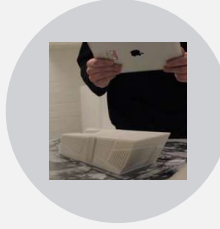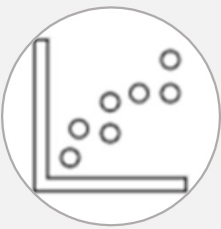# "What is the user response to complex facades created with digital fabrication, measured through virtual reality, and how does it inform future construction trends?"

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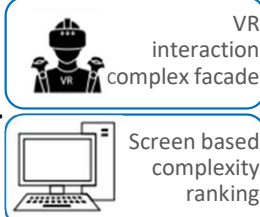
VR Application

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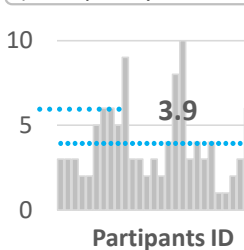- Complexity Data visualization

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

10

3.9

5

0

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 (%)

Complexity Level (%)
1 2 3 4 5 6 7 8 9 10
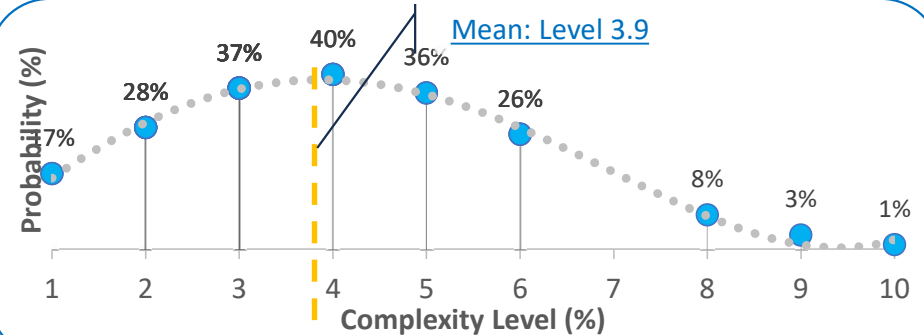
CONCLUSION:
The image complexity analysis reveals a cyclical preference between complex and simple architecture style across history pointing towards a complex style era. There is a preference for complexity level 4 on a scale of 1 to 10 towards complex façade, apparent when applying a scale factor and double curvature in facades.