Case Study on Budget Tracker App

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A B S T R A C T

A budget tracker app is a digital tool that helps users manage their finances by tracking income, expenses, and overall spending. It typically offers features such as expense categorization, budget setting, and real-time updates. It is developed to manage the daily expenses in a more efficient and manageable way. By using this application, we can reduce the manual calculations of the daily expenses and keep track of the expenditure. In this application, user can provide his income to calculate his total expenses per day and these results will be stored for each user. The system employs user-friendly interfaces and intuitive features to streamline the process of budget creation, tracking expenses, and analyzing spending patterns. The goal is to provide users with a clear overview of their financial situation, enabling better budgeting and informed decision-making. This paper introduces a decent and easy to use budget tracker app which is designed to assist users in managing their finances efficiently. With the help of sorting and visualizing tools, users can understand and gain insights into their spending habits, identify areas for improvement, and make informed decisions to achieve their financial goals. The goal of Budget tracker app is to empower users with the tools necessary to cultivate healthy financial habits and secure their financial well-being.

Keywords: Tracking Income, Expense Categorization, Manual calculation, clear overview, Sorting and visualizing tools.

Introduction

Now a day's people are concerned about regularity of their daily expenses. This is done mainly for keep a track of the users' daily expenses to have a control of users' monthly expenses. We have developed an android application named as "Budget Tracker App" and this application is used to manage the user's daily expenses in a more coherent and manageable way. This application will help us to reduces the manual calculations for their daily expenses and also keep the track of the expenses. With the help of this application, user can calculate his total expenses per day and these results will stored for unique user. As the traditional methods of budgeting, we need to maintain the Excel sheets, Word Documents, notes, and files for the user daily and monthly expenses. There is no as such full-fledged solution to keep a track of our daily expenses easily. Keeping a log in diary is a very monotonous process and also may sometimes lead into problems due to the manual calculations. Looking on all the above given conditions, we are trying to satisfy the user requirements by building a mobile application which will help them reduces their burdens. "Budget Tracker App" is an application where one can enter their daily expenses and end of the day, they know their expenses in charts.

Literature Review

A. Background

In life cycle of human after birth the need of materials and belongings is obvious. In order to fulfill our needs and desire we buy goods. The rule of earth is that you must have money in order to buy desired good. So, in this way the process of earning and spending goes on in our life. People in order to track their expenses use traditional paper system to keep the record of their income and expenditures. This type of traditional system is burdensome and takes more time. So, there must be a management system which must help us to manage our daily earnings and expenses easily, and also helps us to analyze records efficiently. So, we figured out a way to eliminate the traditional system with digital, portable, easier and simple way to record these data in just few clicks with our Android application called "Budget Tracker App".

B. Need of Budget Tracker App

With the increased sales in smartphones over the recent few years, individuals are utilizing mobile applications to complete their work, which makes their lives easier. Mobile applications include different diverse classifications, for example, Entertainment, Sports, Lifestyle, Training, Games, Food and Drink, Health and Fitness, Finance, and so forth. This Budget Tracking application falls in the Finance Category and serves the critical motivation behind managing finances which is a vital part of one's life. Spending less than the earnings and saving for the future is a golden rule for having a good control over the personal finance. By paying attention to what you buy each month, you quickly identify any leftover money, which can increase your retirement savings rate, emergency fund and even your net worth. But in reality, many people fail in budgeting their income and saving more. A survey was

conducted of 50-100 random people to understand the importance of tracking the budget. The study was conducted for individuals who work and study. The study illustrated that both students and workers had a serious issue in tracking their income and expenses. Individuals were questioned on how much money they spent per month on their needs and requirements, and it came to light that individuals couldn't provide an exact answer. Thus, they were unaware of where their money was going.

C. Features

Built for comfort:

Firstly, this app should be user-friendly and easy to implement. Moreover, the user interface must be expandable and allow additions that are easy for IT to program. With this GUI, the user can easily enter data by month and budget item. A welcoming GUI also requires less training, understanding and budgets can be built more quickly.

Budget Strategizing:

It creates budgets for different categories or overall spending. It also provides spending limits for specific time periods (weekly, monthly, yearly). Visual representation is present of budget allocation through charts and graphs.

Pre-established Category Library:

It Offers a library of common spending categories (e.g., groceries, rent, utilities, entertainment) for quick selection. Custom Category Creation: It Allows user to add custom categories specific to their needs and budget.

Set Financial Goals:

Allow users to define specific goals with a target amount and timeframe. This could include saving for a vacation, down payment on a house, or emergency fund.

D. Limitations

1. Manual Data Entry: Many budget tracker apps require users to manually input their financial transactions. This can be time-consuming and may lead to user fatigue, resulting in incomplete or infrequent updates.

2. Dependency on User Discipline: The effectiveness of a budget tracker app heavily relies on the user's discipline and commitment to consistently inputting accurate financial data. If users neglect to update their transactions regularly, the app's insights may be incomplete or inaccurate.

3. Limited Integration with Financial Institutions: Some budget tracker apps may face challenges in integrating with all financial institutions. This limitation can result in users having to manually enter data from accounts that cannot be linked automatically.

4. Privacy and Security Concerns: Users may be hesitant to provide sensitive financial information to budget tracker apps due to privacy and security concerns. Ensuring robust security measures and addressing user concerns is crucial for user trust.

5. Inability to Handle Cash Transactions: Many budget tracker apps focus on digital transactions and may not effectively handle cash transactions. Users who predominantly use cash for certain expenses may find it challenging to accurately reflect their complete spending.

6. Not Suitable for Complex Financial Planning: For users with complex financial portfolios, investment accounts, or intricate financial planning needs, budget tracker apps may lack the sophistication required. Specialized financial planning tools or advisors may be more suitable in such cases.

Proposed Methodology

Expense Tracker is going to be a cellular utility in order that it may be accessed any time required. This utility may have a -tier architecture: first one is the database tier, wherein all of the records and financial facts could be saved. Second it will be the person interface so that it will support the software person speak with the device and additionally save Information in the input the call of the account then that name will be stored in the account tab. If a user wants to delete the specific account, the consumer has to click on the account call consumer need to delete. Then that account may be deleted. It's usually a mixture of Android, Java and Firebase matched with frameworks that speed up the development procedure and make sure top of the line architecture. Budget Tracker might be a mobile utility that can be used at any time. The primary is the database layer, for you to keep all of the statistics and monetary data. Second, the programme will be supported via the person interface. The recommended device should permit users to talk with the device as well as store information. Users should be capable of choose from quite a few classes and enter the quantity and mode of price. This system need to be able to analyzing information. Provide information on the kinds the consumer spent the maximum Cash in. The recommended gadget need to have a person interface that lets in users to keep and song their previous fees. Track money is an android utility which is developed with a concept in mind to assist users to without difficulty manipulate all their profits and costs and keep music of all credit and debits of transaction in step with exclusive categories, also customers will have a pictorial representation of all the transactions of different categories and also can download excel reviews of transaction. App additionally receives custom designed hints inside the form of push notifications which helps users to manipulate charges.

Purpose / Goals

The purpose or goal of a budget tracker app is to help individuals and businesses manage their finances effectively by tracking income, expenses, and overall spending.

• Provide users with a clear understanding of their financial situation.

• Track income sources and monitor cash flow.

• Categorize and track expenses to identify spending patterns.

• Set spending limits for various categories to control discretionary spending.

• Enable users to set financial goals, such as saving for a vacation or paying off debt.

• Provide reminders for upcoming bills and financial obligations.

• Reduce the risk of late payments and associated fees.

• Monitor savings accounts and contributions to savings goals.

• Encourage regular saving habits.

• Enhance financial stability by promoting responsible spending and saving habits.

Framework

Android Studio, the legit included improvement surroundings (IDE) for Android app improvement, operates within a framework that delineates among frontend and backend components. The frontend in the main encompasses the consumer interface (UI) elements and person revel in (UX) layout, specializing in components which includes layouts, views, widgets, and resources like images and strings. Developers make use of XML for defining UI layouts and Java or Kotlin for programming logic to have interaction with these elements, managing user input, displaying information, and handling the app's standard conduct.

On the opposite hand, the backend component of Android Studio includes the underlying functionality and information management of the utility. This consists of obligations which include networking, database control, processing statistics, and business common sense implementation. Developers hire Java, Kotlin, or different supported languages to create backend functionalities, leveraging Android-particular frameworks like Android Jetpack components for architecture, Room for nearby database storage, and Retrofit for network communication. Additionally, developers can combine 1/3-birthday celebration APIs and offerings for enhanced backend capabilities, which includes Firebase for authentication, actual-time database, and cloud messaging.

Overall, Android Studio's framework enables the separation of concerns among frontend and backend improvement, enabling developers to effectively layout engaging consumer interfaces at the same time as implementing robust backend functionalities to create characteristic-rich and responsive Android programs.

Modules

This module offers with adding prices. Here the consumer has including daily charges. But there is a circumstance if the consumer hasn't decided on the class but then the consumer can't input expenses. When the user enters any transaction then that transaction will be delivered in Transaction tabs. If the consumer desires to delete that transaction, then the user has to lengthy click the transaction might be deleted from tabs.

• ADD CATEGORY In this module user can add the kinds. Every fee stored below the kinds. Then simplest we could clear out the information easily. Already some categories pre-described within the software. If user want to feature more categories that also available inside the utility.

• FILTER TRANSACTION VIEW In the transaction tab, the user can filter the transaction. In the tab, customers could pick the day, month and year then click on the filter button and in step with the day and month, year transactions can be regarded. If the user wants to clear out the transactions most effective on the basis of that day, for instance, person decided on Sunday then all transactions will seem that had been made on Sunday.

• VIEW ANALYTICS The person has pie chart alternative available for graphical illustration. If the person clicks the view analytics it will redirect to the information. When the person rotates the cellphone facts will initiated and it indicates the graphical representation within the shape of pie chart. Pie chart it could carries a colored and percent view.

• PDF REPORT In the transaction, the tab consumer has an option to be had for creating a file in PDF. Users click on the PDF button then PDF file could be generated to the consumer and also user could view that report and that file may be automatically stored in the device.

ER Diagram

[1] ER Diagram

Problem statement

Many individuals and businesses struggle with maintaining a clear understanding of their financial standing, leading to overspending, insufficient savings, and difficulties in achieving financial goals. Manual tracking methods are often time consuming and prone to errors, while existing financial tools may lack user-friendly interfaces or fail to provide comprehensive insights. There is a need for a robust and user-friendly budget tracker app that offers real-time visibility into income, expenses, and savings, empowering users to make informed financial decisions, control spending, and work towards their financial objectives. Basically, we can see that today everyone seek towards his savings. He wants that in this era of inflation how he can control his expenses and save money for future use. Obviously, they are seeking towards such an application which guides them how they can meet their expenses in efficient manner and also save their money for future use.
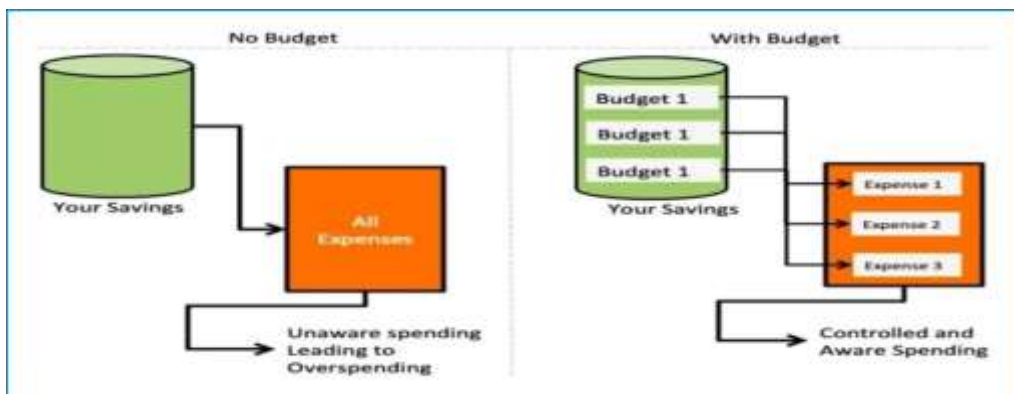
[2] Benefits

Future Scope

A. AI and Machine learning

Integrating AI and gadget gaining knowledge of into our budget tracker app gives a thrilling future scope with multifaceted advantages. Firstly, AI can decorate the app's predictive capabilities, allowing it to investigate past spending patterns and are expecting destiny fees more correctly. This predictive evaluation can empower users to make informed economic decisions and better control their budgets. Additionally, gadget getting to know algorithms can personalize the app's recommendations and insights based totally on individual spending conduct, thereby supplying tailored advice to users for optimizing their economic fitness. Moreover, AI-powered capabilities inclusive of natural language processing can streamline statistics entry tactics, allowing customers to results easily enter transactions via voice commands or text popularity. Furthermore, through leveraging AI-pushed information analytics, the app can discover ability areas for cost-saving and offer proactive guidelines to users, thereby fostering higher financial planning and wealth accumulation. Overall, the mixing of AI and system getting to know holds monstrous capacity to revolutionize our price range tracker app, making it greater intuitive, personalized, and effective in assisting users achieve their financial goals.

B. Mobile and App integration

Integrating cellular and app integration into our finances tracker app holds tremendous promise for boosting user enjoy and accessibility. By leveraging mobile integration, our app can seamlessly sync with users' mobile gadgets, taking into consideration actual-time updates and notifications on their spending habits, budgets, and monetary dreams. This guarantees that customers have get admission to their economic statistics whenever, everywhere, empowering them to stay on top of their price range at the pass. Moreover, app integration opens up opportunities for incorporating extra functions and functionalities thru partnerships with other apps and offerings. For example, integrating with banking apps can permit automatic transaction categorization and syncing, decreasing manual statistics entry for customers. Similarly, integration with cost tracking apps, receipt scanners, or digital wallets can streamline expense control and facilitate greater comprehensive price range tracking.

Furthermore, leveraging cellular competencies along with push notifications, region offerings, and biometric authentication can enhance the app's protection and person engagement. Push notifications can alert customer's approximately upcoming payments, overspending, or budget milestones, helping them live accountable to their economic desires. Location offerings can provide context-conscious insights, including figuring out spending styles at unique merchants or places. Additionally, implementing biometric authentication functions like fingerprint or facial reputation adds an extra layer of protection at the same time as simplifying the login process for users.

Overall, cellular and app integration offers a compelling future scope for our finances tracker app, imparting superior capability, accessibility, and consumer engagement. By seamlessly integrating with customers' mobile gadgets and leveraging partnerships with complementary apps and services, we are able to create a stronger and consumer-friendly platform for powerful price range management and financial empowerment.

C. Economic trends Analysis

Incorporating robust offline capabilities represents a huge location of growth and possibility for finances tracker apps, specifically in anticipation of destiny trends. As technological improvements continue to reshape the panorama of private finance, offline functionality stands out as a vital feature that enhances the versatility and resilience of price range tracker applications. One issue of the future scope lies within the refinement and growth of offline functions. This includes the development of sophisticated offline modes that enable customers to perform vital obligations inclusive of price tracking, finances making plans, and economic evaluation without requiring an internet connection. Advanced offline capabilities may also encompass the potential to synchronize information seamlessly when the tool reconnects to the internet, making sure consistency across multiple structures and gadgets.

Moreover, the mixing of offline competencies opens doorways to new consumer segments and markets. In areas with limited net get admission to or unreliable connectivity, finances tracker apps with sturdy offline functionality can cater to the wishes of underserved populations, thereby increasing their attain and impact. Similarly, vacationers, outside fanatics, and individuals in remote areas can enjoy the comfort of dealing with their finances offline, making price range tracker apps integral companions in diverse contexts. Furthermore, the destiny scope of budget tracker apps with offline capabilities extends to stronger records safety and privacy measures. By allowing customers to keep sensitive economic records locally on their devices, those apps decrease the threat of information breaches and unauthorized get admission to. Implementing advanced encryption protocols and biometric authentication in addition reinforces the security of offline statistics, instilling confidence and accept as true with amongst customers.

In conclusion, the destiny scope of budget tracker apps with recognize to offline competencies encompasses the refinement of features, enlargement into new markets, and heightened security features. By prioritizing offline functionality, builders can position their apps as crucial equipment for monetary management, offering users reliability, comfort, and peace of mind in a more and more virtual international.

Conclusion

In conclusion, the development of our budget tracker app is an important step in empowering users to manage their finances. Through careful design and implementation, we have created a user-friendly platform that seamlessly integrates budgeting, expense tracking and financial goal setting. Our app not only provides insightful research and flexibility but also promotes financial literacy and responsibility.

Given the importance of individuals keeping a close eye on their finances, our Budget Tracker application is emerging as a reliable solution that caters to a variety of user needs and preferences. By leveraging technology, we aim to simplify the complex financial system and empower users to make informed financial decisions.

As we move forward, our commitment remains resolute to continue to enhance app functionality, enhance user experience, and add new features to meet the evolving demands of our users Usage We believe that our Budget Tracker app will promote financial well-being and instill a culture of financial responsibility among our users. And it will be a valuable tool.

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