Md. Asif Muntasir, ID: 170103020002, Email: asifmuntasirshuaib@gmail.com, Syed Nadir Ahmed, ID: 170103020010, Email: syednadirahmed2014@gmail.com

Proposed Main Features:

- Our project main target was to create video streaming based on webrtc.
- Screen controlling and Screen sharing while video streaming.
- Audio mute/unmute option.
- Chat between teacher and student while video streaming.
- Record teacher's activity during video streaming and save it on the system.
- Teacher can see the student participate list.
- Basic CRUD functionality (Profile create and maintenance by teacher and student).
- Admin panel for monitoring teacher and student activities and also manage other admin activities.
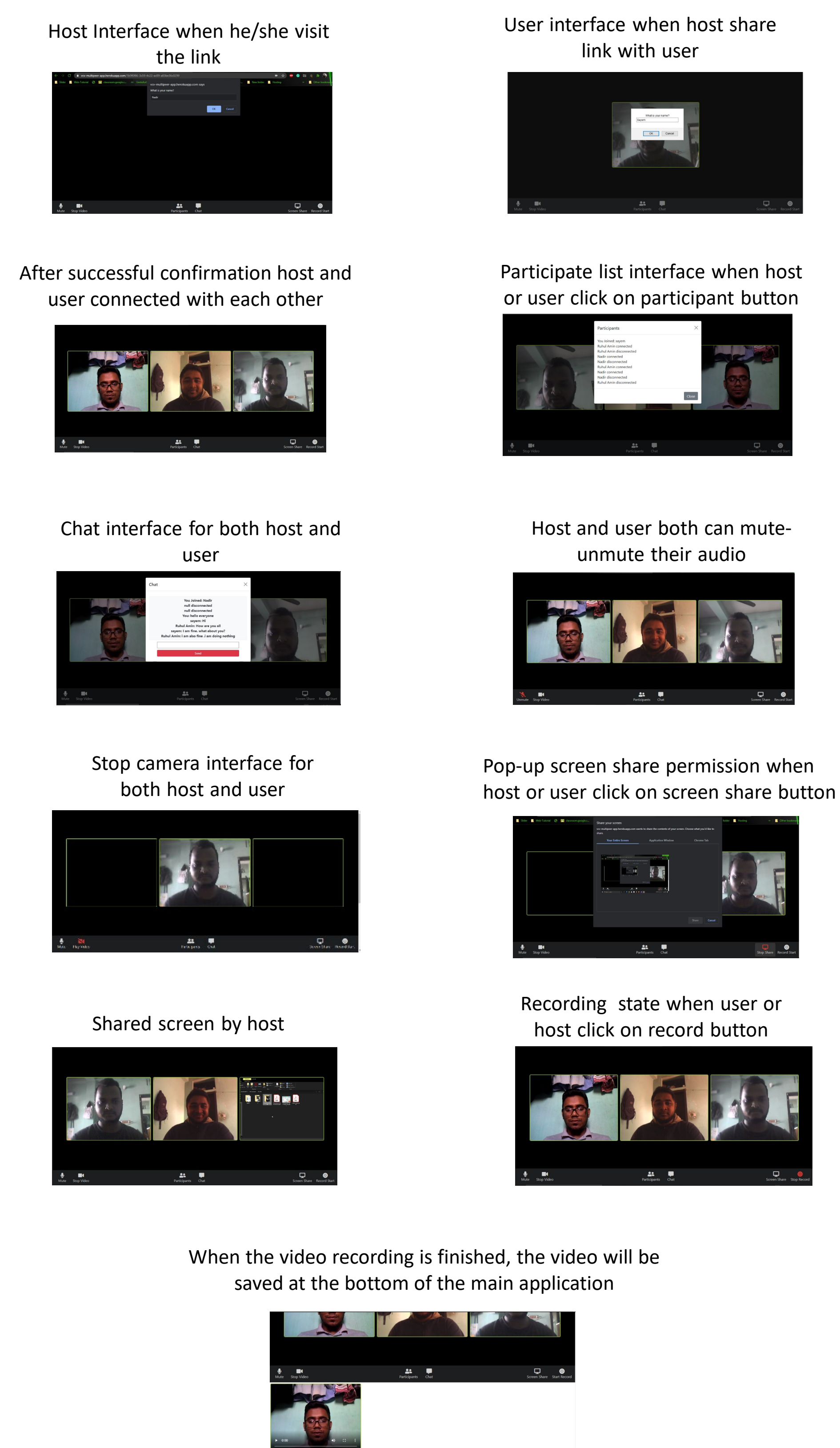
Proposed Additional Features:

- Basic CRUD functionality include file upload, download, delete etc.
- Comment on post both teacher and student.
- Teacher will be able to take attendance dynamically.
- Teacher will be able to test student in quiz format.
- Create announcement by teacher.
- Teacher will be able to take assignment from student through the system.
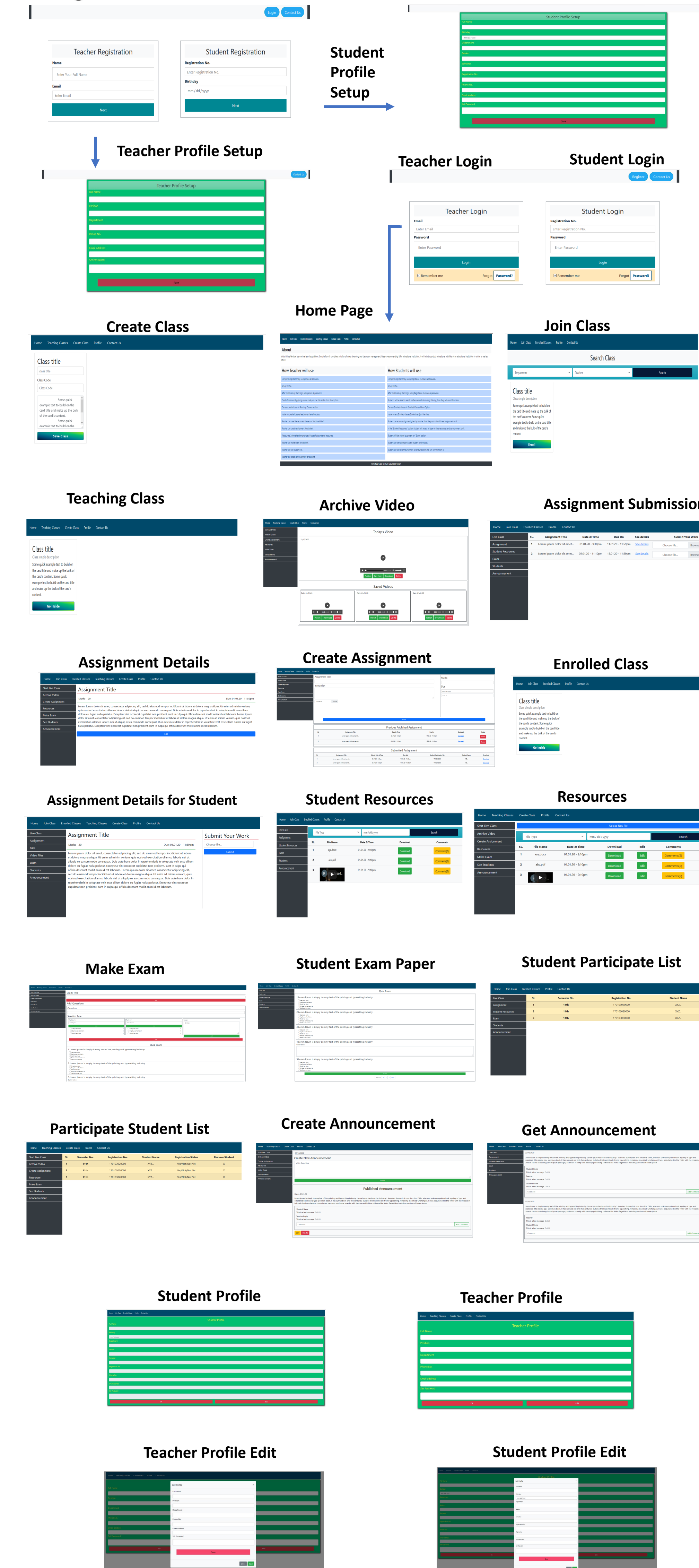
Tools that we have used:

- We have used Bootstrap5 (Alpha) version for designing webpages with some custom CSS.
- For implementing WebRTC we have used Node.js.
- We have used JavaScript to design some feature.
- For developing some features we have used jQuery.
- We have used PeerJS library for peer to peer connection.
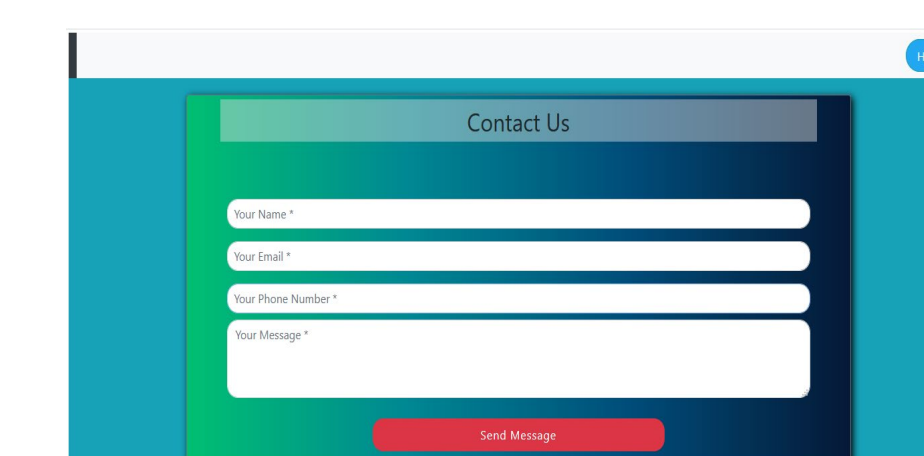
RTC Interface:
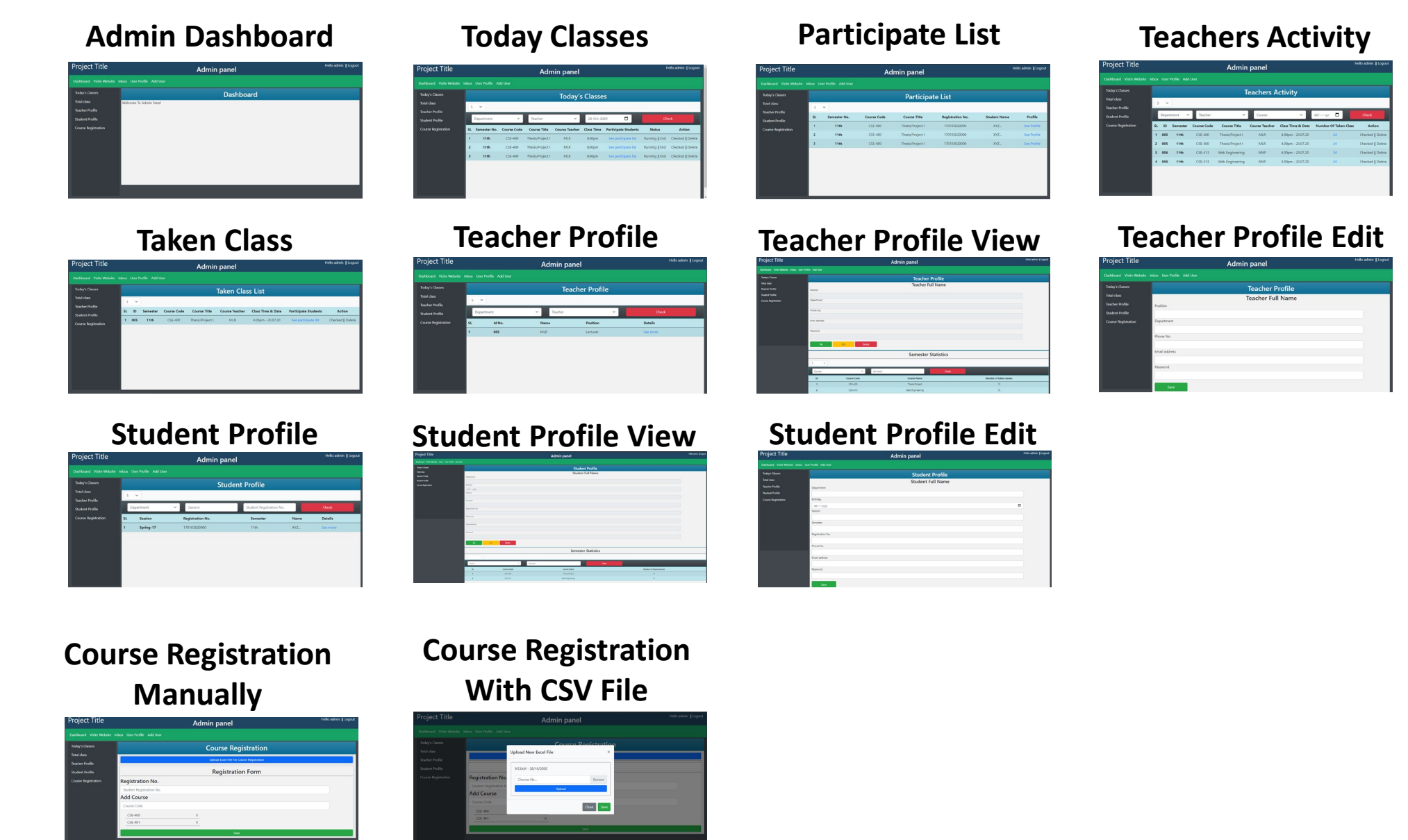

Host Interface when he/she visit the link

User interface when host share link with user

After successful confirmation host and user connected with each other

Participate list interface when host or user click on participant button

Chat interface for both host and user

Host and user both can mute-unmute their audio

Stop camera interface for both host and user

Pop-up screen share permission when host or user click on screen share button

Shared screen by host

Recording state when user or host click on record button

When the video recording is finished, the video will be saved at the bottom of the main application

User Interface Design:

Registration form

Student Profile Setup

Teacher Profile Setup

Teacher Login   Student Login

Home Page

Create Class   Join Class

Teaching Class   Archive Video   Assignment Submission

Assignment Details   Create Assignment   Enrolled Class

Assignment Details for Student   Student Resources   Resources

Make Exam   Student Exam Paper   Student Participate List

Participate Student List   Create Announcement   Get Announcement

Student Profile   Teacher Profile

Teacher Profile Edit   Student Profile Edit

This is a general contact page. This can be used by both the student and the teacher for any query to the admin.

Admin Interface:

Admin Dashboard   Today Classes   Participate List   Teachers Activity

Taken Class   Teacher Profile   Teacher Profile View   Teacher Profile Edit

Student Profile   Student Profile View   Student Profile Edit

Course Registration Manually   Course Registration With CSV File

Works Done:

- We have completed our frontend.
- In this semester we have completed audio mute-unmute, video play-stop, participant list view, chat, screenshare, video recording and downloading part of RTC.
- We also have completed multipeer connection. All of the work which we defined above that we have implemented with multipeer connection.

Future Work:

- We will complete screen control, video recording and database related work in future.

Contribution:

- Nadir has done frontend, chat, participant list and Asif has done other part of WebRTC like as audio, video play-stop, screen share, record.
- We both understood every single line of code there is in the project whether it is frontend and RTC.

For live test visit: https://vcv-multipeer-app.herokuapp.com/

Supervised by: Noushad Sojib