

Full Stack Web Development

Virtual Classroom:

A MERN Stack Project

Team Number: Team 1

Team Members:	Internship ID:
Suhas M R	1SM24N185
Tejas N S	1SM24N190
Varun B P	1SM24N192
Nikhil Narayan Wagamore	1SM24N140

Project Overview

1. The Virtual Classroom system supports three user roles—Admin, Teacher, and Student—each with their own signup and login processes. Admins manage the platform by approving or rejecting users, while Teachers and Students gain access only after admin approval. The platform enables teachers to upload study materials, assign attendance, and award marks. Students, on the other hand, can access their personalized dashboards to view resources, check attendance, and monitor their academic performance.
2. The goal of this project is to simulate a real-world classroom in a digital environment. In today’s education system, managing online classes efficiently has become essential. This project aims to simplify the management of users, classes, and communication, creating a structured and interactive virtual learning experience for institutions and learners.

Core Functionalities

Teacher Dashboard

- Upload study resources
- Assign attendance
- Award marks

Student Dashboard

- View uploaded resources
- Check attendance status
- Track academic performance

Admin Dashboard

- View registered students and teachers
- Approve or reject student and teacher registrations
- Update user details if needed

MERN Stack

Technology Stack: MERN

This project uses the **MERN** stack — **MongoDB**, **Express.js**, **React.js**, and **Node.js** — for building a full-stack application with:



MongoDB

for storing user data and academic records in a flexible NoSQL database.



Express.js

for handling backend routes and APIs securely and efficiently.



React.js

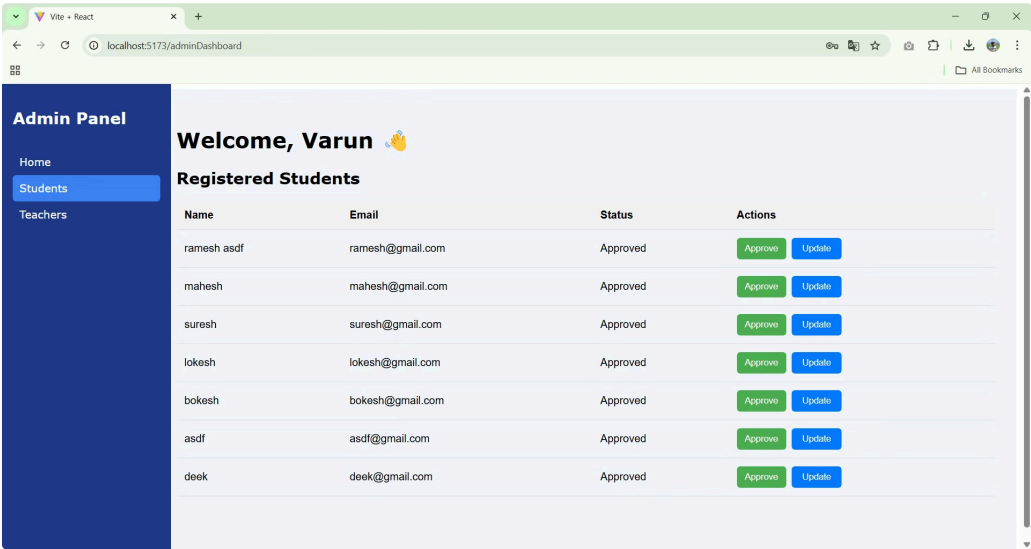
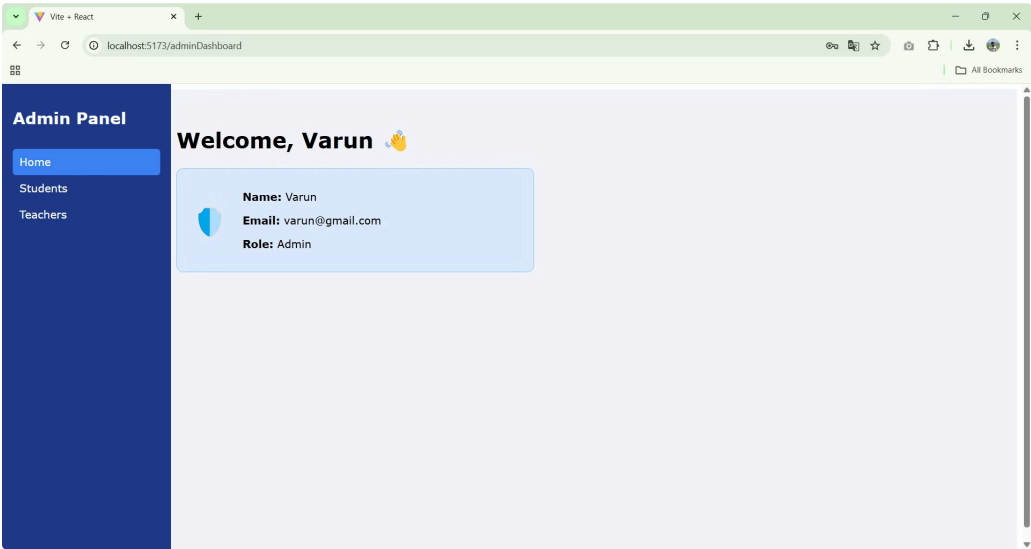
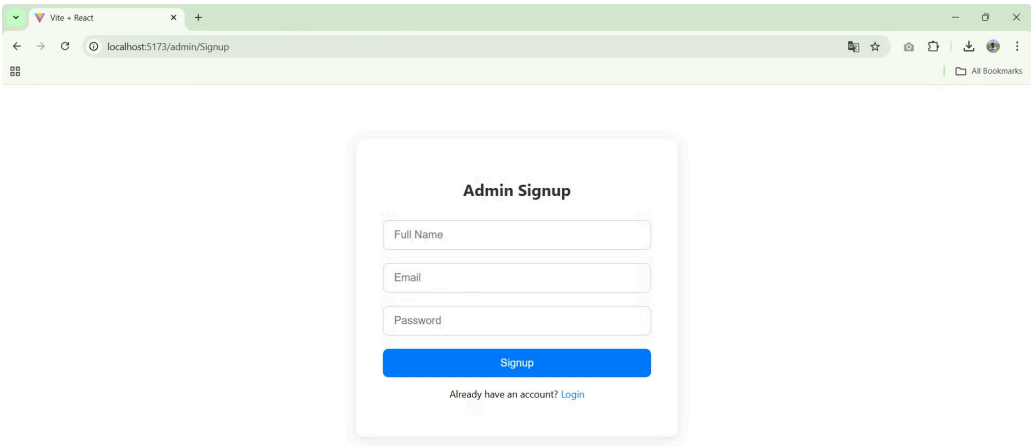
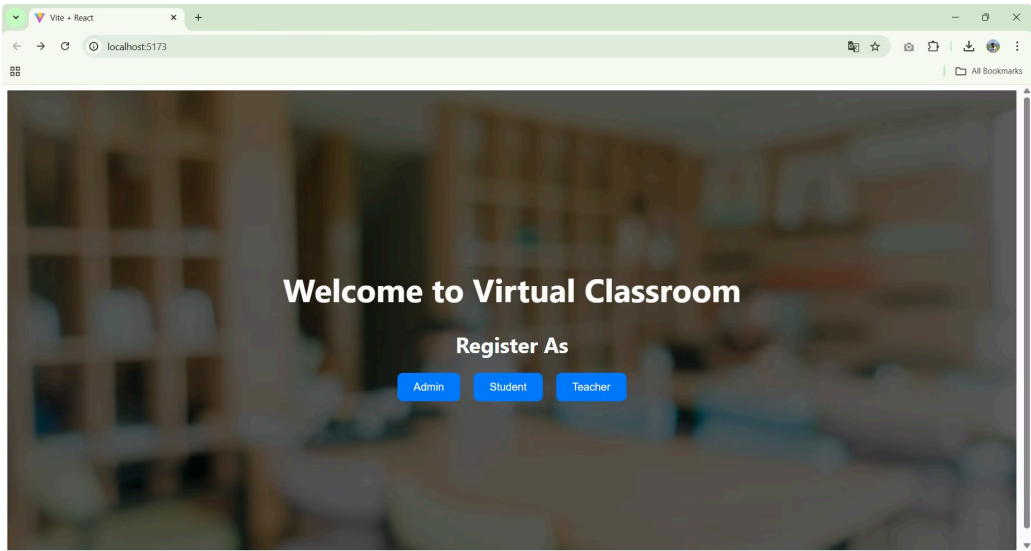
for building a dynamic, responsive frontend with reusable components.



Node.js

for creating a fast, scalable backend server using JavaScript

Snapshots



Individual Contributions

Suhas M R	Admin dashboard design, approval system, backend APIs.
Tejas N S	Student/teacher dashboards, frontend integration, testing.
Varun B P	Signup/login flow, authentication logic, Backend, MongoDB schema.
Nikhil Narayan Wagamore	UI components, dashboard visuals, API integration.

Each team member played a vital role in the project's success. Their contributions ensured a well-rounded and functional virtual classroom. Together, they created an effective online learning tool.