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## POLYMER SHELL STRUCTURE

**Nathan Scott**

Independent study / Rob Whitehead, critic

The initial intention of my independent studio was to study how digital design can improve the overall construction process. By understanding the real world constraints and solving structural and material connections, the digital design process will ideally reduce the overall time a project is in construction and solve problems before they occur. Digital design technologies have also evolved to create form finding structures that are created incorporating gravity, such as the catenary curve. Through the use of the software Rhinoceros and the plug-in Grasshopper, I was able to create a parabolic pavilion that has parameters that change its height, width, and modular divisions. The definition also facilitates the use of a CNC router, cutting pieces that fold into individual units that define the structural system. This pavilion was formulated using the popular form finding process, made known by designers such as Isler and Gaudi, while incorporating the digital fabrication process gaining recognition in today's design community.

