My Internship Report: BCA (AI & ML)

Submitted by Riaz Mohammad (Roll No: 24/SCA/BCA(AI&ML)/39) under the supervision of Dr. Shruti Gupta, School of Computer Applications, Manav Rachna International Institute of Research and Studies, Faridabad.

Table of Contents

Introduction to Internship

About CODTECH IT SOLUTIONS

Leading IT services and internship provider, nurturing technical skills through real-world development, design, and deployment of modern software systems.

Aims & Objectives

Enhance practical frontend development skills by engaging in four structured projects. Improve knowledge of HTML, CSS, JavaScript, and React.js, focusing on responsive designs and interactive UIs.

System Study: Existing vs. Proposed

Existing System

Relied on static platforms, manual portfolio showcases (PDFs), lacked web-based real-time communication, and paper-based quiz assessments.

Proposed System

Introduces four modern web-based applications: Quiz App, Real-Time Chat, Personal Portfolio, and E-learning Platform UI. User-friendly, dynamic, and mobile-responsive.

Feasibility Study

Technical

Applications use HTML, CSS, JavaScript, and React.js, supported on all major platforms. Developer familiar with technologies.

Economic

Developed using free and open-source tools, incurring no additional costs for licenses, hosting, or deployment.

Behavioral

Simple, easy-to-use interfaces based on standard UX/UI practices, received positive feedback during testing.

Project Monitoring & Analysis

Gantt Chart (Weekly Plan)

1

Week 1

Project planning, GitHub setup, Quiz App layout.

2

Week 2

Quiz functionality, Chat UI layout.

3

Week 3

Chat features, Portfolio website development.

4

Week 4

E-learning UI, testing, and documentation.

Requirement Specification

Each application had key features:

- Quiz App: Dynamic questions, score calculation, feedback.
- Chat App: Real-time messaging, responsive layout.
- Portfolio Website: Navigation, project sections, responsive design.
- E-learning Platform: Course list, video embedding, progress tracking.

Key Project 1: Quiz Application

Overview

Simple, elegant web-based quiz app using HTML, CSS, JavaScript. Allows users to attempt multiple-choice questions, track progress, and view scores. Fully responsive, fast, with clean UI/UX.

Key Features

- Clean and modern UI.
- Responsive layout.
- Multiple-choice system.
- Final score feedback.
- Fully client-side.

Learnings

- DOM manipulation & event handling.
- Responsive design (CSS Flexbox).
- Building dynamic single-page apps.
- GitHub project structuring & hosting.

Key Project 2: Real-Time Chat Application

Overview

Fully responsive real-time chat app using React.js and WebSockets. Connects users to a public echo server, simulating live chat. Demonstrates WebSocket communication with a clean, mobile-friendly UI.

Features

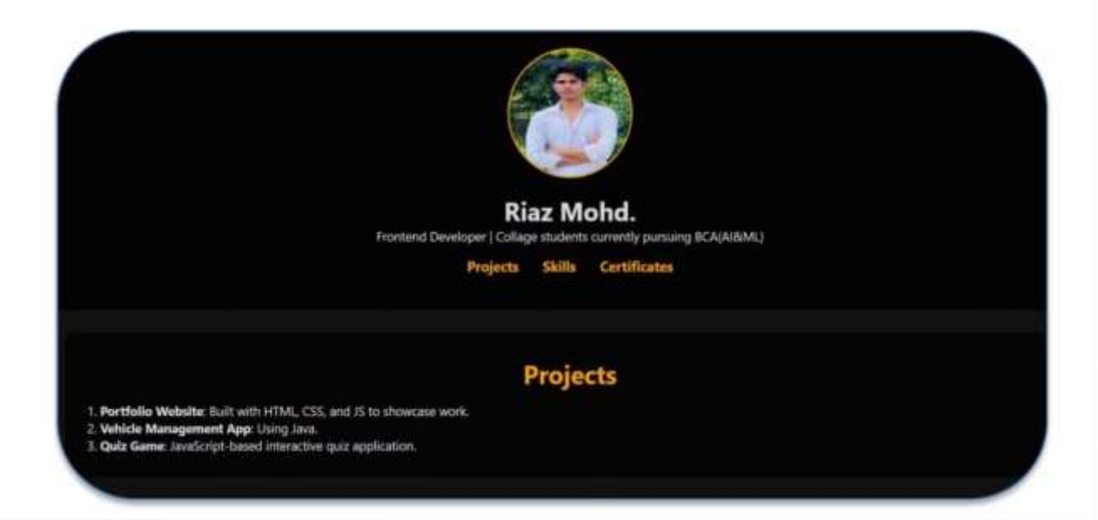
- Responsive UI.
- Real-time chat via WebSockets.
- Echo server integration.
- Clean UI with chat bubbles.
- Keyboard shortcut for sending messages.

Learnings

Key Project 3: Personal Portfolio Website

Overview

Developed a personal portfolio website to showcase professional profile, skills, certifications, and projects. Built from scratch using HTML, CSS, and JavaScript, deployed via GitHub Pages.



Features

- Custom branding and theme.
- Embedded certificate gallery.
- About Me, Skills, Project sections.
- Live hosted version.
- Mobile-friendly responsive layout.

Learnings

- HTML/CSS layout techniques.
- Image optimization & embedding.
- Version control with Git & GitHub.
- Website deployment via GitHub Pages.

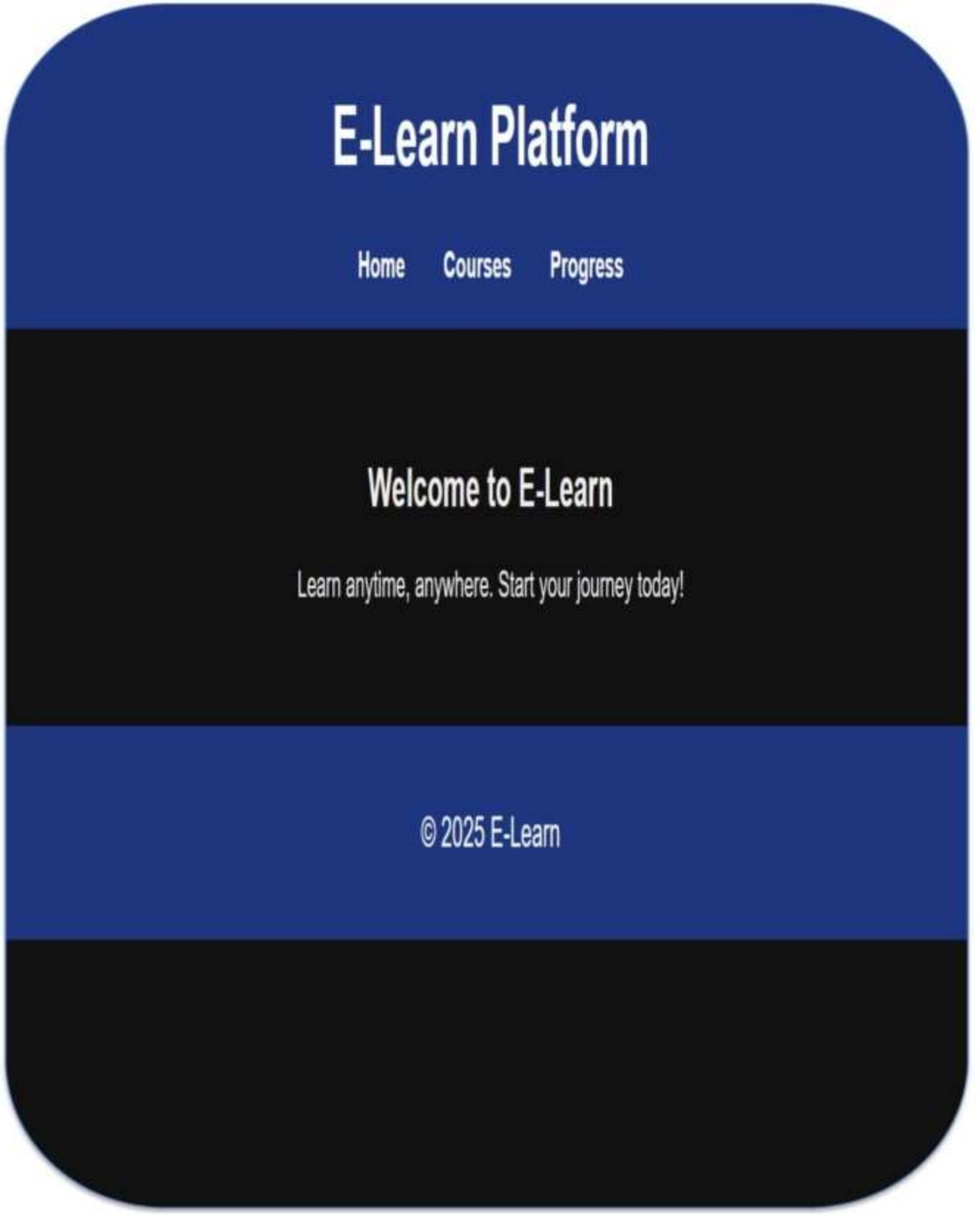
Key Project 4: E-learning Platform U

Overview

Simulated e-learning website using HTML and CSS. Demonstrates building a clean, responsive, multi-page UI (Home, Courses, Progress). Emphasizes static content management, page layout, and UX principles.

Features

- Responsive design.
- Multi-page navigation.
- Dark theme.
- Semantic HTML.
- Centralized CSS styling.



System Design, Testing & Implementation

System Design

- Quiz App: Local JSON, score variable.
- Chat App: React Hooks state variables.
- Portfolio: Static HTML, CSS layout.
- E-learning: Components for courses, progress, videos.

System Testing

- Test data: Dummy questions, sample messages.
- Live data: Tested on Chrome/Edge, responsive design validated.
- Test cases: Quiz answers, chat messages, navigation, video play.

Implementation

- Hardware: Modern PC/laptop, internet, 4GB RAM.
- Software: VS Code, web browser, Git/GitHub, Node.js.
- Documentation: Modular development, comments, GitHub repos.

Scope of the Project

Demonstrated practical frontend development, real-world tools, and strengthened skills in UI/UX, JavaScript logic, React components, and GitHub versioning.