

Mass-Customized Longboard: Mass Customization and Identity in Skate Culture

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“Unlike mechanical making, digital making is rarely matrix-based, hence using file to factory digital technologies is theoretically possible to mass produce variations, within limits, at no extra cost. As we know, digital file to factory technologies offer no economies of scale; the unit cost of the first item in a series is the same as the unit cost of all subsequent ones, whether they be identical or all different.”¹

—Mario Carpo, *The Second Digital Turn; Design Beyond Intelligence*

Prior to the development of the architect proper in the late 1500’s and early 1600’s, authorship was a shared condition. The Medieval construction of Gothic cathedrals, for example, was executed over several years and saw many people making decisions with regards its construction. The rise in a desire for ownership, recognition, and compensation paralleled in other disciplines seeking copyright ownership (ie. literature) translated to architecture as part of the development of the profession. In the case of architecture, the architect became a single author credited for all compositional decisions much like a painter to a master work. Fast forward to the end of the 20th century, the open design movement celebrated shared authorship most notably in software development. The Linux operating system, initially authored by Linus Torvalds, was later refined by a much larger group through open-source design approaches as source codes were shared and suggested changes were reviewed and accepted by the community at large. The open design movement has arrived in architecture and is challenging the trajectory of future professional practice.

In the culture of skateboarding, identity is critical. Moves are mimicked, and subsequently owned through slight variations in the technique or style. The ability to offer a new spin on existing tricks is ingrained into the DNA of the skater. Identity is communicated by several means (clothes, music, tattoos, etc.) but can also be seen through the bottom surface of the skate deck which is often filled with stickers communicating preferences and opinions. As well, this surface acts as bragging rights

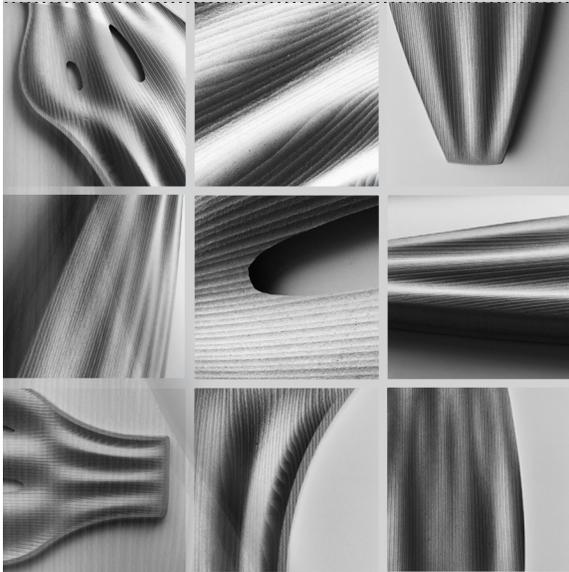
exhibiting battle scars of countless attempted tricks which leave imperfections in the surface leading to structural failure. The desire for identity and the varied surface conditions of the bottom surface became a point of departure for an investigation into shared authorship in the design of a longboard.

Ongoing design investigations are working through the ability for a mass-customized parametric definition which can be altered through a simple online interface. This interaction, controlled in its degree of variation to not offer solutions which might sacrifice structural integrity, creates a unique shape and surface which is CNC milled from of vertical laminated recycled hardwood. This research proposes user engagement with smart parameters offering shared authorship between the designer and user. With the longboard seen as a microcosm of architecture due to its compositional and performative requirements, this research is moving into the design of mass-customized architectural proposals offering shared authorship opportunities in the design process.

ENDNOTE

1. Mario Carpo. *The Second Digital Turn: Design Beyond Intelligence*. Cambridge: The MIT Press, 2017.

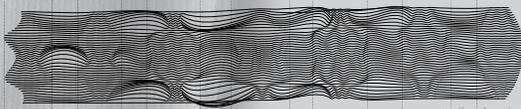
MASS CUSTOMIZED LONGBOARD



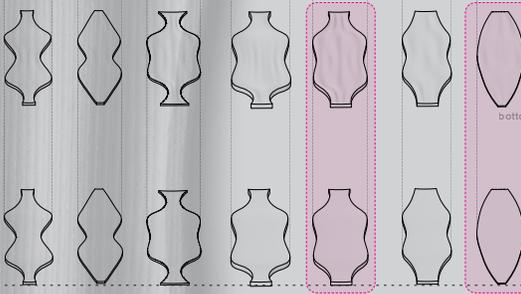
CNC MILLED MDF



depth study



sectional contours

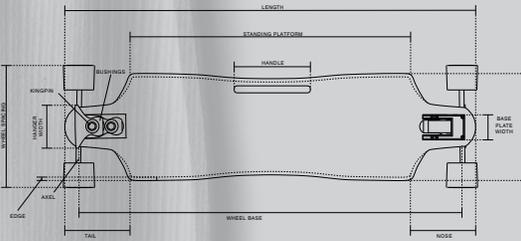


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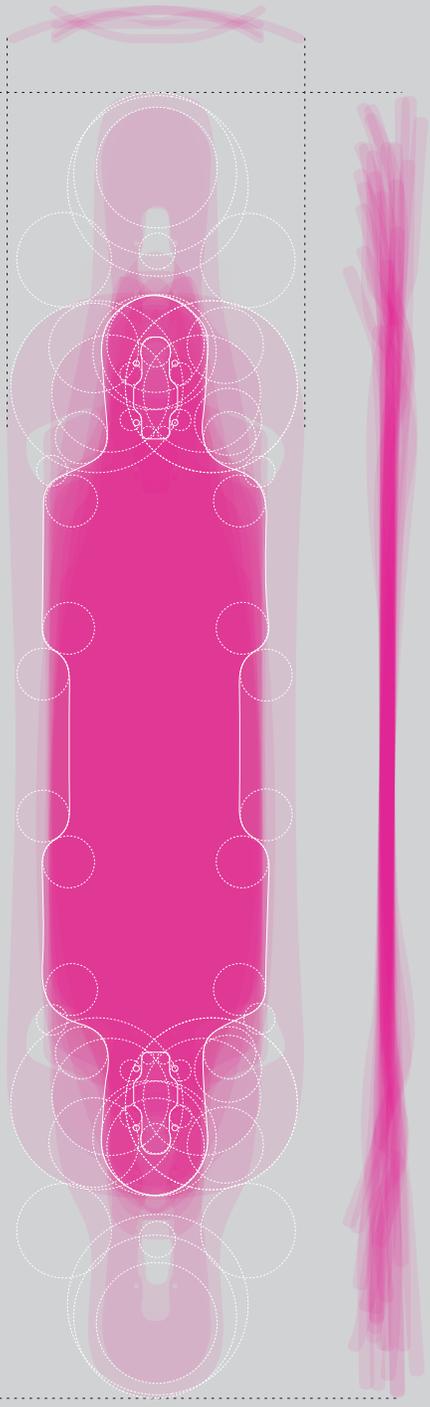
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ITERATIONS

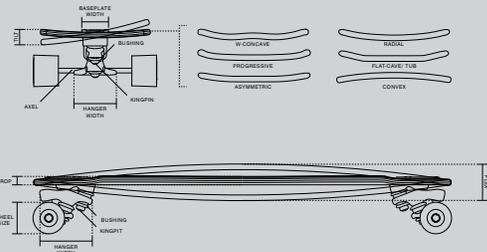
modeled



PLANOMETRIC PARAMETERS



PARAMETER OVERLAP



SECTIONAL PARAMETERS