

DESIGN DOCUMENT

Boulevard Blog

INTRODUCTION

Purpose

The purpose of this document is to outline the requirements and design specifications for the development of a blog application using the MERN stack, JWT authentication and Redux toolkit.

Scope

The scope of the project includes the development of a full-featured blog application with user authentication, CRUD operations for blog posts and comments, and a responsive user interface.

FUNCTIONAL REQUIREMENTS

User Stories

User Authentication:

As a user, I should be able to register an account.

As a registered user, I should be able to log in and log out.

Blog Posts:

As a user, I should be able to:

- create a new blog post.
- view a list of all blog posts.
- view the details of a specific blog post.
- edit and delete my own blog posts.

Comments:

As a user, I should be able to:

- add comments to a blog post.
- edit and delete my own comments.

Database Schema

Define the MongoDB database schema for user accounts, blog posts, and comments.

User Schema:

```
{  
  username: String,
```

```
email: String,  
password: String,  
}
```

Blog Post Schema:

```
{  
  title: String,  
  content: String,  
  author: ObjectId(User),  
  comments: ObjectId(Comment),  
}
```

Comment Schema:

```
{  
  content: String,  
  author: ObjectId(User),  
}
```

NON-FUNCTIONAL REQUIREMENTS

Performance

The application should load blog posts and comments quickly.

Server response time should be optimized.

Security

User passwords should be securely hashed and stored.

Authentication is implemented using JWT and bcryptjs for hashing.

ARCHITECTURE AND DESIGN

Technology Stack

- React.js: Frontend

- Node.js with Express.js: Backend
- MongoDB: Database
- Tailwind CSS: Styling
- JWT: Authentication
- Redux Toolkit: State management

Application Flow

- Registration/Login: User can sign up or sign in.
- View blogs: User can see a list of blogs.
- Create blogs: User can create new blog posts.
- Edit/Delete post: User can modify or remove their posts.
- Add/Edit/Delete comment: User can add /edit or delete their comments.
- Logout: User can end their session.

User Interface Design

Add snapshots of the blog app.

API DOCUMENTATION

- /api/auth/signup : Register a new user
- /api/auth/login : Authenticate user credentials and generate a JWT token
- /api/auth/user : Retrieve current user details

TESTING

- Test API endpoints to verify correct request handling and response generation.
- Used Insomnia to send HTTP requests and validate responses.
- Test edge cases, error handling, and authentication/authorization mechanisms.

DEPLOYMENT

Deploy the application to a hosting service (e.g., Heroku, AWS, etc)

CONCLUSION

This requirement and design document provides a comprehensive overview of the functionality and design considerations for the MERN Stack Blog App Project. The outlined specifications aim to ensure the development of a scalable and secure application that meets user expectations.