	Rent	74.34
24	11/30/2024	Dinner	Food	92.25
25	11/29/2024	Bus fare	Transport	83.25
26	11/25/2024	Monthly rer	Rent	18.02
27	11/20/2024	Fuel	Transport	115.38
28	11/14/2024	Internet bill	Utilities	77.76
29	11/14/2024	Lunch	Food	162.65
30	11/2/2024	Fuel	Transport	76.36
31	10/31/2024	Fuel	Transport	99.94
expenses (4)				+

9. Conclusion

The Expense Tracker App is a comprehensive, modern web application that showcases full-stack development skills. With a public landing page, user authentication, dynamic expense management, data visualization, and export functionality, it serves as an excellent portfolio project.

For further information or inquiries, please contact:

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Happy Coding!