

AI Enabled Finance Management Portal

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Abstract: *Most students have trouble managing money and institutions have trouble managing the same thing, just on a larger scale. This project, the AI Enabled Finance Management Portal, aims to fix that with a single web platform built using ReactJS, Django and MySQL. Students are given a digital wallet to monitor pocket money, scholarships or part-time earnings, set spending limits, and receive basic AI-generated saving tips via the Gemini API. However, admins can track recurring expenses, manage budgets for departments and get a better picture of where funds are going. Secure with OTP login and encrypted access.” In general, the system replaces manual and error-prone tracking with something faster, clearer and a little bit smarter*

Keywords: *AI Enabled Finance*

I. INTRODUCTION

Money is rewarding for those able to control it properly and punishing for those who can't. This rule is applicable to any institutional accounting, including personal finance, as a universal one.

The examples of traditional ways of managing one's personal finance are represented by the use of paper accounting methods as well as the utilization of spreadsheet programs. Nevertheless, modern accounting practices dictate that more advanced information technologies such as artificial intelligence should be applied. The finance portal that may be created would be valuable due to its ability to make the organization of private and small business accounting much more professional. The main value of the finance portal would be related to the ability of its users to benefit from tracking all expenditures and detecting any fraudulent activities in real time due to the application of artificial intelligence. In this regard, the finance portal would be valuable for residents and small business people due to the opportunity to organize their accounting much better, thus reducing the chance of any fraud. In addition, the value of the portal would be in the fact that it can significantly reduce the time and effort of traditional accounting. Thus, the finance portal would be valuable for residents and small business people as it would provide them with the opportunity to maximize the benefits of their accounting in a professional way while decreasing the time.

II. METHODOLOGY

The project started by identifying core needs for students and admins, then split the system into two modules accordingly. We used ReactJS for the frontend, Django for the backend logic and APIs and MySQL to store the user, transaction and budget data.

Student transactions are updated in real time and automatically categorised. The data is sent to the Gemini API to get simple saving recommendations. A dashboard for admins to manage budgets and track expenses of departments.

Security was provided through encrypted logins and recovery based on OTP. The system was tested module by module, then integration testing before the final deployment.

III. MODELING AND ANALYSIS

Table 1. Tools and usage

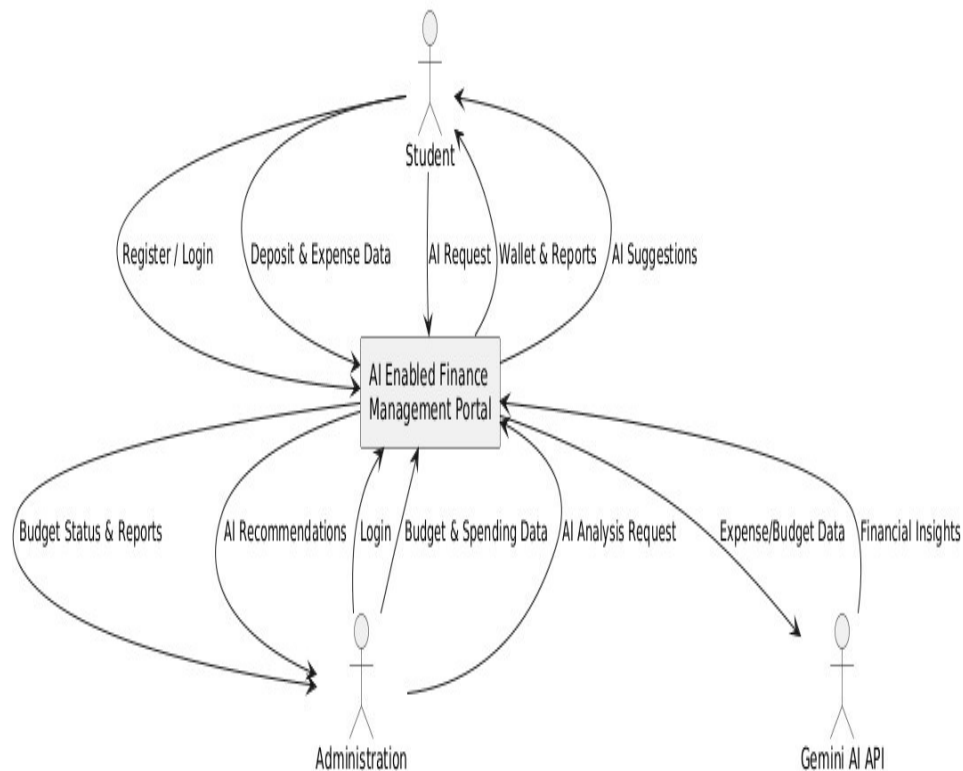
Sl. no	Material /Tools	Category
1	Python	Programming Language



2	DIJANGO , MY SQL SERVER	BackEnd
3	HTML5, CSS, JAVASCRIPT, REACTJS etc.	Front End

IV. FLOW DIAGRAM

Context Flow Diagram - AI Enabled Finance Management Portal



V. SNAP SHOTS

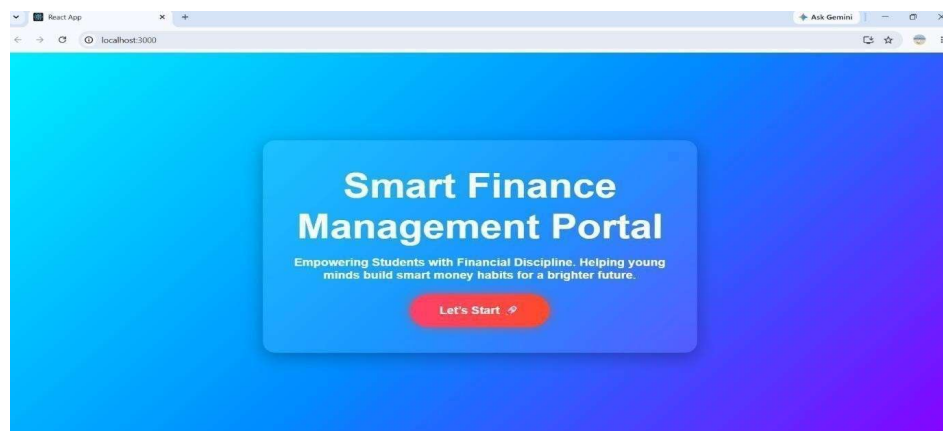


Fig 1 :Home Page



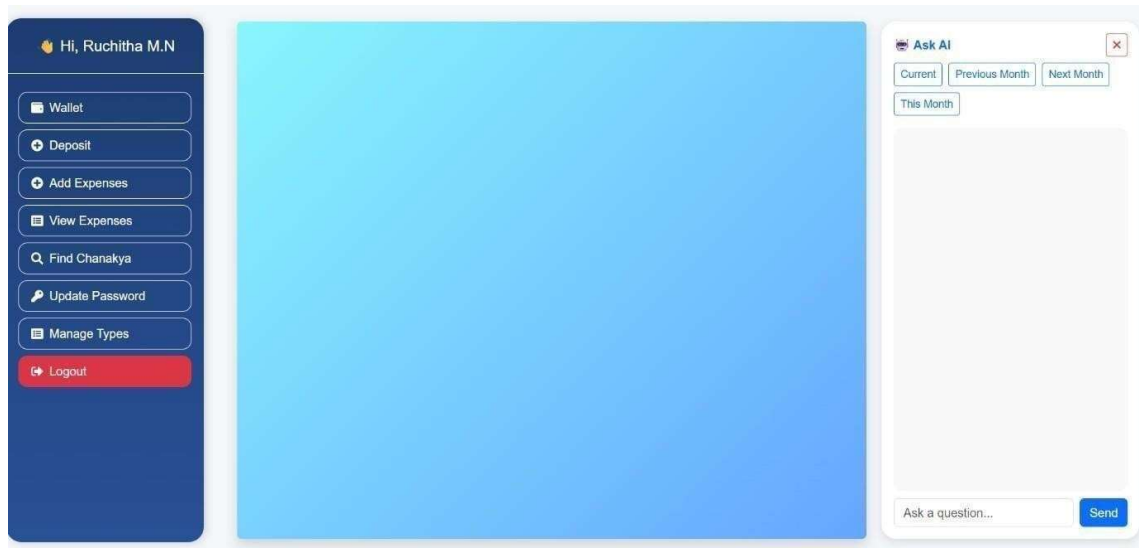


Fig 2: Dashboard interface of Smart Finance Management Portal

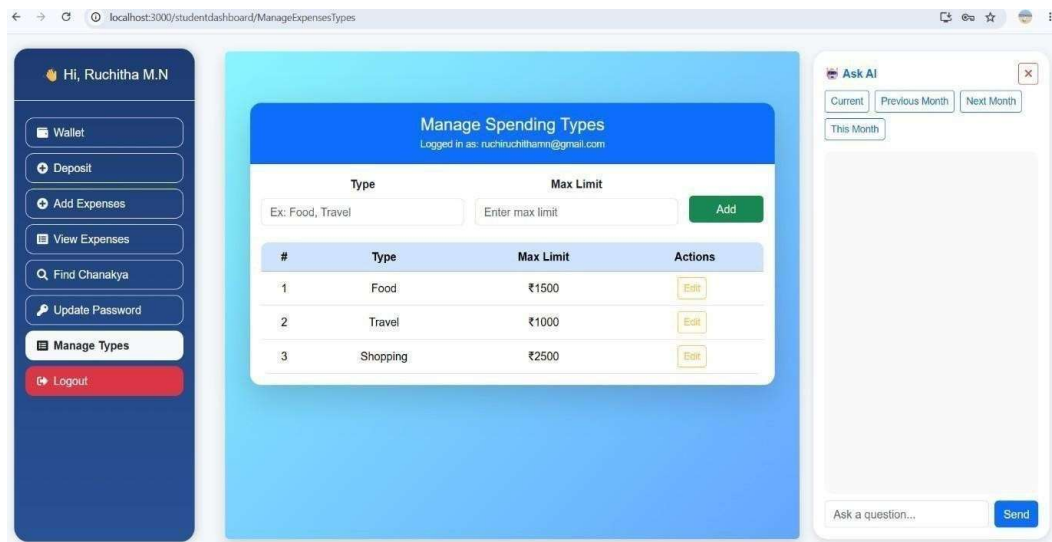


Fig 3 :Manage spending types interface of Smart Finance Management Portal





Fig 4 : Spending trend analysis interface of Smart Finance Management Portal

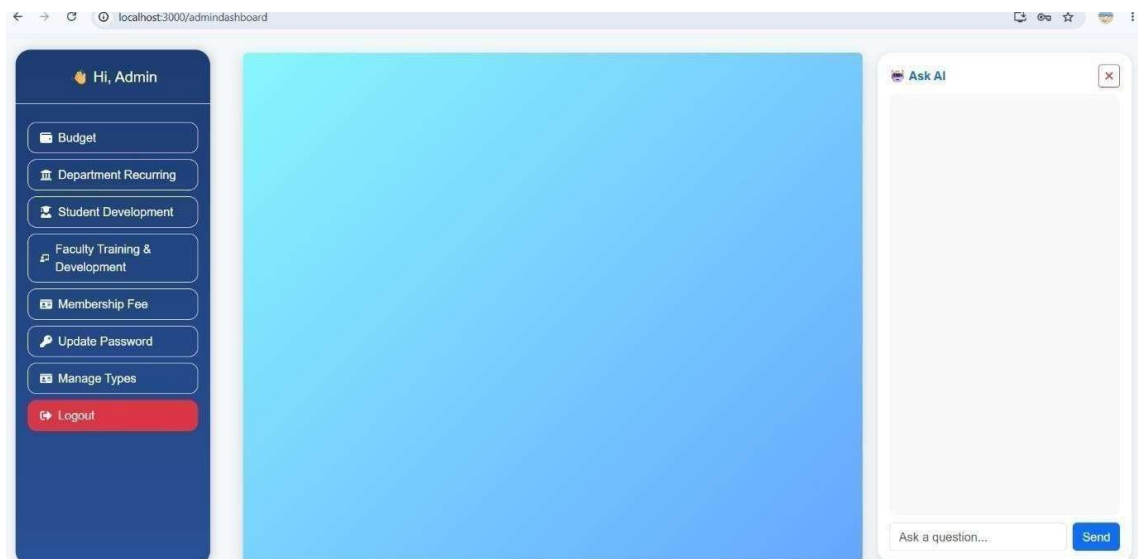


Fig 5 : Administration dashboard interface of Smart Finance Management Portal



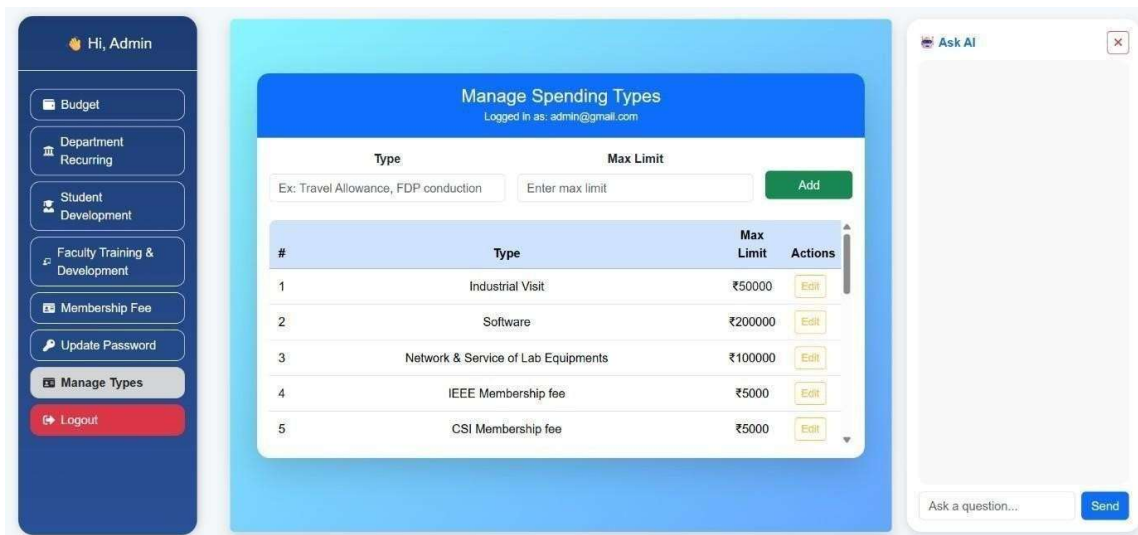


Fig 6 : Administration manage spending types interface of smart finance management portal.

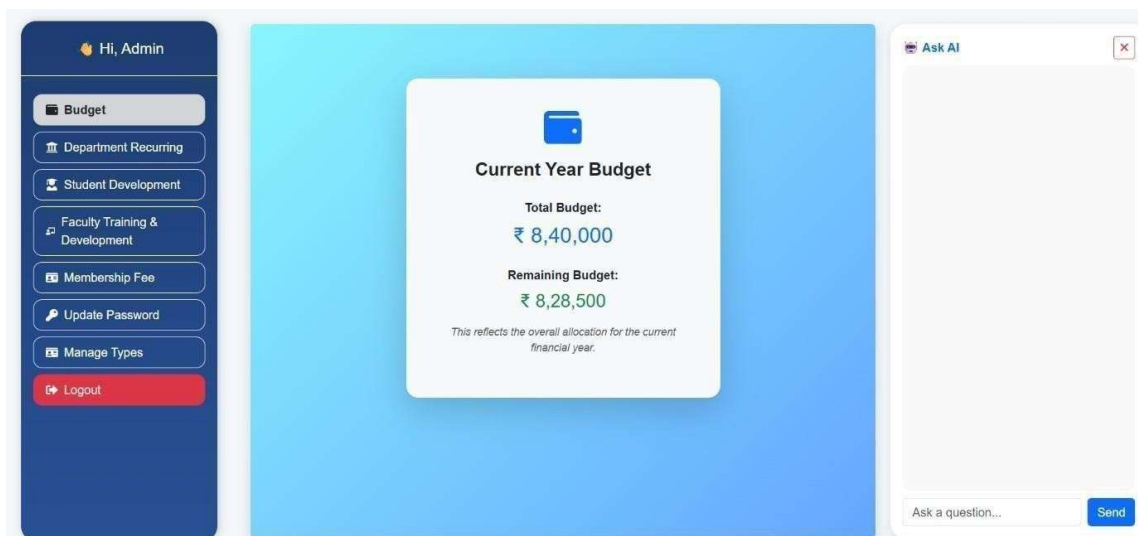


Fig 7: Administration budget overview interface of Smart Finance Management Portal



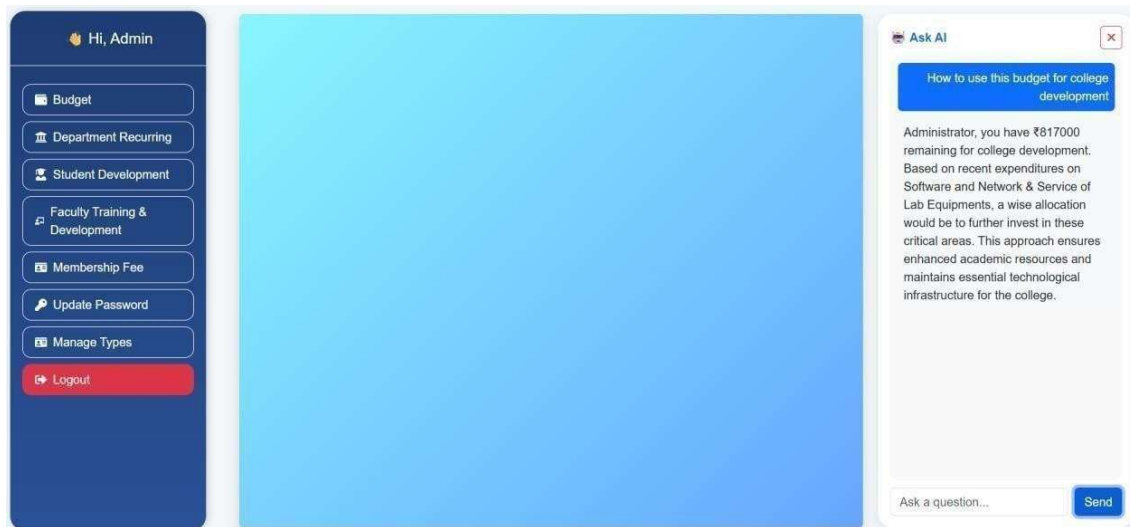


Fig 8: Administration budget utilization with artificial intelligence interface of Smart Finance Management Portal

VI. RESULTS AND DISCUSSION

Testing proved the portal worked as expected. Students could add funds, track expenses and see category-wise spending immediately, while Gemini's AI suggestions offered useful, personalised saving tips. It allowed admins to easily assign budgets and track spending for departments, with the ability to automatically flag recurring costs and generate reports in real time. Login security features such as OTP recovery were reliable. All in all the system made financial tracking easier and more transparent, but the real banking integration and load testing is left for future work.

VII. CONCLUSION

The AI Enabled Finance Management Portal aims to simplify financial management for students and administrators. It fulfills its purpose as it was designed to do by providing the administrators the ability to organize the university's financial data and analyze the budget and expenditures of various departments.

The application can be beneficial for its users due to a few essential functions, including tracking of expenses, establishing a monthly budget, representing spending information visually in graphs, and providing AI-based advice. The application to ensure that it meets all requirements and can withstand potential attacks, thus being secure and reliable. Consequently, the software will help students track deposits and maintain their spending and assist administrators in achieving the best performance in the university's financial operation.

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