



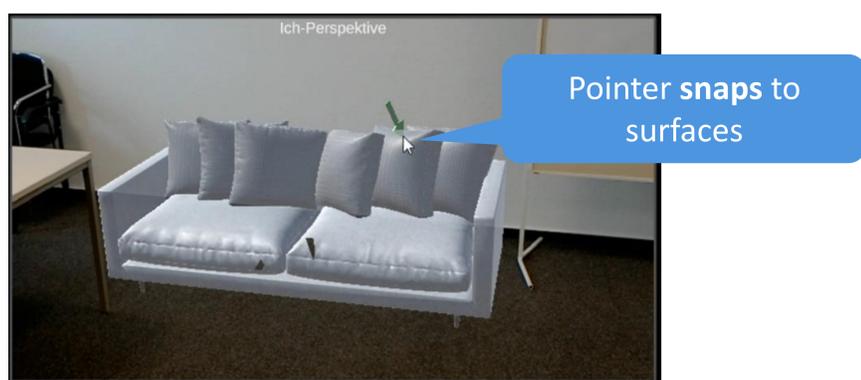
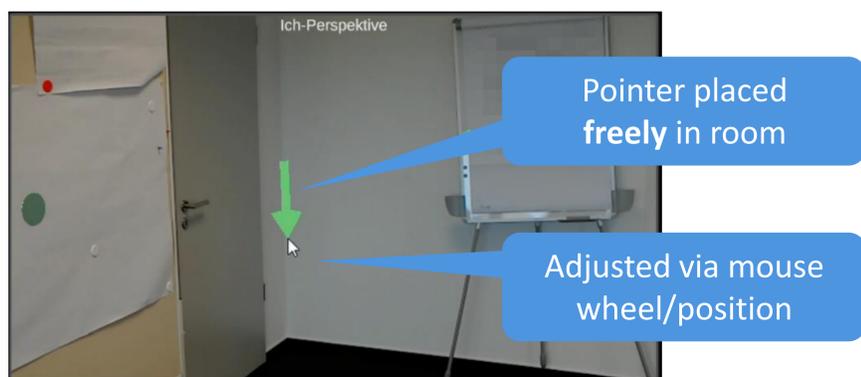
# Pointing Modes and Frames of Reference for Remote, AR-Supported Furniture Consultations

**Context:** Remote, AR-supported furniture sales consultation setting; consultant needs tools to support customer remotely

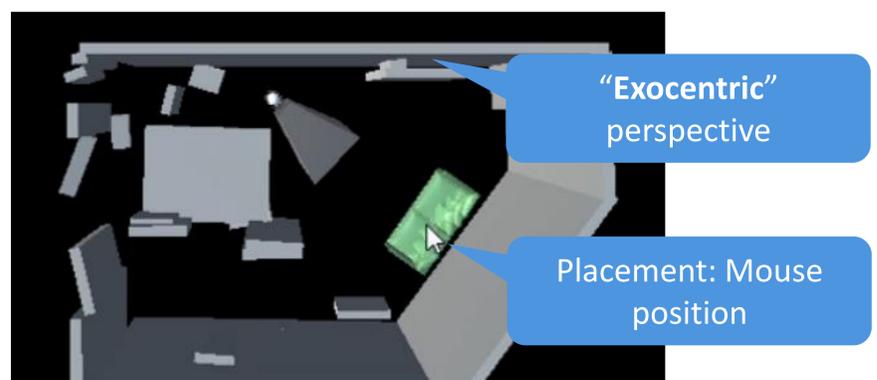
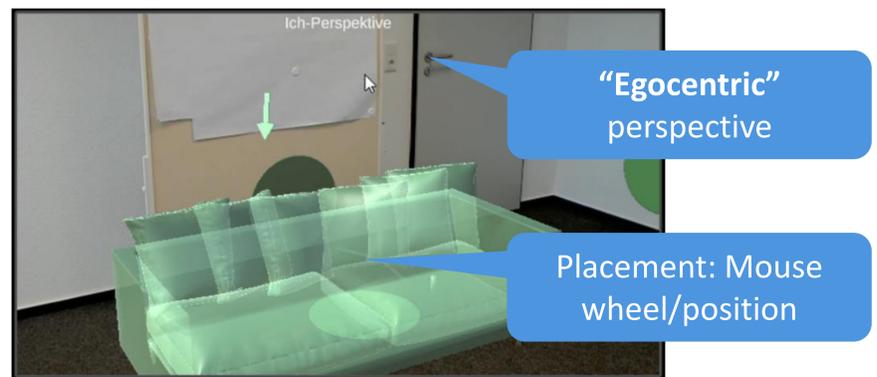
**Problem 1:** Find best methods for placing virtual pointers/furniture in 3D space using only 2D input

**Problem 2:** Find perspectives for the consultant side which work well in the same setting

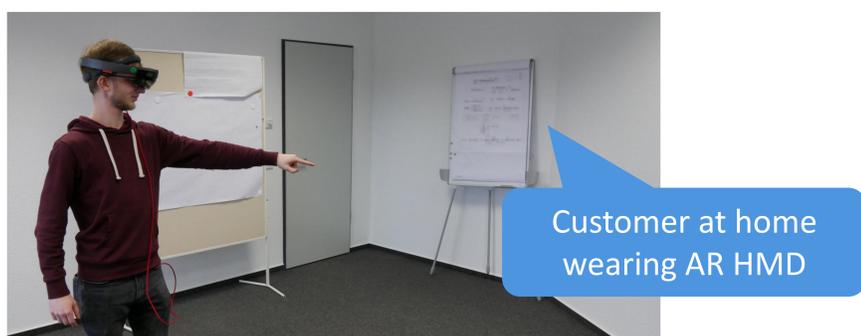
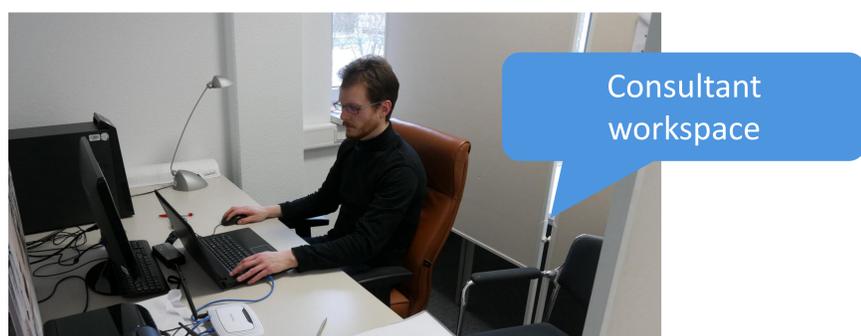
## Pointing Modes Tested:



## Perspectives Tested:



## Experiment Setup:



**Comparison of each two pointing modes and two perspectives in study. Results:**

**Usability:** No significant differences

**TLX:** Exocentric views showed a significant difference for perceived mental effort  
→ Mental rotation of objects might need more time

**Surface-snapping pointer:** Preferred by consultants for all situations  
→ Ease of use may have outweighed freedom

**Egocentric perspective:** Preferred by consultants for fulfilling customer wishes  
→ Same perspective as customer may have eased adjustments

**Exocentric perspective:** Preferred by consultants for recommending placement spots, themselves  
→ Top-down perspective may have provided better overview



**Related Work:**  
*Evaluating Pointing Modes and Frames of Reference for Remotely Supporting an Augmented Reality User in a Collaborative (Virtual) Environment*  
DOI: <https://doi.org/10.1145/3340764.3344896> or scan QR code



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