

CSE 190: Virtual Reality Technologies

LECTURE #19: MULTI-USER VR SYSTEMS

VR Content Presentations

Edward Wang: Gorillaz - Saturnz Barz 360

- <https://www.youtube.com/watch?v=IVaBvyzuyw>

Marlon West: VRSC 360 Video

- <https://docs.google.com/presentation/d/1y2aAKG7KNiCSyckayrFNLOB97Yn-Aa1cXkxCfyG8KBI/edit?usp=sharing>
- <https://youtu.be/CKrPIN5pkos>

Rachel Lee: GoPro VR Tahiti surf

- <https://www.youtube.com/watch?v=MKWWhf8RAV8>

Erica Sugimoto: In the Eyes of the Animal

- <https://docs.google.com/presentation/d/1mJ4Kmcpp2Jlg7wEY3UMc-aChoeGLsGa4YBxA4T9BAUM/edit?usp=sharing>

Darren Ando: Welcome 360 - Fort Minor

- <https://docs.google.com/presentation/d/1P0h3CKjbnpWtORIEaS2ZVXywxJoMNH29Rdp3vXbrgCg/edit?usp=sharing>

Announcements

Final Project

- Blog #2 due Monday night
- Presentations Tuesday 3-6pm
 - Slide shows 3-4pm: Google Slides
 - Even hour teams 4-5pm
 - Odd hour teams 5-6pm
- Last office hour today after class

TA/tutor evaluations

CAPE

Microsoft HoloLens

Video:

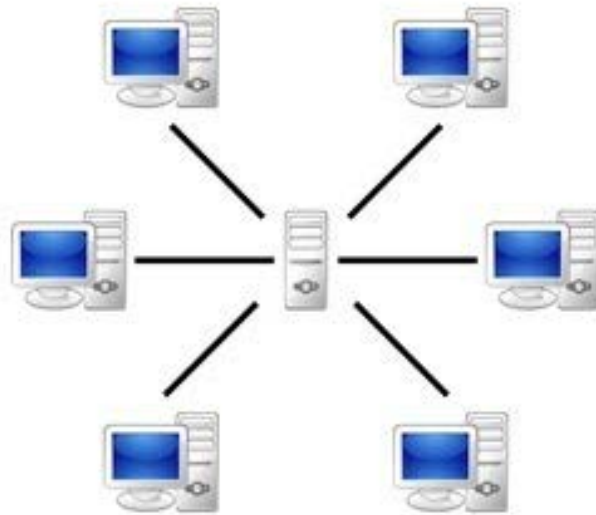
- <https://www.youtube.com/watch?v=SkVpdl-WcD0>

Hands-on test

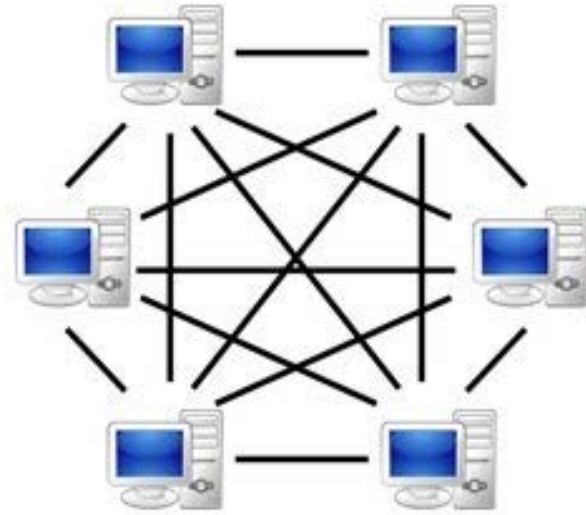


Multi-User VR Systems

Network Architecture



Server-based



P2P-network

Differences

Client/Server

- 1) Server has to control ability while client's don't
- 2) Higher cabling cost
- 3) It is used in small and large networks
- 4) Easy to manage
- 5) Install software only in the server while the clients share the software
- 6) One powerful computer acting as server

Peer-to-Peer

- 1) All computers have equal ability
- 2) Cheaper cabling cost
- 3) Normally used in small networks with less than 10 computers
- 4) Hard to manage
- 5) Install software to every computer
- 6) No server is needed

Client-Server Communication

Client-Server Computing



- Client initiates communications
- Client issues request to a server
- Server replies or performs some service

Peer-to-Peer Computing



- Any participant can initiate communication
- Any device can generate a request
- Any device may provide a response

Multi-User Scenarios

Presentation

- One presenter, many viewers
- Presenter may or may not see viewers
- Viewers may or may not see each other

Spectator VR

- One or more players/users/actors, many observers
- Actors likely don't see observers
- Observers don't see each other

Collaboration

- Multiple equally privileged players/users
- Everybody sees everybody

Altspace VR

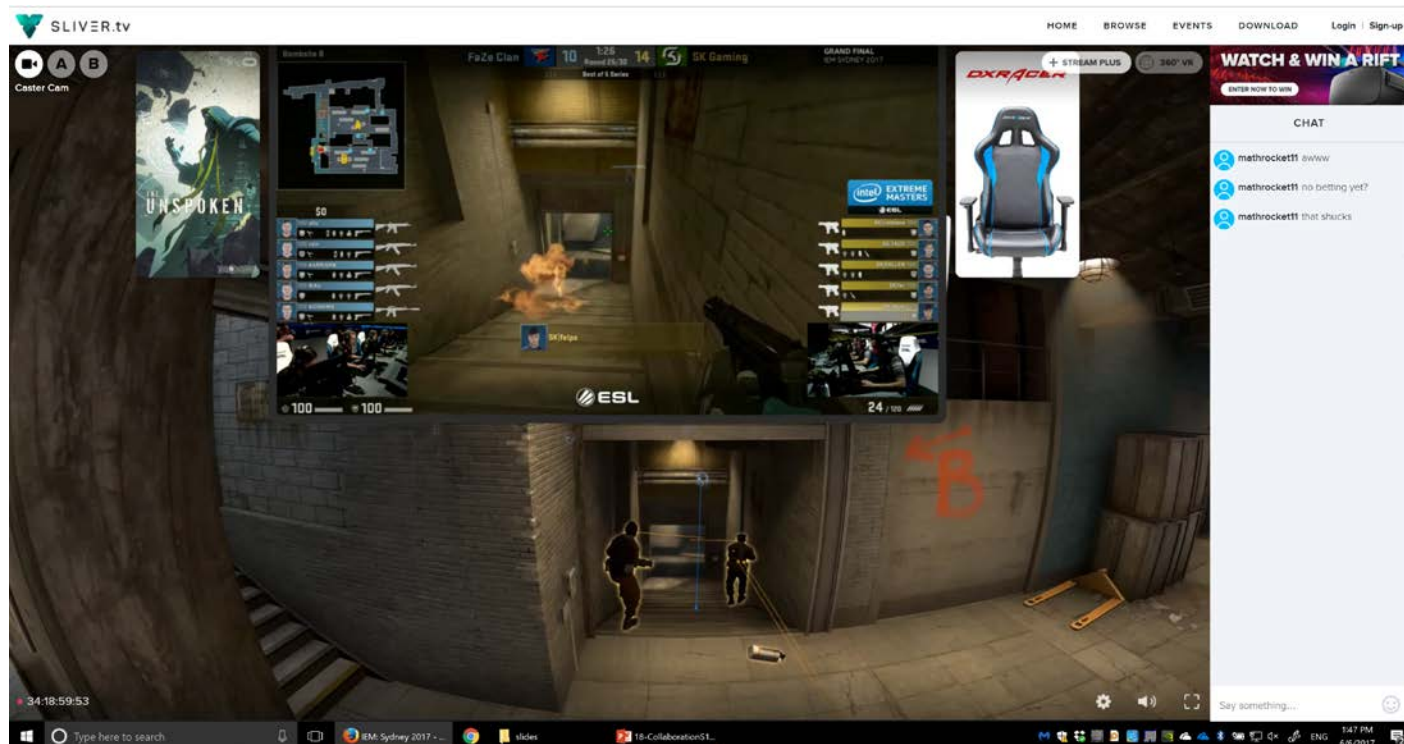
Multi-user mode: Presentation, Collaboration



SLIVER.TV

<https://www.sliver.tv/>

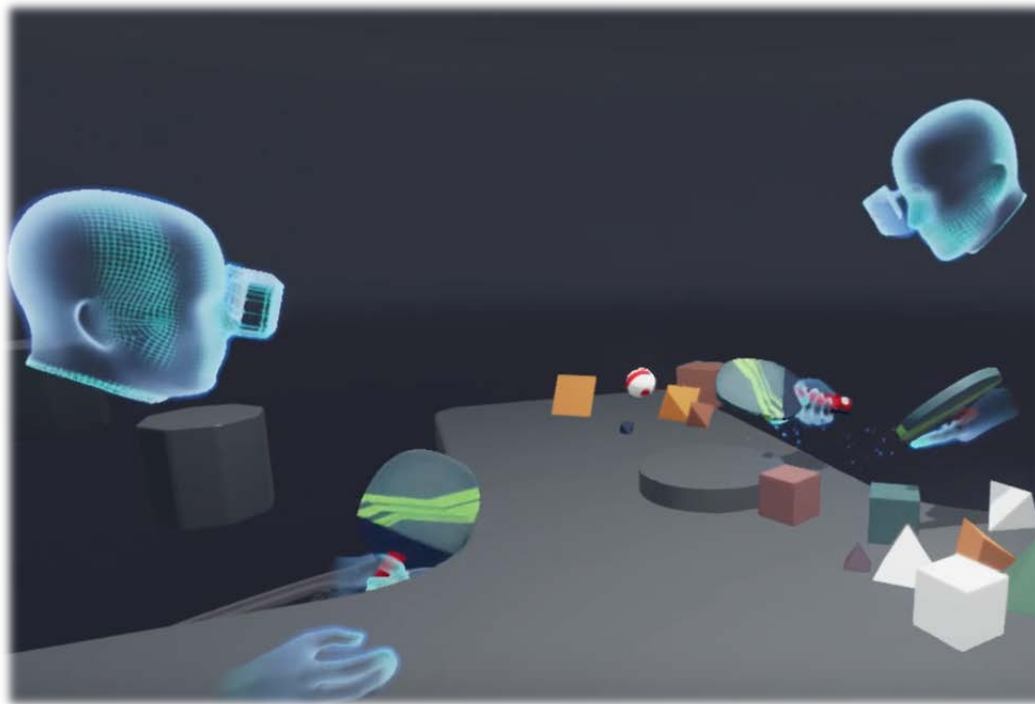
Multi-user mode: Spectator VR



Oculus Toy Box

<https://www.youtube.com/watch?v=iFEMiyGMa58>

Multi-user mode: collaboration



Facebook Spaces



<https://www.youtube.com/watch?v=PVf3m7e7OKU>

Multi-user mode: collaboration

