IDM2

Introduction to Digital Media 2
Carnegie Mellon University
School of Architecture
Spring 2011

Project 1: Fabricating Contours *(2d > 3d and back again)*

Description
This project serves as an introduction to fundamental relationships between virtual design and physical implementation. Furthermore, the process will address correlations between volume and surface as well as basic methods of digital fabrication. The charge is quite simple; utilize a contouring process to fabricate a self-supporting physical object that reveals a geometric surface transformation while preserving the geometric relationships established in the provided virtual model. This will require sufficient points of contact with the table surface to provide stability and predictable object positioning. Given the relatively limited amount of material you are provided with, a design strategy that is materially efficient, yet stimulating is paramount.

Goals
Understand the geometric relationships between 2d line geometry and 3d surface geometry.
Utilize lofting and contouring to generate contour geometry.
Apply a basic digital fabrication workflow that utilizes software and hardware to move between 3d and 2d.
Utilize laser-cutting to precisely create sections.

Specifics
Your model must be self-supporting and stable. To achieve proper alignment with your neighbor, the boundary curves must rest exactly at the same elevation above Z 0 as in the digital model.

Size of finished model:	10" along X-axis
	15" along Y-axis
Section frequency:	sections along Y-axis - every 1/8" (the thickness of one sheet of cardboard)
Material, Assembly and Craft:	You will be given 4 sheets of 1/8" thick 24" x 36" white faced cardboard
	(provided by dFAB and billed to your student account)
	Your object sections will be nested on these sheets in preparation for laser-cutting
	Two 1/8" alignment wood dowels will run through the object to facilitate registration
	and gluing (dowel location is indicated in the virtual 3d model)
	I expect the highest level of craft. Objects that meet the criteria will be displayed in a gallery
	context.

Schedule:			
	1.10	Project assigned	
	1.12	dFAB laser cutting workshop 1 with Zach Ali	4:30 – 5:15pm
	1.12	dFAB laser cutting workshop 2 with Zach Ali	5:15 - 6:00pm
	1.14	dFAB laser cutting workshop 3 with Zach Ali	4:30 – 5:15pm
	1.14	dFAB laser cutting workshop 4 with Zach Ali	5:15 - 6:00pm
		There are block lasercutter reservations from Jan 18 – Jan 31 for 5pm-7pm	
		Signup procedures will be discussed during the workshop	
	1.31	Project due in CFA great hall at 10:30AM	

Grading and Evaluation Criteria
Project 1 equates to 15% of the final grade.

You will be graded on the following criteria:	Fidelity of implied surface
	Transformation of surface from 'bookend' contours
	Craft of assembly