

Making What We Draw: Manufacturing with Ruled and Nurbs Curves

Kimo Griggs AIA; Kimo Griggs Architects, Somerville MA

EXECUTIVE SUMMARY

The goal of this research project was to clearly define the relationships that exist between what we draw in a design setting, and what can be made from those drawings using the digitally-enabled or digitally-driven tools that are increasingly available to designers. This research sought to investigate relationships that exist among design operations and manufacturing activities to expose their workings, and to find areas ripe for further engagement. Indeed, rather than desiring to show how things that we draw can simply be made, I hoped to learn how new manufacturing capabilities can affect what we design, in perhaps unexpected ways.

By researching the geometric operations typically used within differing digital design environments, as well as the basic characteristics of Computer Numeric Control (CNC), it was indeed possible to form a good understanding of some of the aforementioned relationships. The results were achieved through the examination of a variety of common, representative design software tools and the use of typical computer-numerically-controlled machine tools that are representative of larger technology families.