Human Collisions in VR

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Goal

It has been often stated that what makes a human crowd simulation look human is the inclusion of motivations for each individual. We know that humans walk towards goals and avoid obstacles, but how do they do it exactly? This study attempts to answer this question by running experiments involving one person walking towards a goal, and two people avoiding each other while moving towards a goal. The subjects' eye gaze, head rotation and body location are recorded to find how people signal their intent while walking.

Equipment

- St-50 HMD
  - Retro-reflective balls
  - Removable visor
- AR EyeTracker
  - Infrared camera
  - Infrared lights

Equipment

- Arrington Research EyeTracker
  - Recording software

Equipment

- Retro-reflective Tracking Beret
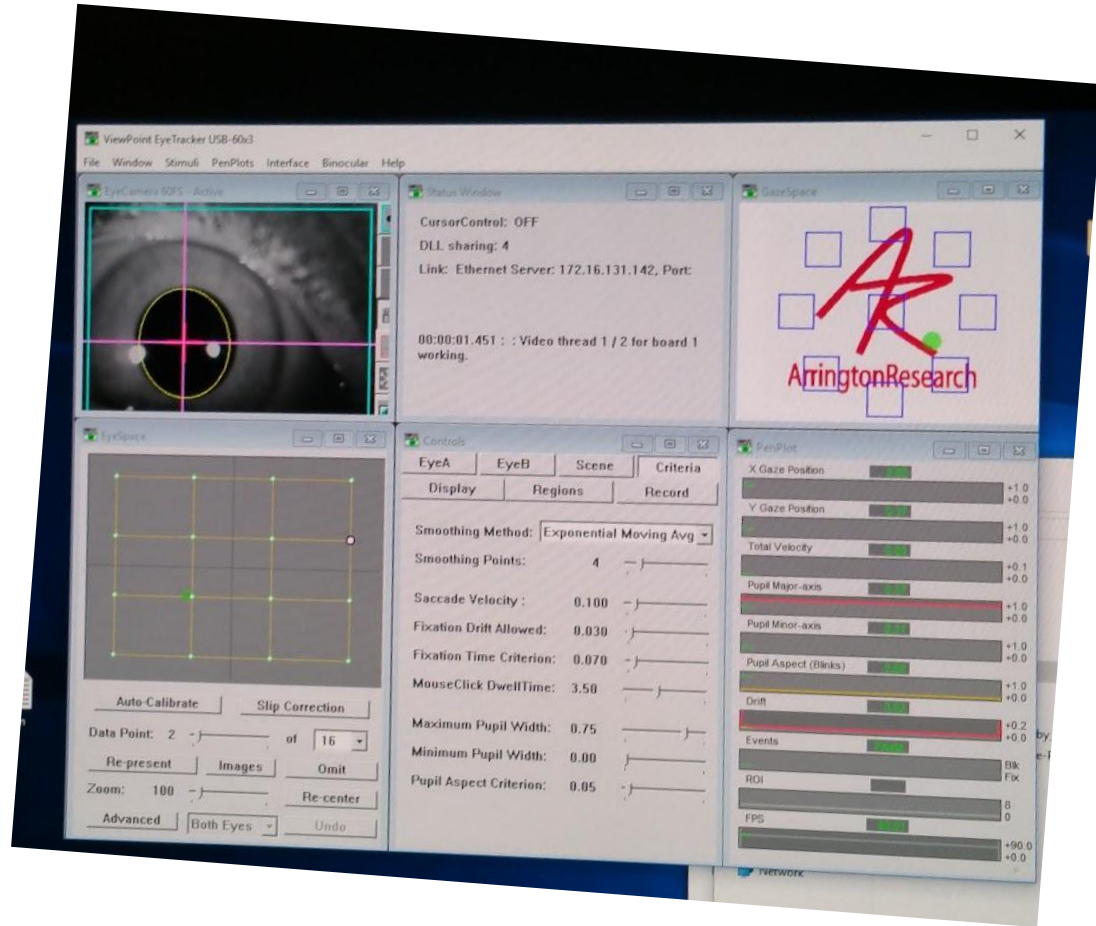 - For participant 2

Equipment

- Experiment Apparatus
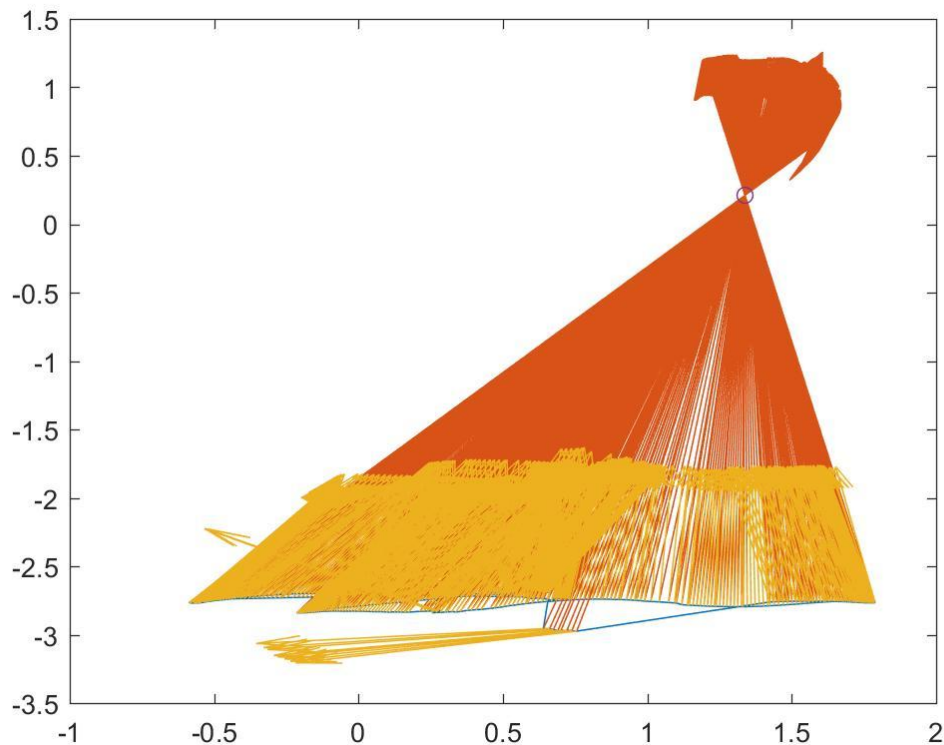 - Foam core
  - Duct tape
  - Black felt

Calibration

- Individual set-up
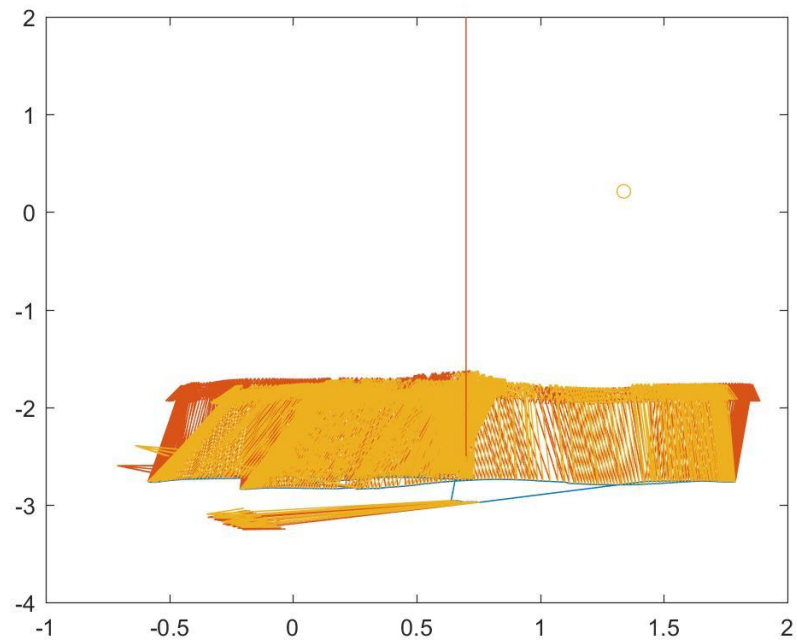- 68cm away from screen
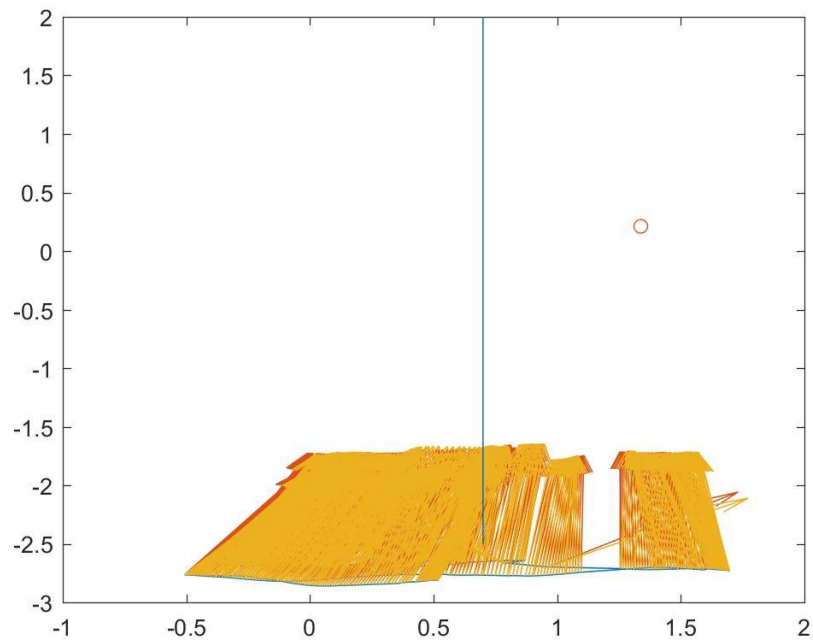- 16 point calibration

Calibration

- Red: perfect looking angle
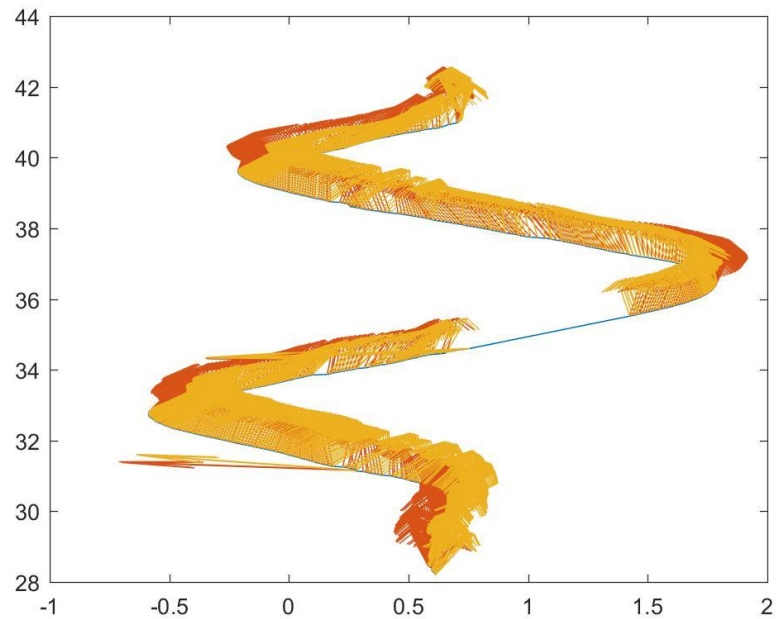- Yellow: actually looking angle
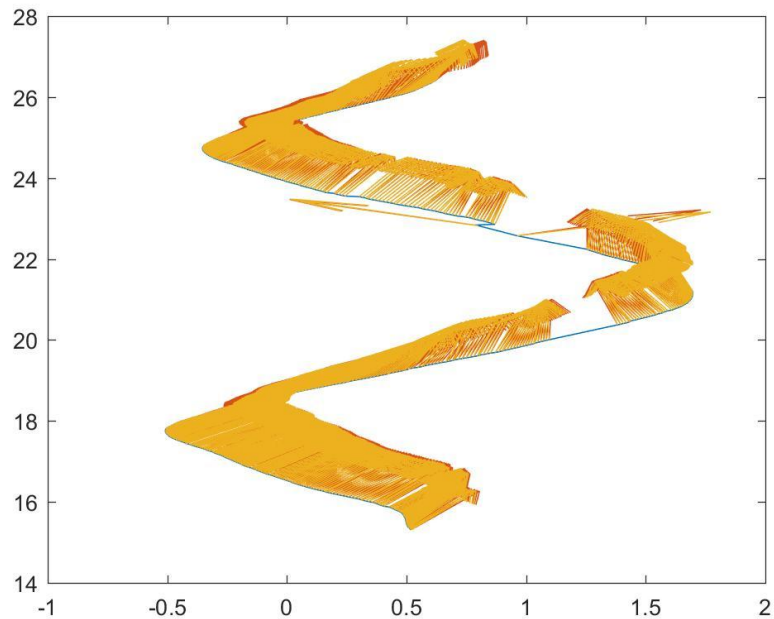- Average 8 degree error

Calibration
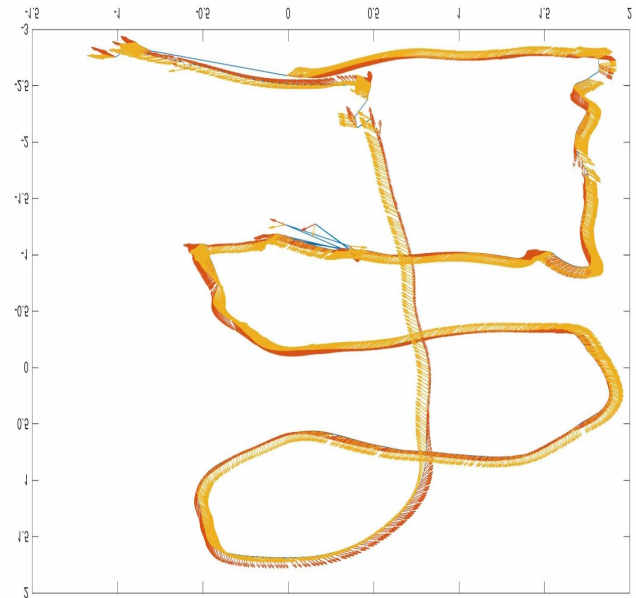
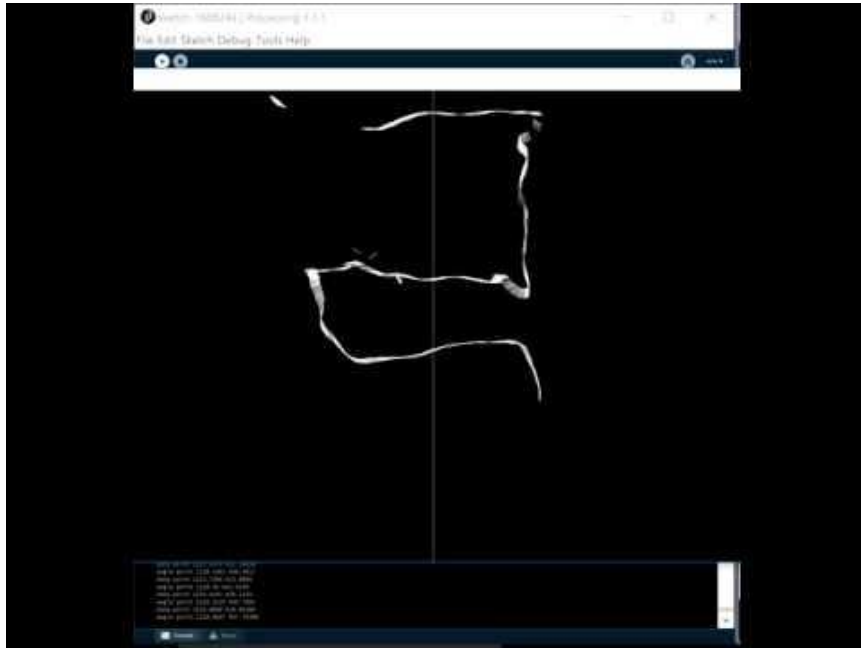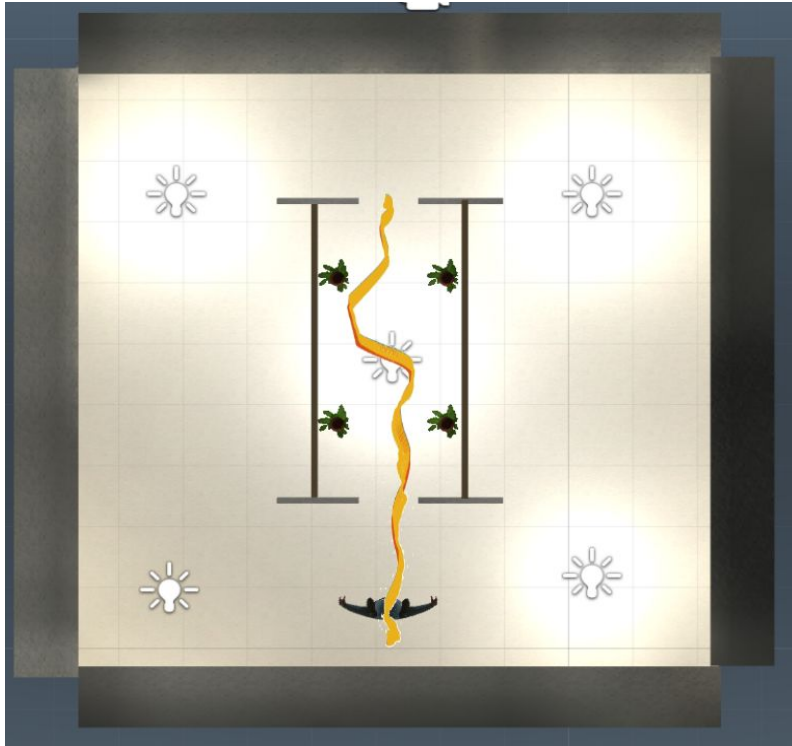Yellow: eye gaze direction   Red : head rotation

Calibration

Recording data

60 fps

Trial visualization

AI interactions