SE 3220 – INDUSTRIAL TRAINING

FRONT-END DEVELOPER INTERNSHIP

BSSE0122011399

Saegis Campus

Faculty Of Computing and Technology

Department of Computing

BSc (Hons) Software Engineering

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I would like to sincerely thank Techwox Solutions (Pvt) Ltd, Negombo, for giving me the opportunity to complete my industrial training. I am especially grateful to my supervisor, Miss. Thabitha Joseph, for her continuous guidance, support, and valuable advice throughout my time at the company.I would also like to thank my team members and colleagues for their encouragement, cooperation, and for generously sharing their knowledge. Their support made my experience both enjoyable and highly educational.

Finally, I extend my heartfelt appreciation to my lecturers and faculty at Saegis Campus for their guidance and encouragement during the preparation of this report. Their support was invaluable in helping me successfully complete my training and document my experiences.

ABSTRACT

I carried out my industrial training at Techwox Solutions (Pvt) Ltd in Negombo, where I worked as a Front-End Developer. My main tasks involved designing and building responsive user interfaces with React.js, as well as using Git for version control to coordinate work with my team. During the internship, I took part in several real-world projects, applying modern web development techniques to create applications that were both efficient and user-friendly.

This experience was a turning point in my technical growth. I learned React.js from the ground up, strengthened my knowledge of JavaScript, and explored other related programming tools and languages. I was also introduced to the MERN stack, which gave me valuable insight into full-stack development. By working on live projects, I improved my problem-solving abilities, became familiar with structured workflows, and developed confidence in managing code collaboratively within a team environment.

I quickly adjusted to the fast-paced and demanding nature of a professional software development environment, collaborated closely with my colleagues, and made consistent use of version control best practices. This experience not only improved my technical abilities but also strengthened my teamwork and collaboration skills.

Keywords: *Industrial Training, Front-End Development, React.js, JavaScript, MERN Stack, Version Control, Web Development, Team Collaboration*

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Table 1:- Technologies Used During Internship

Category	Item / Tools	Purpose
Software	VS Code	Code editor for React + Vite projects
	Node.js & npm	Run React projects and manage packages
	React.js + Vite	Front-End framework and build system
	Tailwind CSS	Styling and responsive design
	Git & GitHub/GitLab	Version control and code repository
	Jira	Task management, sprint planning, and project management
	Vercel , Netlify	Free hosting platform for deploying React/Vite apps
	Railway.app	Use to host backend of the project – Real time chat application
Hardware	Laptop – Lenovo Thinkpad L420, 4GB RAM Personal Computer	Main development machine for coding & UI testing
	Internet Connection	Search online for resources. Required for remote work, Git pushes, and Jira access
Operating System	Windows 10 Pro	Development Environment

Table 02: Tasks Completed Each Week

Task No	Task	Start Date	End Date	Status
01	Ethrenic Tourism Website	07/4/2025	09/4/2025	Completed
02	XTRA Perfume	21/4/2025	28/4/2025	Completed
03	Company Website – Techwox Solutions	30/4/2025	11/5/2025	Completed
04	Glowpost Website – Team Management Page	03/6/2025	13/6/2025	Completed
05	Veloura Website	16/6/2025	25/6/2025	Completed
06	Techwox Labs- Game website	27/6/2025	14/7/2025	Completed
07	Real-Time Chat Application	16/7/2025	25/9/2025	Completed
08	Music Playlist App -	26/9/2025	03/10/2025	Completed

Table 03: Skills Gained and Applied

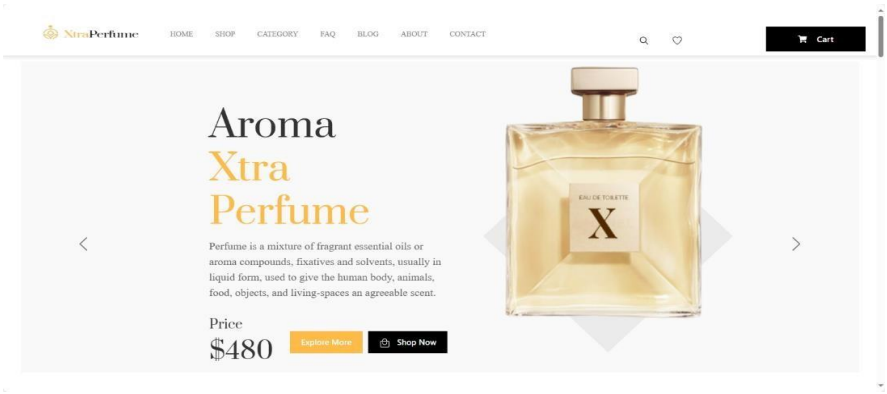
Skill / Area	How I Learned / Practiced	Where I Applied It	Tools / Technologies	Outcome / Impact
Version Control (Git)	Branching, commits, pull requests, code reviews, I use VS code to do version control.	Building a real-time chat application, and Use to Create Veloura website	Git, GitHub, VS Code	Coordinated teamwork, fewer merge conflicts, clear history
React.js (Front-End)	Use Youtube to learn React Craeate Components, props/state, hooks, routing	Chat UI, message lists, forms, notifications, Done almost every project using React JS	React, Vite	Reusable components, faster iteration
Tailwind CSS (Styling)	Utility-first classes, responsive design, Learn by using references.	Styling all pages and chat components in Chat application and Use for every Project.	Tailwind CSS	Consistent, responsive UI built quickly
MERN Stack	Linking front end with APIs and Mongodb database	Sending/receiving messages via REST/real-time API	Node.js(Basic), Express, MongoDB	End-to-end features, better understanding of full stack
Cloud Hosting	Learned to use free hosting platforms for frontend hosting.	Deployed the real-time chat	Vercel, Netlify	Made app accessible online, improved deployment skills

LIST OF FIGURES

01. Ethrenic Tourism Website:

- I created a **carousel page** using React.js and Tailwind CSS to display Sri Lanka travel plans.
- The carousel showcases tours with images, titles, and duration in a clear and attractive format.

02. XTRA Perfume Website:



- I developed a **perfume e-commerce website** called *XTRA Perfume* using React.js, Vite, and Tailwind CSS.
- The website highlights perfume products with elegant layouts and high-quality images.

03. Company Website – Techwox Solutions

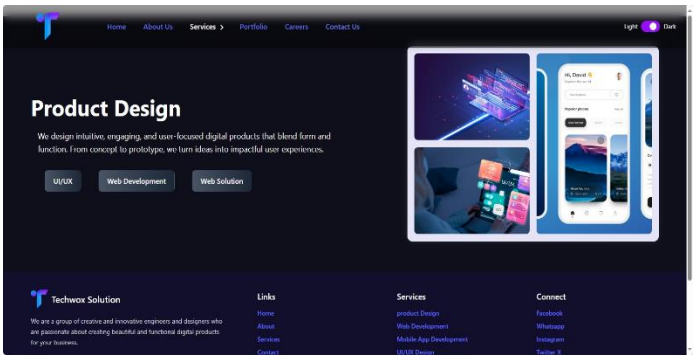
- I created 4 pages of out company webpage services pages 4: All these 4 pages (components) created in react project and used Tailwind CSS.

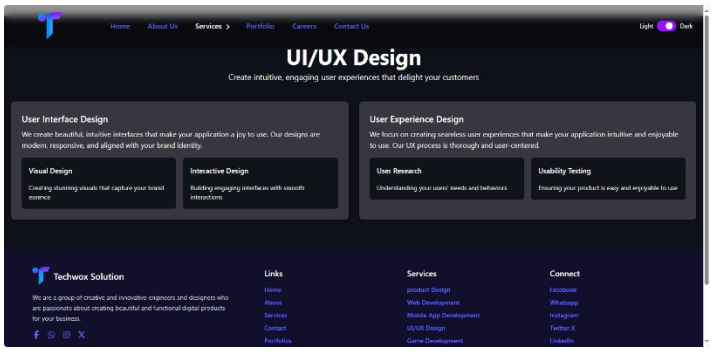
  1. Product Design page

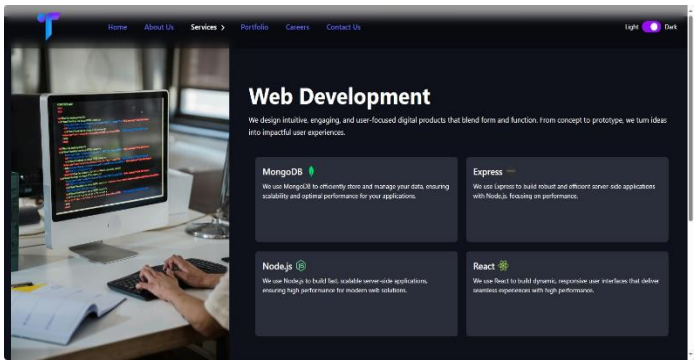
  2. Web Development Page

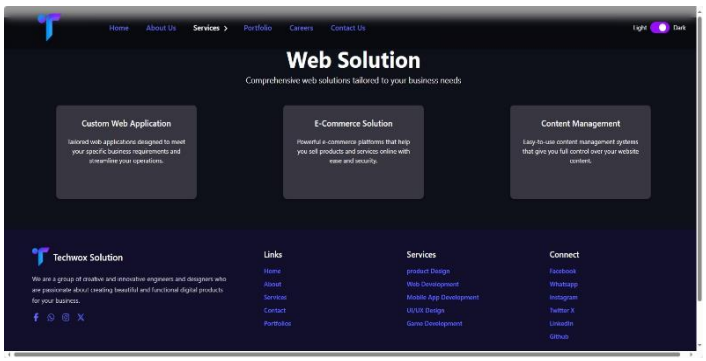
  3. Web Solution Page

  4. UI/UX Design Page



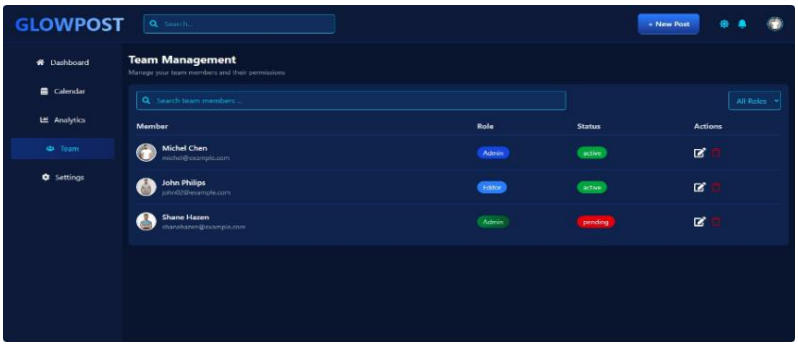






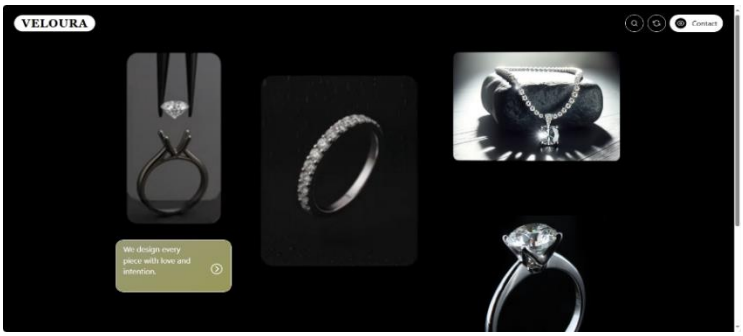
04. Glowpost Website – Team Management Page

- This Team Management page created using react with vite , tailwind CSS. In this page user can add team members and manage their details.



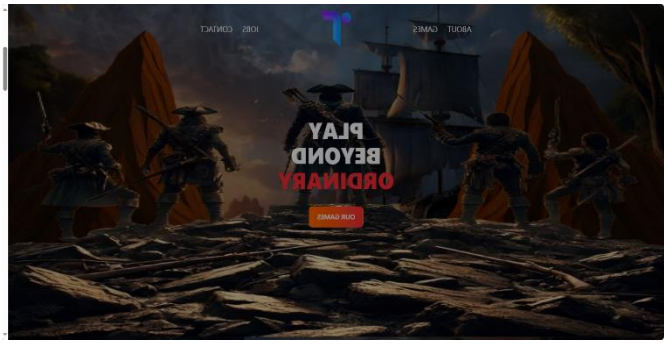
05. Veloura Website

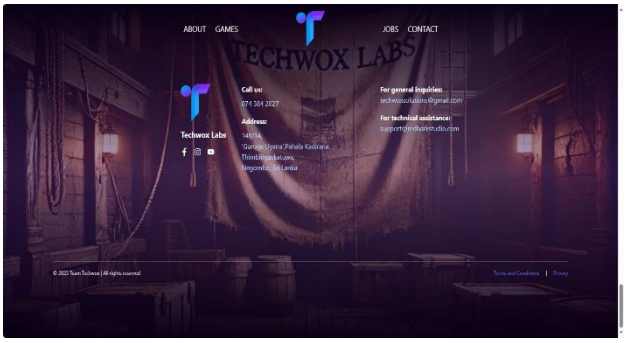
- This is a React project and a group project. I used version control to do this project.



06. Techwox Labs – Game Website

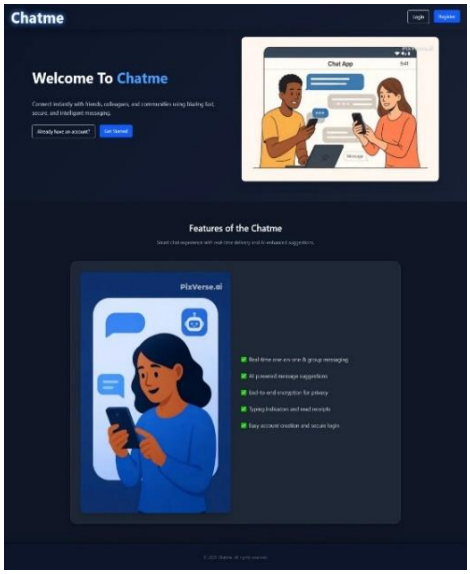
- This is a fully responsive react project. I used animations to the page when scrolling page animations works. Images moves with the scroll.

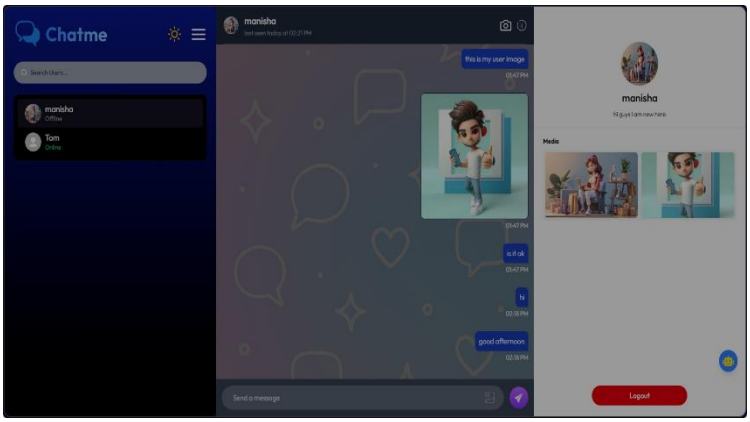




07. Real-time chat application:

- This is a group project. I used version control and use socket.io for real time chatting for the system.

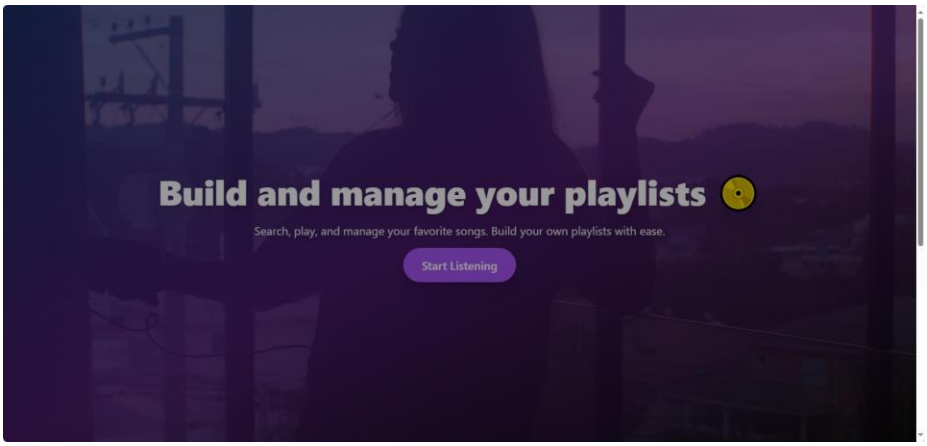


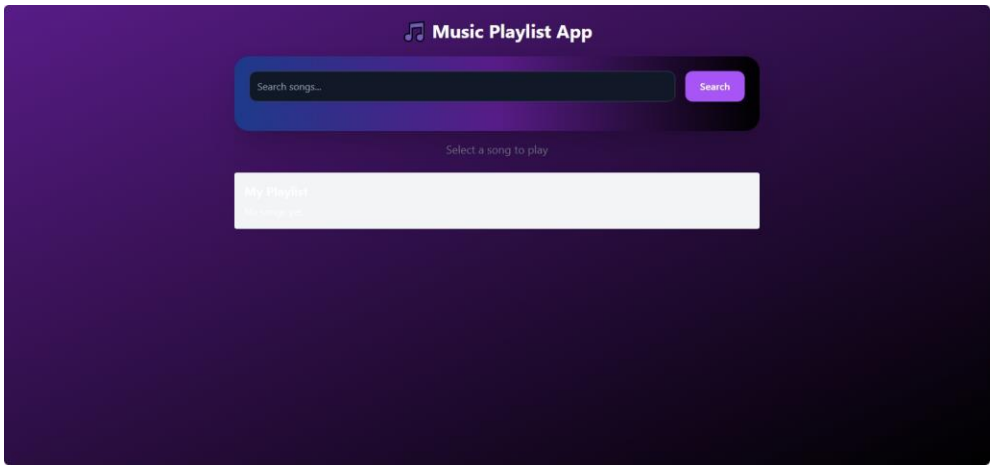


08. Music Playlist App: (Still Ongoing)

My final internship project. I used these technologies to create this Simple App.

- **Frontend**: React + TailwindCSS
- **API**: Spotify API (requires OAuth, more advanced) OR **Deezer API** (simpler, free, no OAuth needed for search & preview)





CHAPTER 1 – INTRODUCTION

1.1 Company Overview

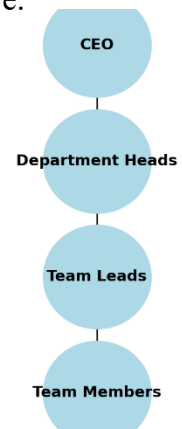
Techwox Solutions (Pvt) Ltd, located in Negombo, Sri Lanka, is an emerging IT company that provides a wide range of digital services and solutions. Founded and led by Miss. Thabitha Joseph, the company is dedicated to developing innovative and reliable software products, including web applications, to support businesses in enhancing their growth and customer engagement. With an active presence on both its official website and LinkedIn, Techwox Solutions continues to build its reputation as a creative and client-focused technology partner. The company has 20 staff members employed across different roles. Techwox Solutions (Pvt) Ltd is mainly focused on Web Development and Game Development, offering both client projects and in-house products in these domains.

Key Operations and Services:

- Game development: Works on both **client projects** and **in-house company products**.
- Web Development: Provides **client-based solutions.**

1.2 Organization Structure

The company was established to ensure effective operations and project completion. The Company follows a simple structure:



- CEO :- Miss. Thabitha Joseph is the CEO of Techwox Solutions(Pvt)Ltd. Makes **key business decisions** and ensures company growth.
- Department Heads:- Ensure departmental goals align with company objectives.
- Team Leads :- Supervise and guide team members in daily tasks.
- Team Members:- Continuously learn and improve skills to support team goals.

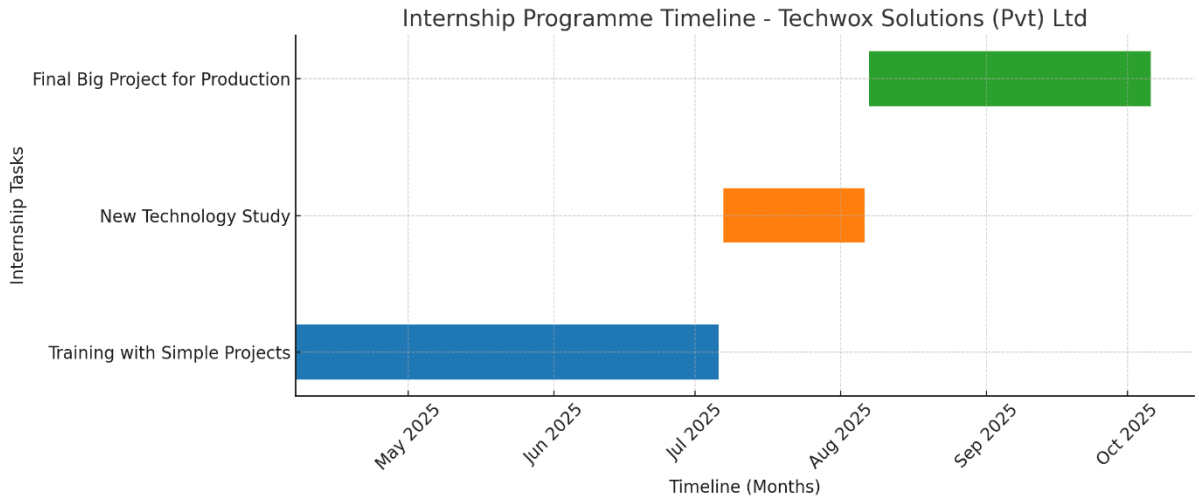
I completed my internship as a Front-End Developer, working closely with my supervisor, team members, designers, and developers.

Company Website: Techwox Solutions | Innovative Digital Solutions
Company LinkedIn Profile: Techwox Solutions Linkedin
Company Email: techwoxsolution@gmail.com
Company Contact Number: +94 0743842027

1.3 Division/Unit of Training

My internship was under the Web Development Division of Techwox Solutions (Pvt) Ltd, where I worked online as a Front-End Developer. The division develops and maintains modern web applications with a team of front-end, back-end, full-stack developers, graphic designers, and project managers. My role involved designing and developing front-end pages for usability and visual appeal. I gained hands-on experience with React.js, Jira, Git, GitHub, and Visual Studio Code, improving both technical skills and teamwork.

1.4 Training Program Plan (Gantt Chart)



First 3 Months: Training With Simple Projects.

4th Month : New Technology Study

5th and 6th Months: Final big project for production

CHAPTER 2 – SPECIFIC DETAILS ON PROJECTS/TRAINING

2.1 Introduction

During my internship, I worked on several projects that enhanced my skills in technology, analysis, and project management. I applied knowledge from my studies to design, develop, and improve web-based applications. In total, I completed seven projects, with the Company Website and Chatme (Real-Time Chat Application) being the most notable. These experiences taught me the importance of meeting deadlines, teamwork, and efficiently using modern development tools. As a front-end developer, I focused on creating engaging user interfaces with animations, light/dark mode, and carousels, while using Git, GitHub, and collaborative tools for organization and coordination.

2.2 Objectives

- Improve front-end expertise by crafting responsive and interactive web applications with React.js through Vite and Tailwind CSS styling.
- Add UI functionalities such as toggle color mode (light/dark mode), animations, and interactive carousels to enhance usability.
- Practice current web development best practices by incorporating performance optimizations, enabling mobile responsiveness, and following industry coding standards.
- Get practical experience with version control using Git and GitHub for team-based code management, branch maintenance, and tracking project history.
- Use Jira for project management to plan, assign, and track tasks with proper communication among the team.

2.3 Type of work done

During my internship, I primarily worked on front-end web development using React.js, focusing on designing and building interactive and user-friendly web pages. I was responsible for creating responsive layouts, implementing animations, carousels, and light/dark mode features to enhance the overall user experience. In addition, I used Git and GitHub for version control, which helped me manage code efficiently and collaborate smoothly with team members. I also participated in project planning and task tracking using Jira, ensuring that all projects, including the Company Website and Chatme (Real-Time Chat Application), were completed on time and met quality standards.

2.4 Hardware and Software Used for Executing Taks

Hardware Used:

- Personal Computer / Laptop – for coding, testing, and running web applications.
- Internet Connection – for online collaboration, accessing resources, and hosting projects.
- Peripherals – keyboard, mouse, and headphones for efficient development and communication.

Software Used:

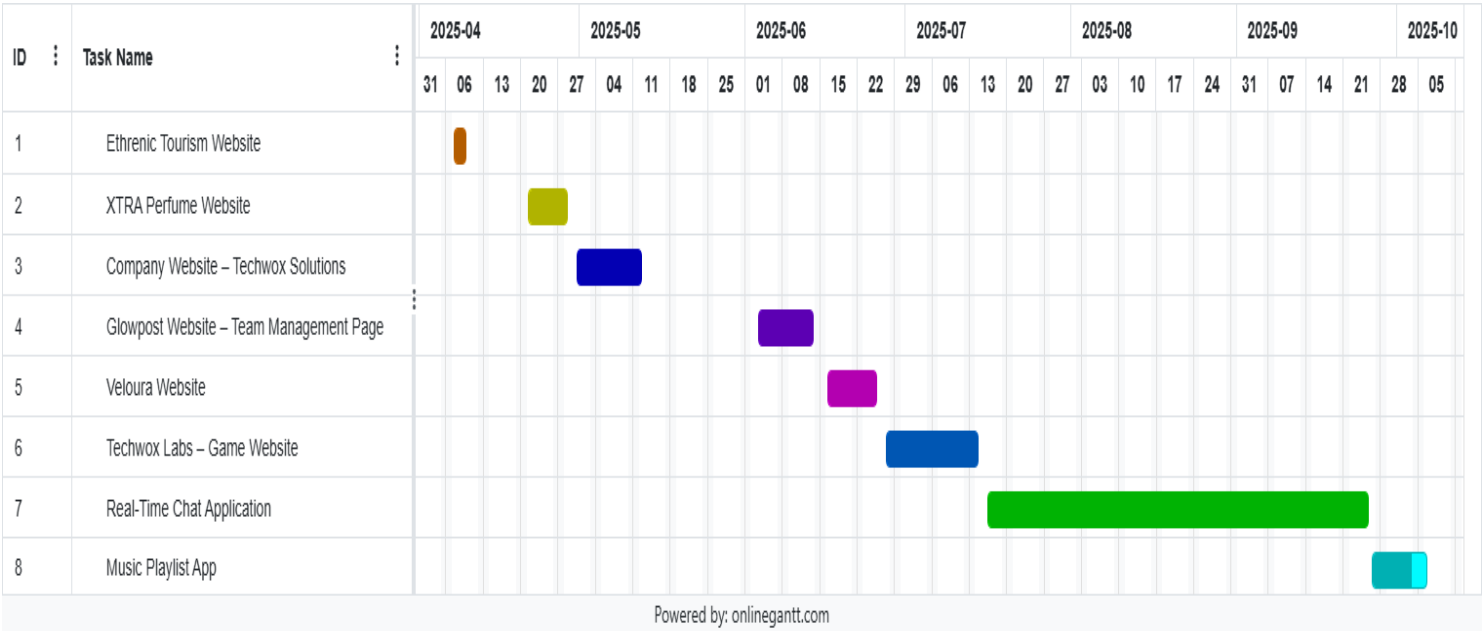
- Visual Studio Code – code editor for project development.
- React.js & Tailwind CSS – frameworks for front-end development and responsive design.
- Node.js & npm – runtime environment and package manager for project setup.
- Git & GitHub – version control and collaboration tools.
- Jira – project management and task tracking.
- Web Browsers (Chrome, Firefox) – for testing and debugging web applications.
- Netlify, Vercel, Railway.app – platforms for deploying and hosting web projects online.

2.5 Time Period to Complete Tasks

My internship started on **7th April 2025** and continued for **six months**. During this time, I worked on different projects, each with its own starting and ending dates. The breakdown of my tasks is shown below:

- Ethrenic Tourism Website – 07/04/2025 to 09/04/2025
- XTRA Perfume Website – 21/04/2025 to 28/04/2025
- Company Website – Techwox Solutions – 30/04/2025 to 11/05/2025
- Glowpost Website – Team Management Page – 03/06/2025 to 13/06/2025
- Veloura Website – 16/06/2025 to 25/06/2025
- Techwox Labs – Game Website – 27/06/2025 to 14/07/2025
- Real-Time Chat Application – 16/07/2025 to 25/09/2025
- Music Playlist App – 26/09/2025 to 06/10/2025 (Ongoing)

A **Gantt chart** was prepared to show these tasks in a simple timeline. It helped me keep track of deadlines, stay organized, and move smoothly from one project to another.



2.6 Theoretical and Practical Knowledge Applied

During my internship, I was able to apply many concepts I had learned in my Computer Science degree and use them in real projects. This gave me the chance to connect theory with practice. Some examples include:

- Project Management – I used JIRA to manage the development of the "Company Website – Techwox Solutions". With JIRA, I could break down the work into smaller tasks, organize them into sprints, and track progress step by step. This helped me stay organized and meet deadlines.
- API Testing – I worked with Postman when developing the "Real-Time Chat Application". Using Postman allowed me to test APIs and check whether the data from the back-end was correctly received by the front-end, which made the system more reliable.
- Programming Knowledge – I applied JavaScript knowledge gained during my studies to build interactive features and dynamic components. This was especially useful in projects like the "Veloura Website" and "XTRA Perfume Website", where smooth animations and responsiveness were important.
- Version Control – I used Git and GitHub to manage project code and keep track of updates. For example, in the "Glowpost Website – Team Management Page" project, version control allowed me to save different versions of the code, collaborate better, and avoid conflicts.
- Database Management – I applied my knowledge of MongoDB while developing the "Real-Time Chat Application". The database was used to store user profiles, chat messages, and notifications, which ensured data was structured and accessible when needed.

2.7 Problems Faced During Task Execution and Skill Implementation

During the execution of tasks, several challenges were encountered:

- Version Control Issues: Some team members lacked sufficient knowledge of Git and version control systems, which caused delays in project updates and merging code. Resources and practical sessions were provided to address this.
- Communication Gaps: Working remotely sometimes led to misunderstandings or delays in sharing task updates. Regular virtual meetings and chat follow-ups helped improve coordination.
- Technical Skill Gaps: Certain tools and frameworks used in the project, such as React, Tailwind CSS, or API testing with Postman, were new to some members. Tutorials and mentoring sessions were conducted to improve their practical knowledge.
- Time Management Challenges: Online work sometimes made it difficult to track progress or meet deadlines effectively. Task planning tools like JIRA and Trello were introduced to monitor tasks better.

By providing learning resources, mentoring, and regular check-ins, these challenges were gradually managed, improving team efficiency and task execution.

2.8 Conclusion

During my internship, I faced challenges such as learning React.js for the first time, using version control for advanced projects, and working online with team members. These were overcome through shared resources, practical sessions, and task management tools. The experience improved my web development skills, teamwork, independent work ability, and understanding of professional industry practices.

CHAPTER 3 - OVERALL INFORMATION OF THE INDUSTRIAL TRAINING

3.1 Learning from Supervisor, Colleagues, and Reference Materials

During my internship, I learned to use Git and GitHub through reference materials and YouTube tutorials. My supervisor guided me step by step on React.js projects and provided resources like project materials, images, and instructions. Interns were divided into groups, and our team worked on a real-time chat application. By observing colleagues, asking questions, and discussing solutions, I gained a solid understanding of tools, workflows, and completing real-world projects effectively.

This is the project link that Supervisor provided to our team. Real Time Chat application Report

3.2 Constructive Comments on Overall Task Performance

Overall, I was able to complete the tasks well and contribute to the team. I learned new tools like React.js, Git, and GitHub, and actively participated in discussions and practical sessions. Some areas I can improve on are managing time better, practicing version control more, and communicating more clearly during online teamwork. With more experience and guidance, I believe I can handle tasks even more efficiently in the future.

CHAPTER 4 – CONCLUSION

4.1 Overall Achievement

During my industrial training, I gained practical experience in software development, project management, and teamwork. I improved technical skills in React.js, Git, GitHub, Tailwind CSS, and API testing. I also learned to manage tasks using Jira, collaborate effectively, and communicate in an online environment. Overall, the training bridged the gap between theory and practice, preparing me for real-world projects.

4.2 Problems Faced and Solutions

- **Problem:** Some team members were not familiar with version control (Git/GitHub), which caused delays in updating and merging code.
  Solution: Provided learning resources, tutorials, and held practical sessions to improve their skills.
- **Problem:** Communication gaps while working online made it difficult to coordinate tasks and share updates.
  Solution: Conducted regular virtual meetings and used chat tools to maintain better coordination.
- **Problem:** Certain tools and frameworks, such as React.js, Tailwind CSS, and API testing, were new to some members.
  Solution: The supervisor provided step-by-step guidance, project materials, and tutorials for hands-on learning.
- **Problem:** Time management was challenging when working remotely, causing some delays.
  Solution: Used task management tools like JIRA to organize work and track progress effectively.

4.3 Suggestions for Future Training

For future training, it is recommended to provide more hands-on practice with tools like Git, React.js, and API testing. Short workshops or tutorials can boost technical skills. Encouraging teamwork through group discussions, sharing project examples, and guiding interns on time management and task planning will help improve learning and project outcomes.

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APPENDICES

Appendix A: Industrial Training Achievements

Achievement Categories	Details
01. Built Interactive Web Pages with React	• Learned how to create reusable components in React. • Developed pages where content changes instantly without refreshing the whole page. • This improved website speed and gave users a smoother experience.
02. Used APIs to Show Live Data	• Connected React project with external APIs (like weather, products, or music API). • Displayed real-time data on the website, e.g., product lists or user profiles. • Learned how to fetch, handle, and show JSON data inside React components.
03. Improved Website Design with Responsive UI	• Used CSS, Flexbox, Grid, and React styling libraries (like Tailwind or Bootstrap). • Made websites mobile-friendly so they look good on laptops, tablets, and phones. • Practiced professional styling for buttons, cards, and navigation bars.
04. Worked with Git & Deployment	• Learned to use Git/GitHub for version control and teamwork. • Deployed React projects to Vercel/Netlify for real users to access. • Understood the process of taking code from development to a live website.

Appendix B: Industrial Training Checklist

Checklist Items	Status	Comments
Industrial Training	Completed	Completed 26 weeks of training
Install VS Code, Node.js, Git, React setup with Vite/Create React App.	Completed	Environment set up successfully; able to run React apps locally.
CSS, Flexbox, Grid, Tailwind/Bootstrap, responsive design.	Completed	Created clean layouts that work on mobile, tablet, and desktop.
Fetch API, Axios, handle JSON data, show data in React components.	Completed	Successfully fetched sample data, still improving error handling & loaders.
Completion of Assigned Projects	Completed	I complete 8 projects during my internship.
Create repo, commit changes, push code, manage branches.	Completed	Pushed projects to GitHub, learned teamwork workflow basics.