Dr. Ambedkar Institute of Technology

Department of Computer Science & Engineering

Major project status

Mini Project Batch-Id:	A15
Title of the Mini Project:	Online Streaming Platform Using MERN Stack
Mentor:	Prof Uma K M

Details of Project Members

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Signature of Guide Signature of Coordinator Signature of HOD

Project Progress Report

September 9 - September 22 (Weeks 2-3): Foundation & Research

- Goal: Gain foundational knowledge of HLS streaming and adaptive bitrate technology.
- Tasks:
    - Study .m3u8 playlists and segmented video files.
    - Research best practices for scalable video streaming with HLS, specifically within the MERN stack.
    - Analyse existing video streaming architectures to identify patterns for adaptive bitrate streaming.
    - Focus on achieving smooth playback across devices with varying network speeds.

September 23 - October 6 (Weeks 4-5): Initial Project Setup

- Goal: Establish the project structure and repository, and start backend development.
- Tasks:
    - Organize folders for frontend, backend, and video assets.
    - Set up a basic React project for the frontend.
    - Initialize an Express server configuration for handling video uploads.
    - Develop a proof of concept for video uploading and conversion using ffmpeg to process and store videos in segments for streaming.

October 7 - October 20 (Weeks 6-7): Frontend Planning and Implementation

- Goal: Design the frontend user interface for video playback.
- Tasks:
    - Plan and outline the video player dashboard with essential playback controls.
    - Start implementing Video.js to support HLS playback.
    - Create basic frontend components to support video playback functionality.

October 21 - November 3 (Weeks 8-9): Backend API Design and Integration

- Goal: Develop backend APIs for video management and finalize integration.
- Tasks:
    - Design API endpoints to handle video uploads, HLS file serving, and video metadata management.
    - Plan the API structure to support adaptive bitrate streaming and ensure smooth integration with the frontend.
    - Integrate frontend and backend components and conduct initial testing.

November 4 - November 17 (Weeks 10-11): Final Integration and Testing

- Goal: Complete integration and thoroughly test adaptive streaming functionality.
- Tasks:
    - Implement additional frontend features and refine the video player.
    - Conduct extensive testing for adaptive streaming performance across various devices and network speeds.
    - Finalize the project and optimize for deployment.