

Architecture Studio: 1st Year Spring

Spring 2013, CMU, Arch #48-105, M/W/F 1:30-4:20
Studio Website: www.andrew.cmu.edu/course/48-105

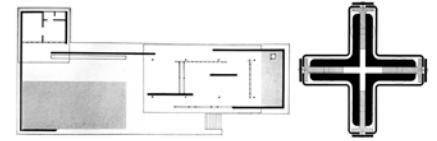
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Off. Hr: M/W/F 12:30-1:00pm & by appt. in MM302

(1/18/13)

Project 1: DESK ORGANIZER - FIRST MOCKUP

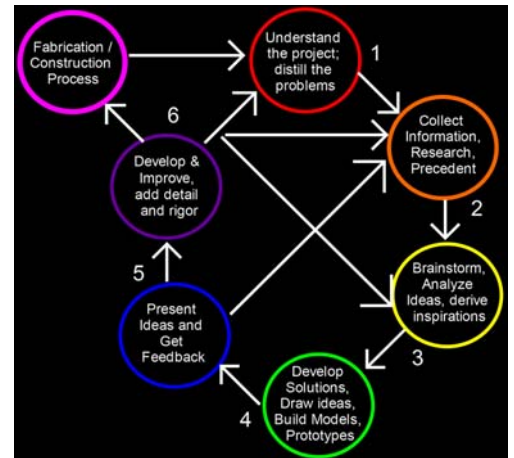
ASSIGNMENT 1b: (due Wed. 1/23, 1:30pm)

You have had a week to understand and think about the design of your desk organizer. You have begun your personal design process by researching and making connections to site, client, and precedents. You have started brainstorming, sketching, expressing, and designing the first ideas. You have started to define a whole series of parameters, or influences, that will affect both what your organizer will look like, and the design process, the first steps, etc. Perhaps you have started to think about specific aspects of the functionality (such as what your organizer will hold), or about specific experiential qualities of the materials (aluminum and poplar wood), or how it will be assembled, and what kind of connections you will use (how will you connect metal to wood?). Hopefully you have begun to rank and organize your parameters, to determine which are the most important driving forces or systems that will determine your design, and make some rules or systems that you will follow in the design process to make decisions.



As stated in the syllabus, in 48-105 we encourage you to work iteratively, constantly working to find multiple and alternate solutions at all points of the design process. Avoid being bound to a single proposal. Always be able to move forward with several ideas rather than needing to "start over." Practice creating 3-5, or even 10 solutions to any problem you face. Cycle through your process:

1. Understand, define the problem, focus;
2. Research, make connections;
3. Brainstorm, express quickly & iteratively;
4. Make in-depth proposals, application of research;
5. Get feedback, reflection;
6. Develop, improve, continue



In order to promote an iterative design process, make the following:

- 5 STUDY MODELS - Design and make 5 study models, to scale, your choice of scale and material. Not all models need to be at the same scale or of the same material. Some models might be more focused on connections or material, others more generally about form, space, experience, use, or how they fit in the site.
- 3 LARGER MODELS - Refine and develop 3 of your previous designs, and make 3 larger models, at least 3"=1'-0" (1/4 of lifesize; or 1:4; or the 60" desk will be 15" long). Use any (inexpensive) materials you choose. Be as accurate as you can with material dimensions, joinery types, curves, thickness, etc., given time constraints. Consider making one, or a piece of one, at full scale, out of cardboard.
- SKETCHES: For each of the three larger models, fill at least one double-page spread of your sketchbook with rendered, free-hand, to-scale drawings (plan, section, elevation, axo, details). Be sure they are proportionally correct. Add a scale figure. Show your organizer from various sides. Show how it works side-by-side and back-to-back.
- WORKING WOOD MODEL - choose one of the three designs, refine it, and make a model of pine wood at 3"=1'-0". Use a 2x4 as raw material, cut it up in the wood shop into scaled-down versions of the boards and sticks in your design. Be sure to show miniature versions of the kinds of connections you anticipate. If necessary, color some of the pieces silver to show aluminum.
- DIGITAL REPRESENTATION - In order to demonstrate the effects of aggregating the design, use the computer to show several side-by-side, and perhaps several rows of your design. You are encouraged to model the organizer in Rhino, and then show repetition or variations. Or take photos of your model and use Photoshop to line up several in a row.
- SHARING: Take photos of all your models, sketches, and computer work, and add to your Flickr page. Get feedback from your classmates and instructors.

Add the following new/revised constraints to your process:

- In addition to glue and wood connections, you will also be allowed to use nuts and bolts to connect pieces of your organizer
- Because of price considerations, the aluminum will come in four variations: bar, t-bar, angle, and u-channel. You will be able to purchase a variety of sizes and lengths from the woodshop. You are encouraged to cut 1/8" grooves into your wood to embed the legs of the extrusions, rather than apply the flats to the faces of the lumber.
- Remember: in order to make it "elegant and efficient," keep it simple, avoid moving parts, make connections orthogonal, make sure YOU can build it well.

