

YouTube Clone Project - MERN Stack

Project Overview

This project is a YouTube clone built using the MERN stack (MongoDB, Express, React, Node.js). It includes features such as video uploading, viewing, commenting, user authentication, and channel management, mimicking the functionality of YouTube. This project demonstrates the use of full-stack development to create a comprehensive, responsive, and interactive video-sharing platform.

Features

Frontend

- 1. Home Page:**
 - a. Displays a header with a toggleable sidebar and a search bar.
 - b. Filter buttons allow users to categorize content.
 - c. Grid layout shows video thumbnails with titles, channel names, and view counts.
- 2. User Authentication:**
 - a. Users can register and log in using email and password.
 - b. JWT (JSON Web Token) is used for secure authentication, allowing token-based protected routes.
- 3. Search and Filter:**
 - a. Search bar allows users to search videos by title.
- 4. Video Player Page:**
 - a. Video player with title, description, like/dislike buttons, and a comment section.
 - b. Users can add comments.
- 5. Channel Page:**
 - a. Authenticated users can create a channel, upload videos.
 - b. Displays a list of videos for a particular channel.
- 6. Responsive Design:**

- a. Fully responsive across mobile, tablet, and desktop devices for optimal user experience.

Backend

1. API Endpoints:

- a. **User Authentication:** Sign up, login, and token-based authentication using JWT.
- b. **Channel Management:** API to create, fetch, and update channels.
- c. **Video Management:** API to upload, fetch, update, and delete videos.
- d. **Comments:** API to add, fetch, edit, and delete comments.

2. Database (MongoDB):

- a. Stores user data, video metadata, comments, and channel information.
- b. Metadata for files (video URL, thumbnails) is stored and accessed efficiently.

Technologies Used

- **Frontend:** React, React Router, Axios
- **Backend:** Node.js, Express.js
- **Database:** MongoDB (Atlas)
- **Authentication:** JWT (JSON Web Token)
- **Version Control:** Git