Project Number: 72

Project Title: Video Sharing Web Platform

Project Clients: Syed Mahbubul Huq

Project specializations: Software Development;Web Application Development;Cloud Computing;

Number of groups: 2 group

Main contact: Syed Mahbubul Huq

Background:

Video-sharing platforms like YouTube, Vimeo, and Dailymotion have gained popularity in this digital era. On these platforms, video creators share their content with audiences, providing information, education, or entertainment. These platforms offer a smooth experience for both users and video uploaders.

This project aims to create a video-sharing platform that will serve as the foundation for user interactions involving video uploads, sharing, viewing, and social interactions. The platform will feature a basic set of functionalities that mirror some of the key aspects of existing platforms like YouTube while also being flexible enough for future expansion by following microservice architecture. The platform will allow registered users to upload videos, manage their profiles, and engage with content. It also allows non-logged-in users to freely view content.

Requirements and Scope:

The project's scope will cover the creation of the video-sharing platform with essential components of popular video-sharing platforms like YouTube. The scope of the project is but not limited to:

User Authentication & Management

Video Uploading & Management

Video Playback

Search & Discovery

User Interaction & Social Features

Admin Panel

Mobile and Desktop Responsiveness

Required Knowledge and skills:

User Authentication & Profile Management

User Registration and login: Users can create an account by providing an email address, username, and password.

Login/Logout: Users can log in using their registered email and password. Support for session management.

Password Management: Forgot password functionality, secure password reset through email.

Profile Management: Users can update their profile, including their username, profile picture, and bio.

Video Uploading

File Upload: Users can upload video files in popular formats (MP4, AVI, MOV).

Metadata: Each uploaded video must include metadata (title, description, tags, and a thumbnail image).

Video Processing: Videos should be automatically transcoded into multiple formats/resolutions to optimize for different devices (1080p, 720p, 480p).

Progress Bar: A progress bar will show the status of video upload and processing.

Video Viewing

Playback Controls: Users can play/pause, skip, adjust the volume, and toggle full-screen mode.

Streaming: Videos should stream smoothly, with buffering only occurring when absolutely necessary.

Video Information: Display video statistics like view count, like/dislike ratio, and the number of comments.

Search & Discovery

Search: Users should be able to search for videos using keywords, titles, or tags.

Sorting: Provide users with options to sort videos by most recent, most popular, or highest-rated.

User Interactions (Social Features)

Likes & Dislikes: Users can express feedback on videos by liking or disliking them.

Comments: Users can leave comments under videos. The ability to upvote, downvote, or report comments for inappropriate content.

Subscriptions: Registered users can subscribe to content creators, enabling them to receive notifications about new uploads.

Sharing: Users should be able to share videos via social media or direct links.

Admin Panel

Dashboard: Admins can view the platform's statistics, such as active users, recent uploads, and reports.

User Management: Admins can ban any users who violate terms of service.

Content Management: Admins can remove inappropriate comments.

Mobile/Desktop Responsiveness:

The design will be fully responsive, ensuring it works seamlessly across mobile devices (iOS/Android) and desktop computers.

Scalability

The platform should handle a growing user base and video content.

The backend should be capable of scaling horizontally (adding more servers or microservices as needed).

Media storage (videos and images) should scale using cloud storage solutions (AWS S3 or Google Cloud Storage).

Performance

Video uploads should have minimal wait times, and video playback should begin quickly.

The system sho

Expected outcomes/deliverables:

Complete project documentation; documented source code, requirements, design, software architecture, testing, technology stack and technical dependcies/libraries/frameworks, automated deployment, user manual and deployment guide