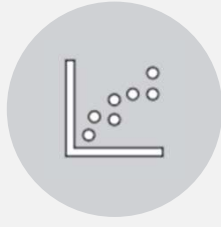
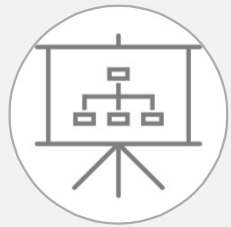


"What is the user response to complex facades created with digital fabrication, measured through virtual reality, and how does it inform future construction trends?"



Computational Image Complexity Analysis (CICA)

3D Modeling and Façade variations Setup

Façade complexity score and data visualization

VR integration and Environment Setup

VR simulation Tools

VR SYSTEM FOR FAÇADE ANALYSIS

VR System



- Building interior and exterior inspection
- Façade variation selection, complexity score CICA registration
- Complexity Data visualization

Experiment Execution

1) Quantitative



VR interaction complex facade



Screen based complexity ranking

2) Qualitative



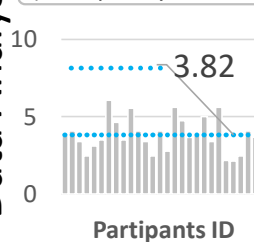
Post-interaction Survey stage

Conditions:

- 1 Building, 3 façade patterns, 10 variations

Data Analysis

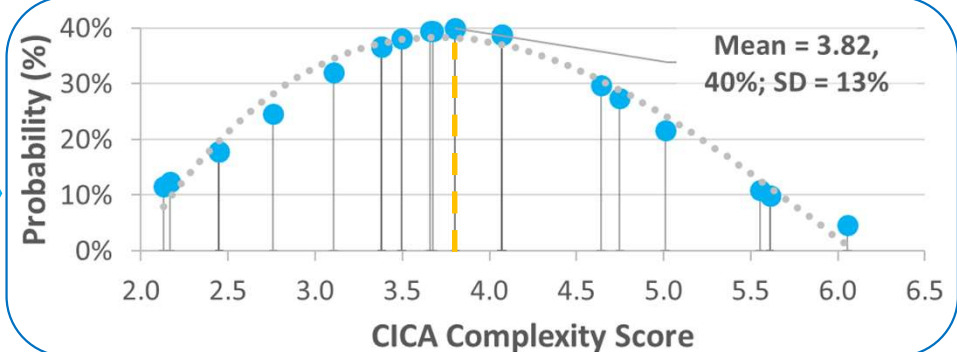
1) Complexity level



■ Complexity score of facade chosen
 Mean Complex. score

2) Survey analysis

- Participant Background
- Perception and parameters of complexity



CONCLUSION:

The CICA system applied to a data base of buildings uncovers a cyclical preference between complex and simple architectural styles, hinting at the emergence of a new era favoring complexity. In a VR experiment, participant choices facing façade variations, influenced by different degrees of complexity resulted in an average complexity score of 3.82 (on a scale of 1 to 10) by CICA. These findings align with the CICA analysis of architectural styles, affirming the trend towards contemporary architecture embracing complexity.