PERSONAL FINANCIAL TRACKER MOBILE APP: A FINANCIAL MANAGEMENT TOOL FOR TEENS AND PARENTS

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ABSTRACT

The Personal Financial Tracker is a mobile application designed to address the challenges teenagers face in managing their finances due to limited self-control and financial literacy. Existing finance management apps mostly target adults and often lack parental oversight features. This system introduces a dual-account framework where parents can set monthly spending limits, monitor their children's expenditures in real time, and receive alerts when limits are approached or exceeded. Teen users can log income and expenses manually or automatically, while visualizations like pie charts and tables help them understand spending behavior. Built using Android Studio (Java), with SQLite for local storage and Firebase for cloud synchronization, the system adopts an incremental development approach that emphasizes usability, scalability, and data security. The app not only facilitates spending control but also fosters healthy communication and financial habits within families.

1 INTRODUCTION

In today's digital age, financial management is a critical life skill. However, most teenagers lack experience, discipline, and access to tools designed specifically for their age group. Popular apps like Mint, YNAB, and Goodbudget cater primarily to adults, with complex features and no parental involvement. This gap has left teens without suitable solutions to develop responsible financial behavior.

This project aims to design and implement a mobile app specifically for teenagers and their families. It features a child-parent account system where spending can be tracked, limited, and analyzed collaboratively. The system provides real-time alerts, intuitive UI, and visual feedback to promote better spending habits and parent-child communication.

2 PROBLEM STATEMENT

Teenagers often struggle with personal finance due to lack of knowledge and poor impulse control. While many financial apps exist, none are tailored for teens or include parental guidance features. This gap leads to impulsive spending, poor budgeting, and missed opportunities for learning.

Parents also lack tools to support or supervise their children’s financial behavior. Without visibility or timely alerts, they may not intervene when needed. A solution is needed that balances autonomy for teens with oversight from parents, fostering responsible habits from a young age.

3 OBJECTIVES OF THE STUDY

This project aims to develop a mobile finance app that helps teenagers manage spending with parental guidance. The system will allow parents to set budget limits and monitor expenses in real time, while providing teens with simple tools to track their spending. The app will be built using Android Studio and Java, with data stored locally via SQLite and synchronized through Firebase.

4 RESEARCH METHOD

This study was developed using the Incremental Development Model which allows features to be built and tested in stages. Using this method, each module is developed and verified before proceeding to the next, with continuous improvements made throughout the development cycle. This approach is particularly suitable for projects requiring stability and adaptability in resource-constrained environments.

4.1 Planning Phase

This phase establishes the overall project framework by analyzing the problem statement and identifying the system components needed to address teen financial management challenges. The objectives, constraints and proposed solutions are clearly defined to guide the subsequent development process.

4.2 Analysis Phase

This phase focuses on detailed system requirements analysis, including both functional requirements like budget tracking and parental monitoring, as well as non-functional requirements such as security and performance. Existing financial applications are studied to understand their strengths and limitations.

4.3 Design Phase

This phase determines the system architecture using the MVC framework, designs the database structure for storing user and transaction data, and creates the user interface prototypes. The

design ensures all components work together to achieve the project objectives.

4.4 Implementation Phase

This phase involves the actual development using Android Studio and Java, with SQLite for local storage and Firebase for cloud synchronization. All system modules are integrated to create a complete working application.

4.5Testing Phase

The completed system undergoes rigorous testing to verify its functionality and usability. Testing includes unit tests, integration tests, and user acceptance tests with both teens and parents to evaluate the system's effectiveness in real-world scenarios.

5 RESEARCH RESULTSN

The PERSONAL FINANCIAL TRACKER MOBILE APP is developed using the Java progr amming language, with data stored both on Firebase and locally. The software utilized is And roid Studio.

For the function of Account binding, After logging into the system, users can choose their own accou nt type. However, once a child account is selected, it cannot be changed back to a parent account as sh ow in figure 1. After filling in the account code in the format as shown in Figure 2, the sub-account wi ll receive a binding request as shown in. Once agreed, the binding can be completed

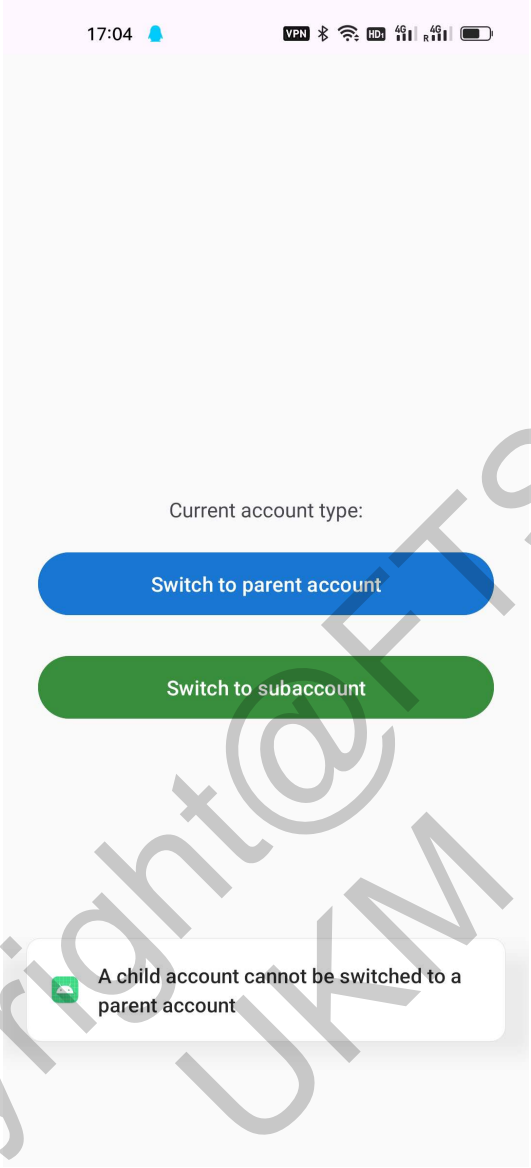

Figure 1 Child users cannot switch to their parents' accounts

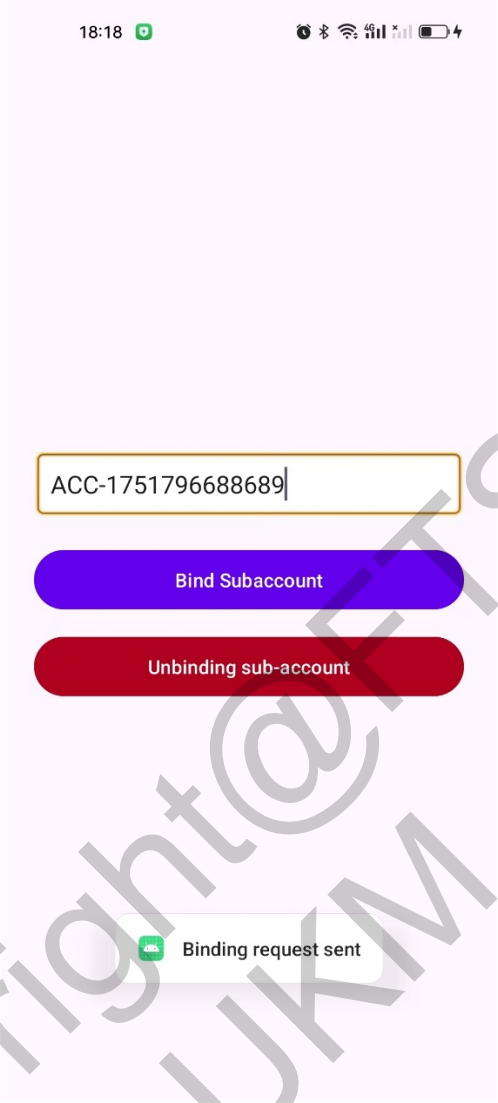

Figure 2 Parent account sends a request to the child account

Figure 3 The child account has received the request, and the binding has been successful

Regarding the function of setting spending limits for children's accounts, as shown in Figure 4, parents' accounts can not only set spending limits for children, but also view their detailed t ransaction records. When the spending of a child's account exceeds the set transaction limit, t he system will send warnings to both the parents' account and the child's account, as shown in Figure 5.

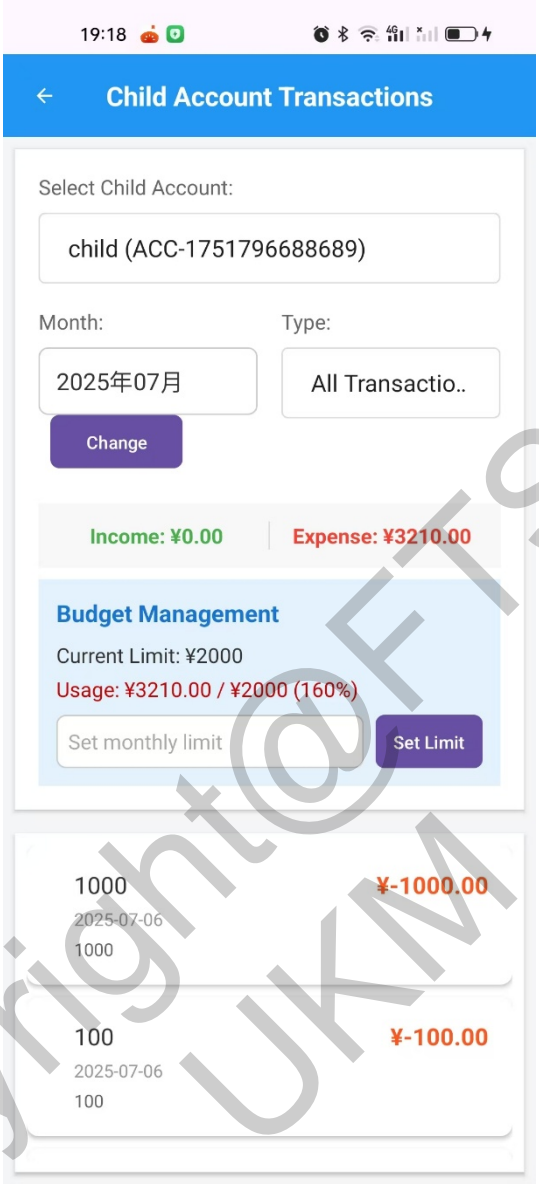

Figure 4 Child Account Transactions interface

Figure 5 Child account exceeds the expenditure limit

Automatic transaction recording is achieved through the use of listening notifications. When t here is an expenditure or income, the system will automatically generate a record, as shown i n Figure 6

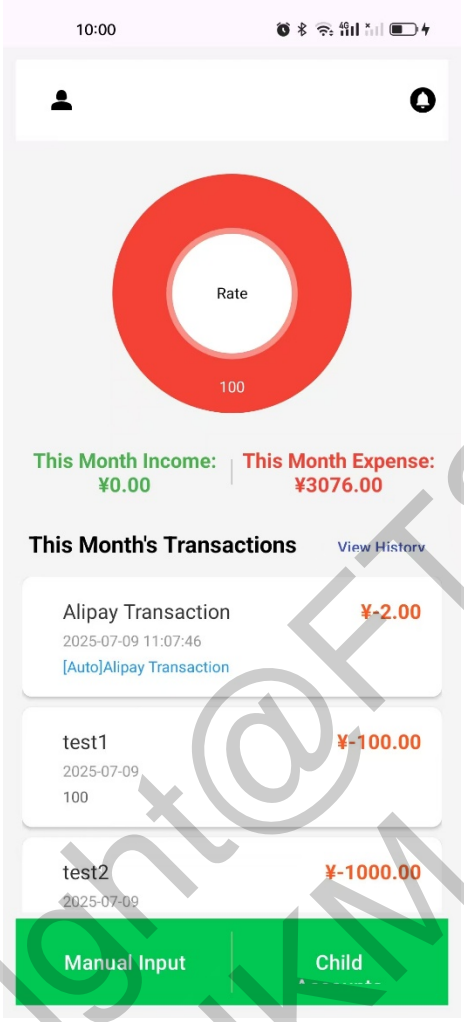

Figure 6 Automatically record transactions

6 CONCLUSION

Overall, despite encountering some issues during the compilation of program code and data s ynchronization, the PERSONAL FINANCIAL TRACKER MOBILE APP was successfully d eveloped. Compared to software on the market, this app enables parents to monitor their child ren's spending habits. Despite some shortcomings, I hope this app can serve as a reference poi nt for future research.

7 REFERENCES

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