

# AI-Based Personal Assistant Report

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## Abstract

This report presents an AI-powered personal assistant for managing finances. The system helps users track expenses, set budgets, and receive real-time advice using AI technologies such as Flask, MySQL, and Google Text-to-Speech. It provides secure authentication, expense categorization, interactive chatbot assistance, and detailed visual reports to enhance financial awareness and management.



## **System Design**

The system uses a modular architecture composed of three layers: the client layer, application layer, and data layer. The client layer provides an interactive interface for users, the application layer processes data using AI models, and the data layer securely stores user information and transaction records.

## **User Authentication & Authorization**

The authentication module ensures secure access by enabling registration and login features. Passwords are hashed and sessions are managed securely to prevent unauthorized access.

## **Expense Tracking and Budget Management**

Users can add, edit, and delete expenses. The system automatically categorizes expenses and provides real-time alerts when budgets are exceeded. Users can set and update their financial goals with ease.

## **AI Chatbot Assistance**

The AI chatbot powered by NLP techniques answers financial queries, provides investment suggestions, and helps users make informed decisions. Audio responses enhance user interaction through Google Text-to-Speech integration.

## **Visualization & Reporting**

Expense data is presented in clear bar charts and pie charts. Users can view trends and download reports in CSV format, helping them track financial performance over time.

## **Security and Privacy**

The system prioritizes user data security through encryption, authentication, and access control. Regular updates and monitoring ensure compliance with privacy standards.

## **Future Scope**

Future improvements include integrating with financial institutions, adding multi-currency support, improving fraud detection, and enhancing AI-driven financial planning tools.

## Conclusion

This report offers a comprehensive overview of the AI-based personal assistant system designed to enhance financial planning and expense management. With features like real-time tracking, interactive chatbot guidance, and secure data handling, the system empowers users to make smarter financial decisions. Its scalable architecture and user-friendly design make it an ideal solution for individuals and organizations aiming to improve financial well-being.