Curiosity is as much a parent of attention as attention is of memory

Richard Whately (logician, 1787-1863)

2.009 Product Engineering Processes
a quick, random mini quiz now!

how many fasteners are used to attach your chair’s arm onto its frame?
Curiosity is as much a parent of attention as attention is of memory

Richard Whately (logician, 1787-1863)
Mini-quiz from last Wednesday

question i)

list a mental attitude that *blocks* creativity?

attitude: a settled way of thinking
Mini-quiz from Wednesday
question ii)

list two factors that correlate with *unsuccessful* product development teams

have a mutual relationship or connection
vs. opinions (laziness, disorganization, poor communication)
truisms (bad teamwork, weak group)

---

- strong mental set (fixed viewpoint)
- organizational politics
- informality
- high level of praise

---

Number of Times Suggested
Mini-quiz from Wednesday

question ii)

list two factors that correlate with *unsuccessful* product development teams
2.009 Product engineering processes today in class

ideas presentation estimation from Friday more ideation and estimation
3-ideas presentation
next Monday
Class next Monday

3-ideas presentation
Class next Monday
3-ideas presentation
a product opportunity

user need + idea + market + feasibility
3-ideas presentation

tips and overview

review structure

each section presents
2 minutes to present 3 product ideas
equal amounts of time on each idea

scenario?
strictly held to two minutes
3-ideas presentation

tips and overview

use descriptive sketches
3-ideas presentation

tips and overview

visuals

- sketch
- not solid model
- hand done
- digital

- not clip art
- original

package dropoff

WHAT  convenient home deliveries
HOW  local, secure package drop-off
WHO  online shoppers in apartments consulting with UPS / FedEx
3-ideas presentation

tips and overview

It's a bit CHEESY!
3-ideas presentation
tips and overview

poster format

each idea should be prepared on a piece of foam core, 
**laid out in vertical orientation**
maximum 1” thick
foam core is in pappalardo lab (24x36)
the poster should convey
  your section name and the idea name
  a vision for the need/idea’s embodiment
  the targeted customer
  the anticipated market
  its feasibility/doability

readable from 50-80 feet = **clean and flows**
supporting citations, estimations on back
3-ideas presentation

tips and overview

poster format

are captions needed?
what’s a meaningful market?
what’s feasible?

readable from 50-80 feet = clean and flows
3-ideas presentation
plotting and practice

scheduling tools linked on home page

reserve a time for plotting/mounting help on Sunday
reserve a time to practice with communication instructors

use your MIT username to log in
same login as timesheet
used throughout term (scheduling, notebooks)

we will collect pdf (and poster)
at the time of plotting

no google slides please
please do not plot Monday morning!
3-ideas presentation

tips and overview

setup

make sure your presenters arrive at 1 PM sharp

posters will be at the front of the classroom

presentations will commence at 1:05 PM
3-ideas presentation

tips and overview

presentation tips

do not read the poster! Augment the visual information
look at the audience (but acknowledge poster)
a story is more memorable than a list
do not read cue cards... practice in advance
do not emulate a 'used-car salesperson’
or TV infomercial
be honest and informative
humor is great!

... but be careful

more tips from communication instructors online
3-ideas presentation

Tips and overview

Feedback logistics

Idea/opportunity area for your team posted 5 PM Monday

Instructors (from other teams) will provide poster feedback overnight (before Tuesday lab)

Feedback from your own team instructors during lab
2.009 Product engineering processes
today in class

idea presentation
estimation from Friday
more estimation
Friday

usable energy in a C cell

"enough"
"8 flashlight hours"

no answer, or did not have units of energy
avoid non-standard units

Joules
Battery powered, hand foam cutter

estimation exercise
Battery powered, hand foam cutter
is it feasible? Key question
Battery powered, hand foam cutter
is it feasible? Analogous model

2 W/cm²

how am I supposed to know that?

do you have an experience to draw upon?

look for the next right answer!
Battery powered, hand foam cutter
is it feasible? Analogous model

do you have experience to draw upon?
Battery powered, hand foam cutter
is it feasible?

“I have no idea I'm course 6!”
“no bc you'd get fried #short circuit”
“she sells c-cells by the sea shore”

~50% not sure if feasible
Estimation
power benchmarks

MIT Building 39

1 W 100W 1 kW 10 kW 100 kW 1 MW 10 MW
Design challenge!
idea generation and estimation practice
name *and section*, no computers or mobile

**Design challenge!**

idea generation and estimation practice
Design challenge!

idea generation and estimation practice

name and section, no computers or mobile
name *and section*, no computers or mobile

**Design challenge!**

idea generation and estimation practice
Design challenge!
idea generation and estimation practice
Design challenge!
idea generation and estimation practice

name *and section*, no computers or mobile
Design challenge!
idea generation and estimation practice
name *and section*, no computers or mobile

**Design challenge!**

idea generation and estimation practice
name *and section*, no computers or mobile

**Design challenge!**

idea generation and estimation practice
Your mission!

Design a fun, 2 or more person cracker carrying contraption

And build a cracker catwalk to cross the chocolate channel (lawn)

Before the mallows melt

10 minutes
Estimation challenge!

Estimate your contraption’s power requirement at 5 mph

4 minutes
and finally…

reminders/coming up

be prepared for your lab, please read notes in advance

plotter signup/schedule is on the home page

foam core in lab but you need to obtain other materials

video logger tutorial Monday (today) at 7 PM

financial officer training this Thursday, noon

illustrator tutorial: Friday 4-5 PM, workshop 5-6 PM