Tech Stack

Front-end:

- We will use either React or NextJS (React's framework optimized for server-side rendering and SEO for public-facing pages).
- For the user interface, we'll use Material UI components to streamline development with a consistent, modern design and ready-to-use, accessible components.

Back-end:

- Java Spring Boot for building the RESTful API will handle two types of requests: GET (for fetching data) and POST (for sending data, like login credentials). It's suitable for managing the application's various user roles and data-intensive operations and integrates smoothly with MySQL.
- We will use Postman to test the API endpoints (e.g., checking if a login POST request works properly).
- Create an authentication API. For example, a POST method will be used to send credentials (like username and password) when logging in. The API will return either "success" or "failure" based on whether the credentials are correct.

Database:

- We will use a MySQL database to provide structured storage for organized records, such as user accounts, roles (e.g., counselor, coordinator), tour schedules, and attendance logs, which are central to our application's functionality. Also, It is reliable and compatible with Java Spring Boot.

Object-Oriented Programming (OOP):

- We will also use Object-Oriented Programming (OOP) design patterns where applicable to improve the structure and maintainability of our application.
- This approach allows us to create modular classes representing each entity within our system (e.g., users, tours, roles), simplifying future development and scaling.