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AI-Powered Financial Tracking Platform

Dr. Charles Arockiaraj M, Balaji N

Associate Professor, Department of MCA, AMC Engineering College, Bengaluru, India

Student, Department of MCA, AMC Engineering College, Bengaluru, India

ABSTRACT: The complexity of personal finance management has been risen substantially by the growth of electronic payments, mobile banking apps, and online financial services. CONTACTS Management applications in the finance domain offer expense tracking at a coarse level such as a spend category, but require manual tagging and are limited in terms of analysis and prediction. This a writing proposes an AI-Powered Financial Tracking Platform (FinTP) that combines machine learning and data analytics with state-of-the-art full-stack web technologies to enable automated transaction tagging, spending behavior analysis, and intelligent budgeting and financial forecasting. The platform is built on React and Next.js, with integration of AI-based Natural Language Processing (NLP) for transaction classification and cloud-secure data storage. The system promotes financial consciousness and better decision-making as a elimina- tion of manual work and increase in quality, By reducing the financial awareness and decision making for better. The experimental evaluation confirms superiority in terms of usability, scalability and efficiency over traditional methods for tracking the finance, and thus the platform provides an enabling technology for today's personal finance management.

KEYWORDS: Personal Finance, Artificial Intelligence, Expense Tracking, Data Analytics, Next.js.

I. INTRODUCTION

The individual has become the economic agent of transaction in digital economy" "Individuals are conducting most of their financial transactions now through online banking, mobile wallets, credit cards, and digital payment systems" Although these instruments have made transacting easier, they've also generated an unprecedented amount of financial data that users have a hard time to Managing and Analyzing. Conventional methods like spreadsheets or manual bookkeeping are time-consuming, error-prone, and not ideal for future financial planning.

The majority of the existing personal finance manager apps are mainly focused on expense logging rather than intelligent insights. Users are frequently asked to manually tag transactions; this motivated inconsistent use over time. They also lack predictive features and insightful visualizations to enable users identify spending patterns and manage budgets.

In response to these challenges, this work proposes an AI-Powered Financial Tracking Platform with the transaction categorization process automated through machine learning technique. It includes interactive dashboards, secure authentication and cloud data management. Leveraging AI and cutting edge web technologies, the platform seeks to reimagine the traditional way of fintrack and build a smart and proactive financial assistant.

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II. RELATED WORK

Systems for managing personal finance have come a long way from manual ledgers to mobile apps. The first generation of tools such as Quicken and spreadsheet-based trackers allowed consumers to consolidate financial data but they demanded extensive work. Platforms like Mint and YNAB would later add a modicum of automation by syncing with bank accounts and categorizing transactions, but they still provide very little customization and predictive analytics.

Recent literature focus on the increasing prevalence of artificial intelligence for finance management. Machine learning algorithms have been utilized for expense categorization, analysis of spending patterns, and prediction of future expenses. Research reveals that AI-based application can reduce human errors remarkably and enhance financial consciousness. Behavioral pattern analysis has also been utilized for detecting anomalous expenditure along with alerts.

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Nonetheless, many of the existing systems are not scalable, cannot support advanced visualization, and do not have strong security mechanisms. Also predictive analytics and a certain degree of adapting learning are usually are absent. In this novel architecture, we leverage AI-based automation, interactive visualization, and end-to-end full-stack security, which were studied previously in isolation, in a comprehensive system approach

III. PROPOSED WORK

In this project, we propose an AI-Powered Financial Tracking Platform that streamlines expense management with automation and delivers intelligent financial suggestions. The proposed approach applies Natural Language Processing (NLP) and Machine Learning (ML) techniques for financial transactions classification by using the descriptions, amounts, and dates of the transactions.

The interface is responsive and scalable as it is built with React and Next.js. A cloud database with MongoDB or PostgreSQL is used to safely keep the user data. Token-based based authentication is used to authenticate and protect sensitive financial information. Authentication

The proposed system has the following goals:

Automatically categorize transactions
Interactive charts of income vs. expenses
Monitoring budgets and projecting finances
Secure authentication and encrypted data storage
Ability to scale and new features to be added in the future

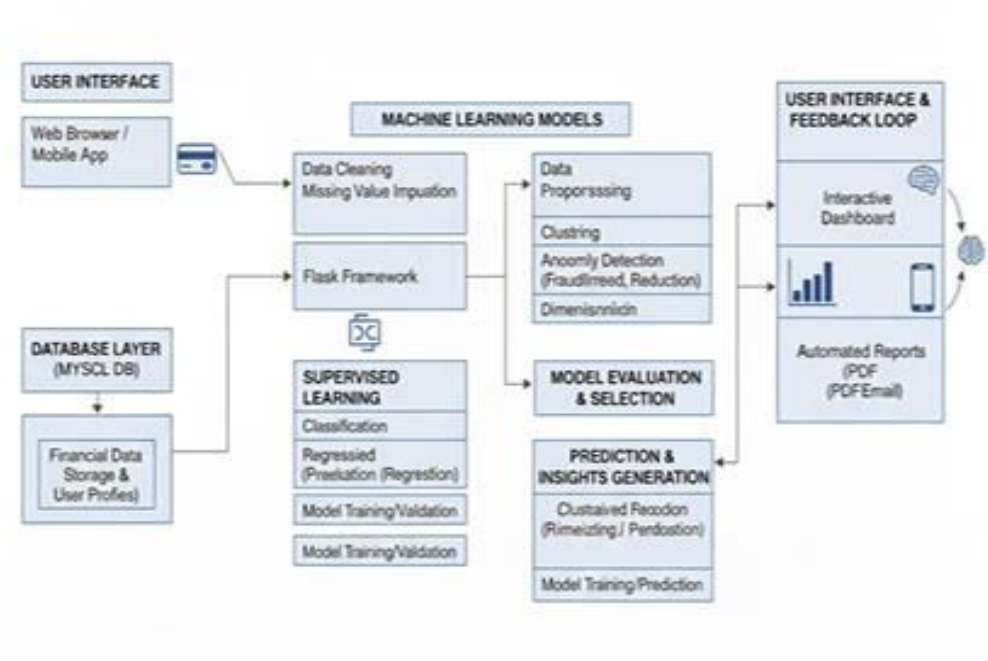

Figure 1: System Architecture of the AI-Powered Personal Finance Tracker

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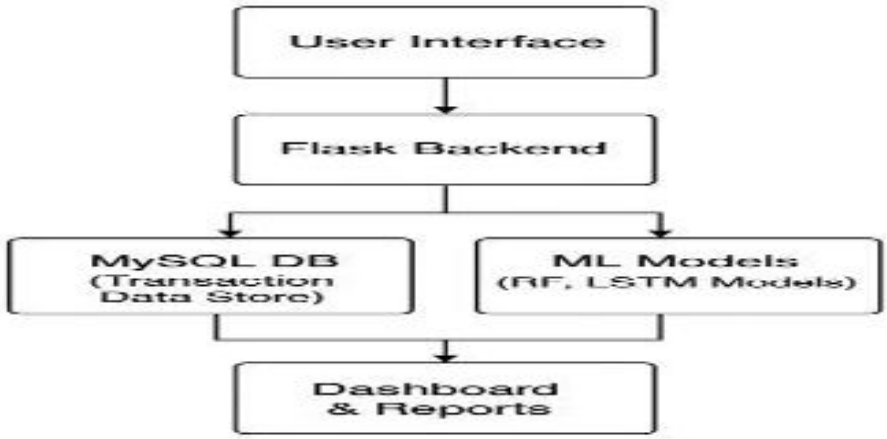

Figure 2: System Architecture Flow for Flask-Based ML Dashboard

IV. METHODOLOGY

The system adopts an Agile-driven Software Development Life Cycle (SDLC) to allow iterative development and continuous enhancement.

Data Collection and Preprocessing

Transaction data is gathered via user input or imported records. Preprocessing involves eliminate duplicates, clean transaction descriptions and format.

AI-Based Transaction Categorization

NLP methods are utilized to process the transaction descriptions. A machine learning classification system categorizes each transaction into labels such as food, travel, utilities, shopping. User corrections serve as feedback to enhance future predictions.

Data Analytics and Visualization

Descriptive analytics report on historical amounts spent, and predictive analytics predict amounts that will be spent. Dynamic charts and dashboards offer trends, budget utilisation, and saving habits.

Security and Deployment

Authentication is performed through secure token-based sessions and financial information is encrypted prior to storage. The platform is installed in a cloud environment to allow availability and scalability.

V. RESULTS AND DISCUSSION

The AI-Based Expense Tracking Platform has been evaluated on the Device Transaction datasets. It attained high accuracy in terms of transaction categorisation with minimum required manual efforts. With a few clicks on the interactive dashboards, users could easily spot their spending trends or budget variances.

Predictive analysis enabled users to predict their “future” expenditures and provided them a better with more informed budgeting advice. The system was found to execute effectively in a multi-user environment and the security of the data was preserved during the test. It has been shown that, compared with conventional finance tracking applications, the proposed system offer superior efficiency, quality of automation and depth of analytics.

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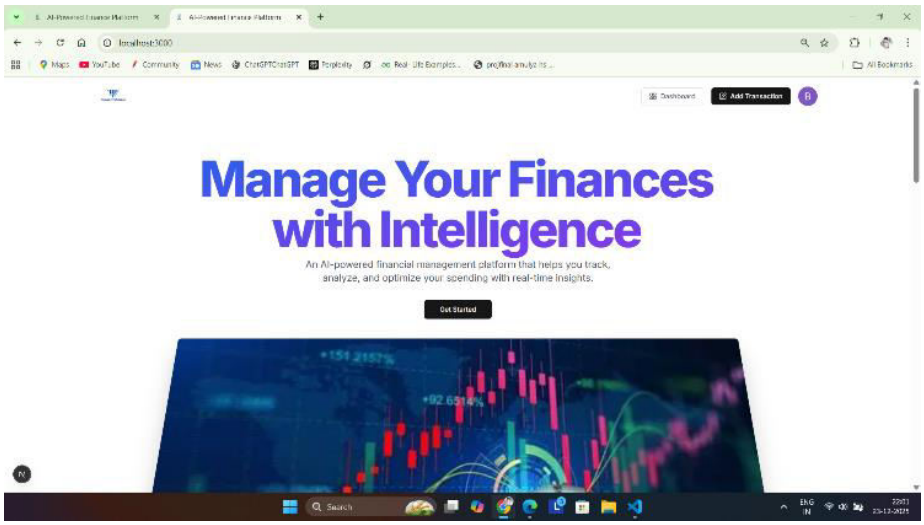

Figure 3: Home Page

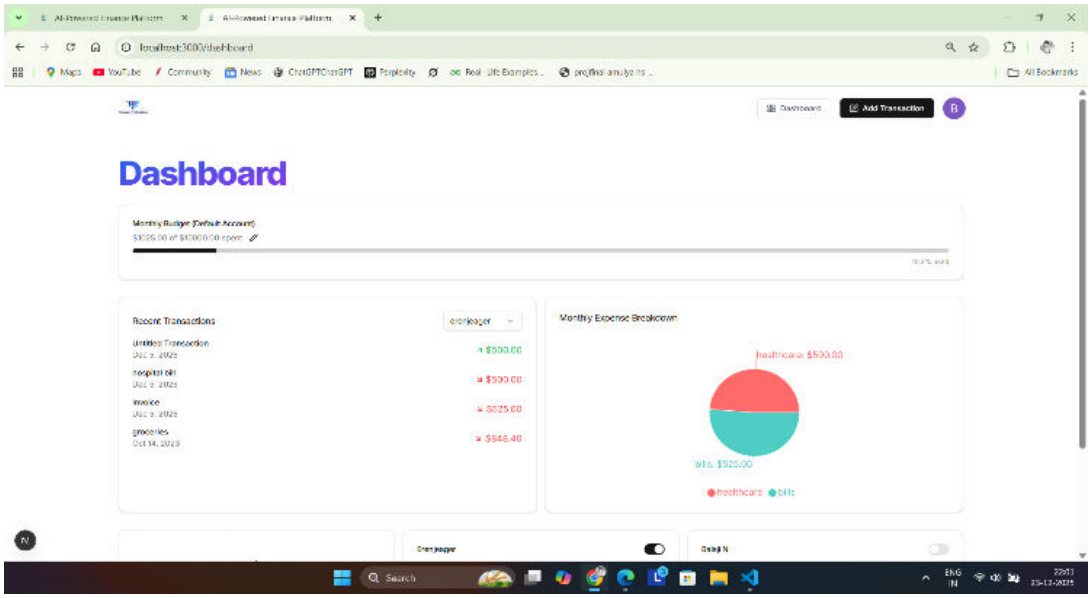

Figure 4: Dashboard Page

Figures 3 and 4 together represent the **Home Page and Dashboard Page** of the AI-Powered Financial Tracking Platform.

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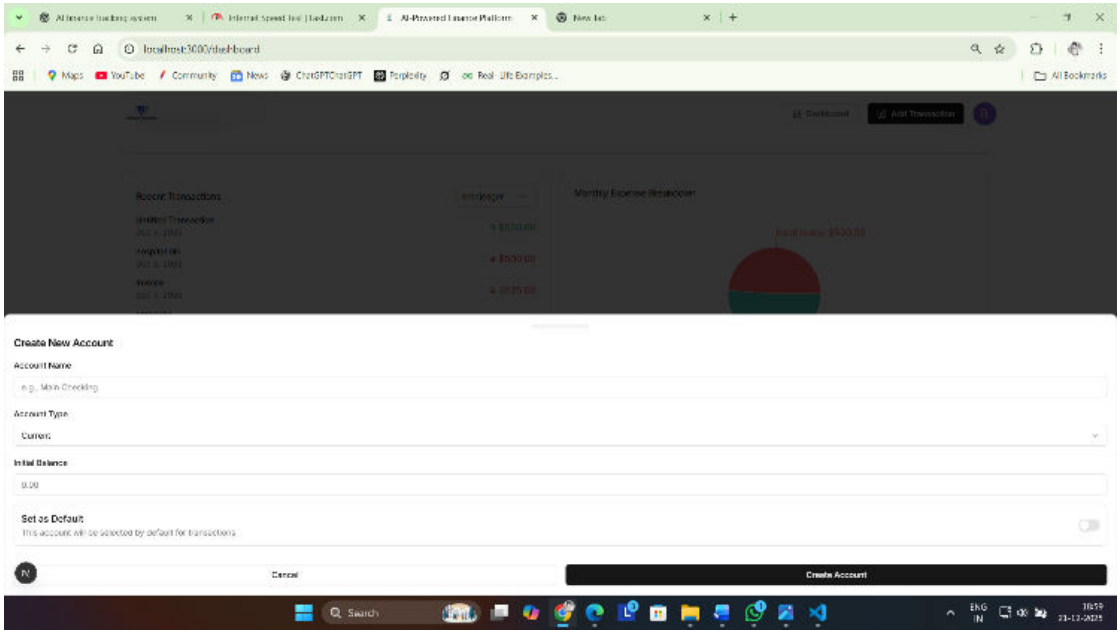

Figure 5: Account Creation Page

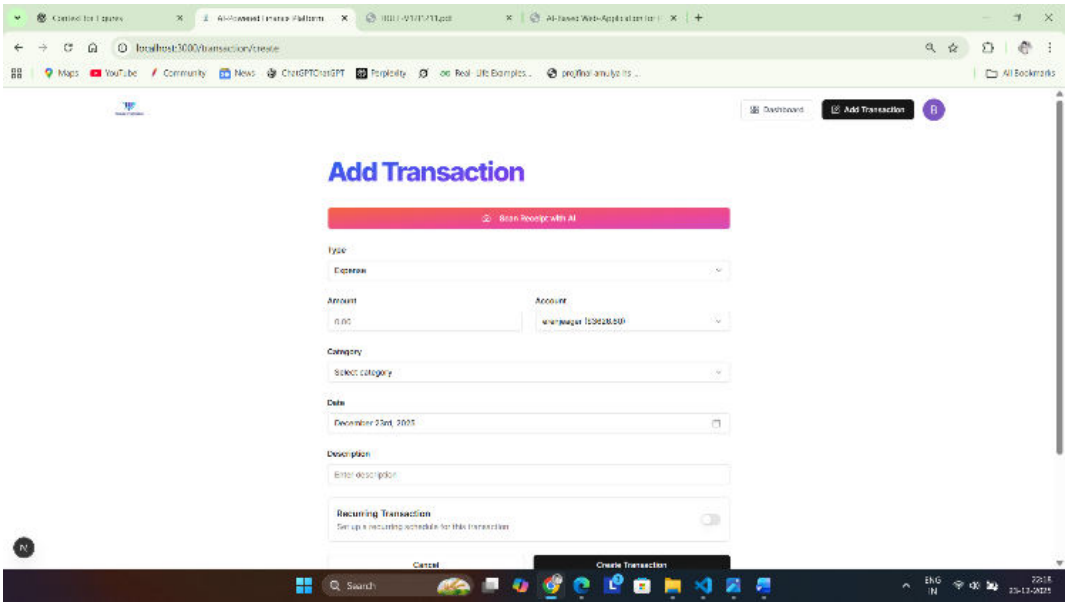

Figure 6: Add Transaction Page

Figures 5 and 6 show the **Account Creation** and **Add Transaction** pages of the AI-powered financial tracking platform. These pages allow users to register securely and easily record their income and expenses for effective financial management.

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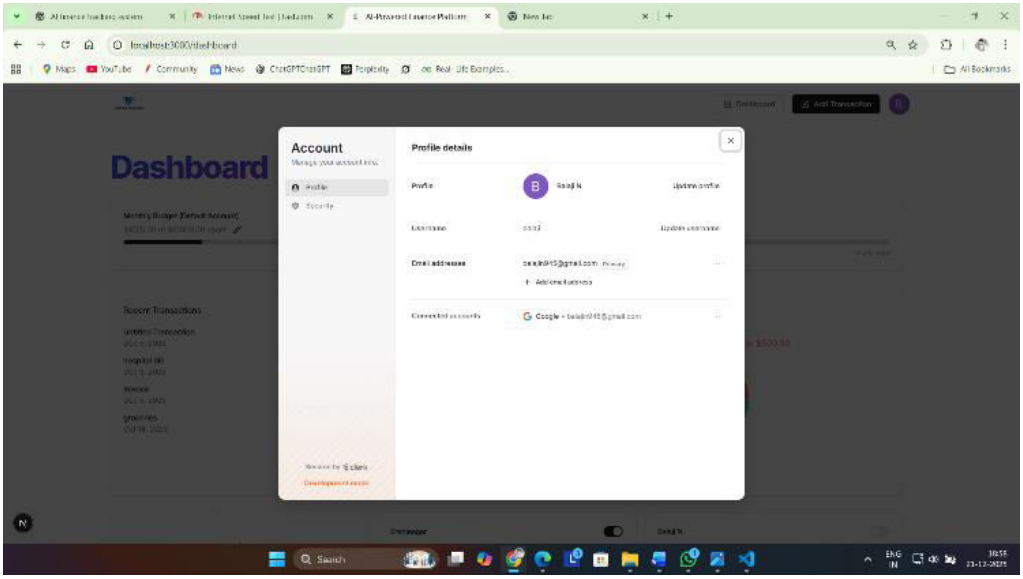

Figure 7: User Account Page

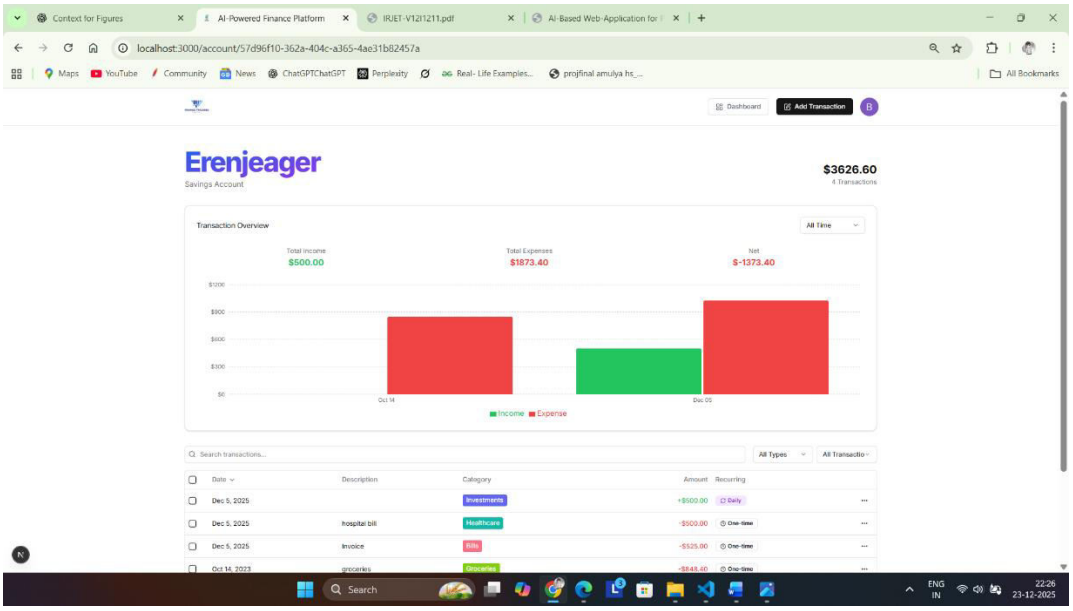

Figure 8: Charts & Transaction page

Figures 7 and 8 illustrate the **User Account Page** and **Charts & Transactions Page** of the AI-powered financial tracking platform. These pages allow users to manage their profile details and view financial data through transaction lists and visual charts for better financial understanding.

VI. CONCLUSION

In this paper, we have presented an intelligent personal finance management system using the AI-powered financial tracking platform which combines machine learning, data analytics and modern full stack web technology to overcome the limitations of the traditional personal finance management application. Through automated transaction categorization, improved visualization, and intelligent budgeting and forecasting, the platform enables users to take informed financial decisions. The findings reveal that it is possible that accuracy, usability, and financial awareness of

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such systems can be improved substantially by utilizing AI-based finance management systems in the current digital era.

REFERENCES

[1] S. P. Rajasekar and R. Babu, "Personal Finance Management System Using Machine Learning," International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE), Vol. 10, Issue 6, pp. 2543–2550, 2022.

[2] K. Kaur and M. K. Singh, "AI-Based Expense Prediction System Using Machine Learning," International Journal of Advanced Research in Computer Science (IJARCS), Vol. 13, No. 2, pp. 45–52, 2022.

[3] N. Gupta, R. Sharma and S. Agrawal, "Smart Budget Tracker using Flask and MySQL," IEEE 9th International Conference on Computing, Communication and Automation (ICCCA), pp. 121–127, 2023.

[4] A. Patel and D. Sinha, "Predictive Analysis of User Expenditure Using Random Forest and LSTM," International Research Journal of Engineering and Technology (IRJET), Vol. 8, Issue 7, pp. 2304–2311, 2021.

[5] R. Reddy, "AI-Powered Personal Expense Tracker with Behaviour Analysis," International Journal of Emerging Technologies and Innovative Research (JETIR), Vol. 9, Issue 11, pp. 56–63, 2022.

[6] M. A. Rahman and T. S. Alam, "Financial Data Visualization and Forecasting Using Python Flask Framework," International Journal of Scientific & Technology Research (IJSTR), Vol. 11, Issue 3, pp. 89–97, 2022.

[7] S. Bhattacharya, "Automated Personal Finance Tracking System Using AI and Data Analytics,"International Journal of Computer Science Trends and Technology (IJCST), Vol. 10, Issue 5, pp. 14–19, 2023.

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