WE WILL STUDY AND
WE WILL PLAY - AND
WE WILL SEE THAT
THOSE ACTIVITIES Arent
SO DIFFERENT.
Myth #1

I’M NOT A VISUAL PERSON
You have five new emails in your inbox
No matter what...

DO NOT THINK OF A POLAR BEAR EATING ICE CREAM
Myth #2
I’M NOT A DRAWER
NEITHER AM I
Seriously, this isn’t Ikea
MY OWN JOURNEY
- Semantic Zooming

Starting Point:

Large Display

Mobile Device

proximity = semantic zooming

more information is displayed

News Headline

Approaching enables viewing videos

user can comment
2012
NOTIFICATIONS AND FILE TRANSFER

1. A notification is shown in both the overview and the control for the printer.
2. This notification requires manual action: replacing cartridges.
3. One can then print a file from a list of recently used files.

Proxemic-Aware Controls (published 2014)
2014
COPY AND PASTE

could use order of touch and chord

E.g. touch + chord = copy
    chord + touch = paste
2016
PASSIVE OBJECTS

Guitar

Tuner

Headphones

Speaker

Movie

Baseball bat

Check your swing

Is this more?

Tablet shuffle

Smart water bottle

Virtual pair

Dinner now shows easy consumption

Show how much you drank

Stack of breaker + wires

Mother

Book now that you're reading

Gopro camera no screen
MAGIC 8 BALL

- **Pineal (published 2017)**

**LEVEL**
- "bubble" position centers when locked

**BASEBALL BAT**
- Ensure standing stance is 90°
- "cause injuries"
- "hear hits or miss"

**BASEBALL COUNTER**
- "tracks" balls and strikes

**POLICE CAR**
- Siren,attacheable and play a sound

**RADIO**
- Plays music
- Switches when on/off slider changes volume

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July 29/2016
**Scenario #1: Watch Fitness Vis**

Designer creates many watch visualizations mockups in Illustrator. They can check what they look like on the watch. The designer can check many alternatives and even modify them on the fly.

**Scenario #2: PowerPoint Mockup**

Designer creates PowerPoint mockup for watch application with many "states" or pages. The designer maps a touch down event to a mouse click event to test their interface on the watch.
Putting Your Audience First

OECD Wellbeing
Selfie City
2019 Election

Data → Sensemaking → Full of Stuff!!!

Internet is one click away

WAHL 2017

An Exercise in Communication

1 off experiences

Politically interested journalists linked from news

Lessons
- Be an editor
  - What do you want to show out of the data?
- Careful with data bias!
- Everything is useful!!!
- Reorganize your data
- Do not disturb data
  - bin
  - remap e.g. Postal code → City!
- Multiple vis & battle complexity
- From here after search a...
SKETCHES BY PEOPLE
NICK SOUSANIS
Comic Artist
UNFLATTENING:
A DISCUSSION IN COMICS FORM

UNFLATTENING IS A PROJECT TO REIMAGINE THE FORMS SCHOLARSHIP CAN TAKE AND COUNTERACT WHAT I CALL “FLATNERS” - A CONTRACTION OF SIGHT, A NARROWING OF POSSIBILITIES.

OUR EDUCATIONAL INSTITUTIONS CAN FOSTER FLATNERS - PUTTING US IN BOXES WE COME TO ACCEPT AS REALITY.

JUST AS INHABITANTS OF ABBOTT’S FLATLAND ARE UNABLE TO
PANT WHY THE CONCEPT OF “UPWARDS” - WE TOO ARE UNABLE TO SEE BEYOND THE BOUNDARIES OF OUR CURRENT FRAME OF MIND.

SPECIFICALLY, I CHALLENGE THE TRADITION OF VERBAL DOMINANCE AS THE PROPER MODE OF THOUGHT.

THIS WORK EMBODIES ITS DRIVING QUESTION - WHAT ARE WE MISSING WHEN WE RELY ON ONLY ONE MODUS?

THOUGHT AND BEHAVIOR ALIGNED IN A SINGLE DIMENSION, WHAT MARCUSE CALLED ONE-DIMENSIONALITY.

COMICS LET US BE AMPHIBIOUS - BREATHE IN WORLDS OF IMAGERY AND TEXT.
ALEXANDER GRAHAM BELL
Scientist/Inventor
CARL LIU
Industrial Designer
NICOLAI MARQUARDT
HCI Researcher
Tablets/devices + table + supporting mobility

"drag-out" (enlarged!)

sideways
Could be Fig 1 (small)

Tolman Var

Angles
LYNDA BARRY
Comic Artist
There is something beautiful in the lines made by people who stopped drawing a long time ago.

And there is something curious about how scared they are when I ask them to draw a car for two minutes or one minute.
WARMUP
See where you are at
EXERCISE

Divide your page into 4 parts

Label each part - 4 min, 2 min, 1 min, 30 sec

We will be drawing **BATMAN**

Maybe at home try this with: house, car, mobile phone, computer
EXERCISE... AGAIN

Divide your page into 4 parts

Label each part - 2 min, 1 min, 30 sec, 15 sec

Pick one of these: HOUSE, CAR, TELEPHONE

Draw your choice 4 times, discuss with the person next to you after
EXERCISE... ONE MORE

Divide your page into 4 parts

Label each part - 2 min, 1 min, 30 min, 15 sec

You will draw... YOURSELF
SKETCHING = THINKING
THE PARTS TO DRAWING
VISION
ability to understand space visually.

HAND MOTOR SKILLS
ability to draw our "mental vision" onto paper.

VISUAL LANGUAGE
basic building blocks that guide "how" we draw.
TRAINING YOUR HAND/ARM
EXERCISE

Draw page-wide lines, try different directions \textit{(avoid chicken scratch)}

Draw circles, try different starting points and directions

Draw concentric circles, from inside out
TRAINING YOUR EYE
EXERCISE

Contour drawing - draw an object near you without looking at the page (3 mins)
VISUAL VOCABULARY
McCloud, S. Understanding Comics
EXERCISE

Draw people in 10 different poses - running, kicking a ball, eating pizza, etc.
HANDS
ARROWS
LABELS
EXERCISE

In the next 2 minutes -

Draw a dinosaur named Oswald with an eyepatch

Draw an umbrella with a hole in it
TIME = SPACE
Here (Richard McGuire)
GRID AND GESTURE

Look at the grid-like patterns around you - their rhythm.

Using just lines, marks, shapes, draw the shape of your day – yesterday, today, any day...

If you’re brave #gridsgestures

(10 mins)
EXAMPLE – MSc (2012-2014)

Using physical proximity to interact with a thermostat

– Try describing it visually
1. Thermostat shows room temperature
2. Thermostat shows current setting
3. Temperature setting can be changed
4. Daily schedule control is revealed
VISUAL INTERPRETATION
PANEL LOTTERY

Draw a few random comic panels (one panel per sheet)

Use one of these characters: Pingüino, Lucky, Kriss Kross

Then... we shuffle

Exercise credit: Jessica Abel and Matt Madden
SKETCHING IS DESIGN THINKING
idea

depth (how developed the idea is)

potential for greatness
The resulting design can only be as good as the idea
“Getting the design right versus getting the right design”
- Bill Buxton
First get the right design, then focus on getting that design right.
An example...

**TELEPHONE LAYOUTS**
*SIGNIFICANTLY SHORTER KEATING TIME
†SIGNIFICANTLY LOWER ERROR RATE
‡SIGNIFICANTLY MORE PREFERRED
<table>
<thead>
<tr>
<th>ARRANGEMENT</th>
<th>KEYING TIME (SECONDS)</th>
<th>PER CENT ERRORS</th>
<th>RANKING FOR</th>
<th>RANKING AGAINST</th>
</tr>
</thead>
<tbody>
<tr>
<td>THREE-BY-THREE PLUG ONE</td>
<td>6.01</td>
<td>2.5</td>
<td>3RD</td>
<td>2ND</td>
</tr>
<tr>
<td>TWO HORIZONTAL ROWS</td>
<td>6.17</td>
<td>2.3</td>
<td>1ST (MOST)</td>
<td>4TH</td>
</tr>
<tr>
<td>TWO VERTICAL COLUMNS</td>
<td>6.12</td>
<td>1.3</td>
<td>5TH (LEAST)</td>
<td>1ST (MOST)</td>
</tr>
<tr>
<td>TELEPHONE</td>
<td>5.90</td>
<td>2.0</td>
<td>2ND</td>
<td>5TH (LEAST)</td>
</tr>
<tr>
<td>SPEEDOMETER</td>
<td>5.97</td>
<td>3.0</td>
<td>4TH</td>
<td>3RD</td>
</tr>
</tbody>
</table>
Ideas can come from many places, don’t be afraid to mix and match
Cross, N. Descriptive Models of Creative Design: Application to an Example (1997)
VARIATIONS
What time is it?

It's 1:15.

Thanks!

What the hell was I looking for, anyway?

99 Ways to Tell a Story (Madden, 2005)
What time is it?

It’s 1:15.

Thanks!
what time is it?

let’s go.

Thanks!

What the hell is he looking for, anyway?!!
Exercises in Style

1. Script
2. Thumbnail
3. Rough pencil
4. Tight pencil
5. Pencil lettering
6. Ink lettering
7. Ink linework
8. Spot blacks; make corrections, erase pencils

What the hell was I looking for anyway??
TIME TO WORK!

WHAT THE HELL WAS I LOOKING FOR, ANYWAY?

FALSE PROMISE OF MATERIAL WEALTH
What time is it?
It's 1:15.
Thanks!
What the hell was I looking for, anyway?!
WHAT IS VARYING?
WHAT IS VARYING?

– Narrative
– Layout
– Style
– “Feel”
SLIDE TO UNLOCK

How would you unlock a phone? Try 5 ideas.
SLIDE TO UNLOCK

How would you unlock a phone?

> Using touch + slide

Vary the visuals, how it happens
How would you unlock a phone?

> Using sensors: accelerometer, camera, microphone, orientation, magnetic field...

Vary the interaction
Unlock: Touch Screen quickly. Present a pattern to show correct information. Present a pattern for a few seconds. If none, a new pattern will appear on the screen. If correct, press the pattern. (Avoid accidents like this.)

Zoom to unlock button
Pinch and Tap

Create your own track
Retrace the track to unlock

Scratch and win! (unlock)
Color picking PIN
"I'm BeepBeep, press me!"
"I'm happy!"
"whimpers"
"I'm scared."
OTHER THINGS TO CONSIDER
MY MATERIALS

Copic Multiliners (0.7 and 1.0)

Tombow Dual Brush (different colours + grey)

Blue Pencil

Derwent Coloursoft Pencils

Sharpie Markers (be careful with the paper)
PLAYING WITH STYLES

We bump two phones to connect.

File transfer from one phone to the next when the devices bump.
Detail of a sketch depends on the stage and the purpose.
The Stages

based on Baskinger and Bardel (2013)

1. personal exploration (roughly rough)
2. ideas sketches (roughly precise)
3. concept sketches (precisely rough)
4. refined (rendered) sketches (precisely precise)
“Sketches do not have to be pretty, beautiful, or even immediately understandable by others. However, you should be able to explain your sketches and ideas when anyone asks about them.”

Greenberg et. al
EXERCISE

Pick two of the following:

Apple
Headphones
Sand castle
Water bottle
Paint brush

Draw both in 2 minutes, show them to the person next to you - can you recognize each others’?
EXERCISE

Turn your page into a 3 x 3 Grid and draw the prompt in one minute, then share:
**EXERCISE**

Turn your page into a 3 x 3 Grid and draw the prompt in one minute, then share:

<table>
<thead>
<tr>
<th>Computer</th>
<th>Message</th>
<th>Robot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoe</td>
<td>Coal</td>
<td>Protest</td>
</tr>
<tr>
<td>Winter</td>
<td>Time</td>
<td>Roller Coaster</td>
</tr>
</tbody>
</table>