

基於網頁的虛擬實境視訊軟體 Virtual Reality Chat Room Base on Web Application

Presenter: 楊士聖 Shi-Sheng Yang
Advisor: 王士豪 教授 Prof. Shyh-Hau Wang

Department of Computer Science and Information Engineering,
National Cheng Kung University

2021/10/23

Outline

2



- ❑ Motivation & Objectives
- ❑ Materials & Methods
- ❑ Demo
- ❑ Conclusion

Motivation & Objectives



The epidemic has led to a huge increase in the demand for remote meetings, and the interaction between people has been greatly reduced. I hope that VR technology can be combined with remote meeting, so that people can still interact without meeting.



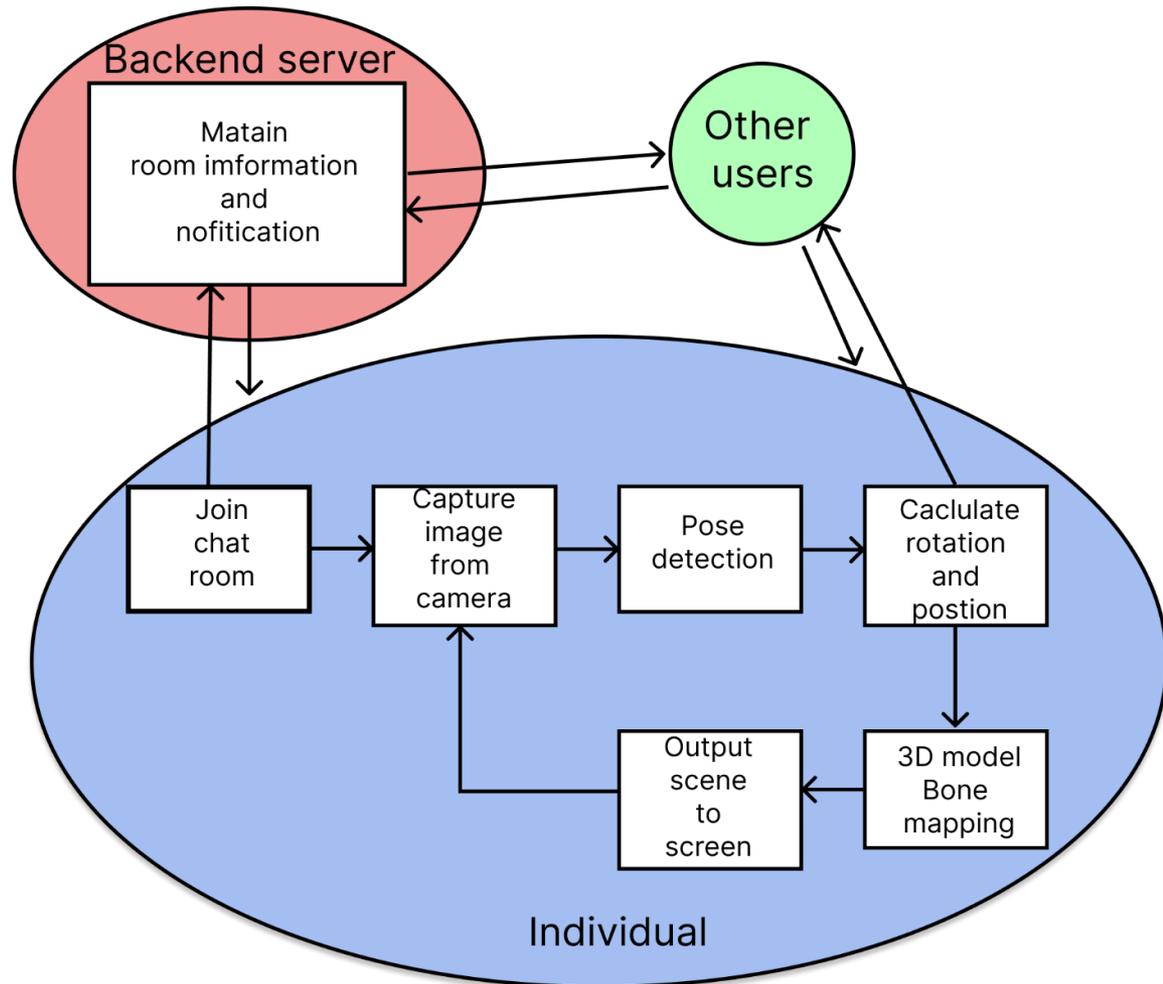
Materials & Methods

- Architecture

4



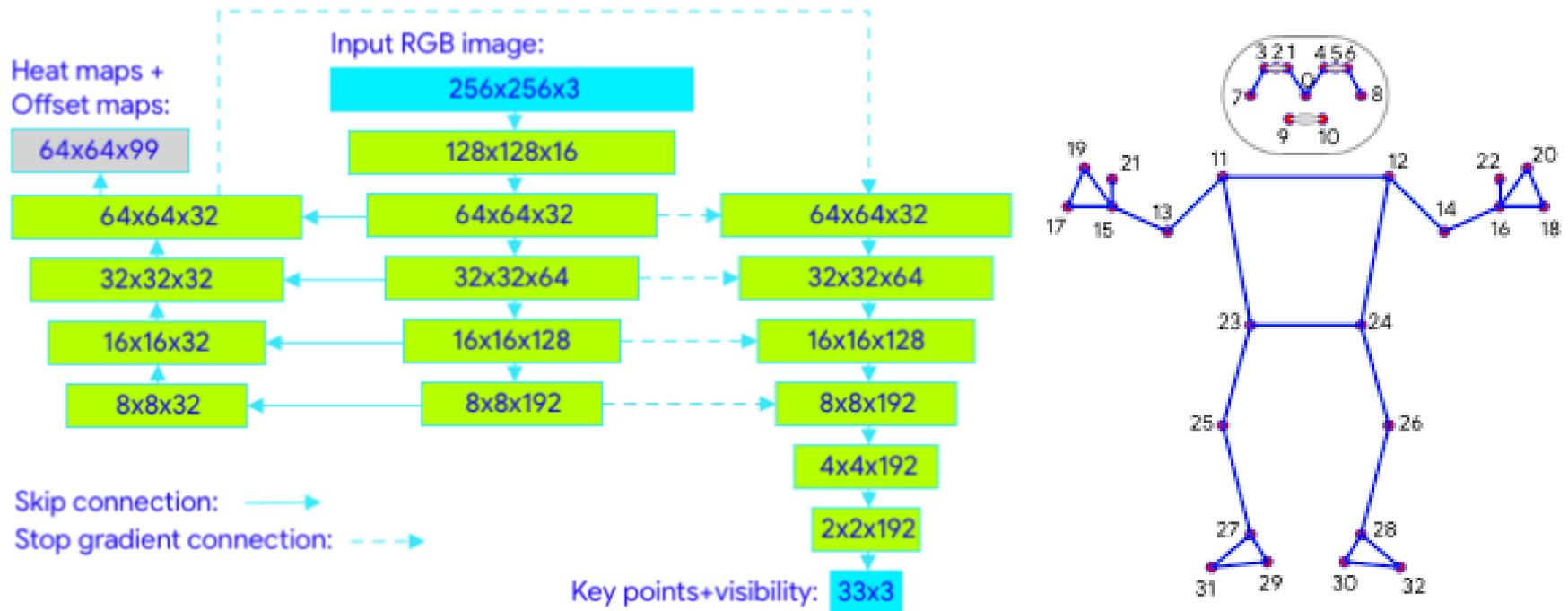
Language: Javascript
Frontend: React js
Backend: Express js



Materials & Methods

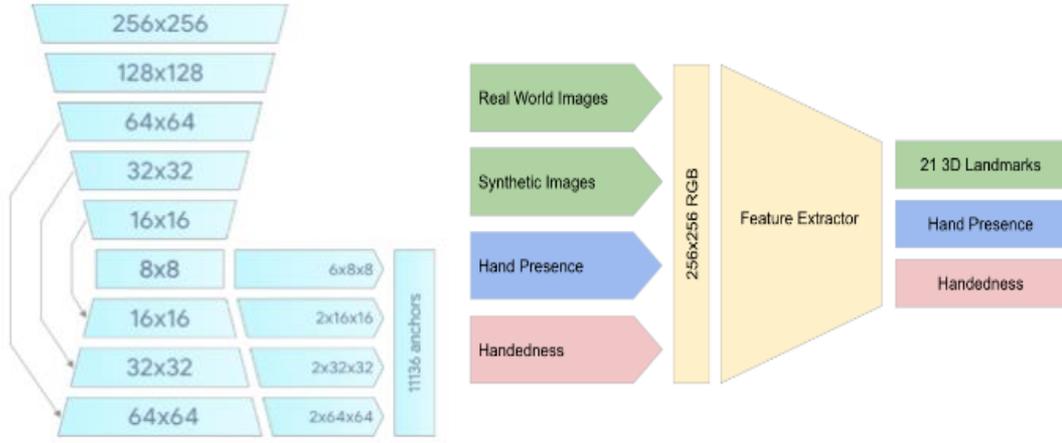
- BlazePose

5



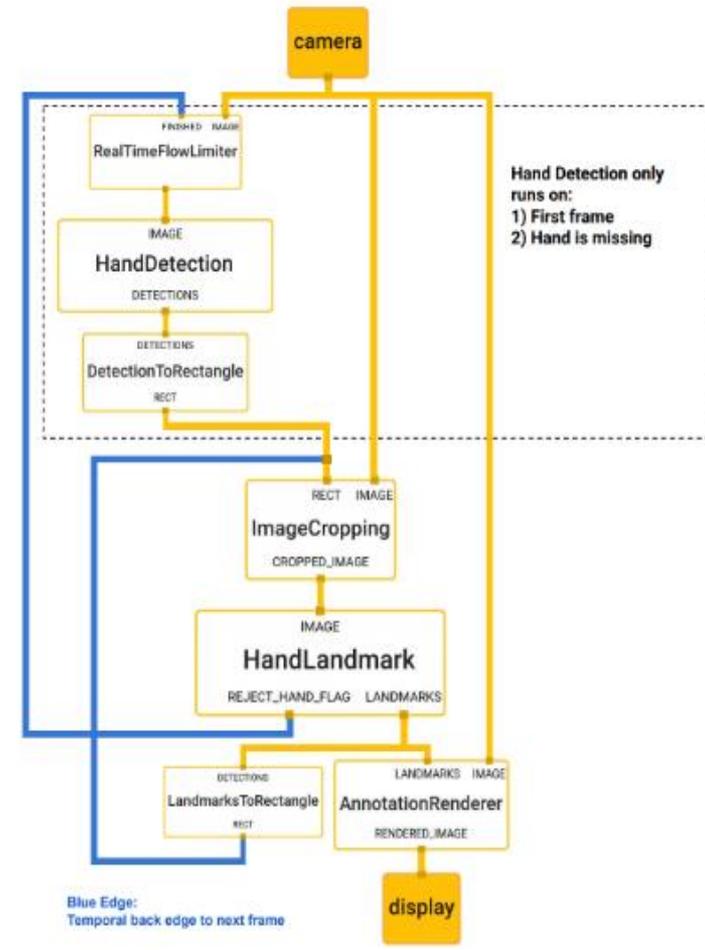
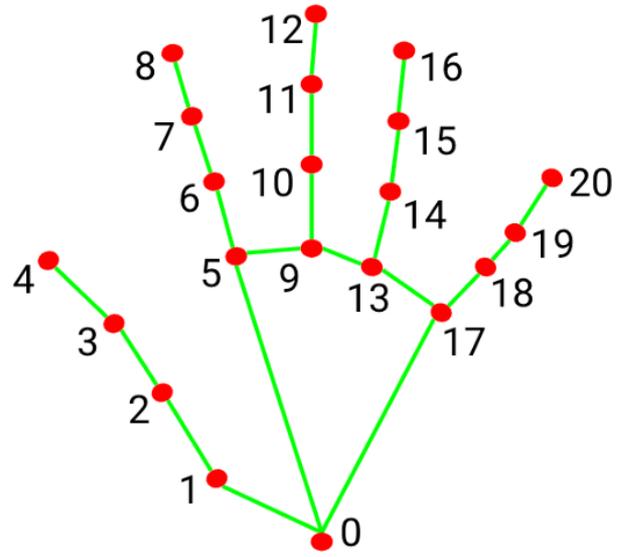
Materials & Methods

- Hand Pose Detection



BlazePalm Detector

Hand Landmark Model



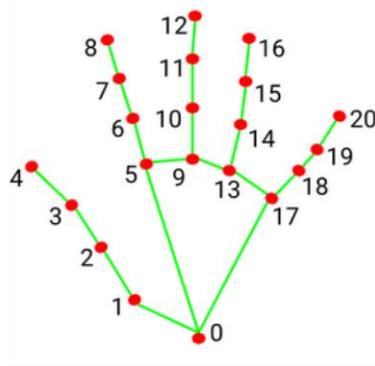
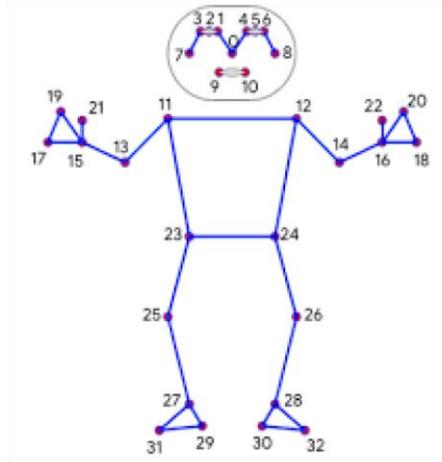
Blue Edge:
Temporal back edge to next frame.

Materials & Methods

- Mapping

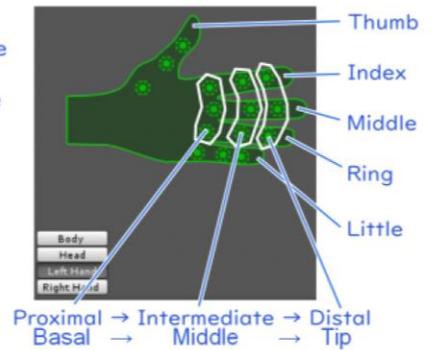
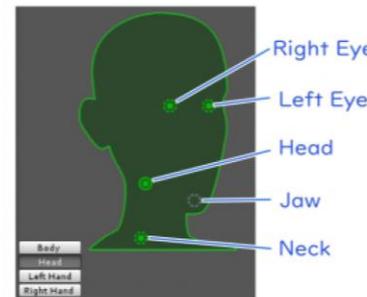
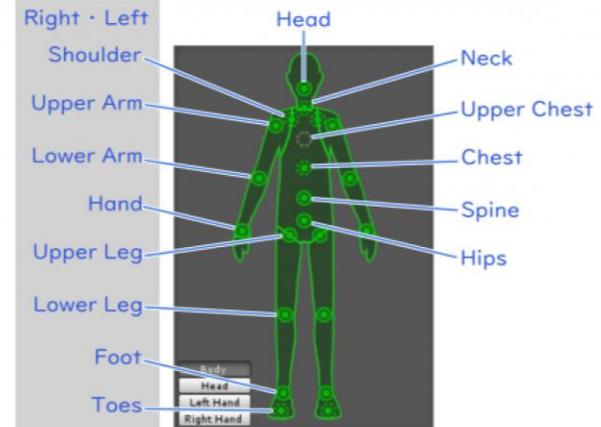


3D Model format: VRM



Calculate
position
and
rotation

Unity Humanoid Avatar

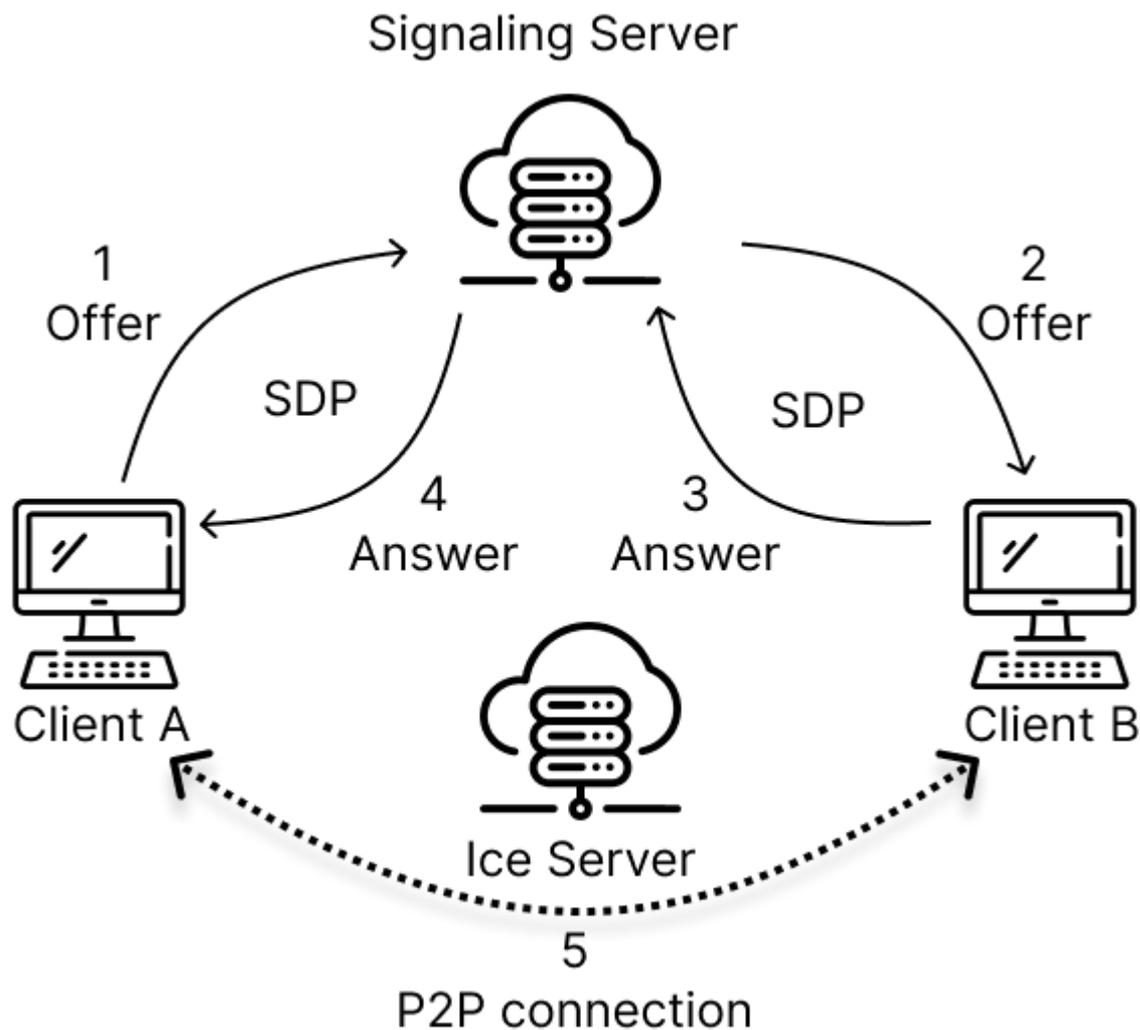


Materials & Methods

- Chat Room Flow Chart (Webrtc)

7

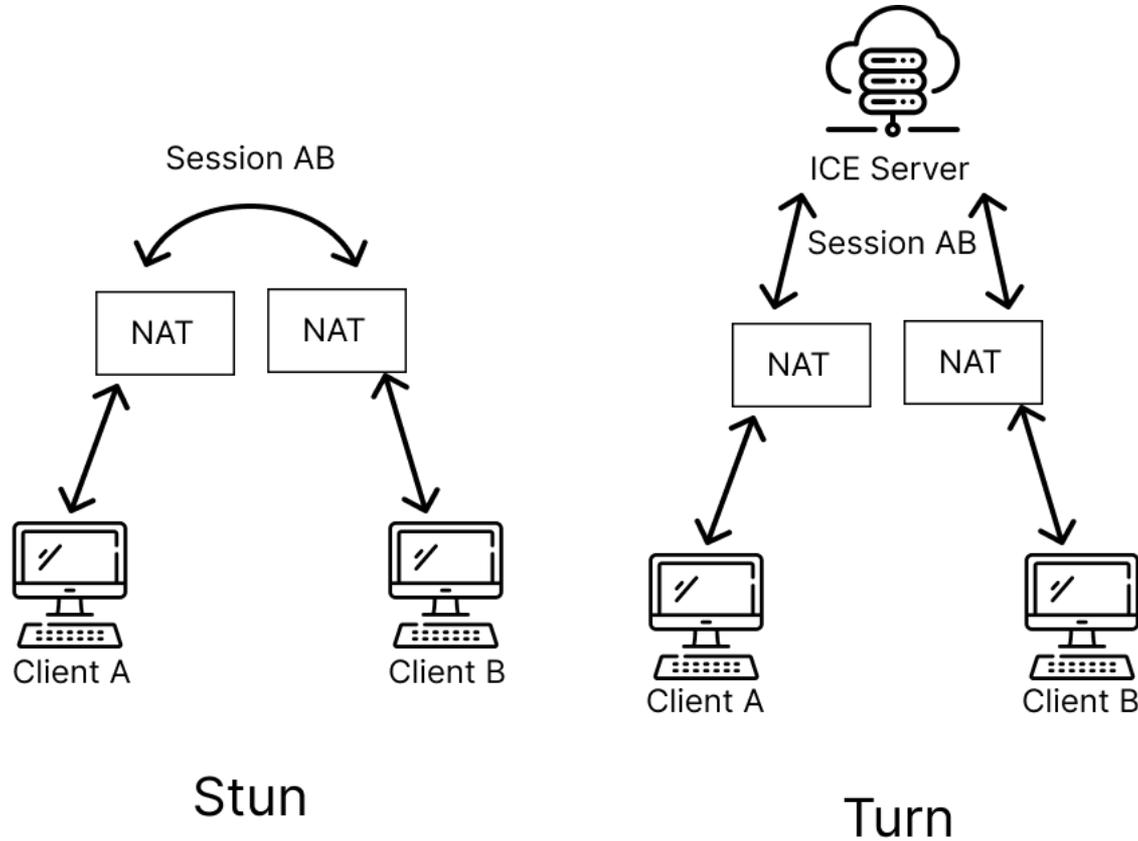
Biomedical
Ultrasound
System
Lab



Materials & Methods

- Chat Room Flow Chart (Webrtc)

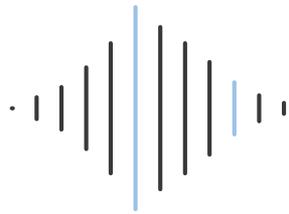
8



Conclusion



- It is possible to use the camera in combination with the 3d model on the web
- The performance of the browser is not enough to support multiple people online at the same time



Biomedical Ultrasound System Lab

Thank you for Listening