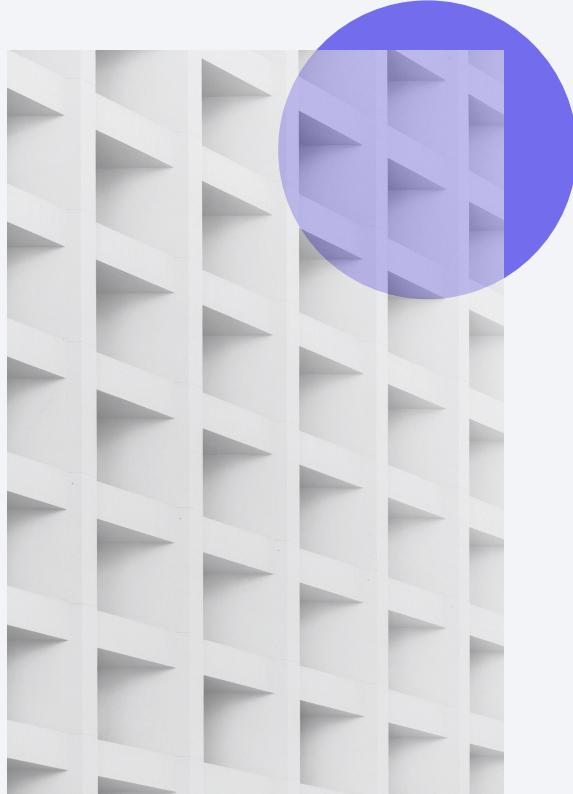


June 6, 2024

Frontend: React.js (SPA)



Agenda

Introduction to Frontend: React.js (SPA)

Key Features of React.js

Backend Overview: Django (Python)

Database: MongoDB

Architectural Design

Pages (SPA)

Core Components

Additional Components

- Overview

React.js enables the creation of dynamic and responsive Single Page Applications (SPAs).

React.js, a popular JavaScript library, is widely used for building dynamic user interfaces. By leveraging the SPA architecture, React.js allows applications to load a single HTML page and dynamically update content as users interact with the app. This approach enhances the user experience by providing smooth and fast interactions without the need for full page reloads, resulting in a more seamless and efficient browsing experience.

- Frontend

Key Features of React.js

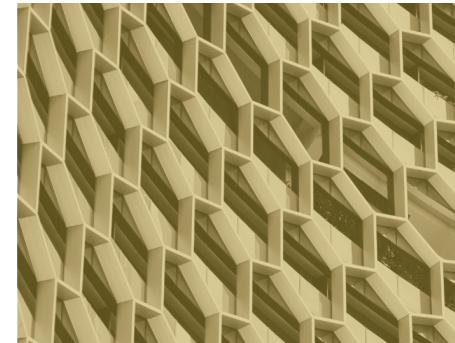


Architecture

Component-based

Efficient Rendering

Virtual DOM

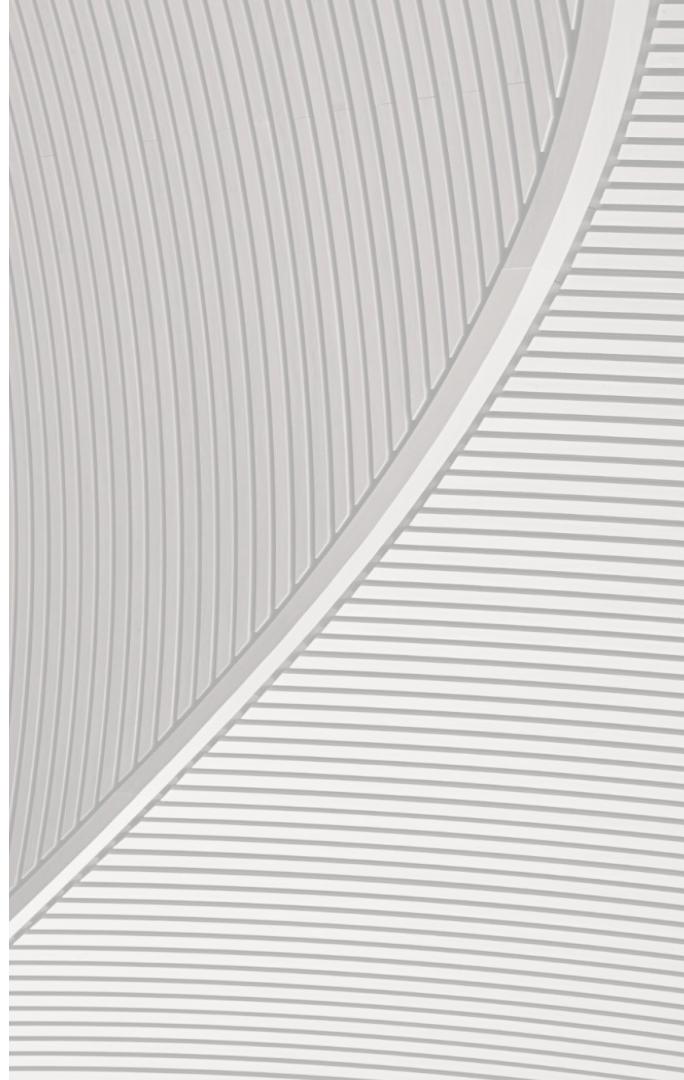


Navigation

React Router

● Backend Overview: Django (Python)

- Django Rest Framework (DRF) is used for building robust RESTful APIs.
- Authentication and Authorization mechanisms ensure secure access.
- Integration with MongoDB using packages like Djongo or MongoEngine.
- Django offers scalability and security features for enterprise-level applications.



Database: MongoDB

- Document-oriented storage using BSON format provides flexible schema design.
- High performance for read/write operations ensures efficient data handling.
- Sharding allows for horizontal scalability, distributing data across multiple servers.
- Indexing capabilities enhance query performance, making data retrieval faster and more efficient.

Architectural Design



Frontend Components

- React.js for building user interfaces
- Component-based architecture for modular design
- React Router for navigation
- State management using Redux or Context API



Backend Components

- Django for backend development
- Django Rest Framework for building APIs
- Integration with MongoDB for data storage
- Authentication and Authorization mechanisms

Pages (SPA)



Index & Register

Index: The landing page with an overview of features, introduction, and testimonials.

Register: Multi-step registration for new users, collecting personal, address, and contact details.



Login & Dashboard

Login: Authenticates existing users to access their accounts with OTP verification and captcha.

Dashboard: Main user interface showing notifications, assignments, projects, and other relevant info.



Inbox, Assignments & Projects

Inbox: Communication hub for chatting with team members and receiving notifications.

Assignments: Displays all assignments with tabs for due, completed, and all assignments.

Projects: Lists all projects with tools for searching, sorting, and filtering, including detailed project info.

● Components

Core Components



Navbar

Provides navigation links to different application pages. Includes links to Inbox, Assignments, Projects, and user profile options for authenticated users.



Image Slider

Displays feature highlights in a carousel format. Supports auto-play and manual control, showcasing different feature information with images and text.



Forms

Handles user input for functionalities like registration and login. Supports multi-step forms with client-side validation to ensure data integrity before submission.

● Components

Additional Components



Footer

Provides links to About Us, Contact Us, Privacy Policy, and Terms of Service. Includes social media icons linking to application profiles.



Sidebar

Offers quick links to frequently accessed pages or actions. Displays widgets with recent activities and quick stats for user convenience.



Modals

Used for displaying information or capturing input without page navigation. Includes pop-ups for project details and forms for quick actions like sending messages.



Thank you.
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