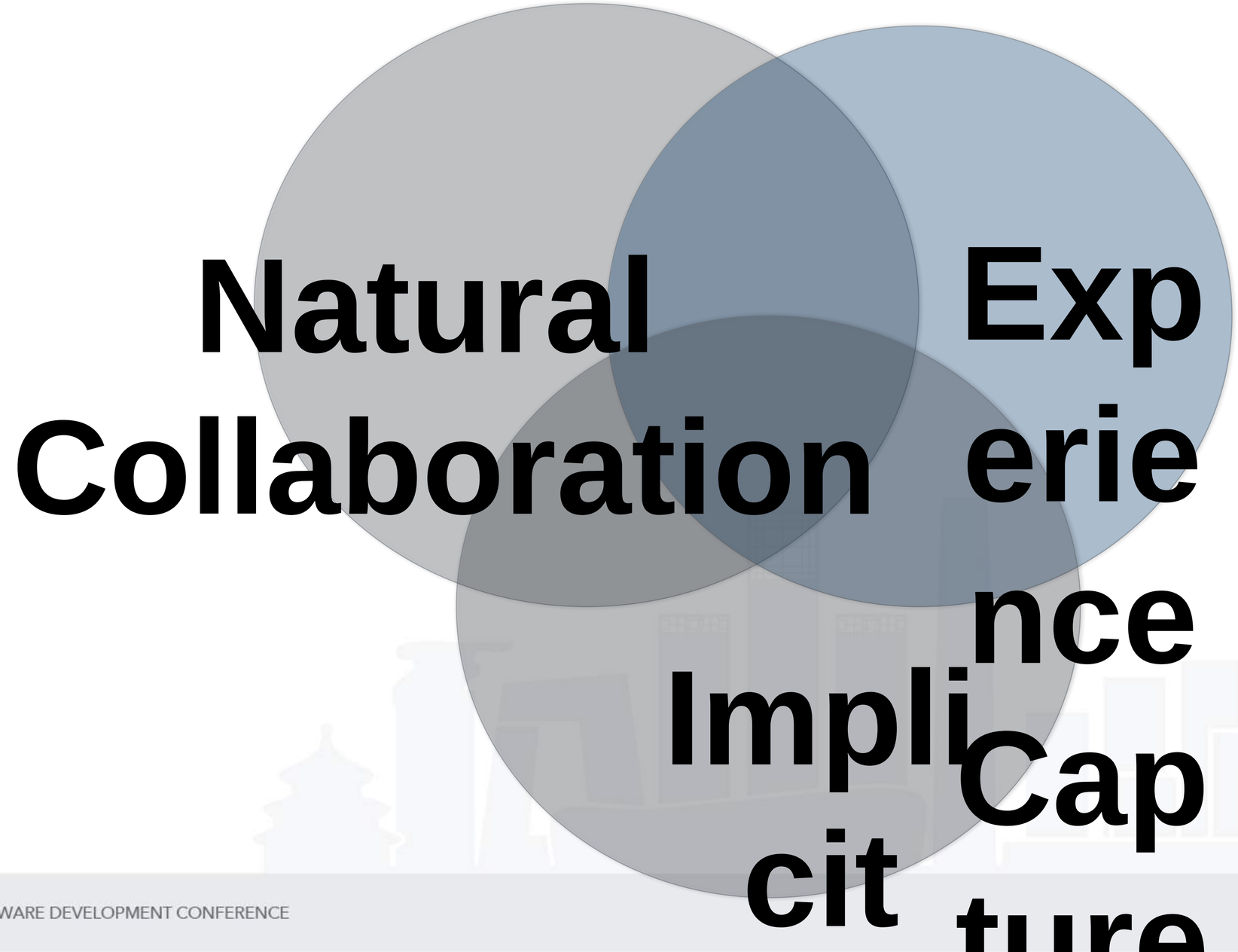
QCon 全球软件开发大会
INTERNATIONAL SOFTWARE DEVELOPMENT CONFERENCE
BEIJING 2018

New Research

主办方 Geekbang. 极客邦科技 InfoQ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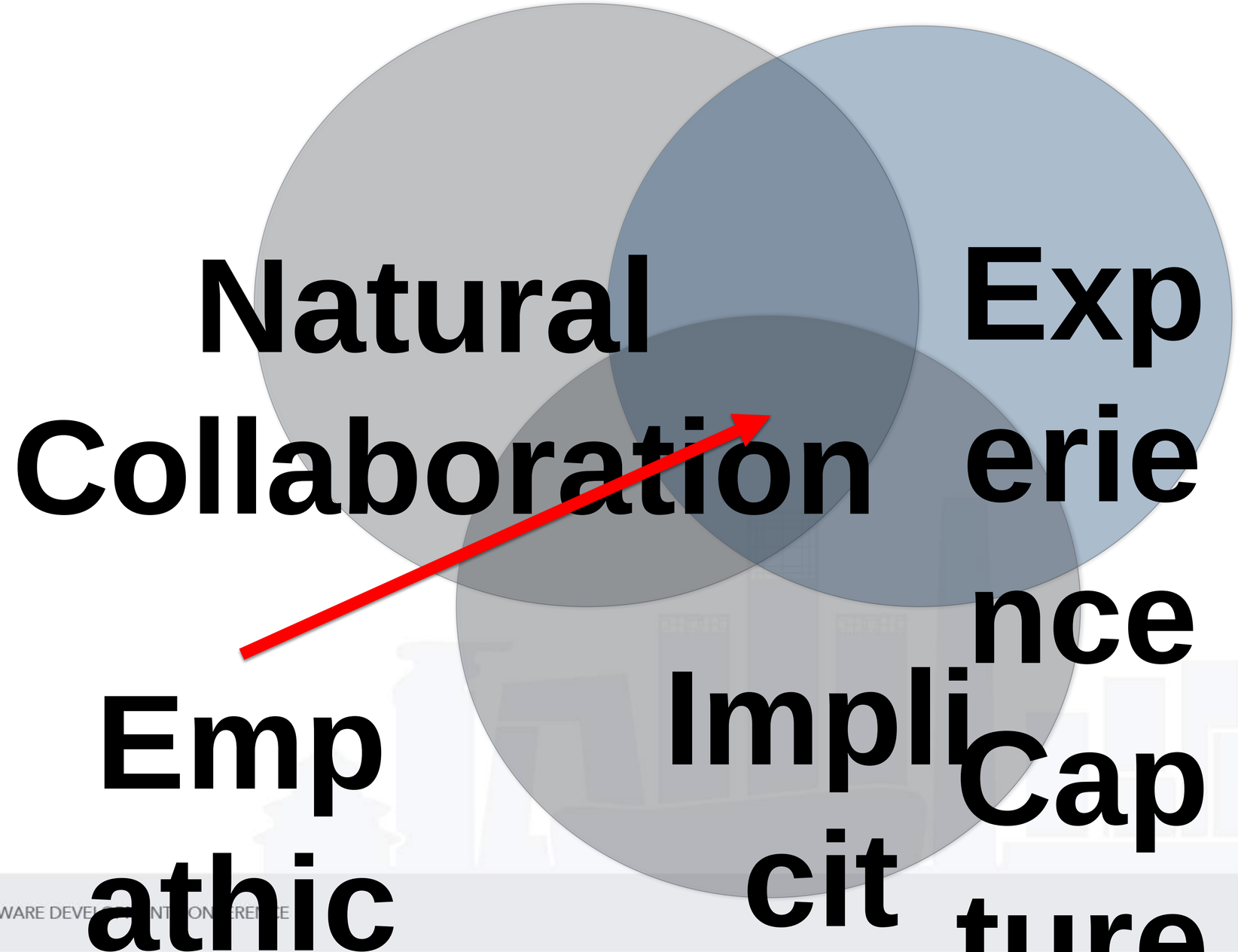
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Empathic Computing

Systems that allow us to share what we are seeing, hearing and feeling with others..

Empathy Glasses

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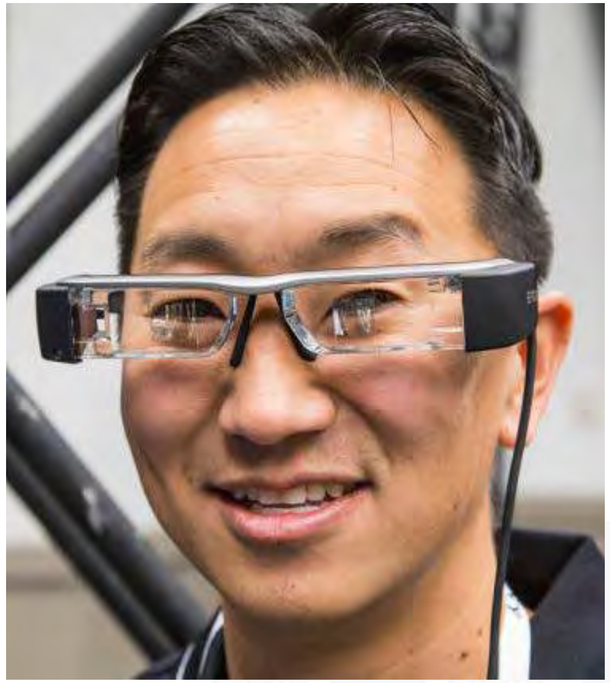

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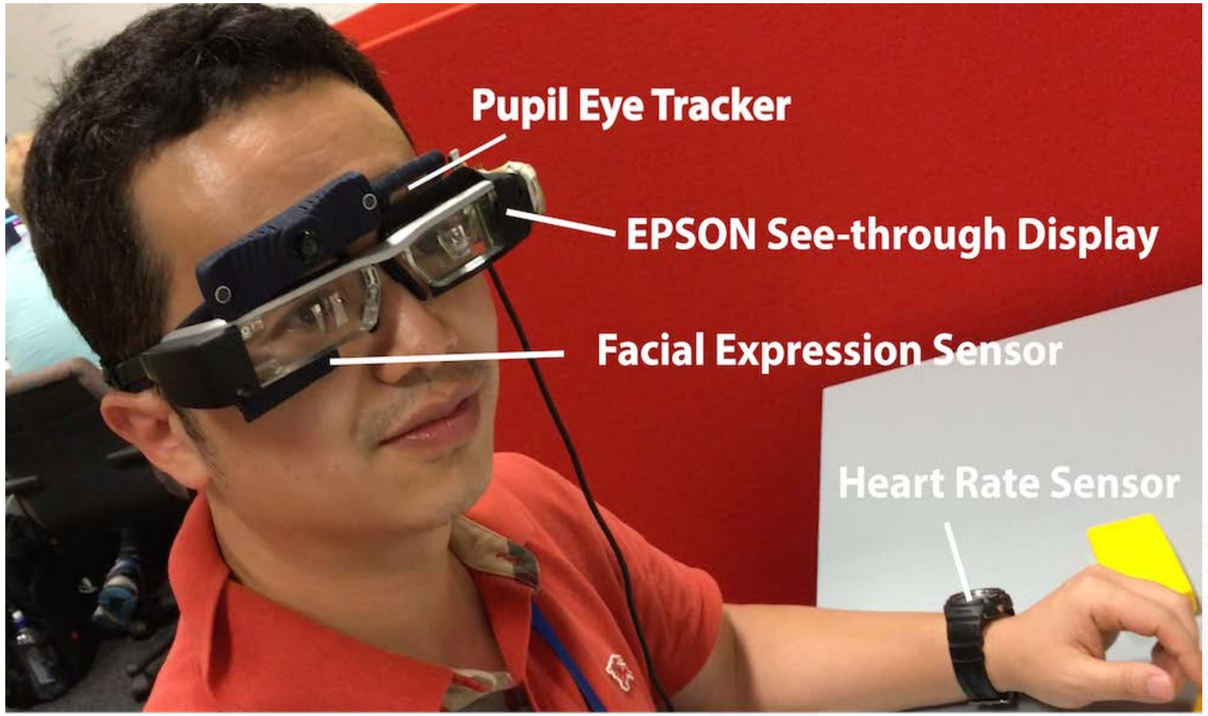
Pupil Labs

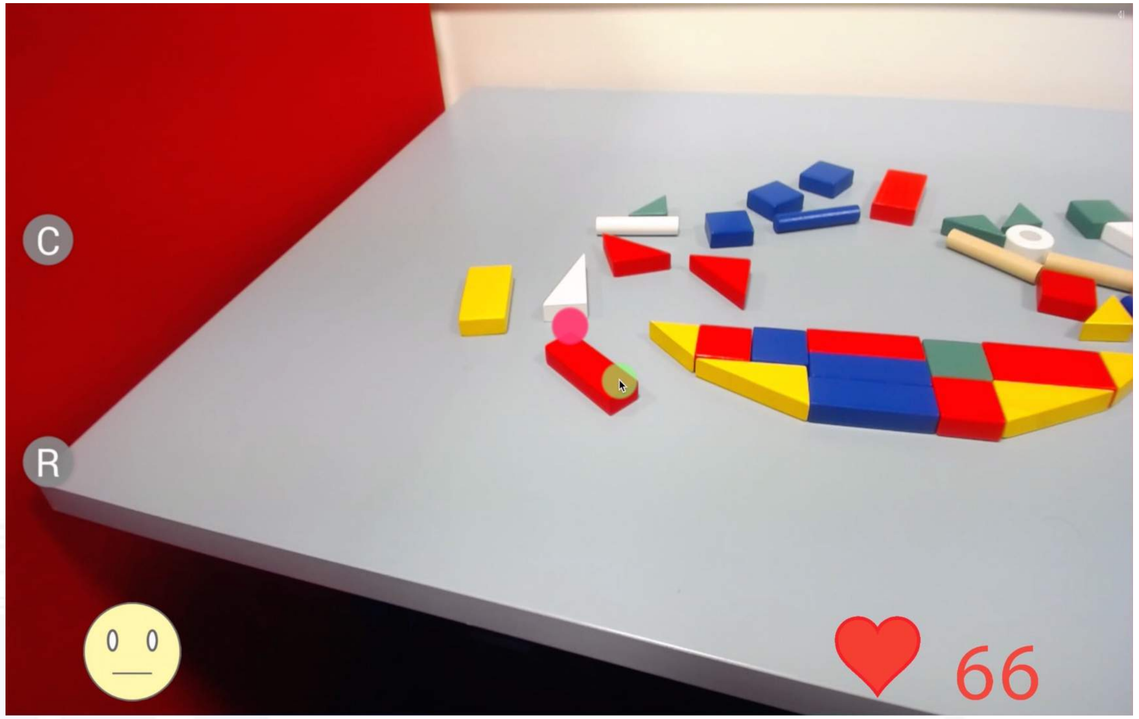
Epson BT-200

AffectiveWear

- Combine together eye-tracking, display, face expression
- Implicit cues – eye gaze, face expression

Empathy Glasses in Use





- Eye gaze pointer and remote pointing
- Face expression display

https://www.youtube.com/watch?v=CdgWVDbMwp4

Shared Sphere – 360 Video Sharing

Theta S
360 Camera

Hi-res Camera

Epson BT-200
See-through HMD

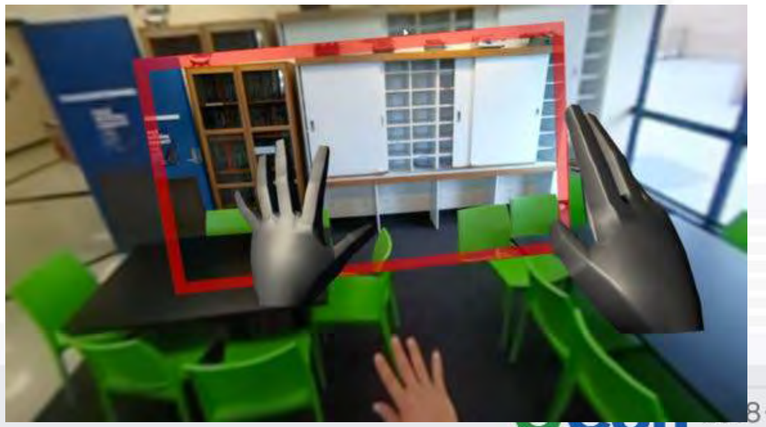
Host User

Shared
Live 360 Video

Oculus Rift
HMD

Leap Motion

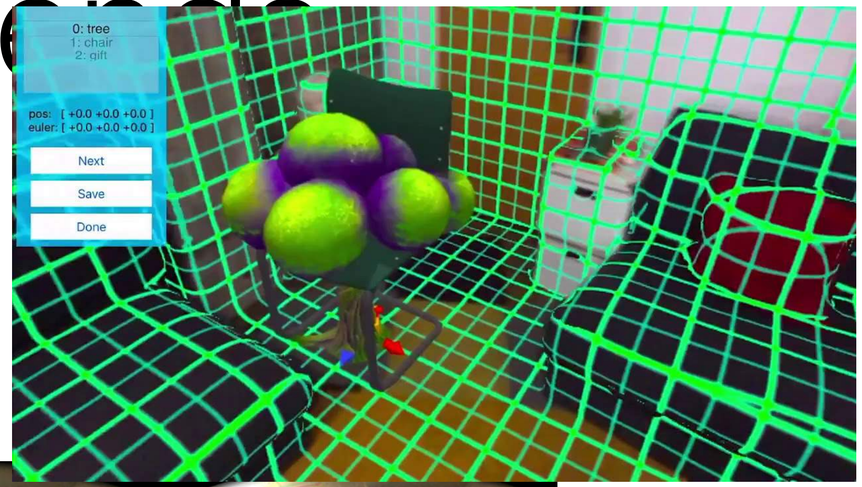
Guest User

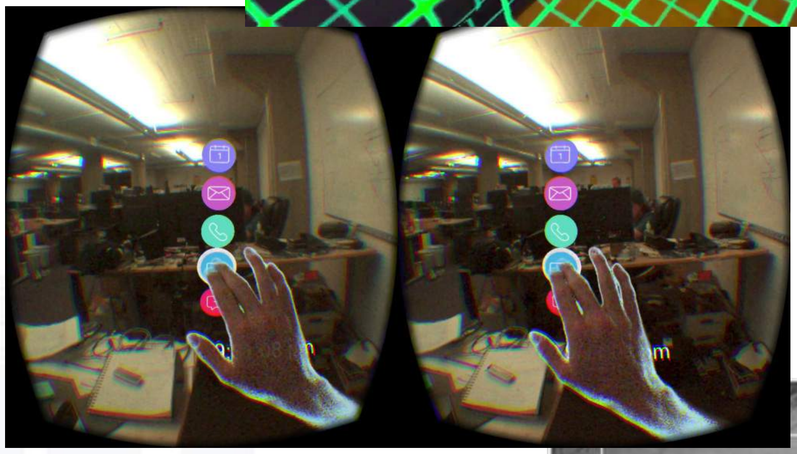


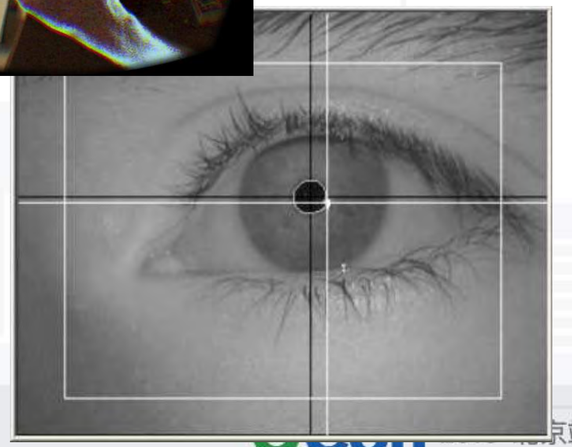
Shared Live 360 Video
Guest user's view through Oculus Rift

Technology Trends

- Advanced displays
  - Wide FOV, high resolution
- Real time space capture
  - 3D scanning, stitching, segmentation
- Natural gesture interaction
  - Hand tracking, pose recognition
- Robust eye-tracking
  - Gaze points, focus depth
- Emotion sensing/sharing
  - Physiological sensing, emotion mapping







Emotion Sensing HMDs are Coming

- Looxid
  - EEG/Emotion sensing
  - Eye tracking
- Emteq
  - EMG sensing
- Neurable
  - EEG/BCI for VR
- PhysioHMD (MIT Media Lab)
  - GSR, PPG, Emotion Sensing

Looxid VR HMD

https://www.youtube.com/watch?v=0jCGLUbJ800

Technology Trends

- Advanced displays
- Real time space capture
- Natural gesture interaction
- Robust eye-tracking
- Emotion sensing/sharing

Empathic Tele-Existence

Empathic Tele-Existence

- Move from Observer to Participant
- Explicit to Implicit communication
- Experiential collaboration – doing together

Conclusions

- AR Reality Market Growing
  - New display, interaction, tracking technologies
- Trend toward Empathic Computing
  - Sharing what you see, hear and feel
- Many directions for future research
  - Capture/sharing emotion, interface design, etc..

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大前端的下一站

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