## **Requirement Analysis: Live Lecture Room with Video Conferencing**

This document outlines the requirements for a live lecture room with video conferencing functionalities within the integrated learning environment (ILE) platform.

****1. Functional Requirements:****

****1.1 Lecture Scheduling and Management:****

****Lecturers**** should be able to:

****Schedule live lectures:**** Define date, time, and duration of the lecture.

****Set up lecture rooms:**** Configure settings like access restrictions, recording options, and presentation tools.

****Invite students:**** Select participants from enrolled students in their courses or share a public join link (optional).

****1.2 Video Conferencing:****

The platform should support real-time, two-way audio and video communication between lecturers and students.

The system should provide options for:

****Screen sharing:**** Allow lecturers to share their desktop or specific applications with students.

****Whiteboard/annotation tools:**** Enable lecturers to draw, write, and annotate on a virtual whiteboard for enhanced explanation.

****Participant management:**** Mute/unmute participants, manage speaker roles, and control virtual hand raising (optional).

****1.3 Chat and Q&A:****

Implement a real-time chat feature within the lecture room for:

****Student-lecturer communication:**** Allow students to ask questions or share clarifications in real-time.

****Student-student communication:**** Facilitate optional peer-to-peer communication within the lecture room (optional).

Consider offering a Q&A feature where students can submit questions anonymously or vote on existing ones for prioritization (optional).

****1.4 Recording and Playback:****

Allow lecturers to record the lecture session with audio and video (optional).

Recorded lectures should be accessible to enrolled students for playback and review after the live session.

Consider offering playback controls for speed adjustment and seeking specific sections.

****2. Non-Functional Requirements:****

****Performance:****

The video conferencing system should operate smoothly with minimal latency and audio/video quality issues.

****Scalability:****

The platform should be able to handle a reasonable number of concurrent participants in a lecture room.

****Security:****

Implement security measures to ensure unauthorized access to lecture rooms and prevent disruptions during sessions.

****3. Success Criteria:****

Lecturers can schedule, manage, and conduct live lectures effectively.

Students can participate in lectures, interact with lecturers and peers (if applicable), and access recordings for review.

The video conferencing experience is smooth, reliable, and secure.

****4. Open Questions:****

What level of participant control should be provided (e.g., muting other participants, screen sharing permissions)?

How will the platform handle potential network connectivity issues and ensure session stability?

Should additional features like breakout rooms or interactive polls be incorporated (optional)?