IoT in Games

Case study

IoT in Multiplayer games or remote controlled games

- The sensors/actuators – or the 'things'

- Edge processing

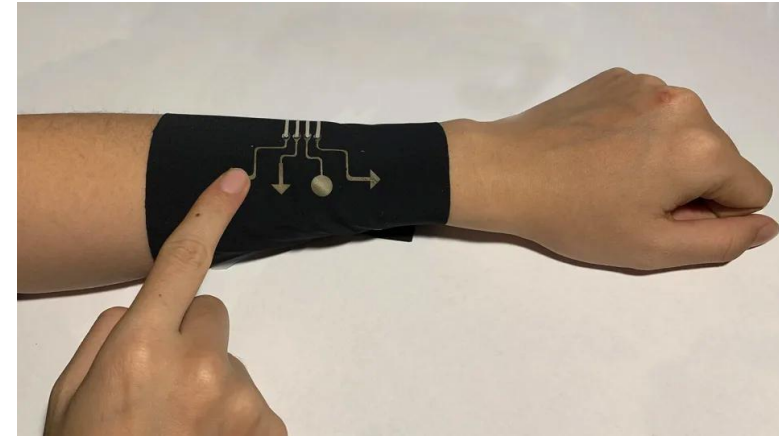- The communication protocols

- Cloud gaming

- oT games, smart games, IoT-based games, IoT pervasive games), the

- terms hybrid, trans-reality, ubiquitous, pervasive, and location-base

- sense location, movement, acceleration, humidity, temperature, noise, voice, visual information, heart rate and blood pressure

https://www.youtube.com/watch?v=RMkrlqZM0_w

- https://www.xbox.com/en-US/accessories/controllers/xbox-adaptive-controller
- https://www.youtube.com/watch?v=jKCwi6L8pHI
- https://www.youtube.com/watch?v=Y6-JAm3NCAk
- https://www.youtube.com/watch?v=mICLzhMdxZU
- https://www.youtube.com/watch?v=2sj2iQyBTQs
- https://www.youtube.com/watch?v=HAHHb9MeZ3I&t=17s

Maddcog

Researchers, North Carolina State University , **control a game of Tetris using a breathable wearable sleeve**

https://www.youtube.com/watch?v=7AO_cq8A_BE&t=7s

https://www.youtube.com/watch?v=U8pUYU7-h6M

Cloud gaming

ONLINE GAMING

Traditional client ▲

Internet

Online gaming server ▼

Metadata

User actions

Metadata

User actions

- Application storing
- Rendering
- Effects (dedicated GPU)
- User actions capturing

- QoS
- Packet forwarding

- Game logic

CLOUD GAMING

Thin client ▼

Transp. network

Cloud gaming server ▲

Online gaming server ▼

Multimedia

User actions

Multimedia

User actions

Metadata

User actions

- Cloud Gaming client
- Multimedia decoding
- User actions capturing

- QoS
- Packet forwarding

- Application storing
- Rendering
- Effects + Postprocessing
- Multimedia coding
- Communication with Private Server

- Game logic
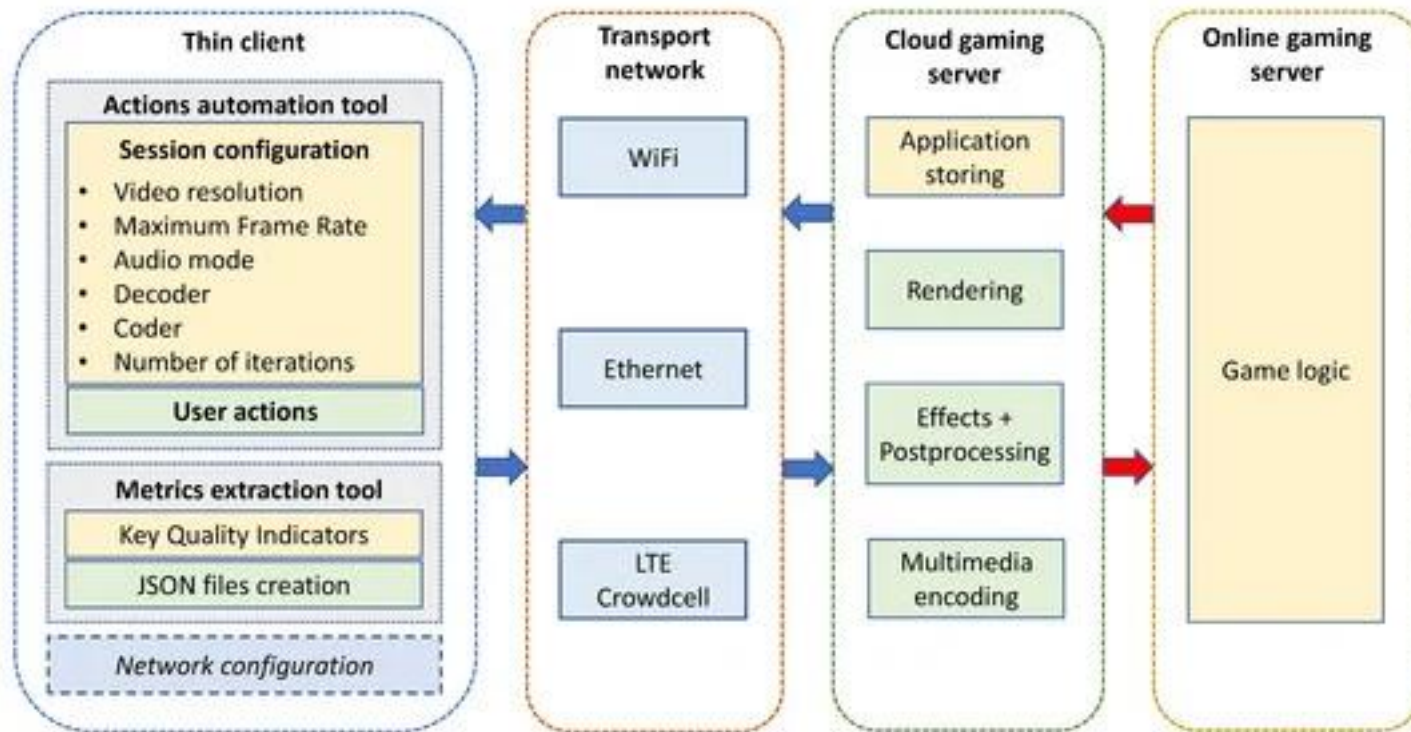
▲ High processing resources   ▼ Low processing resources

Measuring Key Quality Indicators in Cloud Gaming: Framework and Assessment Over Wireless Networks : https://doi.org/10.3390/s21041387

Cloud gaming architecture

BCI & IoT

Brain Computer/Machine Interface

Adapting the P300-Based Brain–Computer Interface for Gaming: A Review
•June 2013
•IEEE Transactions on Computational Intelligence and AI in Games 5(2):141-149

https://www.youtube.com/watch?v=LI-rPnriG88