

AI-Based Virtual Personal Assistant for Finance

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Abstract

This project is an AI-powered finance assistant that helps users track expenses, set budgets, and receive real-time financial advice using AI technologies such as Flask, MySQL, and gTTS. It offers secure login, transaction tracking, visual reports, and an interactive chatbot.










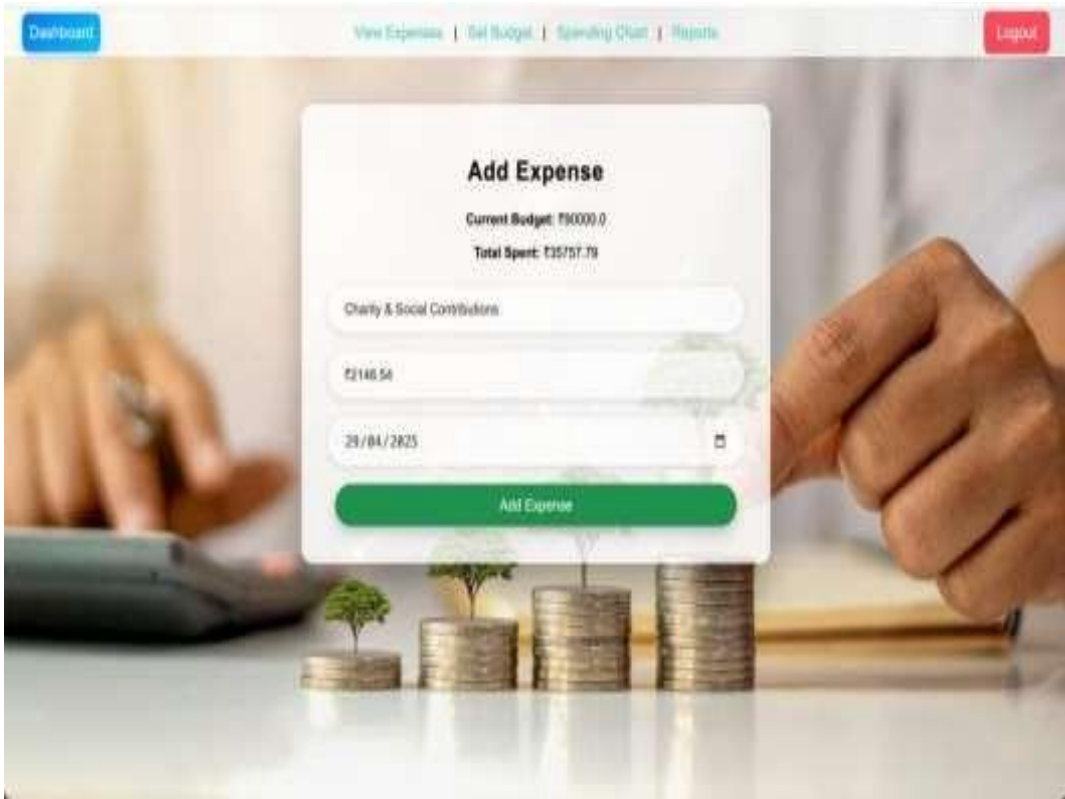


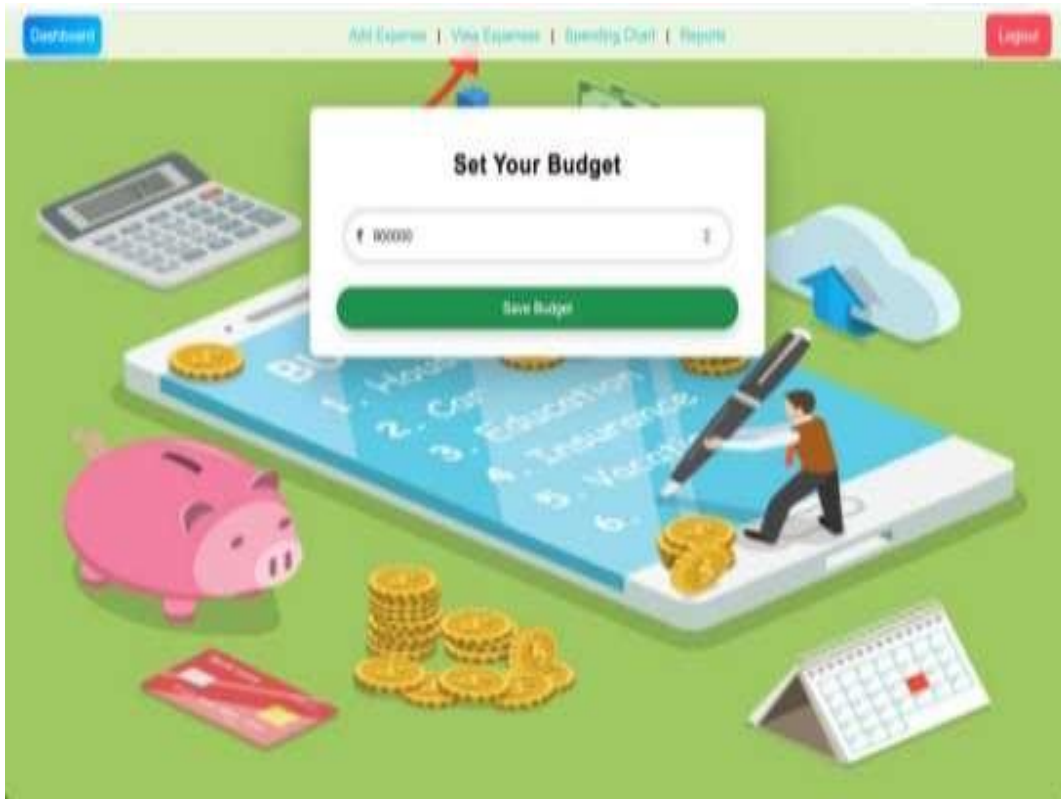
[Dashboard](#)[View Expenses](#) | [Set Budget](#) | [Spending Chart](#) | [Reports](#)[Logout](#)

Add Expense

Current Budget: £90000.0
Total Spent: £35757.79







Dashboard

[Add Expense](#) | [Set Budget](#) | [Spending Chart](#) | [Reports](#)

Logout

Stored Transactions

Transactions Found: 12

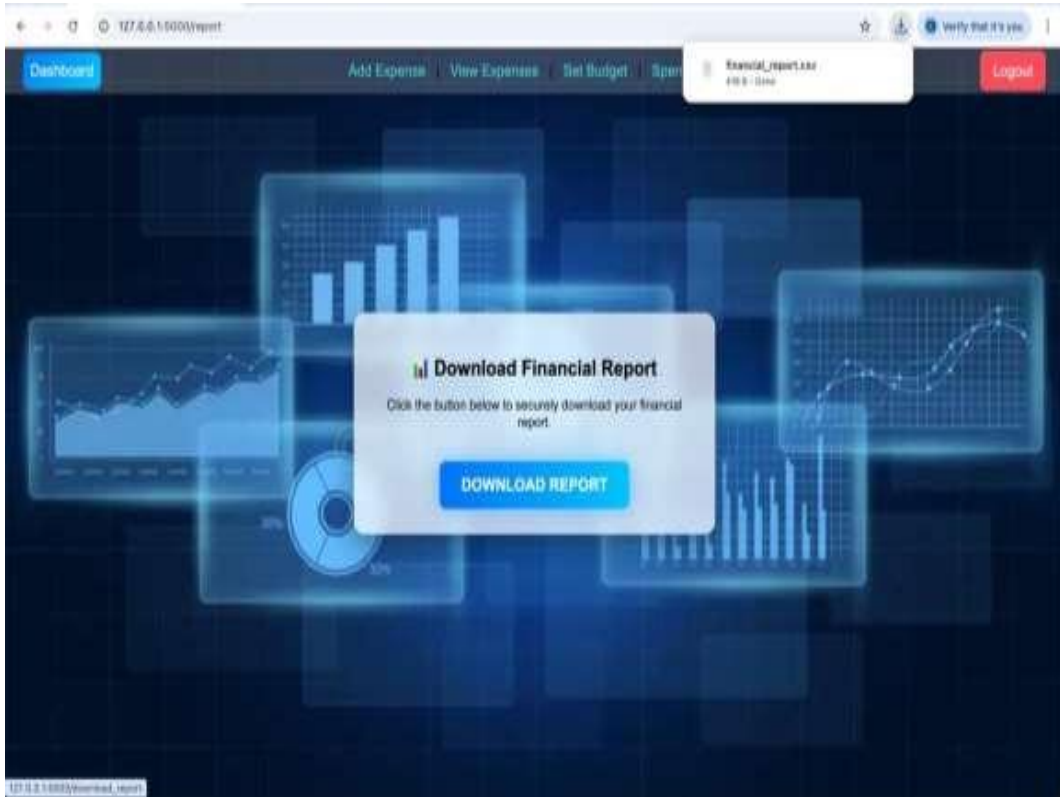
Category	Amount	Date	Action
Food	₹10732.00	01-03-2025	Delete
Rent	₹10000.00	10-03-2025	Delete
Bills	₹7185.14	04-03-2025	Delete
Mobile Recharge	₹2140.54	27-03-2025	Delete
Insurance	₹5724.11	12-04-2025	Delete
Charity & Social Contributions	₹2140.54	29-04-2025	Delete
Education	₹3677.57	02-05-2025	Delete
Savings Deposit	₹10732.71	29-03-2025	Delete
Household Essentials	₹5379.83	14-04-2025	Delete
Transport	₹9379.83	19-03-2025	Delete

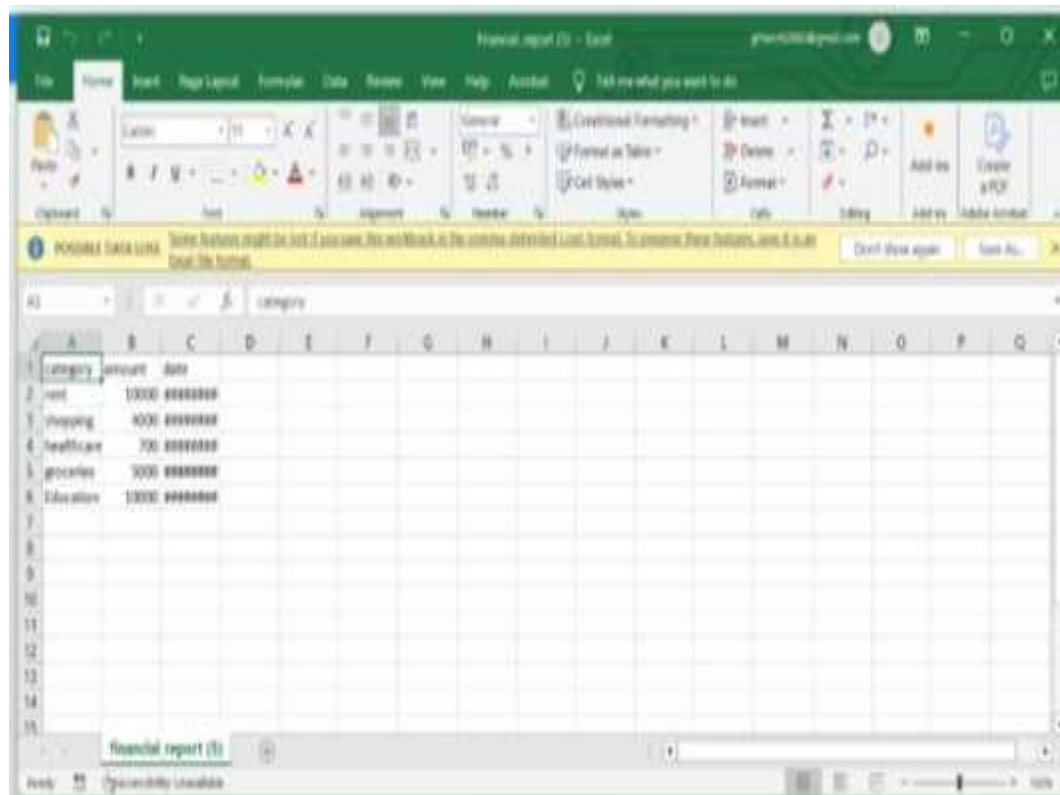
Transaction deleted successfully!

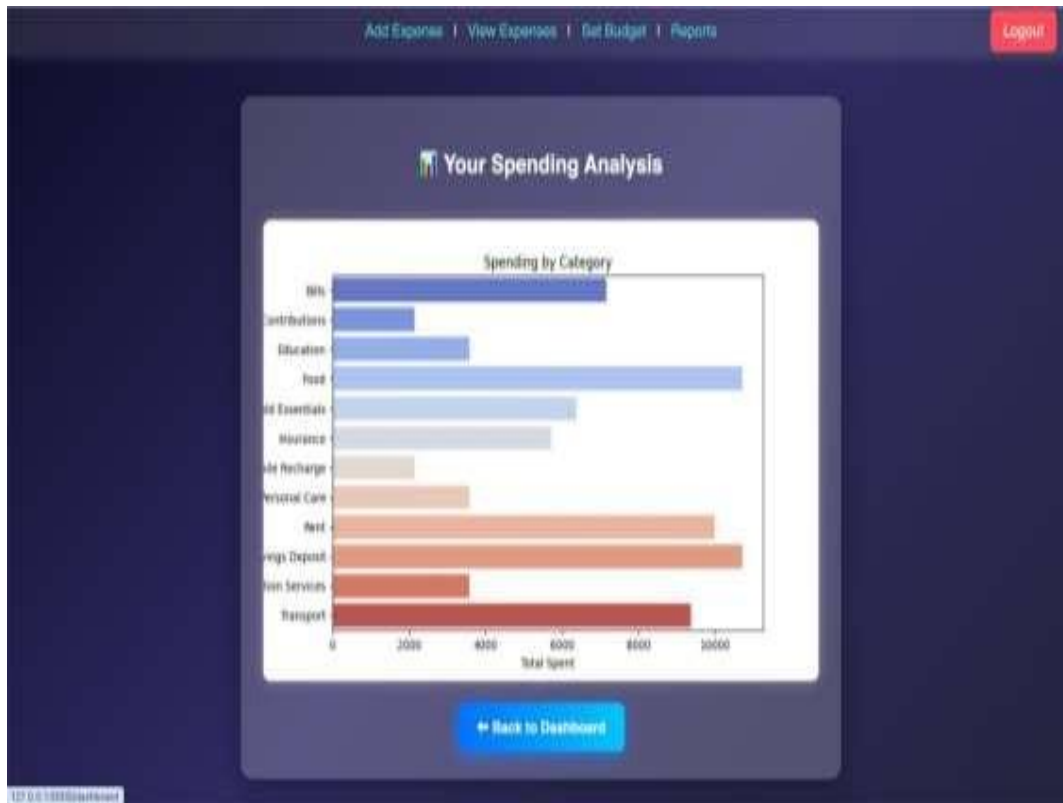
Stored Transactions

Transactions Found: 12

Category	Amount	Date	Action
Food	£10732.00	01-03-2020	Delete
Rent	£10000.00	10-03-2020	Delete
Bills	£7166.14	04-03-2020	Delete
Mobile Recharge	£2146.54	27-03-2020	Delete
Insurance	£5724.11	12-04-2020	Delete
Charity & Social Contributions	£2146.54	29-04-2020	Delete
Education	£3577.87	02-05-2020	Delete
Savings Deposit	£10732.71	29-03-2020	Delete







System Design and Architecture

The system follows a three-tier architecture consisting of user interface, backend processing, and database storage. It ensures scalability and security.

Expense Tracking and Budget Management

Users can add, edit, and delete expenses. The system automatically categorizes expenses and alerts users if they exceed their budget.

AI Chatbot Assistance

An AI-powered chatbot provides real-time advice, investment tips, and personalized financial insights.

Visualization and Reports

Charts and graphs offer visual representation of spending patterns. Users can download CSV reports for offline analysis.

Security and Privacy

The system uses encrypted authentication and secure data storage to ensure user information remains safe from unauthorized access.

Future Scope

Potential enhancements include multi-currency support, advanced fraud detection, and real-time integration with banks.

Conclusion

This comprehensive report provides a deeper understanding of the AI-based finance assistant, encouraging developers, students, and financial advisors to use and enhance the system.