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Mini Project Report

EXPENSE TRACKER (COLLEGE CENTS TRACK)

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in degree of partial fulfillment for the award of the

Bachelor of Engineering

IN

Computer Science

Department of computer Engineering

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Declaration

We hereby declare that the work which is being presented in this Project "**Expense Tracker Website",** done at place where the project is done, has not been in any case duplicated to submit to any other university for the award of any degree. To the best of my knowledge other than me, no one has submitted to any other university. This is an authentic record of our own work carried by the team members under the supervision of our mentor Akash Kumar Choudhary

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BONAFIDE CERTIFICATE

Certified that this project report **"Expense Tracker (College Cents Track)"** is the bonafide work of "**Aditya, Chirag Jain, Dhruv Srivastava and Nikhil"** who carried out the project work under my/our supervision.

Signature	**Signature**
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Head of the Department	**Supervisor**

Submitted for the project viva-voce examination held on

INTERNAL EXAMINER **EXTERNAL EXAMINER**

Contents

Acknowledgement

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ABSTRACT

In today's busy and expensive life we are in a great rush to make money. But at the end of the month we broke off. As we are unknowingly spending money on little and unwanted things. So, we have come over with the idea to track our earnings. Daily Expense Tracker (DET) aims to help everyone who are planning to know their expenses and save from it. DET is an website which users can execute in their mobile phones and computers and update their daily expenses so that they are well known to their expenses. Here user can define their own categories for expense type like food, clothing, rent and bills where they have to enter the money that has been spent and also can add some information in additional information to specify the expense. Although this website is focused on new job holders, interns and teenagers, everyone who wants to track their expense can use this website.

LIST OF ABBREVIATIONS

DET	Daily Expense Tracker
HTML	HyperText Markup Language
CSS	Cascading Style Sheets
Js	Javascript
YNAB	You Need a Budget

Introduction

Expense tracker is a refined system which allows user to efficiently manage his/her expenses with ease. Tracking expenses daily can really help to us save lot of money. Once we start off by tracking our expenses each day, we will be able to get a better idea where you are spending your money, so you stay in control and achieve your goal. It will be able to generate your expense and saving report as time duration you selected. There will be a reminder that will help to save money for your pre-defined expenses.

Objectives

The objective of this system are:

- To keep track of daily expenses and budgeting;
- To save money for pre-defined expenses which will help planning on your future investments

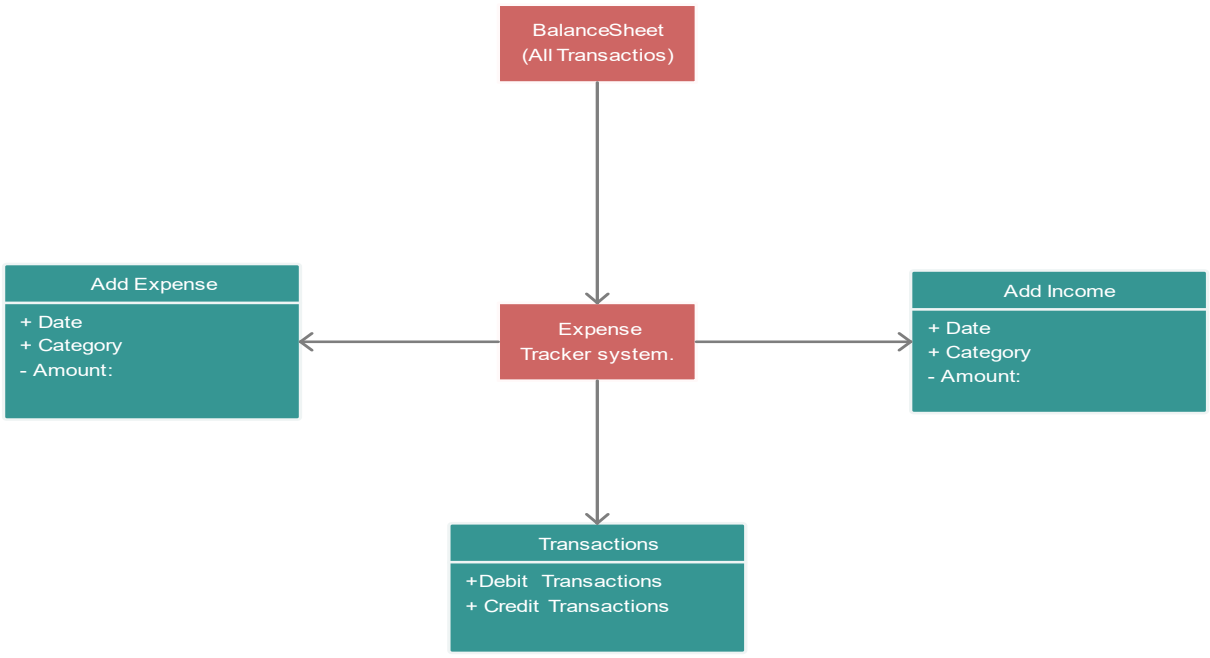
Identification of problem

Every earning people are mostly obsessed at the end of the month as the they cannot remember where all of their money have gone when they have spent and ultimately have to sustain in little money minimizing their essential needs. There is no as such complete solution present easily or we should say free of cost which enables a person to keep a track of its daily expenditure easily and notify them if they are going to have money shortage. To do so a person has to keep a log in a diary or in a computer, also all the calculations needs to be done by the user which may sometimes results in errors leading to losses. Due to lack of a complete tracking system, there is a constant overload to rely on the daily entry of the expenditure and total estimation till the end of the month

Literature Review

Tracking daily expense is not so innovative. Many traditional and technological approach is found to track our expenses and budget with their own functionality. From decades ago and today we have been writing our expenditure in a register to calculate the profit or saving. Not only this many desktop and mobile applications has been developed for this purpose. Quicken and Microsoft money were the first desktop applications was developed decades ago but was not so familiar with the users. Personal capital and dollar bird application were used to visualize the expenses in chart or graphs with the calendar system. QuickBooks were the application for the small business holder to wrap up their whole business. YNAB and Penny were the latest application which were embedded with Al and applicable for importing expenses automatically. However, Mint was the one which was widely used and trusted.

Explaining about the latest application built in this category, YNAB is an expense tracker that gives the automatic tracking of our expense through our bank account or credit cards. We can also define expenses that may take place in future so that we do not go out of bound. This application is mobile friendly and is emerging since 2013.This application is embedded with AI to define and manage



Technologies Used

HTML

Hypertext Markup Language, commonly known as HTML, stands as the cornerstone of web development, providing a standardized markup system to structure and present content on the World Wide Web.

Structural Backbone:

At its core, HTML serves as the structural backbone of web pages. Using a system of tags, developers delineate the various components of a webpage, defining headers, paragraphs, lists, and other essential elements. This hierarchical structure not only imparts semantic meaning to content but also lays the foundation for search engine optimization, aiding in the discoverability of web content.

Interactive Features:

HTML empowers developers to incorporate interactive features seamlessly. Through the use of forms, users can submit data, facilitating dynamic interaction with the website. HTML5 introduces multimedia elements, such as audio and video tags, enabling the integration of rich media content directly into web pages, thereby enhancing the overall user experience.

Responsive Design:

With the proliferation of diverse devices, responsive design has become imperative. HTML, in collaboration with Cascading Style Sheets (CSS), enables the creation of responsive websites that adapt seamlessly to various screen sizes and devices.

It is used for:

- Structuring Pages
- Content Presentation
- Hyperlinks
- Forms and User Input
- Multimedia Integration
- Search Engine Optimisation

CSS

Cascading Style Sheets, commonly known as CSS, is a pivotal technology in web development that elevates the visual presentation of HTML-structured content. Its primary role is to define the styling and layout of web pages, providing a mechanism to control the color, typography, spacing, and positioning of elements on a webpage.

CSS enables the separation of content from presentation, allowing developers to create consistent and visually appealing designs across multiple pages. By employing selectors and declarations, CSS targets HTML elements and attributes, applying styles that enhance the overall user experience.

One of CSS's notable contributions is its support for responsive web design. Through media queries and flexible grid systems, CSS empowers developers to create websites that seamlessly adapt to various screen sizes and devices. This responsiveness ensures optimal viewing experiences on desktops, tablets, and mobile phones.

Furthermore, CSS facilitates the implementation of animation and transition effects, bringing a dynamic and interactive dimension to web interfaces. Selective styling through classes and IDs provides developers with fine-grained control, allowing for the customization of individual elements or entire sections of a webpage.

It is used for:

- Presentation and Styling
- Layout Control
- Responsive Web Design
- Animation And Transitions
- Print Styles
- Selective Styling

JavaScript

JavaScript, often abbreviated as JS, is a versatile programming language that plays a pivotal role in web development. Originally introduced as a client-side scripting language, JavaScript has evolved into a powerful and multifaceted tool used for both front-end and back-end development, enabling developers to create highly interactive and dynamic web applications.

Client-Side Interactivity:

One of JavaScript's primary functions is to enhance client-side interactivity. It runs directly in the web browser, allowing developers to manipulate the Document Object Model (DOM), dynamically update content, and respond to user interactions. This capability is fundamental to creating engaging user interfaces, from form validation to interactive maps and real-time updates.

Asynchronous Operations:

JavaScript's asynchronous nature is key to handling non-blocking operations. Features like Promises and the async/await syntax facilitate the execution of code without disrupting the flow of the program. This is especially crucial when dealing with tasks such as fetching data from servers or performing complex computations, ensuring a smooth user experience.

DOM Manipulation:

The ability to manipulate the DOM is central to JavaScript's role in web development. Through JavaScript, developers can dynamically alter the structure and content of web pages, responding to user actions and updating the interface without requiring a full page reload.

Libraries and Frameworks:

JavaScript is enriched by a plethora of libraries and frameworks, such as React, Angular, and Vue.js on the front end, and Express.js on the back end. These tools simplify and expedite development, providing pre-built components, efficient state management, and modular structures that enhance the scalability and maintainability of web applications.

It is used for:

- Client-Side Scripting
- User Interface Interactivity
- Form Validation
- Dynamic Content Updates
- Browser Manipulation
- Event Driven Programming

REACT

React is a powerful JavaScript library renowned for its ability to create dynamic and interactive user interfaces in web applications. Initially conceived as a tool for building reusable UI components, React has evolved into a comprehensive front-end library used in conjunction with HTML and CSS to develop modern web applications, single-page applications (SPAs), and progressive web apps (PWAs).

React operates on the client side, meaning it executes within the user's browser after the HTML is received from the server. This client-side rendering capability allows developers to create rich, responsive interfaces that update efficiently in real-time, without the need for full page reloads.

One of React's standout features is its component-based architecture. Developers can break down their user interfaces into modular components, each responsible for rendering a specific part of the UI. This modular approach promotes code reusability, maintainability, and scalability, making it easier to manage complex UIs and collaborate on large-scale projects.

React excels at managing application state, both locally within components and globally across the application. Through its built-in state management tools, such as useState and useContext hooks, developers can create dynamic interfaces that respond to user interactions and external events without reloading the page.

React supports client-side routing, allowing developers to create multi-page applications with distinct URLs for different views or sections of the application. This enables smoother navigation and bookmarking, enhancing the overall user experience.

React enables developers to leverage virtual DOM (Document Object Model) for efficient rendering and updates. By maintaining a lightweight representation of the DOM in memory, React minimizes the number of DOM manipulations required, resulting in faster rendering and improved performance.

It is used for:

- Dynamic User Interface Creation
- Client-Side State Management
- Integration with External Data Sources
- Single-Page Application(SPAs) and Progressive Web Apps(PWAs)
- Client-Side Routing
- Modular Component-Based Architecture

MONGODB

MongoDB, a NoSQL database solution, revolutionizes data management with its flexible and scalable architecture. Originally designed to address the limitations of relational databases, MongoDB has emerged as a leading choice for modern applications, particularly those dealing with large volumes of unstructured or semi-structured data.

Operating as a document-oriented database, MongoDB stores data in flexible, JSON-like documents, offering developers a schema-less approach to data modeling. This flexibility allows for agile development and seamless adaptation to evolving application requirements.

One of MongoDB's defining features is its distributed architecture, which enables horizontal scalability across clusters of commodity hardware. This distributed model ensures high availability and fault tolerance, making MongoDB an ideal choice for applications demanding continuous uptime and resilience to failures.

MongoDB's query language and indexing capabilities facilitate efficient data retrieval and manipulation. Developers can perform complex queries, including ad-hoc queries, range queries, and geospatial queries, leveraging MongoDB's indexing support for optimal performance.

MongoDB integrates seamlessly with popular programming languages and frameworks, providing native drivers and libraries for languages such as Python, JavaScript, and Java. This tight integration simplifies development and allows developers to leverage MongoDB's capabilities within their preferred development environment.

MongoDB excels at real-time analytics and event-driven architectures, thanks to its support for change streams and aggregation pipelines. Developers can react to changes in data in real-time, enabling applications to deliver timely insights and responses to user interactions.

It is used for:

- Flexible Data Modeling
- High Availability and Scalability
- Efficient Querying
- Real-time Analytics
- Integration with Programming Languages

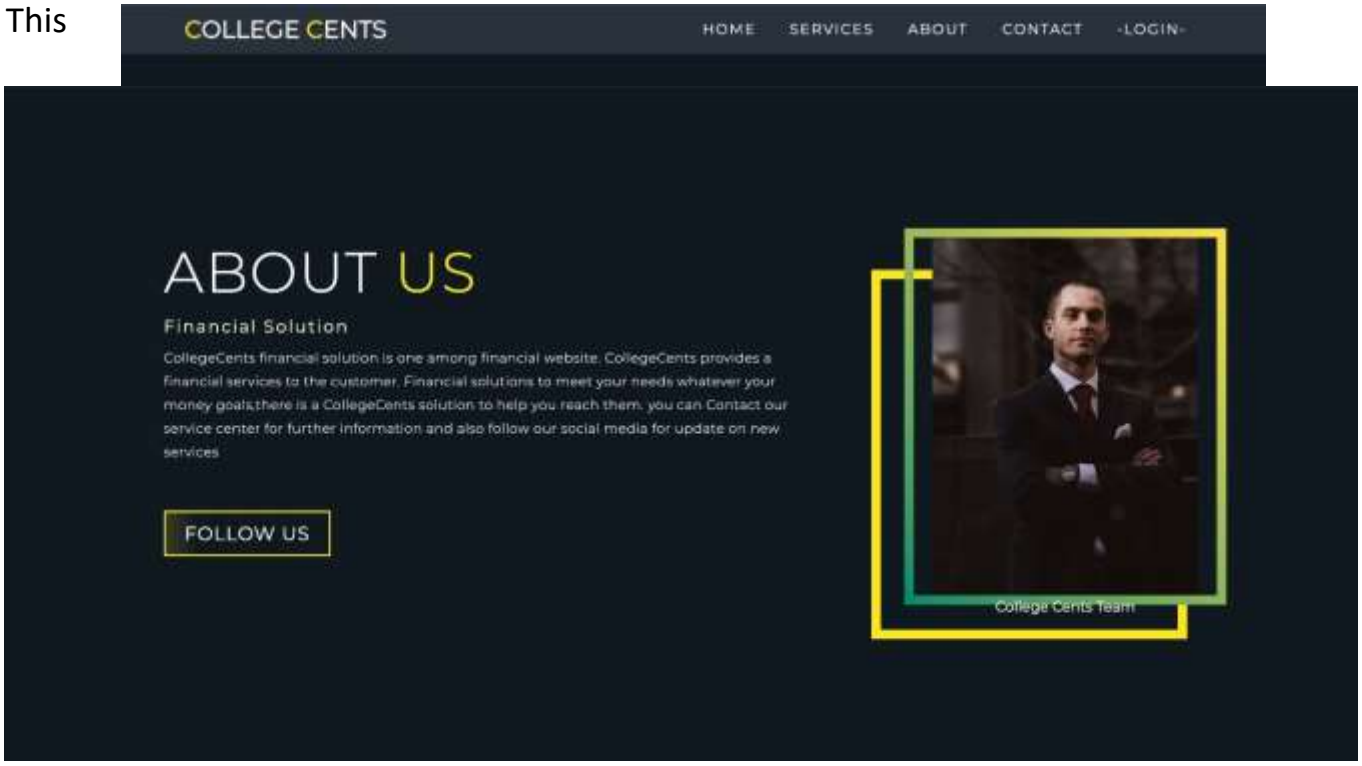
Snapshots

1.Landing page of the College Cents

Fig. 1.1

2.This snapshot shows the services page which shows you what services will be provided to you by this website.

Fig. 1.2

3. This 

snapshot shows the about page, which tells about the website.

Fig. 1.3

4. This snapshot shows the contact info page, this page contains the information regarding how you can reach us.

Fig. 1.4

5. This snapshot shows the Login Page , after logging in you will be redirected to your personal expense tracker.

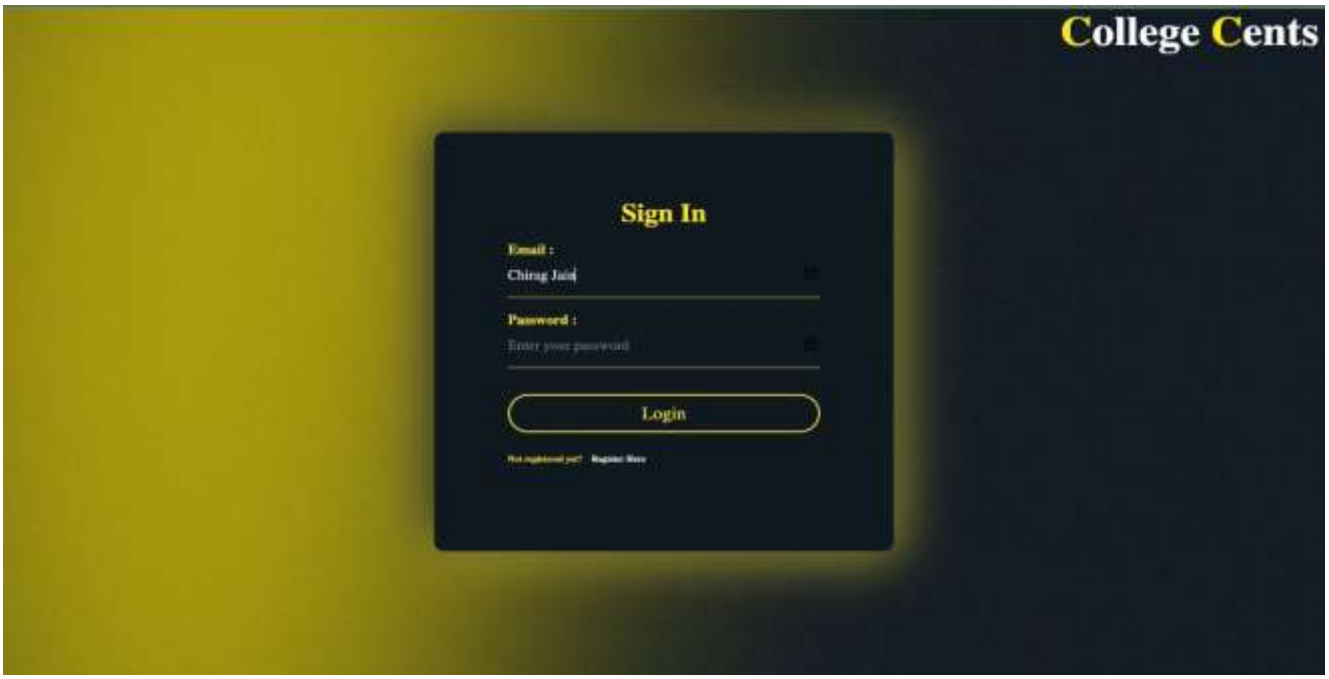


Fig. 2.1

6. If you are not a registered user then you have to register first then go to login page to go to expense tracker.

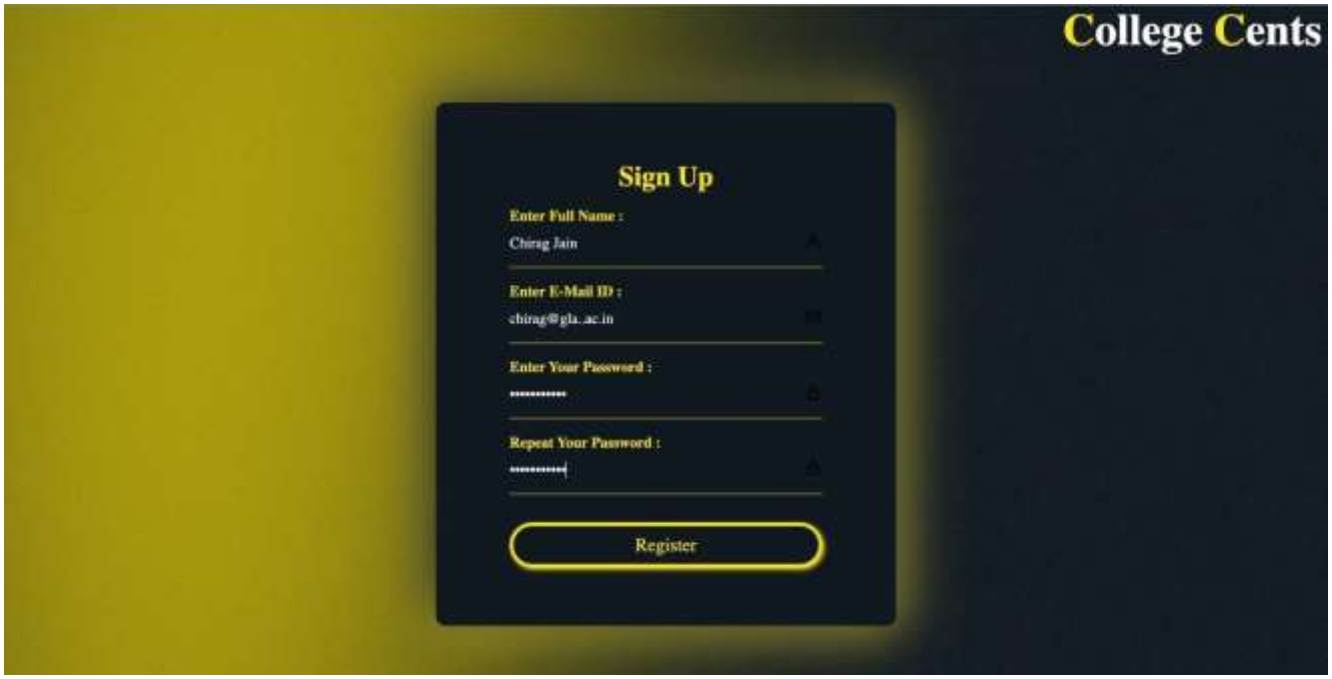


Fig. 2.2

7. This snapshot shows the Analysis Page where we will show you the records of your Expenses and Income and also the analysis of Income in form of Bar Graph and Pie Charts.

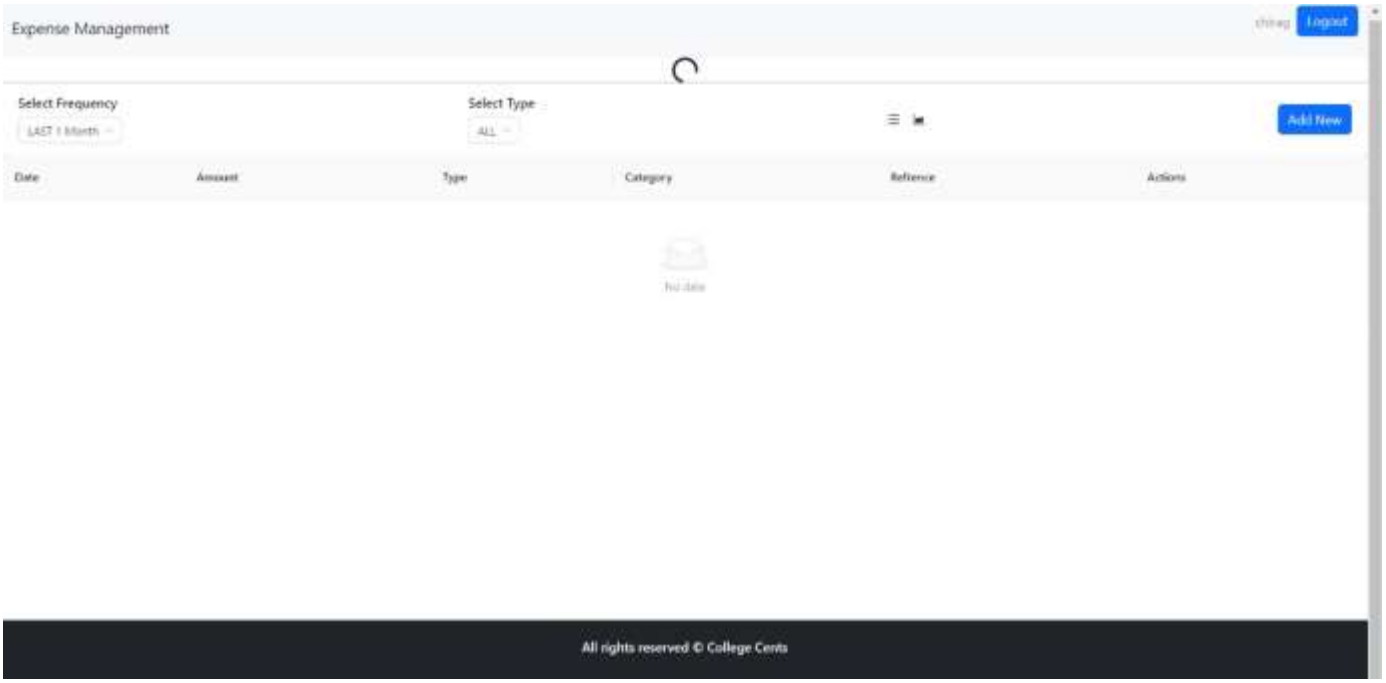


Fig. 3.1

8. This snapshot shows the Tracker page where you can enter your income/expense category, amount, date then click on save to store the data.

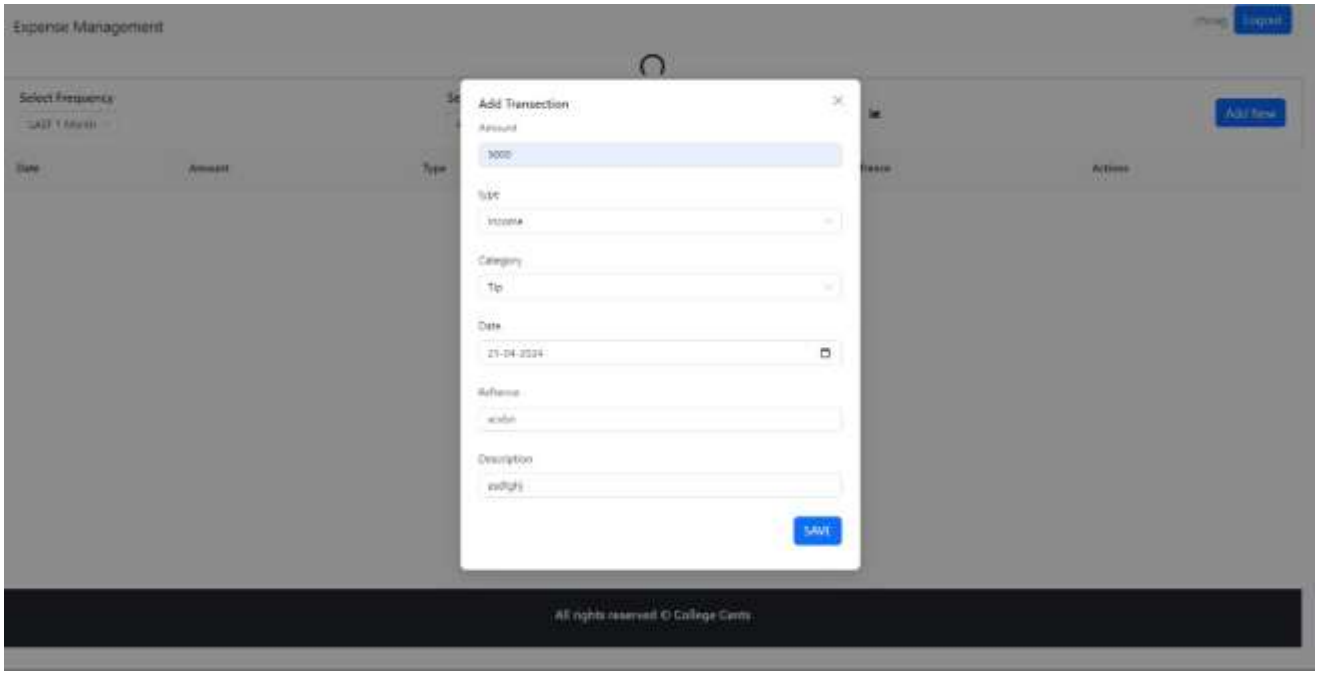


Fig. 3.2

9. This Snapshot shows the MongoDB Database where all the transactions created a by user can be seen .

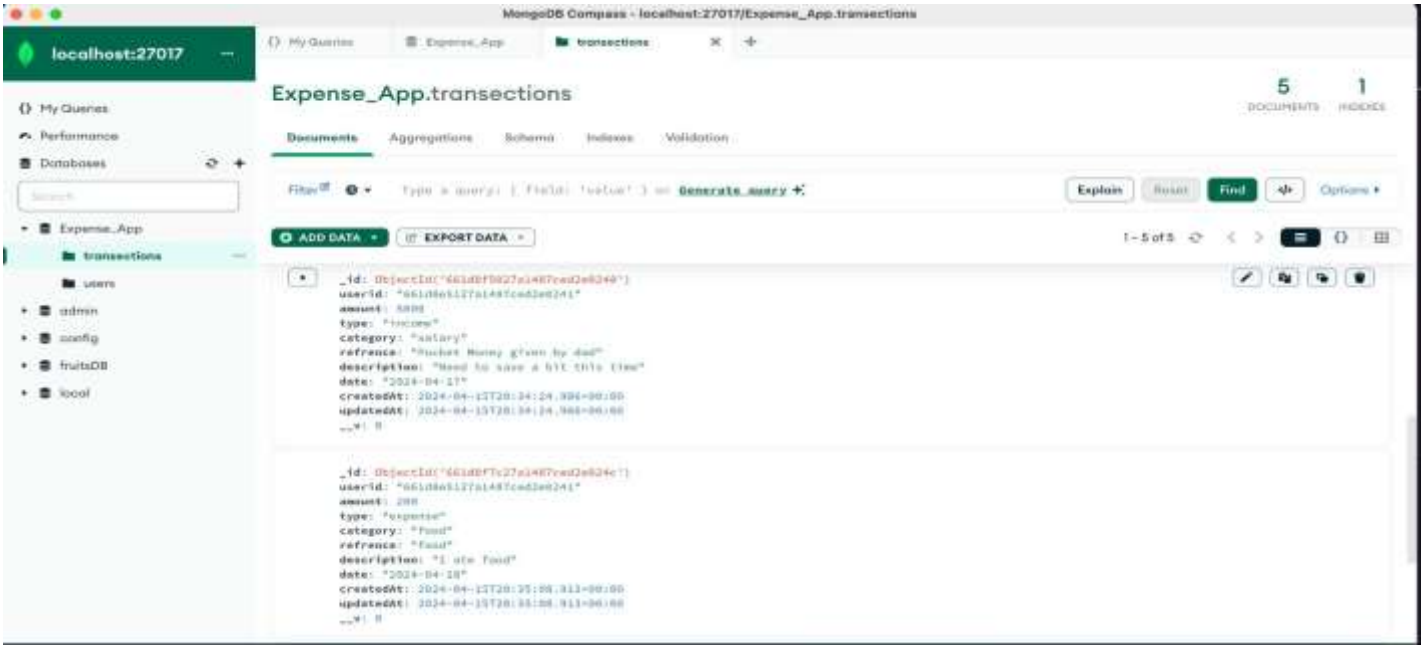
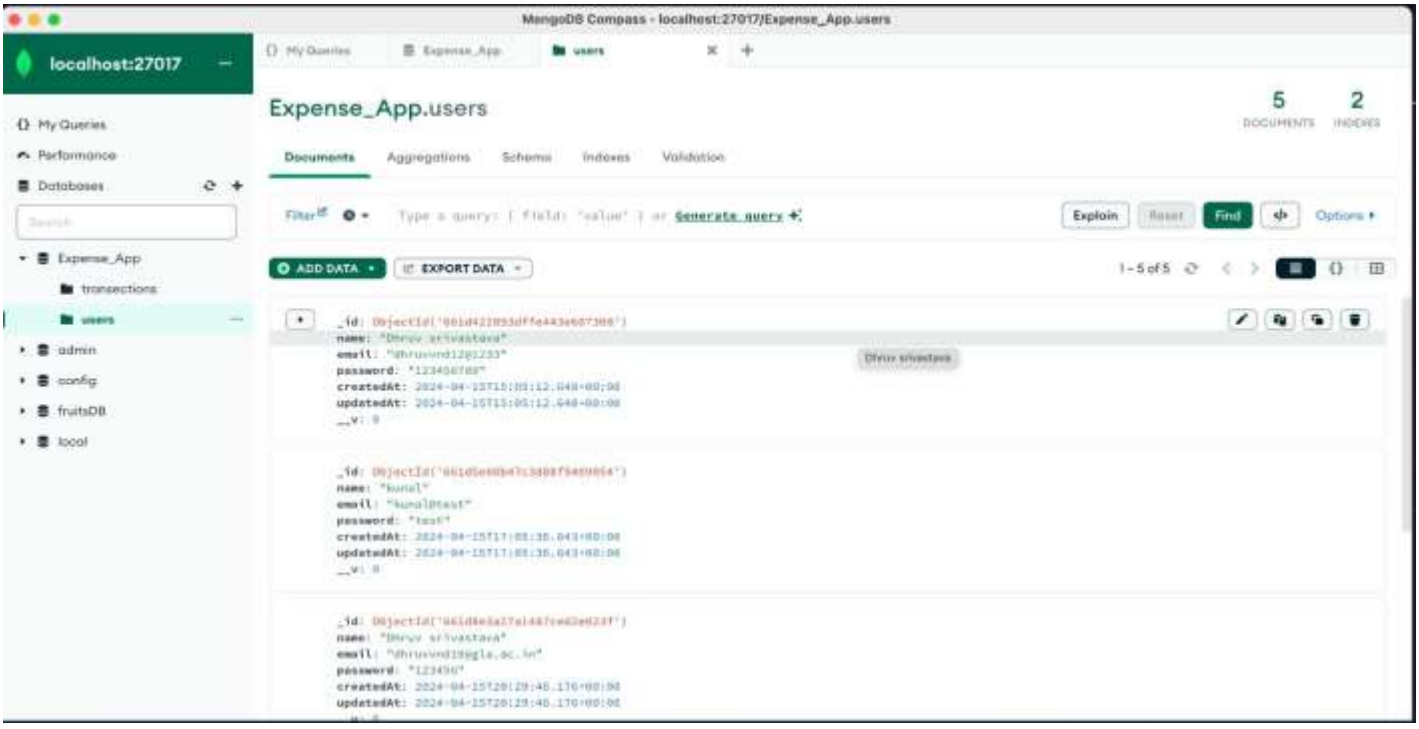


Fig. 4.1

10. This snapshot shows the MongoDB Database where you can see all the user credentials stored inside it , which can be used to login inside the personalised tracker.



Conclusion

In conclusion, the development and implementation of our Expense Tracker website mark a significant stride toward providing users with a robust and intuitive tool for managing their finances. Throughout the project, our team has meticulously crafted a user-centric platform that addresses the diverse needs of individuals seeking to gain control over their expenses.

The website's user interface has been designed with a focus on simplicity and accessibility, ensuring that users can effortlessly navigate through the application. From the streamlined homepage to the secure login page and the feature-rich Expense Tracker itself, every element has been carefully considered to deliver a seamless and user-friendly experience.

Looking ahead, our commitment to continuous improvement remains unwavering. We recognize the dynamic nature of personal finance and will continue to enhance the Expense Tracker website with updates, new features, and optimizations. User feedback will be integral in shaping the future development roadmap, ensuring that the platform evolves in tandem with the evolving needs of our user base.

Future Scope

For potential future work, the project could focus on refining user experience by enhancing the interface and exploring mobile application development. The integration of machine learning algorithms for expense predictions, collaborative features for shared expense tracking, and advanced budgeting functionalities could significantly improve the application's capabilities. Security audits and continuous enhancements are crucial to maintaining data integrity, while localization and globalization features would make the tool accessible to a broader audience. Introducing unique engagement elements, customizable reporting, and educational resources could further engage users and empower them to make informed financial decisions. Finally, cross-platform compatibility ensures seamless access across various devices and platforms, ensuring the project's adaptability to evolving user preferences and technological advancements.

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