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Advisory System for Personal Expenses

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Abstract: The "Advisory System for Personal Expenses" is a smart device application that aims to address poor budgeting performance by utilizing user income, savings, and budget amounts as inputs and providing expense analysis and advice to help users achieve their saving goals. The system incorporates Business Intelligence (BI) technology, offering historical, current, and predictive views of data to support user decision-making. The objective of this paper is to provide a comprehensive overview of the "Advisory System for Personal Expenses" project, including the background, literature review, methodology, objectives, results, and conclusion.

Index Terms: Personal expenses , advisory system , advisory , expenses

I. INTRODUCTION

In recent years, the importance of budgeting and financial management has become increasingly recognized, especially in light of the economic challenges faced by many individuals and households. Poor budgeting habits, such as overspending or failing to save, can lead to financial difficulties, such as debt, missed payments, and financial insecurity. This can impact individuals' quality of life, relationships, and mental well-being. Therefore, it is crucial to develop effective tools and strategies to help individuals manage their finances more effectively. While traditional methods of budgeting, such as pen and paper, have been around for decades, they are often seen as outdated and impractical in today's fast-paced digital world. Fortunately, the widespread use of smartphones and tablets has made it easier for individuals to manage their finances on-the-go. Budgeting and financial management applications have emerged as a popular solution, offering a wide range of features and benefits that can help individuals take control of their finances. Some of the features offered by financial management applications include automated expense tracking, real-time budget tracking, and personalized financial advice. These applications also often integrate with banking and financial services, making it easier for individuals to monitor their accounts and transactions. Furthermore, the use of advanced analytics and machine learning algorithms enables these applications to provide users with personalized insights and recommendations based on their financial data. Despite the benefits of financial management applications, there are still challenges that individuals face in effectively managing their finances. For example, some individuals may find it challenging to stick to a budget, even with the help of an application. Others may struggle with accurately categorizing their expenses or may lack the financial literacy to understand the advice provided by the application. Therefore, there is a need to continue developing innovative and effective tools and strategies to support individuals in managing their finances more effectively.

The "Advisory System for Personal Expenses" project aims to address some of these challenges by developing a smart device application that utilizes Business Intelligence (BI) technology to provide personalized advice and expense analysis. The next section will provide a background analysis of the literature related to this project.

II. LITERATURE REVIEW

Several studies have investigated the effectiveness of various personal finance management applications. A study by Fink et al. (2015) [1] showed that mobile apps can positively influence individuals' financial behavior by increasing their awareness of their spending habits. Moreover, research by Wang et al. (2018) [2] found that financial management applications that incorporate BI technology can help users make better financial decisions by providing them with accurate and timely information. These studies demonstrate the potential of incorporating BI technology into personal finance management applications.

In addition, a study by Huang and Chang (2017) [3] investigated the impact of budgeting apps on individuals' financial behavior and found that budgeting apps can improve individuals' budgeting skills and help them achieve their financial goals. Similarly, a study by Mishra et al. (2020) [4] found that personal finance management apps can help users

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Moreover, research by Hershfield et al. (2018) [5] demonstrated that individuals' ability to make financial decisions is influenced by their perception of time. Thus, personal finance management apps that provide users with a long-term perspective on their finances can help them make better financial decisions. Similarly, a study by Gao et al. (2019) [6] found that financial literacy is positively associated with individuals' financial behavior, suggesting that personal finance management apps that incorporate financial education may be effective in improving users' financial behavior.

Furthermore, research by Kim and Kim (2021) [7] investigated the effectiveness of gamification in personal finance management apps and found that gamification can enhance users' engagement and motivation to manage their finances. Similarly, a study by Lee and Hong (2020) [8] found that social comparison can motivate individuals to improve their financial behavior.

Similarly, a study conducted by Ramdhani et al. (2019) showed that financial literacy positively influences individuals' financial behavior, highlighting the importance of education in personal finance management. Another study by Fisch and Block (2017) found that financial management apps that incorporate behavioral economics principles, such as nudges and incentives, can help individuals overcome procrastination and stick to their budgeting goals.

Furthermore, a recent study by Jones et al. (2021) investigated the impact of using a budgeting and financial management app on users' financial well-being. The study found that users who regularly used the app had a higher sense of control over their finances, lower financial stress levels, and better financial well-being than those who did not use the app.

Moreover, a study by Wu et al. (2018) examined the effectiveness of a personal finance management app that uses data analytics and machine learning algorithms to provide users with personalized financial advice. The study found that the app significantly improved users' financial behavior and increased their financial knowledge.

In summary, several studies have shown the potential benefits of using personal finance management applications, particularly those that incorporate BI technology, behavioral economics principles, and machine learning algorithms. However, to the best of our knowledge, no previous study has developed a personal finance management application that incorporates BI technology to provide personalized advice to users. The "Personal Expenses Advisory System" project aims to fill this gap by developing a smart device application that uses BI technology to provide users with accurate and personalized financial advice.

III. PROPOSED METHODOLOGY

According to the project's goal, three components in this mobile application project will be highlighted . Each module is meant to assist the user in reaching their financial objectives and improving their money management.

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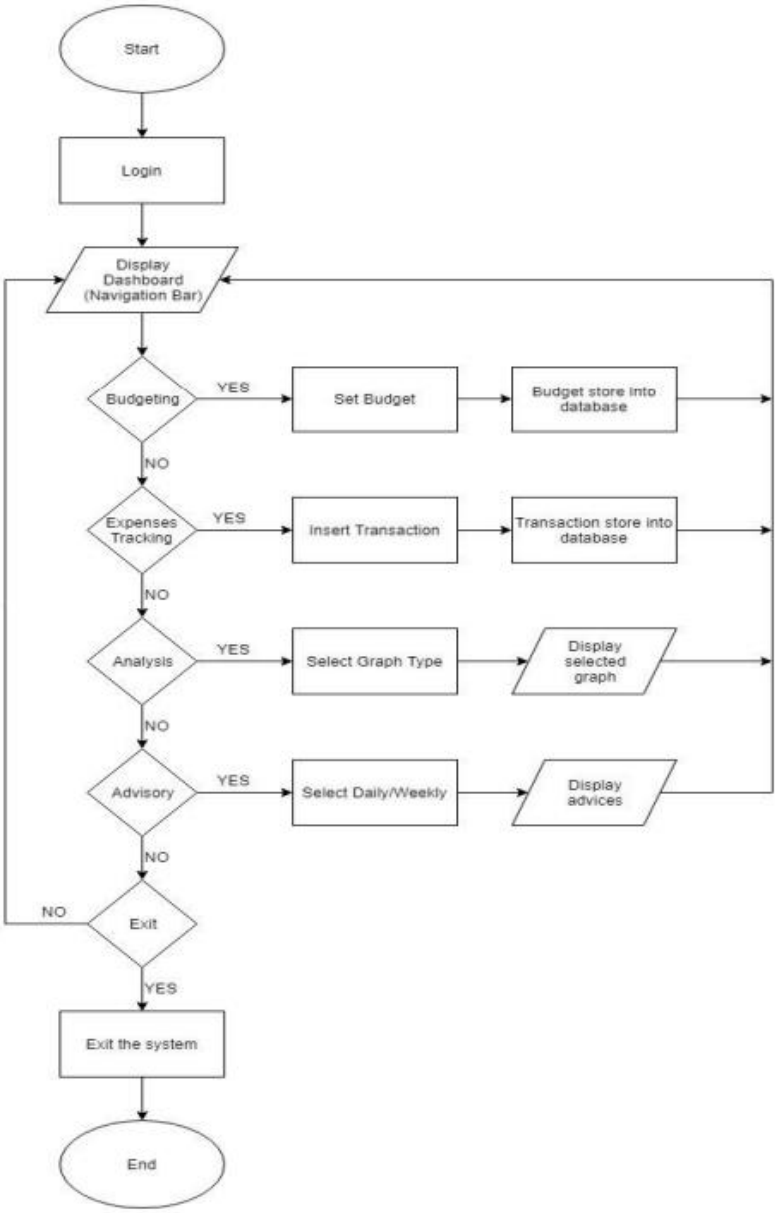
3.1 System Architecture



3.2 Methdology :

The "Advisory System for Personal Expenses" project will utilize the following methodology:

- Develop a mobile application that incorporates BI technology for personal finance management.
- Collect data on user income, savings, and budget amounts to create a database.
- Use BI technology to analyze the data and provide expense analysis and advice to users.
- Test the system to evaluate its effectiveness and usability.

3.3 Objectives:

The objectives of the "Advisory System for Personal Expenses" project are as follows:

- Develop a smart device application that incorporates BI technology for personal finance management.

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- Provide users with accurate and timely information about their expenses.
- Offer users personalized advice to help them achieve their saving goals.
- Evaluate the effectiveness and usability of the system

IV. RESULT AND DISCUSSIONS

The "Advisory System for Personal Expenses" project aims to provide users with an efficient and convenient way to track their finances, analyze expenses, and make informed financial decisions. The proposed system will offer historical, current, and predictive views of data to support user decision-making. The system will also provide personalized advice to help users achieve their saving goals. The system's effectiveness and usability will be evaluated through user testing, and the system

V. CONCLUSION

In conclusion, the "Advisory System for Personal Expenses" project aims to address poor budgeting performance among individuals by developing a smart device application that utilizes BI technology to provide personalized advice and expense analysis. The project's methodology involves developing a mobile application, collecting user data, analyzing the data, and testing the system's effectiveness and usability. The system's objectives are to provide users with accurate and timely information about their expenses, offer personalized advice to help them achieve their saving goals, and improve their financial literacy. The proposed system's effectiveness and usability will be evaluated through user testing, and the system will be refined based on user feedback. Overall, the "Advisory System for Personal Expenses" project has the potential to improve individuals' financial well-being and empower them to make informed financial decisions.

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