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|  | **Dr. Ambedkar Institute of Technology** |
| Department of Computer Science & Engineering |

**Major project status**

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| **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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| --- | --- | --- | --- | --- |
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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.