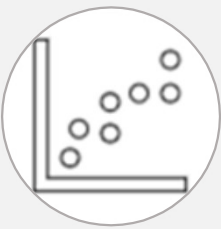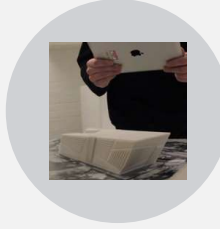# "What is the user response to complex facades created with digital fabrication, measured through virtual reality, and how does it inform future construction trends?"



Data Driven Façade Design **+** Multi-objective optimization for Facade **+** Tangible Visualization **+** Immersive Simulation **+** VR interface control **⇒** **VR APP FOR FAÇADE ANALYSIS**
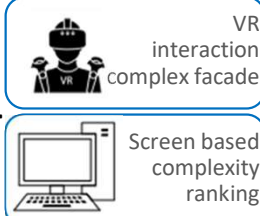
## VR Application



- Building interior and exterior inspection
- Complexity level façade design variation selection
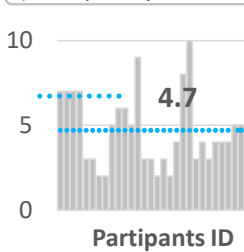- Complexity Data visualization

## Experiment

**1) Quantitative**

- VR interaction complex facade
- Screen based complexity ranking

**2) Qualitative**

- Post-interaction Survey stage

Conditions:
- 1 Building, 3 façade patterns, 10 variations

**Experiment Design**

## Stats. Analysis

**1) Complexity level**



**4.7**

Complexity level chosen — Mean

**Partipants ID**

- Complexity level chosen
- ······ Mean

**2) Survey analysis**

- Participant Background
- Perception and parameters of complexity



Mean: Level 3.9

17% · 28% · 37% · 40% · 36% · 26% · 8% · 3% · 1%

Probability (%) vs Complexity Level (%)
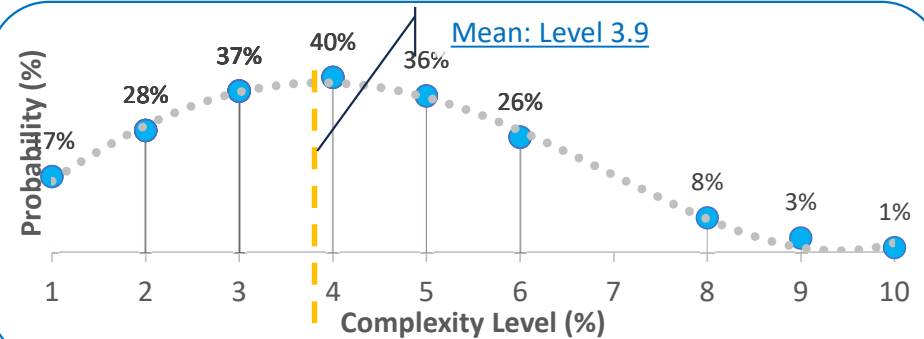
**CONCLUSION:**
There is an x tolerance towards complex façade with preferred patterns following XXX shapes. How does the integration of digital fabrication in complex facades influence user tolerance and acceptance, as quantified through a mixed reality experiment, to refine understanding of complex facade design and investigate correlations between user preferences and predictions in shaping future construction trends?