

# Finwise: Personal Finance Management System

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**Abstract** - Managing personal finances is an essential yet challenging task for individuals. Many people struggle to track their income, expenses, and savings effectively, leading to poor financial planning. Traditional methods such as manual record-keeping or spreadsheets are inefficient and error-prone.

This project presents Finwise – a Personal Finance Management System, developed using the Django web framework. The system allows users to manage their financial activities efficiently by tracking income, expenses, and savings goals through an interactive web interface.

The application provides features such as user authentication, expense tracking, savings goal management, and dashboard visualization. It stores user data securely in a database and enables users to monitor their financial behavior in real time.

The system aims to simplify financial management, improve financial awareness, and support better decision-making. It can be further extended with advanced analytics and AI-based recommendations.

**Keywords:** Django, Web Application, Personal Finance, Expense Tracking, Financial Management.

## I. INTRODUCTION

In today's fast-paced world, managing personal finances has become increasingly important. Individuals need to track their expenses, monitor their savings, and plan their financial goals effectively.

However, many users face difficulties such as:

- Lack of proper tracking tools
- Manual calculation errors
- No centralized system for financial data

To overcome these issues, a web-based system named Finwise is developed.

## What is Finwise?

Finwise is a web-based financial management system that helps users:

- Track income and expenses
- Set savings goals
- View financial summaries
- Manage personal accounts
- It provides a user-friendly interface and secure data handling using Django.

## II. PROBLEM STATEMENT

Existing financial management methods have the following drawbacks:

- Manual tracking is time-consuming
- Data is scattered and unorganized
- No real-time insights
- No proper goal tracking

There is a need for a system that:

- Centralizes financial data
- Provides real-time tracking
- Allows goal management
- Ensures data security

## III. OBJECTIVES OF THE PROPOSED SYSTEM

The main objectives of the project are:

1. To develop a web-based financial management system
2. To enable users to track income and expenses
3. To provide savings goal management
4. To store and manage financial data securely
5. To provide a dashboard for financial insights

## IV. LITERATURE REVIEW

Financial management systems have evolved from manual bookkeeping to digital applications. Early systems relied on spreadsheets and standalone applications, which lacked real-time processing and scalability.

Recent developments in web-based applications have enabled centralized financial tracking with improved accessibility. Frameworks such as Django provide robust tools for building secure and scalable systems.

Studies have shown that automated financial tracking systems improve financial awareness and reduce unnecessary expenses. However, many existing systems lack user-friendly interfaces and integrated goal management features.

The proposed system addresses these limitations by providing a unified platform for expense tracking and savings management with real-time updates.

### V. SYSTEM DESIGN AND ARCHITECTURE

The Finwise system follows a three-tier architecture:

- Presentation Layer (User Interface)
- Application Layer (Django Backend)
- Data Layer (SQLite Database)

The system is modular in design, ensuring flexibility and scalability.

System Architecture of Finwise

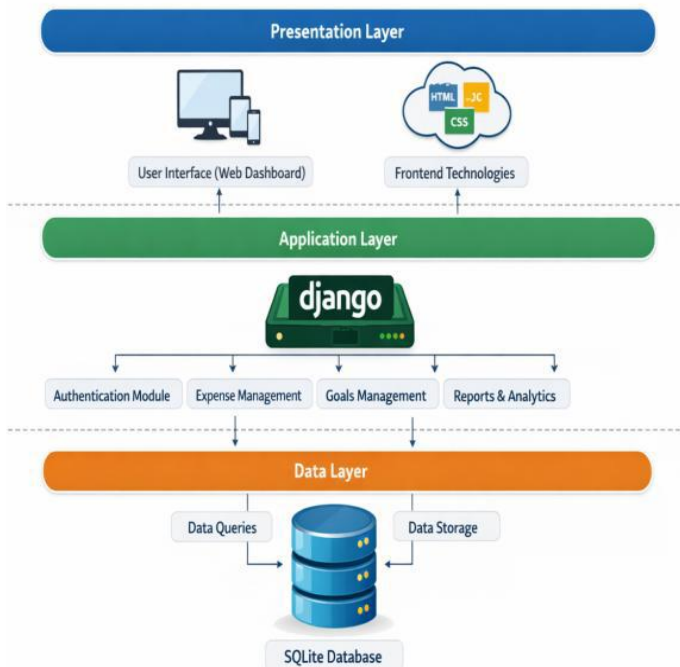


Figure 1: System Architecture of Finwise

The system architecture of Finwise follows a three-tier model consisting of presentation, application, and data layers. The presentation layer handles user interaction, the application layer processes logic using Django, and the data layer stores information in the SQLite database.

### VI. METHODOLOGY

The system is developed using a structured approach consisting of the following modules:

#### 6.1 User Authentication Module

- Handles registration and login
- Ensures secure access

#### 6.2 Dashboard Module

- Displays financial summary
- Shows total expenses and savings

#### 6.3 Expense Management Module

- Allows users to add and view expenses
- Stores data in database

#### 6.4 Savings Goal Module

- Enables users to set financial goals
- Tracks progress

#### 6.5 database Management Uses SQLite database

- Stores user data securely
- Uses SQLite database

### VII. PROPOSED SYSTEM

The proposed system, Finwise, is a web-based personal finance management application designed to help users efficiently manage their financial activities. The system provides features such as expense tracking, savings goal management, and real-time dashboard visualization.

The system follows a modular architecture consisting of authentication, dashboard, expense management, and savings goal modules. It uses the Django framework for backend processing and SQLite database for secure data storage.

The proposed system reduces manual effort, improves financial awareness, and enables users to make informed financial decisions.



Figure 2: Data Flow Diagram (Level 0)

The Level 0 Data Flow Diagram represents the overall interaction between the user, Finwise system, and the database. The user provides inputs such as login details, expense data, and savings goals. The system processes this information and stores it in the database. The processed output is then displayed to the user in the form of dashboards and reports.

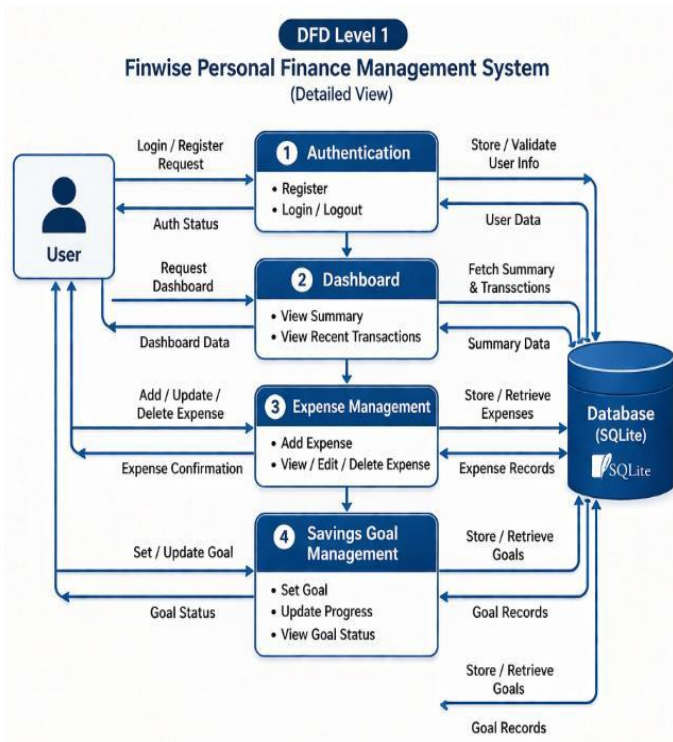


Figure 3: Data Flow Diagram (Level 1)

The Level 1 Data Flow Diagram provides a detailed view of internal processes of the Finwise system. It includes modules such as authentication, dashboard, expense management, and savings goal management. Each module interacts with the database to store and retrieve data. The diagram shows how user requests are processed step-by-step within the system

### VIII. WORKING OF THE PROPOSED SYSTEM

The working of the Finwise system is described as follows:

1. The user registers or logs into the system
2. After authentication, the dashboard is displayed
3. The user can add expenses and set savings goals
4. The system processes and stores data in the database
5. The dashboard updates dynamically based on user inputs
6. The user can view financial summaries and track progress

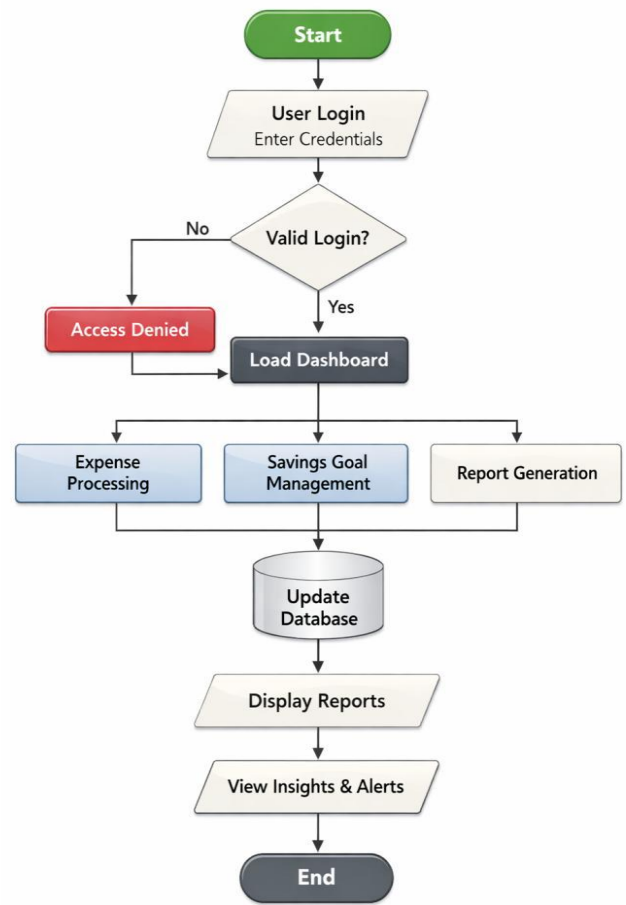


Figure 4: System Flowchart

The system flowchart illustrates the step-by-step working of the application from user login to data processing and report generation. It shows how user inputs are validated and processed before being stored in the database.

### IX. RESULTS AND DISCUSSION

The developed system provides an efficient solution for managing personal finances. The application successfully tracks expenses and savings goals while providing real-time updates.

The system improves financial awareness and reduces manual effort. Compared to traditional methods, it offers better accuracy, efficiency, and usability.

### X. ADVANTAGES

- Automated financial tracking
- User-friendly interface
- Secure data storage
- Real-time updates
- Scalable system

### XI. LIMITATIONS

- Limited graphical visualization
- No mobile application
- No AI-based recommendations

### XII. FUTURE SCOPE

Future enhancements of the system include:

- Integration of data visualization tools
- Development of mobile application
- AI-based financial recommendations
- Cloud-based database system

### XIII. CONCLUSION

The Finwise Personal Finance Management System provides an effective solution for managing financial data. It simplifies expense tracking, improves financial planning, and

enhances user awareness. The system demonstrates the potential of web-based technologies in solving real-world problems related to personal finance.

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