DESIGN AND IMPLEMENTATION OF EXPENSE MANAGEMENT MOBILE APPLICATION

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Abstract: In this era of digitalization as the technology is most important for us. As well as the money managing is also more important for the future expansion. The financial management is rise between the college student and indicate the behavioral of the research to develop the more accurate and smart money management mobile application which can manage the daily expanses very easily also examined an attitude model of money management. Money management broadly refers to the processes utilized to record and administer an individual's, household's, or organization's finances. In this we are trying to study the economic, social and psychological factors. This app used by many people to manage their capital they do not need to keep the records in printable form and it reduce the paper work like "balance sheet". It also keeps the transaction history for the future reference and there are many more features in this app like statics, calendar for days wise spend management.

Keywords: Money Management, Financial Management, Expense.

Introduction

Money management is a crucial skill that individuals must acquire to ensure financial stability and success. By effectively implementing money management strategies, individuals can achieve their financial goals and maintain a healthy financial lifestyle. Managing debt is a critical component of money management. It involves creating a detailed plan that outlines all income and expenses, allowing individuals to allocate funds accordingly. By adhering to a budget, individuals can effectively control their spending, avoid overspending, and save money for future goals. Effective money management requires a combination of budgeting, saving, investing, and managing debt. It involves setting aside a portion of one's income to meet future financial needs, such as emergencies, education, or retirement. By consistently saving, individuals can accumulate a substantial

savings account over time, providing them with a safety net during times of financial uncertainty. Investing is a strategy that involves purchasing financial assets, such as stocks, bonds, or mutual funds, with the expectation of generating a return on investment. While it may seem daunting for individuals who are new to investing, there are various investment options available, such as index funds or exchange-traded funds (ETFs), which can help mitigate risk and achieve long-term growth.

Formulation of Problem

The peoples might struggle with managing their personal finances, saving for future goals, or avoiding unnecessary expenses. For example, "As a college graduate, I find it challenging to manage my personal finances effectively, leading to a lack of savings for future goals and an increased reliance on credit cards for everyday expenses." We want to develop a mobile application that allocates funds to various expense categories, establish a savings plan to accumulate funds for future goals, and reduce my reliance on credit cards by cutting back on unnecessary expenses. This app will help many people to manage their money very wisely and easily they also track their history in the application.

Literature Survey

In this paper, we have analyzed that chaining tech in this world of digitalization we can have many ways to manage our money. In this era of technology, we have a mobile phone which plays a major role in our daily life. For this, we developed a mobile application that tracks the daily spending in a simple way and keeps the history for later reference. The proposed solution can be applied in a rule based on the expert system environment. In the future, we can apply the forward and the backward chaining. We also studied that in the older days, people used pen paper to track their expenses which makes it very messy and not in a manageable format. With the help of this application, it makes it easy for users to manage daily activities, reminds users to pay bills on time, makes it easier for users to manage their finances, and reminds users to perform certain activities that were previously scheduled. In "DESIGN AND IMPLEMENTATION OF A COST MANAGEMENT MOBILE APPLICATION" Of course there will be a testing phase to check and examine the results of the built system. It is smart way to manage the money and the interface of this application is very interactive, immersive, and user friendly which makes the application easy to use this application will install on most of the Android mobiles without any special permission. It also tells the user when their goals are completed and how to manage the money. The expense management mobile application. One learns to manage expenses only with the help of the application and also analyzes the monthly budget. The software is capable of generating daily, monthly or yearly reports. community to talk about personal finance, up-to-date and accurate personal finance information.

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Literature Table

| S.No.	Title	Author	Year
1	Development of Smart Mobile Money Management Application for Students	Nur Irdina Azhar	2020
2	Personal Finance Application-GROW MORE	Oshin Raina, Sakshi Mishra, Prof. Santoshi Pote	2022
3	Budget Tracker Highly Customizable Budgeting Mobile Application	Malikberdi Hezretov	2018
4	Promoting savings among low income earners in Kenya through mobile money	P. K. Wamuyu	2016
5	User experience of mobile application's interface: Measurement development	S. C. Yang, T. L. Lee, and T. T. Feng	2018

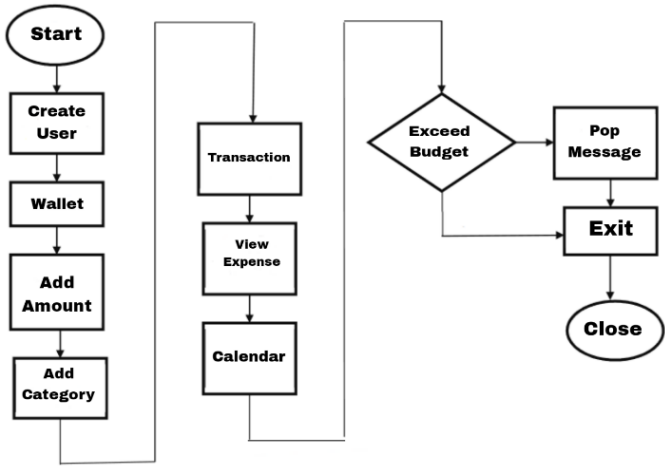**Use case Diagram**
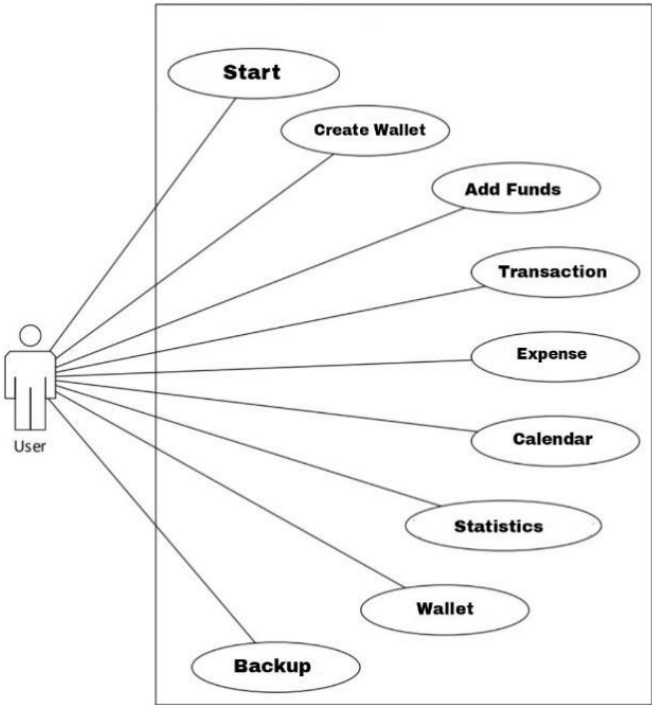
Figure 1

Figure 2

Methodology

The chosen methodology for developing the money manager application is the Waterfall Model within the System Development Life Cycle approach. The Waterfall Model involves sequential stages [6], and each step is crucial for identifying the necessary procedures. The following briefly outlines the five phases in the Waterfall Model, as illustrated in Figure 1, which will be employed in the development of the proposed system.
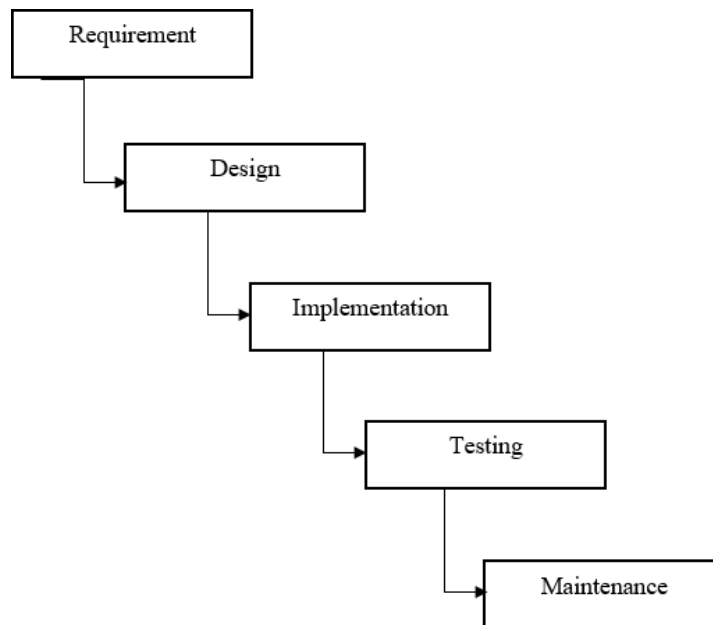

Figure 3 Waterfall Model

Requirement

This phase is the base for completing the project and where the initiation of the project happen. In this phase, all the hardware, software, and user requirements will be needed for the project to complete is being listed.

Hardware Requirement-

Operating System	Android
Ram Requirement	2 GB
Storage	250 MB +
Processor	4 Core

Software Requirement-

Tool	Android Studio
Operating System	Windows/Linux/Mac
Android SDK	Version 33
Android Device	Version 5.0 Later

Results and Discussion

The Transaction of the Money management mobile app are Show all the Expenses of the Months. We can set this According to our preference like Daily basis, Weekly, Monthly, Yearly. The User Can Set the Categories of their Expenses. Calendar is implemented to this App to allow the user view expense reports for a particular day, Week, Month or a report for a range of days. In the App settings Currency module allows the user to choose the preferred currency for their expense operations. This means people from different parts of the world can make use of the developed mobile expense management app.

Implementation

The implementation phase involves the actual construction of the proposed system. The codes are generated based on the design developed in the previous phase. This design outlines the specifics of the overall system requirements, referred to as units, which are then developed and tested individually during the unit testing phase. The significance of the implementation phase lies in its essential role ensuring the functionality of the code to achieve the defined objectives and address the issues outlined in the problem statements.

Testing

The testing phase is the final test of the system, which is performed after the system is fully completed. During this phase, the testing process will be tested to ensure that all features work as expected. This is to ensure that the system is checked for any malfunctions and glitches in the system.

TEST CASES -

Test Case ID	Purpose	Test Cases	Result
TC1	Authentication	User name with length less than 2 characters	User name cannot be less than 2 characters
TC2	Authentication	Valid user name with minimum 2 characters	User name accepted
TC3	Authentication	User name left blank	User name cannot be less than 2 characters
TC4	Authentication	Password field left blank	Password cannot be empty
Test Case ID	Purpose	Test Cases	Result
TC5	Authentication	Password with length less than 4 characters	Password cannot be less than 4 characters
TC6	Authentication	Minimum 4 characters valid password	Password accepted
TC7	Authentication	Password and Confirm Password did not match	Please enter same password

Maintenance

The maintenance phase is where maintenance tasks will be provided to the client which will be used and if there is a problem in the testing phase maintenance will take place. Also, this phase is to correct any problems and mistakes made in the previous phase.

Conclusion

Special finance is a term that includes managing your money, as well as saving and investing. Includes budgeting, banking, insurance, mortgages, investments, withdrawal planning, and tax and estate planning. personal finance is about meeting personal financial goals, whether it's having enough for short-term financial needs, planning to get out of a contract, or saving for your child's education.

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