ARCH 5350 - Final Project

Sam Ebertz
Xiaohan Gu
Isaac Tapp

Question(s):

Can Photoscan and Grasshopper be used in conjunction to effectively (re)design building geometry?

Can we leverage animation to create new, dynamic forms?

Project Statement:

Photoscan and Grasshopper have specific strengths which, when leveraged together, can be used as part of a new design/representation process. On one hand Photoscan can be very effective capturing an objects geometry and generating a workable mesh, requiring no more work than taking photos and loading them into a program. However, it has difficulty dealing with perforated surfaces and transparency. Grasshopper on the other hand, excels when acting on an existing surface, with the ability to create scalable perforations and utilize custom coding. We seek to combine Photoscan's mesh building with Grasshopper's surface manipulation to imagine a building re-design. Further explorations may include testing mesh vs NURBS surfaces, and the ultimate goal is to create a dynamic skin/surface using animation.

Relevance to Class Topics:

Model capture (Photoscan strengths and weaknesses)
Scripting in Grasshopper
Representing mesh vs NURBS surfaces

Proposed Outcomes:

The goal of our research is to find a new way using Photo-scan and Grasshopper to quickly model, manipulate, and represent a building on campus.

Deliverables:

Renderings
Script/ brief process description
Plan
Section
Axon
Animation?