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MIT WORLD PEACE UNIVERSITY | PUNE
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

School of Computer Engineering and Technology
Academic Year: 2023-2024 Sem V

Fullstack Development

Lab Assignment : 07

Title: Develop a full stack web application using MERN stack to perform CRUD operations.

Prepared By
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Roll No:-PA12
Batch A1
November 23,2023

Aim: Develop a full stack web application using MERN stack to perform CRUD operations.

Objectives:

1. To develop full-stack web projects using the MERN stack.
2. To learn database connectivity using fetch api.
3. To perform insert, update, delete and search operations on database.

Theory:-

What is MERN Stack?

The MERN stack is a comprehensive technology stack used for developing web applications. The term "MERN" is an acronym representing the four main technologies:

- **MongoDB:** A NoSQL database that stores data in a flexible, JSON-like format.
- **Express.js:** A web application framework for Node.js, designed to simplify the process of building web applications and APIs.
- **React.js:** A JavaScript library for building user interfaces, focusing on creating interactive and reusable components.
- **Node.js:** A JavaScript runtime that executes server-side code, enabling the server to handle requests and responses.

MERN stack's integration of MongoDB, Express.js, React.js, and Node.js allows developers to use a single language, JavaScript, for both server-side and client-side development.

Use of Fetch API:

The Fetch API is a modern JavaScript API that provides an interface for making network requests. It simplifies the process

of handling HTTP requests and responses. Key aspects of the Fetch API include:

- **Promise-Based:** Fetch uses Promises, making it easier to work with asynchronous operations.
- **Cleaner Syntax:** It offers a more straightforward and cleaner syntax compared to older approaches like XMLHttpRequest.
- **Built-in JSON Support:** Fetch facilitates the handling of JSON data, providing convenient methods for working with responses.

FAQ:

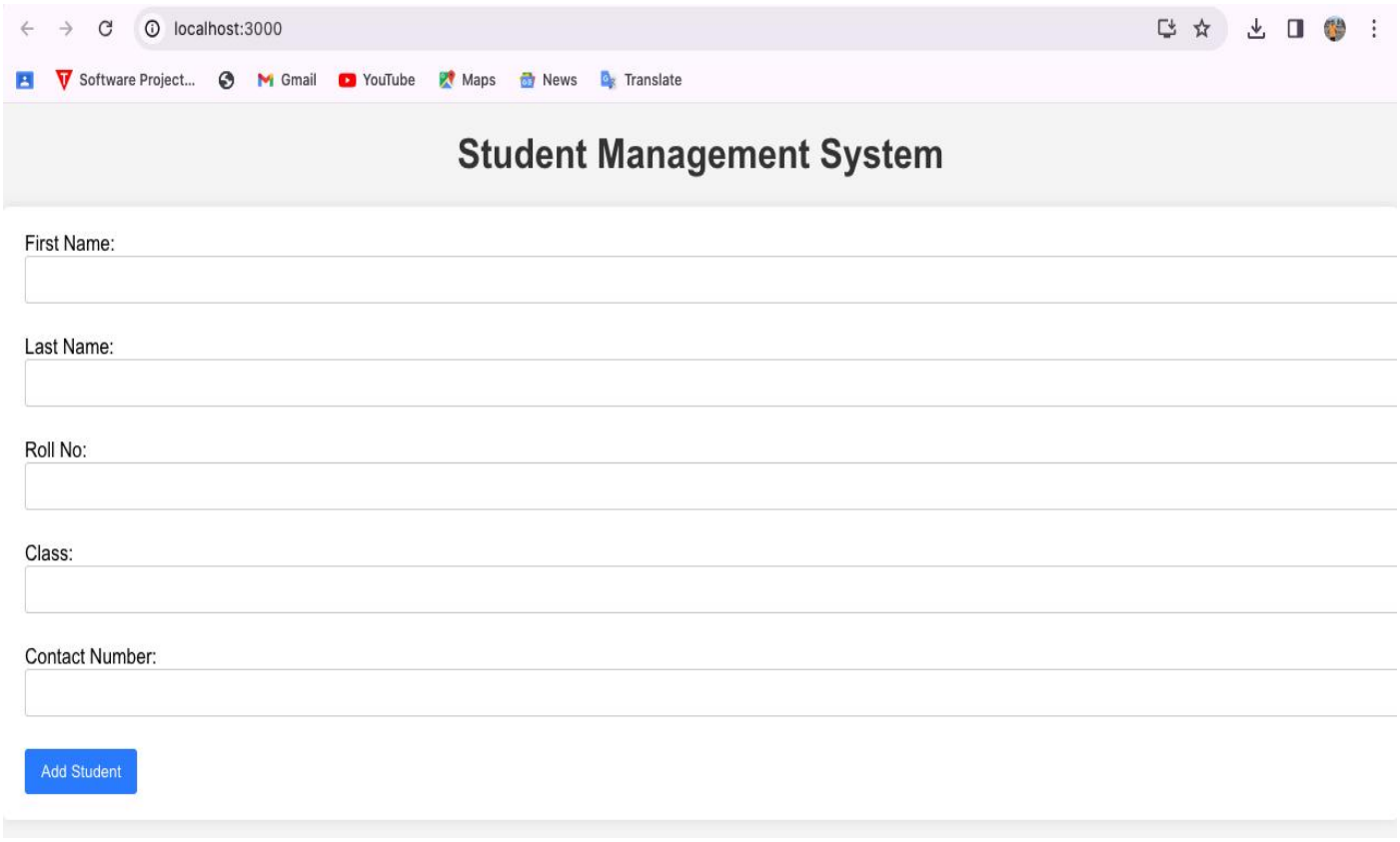
What makes MERN stack the fastest-growing tech stack?

The MERN stack's rapid growth can be attributed to several factors:

- **JavaScript Unification:** MERN allows developers to use JavaScript throughout the entire development stack, providing a seamless and consistent experience.
- **Flexibility and Scalability:** MongoDB's flexible schema and the overall stack's scalability make it suitable for a wide range of project sizes and requirements.
- **React's Component-Based Architecture:** React's component-based architecture promotes modular and reusable code, contributing to faster development cycles.
- **Active Community Support:** Each component of the MERN stack has a large and active community, fostering collaboration, knowledge sharing, and continuous improvement.
- **Open Source Nature:** The MERN stack is built on open-source technologies, making it accessible and encouraging a collaborative and innovative development environment.

Implementation Screenshots:-

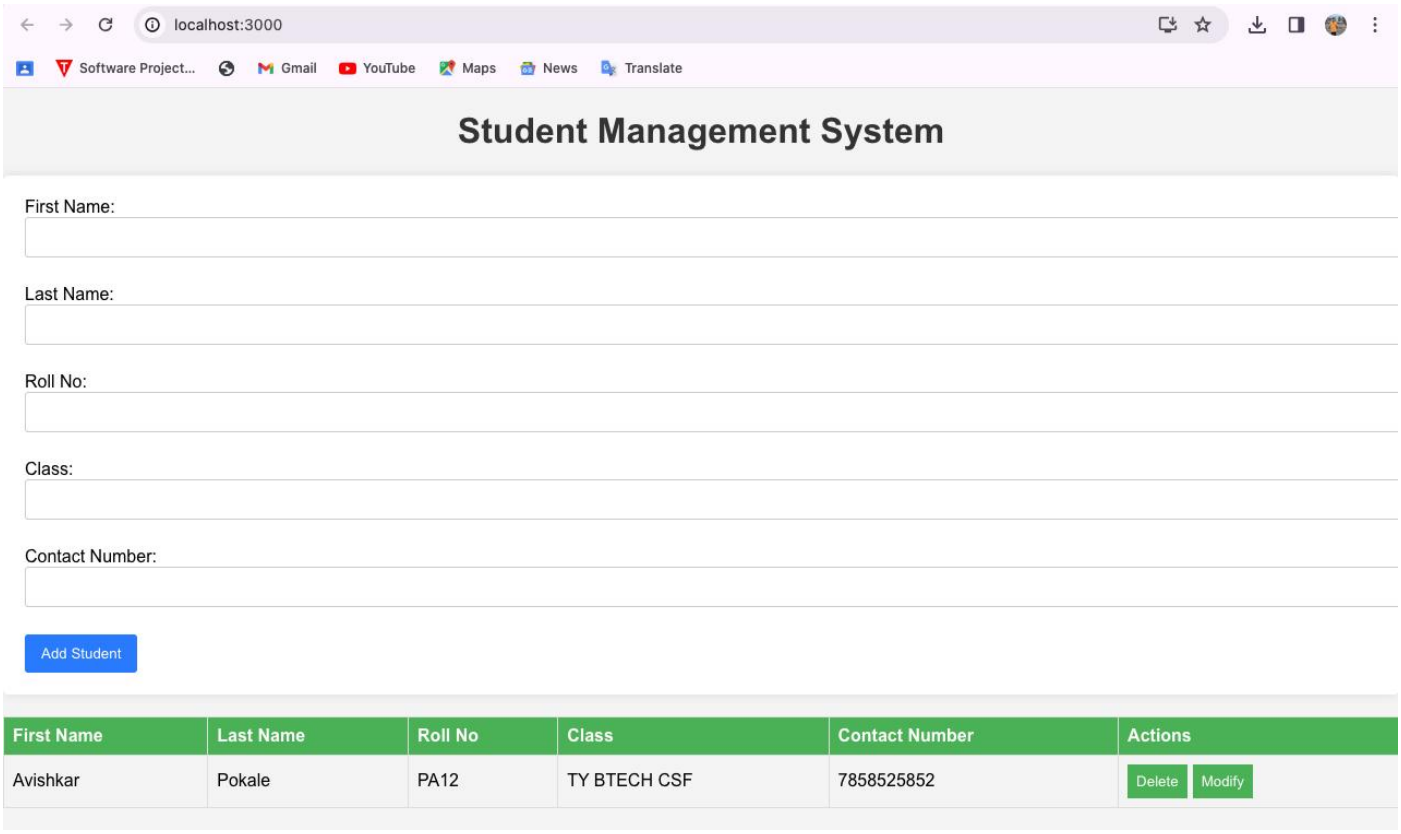
Frontend:-



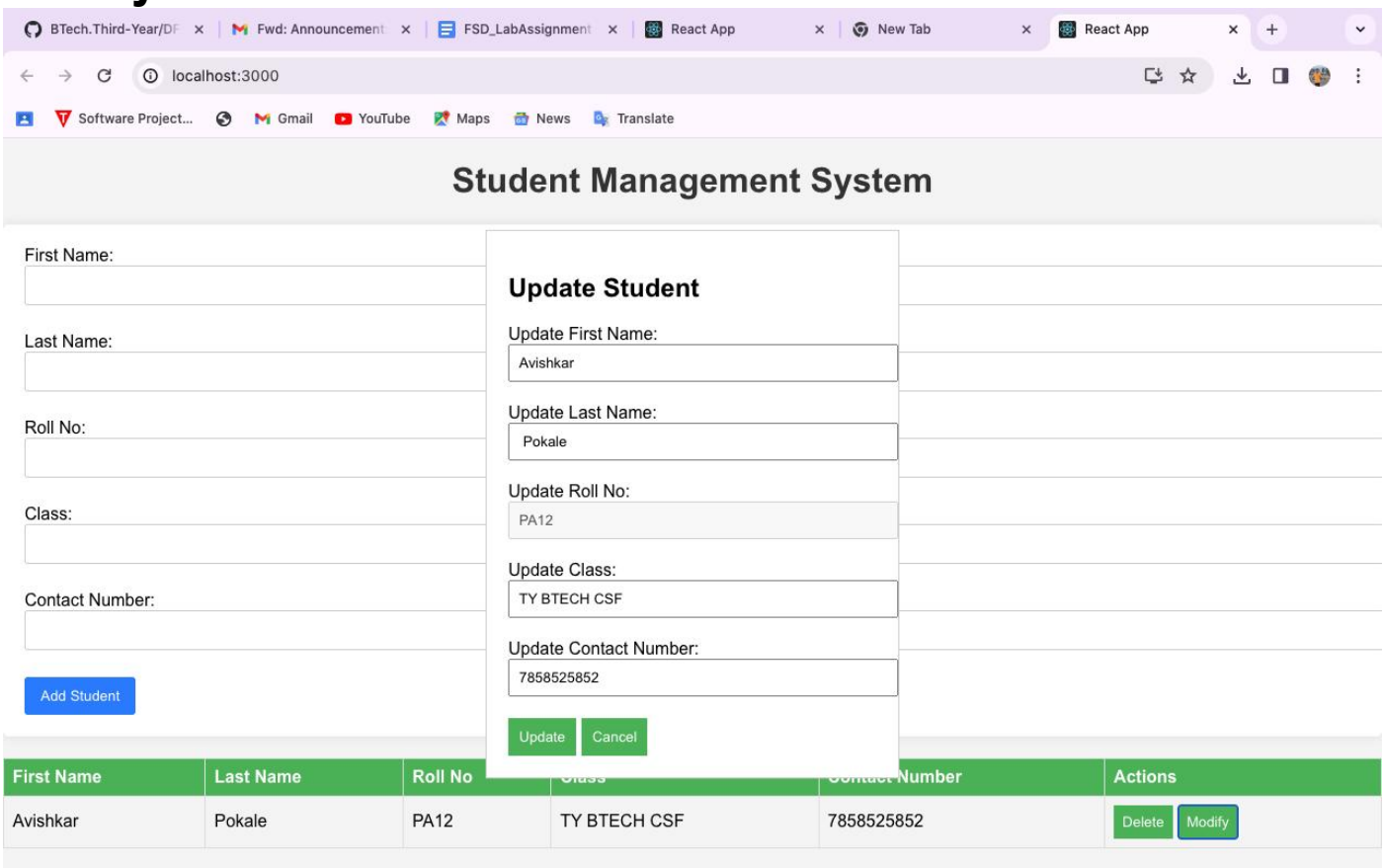
Student Display:-

First Name	Last Name	Roll No	Class	Contact Number	Actions
Saurabh	Jadhav	PA12	TY BTECH CSF	7858525852	Delete Modify
Avishkar	Pokale	PA12	TY BTECH CSF	7858525852	Delete Modify

Delete Student:-



Modify Student:-



MONGO DASHBOARD:-