WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Web Based Personal Expense Tracker

Eesha Dubey[1], Shruti Jaiswal[2], Anushka Sakshi Phillips[3], Roshni Kukreja[4]

Dept. of CSE, Shri Shankaracharya, Technical Campus ,Bhilai, Chhattisgarh, India eeshadubey24@gmail.com
Dept. of CSE, Shri Shankaracharya, Technical Campus ,Bhilai, Chhattisgarh, India Jaiswalshruti010@gmail.com
Dept. of CSE, Shri Shankaracharya, Technical Campus, Bhilai, Chhattisgarh, India anushkaphilips@gmail.com
Dept. of CSE, Shri Shankaracharya, Technical Campus ,Bhilai, Chhattisgarh, India Roshnikukreja12@gmail.com

ABSTRACT :

Managing personal finances effectively is critical in modern life, especially with increasing digital transactions.

In this paper, we propose a full-stack web-based personal expense tracker built using the Django framework in Python. The system allows users to log expenses and incomes, categorize transactions, visualize spending patterns, and manage budgets.

Key features include real-time analytics, a responsive user interface, and secure user authentication. The implementation emphasizes usability, scalability, and maintainability, making it suitable for deployment in both personal and small business contexts.

I. INTRODUCTION

An expense tracker is a tool designed to help individuals or businesses monitor and manage their spending. By recording every expense, users can gain insights into their financial habits, identify areas where they might be overspending, and ultimately make more informed decisions about their finances.

Personal financial management plays an essential role in ensuring economic stability and informed decision-making. Despite numerous available tools, many users find them complex or not tailored to their needs. Therefore, a lightweight, user-friendly application built using open-source tools like Django offers a practical solution.

The system logs daily transactions, displays insights through graphs, and helps users set financial goals, all within an intuitive interface.

II. RELATED WORK

Several mobile and web-based applications exist for tracking expenses (e.g., Mint, YNAB, Spendee). However, most are either proprietary or subscription-based.

Open-source solutions often lack modern user interfaces or integration capabilities. Django, with its robust ORM and templating system, is ideal for developing scalable and customizable financial tools.

Other studies have explored expense tracking using mobile technologies, machine learning for predictive budgeting, and blockchain for secure logging.

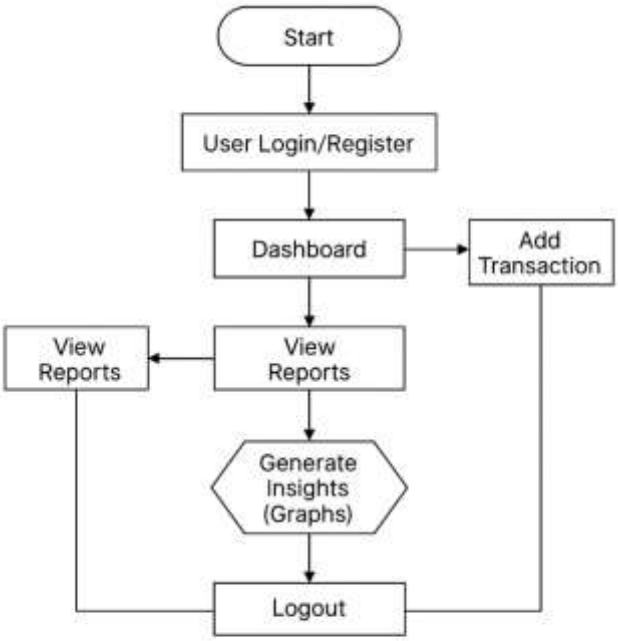
III. METHODOLOGY

Backend: Django (Python), PostgreSQL

- Frontend: HTML/CSS, Bootstrap, Chart.js
- Authentication: Django's built-in auth module

Database Design includes tables for Users, Transactions, Categories, and Budgets. Features include transaction logging, category assignment, budget thresholds, and visual insights. Security involves CSRF protection, input validation, and password encryption. The system is deployed on Heroku with integrated CI/CD for updates.

IV. FLOWCHART OF THE SYSTEM



SYSTEM FLOWCHART

Start – Initialize the system.

Login/Register – User logs in or creates an account.

Dashboard – Display financial summary and options

Add Transaction – Input income or expense details.

Save to DB – Store transaction in the database.

Filter by Date/Category – Narrow down data for analysis.

View Reports – Display filtered results and charts.

Generate Insights – Visualize spending patterns.

Logout – End user session securely.

End – Exit the system.

V. LITERATURE REVIEW

Recent studies emphasize the importance of visual feedback in personal finance tools.

Applications like 'BudgetInsight' use predictive models, while others like 'TrackEveryCent' focus on minimal UIs.

Django-based applications have grown in popularity due to their modularity and speed of development.

Open-source alternatives often miss advanced analytics or responsiveness.

VI. EXPERIMENTAL RESULTS

A usability test was conducted among 25 participants aged 18-40.

Key outcomes:

- System Usability Score (SUS): 87/100

- Average Load Time: 1.2s per page
- Data Entry Accuracy: 99.8%

User Satisfaction: 92% found it more intuitive than spreadsheet-based methods.

CONCLUSION

The developed web-based expense tracker using Django proved to be an effective, secure, and scalable solution for personal financial management. Its modular design allows for future expansion such as mobile app integration, predictive analytics, and API connectivity.

FUTURE WORK

- **Mobile App Integration** – Let users track expenses on the go with a dedicated mobile app.
- **Payment API Support** – Automatically log transactions by connecting to payment services like Stripe.
- **Smart Budgeting Suggestions** – Use AI to recommend personalized budgets based on spending habits.
- **Multi-Currency Support** – Help users manage finances across different currencies seamlessly.
- **Google Sheets Export** – Allow users to export their data to Google Sheets for external analysis.
- **Daily Alerts** – Send helpful reminders or summaries via email or SMS to stay on budget
- **Group Budgeting** – Enable families or roommates to manage shared expenses together.
- **Biometric Login** – Add fingerprint or face recognition for quick and secure access.
- **Voice Commands** – Let users add transactions or check balances using natural language.
- **Progressive Web App (PWA)** – Make the app installable on any device without needing the app store.

REFERENCE

1. Django Documentation - https://docs.djangoproject.com
2. PostgreSQL Documentation - https://www.postgresql.org/docs/
3. Bootstrap 5 - https://getbootstrap.com
4. .Chart.js - https://www.chartjs.org
5. Nielsen, J. (1994). Usability Engineering
6. GitHub - Expense Tracker Django Projects