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Expense Tracker

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***Abstract:** This Expense Tracker is a web application that facilitates the users to keep track and manage their personal as well as business expenses. This application helps the users to keep a digital diary. It will keep track of a user's income and expenses on a daily basis. The user will be able to add his/her expenditures instantly and can review them anywhere and anytime with the help of the internet. He/she can easily import transactions from his/her mobile wallets without risking his/her information and efficiently protecting his/her privacy. He can see the accurate duration for how long a particular product is being used by him.*
The monthly, and year-wise comparison of expenditures will be done by the app which will let the user know the area where he is spending the most. The user will be able to see the detailed analyses with the help of graphical visualizations. This project will provide a lot of benefits to the users with the help of which they will be surely able to keep track of each penny.
It is time to stop using paper and excel sheets to keep track of your digital as well as cash payments. Using paper is not easy to manage. It is common to delete files accidentally or misplace files. This expense tracker provides a complete digital solution to this problem. Excel sheets do very little to help in tracking expenses. Furthermore, they don't have the advanced functionality of preparing graphical visuals automatically. Not only it will save the time of the people but also it will assure error-free calculations. The user just has to enter the income and expenditures and everything else will be performed by the system.
***Keywords:** Expense Tracker, budget, planning, savings, graphical visualization of expenditure.*

I. INTRODUCTION

In today's world financial well-being is the dream of every person and managing and keeping track of their expenses play a crucial role in this goal. If a person is not able to manage his expenses, he/she is likely to end up in a crisis. Money management is a necessary part of life. A proper balance between income and expense is a must for a comfortable livelihood. There must be some savings that can be used at a later point of life when needed. But in the absence of proper management of money, we left with no savings at all. Some people note down every single expense which is a good practice.

Expense Management and Tracking is performed by noting down and analyzing the transactions of an individual or an organization over a particular period. Nowadays, everyone in the world is in some kind of hurry, so countless people are searching for competent ways of tracking and managing their expenses. In some recent years, research has been administered on household budgets (Access Consultants, 1998; Central Statistics Office, 2001; European Countries, 2004; Muellbauer, 2006; Redpath, 1986; Yemtsov, 2007). It was found that in most cases, people were performing expense management and tacking mentally and not writing any of it down on paper making the process more problematic. Perhaps this is because of the verity that most of the people do not know how to manage and keep track of their expenses. For budgeting, we have to foresee and establish some future goals. By determining a budget, an individual can set goals for attaining a certain level of income and check his/her expenses. Numerous proprietors of home-based and small-scale industries have observed that their profit margins did not increase until they had a written income goal and a process with which to oversee expenses (Central Statistics Office, 2001; Redpath, 1986). Similarly, personal finance management is an important aspect of people's lives. Then again, not everyone has the knowledge or time to track their expenses properly. Moreover, even if they have the time and familiarity with the process, they don't concern themselves with expense tracking and management as they find it tiresome. Today, people don't have to worry as there are numerous applications and techniques using which they can manage their expenses. Also called expense manager, an expense tracker is software that facilitates keeping a record of an individual's money inflow and outflow. Most of the people in the world live on a static revenue, and they discover that towards the end of the month they don't even have enough money to meet their essentials. Though this problem can be due to low salary, most of the time it is because of improper money management skills. Using an expense tracker can help you keep track of how much money you spend every day and on what. At the end of the month, you will have a clear picture of where your money is going. This is one among the simplest ways to urge your expenses in check.

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A. Types of Expense Managers

At the moment, there are several expense tracking applications available. Some are paid while others are free. Even banks offer their customers expense trackers to help them out. Before you choose to go in for a particular money manager, it is important to choose the type you want.

Money managers can be divided into two categories. They are: -

1) Simple applications that are quick and allow you to manage and keep track your personal expenses.

2) Complex applications that let you to manage multiple user accounts and can be integrated with your credit cards, debit cards, and bank accounts. These apps are for persons who have a lot of money outflow or businesses that want to keep track of their employees' expenses.

B. Benefits of Using Expense Trackers

If you are wondering why, you should be using an expense tracker, here are some benefits that you should keep in your mind:

1) *Prioritize Your Spending:* Remember you are on a fixed income and have a limit to spend which you cannot cross. If you start examining what you are spending your hard-earned money on, you will be able to prioritize the spending. This way, you will spend just on things you need, like paying your EMIs, utility bills, rent, and grocery shopping, rather than spending frivolously.

2) *Become Aware of Poor Spending Habits:* If you tend to spend money on a whim, using an expense tracker will help you identify those habits. When you will spend more than what you have thought to save, then there will be a color change of the card which will let you know that you should spend carefully. Basically, you will think twice before doing useless expenses.

3) *Expenses Reminder:* You may forget to add expenses on some day as it is is human nature to forget about some things. So, an expense tracker will help you to remind about adding expenses daily. It can send you reminder either through email or SMS.

4) *Take Control of Your Finances:* When you track your expenses, you are taking control of your finances. It lets you to regulate spending impulses and eliminate worthless spending, thereby avoiding debt. At every point, you will be aware about how much money you are left with.

5) *Saving and Investment:* When you track your expenses, you are aware about the area where you can save better and invest in your future. Spending carelessly does not give you leeway to save and invest for your future.

II. LITERATURE SURVEY

A. Intelligent Online Budget Tracker

The development of this application has been conducted in a stepwise manner using the well-defined methodology, RUP, customized according to the requirements of the system. Most of the goals set at the start of the development phase have been met. Security problems like web security or network security have also been treated in the design and development of the system, thus increasing the reliability of the system. Quality management issues have also been handled satisfactorily.

B. Online Income and Expense Tracker

This project is work more efficient than the other income and expense tracker. The project successfully avoids the manual calculation for calculating the income and expense per month. The modules are developed efficiently and also in an attractive manner.

C. Family Expense Manager Application

As the result, the user can make use of this application in his/her daily life. After being used it can be a part of daily life to update and view daily expenses and family expenses. This helps to keep track of expenses & manage it for the user as they are busy in their daily routine, they are not able to keep track of their incomes & expenses.

D. Personalized Expense Managing Assistant Using Android

Some of the features are like enabling users to register to the application using an existing email or social network account, it will synchronize the user's profile information to the application. Apart from this, the application can be used to gather samples of data related to user's expenses with consents and use those sample data as parameters to assess patterns of spending. Using some data mining techniques expenses can be classified and can be used in market analysis and planning.

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E. Mobiwik Expense Tracking Application

Mobikwik came up with a new feature in their app called Expense Manager. With this feature, you can track and manage your expenditures(expenses), savings, reminders and bill payments. This is a personal budget management app that tracks your expenditures and income and gives you recommendations to make you economically strong.

The main idea of developing this feature for giving users a clear picture that how much they are spending and where they are spending and when. We remind them to pay their utilities and card bills before the due date by using the same platform in just one tap, instead of going any other way. Also serving them by giving saving tips for their good future investment.

III. RESEARCH

As stated in the previous section, for most of the people expense tracking is still a manual process being conducted on pieces of paper. Copybooks and notebooks are used for this purpose where the daily expenses are written as per the willingness of the person. At the end of the month, the total for the income/expenses made is then calculated so that a comparison can be made against previous months. A sample page from these copybooks is shown below:

My Expenses Period: January 2020

Expenses	Total Cost (Rs.)
Kelvinator Fridge 100 L	28, 000
Wooden Furniture (5 pieces)	32, 000
Groceries	8, 000
Cinema (3 times * 4 persons)	1, 200

Total Cost: Rs. 69, 200

In addition to expenses management shown, income management is also done which consumes more pages of the notebook.

The problems identified with the actual system being used by most of the people are as follows:

1) Much detail cannot be kept as there is much rewrite to be done which makes the task tedious.
2) Involves much paperwork which:
a) Occupy lots of space
b) can be easily lost or stolen,
c) May become dirty or get damaged thus causing loss of information.
3) Searching and referencing is difficult and time-consuming.
4) Analysis and comparison of data become difficult.
5) Reports generation is a tedious process.
6) The work being done is not accurate.

A. Proposed Solution

In this project, we develop an application that keeps track of user personal expenses. The proposed application would eliminate sticky notes, spreadsheets, and ledgers that cause confusion, data inconsistency problems while recording and splitting expenses. With our application, users can manage their expenses more effectively.

B. Comparative Analyses

Below are some of the features that are not present in existing to-do list apps that we are trying to implement in our application.

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S. No.	Features	Existing system	Proposed system
1.	Register	✔	✔
2.	Sign-in	✔	✔
3.	Add income	✔	✔
4.	Categorize theexpenditures	×	✔
5.	Update the expenditures	✔	✔
6.	View expenditures in form of graphs and	✔	✔
	Tables		
7.	Report generation	×	✔
8.	Comparison of prices	×	✔
9.	Notifications	×	✔

Table: Comparative Analysis for Users

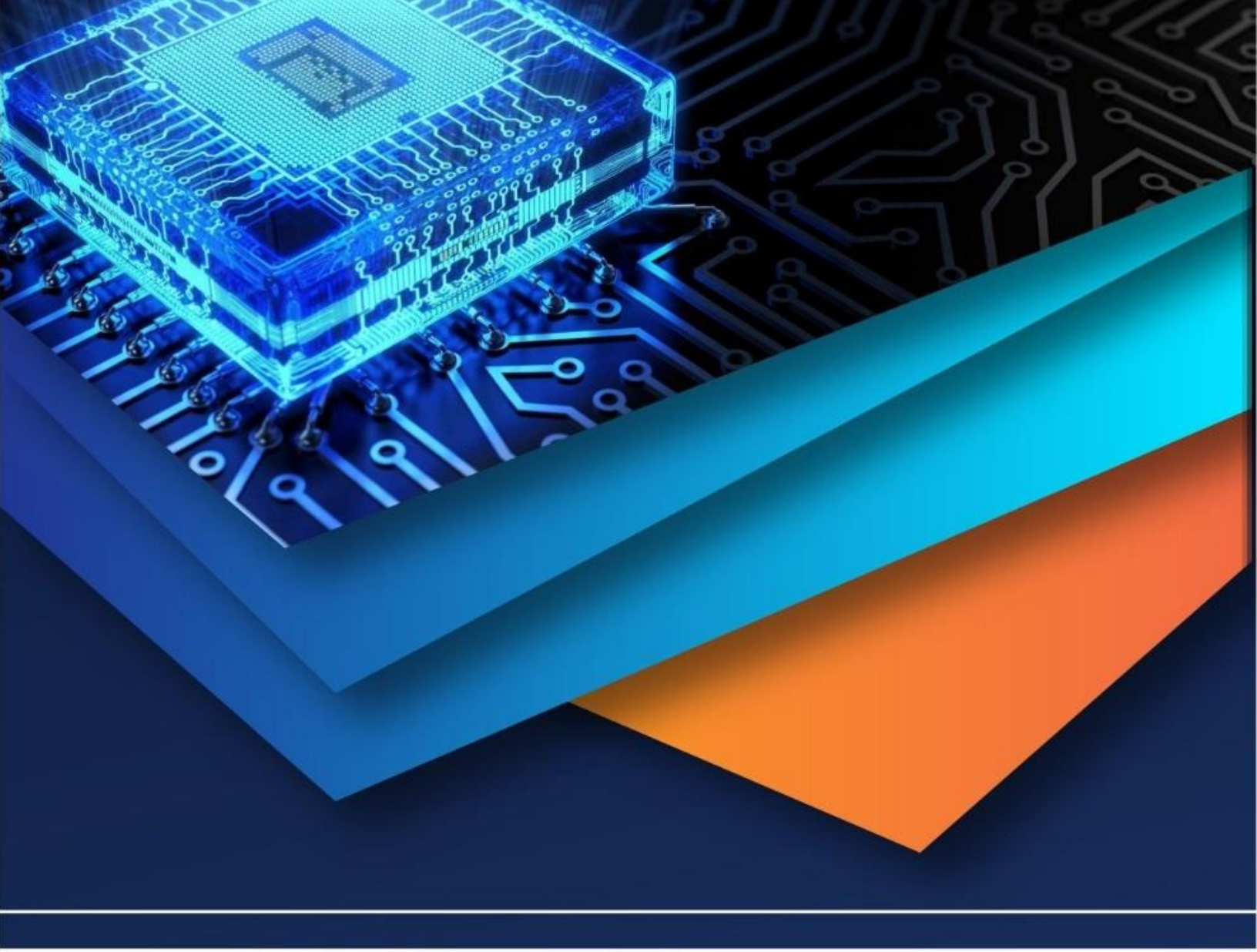
IV. CONCLUSION

Tracking your expenses daily can not only save your amount, but it can also assist you set financial goals for the longer term. If you know exactly where your amount goes every month, you will easily see where some cutbacks and compromises can be made. The project that we have developed is more efficient than the other income and expense trackers. The project successfully avoids the manual calculation which is performed usually in the absence of an expense tracker. The modules are developed efficiently and also in an attractive manner. The application will eliminate sticky notes, spreadsheets, and ledgers that cause confusion, data inconsistency problems while recording and splitting expenses. With our application users can manage their expenses more effectively and they will be better at managing the expenses.

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