sketch modeling (part 2)
What is a Sketch Model?

Sketching in 3-D

A sketch model explains more than a poster!

A quick way to explore key questions and further develop the idea

What is the play?
Is it fun?
Dimensions of prototyping

works like
what is the play?
how is it implemented?

looks like
what is the form?
how do people interact?

analytical
what are the physical principles?
How to waste your time...

make something that looks nice but doesn’t answer any questions about the concept

make something that looks not so nice and also doesn’t answer any questions about the concept

make something that does not advance the idea towards being a product
Sketch Modeling Materials

inexpensive and fast
blue foam
foam core
use what is appropriate!
wood
scavenged / repurposed parts
case study:

sho mi origami
2.00b (2009)
case study: sho mi origami

Question:
how could a toy make origami easier?
(What is the play?)

Type of prototype:
looks like (interaction)
case study: sho mi origami

Question:
what’s the vision for a toy that shines illuminated guides through paper?

Type of prototype:
looks like
+
plays like
case study: sho mi origami

Question:
can the toy project instructions directly onto the origami paper?

Type of prototype: works like
case study: sho mi origami

Question:
what does the toy look like, and how big is it?

Type of prototype:
looks like
case study: sho mi origami

Question:
can the function and form prototypes be integrated?

Type of prototype:
works like
+ looks like
+ analytical
case study: sho mi origami

Question:
can the function and form prototypes be integrated?

Type of prototype:
works like
+ looks like
+ analytical
Dimensions of prototyping

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what is the play?
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Sketch Model Expo

during your lab times on March 16th, 17th, and 18th

does this sketch model explain more than the poster?

is it obvious that something was learned from making this model?

what's the play/fun?
Sketch Model Playtesting!

March 18th

Boston Children’s Museum
Sketch Models

can be simple and effective!
Logistics

Lab this week:

pick 2 from the 3 concepts (or something new) and make 2 sketch models/concept, typically looks and works-like

Extra work time in PDL:

Friday 1–5 PM
Sunday 1–6 PM

class time next week is split:

in PDL Monday:

in PDL Wednesday:
Logistics

Here

Group 1:
Camel, Meerkat, Hippo, Hedgehog, Ostrich, Koala, Llama, Lobster

PDL

Group 2:
Crocodile, Moose, Narwhal, Tiger, Panda, Squid, T-Rex, Goose
Foamcore!
Foamcore!

Used by architects and designers for modeling buildings
Foamcore!

Holiday Inn lobby prototype

800 sheets of foamcore! (Continuum)
Demo time!

One sheet of foamcore
Cutter: Utility knife (Olfa) or Exacto
  Extra blades in PDL
  Snap off, dispose in blade box
Guide: Metal Ruler
Cutting surface: Cutting mat or scrap foamcore/cardboard
  Don’t cut directly on tables or floor in PDL
Adhesive: Hot melt glue gun (drip catcher), white glue, adhesive
Do time!

Straight cut!

Cut off 2” strip from short end
Mark a line with two points
Connect with ruler
1-3 cuts with Olfa
How does the cut edge look?
Cut another 2” strip
Cut each strip in half (7.5”
Do time!

Long straight cuts
> 12”

Foam core cutter (the “Fletcher”)
In hallway in front of PDL
Must ask shop staff to teach you first
Straight cuts only
If blade is dull, ask staff for blade change
Do time!

Crushed corners (slight radius)
  fast to make, looks OK, strong

Score down center
Crush
Fill with glue
Hold until set
Do time!

Overlap (butt) joint
  slower to make, looks good, strong

Cut one of your pieces in half
About 3/16” from one edge, cut away everything but bottom layer of paper
Apply glue
Join
Do time!

Gusset
slow to make, strong—structures that bear load, right triangle and butt joint

Cut 2” corner off of one piece
Glue in corner
Hold until set
Do time!

Curved pieces
   slow to make, but really cool!

Score all along wall
Bend
Glue to close
Do time!

Adhesives
  this is sticky business

Hot melt
White glue
Spray mount
Double stick
Epoxy
Masking tape (blue and white)
Challenge!

Build a better blade box!

One sheet of foamcore plus any extra you still have
Shouldn’t tip
Big enough to deposit and store a fair number of blades

Sketch out design first
Pick favorite next week, lives in PDL!
Wrapup!

Before you go

Unplug glue guns so they can cool
Stack cutting mats, large pieces of foamcore up at front
Drop off rulers, extra glue sticks
Throw away plates, small pieces of foamcore
Put your name on your blade box, leave on front table
   OR turn into CADLAB 3-452 by Friday 5pm