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An Expense Tracker

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Abstract: ***The Expense Tracker project aims to provide a user-friendly platform for individuals or households to track their expenses efficiently. In today's fast-paced world, managing finances can be challenging, and this project seeks to simplify the process by offering a comprehensive solution. The project offers a range of features to help users manage their expenses effectively. It allows users to record their daily expenses, categorize them into different categories such as food, transportation, bills, and entertainment, and set budget limits for each category. The system provides notifications when users exceed their budget limits, helping them stay on track with their financial goals. One of the key features of the Expense Tracker project is its ability to analyze spending patterns over time. Users can view their expense history through interactive charts and graphs, allowing them to identify trends and make informed decisions about their finances. This feature is particularly useful for budget planning and identifying areas where expenses can be reduced. Security is a top priority for the Expense Tracker project. The system uses secure user authentication to ensure that only authorized users have access to their financial data. All data is encrypted to protect it from unauthorized access, providing users with peace of mind about the security of their information.***

I. 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 "Expense Tracker Application" and this application is used to manage the user's daily expenses in a more coherent and manageable way [10]. 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. "Expense Tracker Application" is an application where one can enter their daily expenses and end of the day, they know their expenses in charts. The idea of developing this project in mobile platform for user convenience. Because whenever they make expenses immediately, they add in mobile application. Some of the concerns maintaining a personal expense is a BIG problem, in daily expenses many times we don't know where the money goes. Some of the conventional methods used to tackle this problem in normal circumstances are like making use of a sticky notes by common users, Proficient people deals with this kind of problems by using spreadsheets to record expense and using a ledger to maintains the large amounts data by especially by expert people.

II. EXISTING WORK

The Expense tracker existing system does not provide the user portable device management level, existing system only used on desktop software so unable to update anywhere expenses done and unable to update the location of the expense details disruptive that the proposed system provides [6]. In existing, we need to maintain the Excel sheets, CSV files for the user daily, weekly and monthly expenses.

In existing, there is no as such complete solution to keep a track of its daily expenses easily. To do so a person as to keep a log in a diary or in a computer system, also all the calculations need to be done by the user which may sometimes results in mistakes leading to losses.

The existing system is not user friendly because data is not maintained perfectly. But this project will not have any reminder to remain a person in a specific date, so that is the only drawback in which the remainder is not present. This project will be an unpopulated information because it has some disadvantages by not remind a person for each and every month. But it can used to perform calculation on income and expenses to overcome this problem we propose the new project.

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III. MOTIVATION

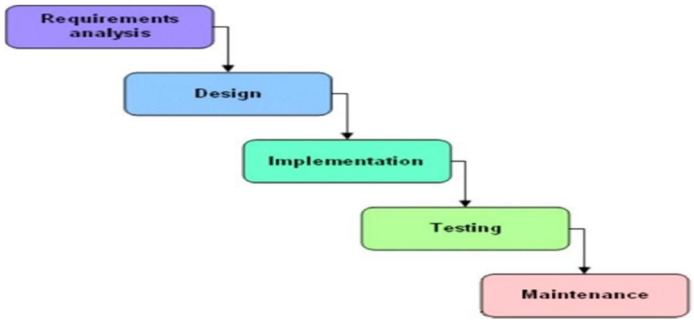
The idea of developing this project in mobile platform for user convenience. Because whenever they make expenses immediately, they add in mobile application. Some of the concerns maintaining a personal expense is a BIG problem, in daily expenses many times we don't know where the money goes. Some of the conventional methods used to tackle this problem in normal circumstances are like making use of a sticky notes by common users, Proficient people deals with this kind of problems by using spreadsheets to record expense and using a ledger to maintains the large amounts data by especially by expert people. As this shows that it is various methods used by different people. This makes using this data contrary. There is still complication in areas like there is no assurance for data compatible, there are chances of crucial inputs can be missed and the manual errors may sneak in.

The Data recorders are not always handled, and it could be hectic process to have overall view of those expenses. We believe a handy design and a handy mobile application which handles these troubles. Such that app is capable of recording the expenditure and giving broad view with easy to use the user interface and this application is intelligent enough to shows the history of expenses noted in the app.

IV. OBJECTIVES

1) *Cost Efficiency:* Develop methods to reduce cloud expenses without compromising performance.
2) *Optimizing Expenses:* Optimize resource allocation to ensure efficient usage of cloud infrastructure.
3) *Automation:* Implement automation tools to minimize manual intervention in cost management.
4) *Performance Maintenance:* Ensure that cost optimization efforts do not adversely affect system performance.
5) *Strategic Agility:* Enhance an organization's ability to adapt to evolving cloud technologies and pricing models.
6) *Financial Sustainability:* Enable businesses to maintain financial sustainability while harnessing the benefits of cloud computing

V. PROJECT PLAN



We used the waterfall method to develop the system. This picture shows a plan that we can use to get what we need. The Annexure includes some guesses or calculations. To create a map of our area. We thought about the stages in a waterfall model when making calculations. First, we looked at each part individually and then we calculated the necessary guesses.

1) *Planning and Requirements Gathering Phase:* In this phase, we will define the scope and objectives of the Expense Tracker System project. We will gather user requirements through surveys, interviews, and market research to understand the needs of our target users. Based on this information, we will identify the key features and functionalities that the system should have.
2) *Design and Prototyping Phase:* During this phase, we will design the user interface and user experience of the Expense Tracker System. We will create wireframes and prototypes to visualize the system and gather feedback from users. Based on this feedback, we will iterate on the design to improve usability and functionality.
3) *Development Phase:* In this phase, we will develop the backend infrastructure for storing and managing financial data. We will also implement the frontend interfaces for users to track expenses, set budgets, and analyze spending patterns. Additionally, we will integrate analytics tools for expense analysis and reporting. This phase is critical for building the core functionality of the Expense Tracker System.
4) *Testing and Quality Assurance Phase:* During this phase, we will conduct thorough testing of the Expense Tracker System to ensure that it functions as intended. We will identify and fix any bugs or issues that arise during testing. We will also ensure that the system meets security and privacy standards to protect users' financial data.
5) *Deployment and Launch Phase:* In the final phase, we will deploy the Expense Tracker System to a production environment. We will conduct user training and provide documentation to help users get started with the system. Finally, we will launch the system to the public, making it available for individuals, households, and small businesses to use.

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VI. CONCEPTS AND METHODS

A. *Multiple Accounts*

Users can create multiple accounts. In the account tab. User has the option available for creating a new account and Users will click the "+" sign button then a dialog will appear on the screen and the user could enter the name of the account then that name will be saved in the account tab.

B. *Add Expenses*

This module deals with adding expenses. Here The user has adding daily expenses. But there is a condition if the user hasn't selected the category yet then the user can't enter expenses. When the user enters any transaction then that transaction will be added in Transaction tabs.

C. *Add Category*

In this module user can add the categories. Every expense stored under the categories. Then only we could filter the details easily. Already some categories pre-defined in the application. If user want to add more categories that also available in the application.

D. *Filter Transaction View*

In the transaction tab, the user can filter the transaction. In the tab, users could select the day, month and year then click the filter button and according to the day and month, year transactions will be appeared. If the user wants to filter the transactions only on the basis of that day, for example, user selected Sunday then all transactions will appear that were made on Sunday.

E. *View Analytics*

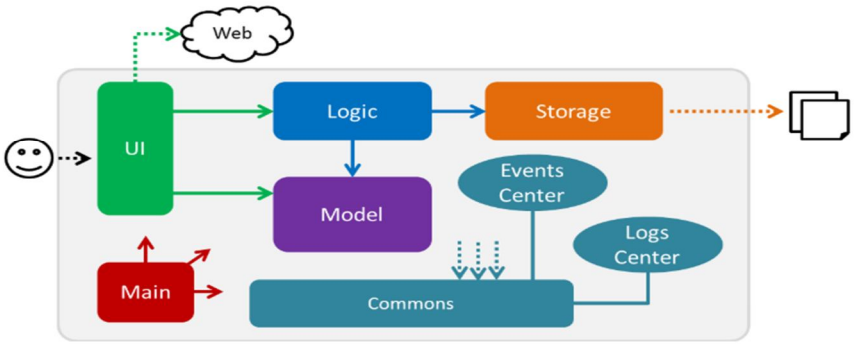
The user has pie chart option available for graphical representation. If the user clicks the view analytics it will redirect to the statistics. When the user rotates the phone statistics will initiated and it shows the graphical representation in the form of pie chart. Pie chart it could contains a colored and percentage view.

F. *PDF Report*

In the transaction, the tab user has an option available for creating a report in PDF. Users click on the PDF button then PDF report will be generated to the user and also user could view that report and that report will be automatically saved in the device.

VII. SYSTEM ARCHITECTURE

To reduce manual calculations, we propose an application. This application allows users to maintain a digital automated diary. Each user will be required to register on the system at registration time, the user will be provided id, which will be used to maintain the record of each unique user. Expense Tracker application which will keep a track of Income-Expense of a user on a day to day basis. The best organizations have a way of tracking and handling these reimbursements. This ideal practice guarantees that the expenses tracked are accurately and in a timely manner. From a company perspective, timely settlements of these expenses when tracked well will certainly boost employees' morale. Additional feature of Expense and income prediction helps to better budget management.



VIII. RESULTS



Fig – Dashboard Page

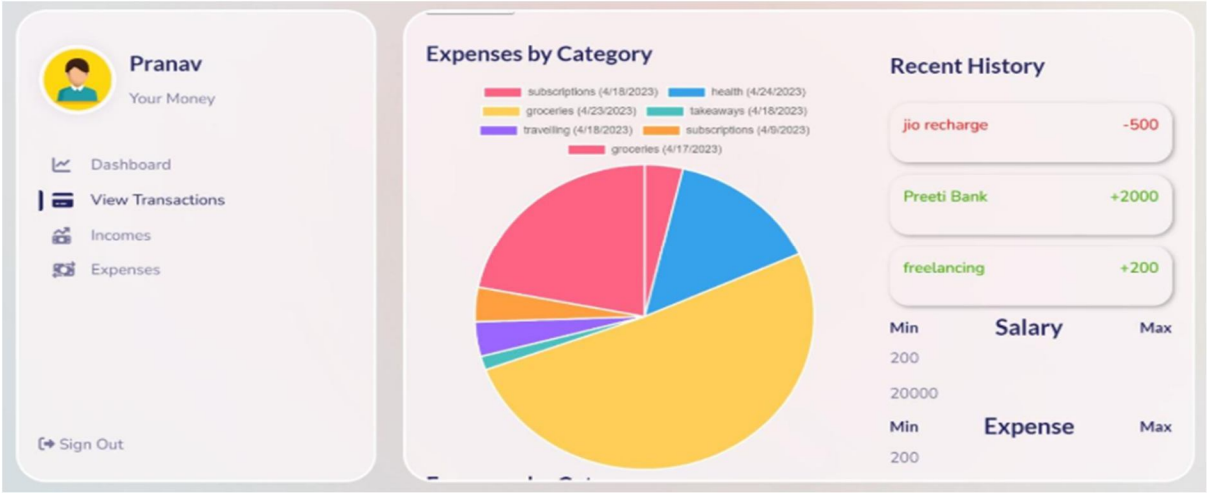


Fig – View Transactions Page

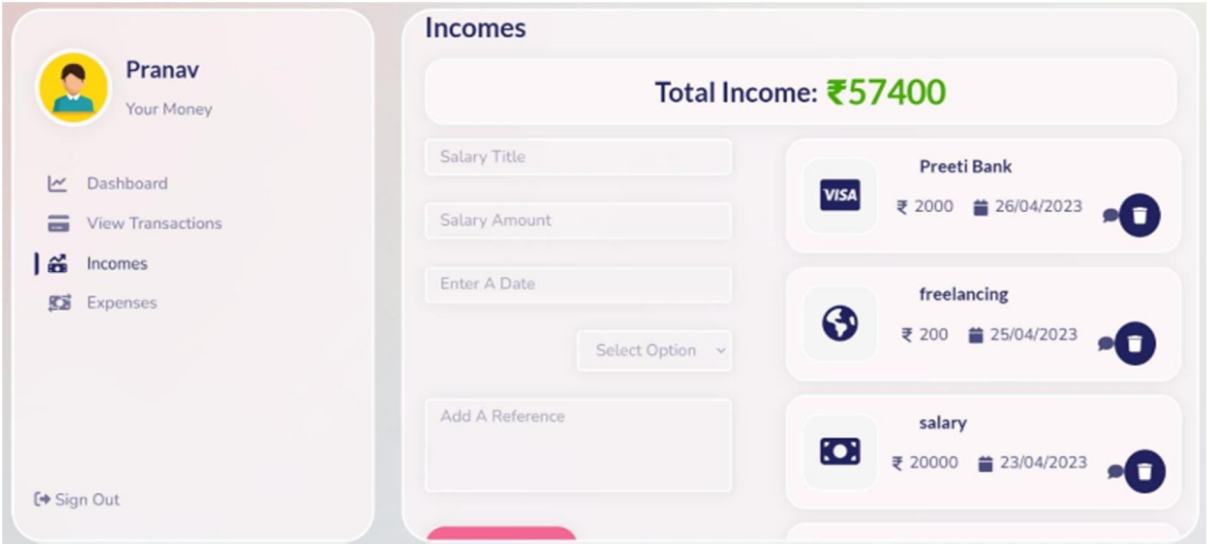


Fig – Incomes Page

IX. PROJECT SCOPE

The project scope entails the development of a comprehensive cost optimization strategy for an organization's infrastructure. It involves the analysis of existing resources, utilization patterns, and associated costs, to implement solutions that streamline expenses while preserving performance and reliability. The scope encompasses the creation of automation tools, monitoring systems, and real-time reporting dashboards to enable efficient resource allocation. Furthermore, it includes continuous adaptation to evolving offerings and pricing models, ensuring long-term cost efficiency while adhering to security and compliance requirements.

X. FUTURE WORK

The Future Enhancements of the application can be allowed to support in all the upcoming android versions. History can be set to view all the details in the app even if the particular data is deleted from the database. Statistics could be prepared based on the Income, Expense details of the user. Sharing files via Bluetooth, WhatsApp can be allowed. Printing the details of the particular income or expense details can be made. Some of the extra components are like enabling users to register to the application using existing email or social network account, it will synchronize the users profile data to the application Higher efficiency: A more detailed and deep learning models and algorithms can be implemented in the system to achieve higher performance and enhance the results. Enhanced edge device: Along with alarms and alerts, the edge device can be encoded to have basic analytical abilities for detecting common faults.

XI. CONCLUSION

The new system has overcome most of the limitations of the existing system and works according to the design specification given. The project what we have developed is work more efficient than the other income and expense tracker. The project successfully avoids the manual calculation for avoiding calculating the income and expense per month. The modules are developed with efficient and also in an attractive manner. The developed systems dispense the problem and meet the needs of by providing reliable and comprehensive information. All the requirements projected by the user have been met by the system. The newly developed system consumes less processing time and all the details are updated and processed immediately. Since the screen provides online help messages and is very user friendly, any user will get familiarized with its usage. Modules are designed to be highly flexible so that any failure requirements can be easily added to the modules without facing many problems.

XII. ACKNOWLEDGMENTS

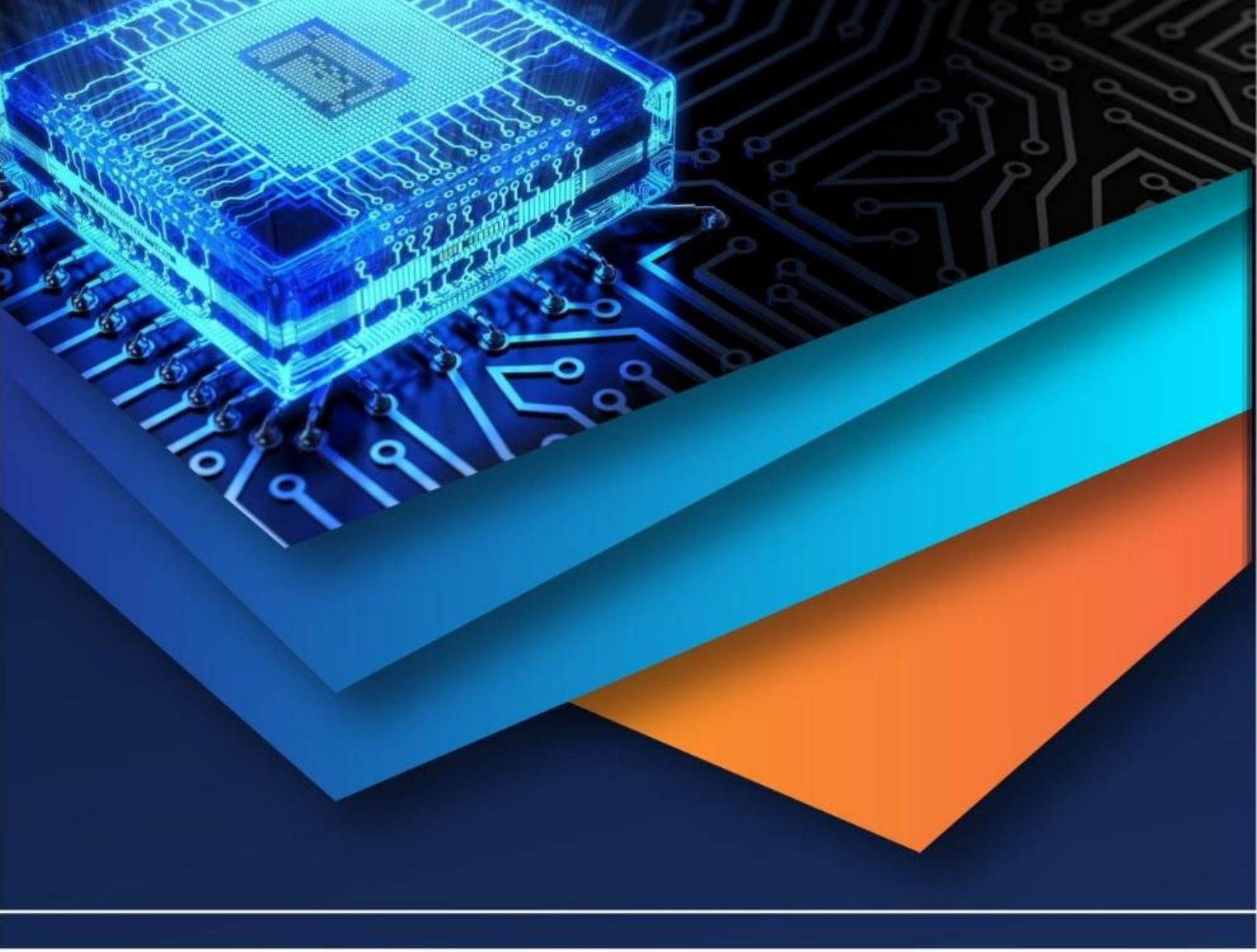
It gives us great pleasure to present the project report on ‘An Expense Tracker’ We would like to take this opportunity to thank my internal guide Prof. Pournima Sutar for giving us all the help and guidance I needed. We are grateful to them for their kind support. Their valuable suggestions were very helpful. In the end our special thanks to Prof. ----- for providing various resources such as information with all needed software platforms, and continuous Internet connection, for Our Project.

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