

# Sketching in Interface Design

CPSC 544 Fundamentals in Designing Interactive  
Computation Technology for People

Drawn from:

- Greenberg, S. (2011). *Sketching user experiences: The workbook*, Morgan Kaufmann Inc.
- Ben Crothers. *Storyboarding & UX - Part 2: Creating your own*.  
Accessed 2011: <http://boxesandarrows.com/conceptual-models-in-a-nutshell/>

## Learning goals

- ▶ Exposure to several techniques for incorporating sketching into your design work
- ▶ See examples of using storyboards
- ▶ Exposure to ways to use sketching as a team

# Storyboards and Sketching

- ▶ Flexible methods for representing conceptual design!
  - ▶ Can be used to show what the user is thinking/feeling
  - ▶ Communicate metaphors
  - ▶ Interface types and styles of interaction
  - ▶ Environments and contexts in which system is used
- ▶ Can be very low investment

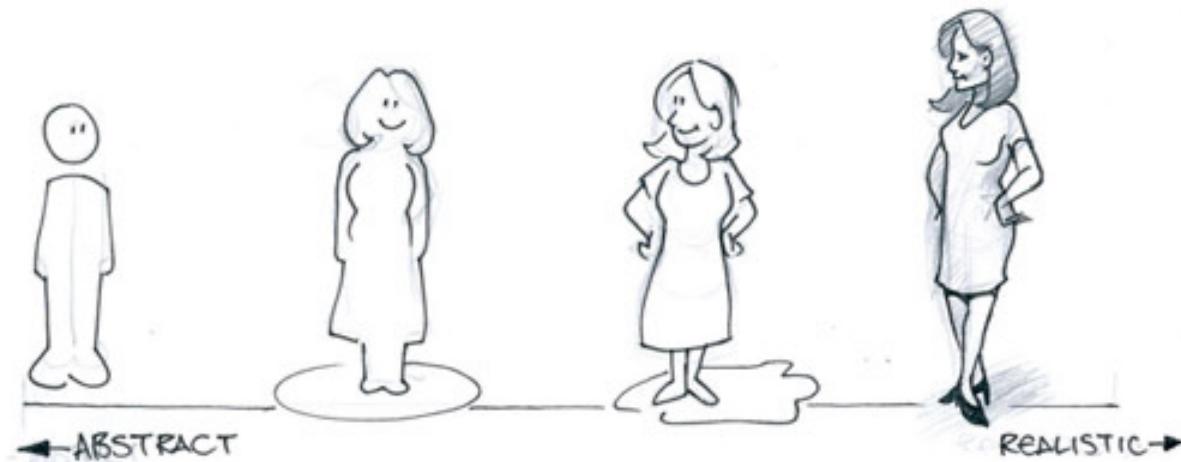
Ben Crothers. *Storyboarding & UX - Part 2: Creating your own.* Oct 17, 2011

CPSC 544 - 2023W1

# storyboards and sketching

you don't need to be great at drawing to communicate your ideas

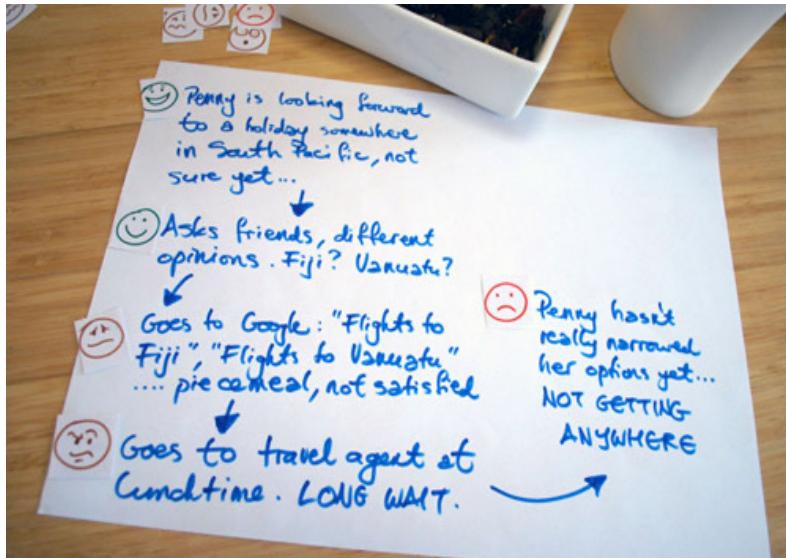
→ sketches and storyboards can vary in fidelity



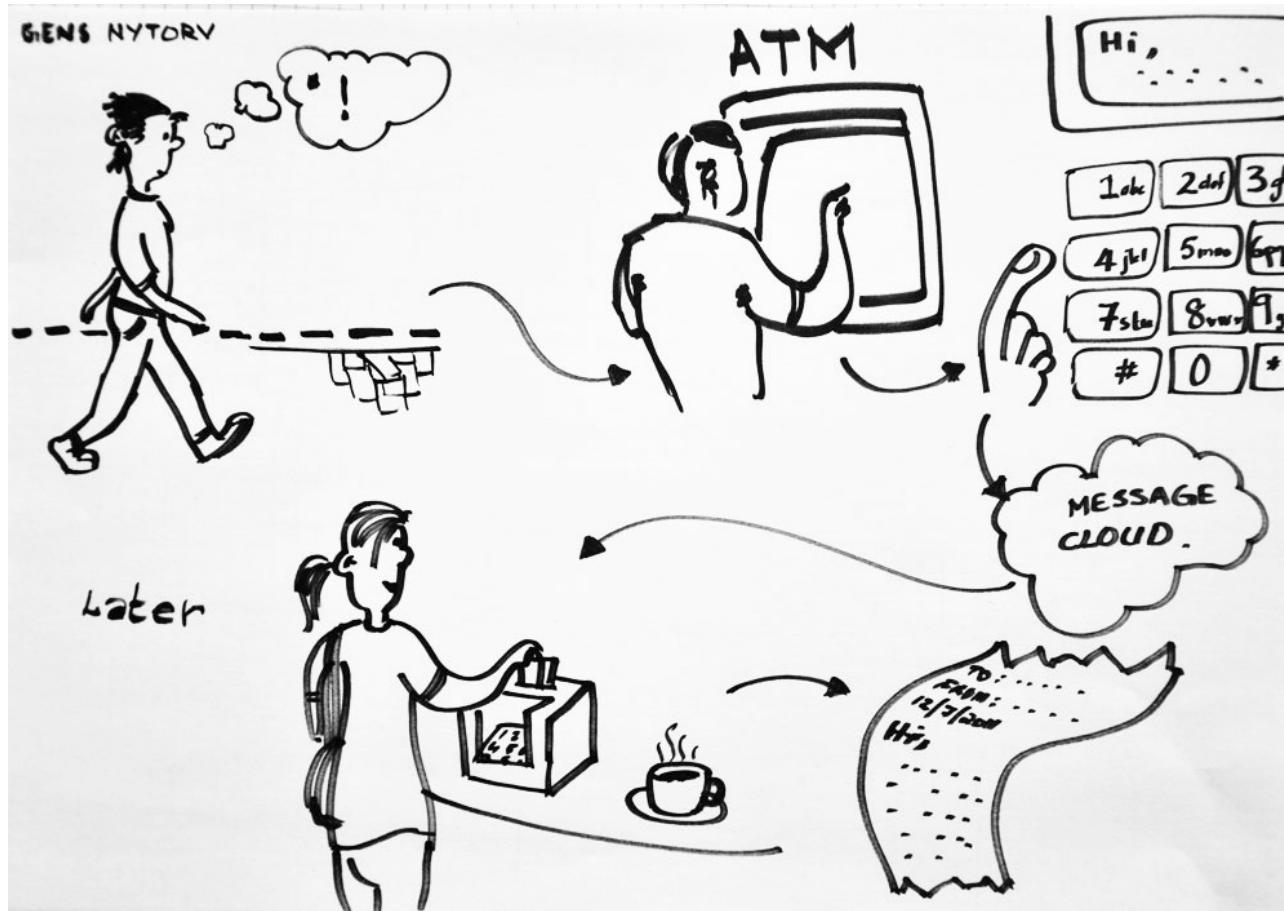
# Storyboards

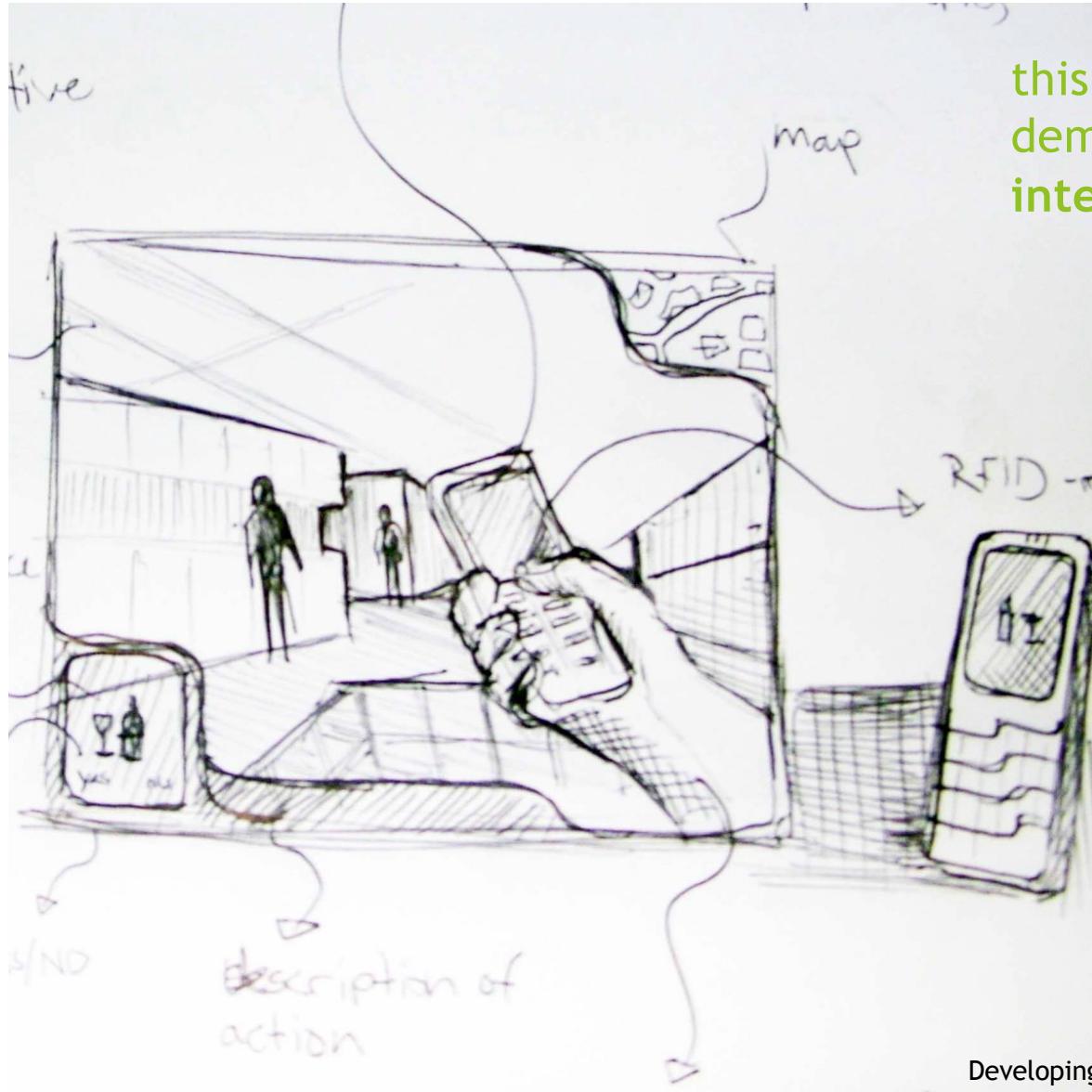
## ► Guidelines for storyboards:

- Decide what you want trying to communicate
- Consider characters, plot, environment, user's thought process and emotions
- Iterate: start with text and arrows & move up to more involved drawings



this storyboard illustrates an envisioned context and process

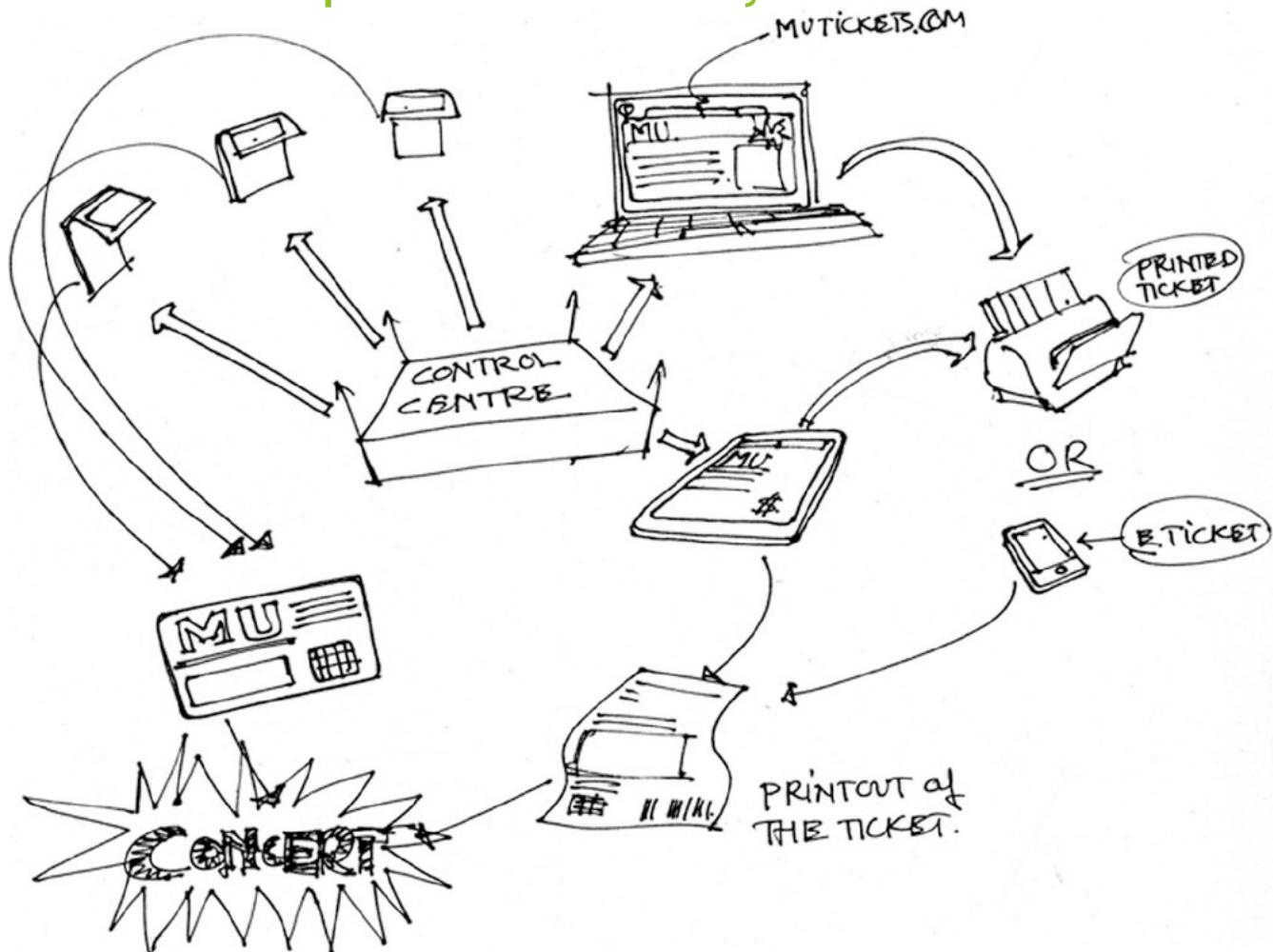




this “exploratory” sketch demonstrate an interface type

Kyrre Kalseth  
Developing and sketches - TASK 3 - MOBILE SHOPING  
<https://kyrriel.wordpress.com/2008/01/>

this conceptual design representation emphasizes objects and relationships for an e-ticket system

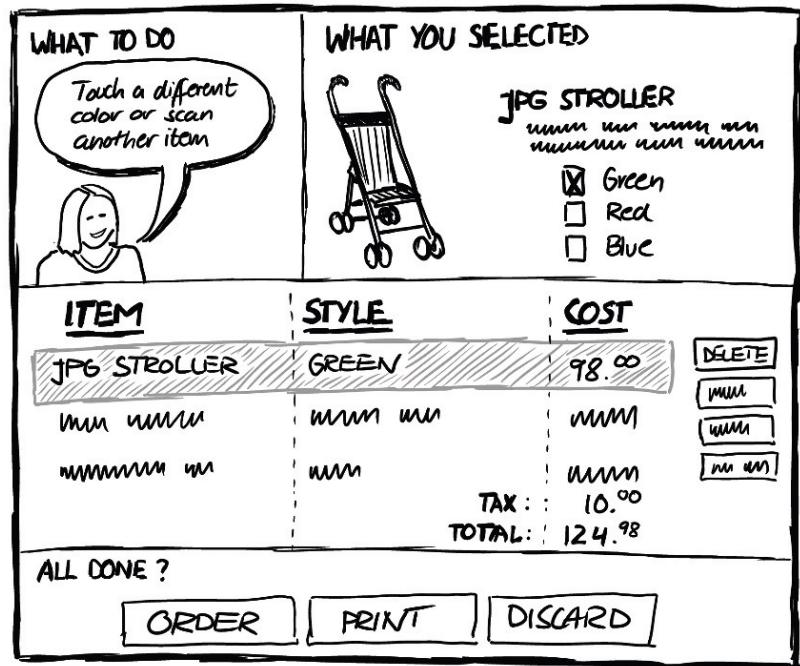




CPSC 544 - 2023W1

Akshay Sharma, Virginia Tech Department of Industrial Design  
from The UX Book: Process and Guidelines for Ensuring a Quality User Experience, Rex Hartson and Pardha S. Pyla

# Useful Techniques & Tools

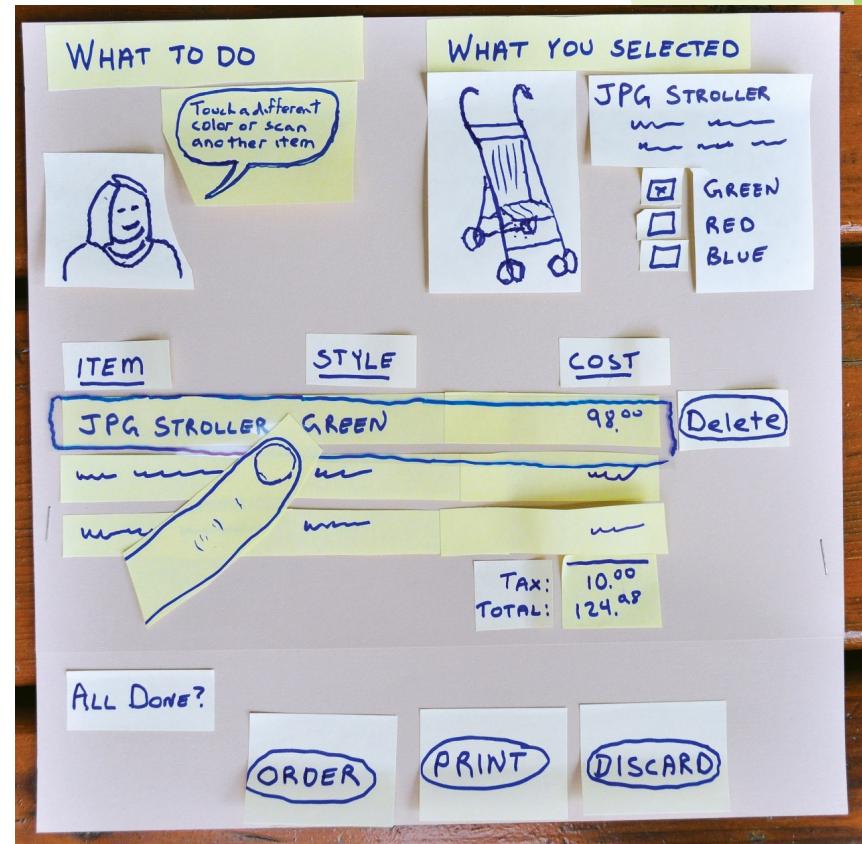


Pencil sketch of an online shopping system

Office supplies



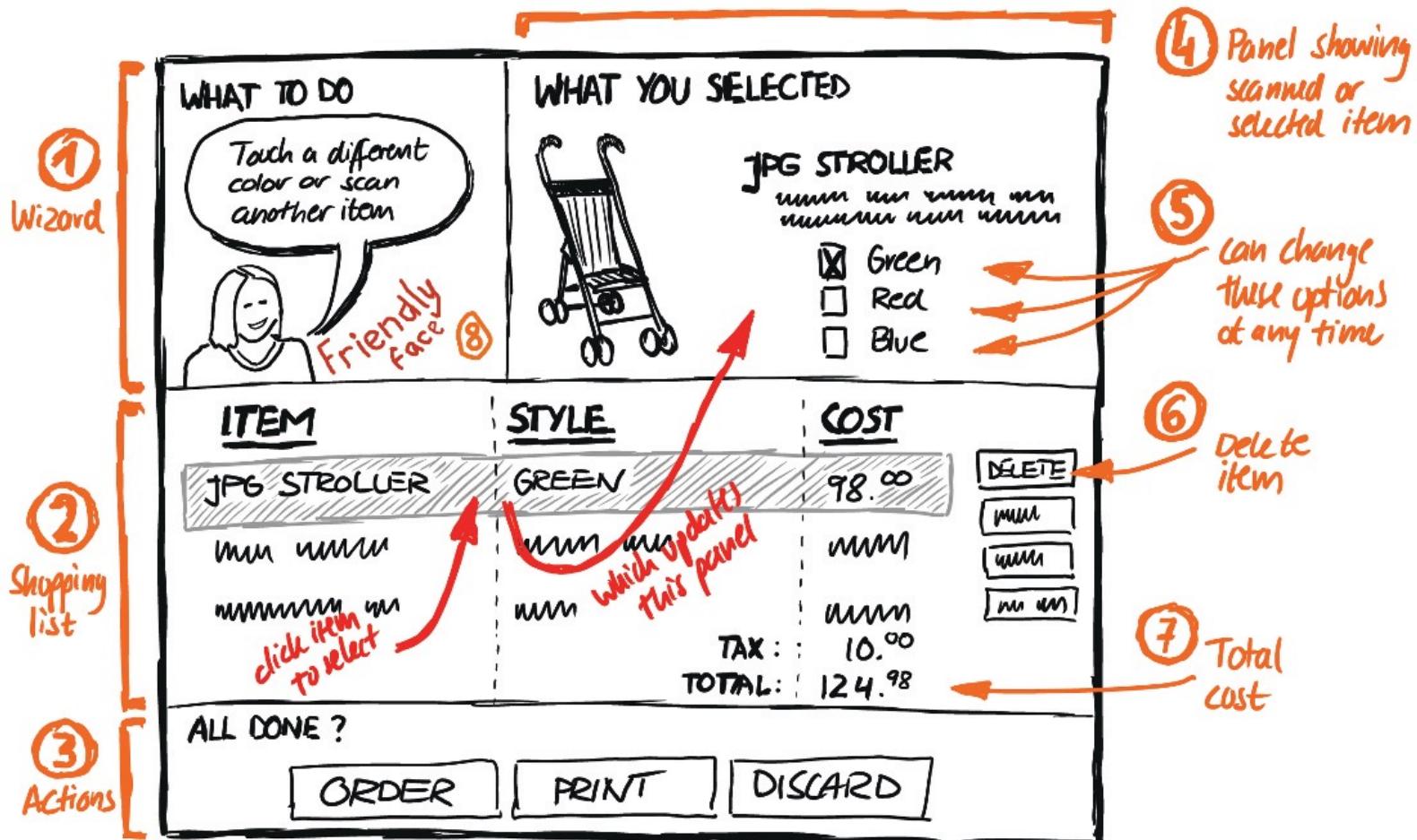
## Sketching with Office Supplies



**Interactive** and easily modifiable reconstruction of the sketch using office supplies.

# Annotations

Annotations are names, labels and explanatory notes whose *spatial location matters* - it identifies the part(s) of the sketch they refer to. They are graphical marks that are incorporated into the drawing itself.



# Notes

- Use with a scanner + paper catalog
- Printer prints out current list & bar code so it can be scanned

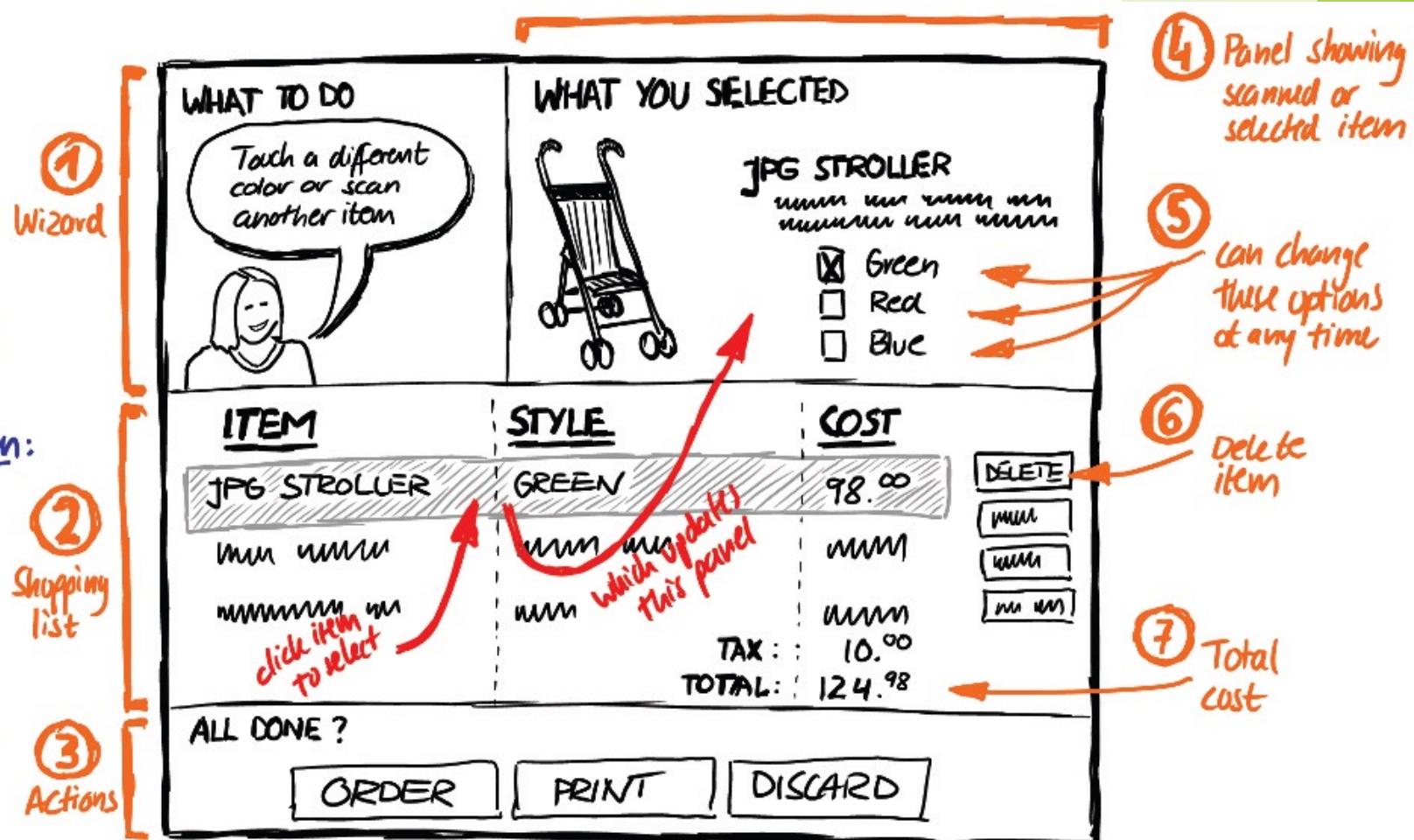
## Shopping person icon:

- cartoon?
- photo?
- video/audio?

## Issues

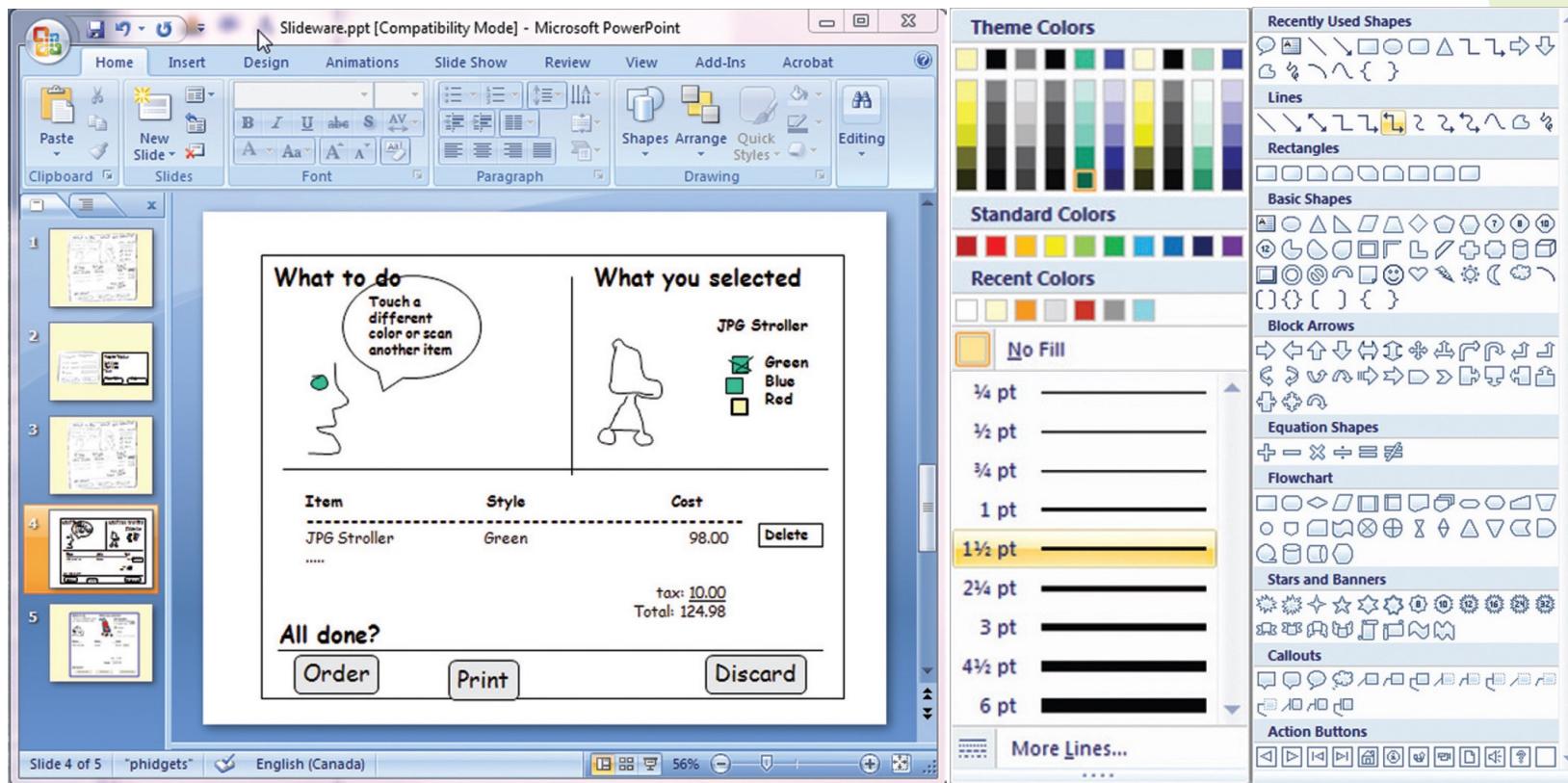
- can we avoid scrollbars for long lists?

Notes are text incorporated in the sketch where its spatial location relative to parts of the drawing is not important.



# You can use any slideware for drawing (e.g. powerpoint)

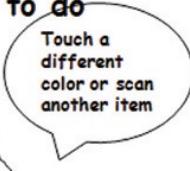
- ▶ Exploit commonly available digital presentation tools for sketch drawing

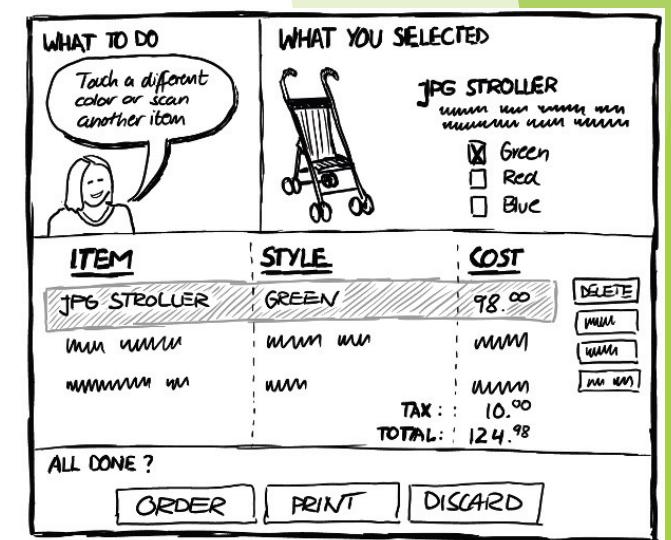


# Digital vs. Paper: pros/cons

- ▶ Paper: 1<sup>st</sup> screen is (maybe way) faster
- ▶ Digital: Easier to do many screens

*Quick ppt version (rough)*

<b>What to do</b> 		
<b>What you selected</b>  JPG Stroller <input checked="" type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Red		
Item	Style	Cost
JPG Stroller	Green	98.00
....		
tax: 10.00 Total: 124.98		
<b>All done?</b> <input type="button" value="Order"/> <input type="button" value="Print"/> <input type="button" value="Discard"/>		



*Iterated, carefully cleaned up ppt version*

<b>What to do</b> 		
<b>What you selected</b>  JPG Stroller For children between 1-3 years old ...\$98. <input checked="" type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Red (out of stock)		
Item	Style	Cost
JPG Stroller	Green	98.00
....		
tax: 6.98 Total: \$104.98		
<b>All done?</b> <input type="button" value="Place your order"/> <input type="button" value="Print this list"/> <input type="button" value="Throw this list away"/>		

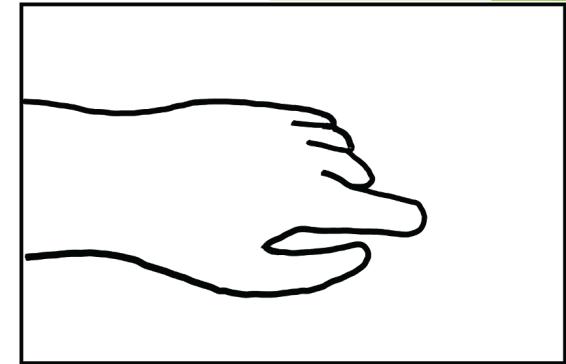
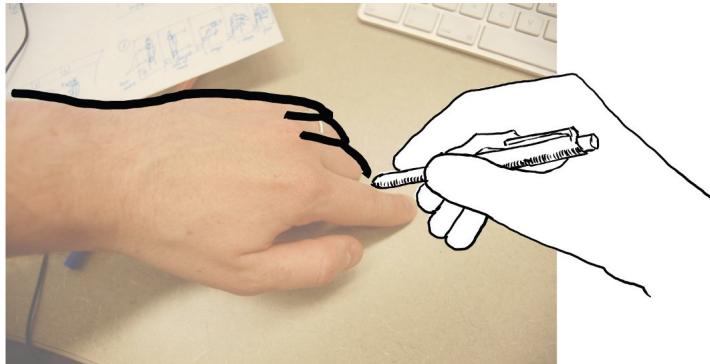
# Templates

Pre-draw and print copies of the constant, non-changeable parts of your sketch as a template that you can reuse.



# Photo Traces

Create collections of sketch outlines that form the basis of composed sketches.

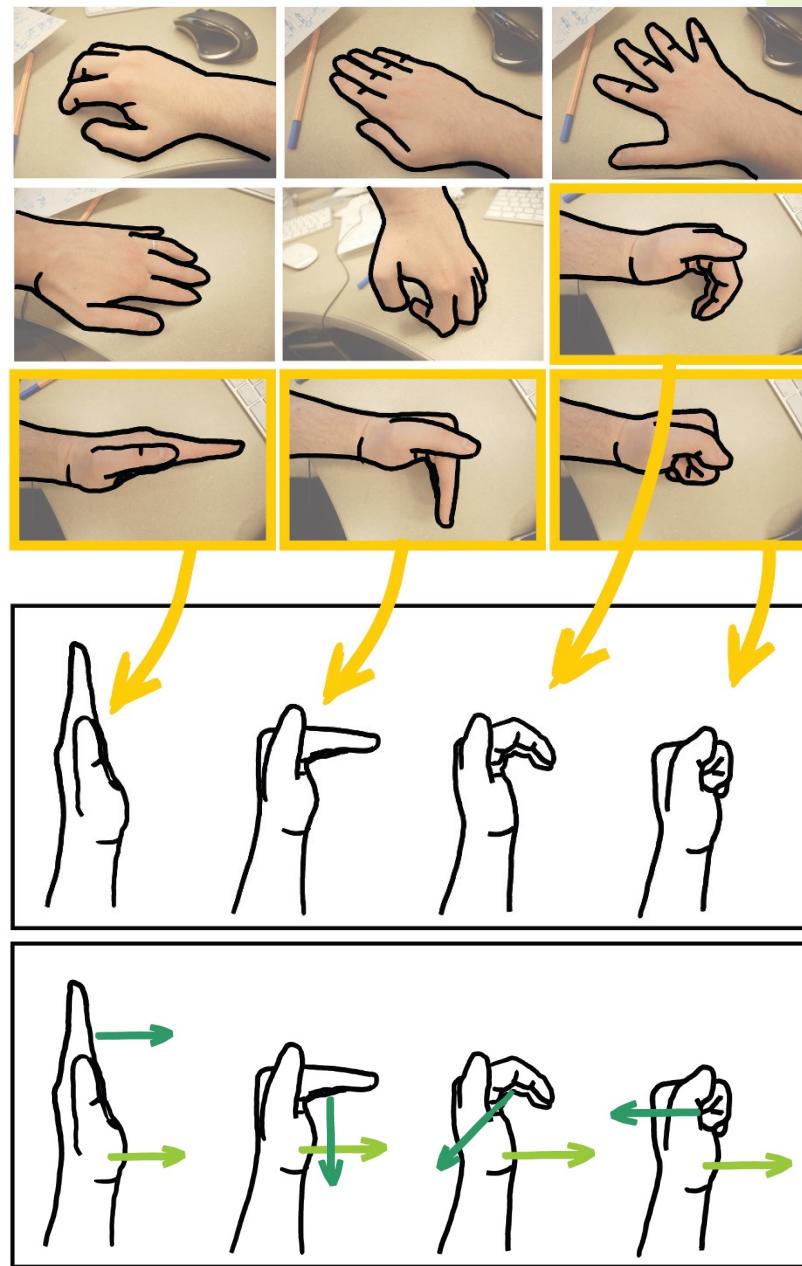


1. Decide on the hand posture(s) you want. take your photos of the hand postures you would like to sketch.
2. Import the first photo of a hand posture into your digital drawing editor.
3. Set the opacity of this photo to 50%.
4. Draw a stroke path along the outline of the hand. It is not necessary to be too accurate with this
5. Remove the original photo from the background. What remains on the drawing page is the outline of the hand posture that you can fine tune (e.g., to scale, to rotate, to re-adjust stroke thickness) and save for later use.

# Using Photo Traces

Sketch out a particular gesture that a horizontal display - a digital table - will understand.

Add arrows that indicate how the orientation of parts of the hand relative to one another are tracked to recognize postures on an interactive tabletop.

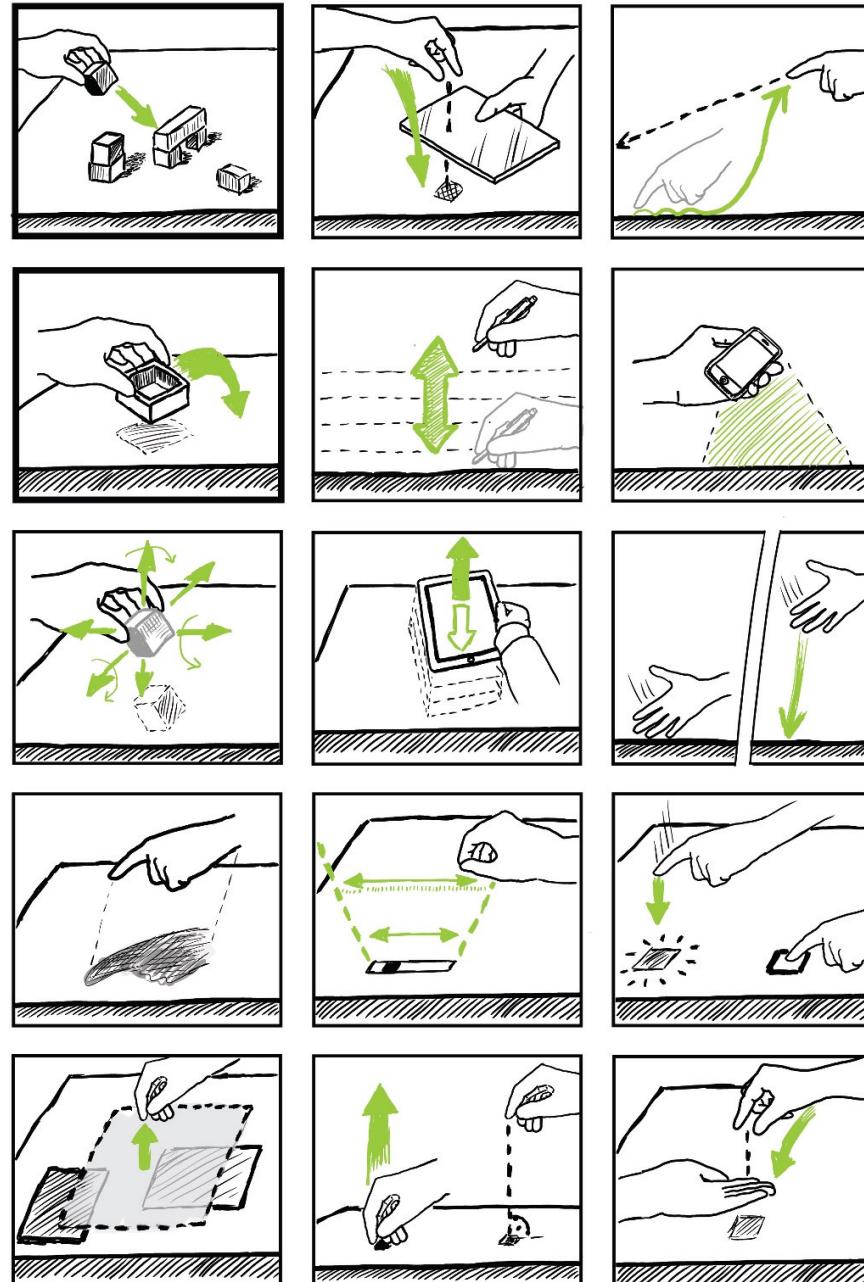


# Examples

# Example

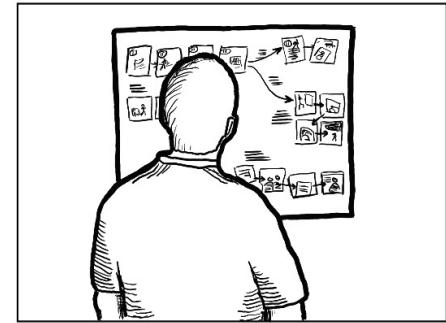
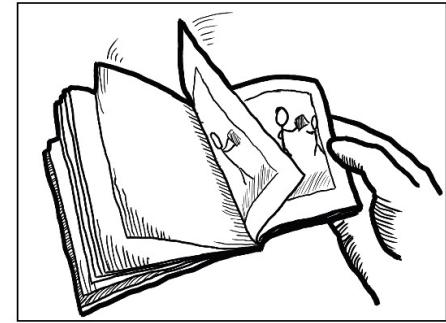
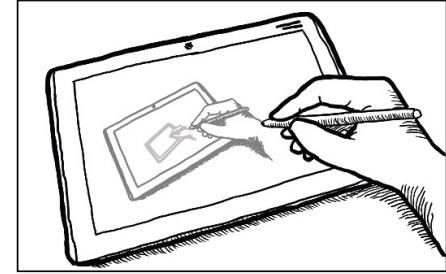
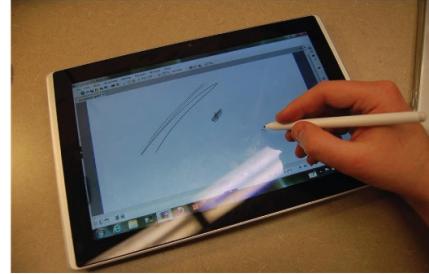
Using a Single Sketch Element for Two Different Sketches

The photo trace can be used twice in a single box, allowing you to use just one box to convey movement.



# Example

Add features to the sketch that are not in the original photo (e.g., the images in the flipbook, or the details of notes on the poster wall).



# Hybrid Sketches

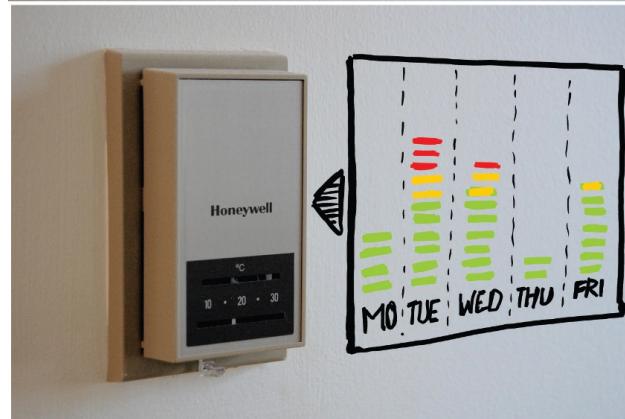
- Take a photo, or series of photos, of a place where the interaction takes place.
- Create or reuse a photo trace sketch of the person and/or system.
- Create an opaque background for our outline sketch.
- Sketching the interface.



# Hybrid Sketches

Explore and sketch out different design ideas

Augmented-Reality Thermostat Visualization:  
Three alternative visualizations that a  
micro-projector of a mobile phone could  
display when pointing the phone next to the  
thermostat.



# Collaborative Sketch

Sketching to brainstorm, express ideas and mediate interaction



Collaborative sketching is as much about group interaction around the sketch (e.g., brainstorming and commenting on each other's ideas) as it is about producing a sketch. The sketch itself may be less valuable than the conversations around it.