Estimation Game

How many Prus across the Harvard Bridge?

Pru height?

~230m

Harvard bridge length?

~620m

between 2 and 3

50m
Estimation Game

Cost per kernel of popcorn at the theatre?

price of bucket?

volume of bucket?

volume of popped corn kernel (packing factor)?

~0.25–1¢ per kernel
Estimation Game

Tooth Tunes Battery weight?

how often should you change toothbrushes? how often and long should you brush?

how much power does it require?

energy density of alkaline battery?

~20–40g (1–2 AA batteries)
Estimation Game

Mechanical Bull in House?

power requirement for mechanical bull?

standard voltage in house?

standard circuit breaker current?

240V x 30A = 7200W
120V x 15A = 1800W

~ sure
Estimation Game

Hot dog in the Easy Bake?

Q = mC_pΔT

50–200g and 20–60°C

Power of Easy Bake

5–10 min without losses
Sketch Model Review!
Sketch Model Feedback

addressing key technical questions

testing play value!

further develop idea
Sketch Model Feedback

9–16 people reviewed each concept

Feedback is the important part not the scores

Team email

old folks!
Play Testing!
Aesthetics

Sensory Perception

Why do we like certain things?

Is this subjective?
Power of Aesthetics

Aesthetically pleasing objects enable you to work better. Products and systems that make you feel good are easier to deal with and produce more harmonious results.

—Norman
Which do you prefer?
Which do you prefer?
Which do you prefer?
People will buy what looks better as long as they believe it works well enough.
People will buy what looks better as long as they believe it works well enough and if it looks really good, it doesn't even need to "function"
Product Aesthetics

aesthetics are important in product design

purely aesthetic products

self image

first impressions

Hasbro distributors
Product Aesthetics

Form and Color
Symmetry
it is natural to find symmetry aesthetically pleasing

poor man’s design tool
Symmetry and Balance

symmetry

balance
Proportion: pick one and use it!
Golden Ratio 1: 1.618
Proportion + Form language
Consistency!
Complexity of Activity and Aesthetic Value

- Laymen
- Experts

Diagram showing the relationship between complexity and aesthetic value.
Color

Primary

Secondary

Tertiary

Complementary

Contrasting

Analogous
Color Pairing

- Analogous
- Complementary
Color Branding

analogous

complementary

John Deere

IKEA

Coca-Cola
Color Branding

HUNGERECTOMY

SODY POP
Color in Toys

*Gender Assignment based on findings of Blakemore and Centers in “Characteristics of Boys’ and Girls’ Toys”, 2005
Pink vs. Blue

Is there science behind this?

Gender bias in the visual system (P-Cell Pathway)

Red-Green Distinction and preference for red colors

An Evolution Perspective of Sex-Typed Toy Preferences: Pink, Blue, and the Brain, G. Alexander 2003
Aesthetics and Multiple Senses

All products are multimodal

Controlling all the modes

Product Coherence

Synesthesia
Multi-Sensory Design
Audio-Visual

McGurk Effect
Multi-Sensory Design
Audio-Visual

NO SWIMMING
HAZARDOUS AREA
BEACH CLOSED
By order Amity P.D.
Multi-Sensory Design
Audio-Visual

The Yakety Sax Effect
Multi-Sensory Design
Audio-Visual
Multi-Sensory Product Aesthetics
Assignment for lab

Carefully review the feedback for your team’s two concepts

Find two strong points and two weak points about each concept

Think of one way of improving each concept based on feedback and play testing

Write all of this in your notebook and bring to lab this week
Assignment

If you play tested at the museum…

Update the rest of your team, before lab if possible!
What to think about?

- does it have play value for the intended user?
- is it safe?
- is it feasible? (scope of class)
- is it novel? (does it exist already?)
- is there a market?
- does this fit into the theme?
- are you excited about designing it?
In Lab

Bring sketch models and laptops!

Reviewing pros and cons of the ideas and improvement suggestions

Selecting appropriate criteria for analysis

Pugh charts

Narrow to one concept

As a team, build a more-refined looks-like model AND a more-refined works-like model


A good designer isn’t afraid to throw away a good idea
design
aesthetic