SMART EXPENSE TRACKER USING DJANGO

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GitHub Repository: https://github.com/nithishwar17/Expense-Tracker

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1. ABSTRACT

The Smart Expense Tracker is a Django-based web application designed to help users efficiently manage, organize, and analyze their daily expenses.
The system allows users to log expenses with details such as description, amount, category, and date.
It includes smart category prediction using keyword matching, visual analytics through charts, and filtering options such as daily, weekly, and monthly views.

The project demonstrates essential Django concepts such as models, forms, authentication, ORM, template rendering, and data visualization using Chart.js.
It also supports editing, deleting, and exporting expenses, making it a complete personal finance management solution.

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2. OBJECTIVE

- To create a digital platform for users to record and track their expenses.
- To implement secure user authentication for personalized expense data.
- To provide smart category prediction using keyword-based matching.
- To allow users to filter expenses by day, week, or month.
- To visualize spending patterns using interactive charts.
- To enable exporting of expenses through CSV/PDF reports.

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3. PROPOSED SYSTEM

The proposed system simplifies personal finance tracking by providing a centralized expense management platform.

Users can:

- Log in securely using their account.
- Add expenses with relevant details (description, amount, date, notes).
- Automatically receive predicted categories based on keywords.

- Filter expenses by specific time ranges (today, week, month).
- Visualize spending with charts for better financial awareness.
- Edit or delete entries as needed.
- Download reports for offline review.

This system offers a modern alternative to manual expense recording and spreadsheet-based tracking.

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4. SYSTEM REQUIREMENTS

Software Requirements

- Operating System: Windows 10/11
- Python 3.x
- Django Framework
- SQLite Database
- Browser: Chrome / Edge
- IDE: Visual Studio Code

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5. TECHNOLOGIES USED

Component	Technology Used
Language	Python
Framework	Django
Database	SQLite
Frontend	HTML, CSS, Bootstrap
Visualization	Chart.js
Authentication	Django Auth System
Tools	VS Code, GitHub

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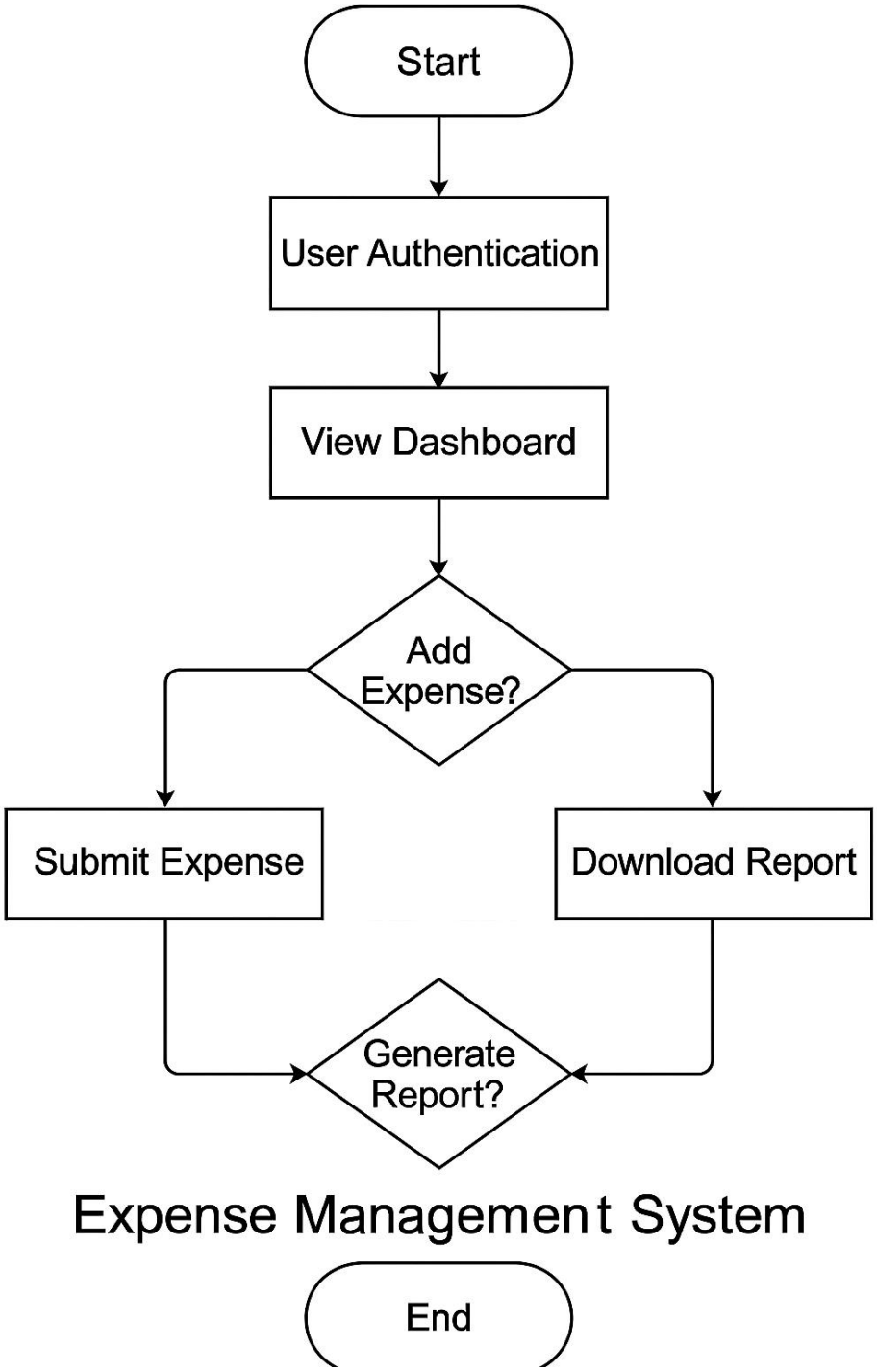
6. SYSTEM ARCHITECTURE / WORKFLOW

Workflow:

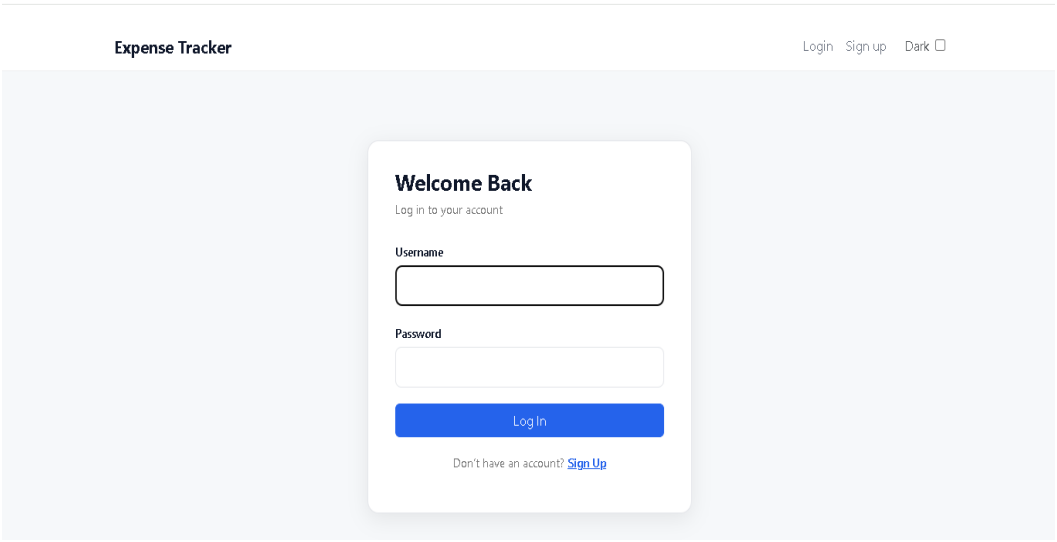
1. User registers or logs into the application.
2. Adds an expense with details such as description, amount, and date.
3. Smart category prediction runs using keyword matching.
4. Expense is stored in the database and shown on the dashboard.
5. User can filter expenses (Today / This Week / This Month).

6. Chart.js displays visual graphs of category-wise and time-wise spending.
7. User can edit, delete, or download the expense report.

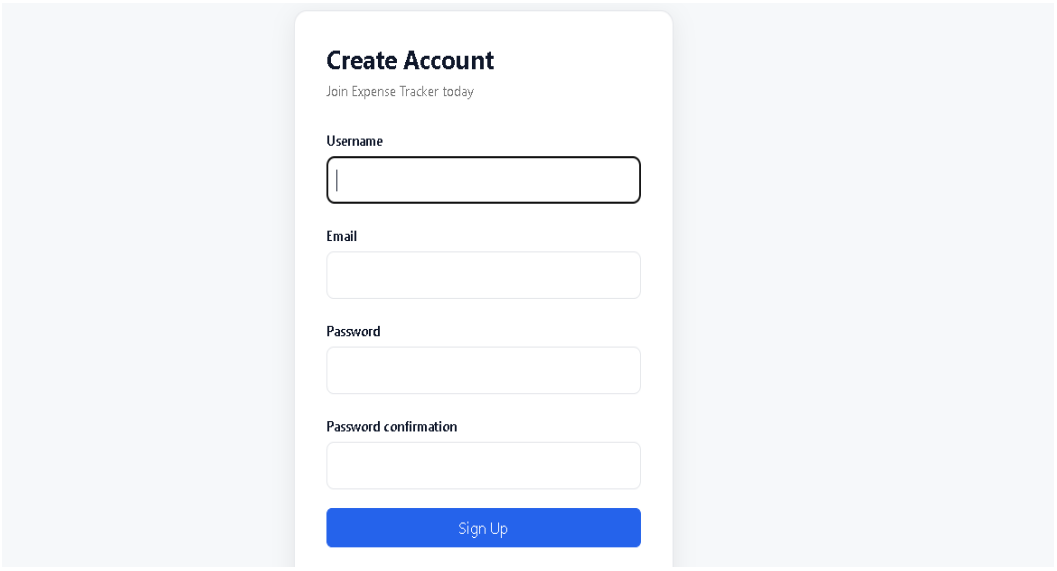


8. SCREENSHOTS & OUTPUT

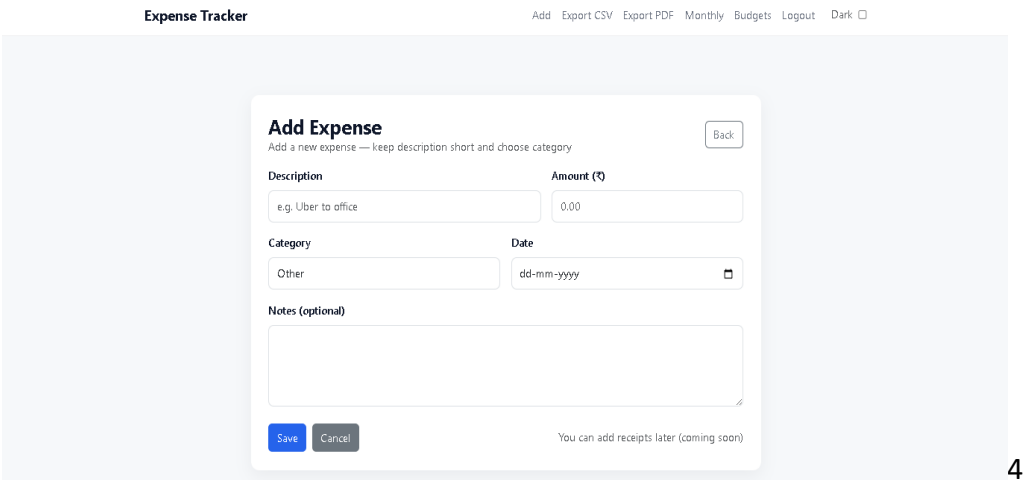
- Login Page



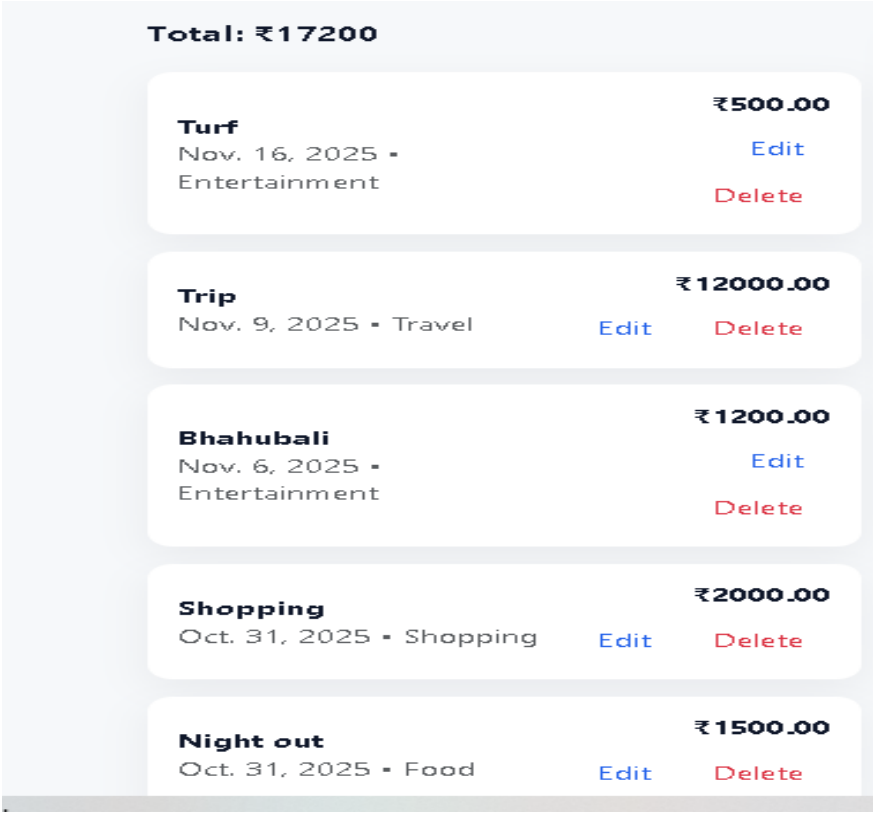
- Register Page



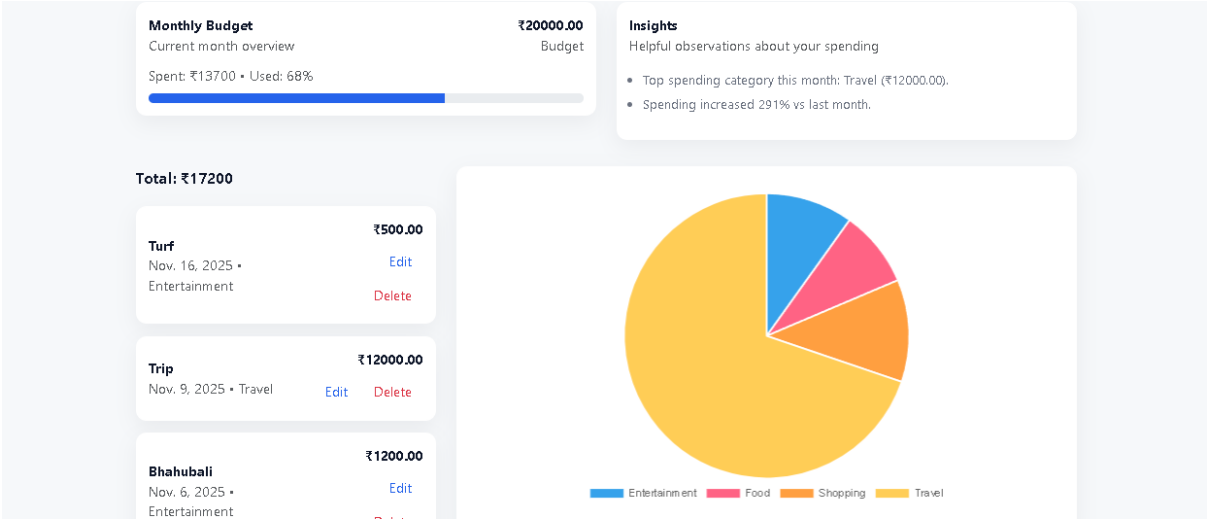
- Add Expense Page



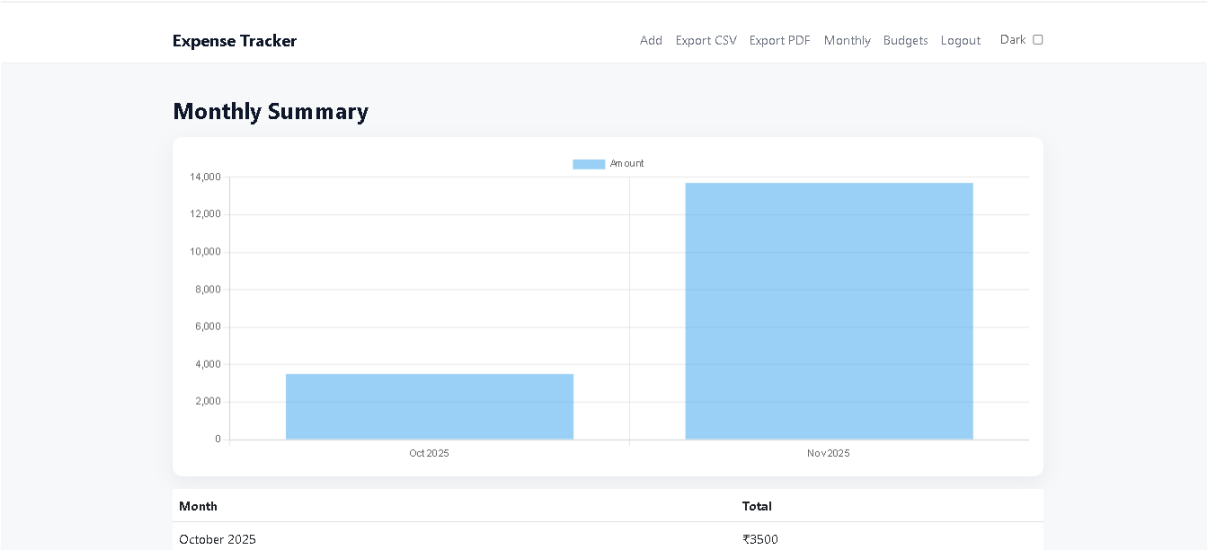
- Expense List



- Category-wise Chart



- Monthly Trend Chart



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9. RESULTS & DISCUSSION

The application successfully provides a digital platform for managing personal finances.

- Users can securely add and manage expenses.
- Smart predictions reduce manual category entry.
- Date-wise filters help users understand short-term and long-term spending patterns.
- Visual charts offer intuitive financial insights.
- Exporting data enables offline review and record-keeping.

10. CONCLUSION

The Smart Expense Tracker offers an efficient and user-friendly solution for personal expense management.
By integrating authentication, data storage, smart predictions, and visualization, the system provides an all-in-one financial tracking tool.
The project demonstrates the practical application of Django in real-world scenarios.

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11. FUTURE ENHANCEMENTS

- Integrate AI/NLP for more accurate category prediction.
- Add budget planning and spending limit alerts.
- Introduce cloud-based synchronization for multi-device support.
- Add advanced analytics and monthly financial summaries.
- Implement dark mode and customizable themes.