

## Online Class Room and lecture Recording Solution

*"Ideal for Video conferencing, virtual classrooms, training rooms and classrooms"*



**Virtual Classroom Software**

- Shared virtual whiteboard.
- Encrypted video streaming, playback and record videos up to HD 720p
- Effective assessment analytics and reports

**User Interface (UI)**

**Admin** can manage users, roles and permissions, monitor teacher activities, brings faculty and teachers onboard.

**Learner** can schedule live classes, conducts exams, create distance learning courses,

**Instructor** can take test, enrolls in distance learning courses, pay online fees, share feedback.

**Software**

Supports multilingual interfaces, register multiple users, support concurrent sessions and multiple attendees in each session.

Display names for each participant connected in the session, supports multiple students in single virtual classroom session.

Web based scheduling interface to schedule live sessions

Server-side recording, Multiple simultaneous sessions, Interactive whiteboard Collaboration tools, Online course payment, SSL encryption.

**Course builder:** Built-in course creation template, Multiple course authors.

**Exam builder:** Multimedia-based questions, instant evaluation, test creation tool

**Analytics & Reporting:** Enrolment and attendance tracking, course completion tracking, test scores.

**Mobile App:** App Store, Android, you can get all notification and offline content.

- Video compression H.264 AVC/H.264 SVC or VP 8 based video compression
- Shared code editor enabling the teaching of software languages
- Participants can share their local screens or any specific applications running on their local machines within the live class
- Shared virtual whiteboard which can updates its view for all attendees in real-time
- AAC or Opus audio codec for audio
- Ubiquitous HTTPS/REST protocol
- Solution come with REST Based API to schedule sessions, Manage Users, get attendance Reports, Manage content.
- Shared media player enabling the teaching of software languages.
- Attendee can view the list in the live class and presenter with remotely control them audio/video streams.

- Attendees to engage via Live Chat (Group & Private)
- Support multiple users in two way Virtual Classroom session. By rotation, any participant should be able to be brought on main screen for everyone else to view upto 5 speaker videos simultaneously.
- Attendance report including total number of sessions conducted, each attendee's login/logout time, total number of minutes attended, absentees etc. The reports can be retrieved and downloaded as excel formats.
- Support 20 attendees concurrently in a live session supporting two-way live audio/video collaboration basis the available bandwidth with less than 300 milliseconds of latency for real time user experience showing five live videos at any stage.
- Complete cloud based and support 720p live video stream with 30 fps or higher.
- Web based (web app) and work in all the web browsers without any software downloads. It support major operating systems like Windows, Mac and Linux.
- The web app supports automatic NAT firewall traversal, ICE, STUN, TURN protocols for secure connectivity over internet. The media must traverse over encrypted SRTP (Secure RTP).
- No requirement of any special piece of hardware to perform Firewall Traversal.
- The act of joining a session require authentication by the user over Auth2.0, or other standard SSOs if desired
- Instructor/Co-instructor having the rights to remove the unwanted attendee from the live session
- Text tool inside the whiteboard
- Intelligent built in capability for dynamic bandwidth, resolution matching to give each user an experience for his
- Available bandwidth. In case, an endpoint is unable to support video + audio due to lack of bandwidth, system make that endpoint fall back to pure audio maintaining the continuity of the session.
- Web based scheduling interface to schedule live sessions
- 720p live video stream with 30 fps or higher.
- Both 4:3 & 16:9 aspect ratios minimum bit rate of 250 kbps per user connection for video connection.
- Support various layout adjustment with different video sizes or no video at all. Display names for each participant connected in the session
- Record all session content: video, audio, whiteboard and presentation.
- Allow additional registered co-instructor with sufficient permissions to schedule a session at any time.
- Record and playback High definition video and presentation, up to HD 720p or higher
- Built in content management portal that allows easy user access to all recordings
- The management portal must support sort of the recordings by various parameters such as name and duration

- Allow users to view recording only when they access web app via password
- Fast forward, rewind and skip video of recording during playback
- Ability to connect any endpoint which is connected to the internet using IP v4 or IP v6.
- Streamed via HLS in Chrome/Firefox.
- Allow additional registered co-instructor, with enough permissions, to schedule a session at any time
- Support scheduled sessions and ad hoc sessions mode at the same time
- Instructor managed mute control for both audio & video
- Switching of virtual classroom by the user is easy as logging out from one and logging in into another session.
- Stored Recordings back in the content library automatically
- Downloadable Session Recording in mp4 format.
- Multiple & minimum of 4 session layouts and presentation modes: Video with whiteboard/content, multiple videos in tiled layout, full screen video layout, full screen whiteboard/content
- Instructor/Co-instructor has the ability to share desktop using screen sharing, access his or her Content Library, upload and share content from desktop, plot shapes like triangle, rectangle, cube, advanced Shapes like Flow charts, Chemistry, Maps and Grids, Emoticons etc. during the session.
- Instructor/Co-instructor can annotate on top of the shared content (like PDF, PPT and DOC) in the session
- Co-Instructor can play a video file, conduct a poll during the session, text tool inside the whiteboard
- Allow for multiple image formats like JPG, PNG, JPEG etc. to be uploaded and shared during the session
- Display the time lapsed and time remaining, Option to extend the duration of the class from within the session.
- Instructor/Co-instructor can annotate on top of the shared content (like PDF, PPT and DOC) in the session
- Solution has web based (web app) and able to work in Google Chrome, Mozilla Fire Fox web browsers without any software downloads. It supports major operating systems like Windows, Mac and Linux.
- supported on Android smart phones and tablets via mobile apps
- Web app and mobile apps has included a feature that enables participants to text chat while in session
- Administrator can centralized directory of all registered users.
- Registered users access based on administrator privileges.
- Email notifications about session scheduling, session reminder, etc.
- Management console can personalize virtual classrooms. Access to virtual classrooms can be protected by username and password authentication so that before the Instructor/Co-instructor enters, participants are placed in a virtual waiting room.
- The management application provides the Virtual Classroom admin with the ability to limit the maximum number of participants.
- Restrict or authorize the recording capabilities to a definite set of users
- The management application is able to support multi-tenant architecture where users are registered per tenant
- Web-based UI to modify and adjust session invitation emails

- Create/delete new users through a CSV file
  
- Role management of the users
  
- Each Instructor/Co-instructor can create their online content library for contents like videos and documents
  
- Upload different types of file formats, MS Word, MS PPT, MS Excel, PDF and videos in the dedicated cloud content library's
  
- Content loading from Gmail, Google Drive, Drop box, Box & One drive in to the library
  
- Share Word Doc, PowerPoint, PDF and videos without having to share screen within the live session
  
- Add meta data (title, description, language) to each uploaded file
  
- Admin/Instructor can save the recordings file on a local disk.
  
- The Virtual Classroom Solution is capable of supporting multi-lingual interfaces including English, Hindi and others as required.
  
- Supports HTTPS Live Streaming of recorded sessions (audio/video) for higher security.
  
- If a particular class requires the recording to start by default. It is possible to configure this on a per class basis.
  
- Supports Youtube Videos within the live classroom
  
- It enables the attendees to raise their hands during the live class.
  
- Facility of Save to PDF option in the live class in classroom
  
- In case of auto-recording of a class, the presenter has or not has the permissions to pause and restart the recording.
  
- Using data card (3G, 4G), broadband, leased line or any other form of connectivity.