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Daily Expense Tracker

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Abstract-
This paper represents a Daily Expense Tracker is a tool that resides on a remote server and is accessible via browsers. As the name suggest Daily Expense Tracker is a web application that allows you to track the daily expense of the user and help them to better manage their resources. It creates a digital record of the income and expense of the user. It input from the user a income, source of this income and the date of earning that income and creates a transaction entry under income category sums to the total amount of income and making real time changes. The various sources of income can be added and thus the distribution of your income is also illustrated by real time functioning charts that will keep updating as per your transactions. Similarly, it will also have an expense category where you can make similar transaction about the source of your expense, amount and date. On creating such transaction a different chart for distribution of expense will also be made in real time. The web application will also be voice powered and all the functionalities can be used with voice commands.
The application will be accessible and compatible to all the devices.
Keywords*-remote server, transactions, voice-powered*

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I. INTRODUCTION

The daily expense tracker is a web application which is used to maintain data of daily, weekly, monthly and yearly expenses in an eye-catching way. This project is aimed at developing a web application which will be helpful to users who run out of resources due to mismanagement and also find it difficult to maintain records of their expenses. So daily expense tracker will help them manage their needs and spending in a better way by accessing the web application directly from web browsers. It is designed and developed in a way that it is compatible with each and every device.

We have also considered disinterest or the lack of time of users to maintain such records and thus made the web application voice powered as well making sure that there is something for each and every type of users. The application doesn't need any extended hardware or software support to run and thus a user with minimal resources can also make use of the application to make a difference into their life.

The application will prove to be a crucial utility among the families removing the fear of losing the physical records , here data is stored in local storage of the browser and thus is never lost and stay as it is even if you open the application after a long period of time.

II. LITERATURE REVIEW

Daily Expense Tracker can be accessed from a web browser, such as Google Chrome or Mozilla Firefox, allowing for a portable work environment. The application contains all the features of digitally maintaining the records with some eye-catching visual representation and graphics of your spending and even eliminating the need of physical entries by provide voice instructions. This web application usually is developed using React Js as the framework and also uses its libraries like material Ui, chart.js to add and create the functionalities.

ReactJS is a declarative**,** efficient, and flexible JavaScript frontend library for building reusable UI components. It is a, component-based front-end library and is available freely to everyone which is responsible only for how the application looks or the view layer of the application. The aim of ReactJS is to make it feasible for developers to develop User Interfaces (UI) easily by dividing it into various components and also to develop fast systems. It uses virtual DOM (JavaScript object), which enhances efficiency and the performance of the app. The JavaScript virtual DOM is faster than the conventional DOM. We can use ReactJS on both client and server-side as well as with other

available frameworks. It uses component and data patterns that improve readability and helps to maintain and regulate larger apps.

Component based development allows to break the system into various components and develop them separately, test them separately and then integrating them to make up the system. Also, the concept of

virtual DOM improves the performance of system as the component on which the change is made is re rendered and the whole application is not re rendered again.

Our application is divided into three major components that is income, expense and create transaction section. Create transaction component controls the rest of the system it allows user to choose from two categories whether it is a Expense or an Income and also choose from list of types of income or expense enter the amount and date and create entry. After the creation of transaction pie charts are created in the income or expense section based on type of transaction in real time showing the distribution of your income and expense respectively.

All these features of creating and deleting transactions are also implemented by voice commanded using Speechly voice engine which is an AI powered engine providing voice recognition to implement in our system.

The application make use of advanced react concepts of context apis and hooks. With Hooks, you can extract stateful logic from a component so it can be tested independently and reused. Hooks ensures and allow you to reuse stateful logic without changing your component hierarchy**.** This makes it easy to share and use Hooks among many components or with the community.

Styled components are used to style the web application and make it responsive for all the devices. Ultimately the best possible use of stack of technology is done to make sure that the user experience is unmatched and inimitable.

III. PURPOSE

I. No Need to install web application: - the problem of installing web application avoided on any device. So, reducing space and time related problems.

II. Remotely Accessible: - a web -based application can be used remotely via a network connection that is platform independent

III. Movability and Repository: - to reduce the problem of movability and repository field by using to make the concept of web-based application.

IV. Local Storage:- Local storage allows developers to store and retrieve data in the browser. The data stored in local storage will not expire. This means the data will persist even if the tab or the browser window is closed.

V. Voice Features:- We have used Speechly for building real-time multimodal voice user interfaces. It enables developers and designers to enhance their current touch user interface with voice functionalities for better user experience.

IV. IMPLEMENTATION

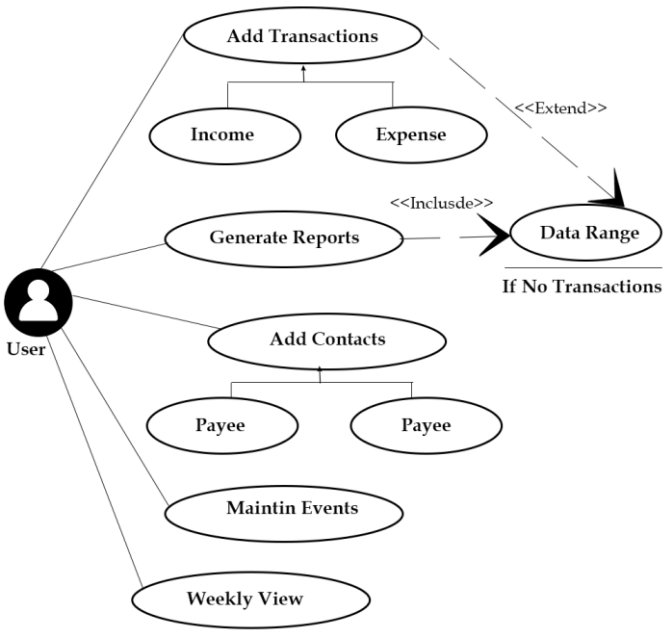
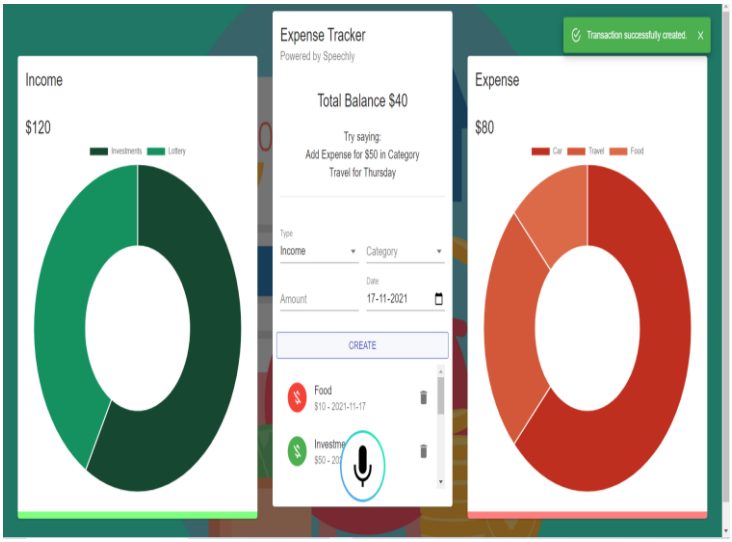
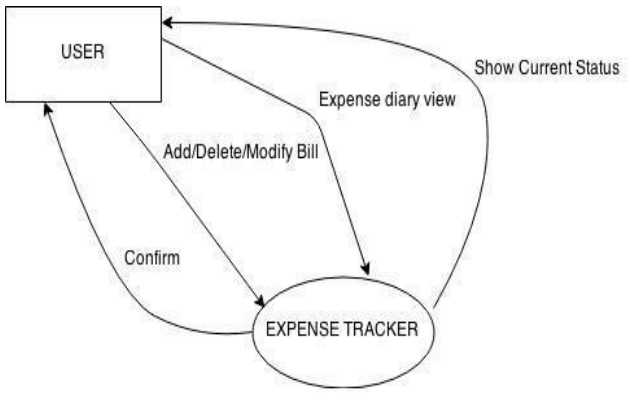


fig:- Flow diagram of daily expense tracker



The methodology of daily expense tracker are as follows:

- This system will include a website application that will allow users to maintain a digital automated diary
- There will be two options for the user that are income and expenses to make an entry.
- The user can select any entry according to his/her choice. There are different options in both expense and income category.
- For instance we have sub categories in income that are lottery, deposits, travel , bills , salary, savings , rental income etc .
- The important point here is that user can create his /her category according to need.
- This is a platform independent web application. User can use this application either in their mobile phones or desktops.
- Both Income and Expenses pie chart will be created when we add any item and distributed according to the user need.
- The main feature is that we have used speech recognition technique in this daily expense tracker.
- If any user doesn't know how to add or delete he/she simply can give commands. For eg:- Add rupees 10,000 in income as salary.



- The above mentioned figure shows that user can simply add , modify and delete income and expenses according to his/her choices .
- The final result is shown in the pie chart . There will be two separate pie charts for income and expense with different colours showing the distribution of amount the user has added in the web application.

V. SECURITY

- The application is deployed on Netlify which provides it the cloud infrastructure required to process and function.

- Netlify has tie up with the most in demand cloud frameworks which are regularly audited and improvements are made on security.
- Moreover, Netlify itself provides a prerendered and static environment which leaves no possible area to attack on .
- The application once hosted or deployed is encrypted with HTTPS certificates.
- Netlify provides protection from Distributed Denial of Service attacks by using constant monitoring strategies.
- Data centres of Netlify are maintained as per the security policies.
- The traffic regulated over all the Netlify networks are TLS encrypted.
- Thus, all these abilities or security aspects of Netlify reflects on our project or the application and makes it secure and fit for its purpose without involving any risk of confidentiality for the users.

VI. CONCLUSION

Tracking your expenses daily can save your amount, but it can also help you set and work for financial goals for the future. If you know exactly where your amount is going every month, you can easily see where some cutbacks and compromises can be made and are possible. The project what we have developed works more efficient than the other available income and expense tracker. The project successfully avoids the manual calculation for avoiding calculating the income and expense per month and save time of user. The modules are developed with efficient, reliable and also in an attractive manner.

FUTURE SCOPE

In the future, The Online Income and Expense Tracker application can be further enhanced to include following features:

- The application can be extended to include scanning of barcode on the price tag which decreases the effort of entering the data in the input fields.
- Group: Apart from keeping a personal log, we are planning to extend this system to incorporate a shared expense group.
- The application can be designed in a way as to create a monthly analysis and report of the user's income and expenses to provide better understanding to the user and gain control of his or her expenditure.
- A notification system can be enabled in case when the expenses crosses over the income generated by the user to warn him or her about the situation.

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