

UNIVERSITY OF JAFFNA
FACULTY OF ENGINEERING
EC9520 – ADVANCED COMPUTER AND DATA NETWORK

ASSIGNMENT 1

REAL-TIME VIDEO CONFERENCING APPLICATION WITH WEBRTC

Assignment Hours – 15

Deadline – 20 February, 2024

Assignment Title: Real-Time Video Conferencing Application with WebRTC

Objective: To build a functional real-time video conferencing application using WebRTC technology, enabling peer-to-peer communication with features such as video, audio, and text chat.

Example Scenario: Imagine a group of music enthusiasts who want to jam together but live in different cities. Your task is to develop a Real-Time Remote Music Jam Platform using WebRTC that enables them to collaborate seamlessly online.

Task: **Peer-to-Peer Video and Audio Communication**

- Implement real-time video and audio streaming between two or more users using WebRTC.

Text Chat Integration:

- Include a chat window for users to exchange text messages alongside the video call.

Mute/Unmute and Camera Toggle:

- Enable users to control their audio and video streams during the call.

Deliverables: A web-based application hosted on a platform like GitHub Pages (Free), Heroku (Paid), or Vercel (Free).
A detailed project report explaining the architecture, challenges, and implementation details.
8 Minutes demonstration video showcasing the application's features.

Evaluation Criteria:

1. Functionality and completeness of features. (40 Marks)
2. Documentation clarity. (30 Marks)
3. Presentation and demonstration as a video maximum 8Minutes. (30 Marks)