Ideation & Innovation & Ideation

"The best way to have a good idea is to have lots of ideas." - Linus Pauling
But first...
a refresher on **play**!
Who is our customer?
What is play?
What is the opposite of play?

Quiz results
Who is our customer?

Children! Or Adults or sometimes pets, depending on the industry.... so basically everyone.

- Charleen Wang

Quiz results
Who is our customer?

Influence on Product Selection

- User
- Purchaser
- Producer
- Retailer
What is play?

Play is uninhibited imagination brought to life.

- John Adeyeye

A state of mind while doing something.

Quiz results
What is the opposite of play?

chore    work = 36
not fun = 20
boredom = 12
problem sets = Jiyoung Chang

Quiz results
Welcome to your teams!
Team communication + slack tomorrow!
Team communication

Everyone on Team Panda...
Quiz!

1. What is your name?
2. What is invention?
3. What is innovation?
4. What is creativity?
5. Write a caption for:
Invention and Innovation

**Invention** is something that has never existed before. Not a product, but a technology.

**Innovation** is the application of new ideas or the combination of existing items in a novel way. This is product design.
Product design

Why not invention?
Creativity - krēāˈtivitē

Noun:
The use of the imagination to create original ideas.
Ideation techniques

Free Form or Intuitive Methods

- Group Writing:
  - Brain Writing
  - Brain Sketching
- COLLECTIVE NOTEBOOK
- PIN CARDS
- TREES
- IDEAS
- PENTOSH

Structured or Logical Methods

- MORPHOLOGICAL ANALYSIS
- ATTRIBUTE LISTING
- PREDHARRE
- TRIZ
- ARIZ
- SMARPER

New Perspectives techniques

- LATERAL THINKING
- CHALLENGING ASSUMPTIONS
- BOUNDARY RELAX
- NEGATIVE
- BRAINSTORM
- REVERSE
- EVOLUTION

Associations techniques

- MIND MAPPING
- FREE ASSOCIATION
- FREE MAPPING
- PROGRESSION
- EXPANSION
- BUNCHES OF BANANAS
- EXCURSIONS
- STREET THOUGHT
- ANALOGIES
- FORCE FIT
- FOCAL OBJECTS
Associations

Associations can be used to generate concepts based on linking ideas and finding new relations between connections.
Humor and Associations

Non-obvious connections

Making the incongruity congruent

Why was 6 afraid of 7?

...because 7 8 9
"let me start by welcoming you all to narcoleptics anonymous"

-mike worth
Association Mapping

“breaks will no longer be dictated by time to finish your coffee”

actions related to coffee
sipping, spilling, staining, drinking, burning, break

“is this the decaf?”

types of coffee
black, decaffeinated, espresso, latte

served with coffee
donuts, breakfast, newspaper

“the donuts will be here shortly, as soon as they take the door off the hinge”

things that go in coffee
milk, cream, dairy, sugar, stirrer, coffee beans, water

“who ordered from Java the Hutt?”

names of coffee
joe, java

products related to coffee
coffee maker, mug, coffee machine, grinder, tea

places related to coffee
dunkin donuts, starbucks, kitchen, south america

properties of coffee
caffeine, diuretic, hot, acidic

“coffee sales have been soaring”

“where’s the bathroom?!?”

“the sink’s full again”
Association Mapping

Function
Environment
Name
Motion
Used With
Materials
Association Mapping

Column $\rightarrow$ Structural support $\rightarrow$ Bone

function
Theme

2009 — Arts & Crafts
2010 — Outdoors
2012 — Imagination
2013 — “in the Dark”
2015 — Surprise
2016 — Intrigue…
2017...
What is animate?

- fantasy/role-play/characters
- super powers
- creation/construction
- motion
- emotion
- story-based
- illusions/astonishment
- locations/places
- games/puzzles
Brainstorming

New points of view

To generate LOTS of ideas....

quickly.
Idea generation

Quantity of Ideas vs. Overall Creativity Score per Subject

\[ R^2 = 0.81952 \]
Brainstorming Rules
Brainstorming Rules

Defer judgement.  NO EVALUATION
Brainstorming Rules

Defer judgement. NO EVALUATION

Switch left brain to silent mode
Brainstorming Rules

Defer judgement. NO EVALUATION

Switch left brain to silent mode

Encourage wild ideas
Brainstorming Rules

Defer judgement. NO EVALUATION

Switch left brain to silent mode

Encourage wild ideas

Challenge all assumptions

Build on ideas
Brainstorming

Problem statement

20 – 40 minutes

5 – 9 people

one facilitator and lots of paper
Brainstorm Sketching

Quick and clear

Draw big

Name

Brief pitch

Record

Repeat

SFX NERF DART
Ideas Per Minute (Per Person)

Quantity not quality

>1.0 IPM (PP)

10 people, 15 min = 150 ideas
Brainstorming Assistance

Dopamine
Brainstorm Sketching

Quick and clear

Draw big

Name

Brief pitch

Record

Repeat

SFX NERF DART
I/(M × P)

Idea /(Minutes × People) = team average
Idea Classification
not selecting ideas yet!

silent sort

choose appropriate categories
Idea Classification

not selecting ideas yet!

silent sort

choose appropriate categories

name the categories
Select, first pass
Select again, Pugh Charts

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<th>Ring Shank</th>
<th>Staple</th>
<th>Screw</th>
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Select again, Pugh Charts

Assessment criteria

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Select again, Pugh Charts

Assessment criteria

Pick one idea or group as a benchmark
Select again, Pugh Charts

Assessment criteria

Pick one idea or group as a benchmark

Rate each criteria with + S - as compared to the benchmark
Brainstorm Assignment

- ideate in each category
- choose 1+ favorite ideas from each of 4 categories
- legible full-page sketches with idea name and your name

Redraw these 4+ ideas in design notebook + bring both sets to lab
Logistics

Labs begin this week

brainstorm assignment due in lab this week

closed toe shoes in lab

sketching tomorrow
Sketching Kit

Artist & Craftsman Supply in Central
- Prismacolor markers 10%, 30%, 50%, 70%, black
- Prismacolor fine liner 0.03
- Prismacolor pencils in black, indigo blue and white
- Black Pentel Sign Pen
- Beinfang marker pad 9” x 12”
- White eraser
- Olfa knife, heavy duty with ratchet lock
Teams & Innovation & Ideation