BIZSAVVY - Finance Grow High

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GID : 12

PROBLEM STATEMENT

Design and Developing a financial management tool that assists individuals and businesses in making informed decisions, managing budgets and achieving financial goals.

OBJECTIVES

1. The tool will provide intuitive features for tracking income, expenses, and savings, allowing users to set and manage their budgets with greater precision and simplicity.

2. It will offer personalized insights and analytics that empower users to make well-informed financial decisions based on real-time data.

3. The platform will include interactive data visualization and integrated risk assessment tools to help users securely monitor progress and achieve their financial goals efficiently.

EXISTING SYSTEMS

Current Methods :

1.Mint: Provides budget management, expense tracking, and goal setting.

2.YNAB (You Need A Budget): Focuses on budgeting and helps users manage personal finances.

3.QuickBooks: Primarily for small businesses to manage finances and accounting.

LITERATURE REVIEW

Research Paper Title	Author, Reference & Year	Machine learning Techniques and Algorithm	Data Set	Synthesis	Research Gap / Future Scope
A Systematic Survey of AI Models in Financial Market Forecasting for Profitability Analysis	Bilal Hassan Ahmed Khattak, Imran Shafi, Abdul Saboor Khan, Emmanuel Soriano Flores, Roberto García Lara, Md. Abdus Samad, Imran Ashraf	Ensemble and hybrid models, including Long Short-Term Memory (LSTM) and Support Vector Machines (SVM)	Stock exchange, cryptocurrency, and Forex data; Yahoo Finance as a primary source	Reviews AI techniques for financial forecasting with a focus on profitability analysis, and compares approaches like hybrid modeling and technical analysis	Highlights the need for multi-class forecasting models and the integration of profitability metrics to improve predictive performance and practical applications
Enhancing AI-Human Collaborative Decision-Making in Industry 4.0 Management Practices	Shahid Alam, Mohammad Faisal Khan	Federated Learning, anomaly detection, interactive feedback mechanisms	Simulation data from Industry 4.0 settings; real-time operational data in manufacturing and decision-making contexts	Proposes a framework combining AI analytics with human judgment to improve efficiency, trust, and interaction in decision-making	Suggests exploring adaptive, user-centric AI models that dynamically adjust to human input and operational feedback in industrial contexts

DISADVANTAGES OF EXISTING SYSTEM

1. Lack of comprehensive integration of financial learning resources such as podcasts, news, blogs, and AI-based decision-making tools.

2. Absence of personalized CA (Chartered Accountant) advice available 24/7 in many of the existing tools.

3. Some existing tools are expensive for small businesses or individuals with limited budgets.

4. Limited risk management features and decision-making analytics in tools like Mint and YNAB

PROPOSED SYSTEM

System Overview: A comprehensive financial management tool powered by AI-driven algorithms for personalized financial insights, integrated with feature selection and customized budgeting recommendations.

Security : Use of Advanced Encryption Standard (AES) to ensure secure data handling and transmission of user financial information.

Technologies : Machine Learning algorithms for predictive insights and trend analysis, enhancing financial decision-making efficiency.

ADVANTAGES OF PROPOSED SYSTEM

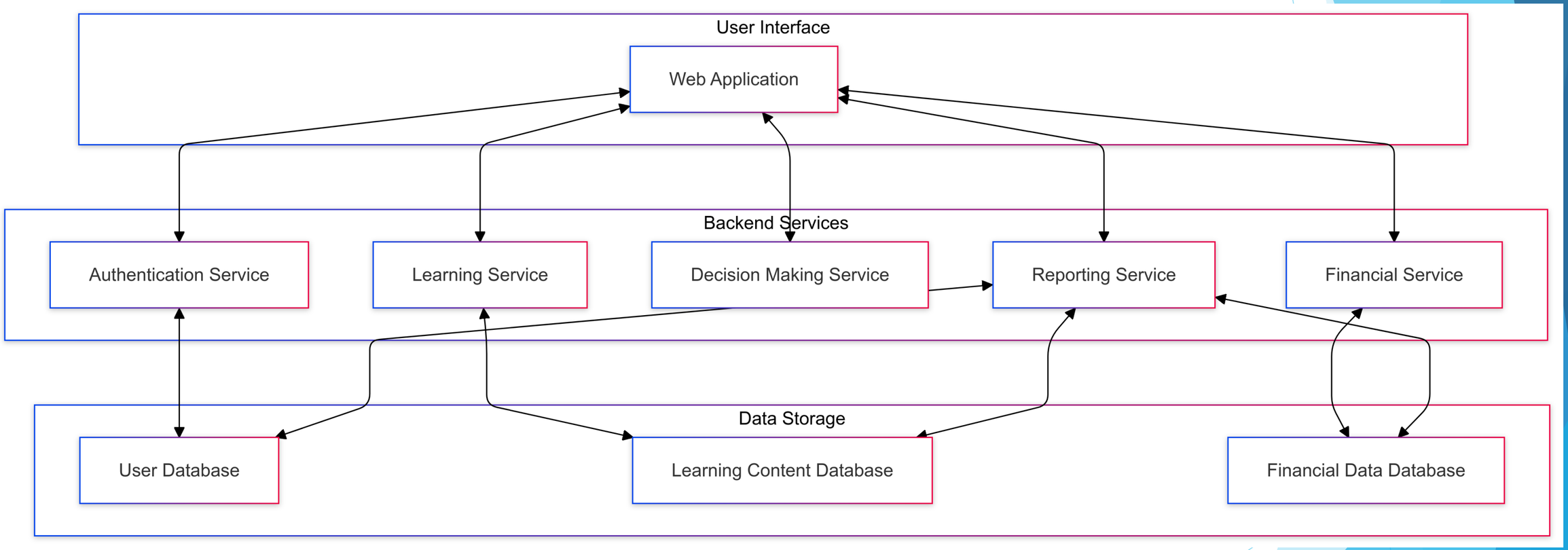
Speed : Real-time processing enables quick budget analysis and financial recommendations, facilitating timely decision-making.

Accuracy : AI-driven models enhance the accuracy of financial forecasts, aiding users in making well-informed financial decisions.

Optimization : The Recommendation Optimization Algorithm focuses on the most relevant financial data, reducing processing time and improving efficiency.

Scalability : making it suitable for real-time applications and team-based financial management.

ARCHITECTURE DIAGRAM



PROCESS FLOW

1.Normalize financial data such as income and expenses to ensure consistency across values.

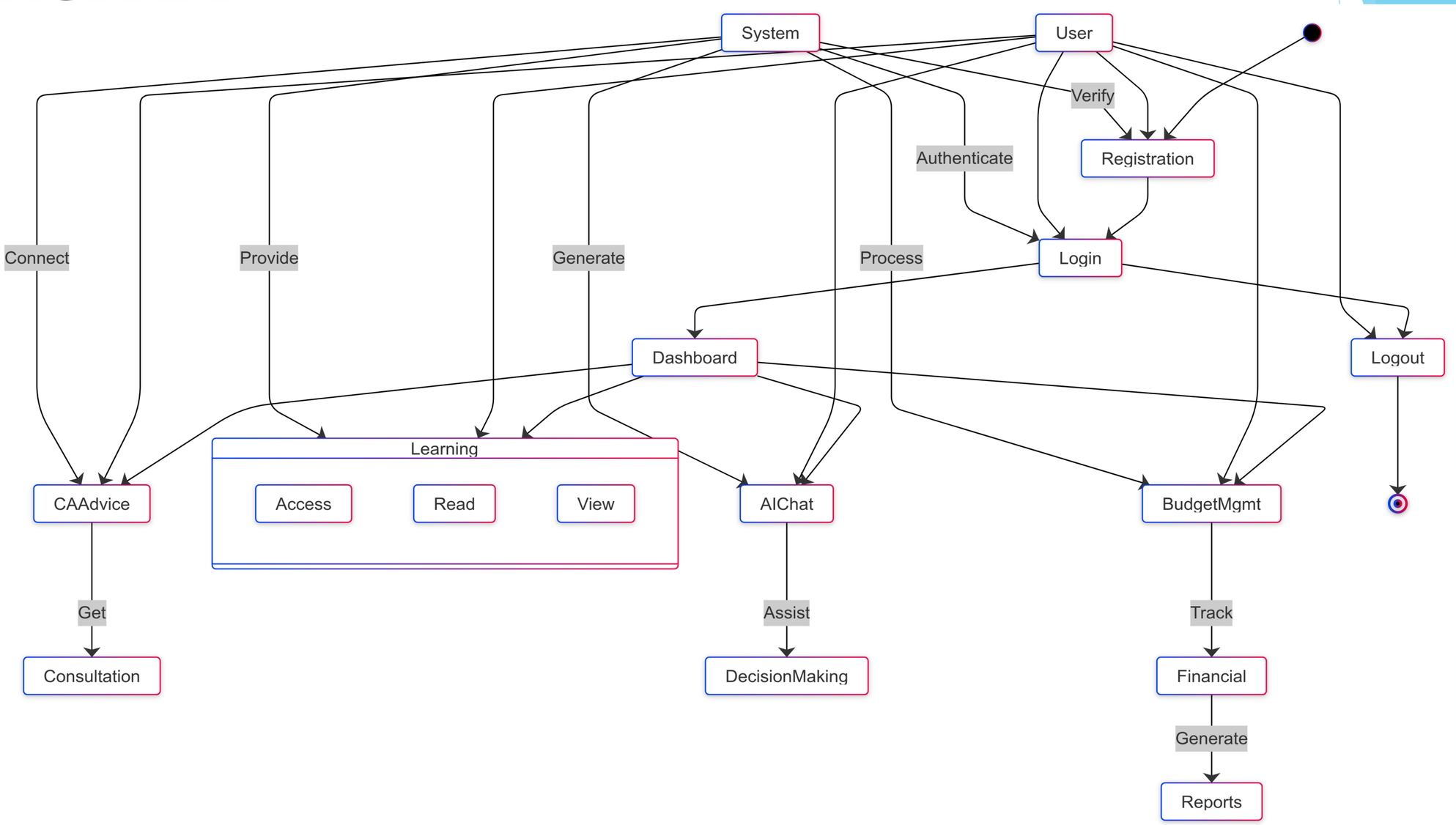
2.Select the most important financial features to improve the accuracy of the analysis.

3.Use AI models to provide personalized insights and help users make better financial decisions.

ARCHITECTURE DESCRIPTION

The architecture of our finance management website adheres to a robust model view-controller (MVC) pattern, leveraging the Django framework to orchestrate its key components.
Django-based architecture for the finance management website ensures a reliable, scalable, and secure platform for managing financial data, user authentication, and payment processing. By leveraging Django's capabilities alongside tailored integrations, we deliver a comprehensive solution that meets the diverse needs of finance management applications

UML DIAGRAM


System
User
Verify
Registration
Authenticate
Connect
Provide
Generate
Process
Login
Dashboard
Logout
Learning
Access
Read
View
CAAdvice
AIChat
BudgetMgmt
Get
Assist
Track
Consultation
DecisionMaking
Financial
Generate
Reports

S/W & H/W REQUIREMENTS

SOFTWARE REQUIREMENTS :

1.Operating System.
2.Django Framework
3.Prisma ORM
4.RESTful API Support
5.Database Management

HARDWARE REQUIREMENTS :

1.Laptop (High performance PC recommended)
2.Processing Unit.
3.Memory (RAM).
4.Cooling and Power.

MODULES IDENTIFIED

1.Data Processing Modules:

1. **Data Preprocessing Module**: Manages data input and prepares financial information for analysis.
2. **Feature Selection Module**: Optimizes data selection to improve the accuracy and efficiency of budget management and financial analysis.

2.Interface and Communication Modules:

1. **User Interface Module**: Provides a user-friendly, interactive UI for managing budgets, viewing analytics, and configuring settings.
2. **Cloud and External Service Interface Module**: Connects with external services (e.g., AI tools or CA advice features) and integrates cloud resources for scalability.

3.Performance and Monitoring Modules:

1. **Performance Monitoring Module**: Monitors system performance, including data processing speed and user interaction efficiency.
2. **Error Handling and Recovery Module**: Maintains system stability with backup mechanisms and error recovery processes to ensure smooth operation.

CONCLUSION

In summary, this project builds a comprehensive financial management tool that combines budgeting, decision-making, and goal-setting features. With Django for a secure backend and a user-friendly interface, it offers added learning resources, CA advice, and AI-driven insights, making it an all-in-one solution for individuals and businesses to manage finances effectively.

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THANK YOU !