

A wooden pencil lies horizontally across the middle of a spiral-bound sketchbook. The sketchbook is open to a blank, cream-colored page with a fine grid pattern. Several light brown pencil shavings are scattered on the page: one is isolated on the left, and a small cluster of three is to its right. The spiral binding, consisting of black plastic loops, is visible along the bottom edge of the page.

Sketch-in!

Sketch *how you feel right now*
in your yellow sketchbook!



HCDE 210 Studio

Professors

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Teaching Assistants

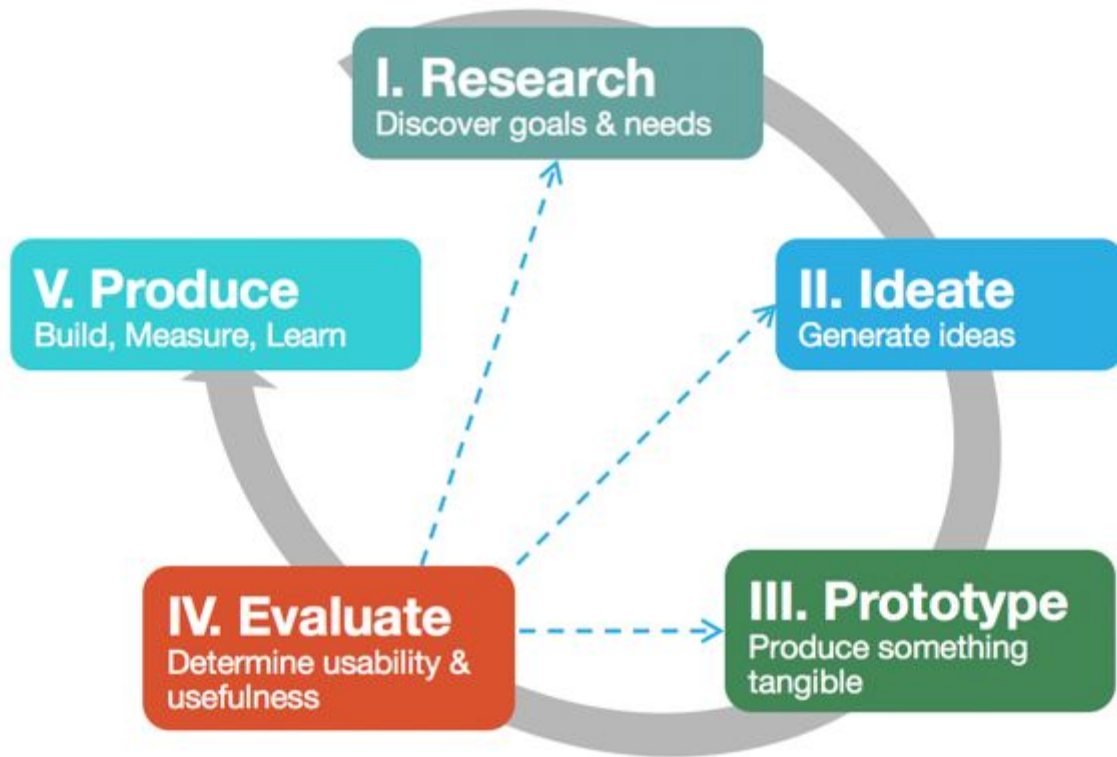
Andrew Berry, Taryn Bipat,
Hyewon Suh

Course Assistants Aleenah Ansari, Becky Baron, Valerie
Huang, Wendy Kang, Daiana Kaplan, Burren Peil, Haley Tuttle,
Kimberly Wong, Kotoko Yamada

Check-in!

Share with your table what you wrote and drew in your yellow sketchbook for studio prep.





Interaction Design
Physical computing
← **Ideation**
Info Visualization
Usability Testing
User Research

Today's studio

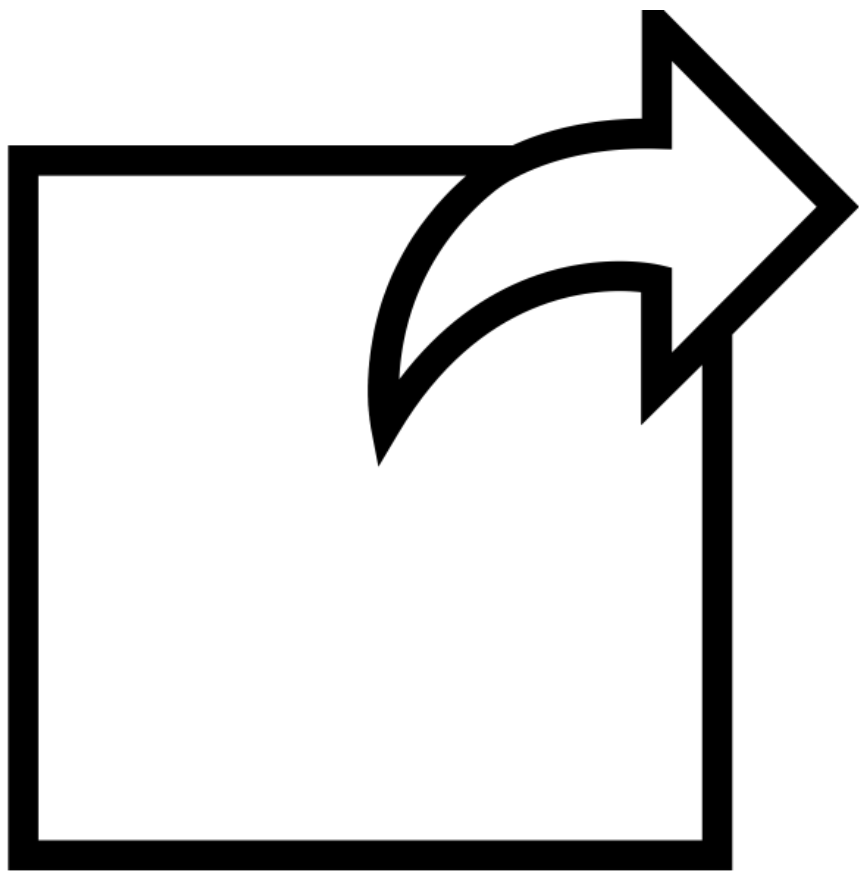
- Warm-up!
- Overview ideation & sketching as a form of ideation
- Ideate! Ideate! Ideate!
- Deliverable hints, questions, and clean-up

6 minute warm up:

Collaborative Sketching

How might we help drivers eat in the car?

1. Sketch an idea on a piece of paper (60 seconds).
2. Pass your sketch to the person on your right.
3. Add at least one new visual element to the sketch passed to you (60 seconds).
4. Repeat steps 2-3 *five* more times.
5. Look back at your original sketch!



“Ideation is the creative process of generating, developing, and communicating new ideas [...]”

Jonson, B. (2005). Design ideation: the conceptual sketch in the digital age. *Design studies*, 26(6), 613-624.

Ideation

Group creativity technique

- Defer judgment
- Reach for quantity
- Welcome wild ideas
- Combine & improve ideas

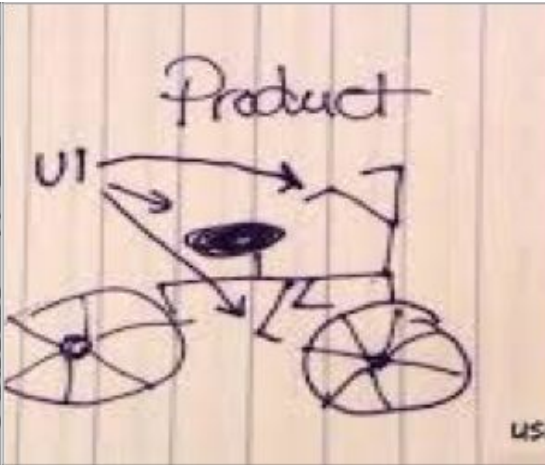
Osborn, A. F. (1953). Applied imagination.

Sketching for ideation

Fundamental tool that helps designers express, develop, and communicate ideas.



Doodle



Design Ideation



Art

Why we sketch

- Often quick and cheap
- Document ideas
- Communicate ideas
- Get feedback on ideas
- Build/elaborate on ideas++

Develop ideas & think through ideas — a.k.a. ideation!





CENTR
GASTR
SUBΔ

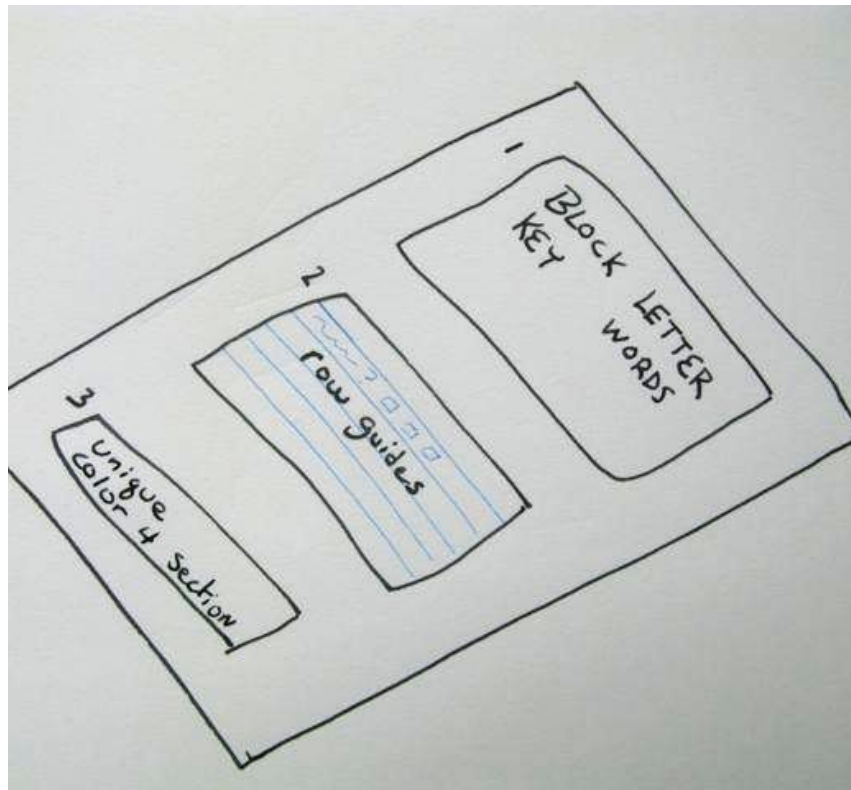
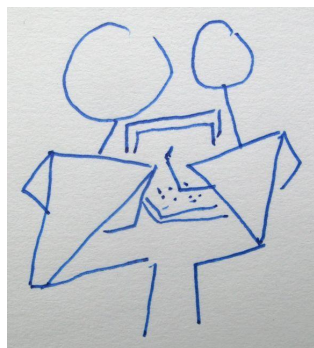
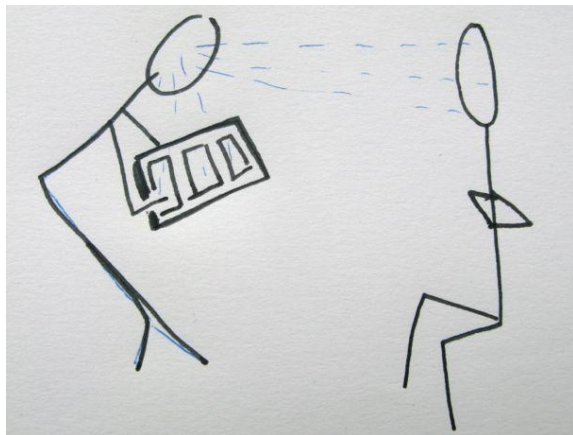


R/Δ·PIZZER/Δ·BIRRER/Δ·SPAGHETTER/Δ·PIZZ

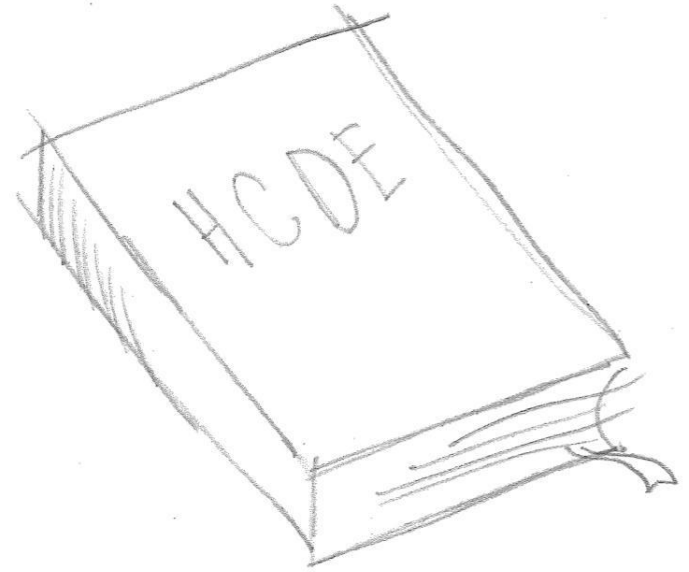




ATTENTION
IS SELECTIVE



**Grab your
sketchbook!**



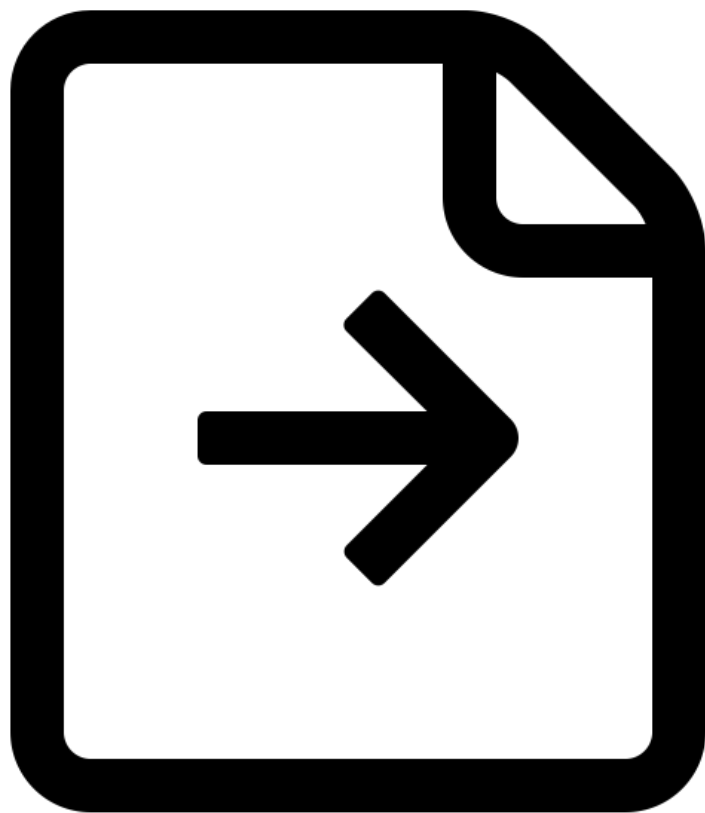
5 minutes, 5 sketches

How might we help
people *remotely* attend
music shows/concerts?

Sketch 1 idea per page.

1 minute for each sketch.

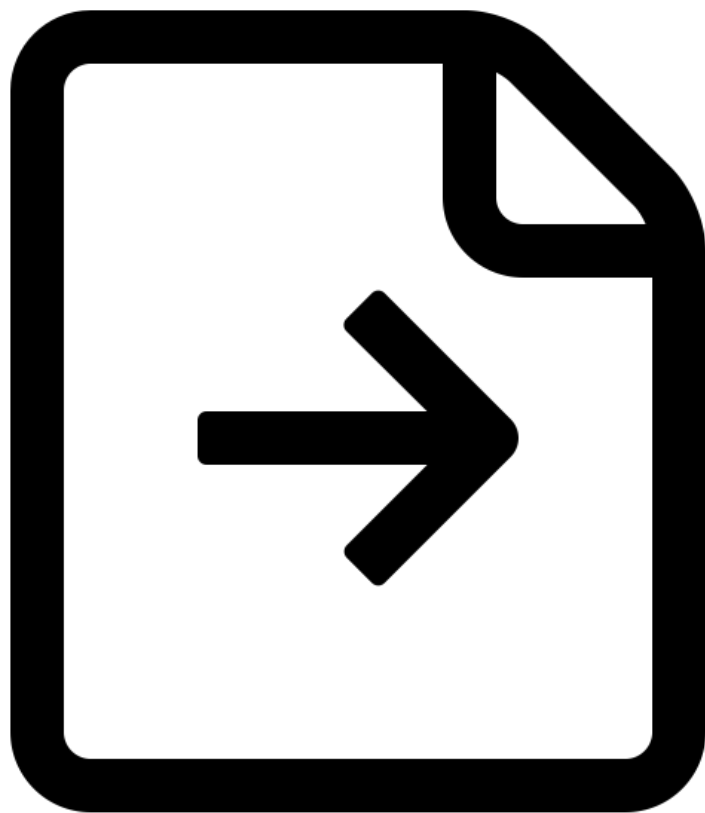




Sketch #1 (1 minute)

How might we help people
remotely attend music
shows/concerts?

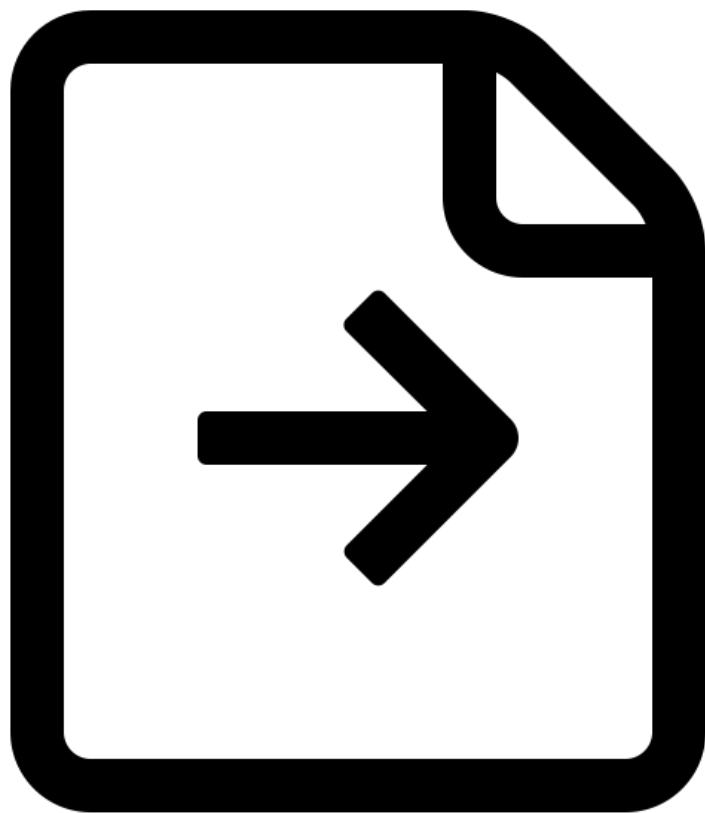




Sketch #2 (1 minute)

How might we help people
remotely attend music
shows/concerts?

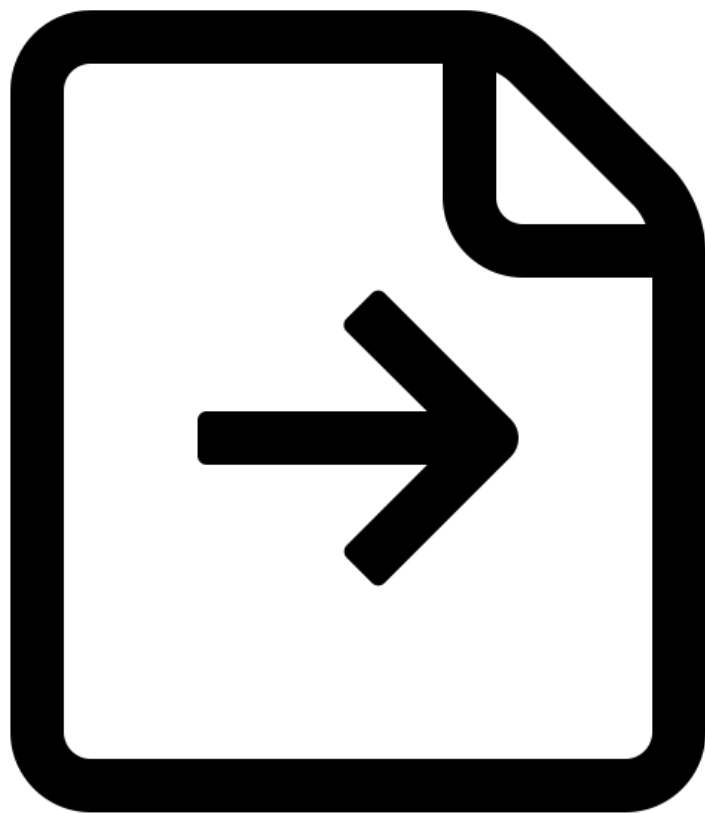




Sketch #3 (1 minute)

How might we help people
remotely attend music
shows/concerts?

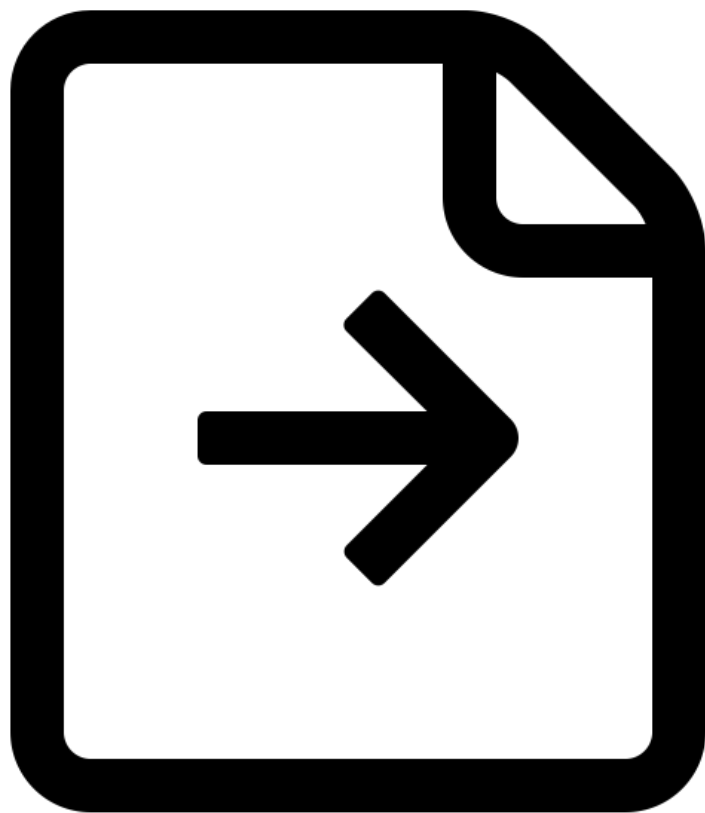




Sketch #4 (1 minute)

How might we help people
remotely attend music
shows/concerts?





Sketch #5 (1 minute)

How might we help people
remotely attend music
shows/concerts?



Share with the class!

Sharing & discussion (5 minutes)

- Share your sketches with your table
- Discuss:
 - What was your strategy for sketching this fast?
 - When you were stuck, what did you do to start moving again?
 - What level of detail did you sketch in? Are your sketches too detailed?
 - Did you label your sketches?

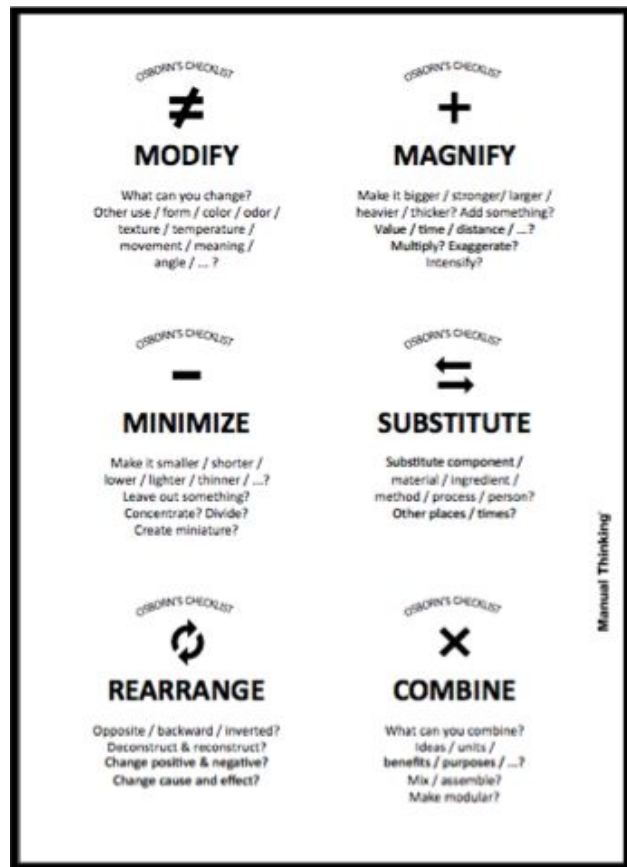
**Each table share
a strategy with
the class!**

Ideation strategies

Ideation Strategies

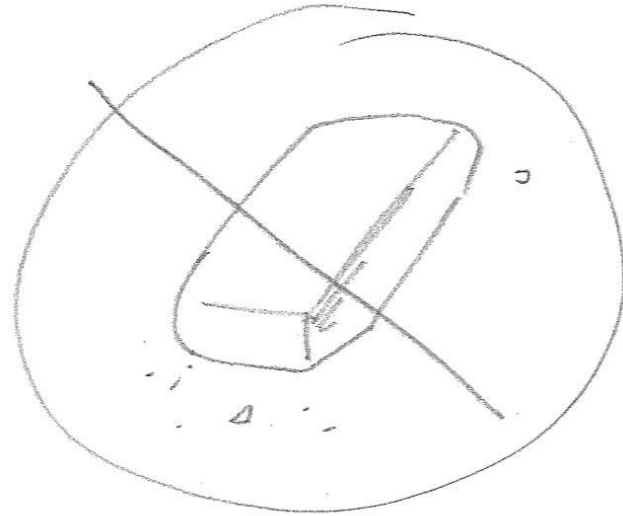
Osborn's Checklist

- Modify
- Magnify
- Minimize
- Substitute
- Rearrange
- Combine



Ideation Strategies

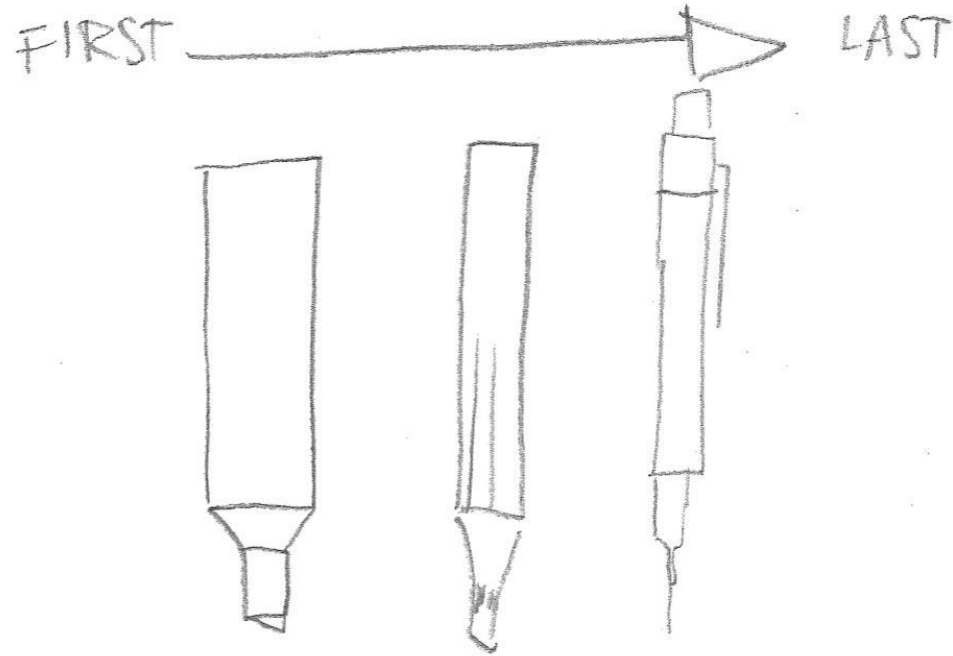
Don't use erasers!



Ideation Strategies

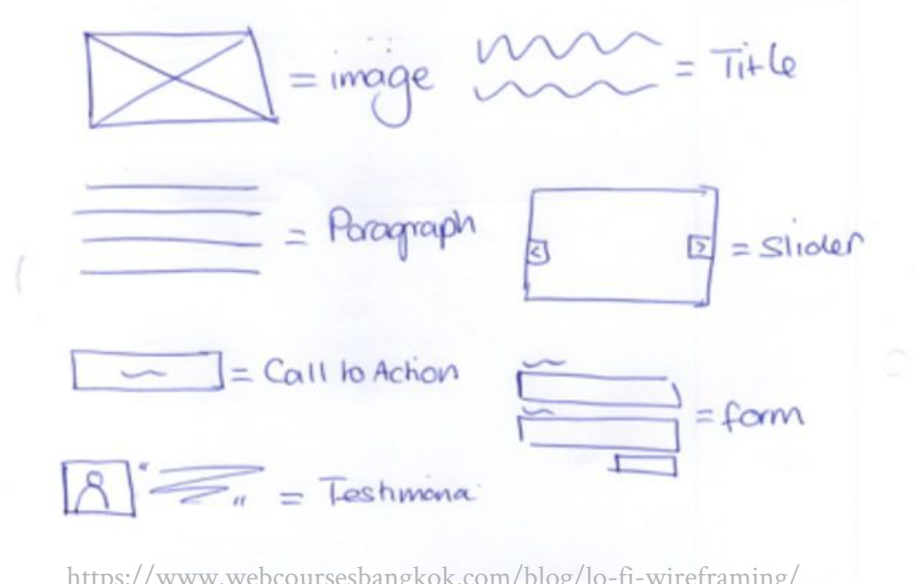
Alternate tools (thick-pointed markers, softer pencils).

Add details only if you come back to the idea, with finer pens.



Ideation Strategies

Use visual conventions for sketching various user interface elements – these are rough and *not* detailed!



Ideation Strategies

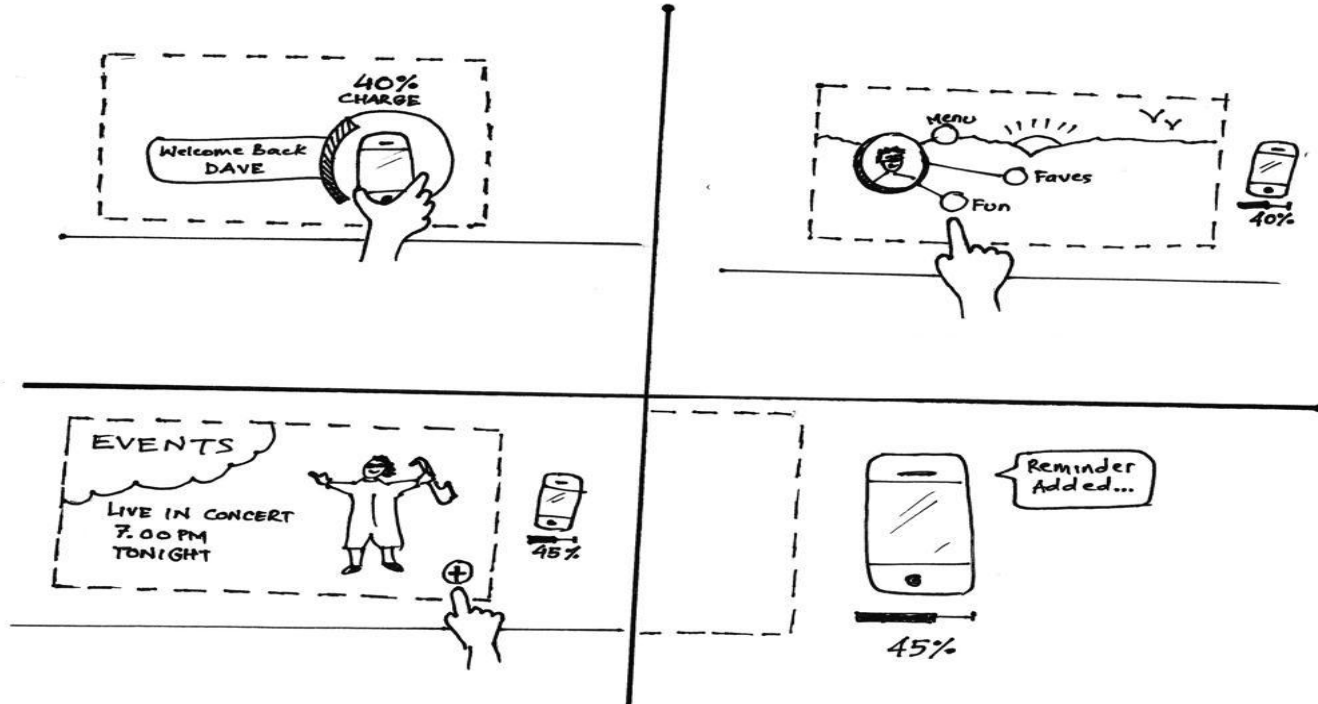
Don't rely on visuals alone.

Add text and labels.



Ideation Strategies

Sequential storytelling/interaction gives sense of proportion



Ideation Strategies

- *Defer judgement.* Good ideas can come from anywhere.
- *Encourage wild ideas*, which can spur creative leaps. Avoid thinking about constraints of tech or materials.
 - No saying, “No!” Say, “Yes, and...”
- *Go for quantity.* Doesn't matter if you're not a good illustrator! Aim for as many new ideas as possible.

Ideation strategies, via IDEO

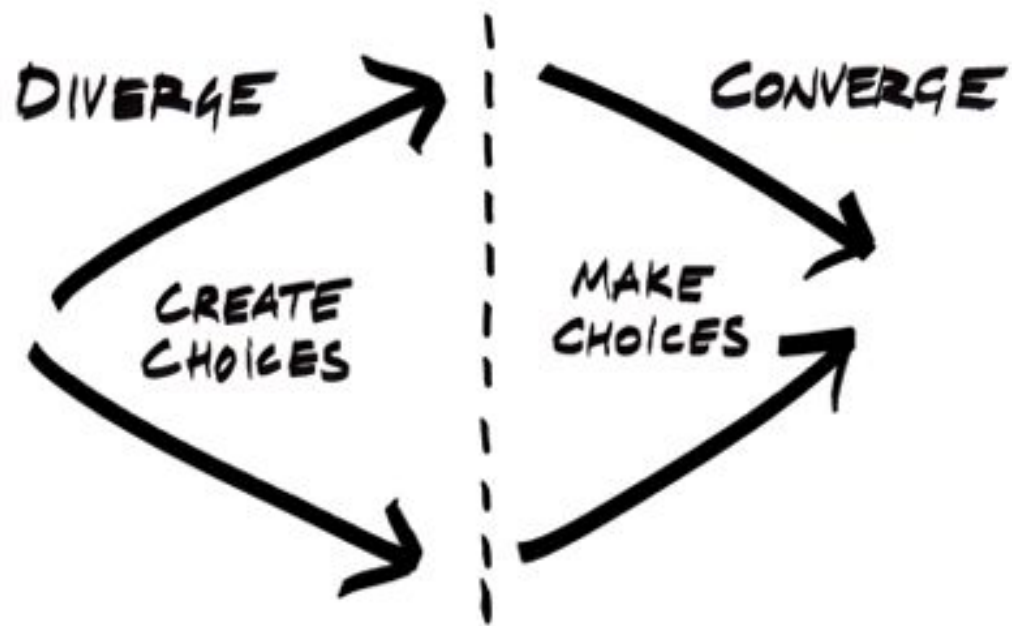
- *Energy*. Keep the ideas flowing. Do what you need to do to be in the right mindset (sleep/eat well).
- *Space*. Be mindful about the space in which you are designing. Have some music playing. Move around if you feel like it. Stand up.

Ideation strategies, via IDEO

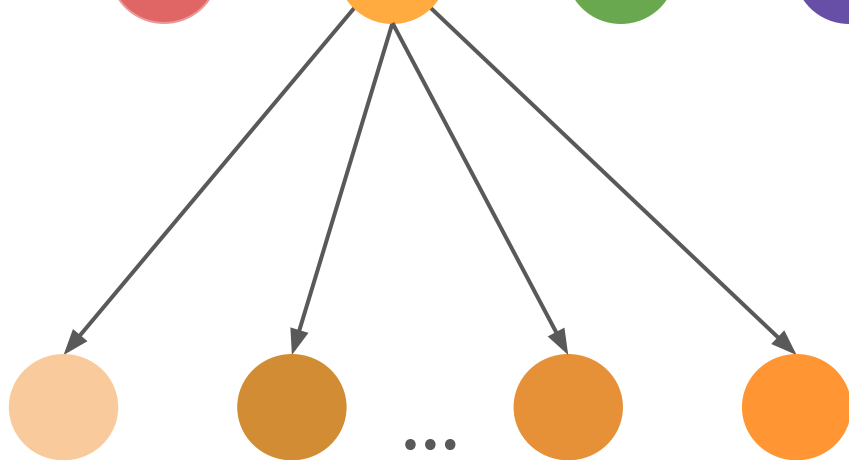
Liberating Constraints —Add constraints to spark ideas.

- *Have questions when you get stuck:* “How would you design with tech of 100 years ago? With future tech?”
- *Add a parameter:* (a) making commuting more fun, (b) adding education to vacationing, (c) how smartphones could be leveraged during eating, or (d) motivating children to exercise.
- *Link seemingly unrelated concepts.* (a) lamp + grapes, (b) bike riding + lunch, (c) bike riding + movies...

Pick two strategies!



Diverge

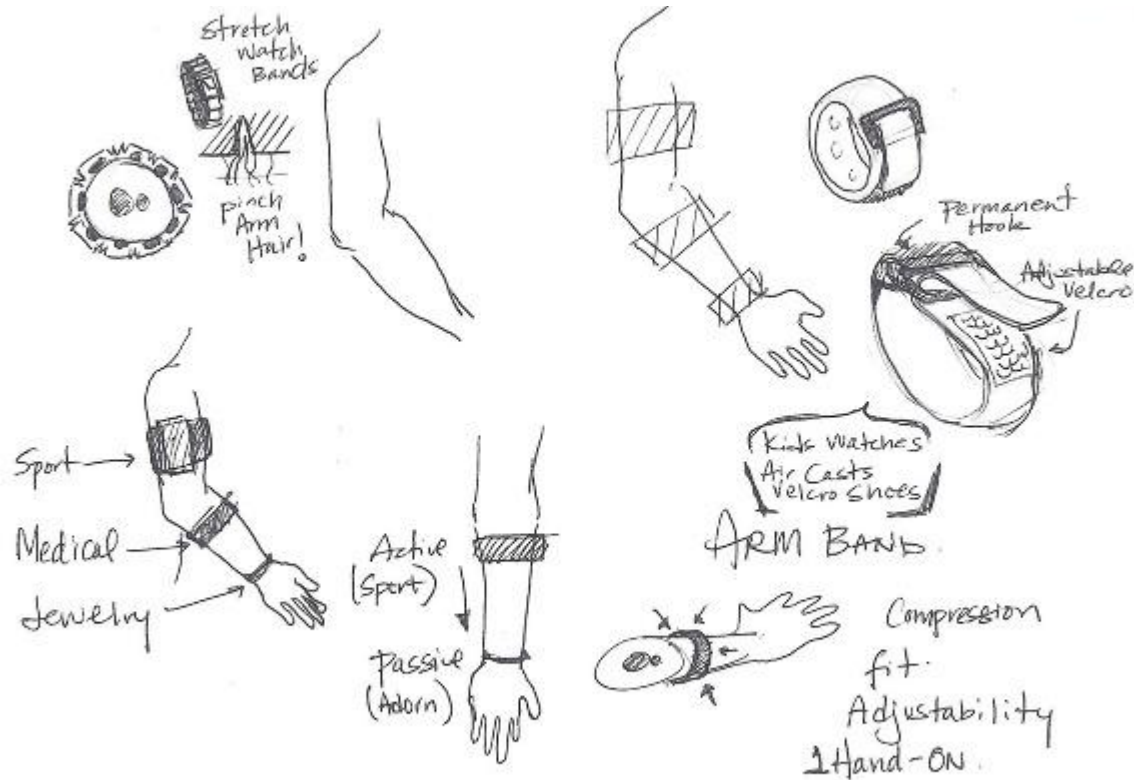


Converge

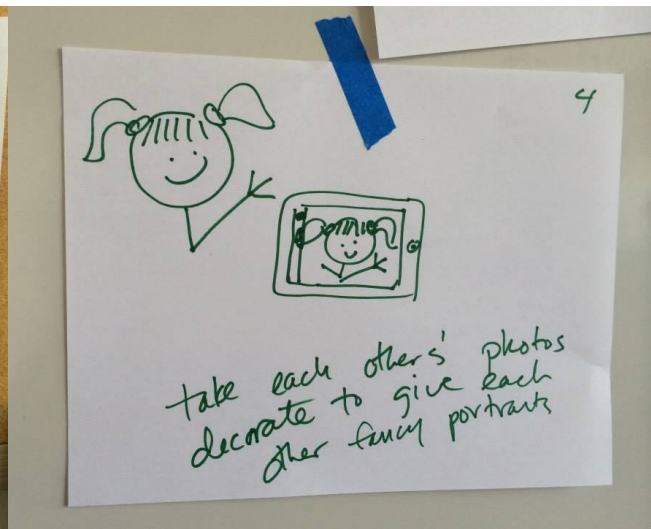
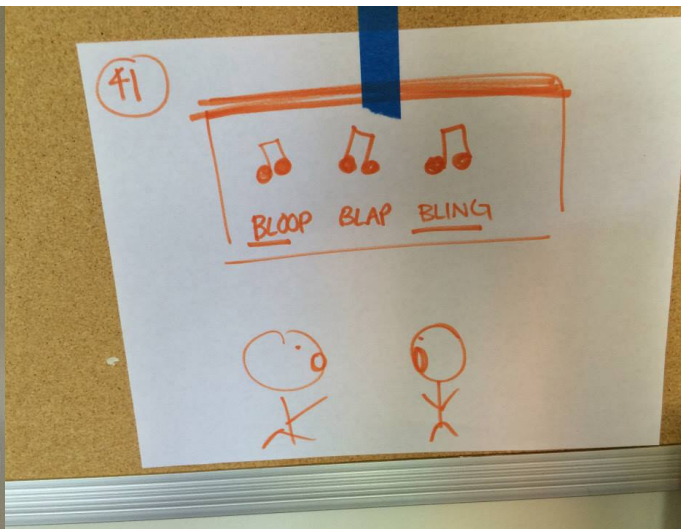
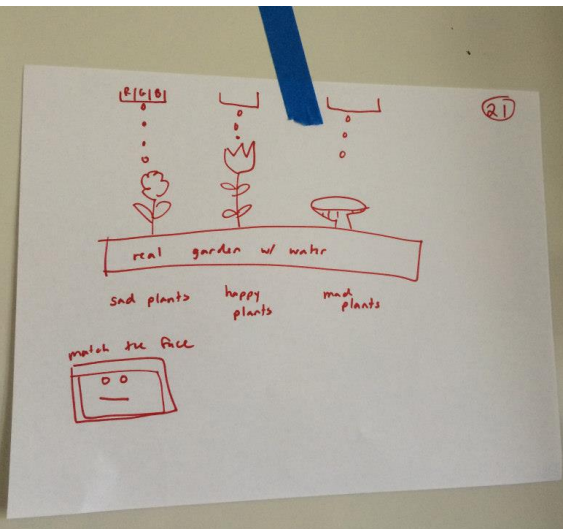
Convergent ideas



Convergent ideas



Divergent ideas

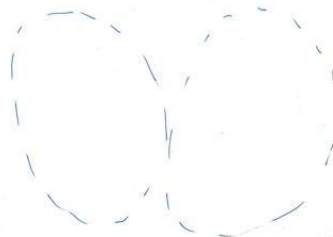


Convergent ideas

- △ Drag the teddy bear to Bobby to make him less worried.

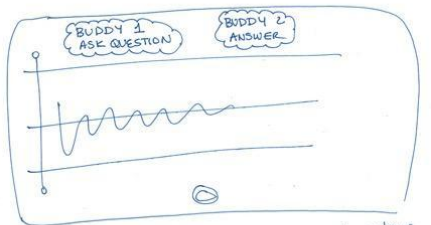


- Take a picture together making your silliest faces!



(emotions -
happy, sad,
angry
→ empathize
w/ other
characters)

- Ask your buddy what her favorite book is and why. Record the ~~ans~~ question and answer.



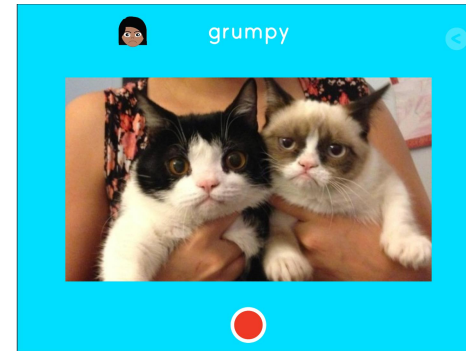
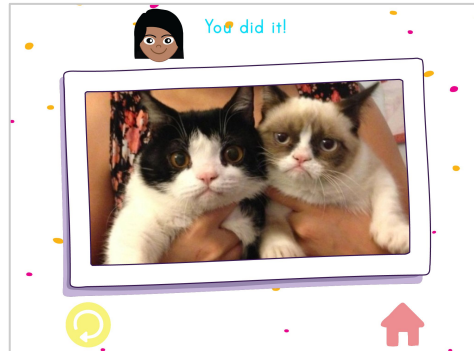
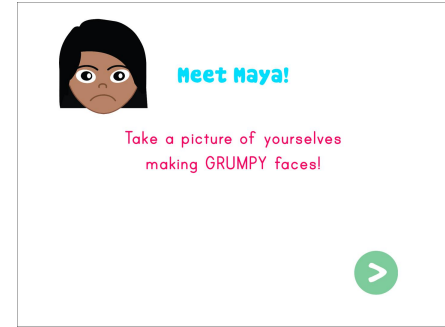
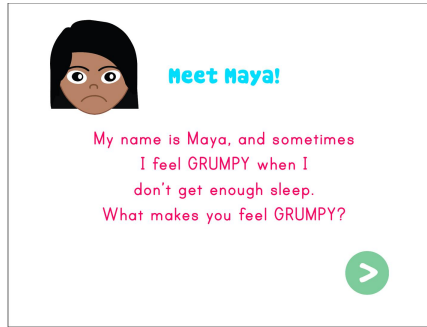
(must have
2 voices)



- Can you put toppings on the pizza for Cecilia?



Sketches to prototyping



**35 minutes,
15 sketches**

divergent & convergent design ideas

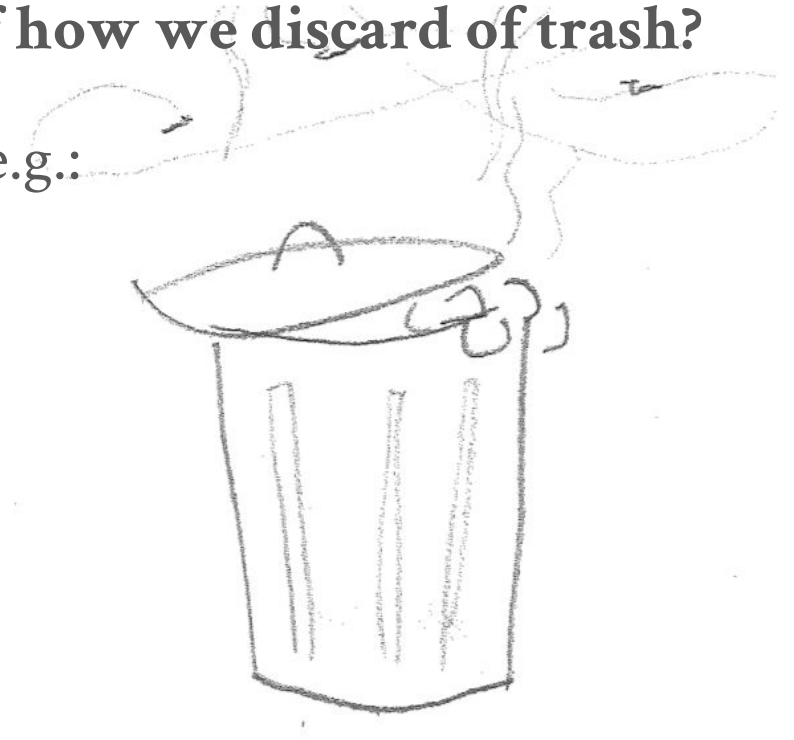
20 minutes, 10 group ideas

How could we change the process of how we discard of trash?

Sketch divergent ideas related to trash, e.g.:

- reduction
- recycling
- pick-up
- reuse, etc.

Label every sketch with *at least* a name.



How do designers select their “most promising idea?”

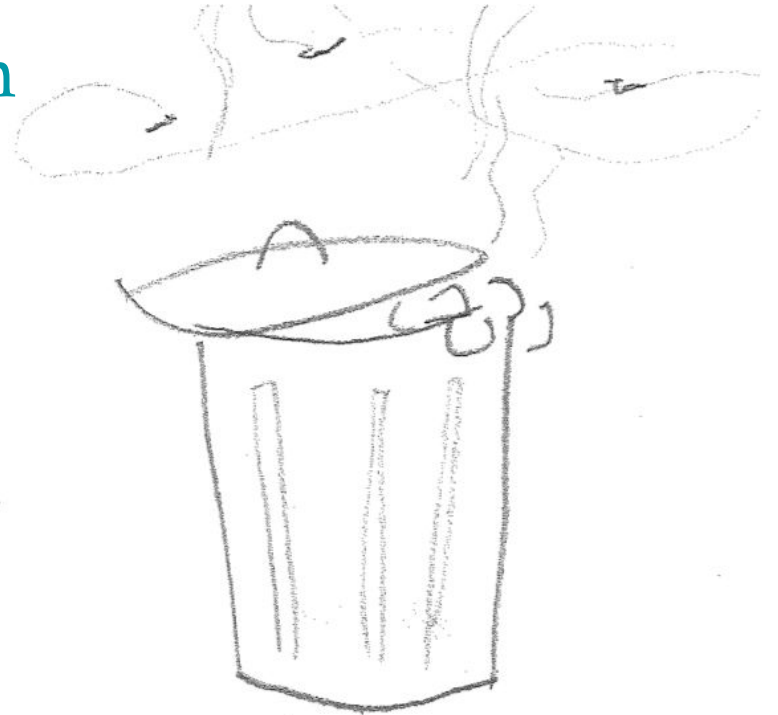
- Cost
- Feasibility
- Complexity
- Novelty
- Interest
- Desirability

... but there are no “right” answers!



Pick *one* most promising design idea of the five you just sketched.

Label it as *the most promising*.



15 minutes, 5 group ideas

How could we change the process of how we discard of trash?

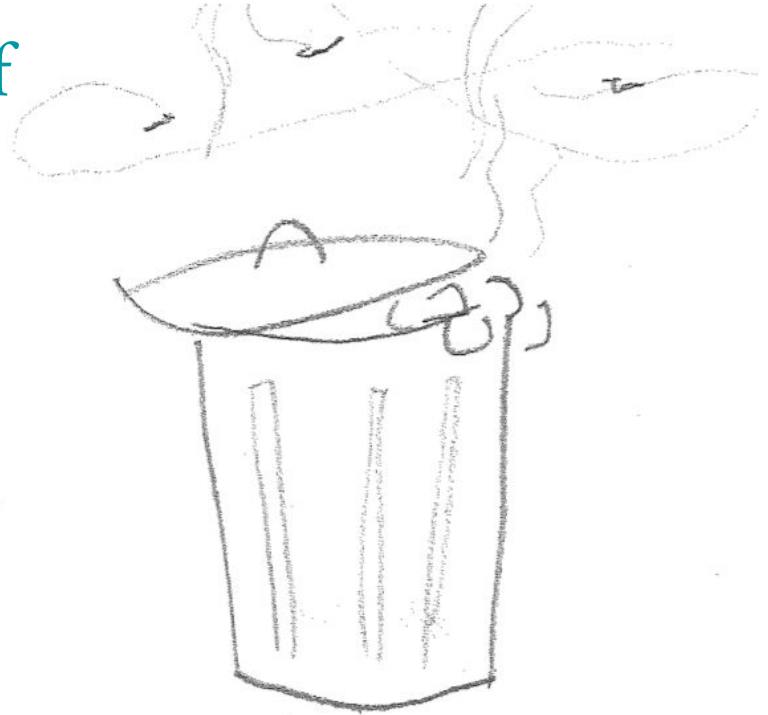
Sketch *convergent* ideas around the most promising sketch you chose previously.

Label every sketch with *at least* a name.



Pick your *most promising idea* of the five convergent ideas you just sketched.

Label it as *the most promising*.



**Share your more
promising idea with
the class + explain
why you chose it.**

(1 minute per group)

Discussion

- Which was more challenging: divergent or convergent ideation? Why?
- What were effective (or ineffective) strategies to help you ideate? Why do you think so?
- What strategies do you want to try next, if anything? Why?
- When do you think you could use more rapid ideation vs. taking more time / giving more detail? Why?
- When do you think sketching for ideation might be better vs. other methods (sticky noting, body storming)? Why?

Ideation
deliverable

10 divergent ideas, 10 convergent ideas - LABELED!

1. *Accessible commuting:*

Develop a series of transportation option ideas centered on promoting safe, dependable and inclusive transit for all residents, prioritizing those with disabilities.

2. *Sustainable commuting:*

Focus on developing ideas that both reduce city vehicle congestion and greenhouse gas emissions, by offering a variety of mobility options.

Deliverable Hints

Limit your time, max 3 hours:

- 75 minutes for the first 10 sketches
- 15 minutes to label appropriately
- 75 minutes for the next 10 sketches
- 15 minutes to label those

The design challenge is too open!

- Consider self-imposing an additional constraint, e.g., fun, educational, fast, slow, entertaining, etc.

Deliverable Hints, cont'd.

How do I choose the "most promising" concept?

- *Some considerations:* cost, feasibility, complexity, novelty, interestingness, and desirability.

Can I only ideate different “computing technologies?”

- No, definitely not! You can imagine mobile apps, physical objects, services, systems, etc. Have fun and come up with wild ideas!

Deliverable Hints, cont'd.

Can I get a distinction from having really excellent drawings for my ideas on this deliverable?

No! Sketching is a tool for ideation that does not necessitate incredible artistic skill. Your ideas should be clear (that's why you'll be labeling), but that does not require you to be an artist, so you will not be awarded distinctions for this type of additional work.



Distinctions from last week

Questions?

Form: <https://goo.gl/forms/yb3AzJA8yHsgeeFS2>

Visit us during office hours or by appointment

Clean up!

