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Project SpendWell

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SOFTWARE ENGINEER

Abstract

The proposed application is a financial management app designed to assist users in effectively managing their money.

It allows users to input their monthly income and set a target savings amount. The app also provides the ability to add savings goals and label them to help users focus and stay motivated.

Additionally, the app displays discount codes and savings tips related to the savings goals. It is also connected to bank text messages to receive alerts when users exceed the set limit. The app's preference feature analyzes users' purchasing habits and provides recommendations for their preferred stores and websites.

Users can take advantage of these recommendations to access special offers and opportunities to save more money.

By utilizing this application, users can easily achieve their financial goals and track their progress towards regular savings.

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Chapter 1: Introduction

1.1 Project Objectives

The objective of this application is to provide users with a comprehensive financial management tool that empowers them to take control of their finances.

The app aims to simplify the process of budgeting and savings by offering features such as income tracking, goal setting, personalized recommendations, and alerts.

By using this app, users will be able to develop healthy financial habits, make informed spending decisions, and work towards their savings targets more efficiently.

The objective is to provide a user-friendly interface that promotes financial literacy and helps users achieve financial stability and success.

Chapter 2: System Analysis

2.1 Analysis of Existing Systems

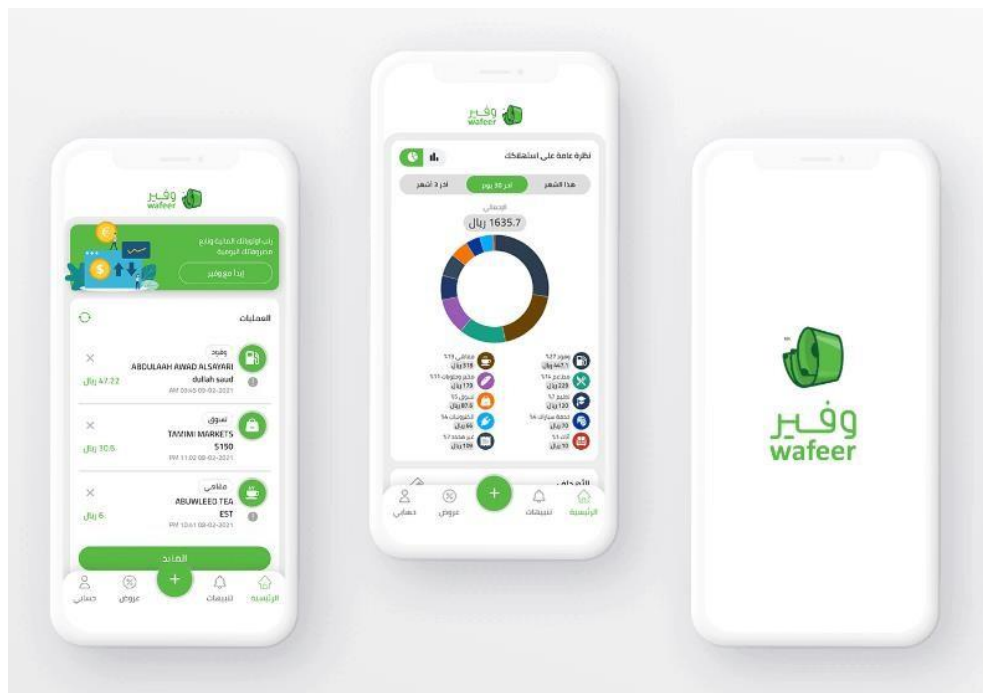
Wafeer وفير:

<https://wafeer.net/index>

The idea of a project arose from the need to increase awareness of saving in society by employing specialized cadres using the latest modern technologies and artificial intelligence techniques to present the most important spending channels to customers in a simplified and easy way through smart phone applications so as to facilitate the management of bank accounts and collect them in one wallet and help consumers achieve their savings goals, measure them and display them. Investment options available to develop their savings. It also seeks to contribute to providing up-to-date and accurate data to understand and clarify user behavior to be able to provide appropriate financial products and solutions.

Goals:

In addition to the negative impact of the lack of long-term financial planning for households, a lower savings rate usually translates into a lower long-term deposits of the banking sector, and a lower level of retail collective investment schemes managed by authorized persons. Wafeer seeks to increase awareness of saving and investing in terms of expenses, contribute to promoting savings bank products, and create a spirit of competition. The program seeks to enhance and enable financial planning for individuals and their financial independence in the long term, and these are two of the basic goals of Vision 2030.



2.2 Requirements Elicitation

1. Interface Requirements:

- The application interface should be user-friendly and intuitive for users of all levels.
- The interface should have a clear navigation structure and visually appealing design.
- The interface should provide a simplified and organized display of financial information, goals, and savings.

2. Input Requirements:

- The application should allow users to input their monthly income easily.
- The application should enable users to set their target savings amount.
- The application should allow users to add savings goals and label them in a way that helps users focus and maintain motivation.

3. Display Requirements:

- The application should display savings progress indicators and savings tips related to the savings goals.
- The application should be connected to banking text messages to receive alerts when users exceed predefined limits.
- The application should display user preferences to analyze purchasing habits and provide recommendations for preferred stores and websites.

4. Compatibility Requirements:

- The application should be compatible with a wide range of financial institutions and banks.
- The application should support multiple languages and be available to users from diverse linguistic backgrounds.

5. Analysis and Recommendation Requirements:

- The application should utilize advanced analysis techniques and machine learning algorithms to provide personalized financial recommendations and accurate spending insights.
- The application should provide targeted suggestions for optimizing financial outcomes based on users' financial goals and spending patterns.

2.2.1 Functional Requirements

1. User:

- User registration and login to the application.
- Inputting income and setting a target savings amount.
- Creating and managing personal savings goals.
- Displaying financial tips and reminders.
- Reviewing personalized offers and recommendations.
- Linking bank accounts and receiving text notifications.

2. Stores and E-commerce Websites:

- Providing discount offers and recommendations to users.

3. Banks and Financial Service Providers:

- Uploading transactions and defined limits for user accounts.

4. Development Team:

- Developing and maintaining the application.

5. Customer Service:

- Providing technical support and assistance to users.

6. Financial Analyst:

- Analyzing user data and financial factors related to them, such as income, expenses, and spending patterns.
- Generating financial recommendations based on the analyzed data and user-defined goals.
- Monitoring user progress towards financial goals and providing appropriate reports and notifications.
- Updating the user's database and financial information based on financial transactions and other changes.

2.2.2 Non Functional Requirements

1. Security:

- The system should ensure the confidentiality, integrity, and availability of user financial data.
- User authentication and authorization should be implemented securely.
- The system should protect against unauthorized access, data breaches, and fraud.

2. Performance:

- The system should respond to user interactions promptly.
- Transaction processing should be efficient and fast.
- The system should be scalable to handle a large number of users and transactions.

3. Reliability:

- The system should be available and operational with minimal downtime.
- Data backup and recovery mechanisms should be in place to prevent data loss.
- The system should handle errors and exceptions gracefully.

4. Compatibility:

- The system should be compatible with different devices and operating systems.
- It should support multiple languages and localization requirements.

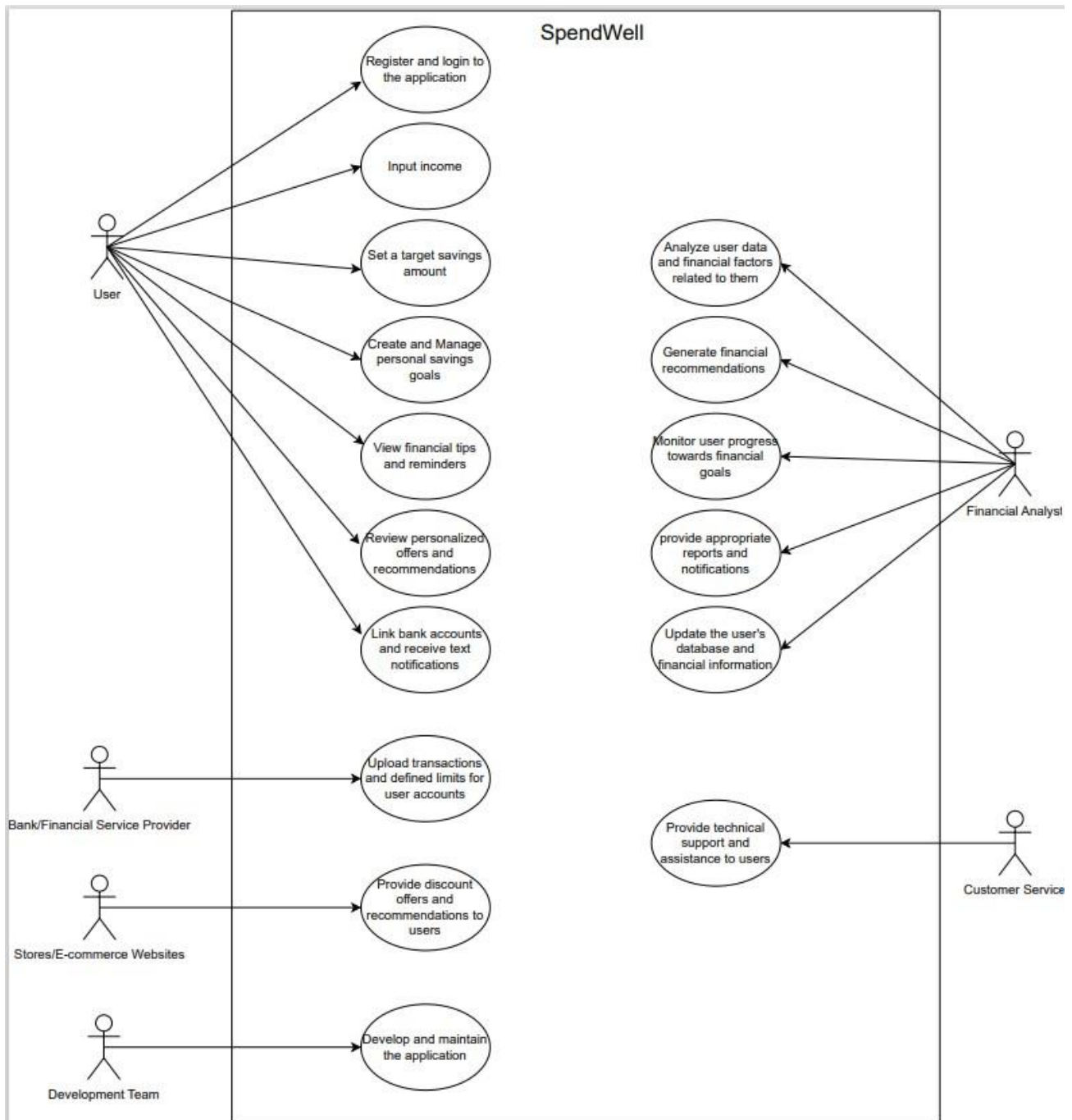
5. Compliance:

- The system should comply with relevant financial regulations and legal requirements.
- It should adhere to industry standards and best practices for data security and privacy.

6. Scalability:

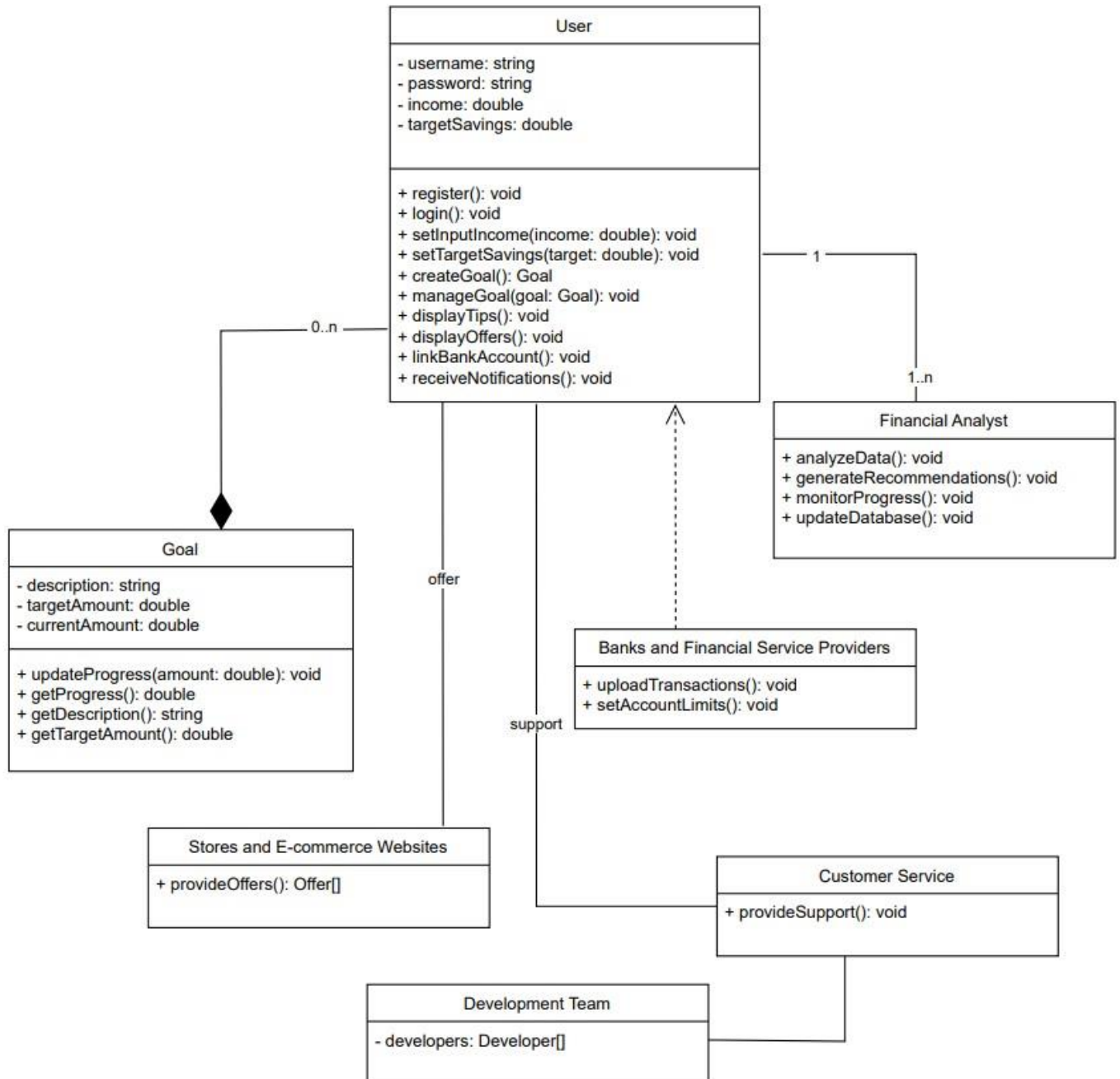
- The system should be designed to handle increasing user demands and growth.
- It should be able to accommodate additional features and functionalities in the future.

2.3 Requirements Specification

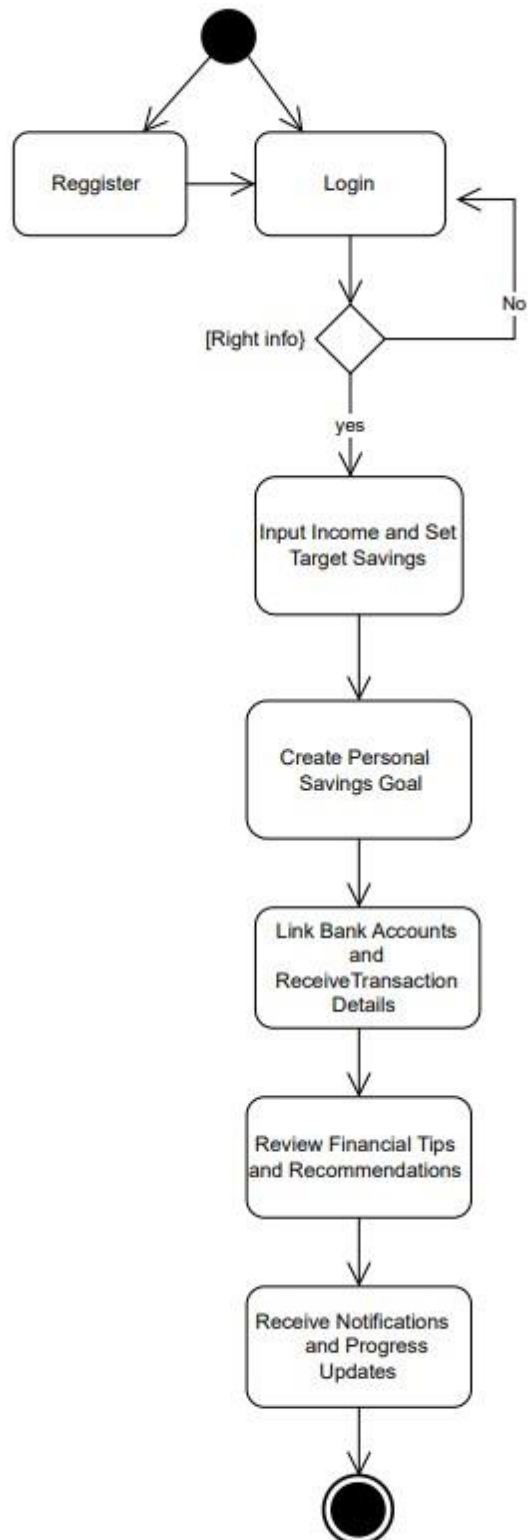


Chapter 3: System Design

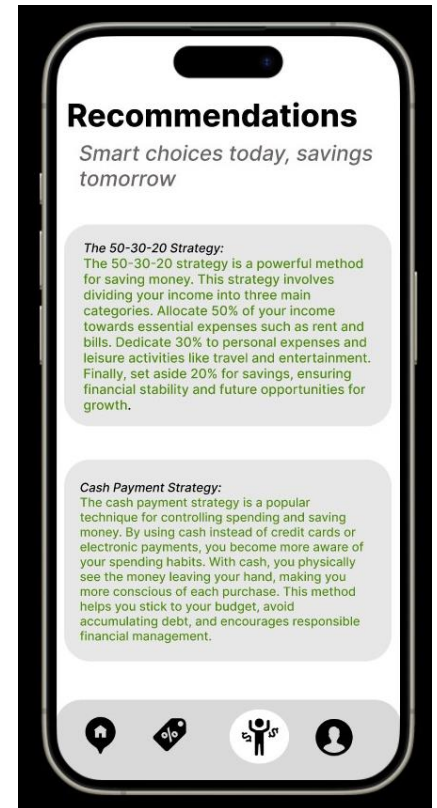
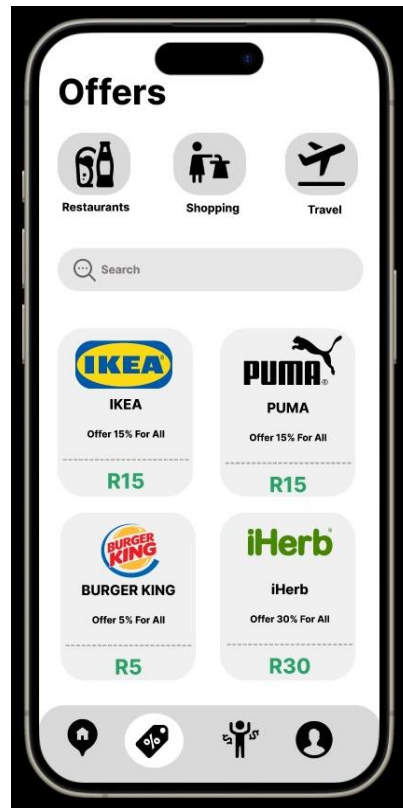
3.1 Class Diagram



3.2 Activity Diagram



3.3 User Interface Design



Chapter 4: Conclusion and Future Work

4.1 Conclusion

In conclusion, the financial management system provides users with an easy-to-use and secure interface to achieve their financial goals. The system allows users to register and login, input income, set savings targets, and create personal savings goals. Additionally, the system provides financial tips and reminders to assist in achieving the specified financial goals. Users can also link their bank accounts and receive text notifications for financial transactions.

The system also analyzes user data and financial factors, such as income, expenses, and spending patterns, to generate financial recommendations based on that data and the user-defined goals. User progress towards financial goals is monitored, and appropriate reports and notifications are provided.

With its reliable and secure features and good performance, users can rely on the system to efficiently and easily manage their financial matters. Additionally, the development team can depend on the system for regular maintenance and improvements to meet the changing needs of users and enhance the system over time.

In summary, the financial management system provides users with a flexible, secure, and efficient user experience to achieve their financial goals and improve overall financial management.

4.2 Limitations and Future Work

Limitations:

During the development of the financial management system, there may have been some limitations or constraints that impacted the scope or functionality of the system. These limitations could include:

1. Integration with specific financial institutions: The system may be limited in terms of the number of financial institutions it can integrate with due to technical or regulatory constraints. This could result in some users being unable to link their accounts with certain banks or financial service providers.
2. Supported languages and localization: The system may currently support a limited number of languages or may not be fully localized for different regions. This could limit its accessibility and usability for users who prefer languages other than those currently supported.
3. Third-party data sources: The system's ability to access and integrate data from external sources, such as credit bureaus or financial market data providers, may be limited. This could impact the accuracy or comprehensiveness of the financial analysis and recommendations provided by the system.

Future Work:

Despite the current limitations, there are several areas for potential future work and enhancements for the financial management system. These could include:

1. Expanded integration: The system could be enhanced to integrate with a wider range of financial institutions, allowing users to link their accounts from more banks and financial service providers.
2. Multilingual support: The system could be expanded to support additional languages, making it more accessible to users from different linguistic backgrounds.
3. Advanced analytics and machine learning: The system could leverage advanced analytics techniques and machine learning algorithms to provide more personalized and accurate financial recommendations. This could involve analyzing more complex financial data and considering additional factors, such as investment performance or market trends.
4. Enhanced security features: The system could be further strengthened with additional security measures, such as two-factor authentication or biometric authentication, to ensure the utmost protection of user financial data.
5. Improved user interface and experience: The system's user interface could be refined and enhanced to improve usability and provide a more intuitive and engaging experience for users.

These future work areas would require ongoing development and research to keep the financial management system up-to-date with evolving user needs and technological advancements in the financial industry.