if you’re not serving the customer you better be serving someone who is
ideas presentation!

went well?
ideas presentation!

goes well?  
YES!
ideas presentation!

went well?

YES!

could every presentation improve?
practice is the best of all instructors

Publilius Syrus author, 1 B.C..

ideas presentation!
introduce yourself

practice is the best of all instructors
look at the audience

**practice** is the best of all instructors
body language

practice is the best of all instructors
engage the poster

practice is the best of all instructors
practice is the best of all instructors
be conversational

practice is the best of all instructors
practice is the best of all instructors
introduce yourself
body language
look at the audience
engage the poster
tell a story
be conversational
have a clear ending

practice is the best of all instructors
feedback!
feedback!

conflicting?

unfair?

data driven

good job!

least useful feedback?
Process

Monday midnight
Process timesheet commit

Monday
Process lab this week
Process  

idea phase reflection

- Milestone Reflection

**Background**

Reflection is thinking about a recent experience and taking it to another level. This involves breaking down complex ideas, finding connections between the most important and any remaining work. Reflection is a way to make sense of an experience, and is a great way to see the results of project milestones and review as an opportunity for growth.
Process

physical notebook review
so far, opportunity exploration

Process concept generation
so far, **opportunity exploration**

problem identification, not solution finding

embodiments are symbolic representation of needs

a teamwork and idea generation warmup
so far, **opportunity exploration**

problem identification, not solution finding
embodiments are symbolic representation of needs
a teamwork and idea generation warmup
now, **sketch model phase!**

a push to reframe and continue exploring
thinking a bit more about embodiment
connecting to real people
if you're not serving the customer, you better be serving someone who is

Karl Albrecht, 1920 - 2014
10th wealthiest person in the world (2012)
who is the **customer**?
who is the **customer**?
client
The person, firm or agency that hires a designer or product design firm to develop a product. (In 2.009, ideas fair or ones found by teams)

user
The person(s) the product is designed for. It could be the primary user or anyone else that interacts with the product during its life cycle. The product meets their needs.

who is the customer?
client
The person, firm or agency that hires a designer or product design firm to develop a product. (In 2009, ideas fair or ones found by teams)

user
The person(s) the product is designed for. It could be the primary user or anyone else that interacts with the product during its life cycle. The product meets their needs.

customer
The person that makes the purchase. They may be a user too!
tutorial: understanding users
Thursday at 7:30 PM
client
The person, firm or agency that hires a designer or product design firm to develop a product. (In 2.009, ideas fair or ones found by teams)

user
The person(s) the product is designed for. It could be the primary user or anyone else that interacts with the product during its life cycle. The product meets their needs.

customer
The person that makes the purchase. They may be a user too!
now, sketch model phase!

a push to reframe and continue exploring
connecting to real people
thinking a bit more about embodiment

6 concepts per team some new, some old
a risk portfolio!
Process sketch model review

Three ideas presentation
September 24, during class 3 ideas per section

Mockup review
October 21 2 mockups per section

Assembly review
November 1 & 3 1 assembly

Final presentation
December 6 1 alpha prototype

Sketch model review October 7 3 models per section

Final selection October 26-28 1 concept per team

Technical review November 15 1 (almost) prototype

Oct 7
Three ideas presentation
September 24, during class
3 ideas per section

A ➔

ONE SUBTHEME

B ➔

Sketch model review
October 7
3 models per section

Process sketch model review
Process sketch model review
Hello!

Enjoy the ideation Dance Mix

Due Monday, 9/27, by midnight:
- Timesheets for the 3-ideas milestone. Please enter your timesheet data for the 3-ideas milestone (9/13–9/24) into the timesheet system. Form for submitting the data will be available Monday morning.
- Digital notebook submissions for the 3-ideas milestone. Submission form will be available Monday morning.

- Team meetings

Please review the notes for Team Meeting #3: From opportunity area to product concepts and Team Meeting #4: Preparing for the sketch model review are available.

Bring to your team meeting: design notebook and milestone reflection for the 3-ideas milestone.

- On the website

  Idea Presentations slides
  Lecture 7: Sketch Modelling Techniques slides

- Coming up...

  Monday, 9/27, 7:30 PM: Introductory and Intermediate Microcontroller Workshops
  Thursday, 9/30, 12 PM: Financial officer AIP training
  Thursday, 9/30, 7 PM: Yoda Workshop
  Thursday, 9/30, 7:30 PM: Identifying and Understanding Users: Part I
  Monday, 10/4, 7 PM: SI Team Communication Training
  Monday, 10/4, 7 PM: Finding Information Workshop
Process sketch model review
each section presents three well-prepared design concept alternatives
each section will have 6 minutes to present (total) and two minutes of questions
each section will have a single set of slides, loaded on the presentation computer

a formal presentation warmup
sketch model review
important review aspects

appropriateness of models
sketches, sketch models, CAD, calculations
sketch model review
appropriateness of models
sketch model review
appropriateness of models

made to learn and test
articulate an idea
understand product scale
explore user interaction issues
assess operational issues
establish common shared view
**sketch model review**

**appropriateness of models**

**simple models made of soft, low cost, easy-to-work materials**

- **electric scooter**
  - concern: product definition
  - focus: scale, usability
  - type: looks-like (+kinematics)

- **helicopter lift**
  - concern: product definition
  - focus: visualization, operation
  - type: works-like (operating principle)

*like sketches in 3D*
sketch model review
in appropriateness of models

no new learning!
not looks-like, not works-like—it’s nothing like!
sketch model review
in appropriateness of models

simple models that answer no questions
and are made of soft, low cost, easy-to-work materials

bad models
sketch model review
appropriateness of models
in simple models that answer no questions and are made of soft, low cost, easy-to-work materials
bad models
step 1

critical questions
step 1

**definition:** what is the idea?

**feasibility:** does core technology exist and do we understand it?

**user need:** do we understand the user and our value proposition?

**market:** who is our customer and how interested are they?

**scope:** do we have the needed resources and skills?
step 1

critical questions

risks!
level of uncertainty
criticality
learning outcome
time
step 1
- critical questions

step 2
- question type
step 2

question type

form: focus on shape embodiment
scale: focus on properties such as size or mass
visualization: focus on communication
operational principles: focus on tech and physical behavior
system configuration: focus on “what are the bits?”
integration: focus on “do these bits play well together?”
interaction: a focus on the use model
usability: a focus on user understanding
experience: a focus on the user’s feeling
step 1

- critical questions

step 2

- question type
step 3

based the question type, where is fidelity needed?

looks-like: fidelity in appearance

works-like: fidelity in behavior

model type
**electric scooter**

- concern: product definition
- focus: scale, usability
- type: looks-like (+kinematics)

---

**helicopter lift**

- concern: product definition
- focus: visualization, operation
- type: works-like (operating principle)
sketch model review

important review aspects

appropriateness of models

sketches, sketch models, CAD, calculations

ideas and exploration
sketch model review

important review aspects

appropriateness of models

sketches, sketch models, CAD, calculations

ideas and exploration

Why?

Seating doesn’t provide place for food

Foldable furniture is not appropriate

real users
sketch model review
important review aspects

appropriateness of models
sketches, sketch models, CAD, calculations
ideas and exploration

Why?
Seating doesn't provide place for food
Foldable furniture is not appropriate

real users
research
feasibility or not!

Competitors
- e-pill: Manufacturer and distributor of electronic medication reminders
- MedCenter Systems: Manufacturer of monthly planners and organizers
  - Automatic Pill Dispenser Organizer
  - 31 day monthly pill organizer
I have an idea!
I have an idea!
FLASHLIGHT BATTERY

WIRE GETS HOT & CUTS (MELTS) FOAM

26"
critical question
critical question
critical question
analogous models
analogous models
power?
power estimate
power benchmarks
it’s a mini quiz!
write your name on the top of your index card

estimate the usable energy in a C size cell?

2 minutes
no computers or mobile devices