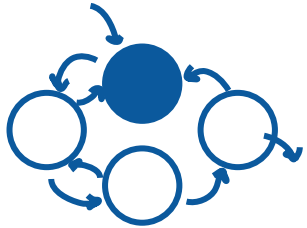
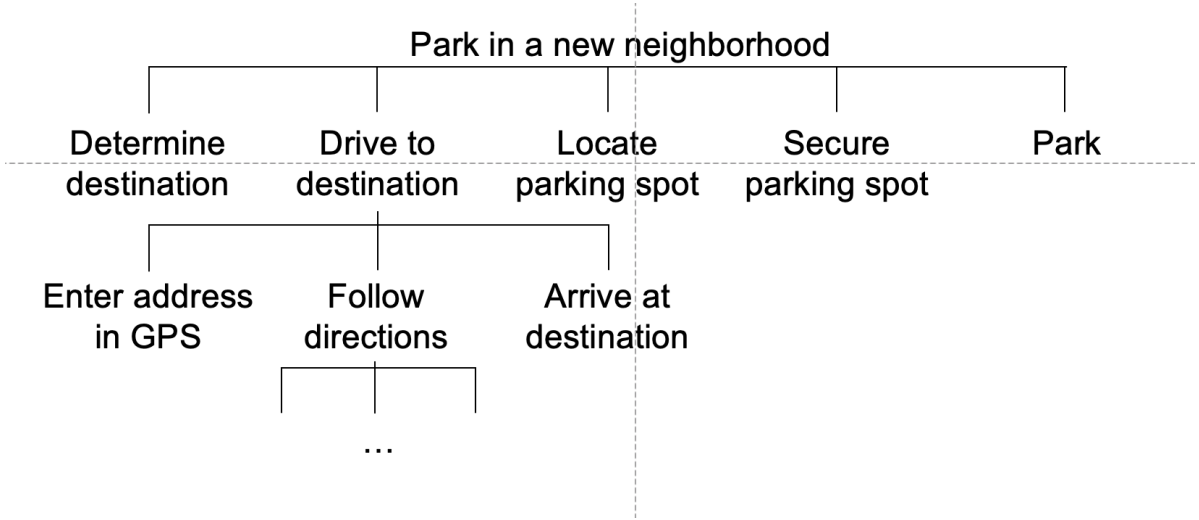


Human Computer Interaction

Taslima Akter

Design Processes & Methods – Part 7

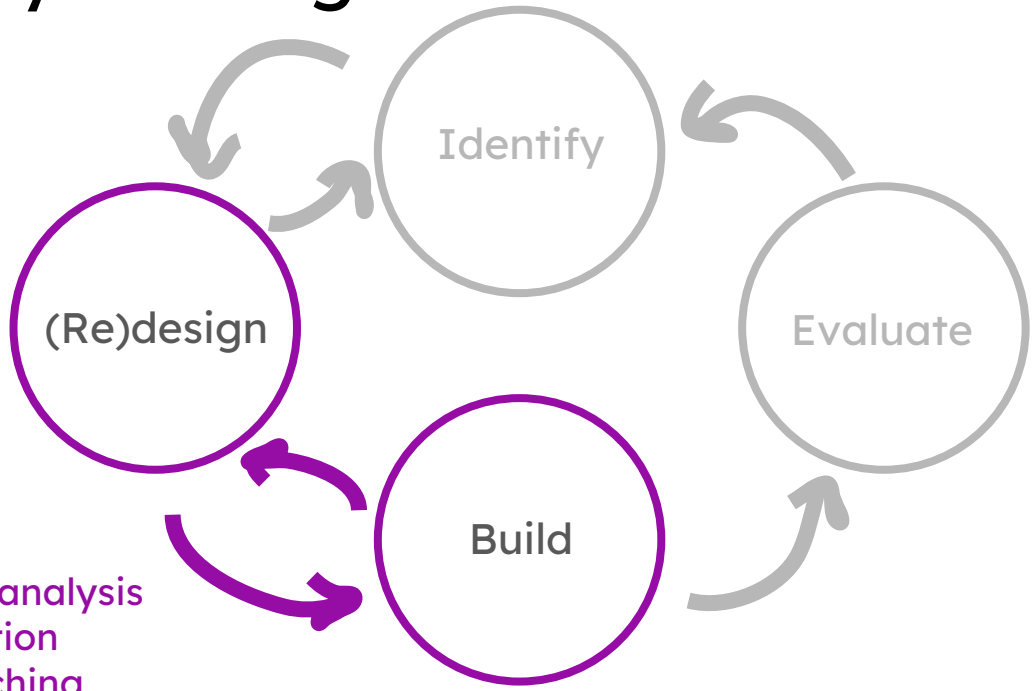
Last Class – Task Analysis



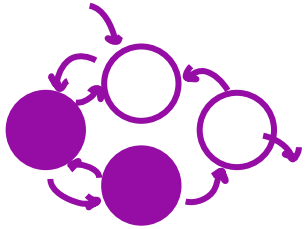
Helps identify the tasks that your solution must support

Helps to find the simplest, most effective way of accomplishing a task

Today - Design & Build



pt.3 task analysis
ideation
sketching
storyboarding
mockups
prototyping
...



task analysis

ideation

sketching

storyboarding

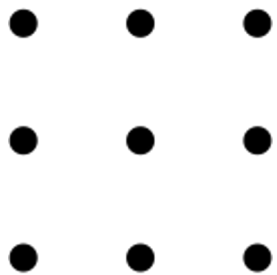
mockups

prototyping

How would you define a **chair**?

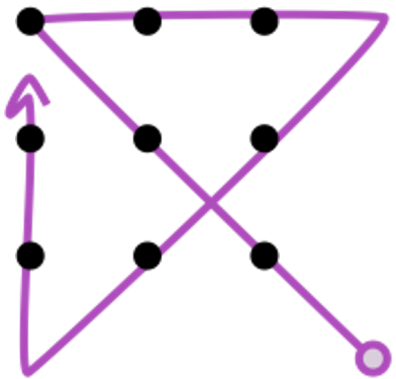
Chat it out with a neighbor, write it down, let me know :)

Classic 9-dot Puzzle



Here are nine dots arranged in a set of three rows. Your challenge is to draw four straight lines which go through the middle of all of the dots without taking the pencil off the paper.

Classic 9-dot Puzzle



My point: people tend to impose constraints on a design problem that do not actually exist. We need **new ways of thinking** to break out of these assumptions.

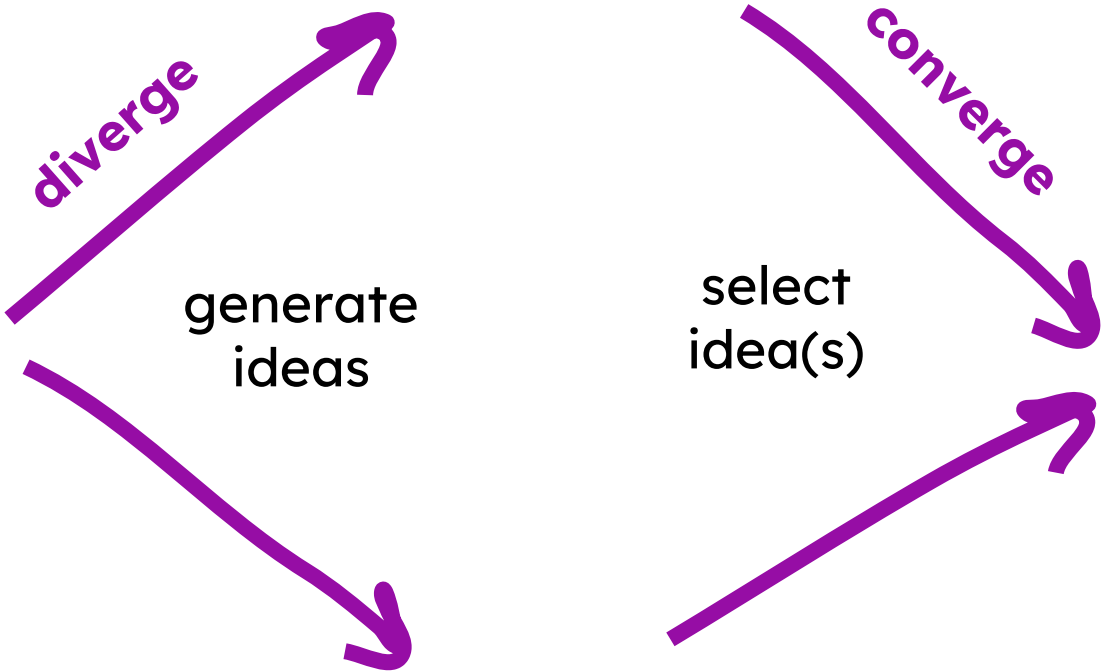
Here are nine dots arranged in a set of three rows. Your challenge is to draw four straight lines which go through the middle of all of the dots without taking the pencil off the paper.

Design Thinking

Design thinking has come to be defined as combining ***empathy*** for the context of a problem, ***creativity*** in the generation of insights and solutions, and ***rationality*** in analyzing and fitting various solutions to the problem context. According to Tim Brown, CEO and president of IDEO, the goal of Design Thinking is ***"matching people's needs with what is technologically feasible and viable as a business strategy."*** The premise of teaching Design Thinking is that by knowing about how designers approach problems and the methods which they use to ideate, select and execute solutions, individuals and businesses will be better able to improve their own problem solving processes and *take innovation to a higher level*.

http://en.wikipedia.org/wiki/Design_thinking

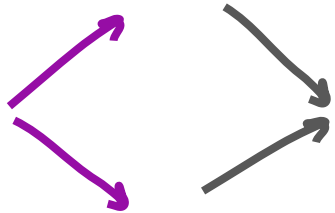
Ideation Requires 2 Types of Thinking



How to generate alternatives? (divergent thinking)

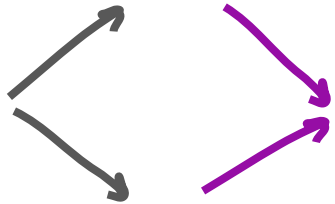
- Ideating alternatives to ‘break out of the box’
- Create conditions for creativity: **Brainstorming** methods
- Seek inspiration: look at **existing products** that are (dis)similar

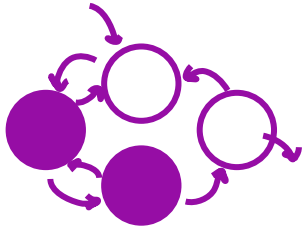
*“If you want to have good ideas **you must have many ideas**. Most of them will be wrong, and what you have to learn is which ones to throw away.”*
- Linus Pauling



How to choose among alternatives? (convergent thinking)

- Technical feasibility: some not possible
- Quality thresholds: Usability goals lead to usability criteria set early on and check regularly
  - safety, utility, effectiveness, efficiency, learnability, memorability
- Evaluation with users with prototypes





task analysis
ideation

sketching

storyboarding

mockups

prototyping

Sketching is...

- “the archetypal activity of design” (Bill Buxton)
- Useful as an activity even if the outcome is thrown away
  - Brainstorming
  - Comparing
  - Communicating

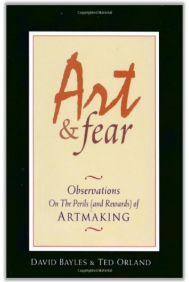
You Can Sketch!

start at ~0:46
end at ~3:05

https://www.youtube.com/watch?v=KO_4RfH-_h4

Quality vs. Quantity

- Two pottery classes
  - One class told they will be graded on quality, another on quantity



Quality vs. Quantity

- The quantity class produces better pots. Why?

Quality vs. Quantity

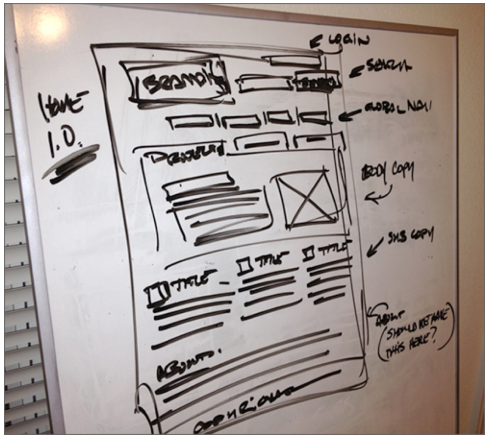
- The quantity class produces better pots. Why?
- “While the quantity group was busy churning out piles of work—and learning from their mistakes—the quality group had sat theorizing about perfection, and in the end had little more to show for their efforts than grandiose theories and a pile of dead clay.”

Sketches are...

- Quick
- Timely
- Inexpensive
- Disposable
- Plentiful
- Clear vocabulary
- Distinct gesture
- Minimal detail
- Appropriate degree of refinement
- Suggest and explore rather than confirm
- Ambiguous

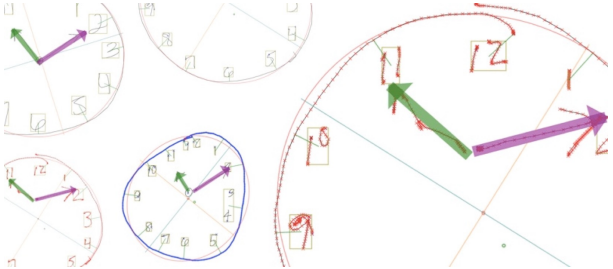
Quick

- A sketch is quick to make, or gives that impression



Timely

- A sketch can be improved when needed



Inexpensive

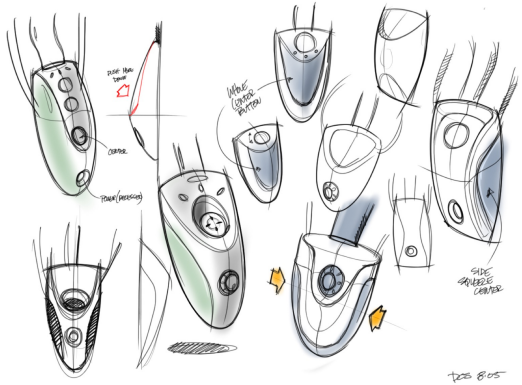
- Cost must not inhibit the ability to explore a concept, especially early in design

Disposable

- If you cannot afford to throw it away (time, physical materials) it is not a sketch
- Investment is in the process, not the physical sketch
- But they are not “worthless”

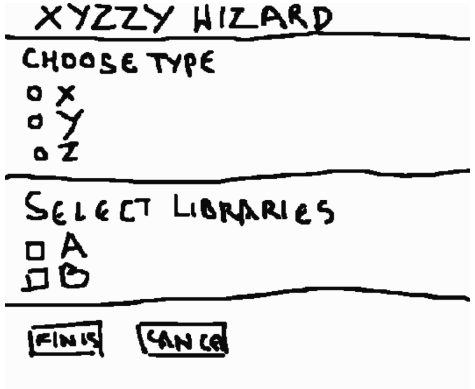
Plentiful

- Sketches do not exist in isolation
- Meaning and relevance is in the context of a collection or series



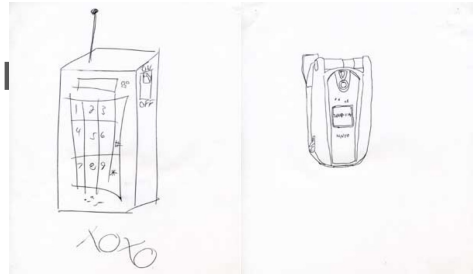
Clear vocabulary

- The way it is rendered makes it distinctive that it is a sketch (style, form, signals)

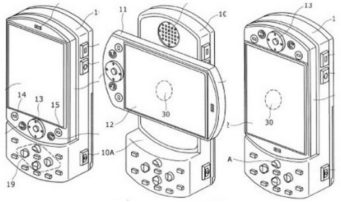


Distinct gesture

- Fluidity of gestures give them a sense of openness and freedo
- Opposite of engineering, which is tight and precise

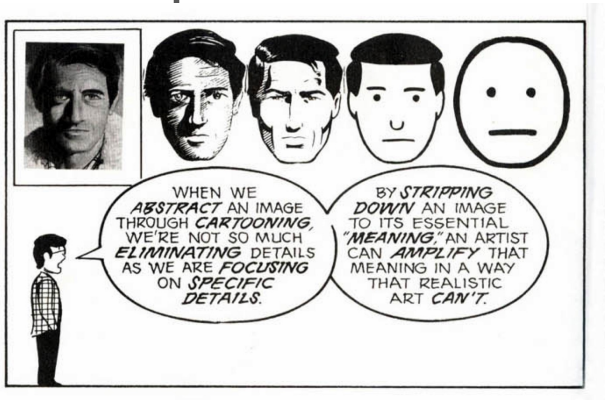


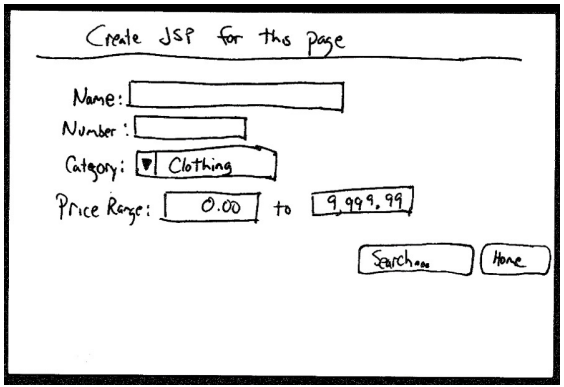
vs.



Minimal detail

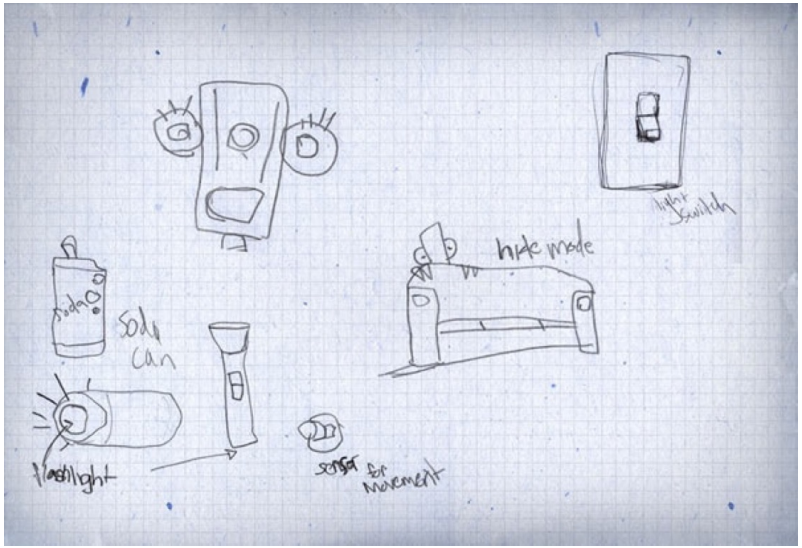
- Include only what is required to render the intended purpose of the concept





Appropriate degree of refinement

- Make the sketch as refined as the idea
  - If you have a solid idea, make the sketch more defined
  - If you have a hazy idea, make the sketch look rougher or less defined



Suggest and Explore rather than Confirm

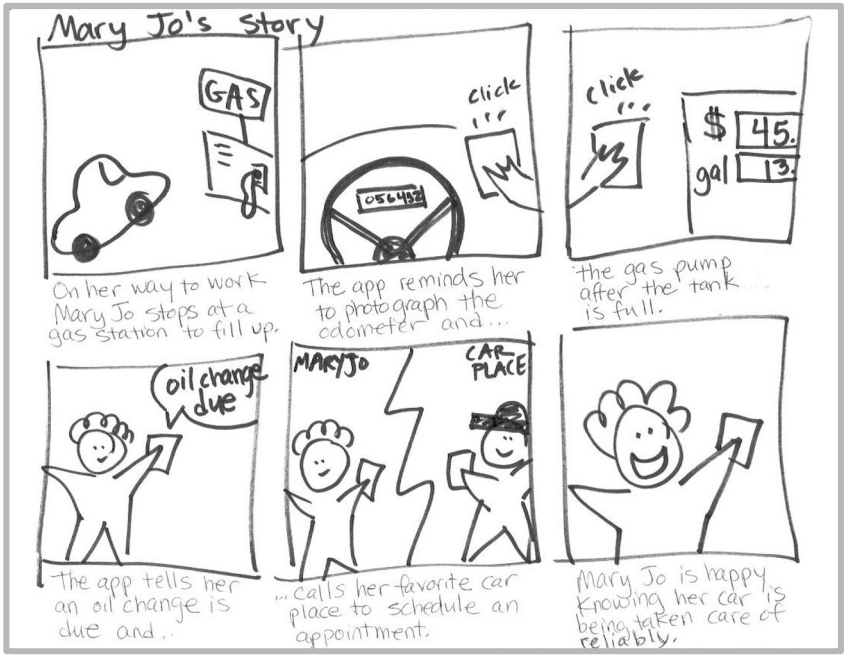
- Sketch should act as a catalyst to the desired and appropriate behaviors, conversations, and interactions

Ambiguity

- Intentionally ambiguous
- Value comes from being able to be interpreted in different ways, even by the person who created them
- Sketches have holes

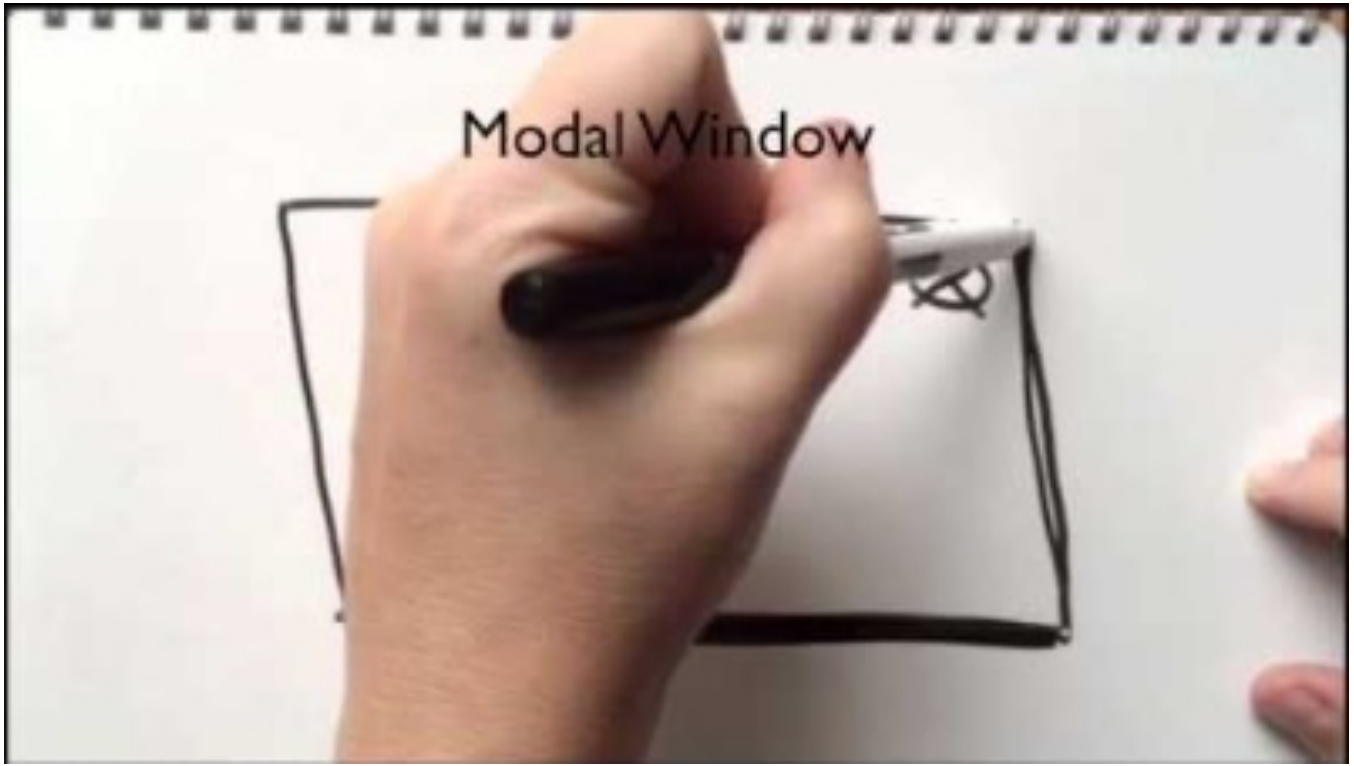
You Can Sketch Wireframes, Scenarios

A wireframe sketch (low-fidelity layout of a UI)



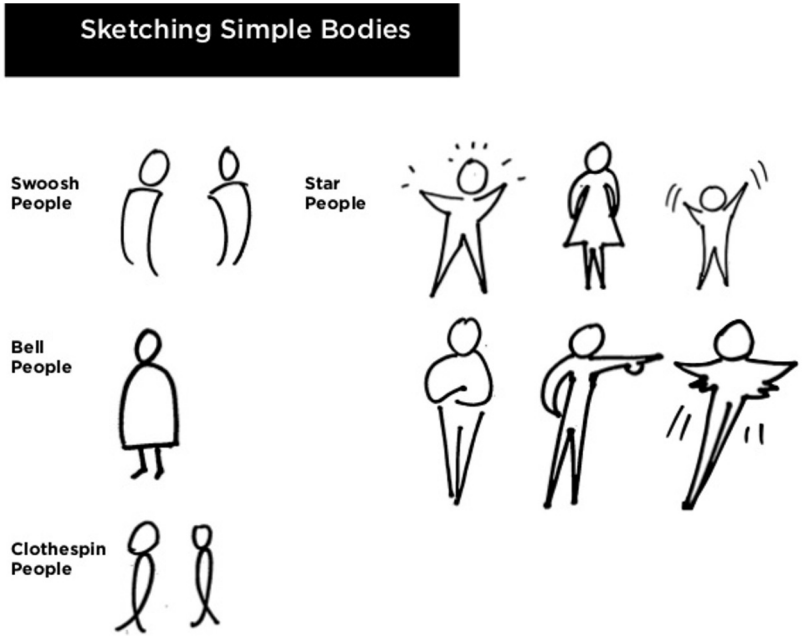
A scenario sketch (aka storyboard--a short story of user interaction that uses pictures and text)

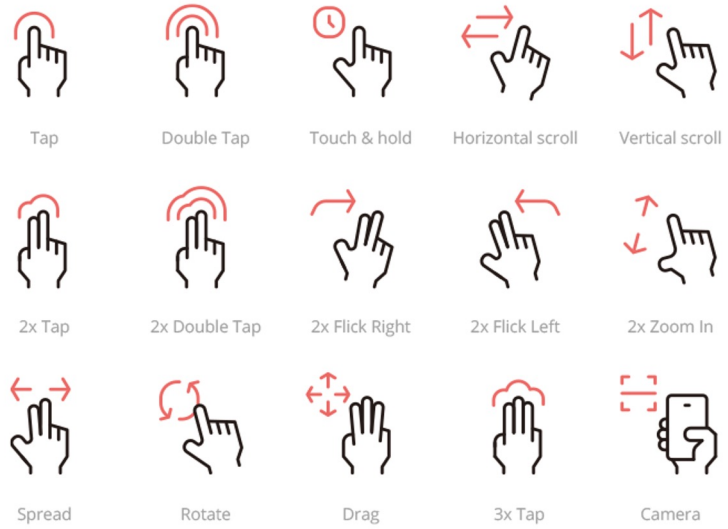
Some “Distinct Gestures” of Wireframing



https://www.youtube.com/watch?v=oakzPi2urR8&ab_channel=MaryShaw

Some “Distinct Gestures” of Storyboarding





Learn More About Sketching

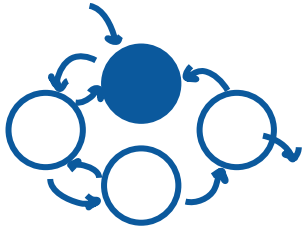
https://www.youtube.com/watch?v=PmmQjLqJQIY&ab_channel=CharliMarieTV
https://www.youtube.com/watch?v=UXOLJy0E7Pg&t=8s&ab_channel=RelabStudios
https://www.youtube.com/watch?v=6lUoVdpwsIM&ab_channel=UnmeshGite

A12: Creating Sketch

Activity 12

15 minutes

- Sketch ways people can record their sleep
- Take photos of your sketch and make a pdf
- Submit to Canvas



Human Computer Interaction

Taslima Akter

Design Processes & Methods – Part 7

Materials in this course were compiled from courses taught by: Matt Bietz, Stacy Branham, Tyler Fox, Elena Agapie, Nigini Oliveira, Katharina Reinecke, Andrew Davidson, Jennifer Turns, Daniel Epstein, Andrea Hartzler. Thank you to all.