

AI-Based Personalized Financial Learning & Planning System

Saideep Patil, Sayali Dudgekar, Sarvesh Shinde, Aniket Warghade, Prof. Kshama Balbudhe

Department of Computer Engineering, PVGCOETM, Pune, India

ABSTRACT: In today's digital world, many people lack proper financial knowledge and planning skills, which leads to poor money management. This project, "AI-Based Personalized Financial Learning & Planning System", aims to solve this problem by providing a smart and user-friendly web-based platform. The system allows users to register and stores their basic details like age and financial background to provide personalized services. For users aged between 16–25, the system focuses on financial learning through animated modules, gamification, and AI-based quizzes. It helps users understand basic financial concepts such as FD, EMI, and savings in an interactive and engaging way. The system also tracks user progress and provides reports to monitor their learning. For users aged between 26–40, the system focuses on financial planning. It provides personalized budgeting, saving strategies, and investment recommendations based on the user's financial condition and goals. The system also includes AI-based personal assistance and optional human support for better reliability. Overall, the system helps users improve their financial knowledge and make better financial decisions.

KEYWORDS: Artificial Intelligence (AI), Financial Learning, Personalized Planning, Budgeting and Saving, Investment Recommendation, Gamification, AI-based Quizzes, Web-based Application, etc.

I. INTRODUCTION

In today's fast-moving digital world, managing money properly has become very important, but many people still lack basic financial knowledge. Young users often do not understand concepts like saving, investment, FD, EMI, and budgeting. Because of this, they make poor financial decisions in the future. Also, many financial learning platforms are either too complex or not engaging, which makes users lose interest quickly. So, there is a need for a system that can make financial learning simple, interactive, and personalized for different users.

This project, "AI-Based Personalized Financial Learning & Planning System", is designed to solve this problem by using Artificial Intelligence. The system provides a web-based platform where users can register and get customized learning or planning based on their age and financial background. For younger users (16–25), the system focuses on learning through animations, gamification, and quizzes. For adults (26–40), it focuses more on financial planning like budgeting, saving, and investment suggestions. The main goal of this system is to improve financial awareness and help users make better decisions in real life. By using AI, the system can understand user behavior and provide personalized suggestions. It also includes features like progress tracking, AI assistant, and optional human support, which makes the system more useful, reliable, and user-friendly.

PROBLEM STATEMENT

Many people, especially young individuals, do not have proper financial knowledge and planning skills, which leads to poor money management, unnecessary expenses, and financial instability. Existing systems are either not personalized or too difficult to understand, making them less effective for users. There is a need for a smart system that can provide both financial education and planning in a simple, interactive, and personalized way using modern technologies like AI.

II. BACKGROUND

- In recent years, digital payment systems and online banking have increased rapidly, making financial knowledge more important than ever. People are now handling money through mobile apps, UPI, and online platforms, but many users still lack understanding of how to manage their finances properly. This gap between financial tools and financial knowledge creates a major problem in society.

- Traditional financial education methods are mostly theoretical and not engaging for users. They do not provide real-time guidance or personalized suggestions. On the other hand, modern technologies like Artificial Intelligence and Machine Learning can analyze user data and provide customized solutions. These technologies are already being used in banking, recommendation systems, and smart assistants.
- By combining financial education with AI-based personalization, we can create a system that not only teaches users but also guides them in real-life financial decisions. This project is based on this idea, where users can learn and plan their finances in a simple, interactive, and effective way.

III. PROPOSED SYSTEM

The system architecture of this project is designed as a web-based application that uses Artificial Intelligence to provide personalized financial learning and planning. The system starts with user registration and login, where basic details like age, financial history, and preferences are collected. Based on this data, the system decides whether the user needs learning modules or financial planning features.

The architecture includes different modules such as user interface, AI processing unit, database, and service modules like learning, planning, and recommendation. The AI model processes user data and provides customized content such as quizzes, budgeting tips, and investment suggestions. All user data and progress are stored in a database for future use and analysis.

The system is designed to be scalable, user-friendly, and efficient. It also includes optional human support for better reliability. Overall, the architecture ensures smooth interaction between users and the system while providing accurate and personalized results.

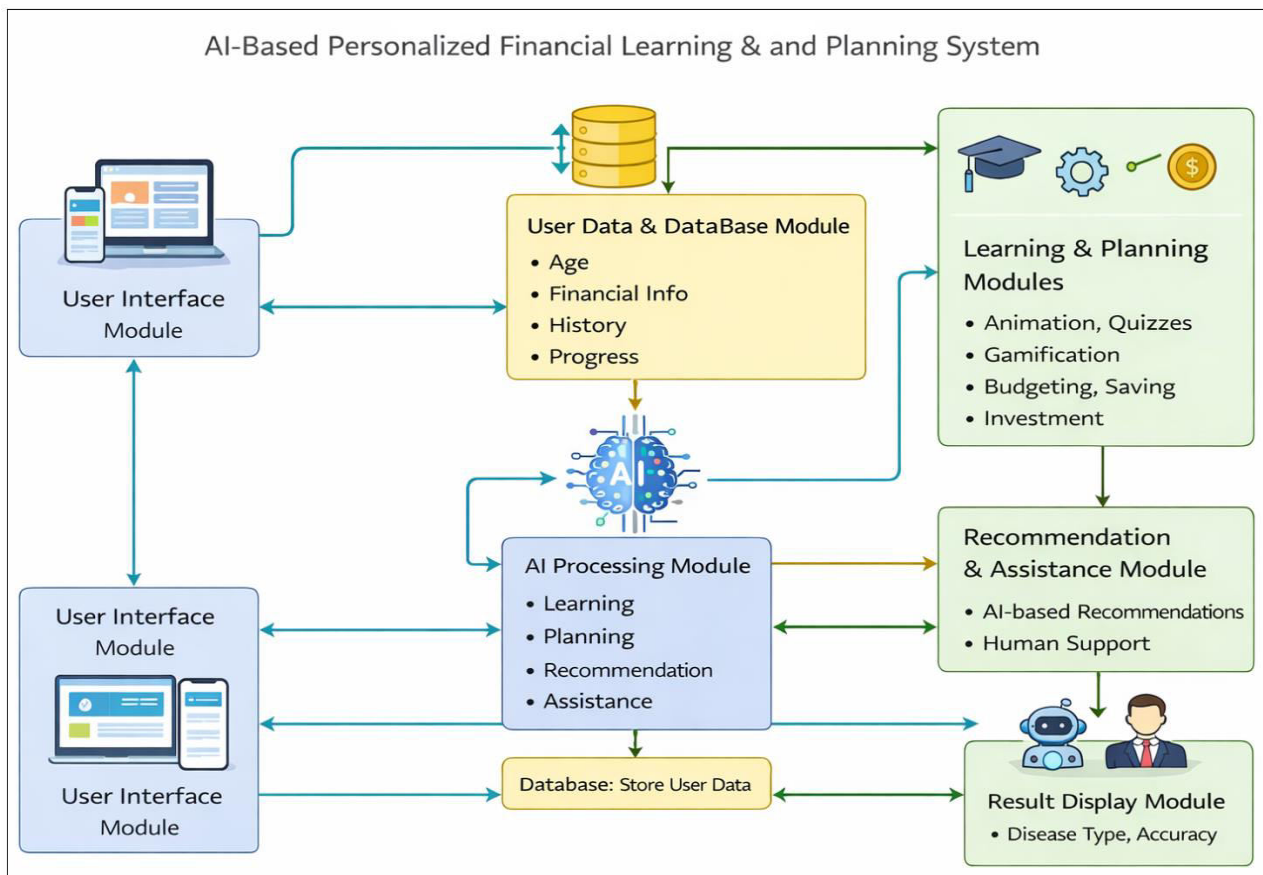


Fig.1: System Architecture Design

Proposed System Modules:

1. **User Interface Module:**
This module provides a simple and interactive web interface where users can register, log in, and access learning or planning features easily.
2. **User Data & Database Module:**
This module stores user information such as age, history, progress, and financial details securely for further processing and analysis.
3. **AI Processing Module:**
This is the main part of the system where AI analyzes user data and provides personalized learning content, quizzes, budgeting, and investment suggestions.
4. **Learning & Planning Module:**
Based on the user's age group, this module provides either educational content (animations, quizzes) or financial planning tools (budgeting, saving, investment).
5. **Recommendation & Assistance Module:**
This module gives smart suggestions using AI and also provides optional human assistance for better decision-making and reliability.

IV. METHODOLOGY

The methodology of this project explains how the system works step by step to provide personalized financial learning and planning. First, the user registers and logs into the system by entering basic details like age and financial background. This information is important because the system uses it to decide whether the user needs learning content or financial planning features. After login, the system processes the user data using Artificial Intelligence. If the user belongs to the age group 16–25, the system provides learning modules such as animated videos, quizzes, and gamification. These features help users understand financial concepts in an easy and interesting way. The system also tracks user performance and shows progress reports.

If the user belongs to the age group 26–40, the system focuses on financial planning. It provides personalized budgeting, saving tips, and investment recommendations based on the user's financial condition and goals. The AI assistant also gives suggestions, and if needed, users can take help from human experts. Finally, the system displays results and stores user data for future improvement and better recommendations.

Methodology Points (Detailed)

- 1) **User Registration & Data Collection:**
The system collects user details like age, income, and financial history during signup, which helps in providing personalized services.
- 2) **Data Processing using AI:**
The collected data is analyzed using AI to understand user needs and decide whether to provide learning or planning features.
- 3) **Learning Module (16–25 Age Group):**
Users get animated lessons, gamified content, and AI-based quizzes to learn financial concepts in an engaging way.
- 4) **Planning Module (26–40 Age Group):**
Users receive budgeting tips, saving plans, and investment suggestions based on their goals and financial condition.
- 5) **Recommendation & Assistance:**
The system provides AI-based suggestions and also allows optional human assistance for better reliability and decision-making.

V. CONCLUSION

This paper, proposed system provides an effective solution to improve financial knowledge and money management skills. It helps users learn basic financial concepts and also guides them in planning their finances based on their needs and goals. The use of AI makes the system smart, personalized, and easy to use.

By dividing users based on age groups, the system ensures that both learning and planning are provided in the best possible way. Features like gamification, quizzes, budgeting, and investment suggestions make the system more useful and engaging. Overall, this project can help users make better financial decisions and build a secure financial future.

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