INTERNSHIP PROJECT REPORT

SUB: WEB DEVELOPMENT INTERN

Name :- Dev Patel

Date:- 15/12/2024 To 15/03/2025.

UNID:-UMIP271167

ACKNOWLEDGEMENT

- I would like to express my profound gratitude to Unified Mentor Private Limited for providing me with a Three-month internship opportunity in web development. This extensive period allowed me to immerse myself in various projects, gaining invaluable hands-on experience.
- During my tenure, I had the privilege of working on 12 diverse web development projects, which not only honed my technical skills but also fostered my problem-solving abilities, creativity, and attention to detail. These projects encompassed [briefly mention the technologies/language used, e.g., HTML, CSS, JavaScript, React, etc.].
- I appreciate the freedom and autonomy given to me to take ownership of these projects, allowing me to explore innovative solutions and learn from setbacks. This internship has significantly enhanced my understanding of web development principles, best practices, and industry standards.
- I am grateful for the opportunity to contribute to Unified Mentor Private Limited mission and vision, even if in a small way. This experience has been instrumental in shaping my career aspirations and solidifying my passion for web development.
- Thank you once again to Unified Mentor Private Limited for this enriching experience.

Sincerely,

Dev Patel

SUMMARY

- Web development often involves a few components. First is developing the markup (HTML) that runs in a web browser. Second is developing the application style, which is often done using CSS. Third is some client-side application logic, possibly written in JavaScript. Fourth is a backend running on a server somewhere.
- One interesting aspect of web development is that the client is a web browser. This is both good and bad. The good is that it's a known programming model and a known hosting model. The bad is that each browser is a little unique and working with many different browsers often requires some custom HTML / CSS / JavaScript.

- There are three programming models for web applications. One is creating purely static HTML / CSS pages that live on a server somewhere. Returning static pages is extremely fast and will create a great user experience from a hosting perspective. But most applications also need to have some code (logic) running.
- A second method is used when you need dynamic applications, which requires you to layer in some code. The way this was done for years was with some server-side code where each page view ran some custom code on the server that changed the HTML returned by the server. This is still probably the fastest way to develop a dynamic web application.
- Today, a third method that many applications are moving toward is often called a single page application (SPA). With an SPA, all of the HTML / CSS / JavaScript is returned to the client when the site first loads. From that point on, small amounts of data are sent back and forth between the client and the server. The SPA model can provide the best user experience, but it puts a lot more demands upon the browser.
- Initially I was hired for only Project Hope, however after a week of my joining; I was absorbed for another Project- Changing Behavior : Creating Sanitation Change Leaders.

ABOUT THE PROJECTS

Project 1 :- Basic Calculator –

This project is a simple calculator built using HTML, CSS, and JavaScript. It allows users to perform basic arithmetic operations such as addition, subtraction, multiplication, and division. The calculator offers an intuitive interface with a clean design and responsive functionality, making it easy to use on both desktop and mobile devices.

Features:

- User Interface (UI): The interface is designed using HTML and styled with CSS to create a clean and minimalistic look. The calculator has buttons for numbers (0-9), decimal points, and basic arithmetic operations (+, −, ×, ÷). It also includes a clear button (C) to reset the display and a backspace functionality to remove the last digit entered.
- Responsive Design: The calculator layout is responsive, ensuring it works smoothly on different screen sizes (desktop, tablet, and mobile).
- Core Functionality: The calculator accepts user input through buttons for numbers and operators. Clicking the equals button (=) evaluates the mathematical expression entered by the user and displays the result. JavaScript handles the logic behind the calculations, ensuring accurate results for basic operations.
- It handles multiple operations in a sequence, following the correct order of operations (PEMDAS/BODMAS).
- Error Handling: If the user tries to divide by zero or input an invalid equation, the calculator will display an error message, preventing further calculation.

Technologies Used:

- HTML: Provides the structure of the calculator, including buttons and the display screen.
- CSS: Used for styling the calculator, making it visually appealing and responsive.

- JavaScript: Handles the logic behind the operations and user interactions. It listens for button clicks, updates the display, and performs the calculations in real-time.

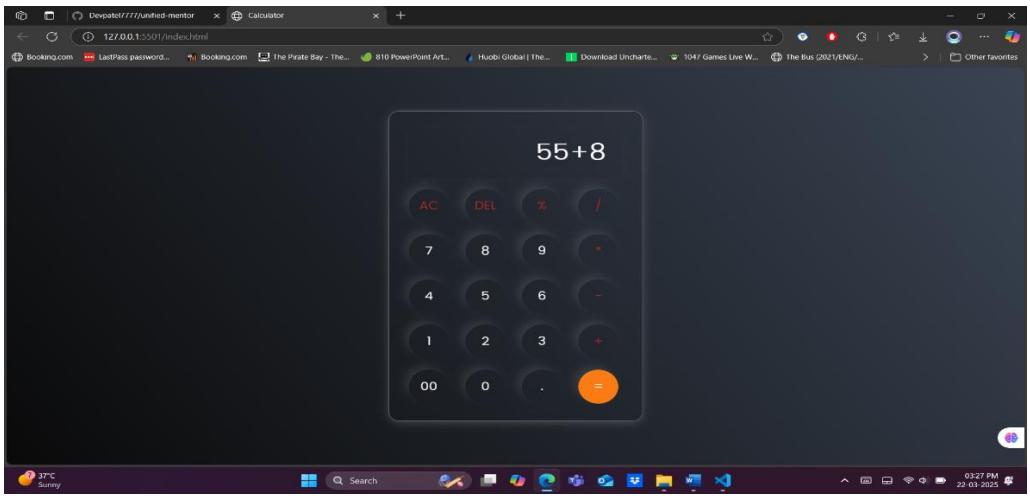
Challenges Faced:

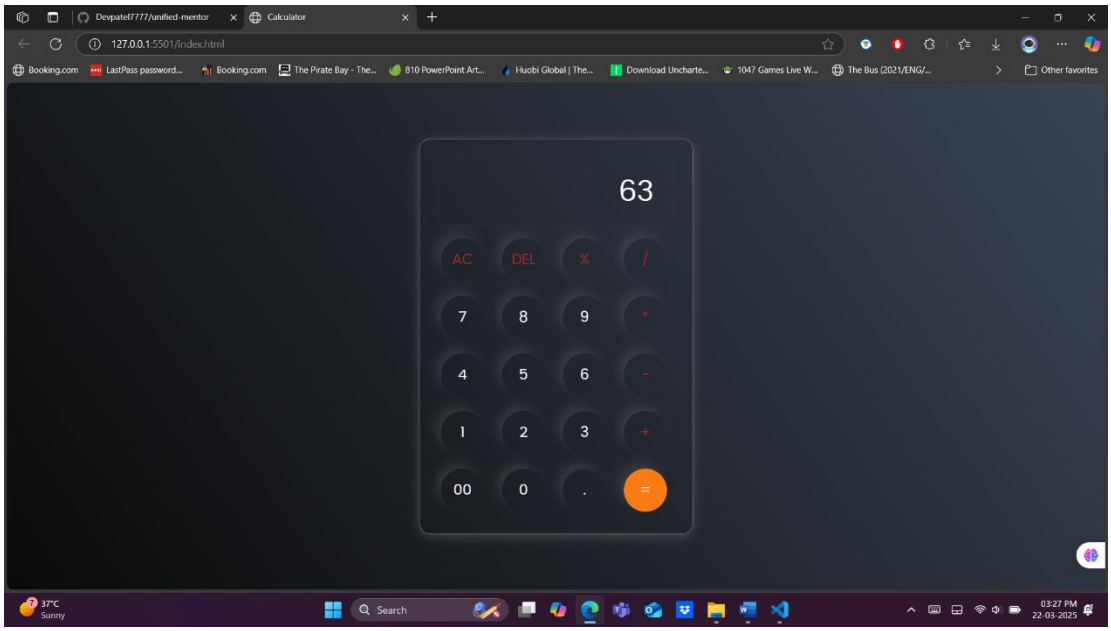
- Ensuring accurate calculation order (PEMDAS/BODMAS) when multiple operations are chained together.
- Creating a responsive layout that adapts to different screen sizes without breaking the design.
- Handling edge cases like division by zero or extremely large numbers. Future Improvements:
- Adding advanced functionality like square root, exponentiation, and percentage calculations.
- Implementing a memory feature to store previous calculations.
- Improving error handling for complex equations or invalid inputs.

Conclusion: The Basic Calculator is a practical and functional tool, showcasing the use of front-end web technologies. This project allowed me to strengthen my understanding of JavaScript logic, DOM manipulation, and responsive web design.

Link of Project – The complete project source code is available in my GitHub profile that GitHub profile link I have uploaded in your internship submission form.

List of Figure-

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Project No.2 :- Tic Tac Toe Game –

This project is a classic Tic-Tac-Toe game built using HTML, CSS, and JavaScript. The game allows two players to compete on a 3x3 grid, alternating turns to place their mark (X or O) on the board. The goal is to align three marks in a row, column, or diagonal to win. The game features a simple, intuitive interface and provides feedback on the game's outcome (win, lose, or draw).

Features:

- Two-Player Mode: The game allows two players to play locally, with each player taking turns to place their mark (X or O) on the board.
- Winning Logic: The game checks for winning conditions after each move, detecting whether a player has aligned three of their marks horizontally, vertically, or diagonally.
- Draw Detection: If all the squares on the grid are filled and no player has won, the game declares a draw.
- Restart Option: After the game ends, whether through a win or a draw, players have the option to reset the game and play again.
- Simple User Interface: The game board is designed using a clean layout, and player turns are highlighted for ease of use.
- Responsive Design: The game adjusts to different screen sizes, making it playable on both mobile and desktop devices.

Technologies Used:

- HTML: Provides the structure of the game board, consisting of 9 clickable squares arranged in a 3x3 grid.
- CSS: Styles the game board and marks (X and O), ensuring the game looks visually appealing and is responsive on all devices.
- JavaScript: Handles the game logic, including player turns, checking for a win/draw, and resetting the game for new rounds.

Challenges Faced:

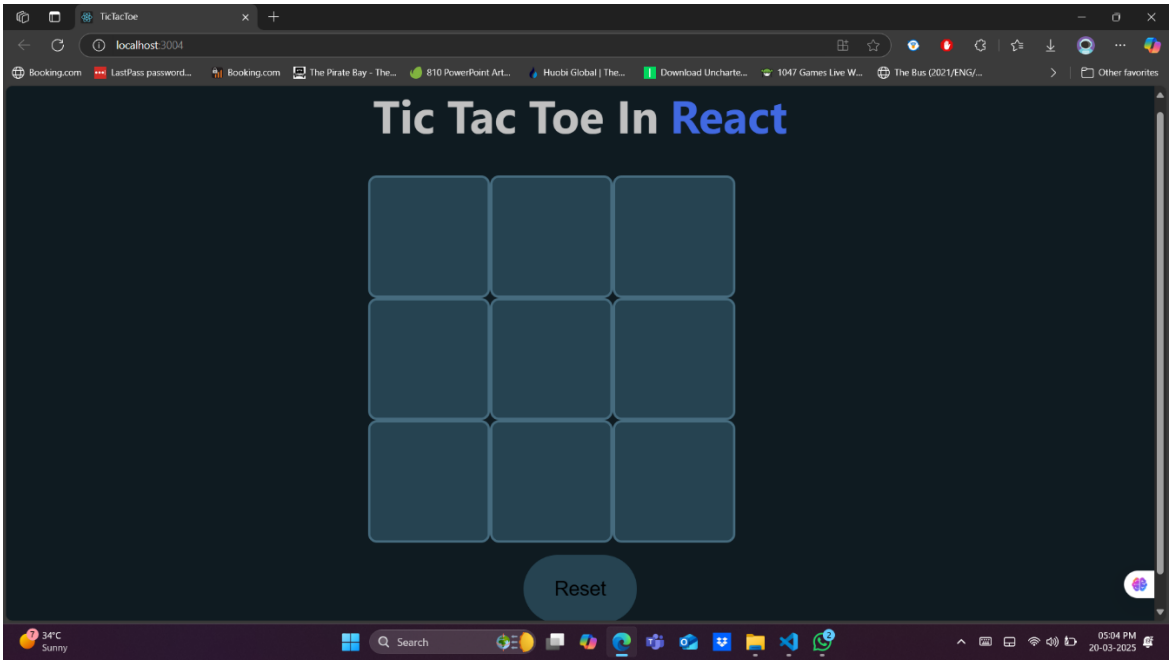
- Implementing the winning condition logic to correctly detect a win across rows, columns, and diagonals.
- Ensuring that player turns are properly alternated and tracked.

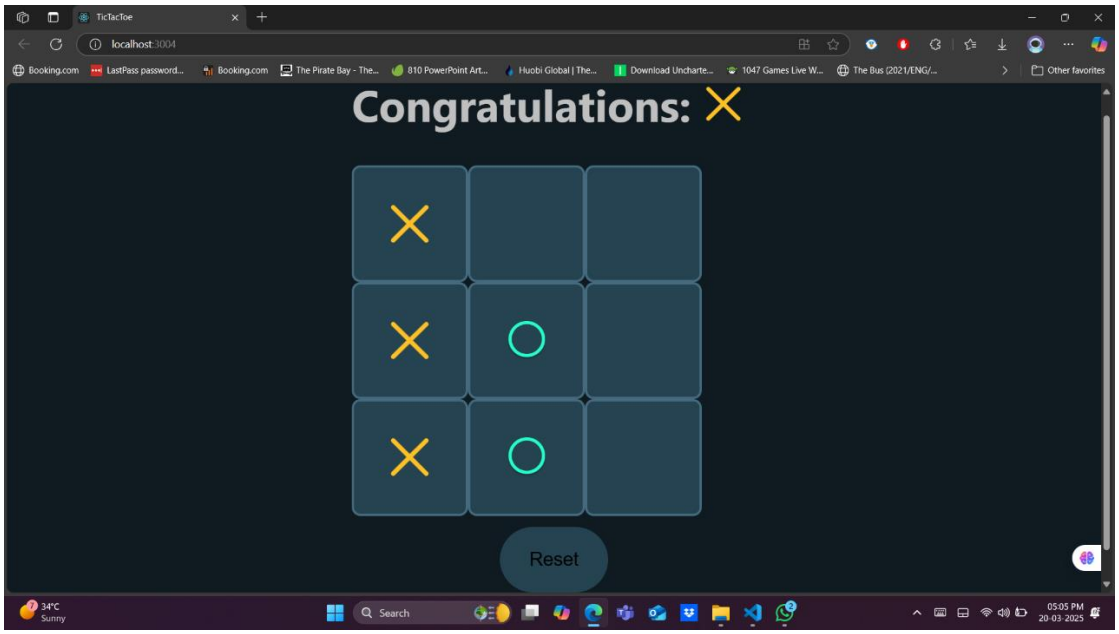
- Handling edge cases like preventing players from overwriting already marked squares.

Future Improvements:

- Adding a single-player mode where users can play against a computer (AI) with varying difficulty levels.
- Including animations or effects when a player wins, or when the game ends in a draw.
- Adding a score-tracking system to keep track of wins, losses, and draws across multiple games.
- Enhancing the user interface with visual and audio feedback to make the game more engaging.

Conclusion: The Tic-Tac-Toe Game is a fun, interactive project that showcases the use of HTML, CSS, and JavaScript for creating a simple, yet fully functional game. It provides a great opportunity to understand game logic, DOM manipulation, and handling user interactions in web development. The project is a solid demonstration of applying front-end technologies to build an engaging, interactive experience.

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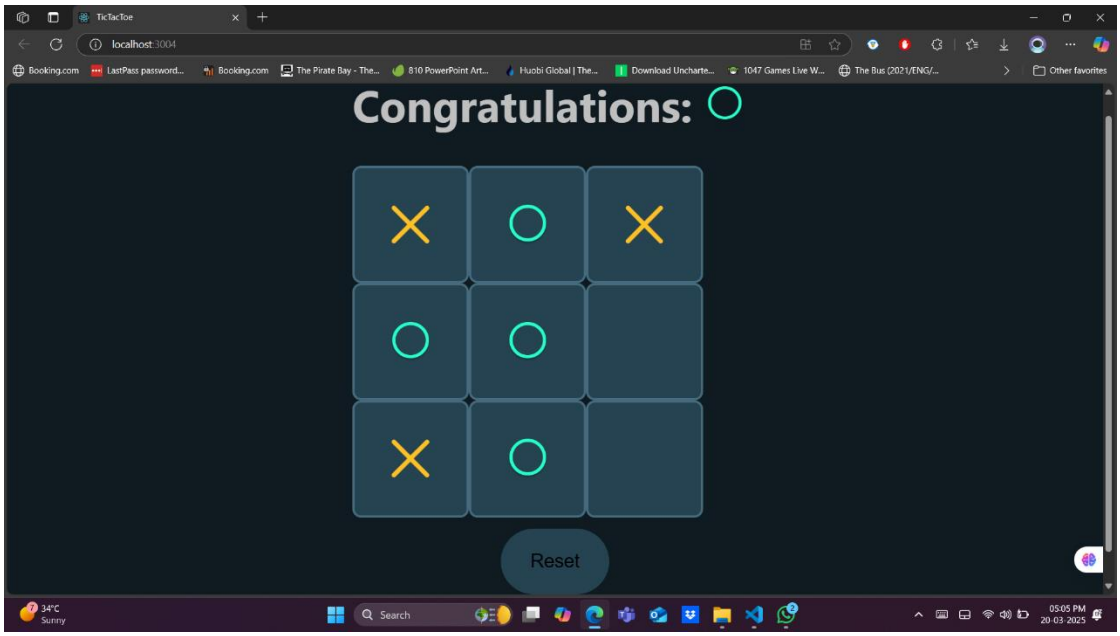
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Advance Project No.1:-

❖ Student-Teacher Booking Appointment

The Student-Teacher Appointment Booking System is a comprehensive web application designed to facilitate the scheduling of appointments between students and teachers. Built using HTML, CSS, JavaScript, and potentially a backend technology like Node.js or a database for data management, this application streamlines the process of booking, managing, and tracking appointments. The goal is to enhance communication between students and educators, ensuring that students can easily seek guidance, mentorship, or clarification on academic matters.

Features:

- User Registration and Authentication: Both students and teachers can create accounts, log in, and manage their profiles. This ensures a secure environment where personal data and appointment information are protected.
- Appointment Scheduling: Students can view available time slots and book appointments with their teachers. The system allows teachers to set their availability, ensuring that students can only book during those times.
- Calendar Integration: The application can integrate with popular calendar tools (e.g., Google Calendar) to help users manage their schedules effectively, sending reminders for upcoming appointments.
- Appointment Management: Users can view, edit, or cancel their upcoming appointments. Notifications (via email or in-app) can be sent for confirmations, reminders, or changes.
- Feedback System: After an appointment, students can provide feedback or ratings for their teachers. This feature helps improve the quality of interactions and can guide teachers in enhancing their approach.
- Admin Dashboard: An admin interface allows for managing users, monitoring appointment statistics, and overseeing the overall functionality of the application. Administrators can manage teachers' availability and address any user concerns.

- Responsive Design: The application is designed to be fully responsive, providing a seamless experience across desktops, tablets, and mobile devices.

Technologies Used:

- HTML: Structures the application, including forms for registration, login, appointment booking, and user profiles.
- CSS: Styles the app, ensuring a visually appealing and user-friendly interface, with responsive design elements.
- JavaScript: Handles client-side functionality, such as form validation, dynamic content updates, and interactive elements.
- Used to create the server-side logic for handling user requests, managing appointments, and interacting with the database.
- Stores user profiles, appointment details, and feedback securely, allowing for easy retrieval and management.
- APIs: Integration with third-party services (like calendar APIs) to enhance functionality, such as sending notifications and reminders.

Challenges Faced:

- Ensuring secure user authentication and data protection throughout the application.
- Creating an intuitive user interface that simplifies the appointment booking process for both students and teachers.
- Managing conflicts in scheduling, such as double bookings or last-minute cancellations, and ensuring users are notified accordingly.

Future Improvements:

- Video Conferencing Integration: Allowing virtual appointments through video conferencing tools (like Zoom or Google Meet) for remote interactions.
- Enhanced Notifications: Implementing push notifications for real-time updates on appointment changes or confirmations.
- Multi-Subject Support: Allowing students to book appointments with multiple teachers across different subjects or courses.
- Analytics Dashboard: Providing insights into appointment trends, user engagement, and feedback for continuous improvement.

Conclusion: The Student-Teacher Appointment Booking System is a valuable tool that enhances communication and collaboration between students and teachers. By leveraging modern web technologies, this application simplifies the appointment scheduling process, making it efficient and user-friendly. The project serves as an excellent example of integrating frontend and backend technologies to create a functional and interactive web application that meets the needs of its users.

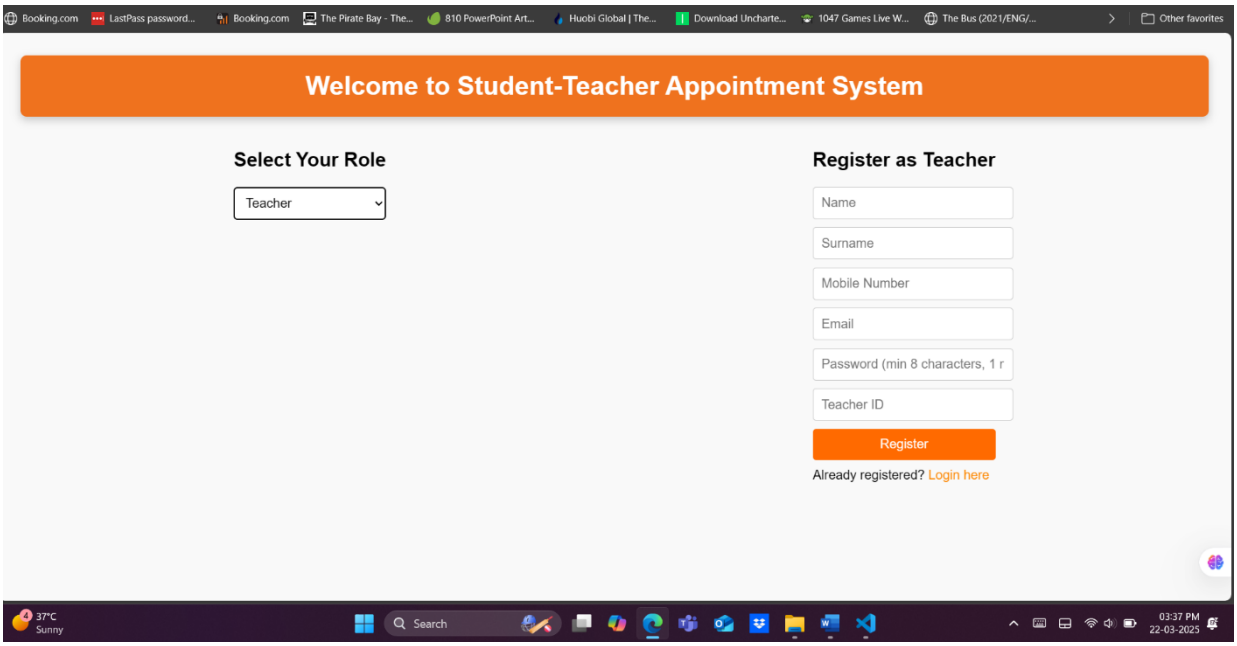

Fig.1.Login Page

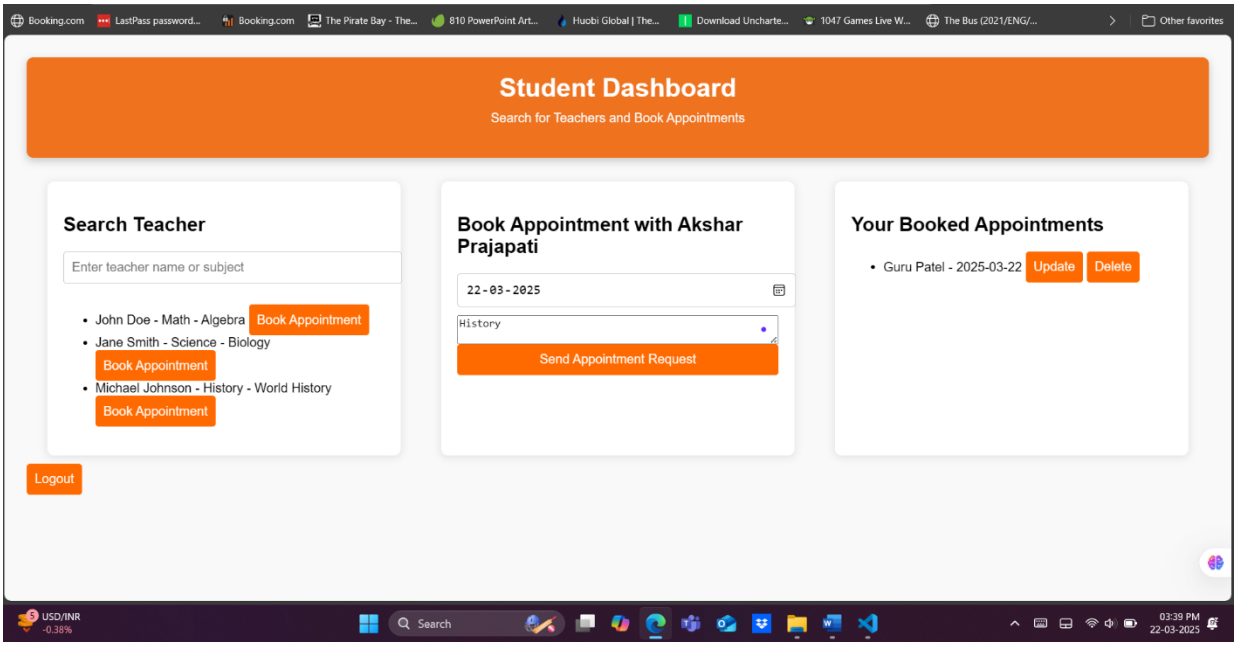

Fig.2.Student Dashboard

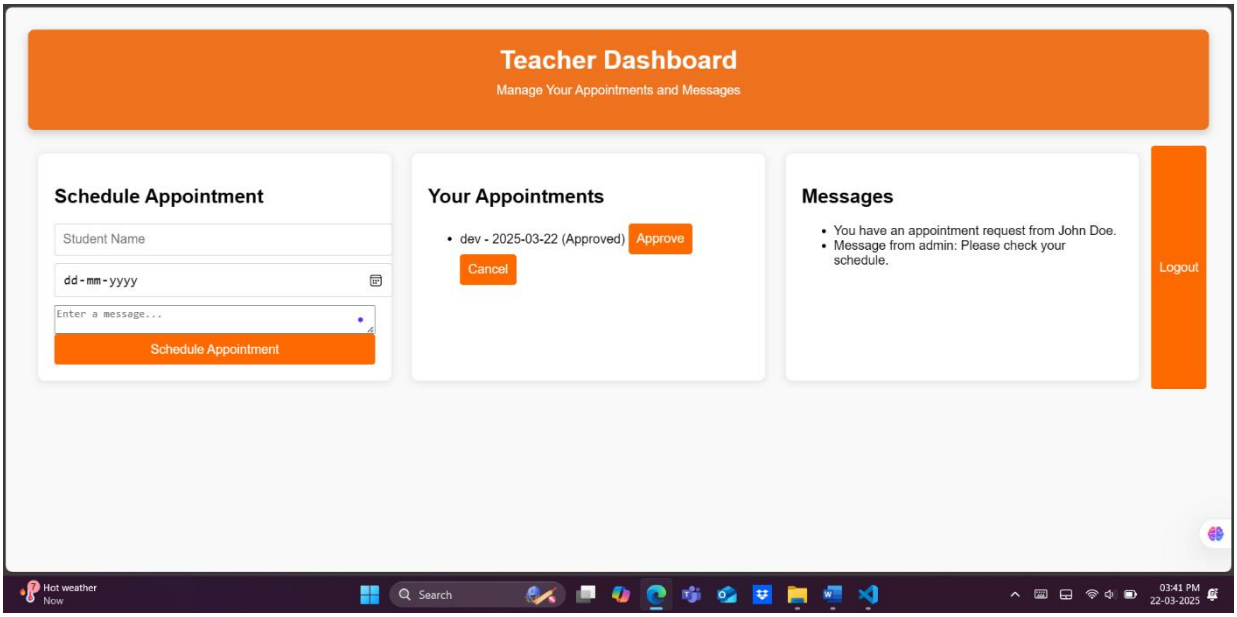

Fig.3.Teacher Dashboard

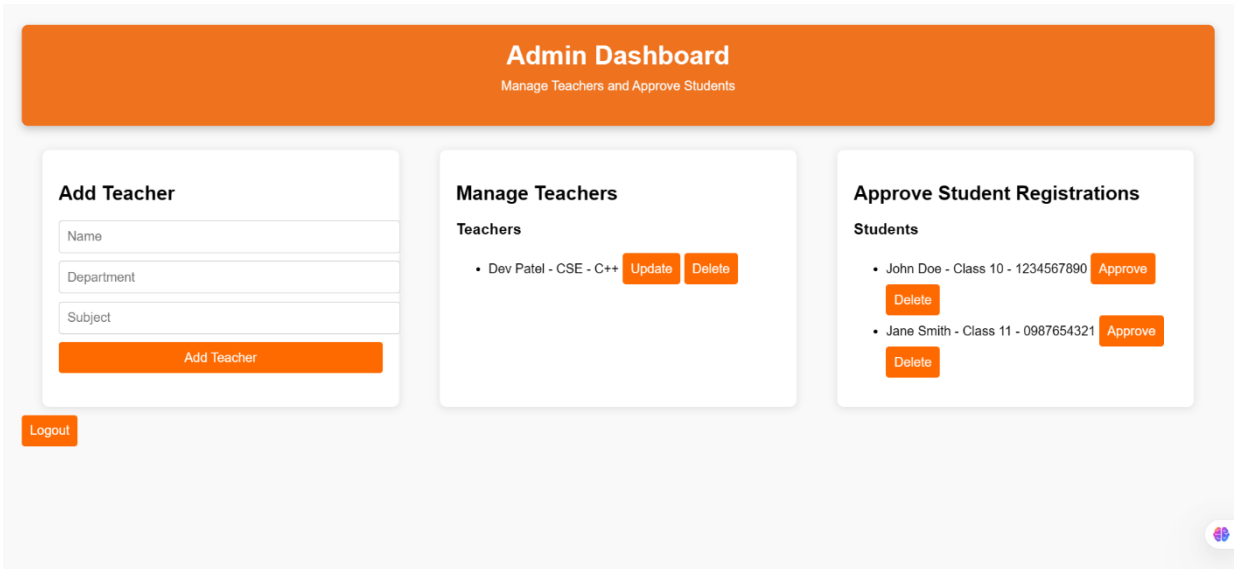

Fig.4.Admin Dashboard

Advance Project No.2 :-

❖ Gym Management System

The Gym Management System is a comprehensive web application designed to streamline the management of gym operations, including member registration, attendance tracking, class scheduling, and payment processing. Built using HTML, CSS, JavaScript, and a backend technology (such as Node.js or PHP), this system aims to provide gym owners and staff with the tools they need to efficiently manage daily operations while enhancing the user experience for gym members.

Features:

- Member Registration and Profile Management: Users can easily register for gym memberships, create profiles, and update their personal information. The system maintains a database of all members, including their membership type, start date, and contact details.
- Attendance Tracking: Staff can log member attendance for classes and gym sessions, allowing for accurate tracking of member engagement and attendance history.
- Class Scheduling: Gym managers can create and manage class schedules, including fitness classes, personal training sessions, and special events. Members can view the schedule and sign up for classes.
- Payment Processing: The system supports payment processing for membership fees, class registrations, and other services. Users can view their payment history and outstanding balances.
- Admin Dashboard: An administrative interface allows gym managers to oversee all operations, including managing member accounts, monitoring attendance, and generating reports on gym usage and finances.
- Reporting and Analytics: The system can generate reports on membership statistics, revenue, attendance trends, and class popularity, providing insights for better decision-making.
- User-Friendly Interface: The application is designed to be intuitive, ensuring that both gym staff and members can navigate the system easily.
- Responsive Design: The Gym Management System is fully responsive, providing a seamless experience on desktops, tablets, and mobile devices.

Technologies Used:

- HTML: Structures the application, including forms for member registration, class schedules, and payment processing.
- CSS: Styles the app for a professional and user-friendly interface, ensuring a visually appealing layout.
- JavaScript: Handles client-side functionality, including form validation, dynamic content updates, and user interactions.
- Used to implement server-side logic, managing user requests, processing payments, and interacting with the database.
- It stores member information, attendance records, class schedules, and payment history securely.

Challenges Faced:

- Ensuring the security of member data and payment information throughout the application.
- Creating a scalable database structure to handle a growing number of members and classes efficiently.
- Implementing a user-friendly interface that simplifies complex management tasks for gym staff.

Future Improvements:

- Mobile App Integration: Developing a mobile application version of the Gym Management System for members to access schedules, track attendance, and make payments on the go.
- Fitness Tracking: Allowing members to track their fitness progress, including workout logs and personal goals, integrated with their profiles.
- Notifications: Implementing email or SMS notifications for reminders about class schedules, payment due dates, and special events.
- Referral Program: Adding a feature for members to refer friends and receive rewards or discounts for successful sign-ups.

Conclusion: The Gym Management System is a powerful tool designed to enhance the efficiency of gym operations while providing a user-friendly experience for both staff and members. By integrating modern web technologies, this application addresses the key challenges faced by gym owners and helps streamline processes related to membership management,

attendance tracking, and payment processing. The project serves as a practical example of how technology can be leveraged to improve service delivery in the fitness industry.

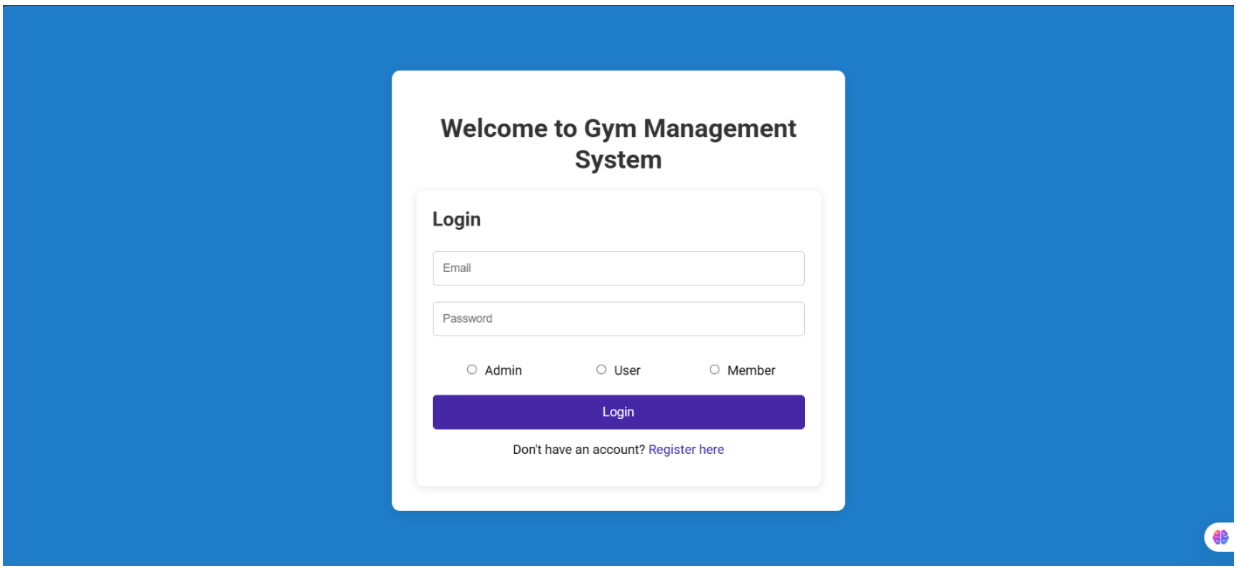

Fig.1. Login page

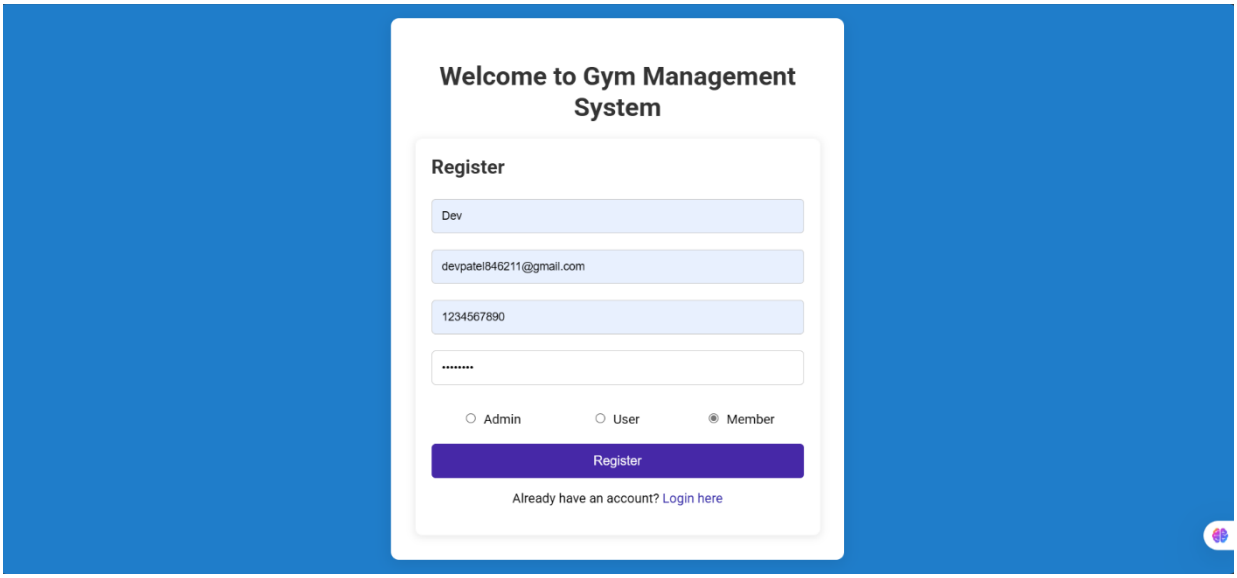

Fig.2. Registration Page

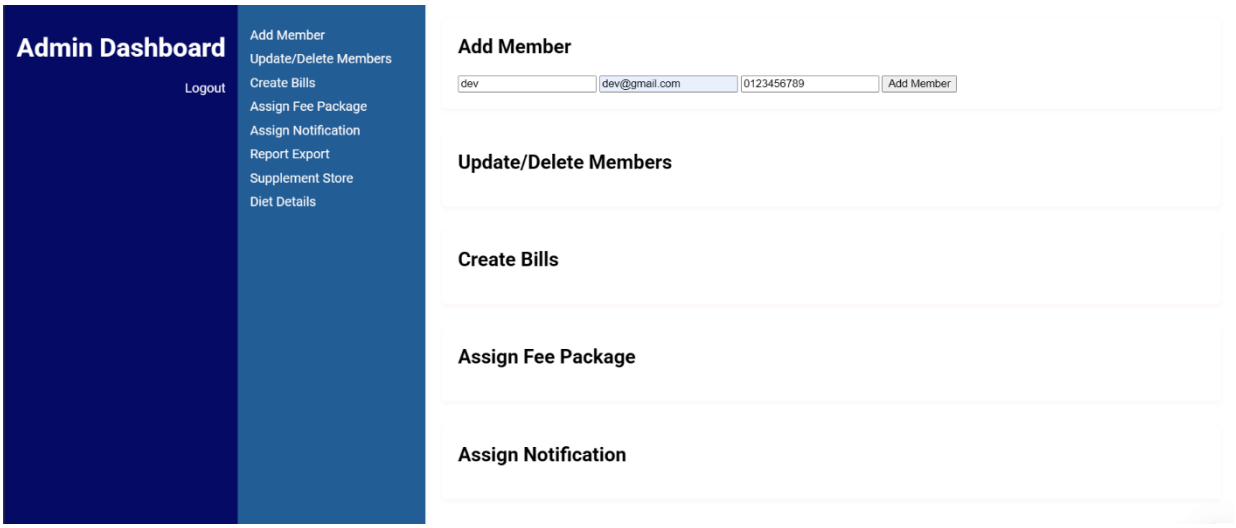

Fig.3. Admin Dashboard

OPPORTUNITIES

- During these Three Months of internship, I was given the opportunity to perform the following roles:
- Learning to create something new will be of great benefit to me in the now and future also.
- We met to create a web with the help of HTML, CSS and JavaScript.
- Next I get an incentive to create a new web so if I want to do a new web design I can do it. To gain new skills.

CHALLENGES FACED

- Accessibility Undoubtedly, the web has become increasingly important in several aspects of our lives. The very first challenge in website creation is to make your website as much accessible as possible. But, how do you define 'web accessibility'? Well, website or web accessibility can be defined as the practice of making websites accessible for people of various backgrounds, abilities and disabilities. To create a website which is accessible, you need to design and develop it in a way that all users have an equal access to the information, functionality and features of the site.

- Compatibility The next very important but sadly one of the most overlooked aspects of website creation is compatibility. Also referred to as 'browser compatibility', website compatibility focuses on making websites compatible across a range of browser platforms. Webmasters need to plan out an effective browser testing schedule. To test your website for compatibility, you need to check it on different browsers, operating systems and monitor resolutions among others.

- Navigability If people are unable to easily navigate through a website, they will leave as quickly as they come. The navigational structure of the website is a big challenge for webmasters and web designers. In fact, navigability is the most important aspect of website design. An effective navigational structure of the website enhances usability. The users of a website are a heterogeneous mixture of people hailing from different backgrounds and geographical locations. Your website should be easily navigable for all users, irrespective of where they belong to. Site visitors should be able to easily find the information they are looking for. Whether it is the primary or the secondary navigation, they should be structured to orientate users on the website.

- Readability the most important issue in website creation is 'readability'. Readability refers to the practice of delivering the write up in a way that enhances ease of reading. While creating a great website, you should focus on making it readable for all users, regardless of their backgrounds and age groups.

- Usability In fact, this is the sum total of the other four biggest challenges in website creation, mentioned above. Driving traffic to your website is only half the battle. For winning this battle, you need to engage the readers on your website and compel them to return over and over again. The success of website creation depends on whether or not it conforms to the usability guidelines. In terms of usability, your website should be easy to use and the information should be easy to retrieve for users. Websites that place restrictions (bookmarking not possible, printing problems, disabled back buttons, emailing of link not possible etc.) on users simply damage their website's usability