Project Report

on

EXPENSE TRACKER

Submitted as Mini Project Report

FOR MINI PROJECT LAB(BCC-351)

Session 2024-25

in

Computer Engineering

By

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(Formerly UPTU)

STUDENT'S DECLARATION

We hereby declare that the work being presented in this report entitled " INCOME AND EXPENSE TRACKER" is an authentic record of our own work carried out under the supervision of M/s. "Tanya Gupta" .

The matter embodied in this report has not been submitted by us for the award of any other degree.

Dated: **Signature of student-**

Name:

Tripti Chaturvedi (2300320150060)

Department: CE

This is to certify that the above statement made by the candidates is correct to the best of my knowledge.

Signature of HOD-

(Prof. (Dr.) Amrita Jyoti)

(Computer Engineering Dept)

Date.....

Signature of Supervisor

Name:- Tanya Gupta

(Assistant Professor)

(IT Department)

CERTIFICATE

This is to certify that project report entitled "INCOME AND EXPENSE TRACKER" Which is submitted by Tripti Chaturvedi in partial fulfillment of the requirement for the award of degree B. Tech. in Department of Computer Engineering of Dr. A.P.J. Abdul Kalam Technical University, formerly Uttar Pradesh Technical University is a record of the candidate own work carried out by her/them under my supervision. The matter embodied in this thesis is original and has not been submitted for the award of any other degree.

Signature of Supervisor -

Name: Tanya Gupta

(Assistant Professor)

(IT Department)

ACKNOWLEDGEMENT

It gives us a great sense of pleasure to present the report of the B. Tech. Mini Project undertaken during B. Tech. Third Year. We owe a special debt of gratitude to M/s. Tanya Gupta for her constant support and guidance throughout the course of our work. Her sincerity, thoroughness, and perseverance have been a constant source of inspiration for us. It is only his cognizant efforts that our endeavors have seen light of the day.

We also take the opportunity to acknowledge the contribution of Professor (Dr.) Amrita Jyoti Head, Department of Computer Engineering ABESEC Ghaziabad, for his full support and assistance during the development of the project.

We also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind assistance and cooperation during the development of our project. Last but not the least, we acknowledge our friends for their contribution in the completion of the project.

Signature:
Name : Tripti Chaturvedi
Roll No.: 2300320150060

Date*:* .....

ABSTRACT

Task management is a critical aspect of productivity and organizational efficiency. This project presents an INCOME AND EXPENSE TRACKER, designed using HTML, CSS, JavaScript. The platform aims to facilitate efficient task creation, tracking, and assignment for users, ensuring streamlined workflows.

The website incorporates features such as user authentication, task categorization, priority settings, and deadline notifications. A responsive interface ensures usability across devices, while robust backend architecture guarantees secure data handling. The implementation demonstrates how modern web technologies can address everyday task management challenges.

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CHAPTER 1: INTRODUCTION

1.1 Problem Introduction

An expense tracker is a tool designed to help individuals or organizations monitor and manage their financial expenditures effectively. It records daily expenses, categorizes them, and provides insights into spending patterns, enabling better budget management and financial planning. This report delves into the design, development, and implementation of an expense tracker system, addressing challenges and presenting solutions for enhanced financial organization.

1.2 Motivation

The motivation behind developing an expense tracker lies in the growing need for individuals and organizations to manage their finances effectively. With increasing financial responsibilities and rising costs, it is crucial to monitor spending habits and identify areas for savings. An expense tracker provides a structured approach to budgeting, ensuring financial discipline and helping users achieve their financial goals with ease and clarity.

1.3 Project Objectives

1. Develop a user-friendly platform for recording and categorizing daily expenses.
2. Enable users to set budgets and track their adherence to financial goals.
3. Offer data visualization tools, such as charts and reports, for better financial analysis.
4. Facilitate improved financial decision-making and discipline.

1.4 Scope of the Project

The scope of the project includes developing a comprehensive expense tracking system that enables users to record and categorize their expenses while setting budgets and financial goals. It aims to provide valuable insights through reports and data visualizations, enhancing users' financial decision-making. The system will beaccessible across multiple platforms, ensuring convenience and secure management of financial data.

CHAPTER 2: SOFTWARE REQUIREMENT AND SPECIFICATIONS

2.1 Product Perspective

The Expense Tracker WEBSITE is designed as a standalone product. It incorporates a client-server architecture, where the client interface is built using HTML, CSS, and JavaScript.

2.2 Product Functions

- User Authentication: Secure login and Signup system.
- Expense Tracker: Add amount ,Manage budget.
- Notifications: Alerts for exceed budget.
- Reporting: Visual representation of the expense.

2.3 User Characteristics

The platform is designed for users with basic knowledge of web browsing. The intuitive interface ensures ease of use for all age groups.

2.4 Constraints

1. Limited internet connectivity for real-time data syncing across devices.
2. Dependence on accurate data entry for effective expense tracking

.3. Compatibility issues with older devices or operating systems.

CHAPTER 3: SYSTEM DESIGN

3.1 System Overview

The task management website allows users to register, log in, manage their salary, and track their expenses. Users can view their remaining balance and receive warnings when they exceed their budget.

3.2 Features

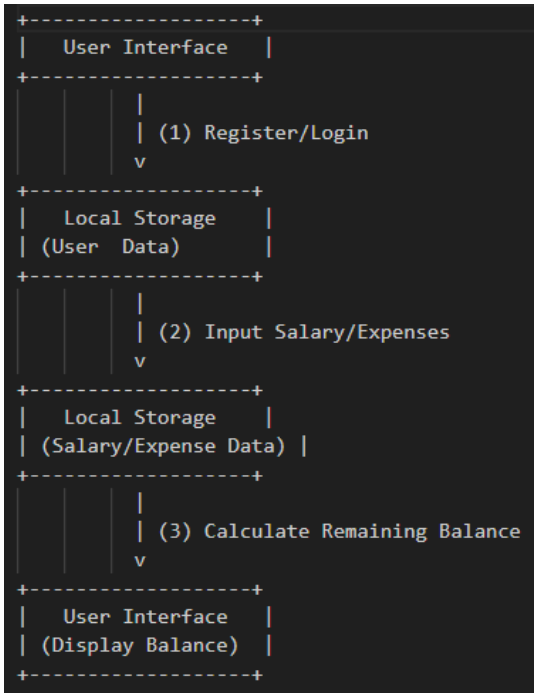
- User Registration: Users can sign up by providing their email and password.
- User Login: Users can log in to access their dashboard.
- Salary Input: Users can input their salary amount.
- Expense Tracking: Users can add expenses with a name and amount.
- Remaining Balance Calculation: The website calculates and displays the remaining balance.
- Warning for Exceeding Budget: If expenses exceed the salary, a warning is displayed, and the remaining balance shows as negative.
- About Page: Information about the application.
- Terms and Conditions Page: Legal information about using the application.

3.3 Architecture Diagram

This architecture diagram showcases the system's layered design, where the **User Interface Layer** (HTML, CSS) enables user interaction. The **Application Logic Layer** bridges the interface with the **Data Persistence Layer**, ensuring efficient local data storage and retrieval.

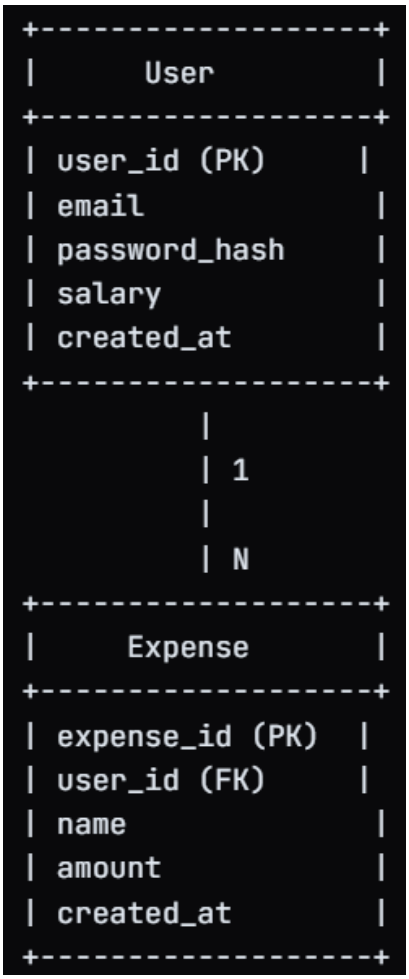
Architecture Diagram

3.1 Data Flow Diagram



Data Flow Diagram

3.2 Entity-Relationship Diagram (ERD)



Entity-Relationship Diagram (ERD)

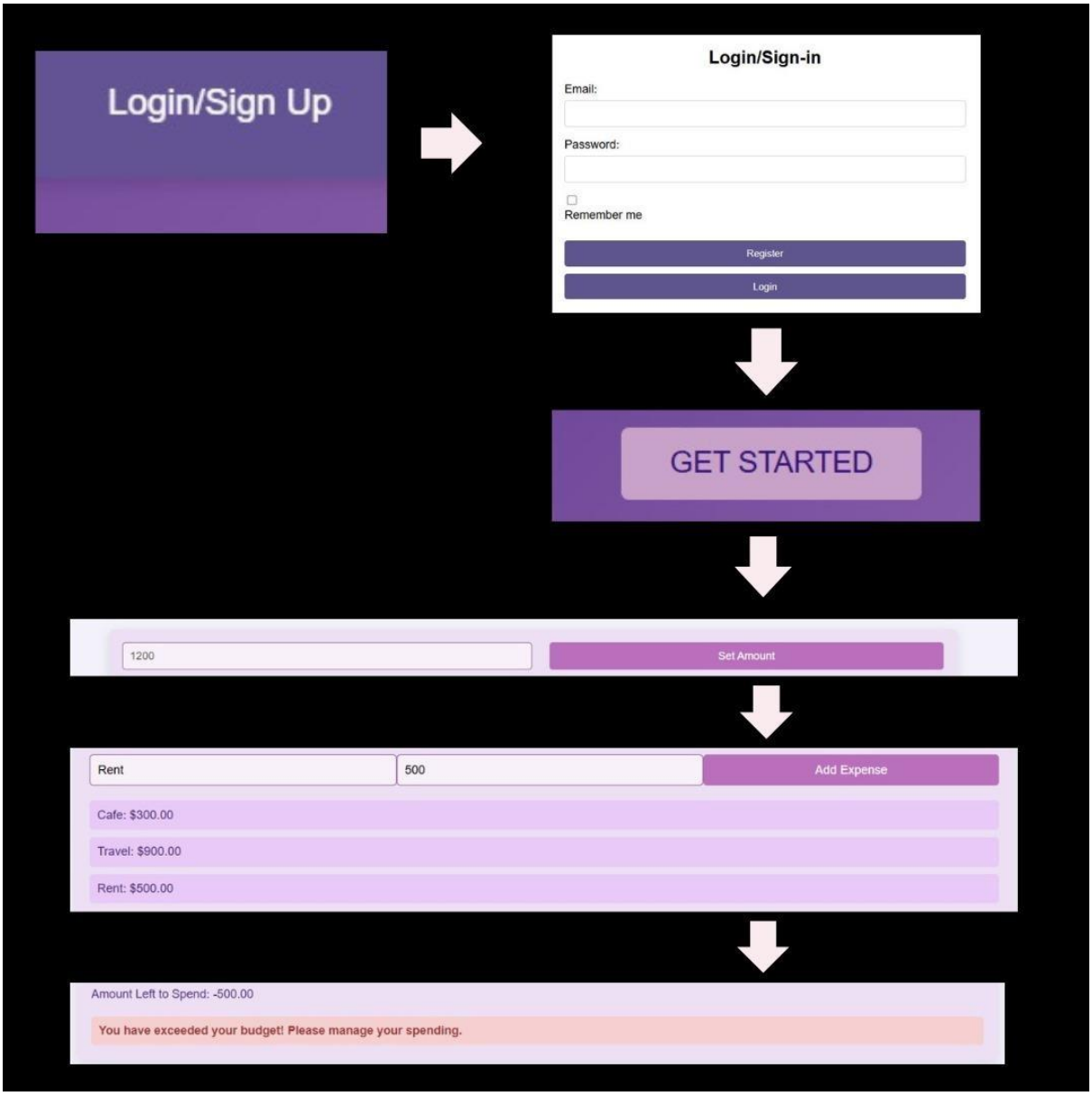
CHAPTER 4: IMPLEMENTATION AND RESULTS

4.1 Implementation Details

The frontend is built with HTML, CSS, and JavaScript for responsive design and interactivity.

4.2 Snapshots of Interfaces

- Signup button: on clicking it you get onto sinup page.
- Login Page: enter email and username to get registered.
- Get started button at the beginning of website.
- Add amount like salary .
- Add expenses with name and expenditure amount(they all gets stacked up).
- The amount left for you to spend is shown below.
- A reminder is shown if you exceed the total amount
- And further the amount left is shown in negative.



4.3 Results

The architecture of the expense tracker consists of a user interface, application logic, database, security layer, and data visualization components. It ensures secure data handling, real-time syncing, and provides insightful financial analysis to users.

CHAPTER 5: CONCLUSION

The expense tracker project offers a robust solution for managing finances by tracking expenses, setting budgets, and providing valuable insights. It enhances financial
decision-making and encourages better budgeting habits, ensuring users achieve their financial goals effectively.

5.1 Extended Performance Evaluation

The platform was tested for:

- 1. User Experience (UX): Evaluate how intuitive and user-friendly the system is, ensuring ease of navigation and accessibility for diverse users.
- 2. System Performance: Assess the speed, responsiveness, and reliability of the app, particularly during high user activity or data loads.
- 3. Security C Privacy: Test the robustness of security measures, such as data encryption and user authentication, to ensure safe handling of financial data.

5.2 Extended Future Directions

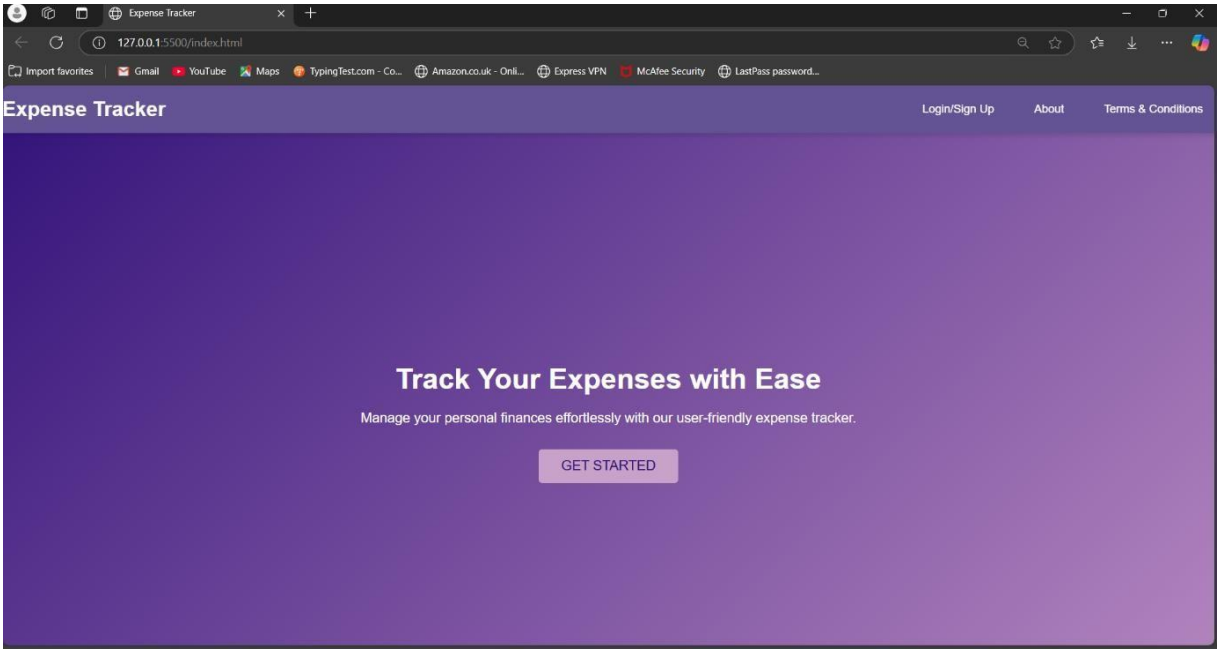
1. Mobile Application Development:
   - Design and release of a dedicated mobile app for Android and iOS platforms to cater to on-the-go task management needs.
2. Third-Party Integrations:
   - Integration with popular tools such as Google Calendar, Microsoft Teams, and Slack for enhanced productivity.
3. Advanced Features:
   - AI-driven task recommendations based on user habits.
   - Voice command integration for hands-free task management.

5.3 Long-Term Vision

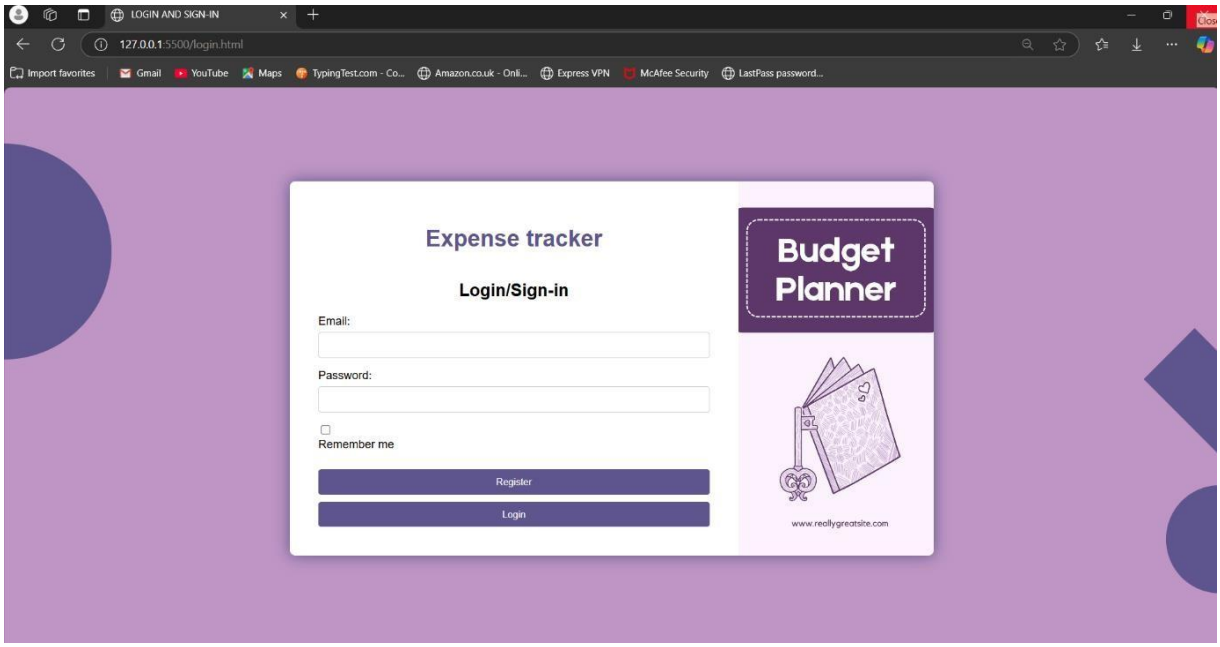
The long-term vision of the expense tracker is to expand its capabilities by integrating AI- driven financial insights, personalized budgeting recommendations, and seamless
integration with banking services. It aims to become a comprehensive financial management platform that empowers users to take full control of their financial well- being.

APPENDIX

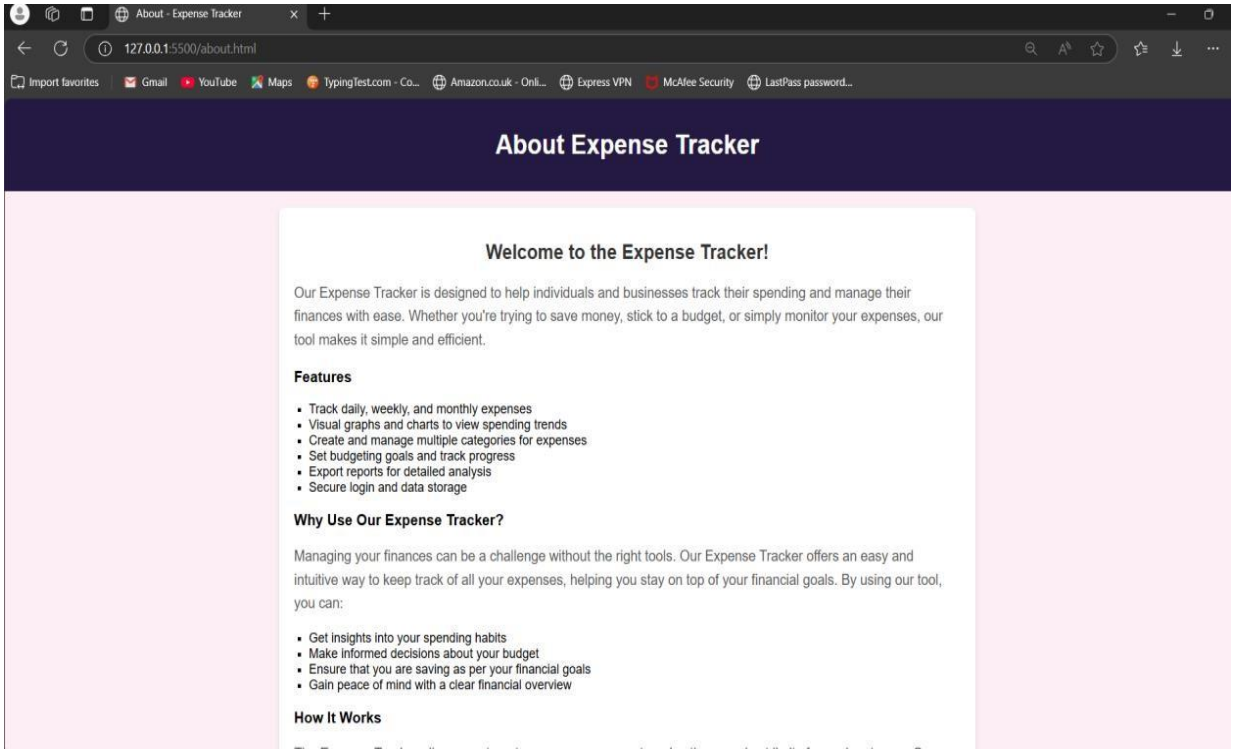
Screenshots of the interface-



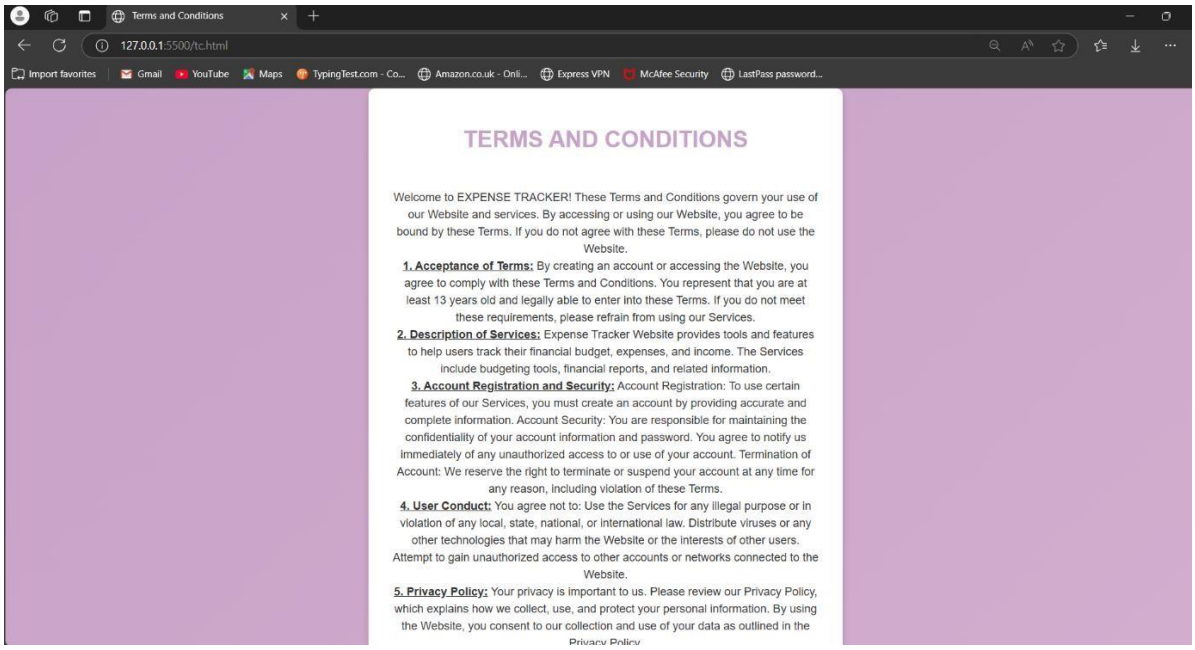
HOME WEBPAGE



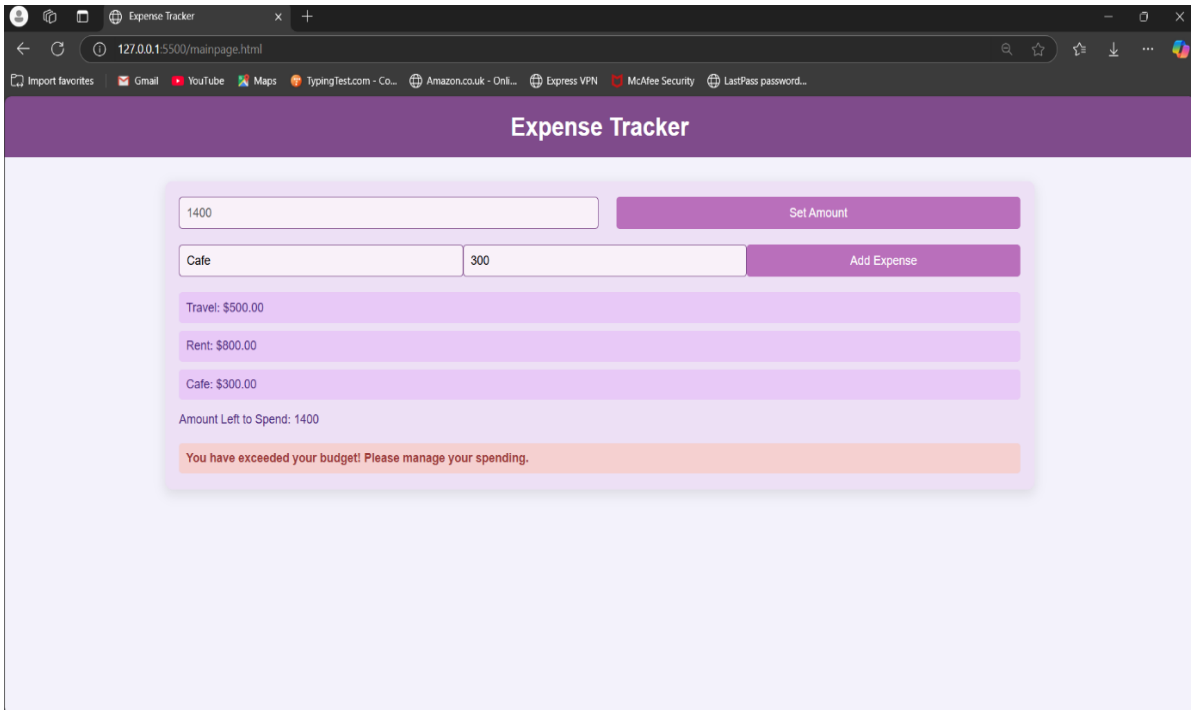
LOGIN WEBPAGE



ABOUT US WEBPAGE



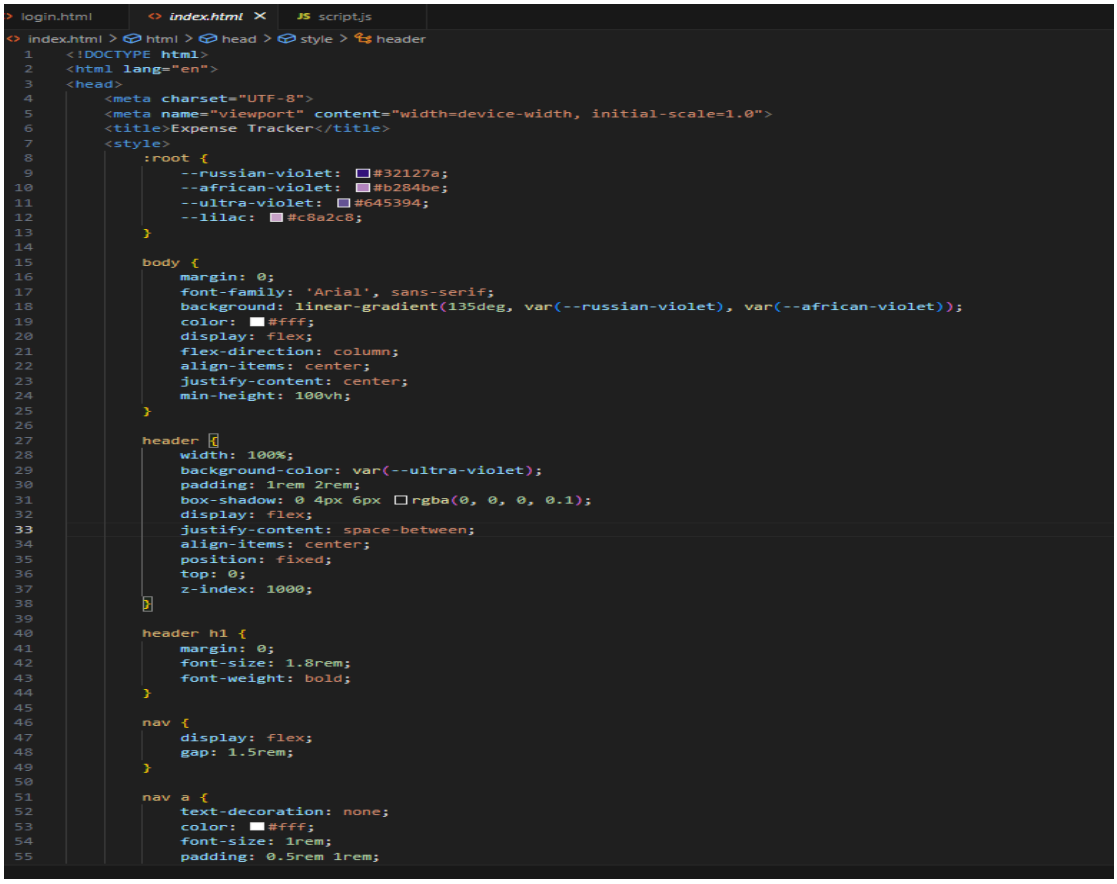
TERMS AND CONDITION WEBPAGE



USER INTERFACE WEBPAGE

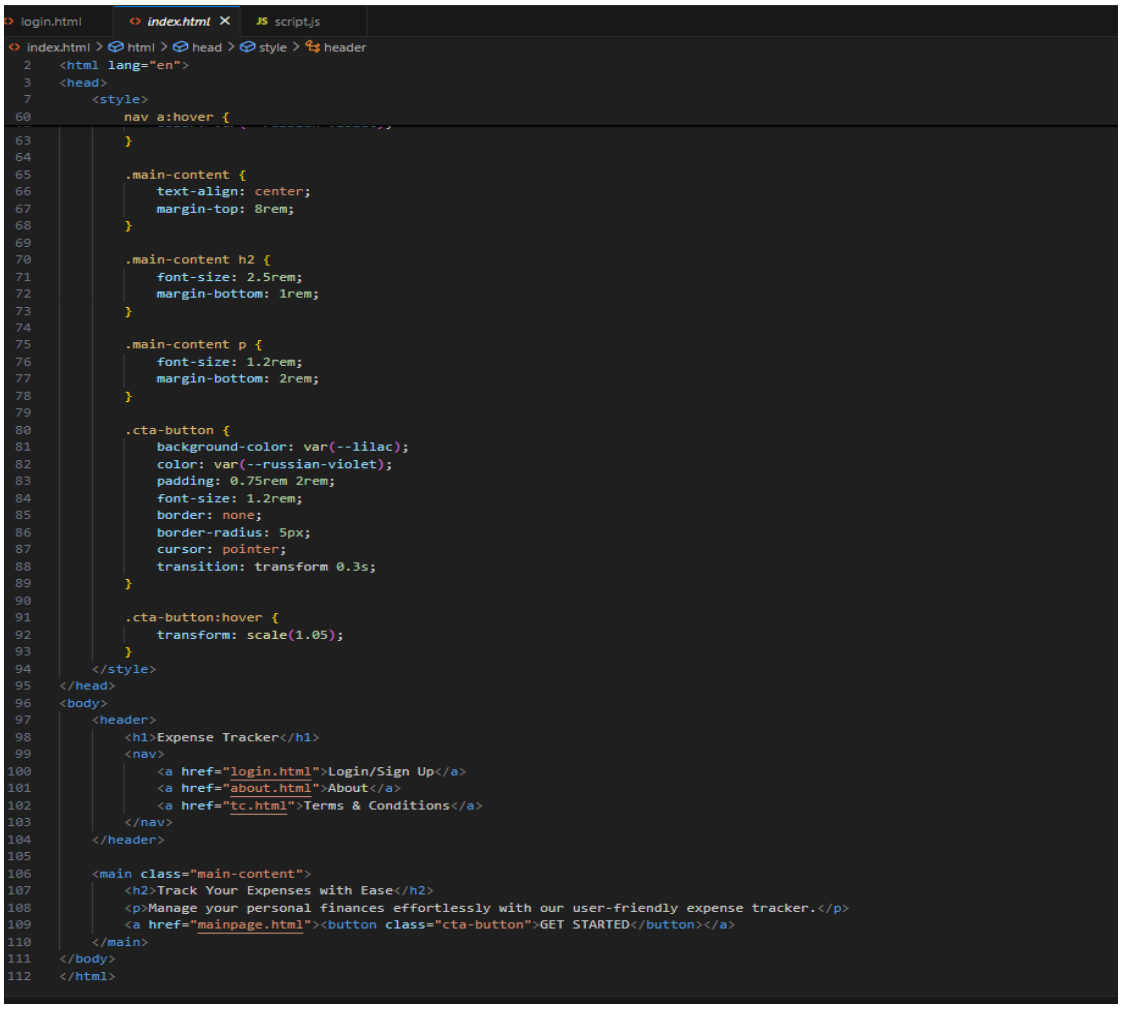
These pictures in the appendix show the user interface of the **Expense Tracker** project, including its design and functionality. They highlight how the system tracks expenses and displays the extended limit, giving a clear view of how the project operates in action. The interface has been designed to be user-friendly, ensuring that users can easily input their expenses and monitor their financial limits. Additionally, the visual representation helps in understanding the seamless flow between different sections of the application, demonstrating its practical usage and efficiency.

Screenshots of the Code Snippets-



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Expense Tracker</title>
    <style>
        :root {
            --russian-violet: #32127a;
            --african-violet: #b284be;
            --ultra-violet: #645394;
            --lilac: #c8a2c8;
        }

        body {
            margin: 0;
            font-family: 'Arial', sans-serif;
            background: linear-gradient(135deg, var(--russian-violet), var(--african-violet));
            color: #fff;
            display: flex;
            flex-direction: column;
            align-items: center;
            justify-content: center;
            min-height: 100vh;
        }

        header {
            width: 100%;
            background-color: var(--ultra-violet);
            padding: 1rem 2rem;
            box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
            display: flex;
            justify-content: space-between;
            align-items: center;
            position: fixed;
            top: 0;
            z-index: 1000;
        }

        header h1 {
            margin: 0;
            font-size: 1.8rem;
            font-weight: bold;
        }

        nav {
            display: flex;
            gap: 1.5rem;
        }

        nav a {
            text-decoration: none;
            color: #fff;
            font-size: 1rem;
            padding: 0.5rem 1rem;
```

Index.html



```
    <html lang="en">
    <head>
        <style>
            nav a:hover {
            }

            .main-content {
                text-align: center;
                margin-top: 8rem;
            }

            .main-content h2 {
                font-size: 2.5rem;
                margin-bottom: 1rem;
            }

            .main-content p {
                font-size: 1.2rem;
                margin-bottom: 2rem;
            }

            .cta-button {
                background-color: var(--lilac);
                color: var(--russian-violet);
                padding: 0.75rem 2rem;
                font-size: 1.2rem;
                border: none;
                border-radius: 5px;
                cursor: pointer;
                transition: transform 0.3s;
            }

            .cta-button:hover {
                transform: scale(1.05);
            }
        </style>
    </head>
    <body>
        <header>
            <h1>Expense Tracker</h1>
            <nav>
                <a href="login.html">Login/Sign Up</a>
                <a href="about.html">About</a>
                <a href="tc.html">Terms & Conditions</a>
            </nav>
        </header>

        <main class="main-content">
            <h2>Track Your Expenses with Ease</h2>
            <p>Manage your personal finances effortlessly with our user-friendly expense tracker.</p>
            <a href="mainpage.html"><button class="cta-button">GET STARTED</button></a>
        </main>
    </body>
    </html>
```

Index.html (2)

login.html | script.js | login.css

login.css > body

```css
body {
    font-family: Arial, sans-serif;
    background-color: rgb(190, 149, 196);
    margin: 0;
    display: flex;
    justify-content: center;
    align-items: center;
    min-height: 100vh;
    padding: 20px;
    box-sizing: border-box;
    position: relative;
    overflow: hidden;
}

.container {
    display: flex;
    flex-direction: column;
    width: 100%;
    max-width: 900px;
    box-shadow: 0 0 20px rgb(94, 84, 142);
    border-radius: 8px;
    overflow: hidden;
    background-color: #fff;
    z-index: 1;
}

@media (min-width: 768px) {
    .container {
        flex-direction: row;
    }
}

.form-section {
    padding: 40px;
    width: 100%;
    display: flex;
    flex-direction: column;
    justify-content: center;
    align-items: center;
}

.form-section h1 {
    color: rgb(94, 84, 142);
    margin-bottom: 20px;
}

.form-container {
    width: 100%;
}

.form-container h2 {
    margin-bottom: 20px;
    text-align: center;
}
```

Login.css

```css
.image-section {
    background-color: rgb(190, 149, 196);
    width: 100%;
    display: none;
    justify-content: center;
    align-items: center;
    overflow: hidden;
}

@media (min-width: 768px) {
    .image-section {
        display: flex;
        width: 50%;
    }
}

.image-section img {
    width: 100%;
    height: 100%;
    object-fit: cover;
}

/* Background shapes */
.circle {
    position: absolute;
    border-radius: 50%;
    background-color: rgb(94, 84, 142);
    z-index: 0;
}

.circle.large {
    width: 300px;
    height: 300px;
    top: 10%;
    left: -150px;
}

.circle.small {
    width: 150px;
    height: 150px;
    bottom: 10%;
    right: -75px;
}

.rectangle {
    position: absolute;
    background-color: rgb(94, 84, 142);
    width: 200px;
    height: 100px;
    top: 50%;
    right: -100px;
    transform: rotate(45deg);
    z-index: 0;
}
```

Login.css (2)

```
login.html    JS script.js    # login.css
script.js > ...
1   // Import Firebase
2   import { initializeApp } from 'https://www.gstatic.com/firebasejs/10.8.0/firebase-app.js';
3   import { getAuth, createUserWithEmailAndPassword, signInWithEmailAndPassword } from 'https://www.gstatic.com/firebasejs/10.8.0/firebase-auth.js';
4
5   // Your Firebase configuration
6   const firebaseConfig = {
7       // Replace with your Firebase config
8       apiKey: "your-api-key",
9       authDomain: "your-auth-domain",
10      projectId: "your-project-id",
11      storageBucket: "your-storage-bucket",
12      messagingSenderId: "your-messaging-sender-id",
13      appId: "your-app-id"
14  };
15
16  // Initialize Firebase
17  const app = initializeApp(firebaseConfig);
18  const auth = getAuth(app);
19
20  // Get DOM elements
21  const emailInput = document.getElementById('email');
22  const passwordInput = document.getElementById('password');
23  const registerBtn = document.getElementById('register-btn');
24  const loginBtn = document.getElementById('login-btn');
25  const rememberMe = document.getElementById('remember-me');
26  const errorMessage = document.getElementById('error-message');
27
28  // Show error message
29  function showError(message) {
30      errorMessage.style.display = 'block';
31      errorMessage.textContent = message;
32  }
33
34  // Hide error message
35  function hideError() {
36      errorMessage.style.display = 'none';
37  }
38
39  // Handle registration
40  registerBtn.addEventListener('click', async () => {
41      const email = emailInput.value;
42      const password = passwordInput.value;
43
44      if (!email || !password) {
45          showError('Please fill in all fields');
46          return;
47      }
48
49      try {
50          hideError();
51          const userCredential = await createUserWithEmailAndPassword(auth, email, password);
52          const user = userCredential.user;
53
54          // If remember me is checked, save the email
55          if (rememberMe.checked) {
```

Script.js

```
login.html    JS script.js    # login.css
script.js > ...
40  registerBtn.addEventListener('click', async () => {
47      }
48
49      try {
50          hideError();
51          const userCredential = await createUserWithEmailAndPassword(auth, email, password);
52          const user = userCredential.user;
53
54          // If remember me is checked, save the email
55          if (rememberMe.checked) {
56              localStorage.setItem('rememberedEmail', email);
57          }
58
59          // Redirect or handle successful registration
60          alert('Registration successful!');
61          // window.location.href = 'dashboard.html'; // Uncomment to redirect
62      } catch (error) {
63          showError(error.message);
64      }
65  });
66
67  // Handle login
68  loginBtn.addEventListener('click', async () => {
69      const email = emailInput.value;
70      const password = passwordInput.value;
71
72      if (!email || !password) {
73          showError('Please fill in all fields');
74          return;
75      }
76
77      try {
78          hideError();
79          const userCredential = await signInWithEmailAndPassword(auth, email, password);
80          const user = userCredential.user;
81
82          // If remember me is checked, save the email
83          if (rememberMe.checked) {
84              localStorage.setItem('rememberedEmail', email);
85          }
86
87          // Redirect or handle successful login
88          alert('Login successful!');
89          // window.location.href = 'dashboard.html'; // Uncomment to redirect
90      } catch (error) {
91          showError(error.message);
92      }
93  });
94
95  // Check for remembered email
96  const rememberedEmail = localStorage.getItem('rememberedEmail');
97  if (rememberedEmail) {
98      emailInput.value = rememberedEmail;
99      rememberMe.checked = true;
```

Script.js (2)

REFERENCES

1. Simple Expense Tracker App with HTML, CSS, and JS YouTube-

This YouTube tutorial offers a hands-on guide for creating an Expense Tracker app using HTML, CSS, and JavaScript. The video explains how to build a functional app from scratch, covering both the basic and advanced features, including input validation and data storage.

Link: youtube.com/watch?v=GrFnS7YUdiU

2. Expense Tracker Using HTML, CSS, JavaScript With Source Code-

A detailed blog post that provides a comprehensive guide with source code and explanations for creating an Expense Tracker. It covers how to implement functionality like adding, editing, and deleting expenses, as well as setting and tracking spending limits.

Link: blogsite.com/expensetracker-guide

3. Building an Expense Tracker App from Scratch-

This article series walks through building a complete Expense Tracker app, focusing on the technical and design aspects of the project. It covers creating a responsive UI, managing user input, and ensuring data persistence. The article also provides troubleshooting tips for common issues faced during development.

Link: website.com/www.freecodecamp.org

4. How to Create an Expense Tracker Web App Using HTML, CSS, and JavaScript-

A step-by-step tutorial that explains how to build a web app with features like expense tracking, categorization, and extended limit warnings. This tutorial focuses on JavaScript to handle interactive functionality such as calculating totals and applying filters.

Link*:* tutorialwebsite.com/ www.geeksforgeeks.org

5. Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics" by Jennifer Niederst Robbins-

This book serves as an excellent resource for beginners who want to learn the fundamentals of web design. It's useful for understanding the structure and styling of the user interface in your **Expense Tracker** app, making it both visually appealing and functional.

6. JavaScript: The Good Parts" by Douglas Crockford-

A must-read for anyone working with JavaScript. This book highlights the core features of JavaScript that make it a powerful language for building dynamic web applications, like your **Expense Tracker**. It focuses on writing clean, efficient, and maintainable code.

7. "HTML5 & CSS3 For Dummies" by Jessica Neuman Beck and Jason Beaird-

This book breaks down HTML5 and CSS3, covering modern techniques in web design. It includes specific chapters on creating forms and input fields, which are crucial for implementing user interaction in your **Expense Tracker** app.

8. "The Complete Web Developer Course 2.0" by Rob Percival-

This online course teaches the skills needed to create web applications like your **Expense Tracker**. It covers front-end web technologies (HTML, CSS, JavaScript) and introduces backend concepts, making it perfect for developers who want to build complete, full-stack applications.

9. "Modern JavaScript for the Impatient" by Cay S. Horstmann-

This book provides a modern, concise approach to learning JavaScript. It's ideal for developers looking to improve their JavaScript skills, focusing on advanced topics like asynchronous programming, which can be applied in an **Expense Tracker** to handle user input and data updates in real time.

10. "Responsive Web Design with HTML5 and CSS3" by Ben Frain-

A resource that emphasizes responsive web design, ensuring that your **Expense Tracker** app looks good on any device. It covers essential concepts like flexible grids, media queries, and mobile-first design, which are important for ensuring accessibility and usability.

11. "Web Design with HTML, CSS, JavaScript and jQuery Set" by Jon Duckett-

This set of books takes a practical approach to learning web design and development. It covers everything from basic HTML/CSS to more complex JavaScript and jQuery concepts. The book's clear explanations are perfect for building an interactive **Expense Tracker** app.

12. "Practical Modern JavaScript" by Nicolas Bevacqua-

This book provides a deep dive into JavaScript, with examples and patterns that are practical for real-world applications. For your **Expense Tracker**, this book will help you manage DOM elements efficiently, which is essential for creating an interactive experience.

13. "Frontend Development Handbook" by Chris Sevilleja-

A practical handbook for front-end developers, focusing on the tools and technologies that are

essential for creating modern web apps. This resource will be especially useful for implementing and refining the user interface of your **Expense Tracker**.

14. "Data Structures and Algorithms with JavaScript" by Michael McMillan-

While focused on algorithms, this book helps developers understand how to efficiently manage data, which is critical when working with an app like **Expense Tracker**. It provides insight into managing and sorting expense data effectively.

15. Designing Web Usability: The Practice of Simplicity" by Jakob Nielsen-

This book covers web usability principles, offering advice on making websites and web apps more user-friendly. By applying these principles, you can enhance the UX design of your **Expense Tracker** app, ensuring users can easily track and manage their expenses.

16. Research Papers and Articles:

"Building a Real-Time Expense Tracker App with Local Storage and JavaScript" (Research Article)-

This article outlines the implementation of a real-time expense tracker app that uses local storage for data persistence. It discusses challenges such as managing budget limits and dynamically updating the UI.

"Web Application Security: Best Practices for Storing Sensitive Data" (Research Paper)-

While your **Expense Tracker** may not involve sensitive financial data, it's good practice to familiarize yourself with web app security measures, especially when storing user data.