

by David Ledo

WE WILL STUDY AND
WE WILL PLAY - AND
WE WILL SEE THAT
THOSE ACTIVITIES AREN'T
SO DIFFERENT.

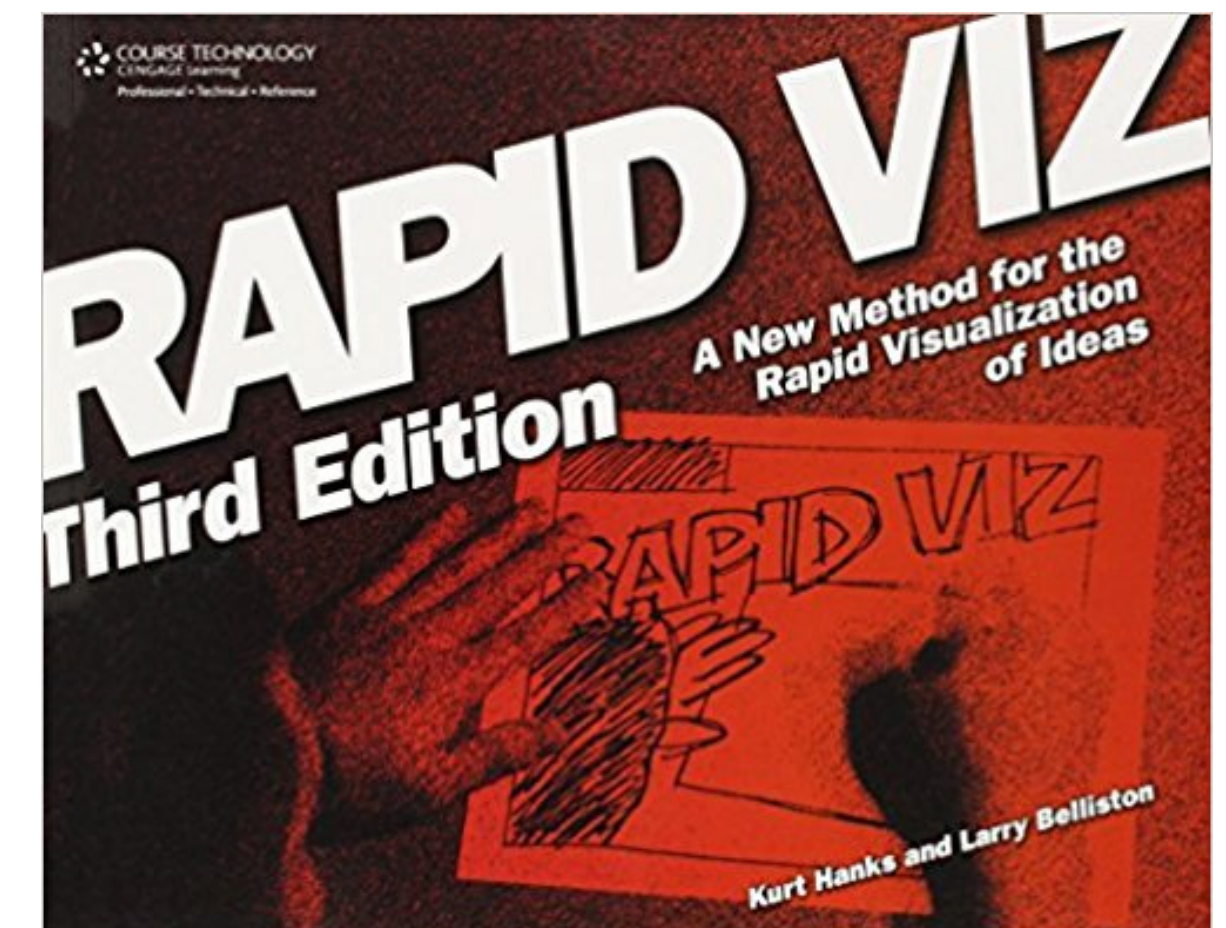
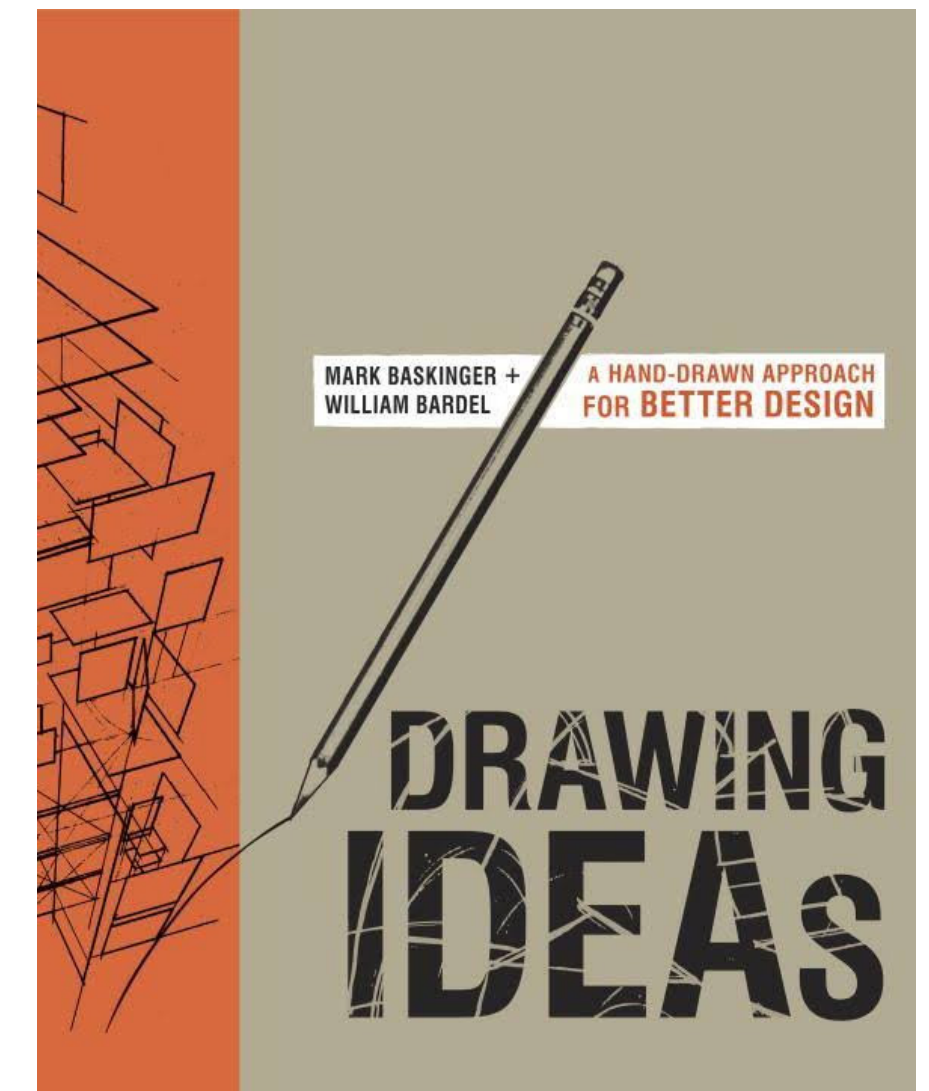
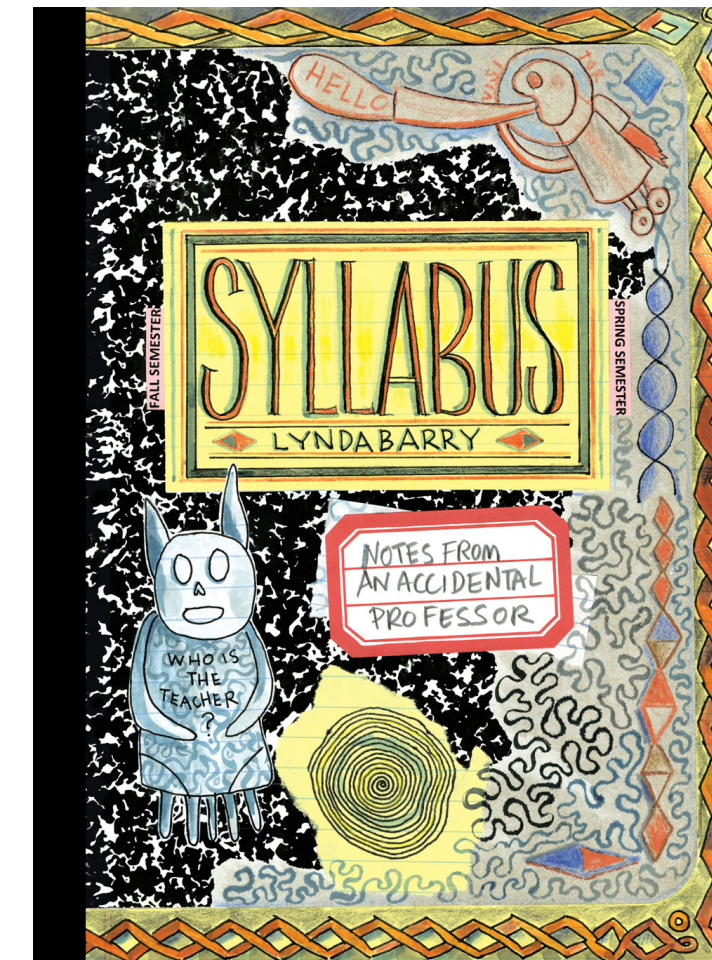
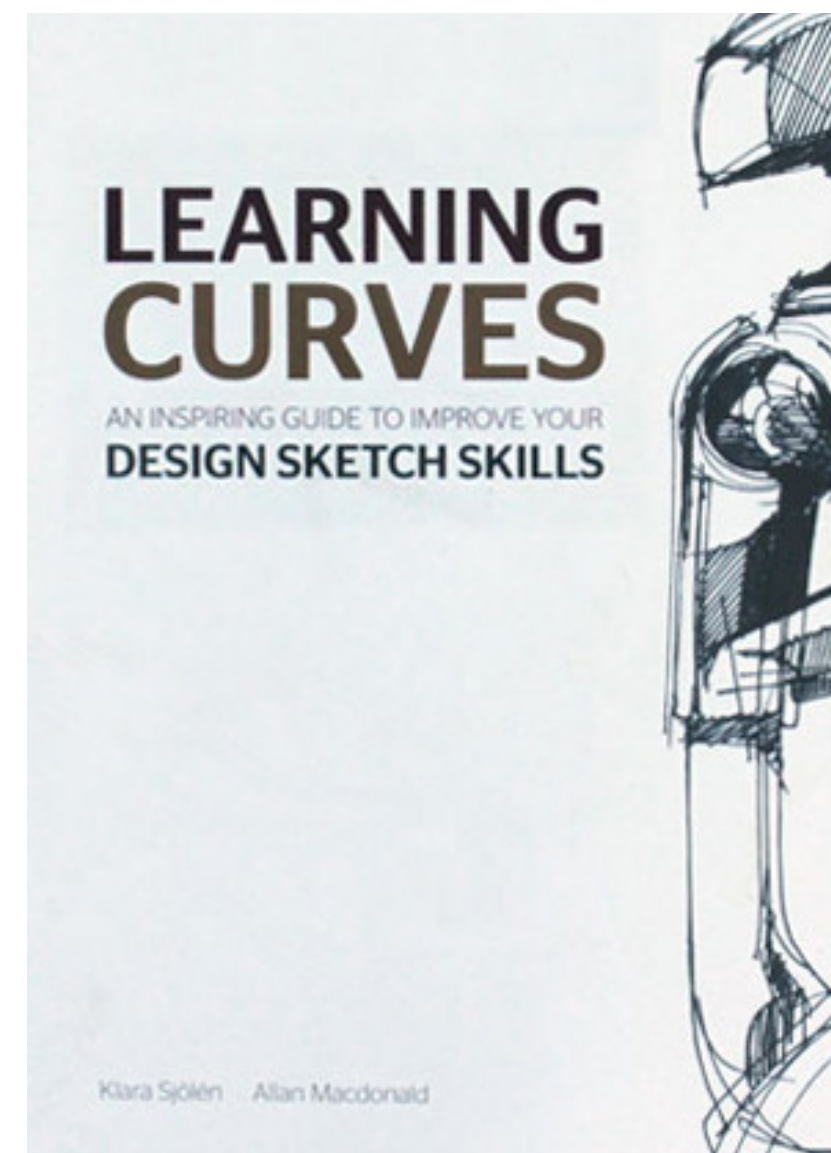
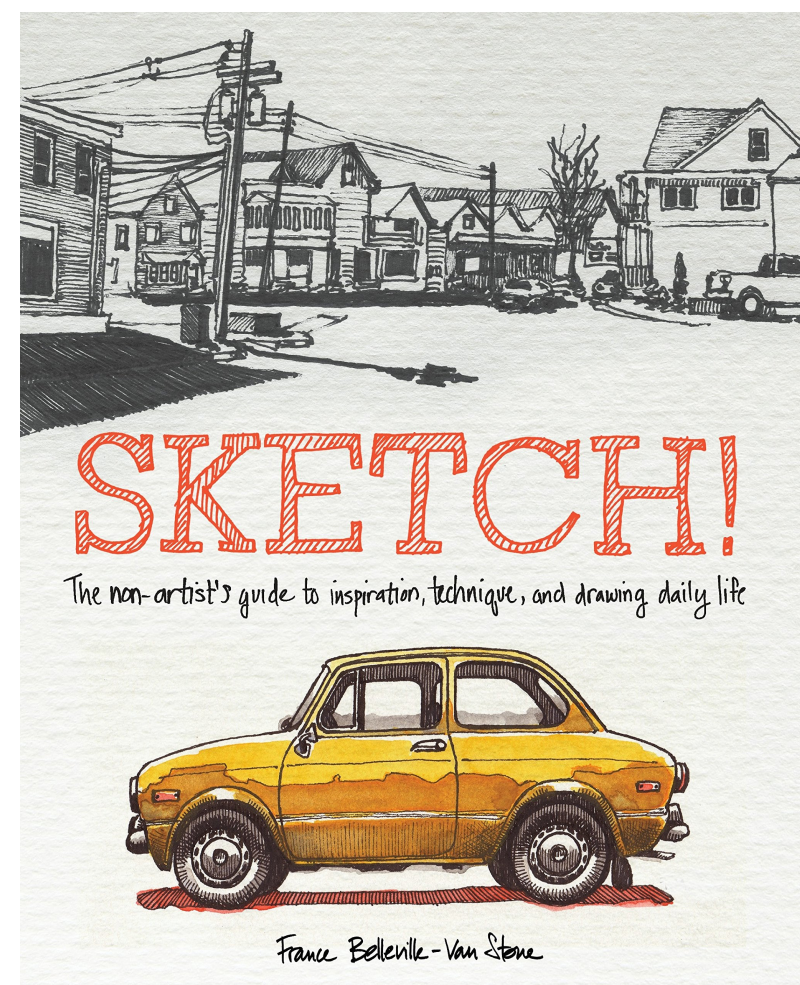
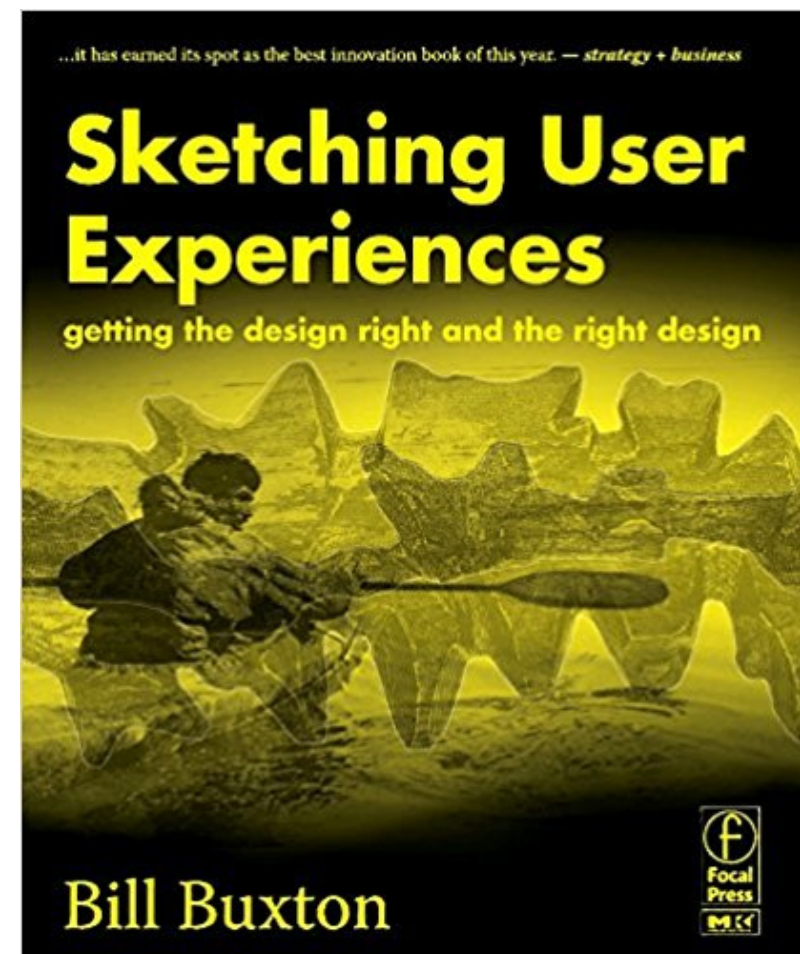
Nick Sousanis (2018)

BOOKS

Sketching USER EXPERIENCES



Saul Greenberg
Sheelagh Carpendale
Nicolai Marquardt
Bill Buxton



MK
MORGAN KAUFMANN

Myth #1

I'M NOT A VISUAL PERSON



You have five
new emails
in your inbox

vs

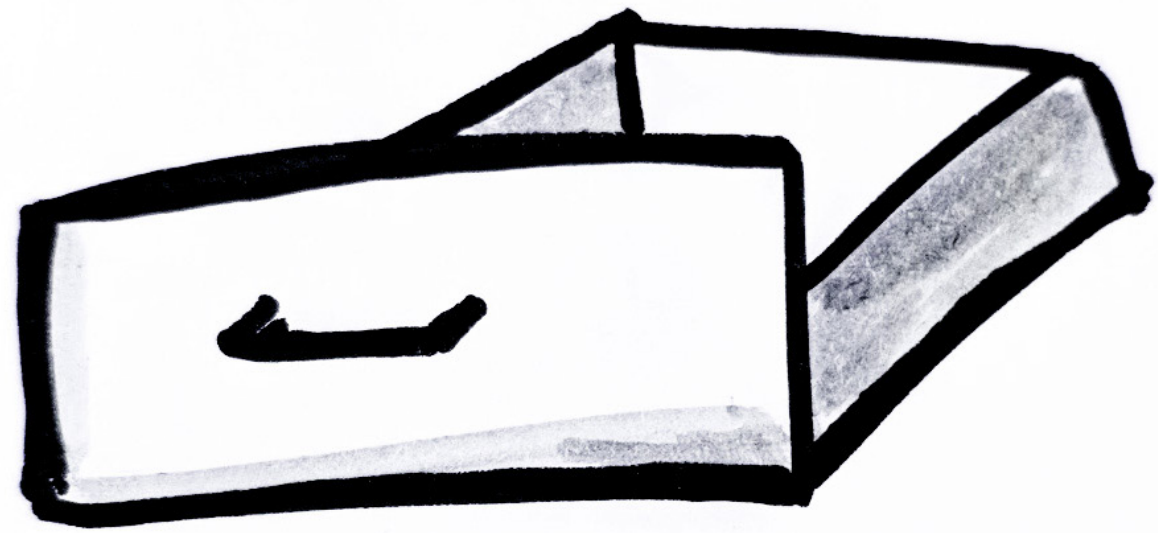


No matter what...

**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

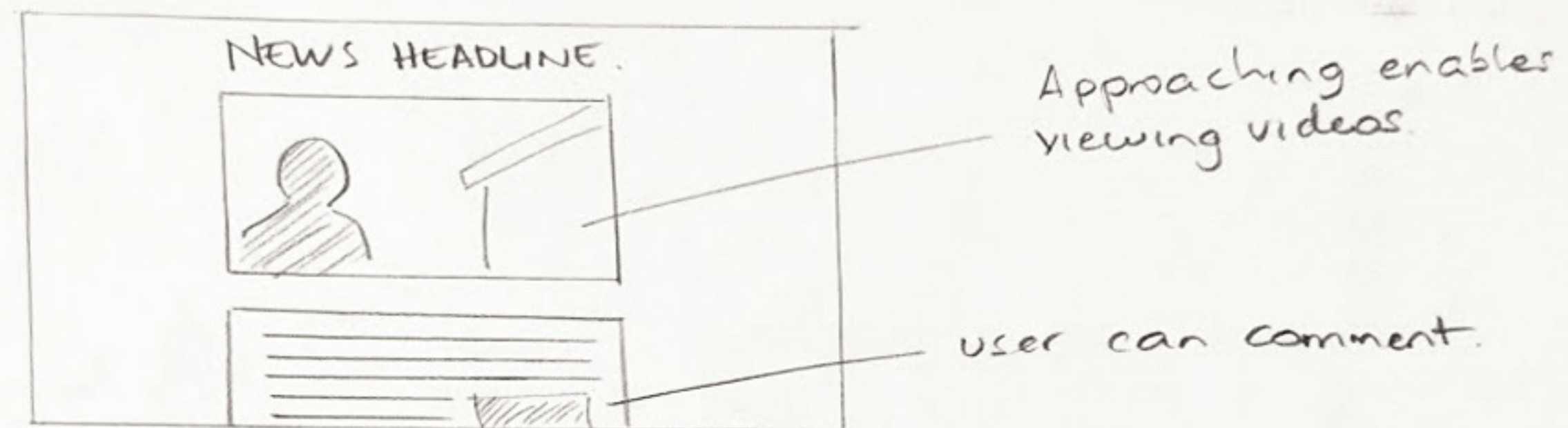
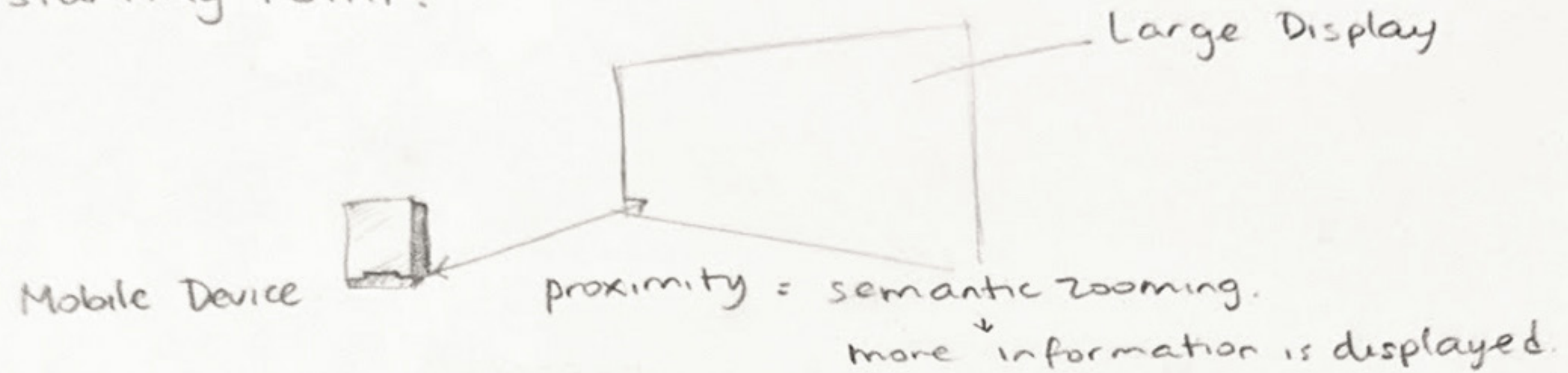
MY OWN JOURNEY

2011

- SEMANTIC ZOOMING.

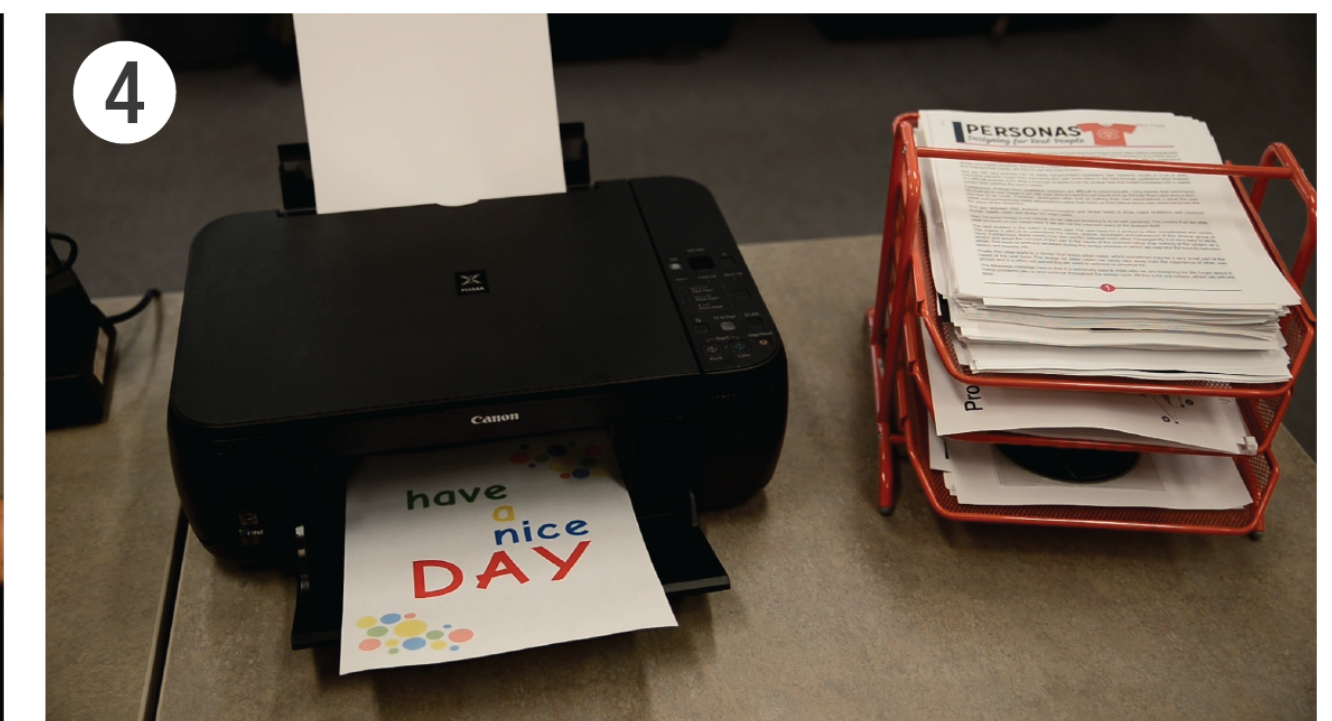
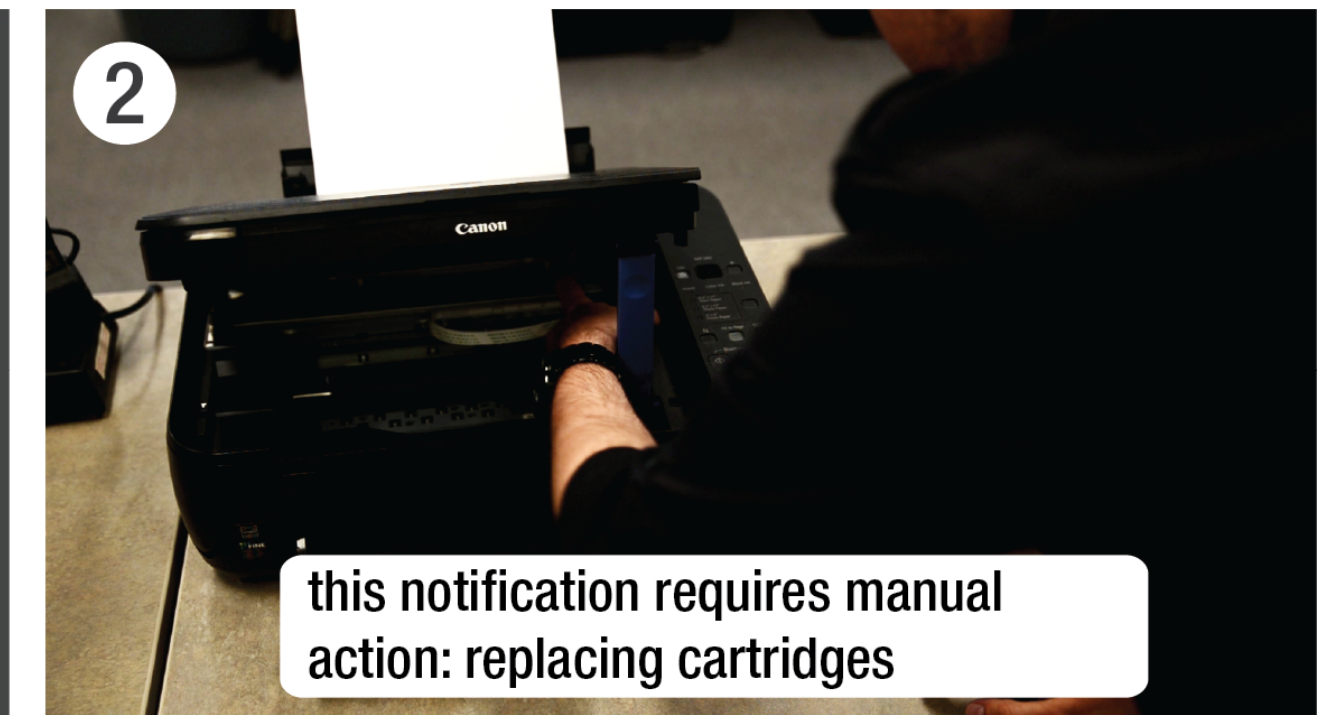
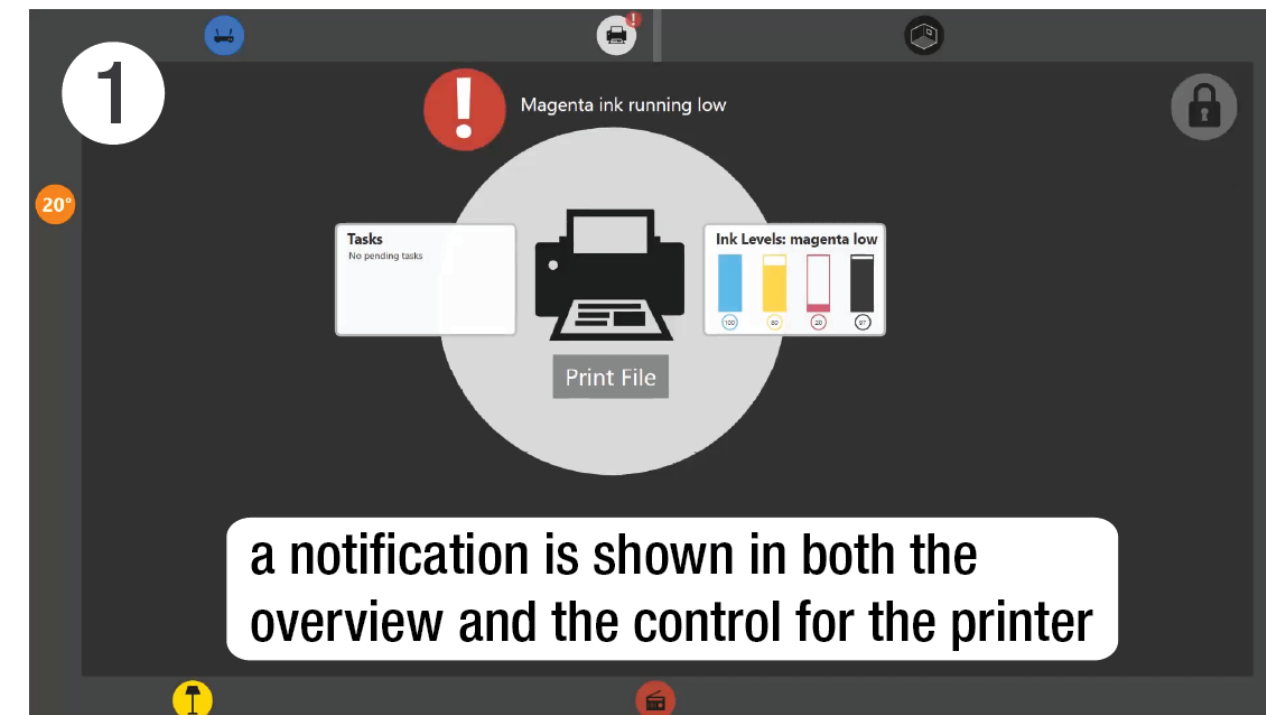
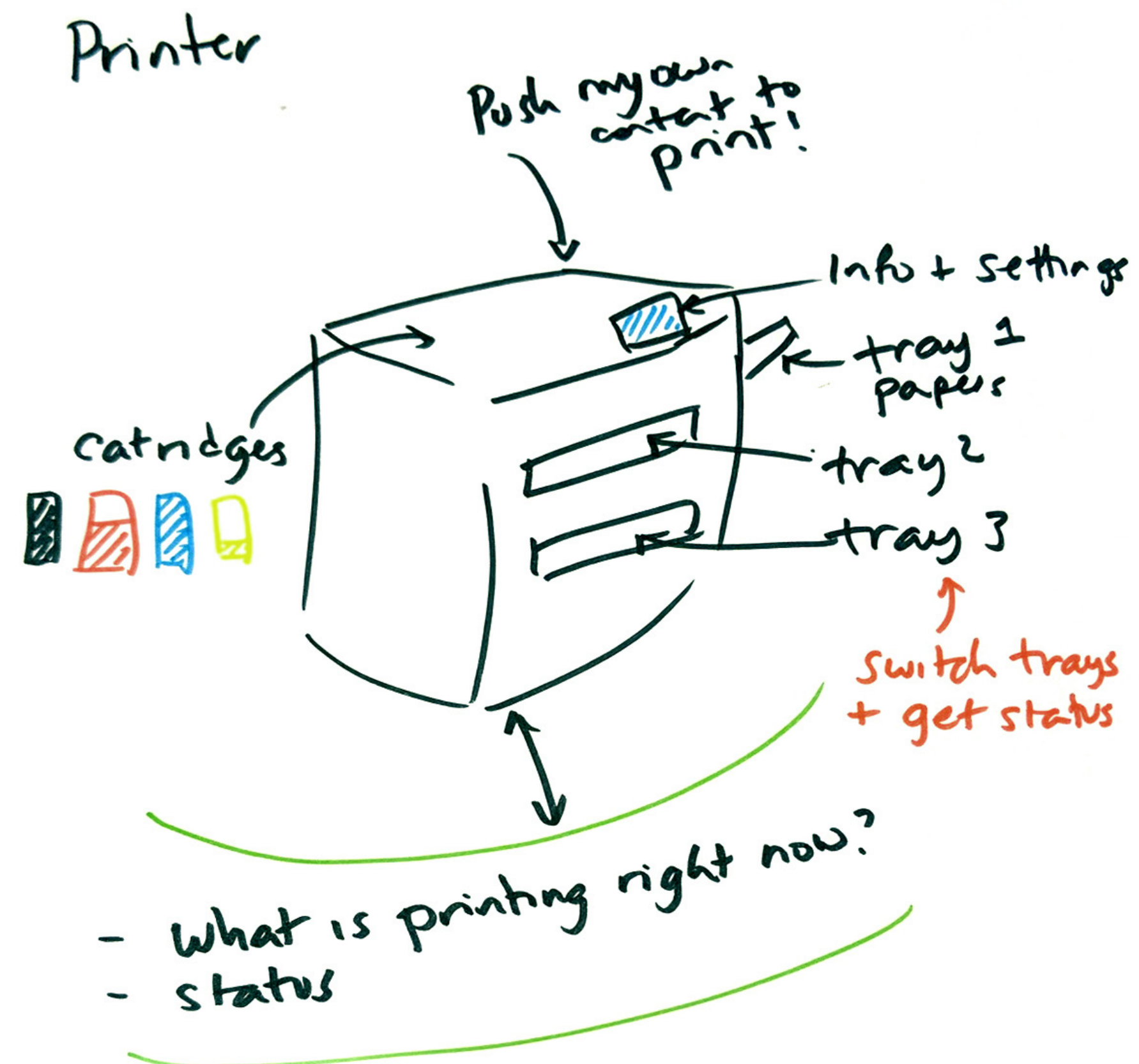
Feb 13 / 2011.

Starting Point:



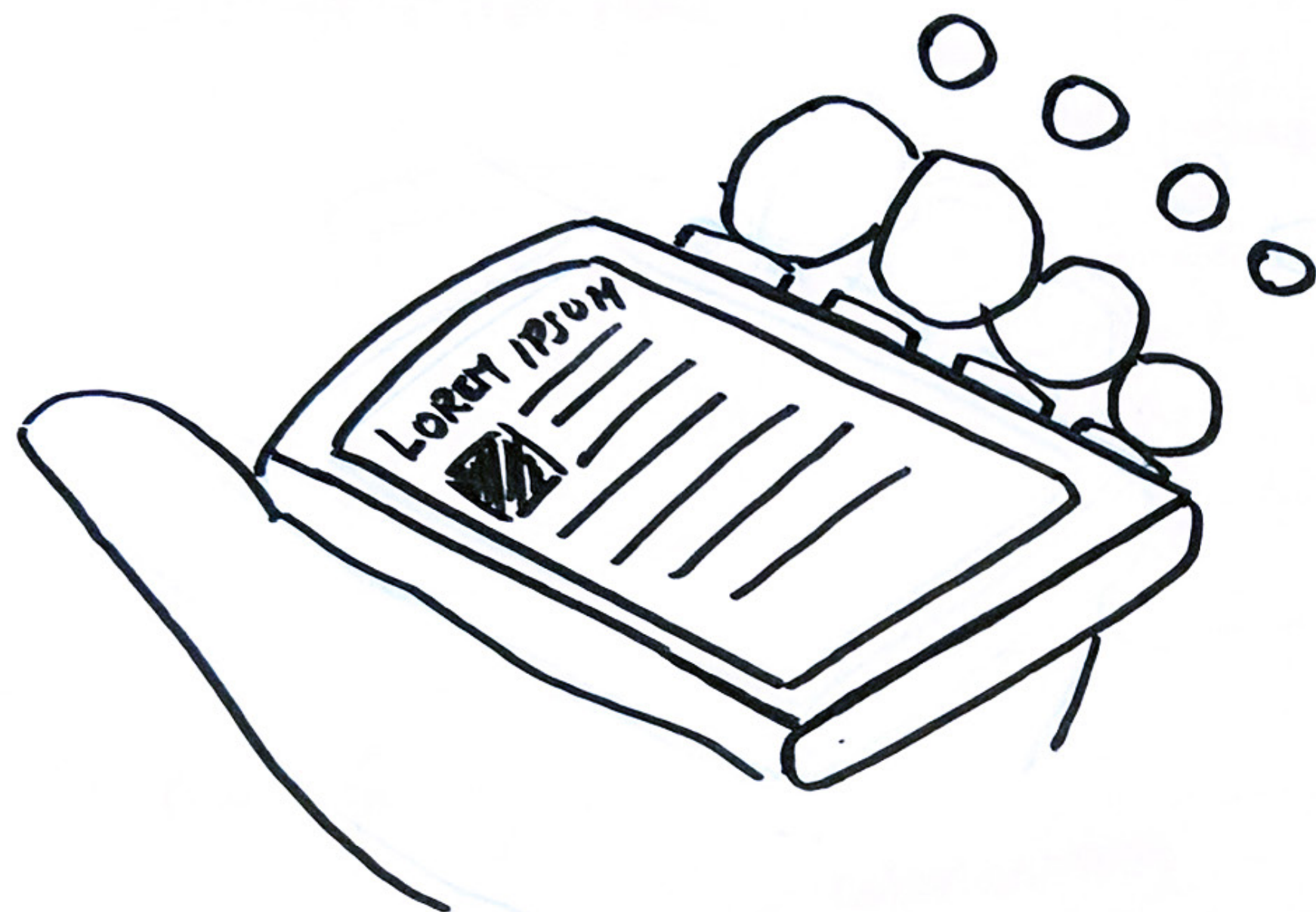
2012

NOTIFICATIONS AND FILE TRANSFER



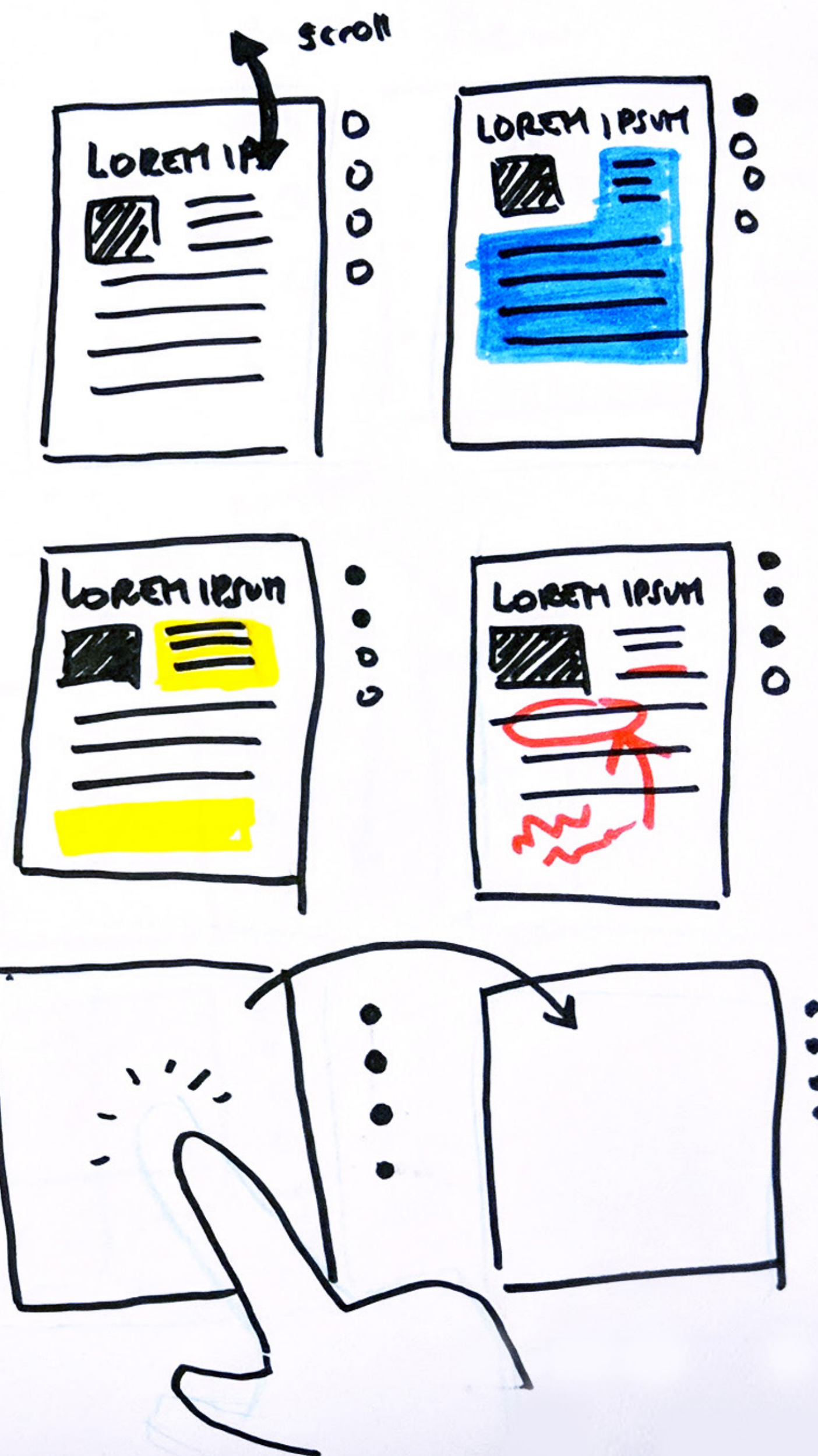
Proxemic-Aware Controls (published 2014)

2014



COPY AND PASTE

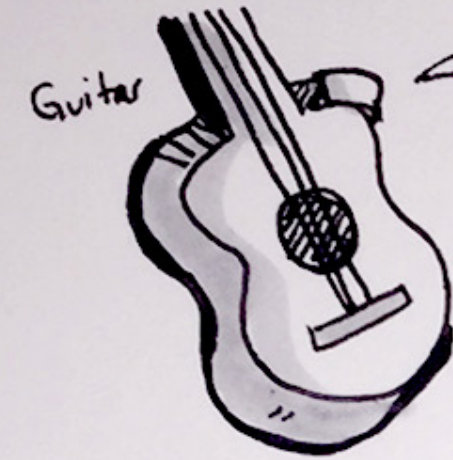
could use order of touch
and chord
e.g. touch + chord = copy
chord + touch = paste



2016

PASSIVE OBJECTS

MAY 25/2016



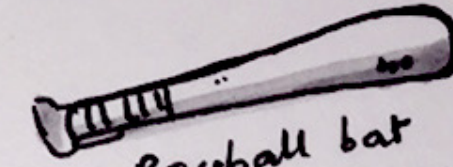
Guitar



Tuner



Air hockey
stone + accuracy?



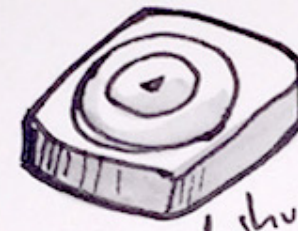
Baseball bat
check your swing?
hit vs. miss?



bluetooth
speaker



mouse becomes gesture
enabled



iPod shuffle



Smart water
bottle



virtual pet



Dimmer now
shows energy
consumption

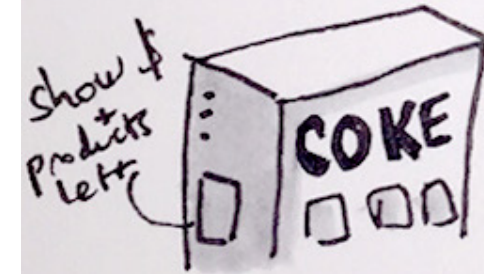


+ security
Car keys
show geo, etc



SMART BIKE

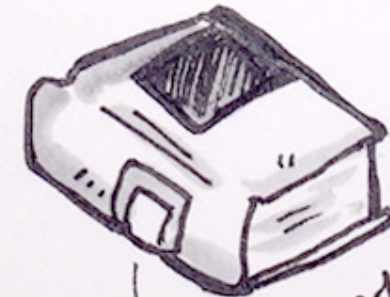
show how much
you cycled
state of brake
+ wheels



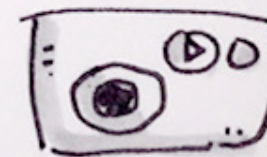
show &
products
left



multimeter



bookmark
+ time spent
reading



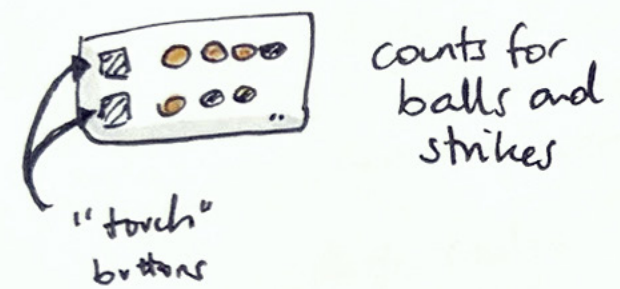
GOPRO CAMERA
no screen



MAGIC 8 BALL



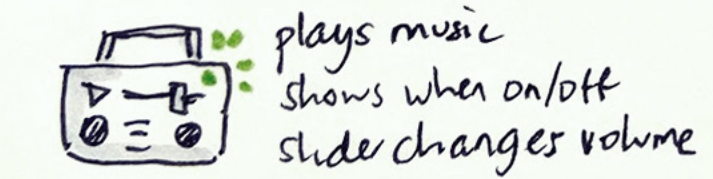
BASEBALL COUNTER



POLICE CAR

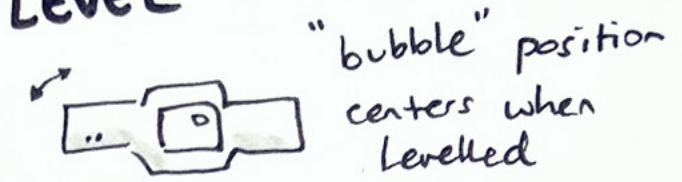


RADIO

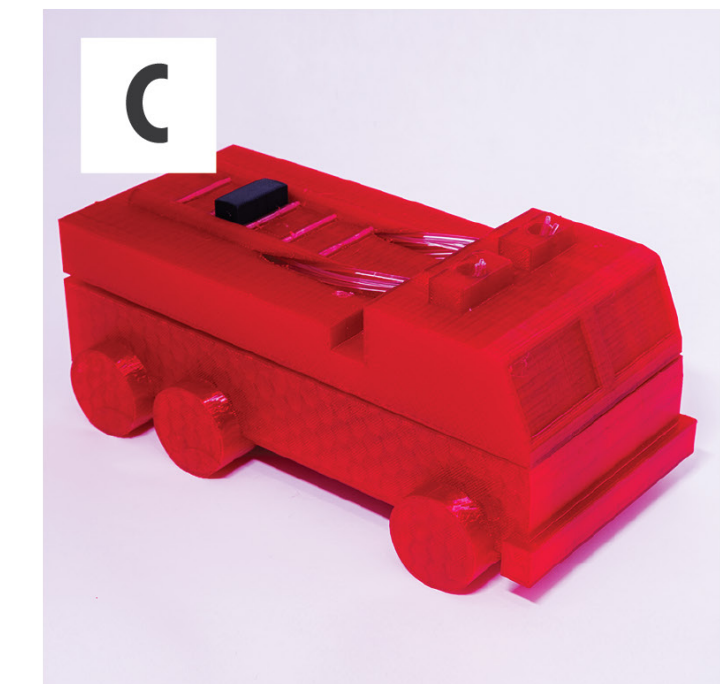
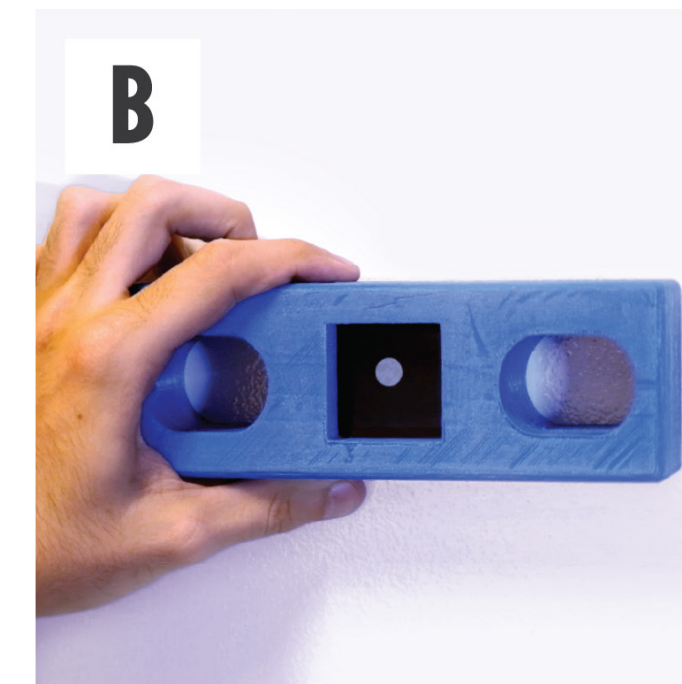
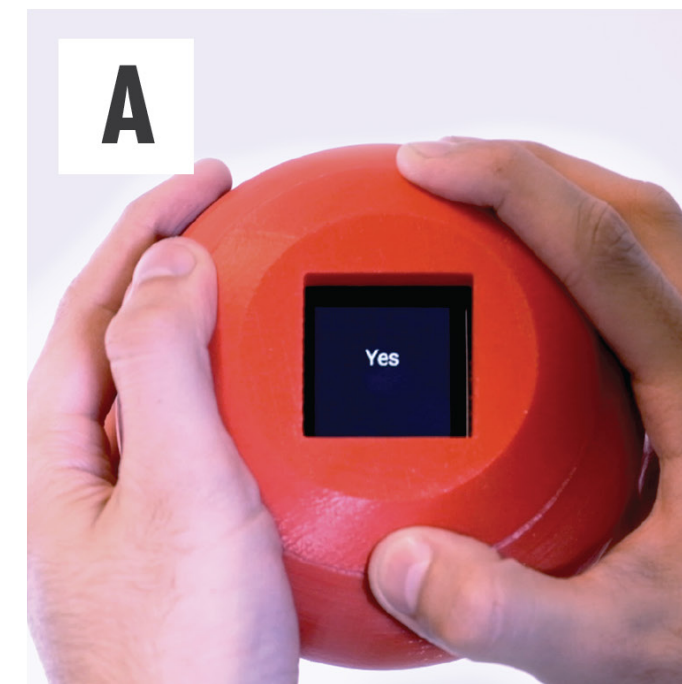
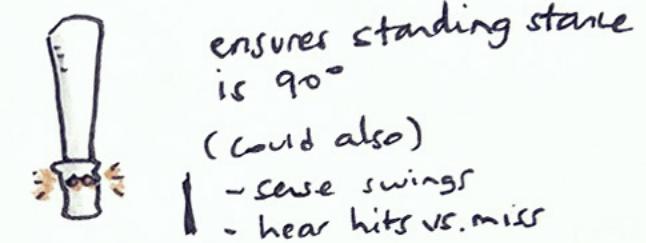


JULY 29/2016

LEVEL



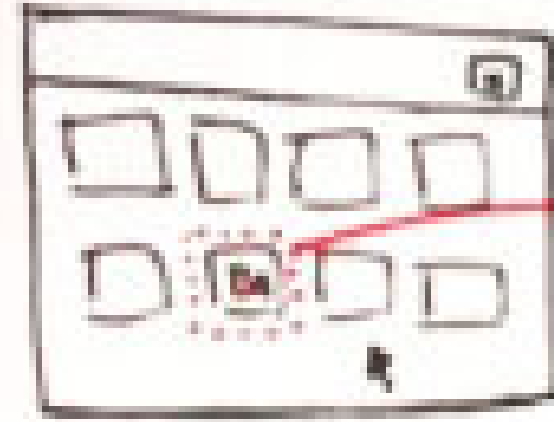
BASEBALL BAT



Pineal (published 2017)

2018

SCENARIO #1 : WATCH FITNESS VIS



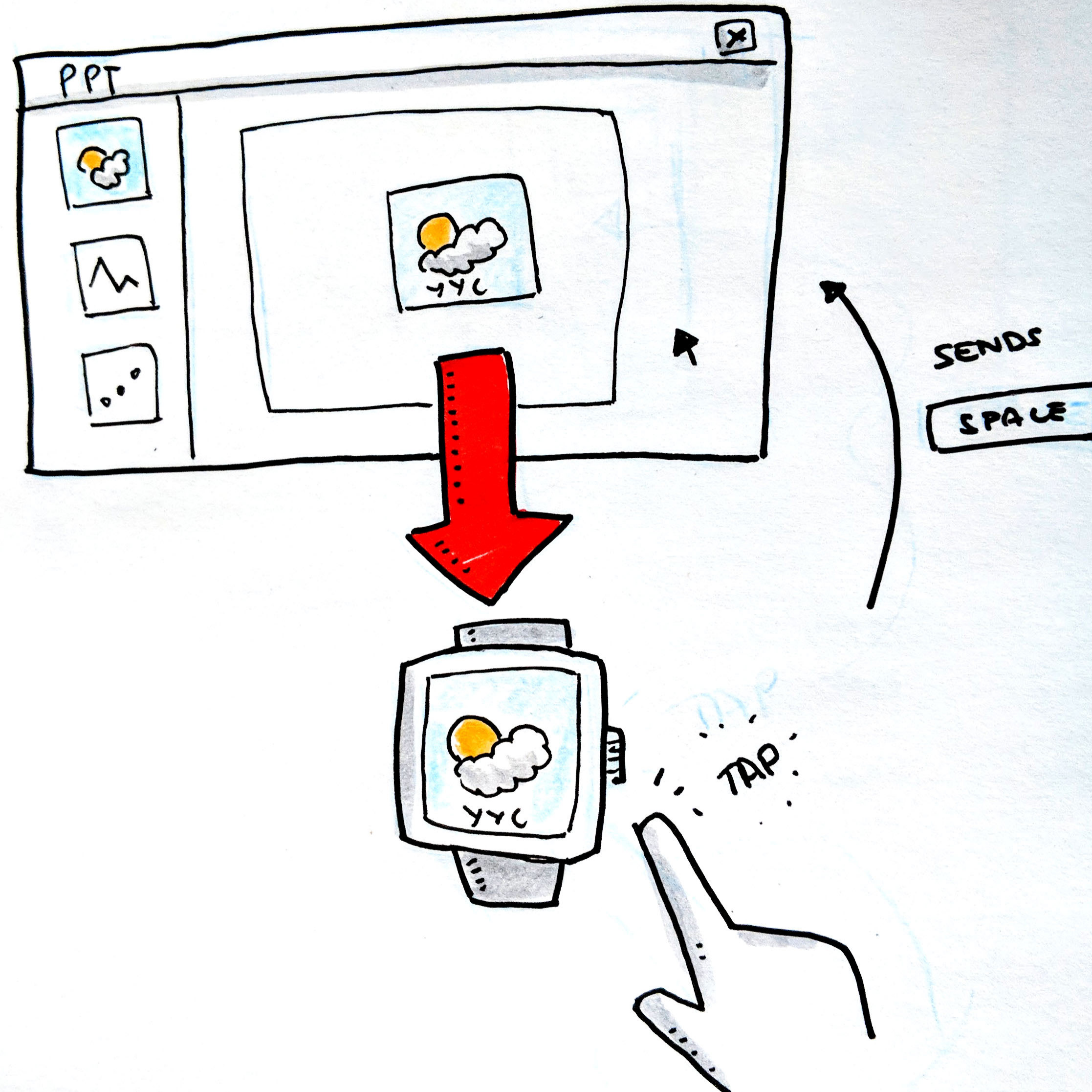
Designer creates many watch visualizations mockups in illustrator. They can check what they look like on the watch. The designer can check many alternatives and even modify them on the fly.

SCENARIO #2 : POWER POINT 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.



PRESENTATION MOCKUP



FileHomeInsertDesignTransitionsAnimationsSlide ShowReviewViewHelpACROBATStoryboardingTell me what you want to doShare

PasteCutCopyFormat PainterClipboard

New SlideResetSectionSlides

Font

Paragraph

Drawing

Editing

60A⁺A⁻

Text DirectionAlign TextConvert to SmartArt




ArrangeQuick StylesShape FillShape OutlineShape Effects


FindReplaceSelect

1

2

Astral










 Sony SmartWatch 3

Screen Preview


Fitness App

Active Rules

From





Live Data



Touch Move
x = 275
y = 50

To



Keyboard Event

Key Down

Key Up

Key Press

<space>

Touch Event

Tap

Touch Down

Touch Up


Move

Mapping

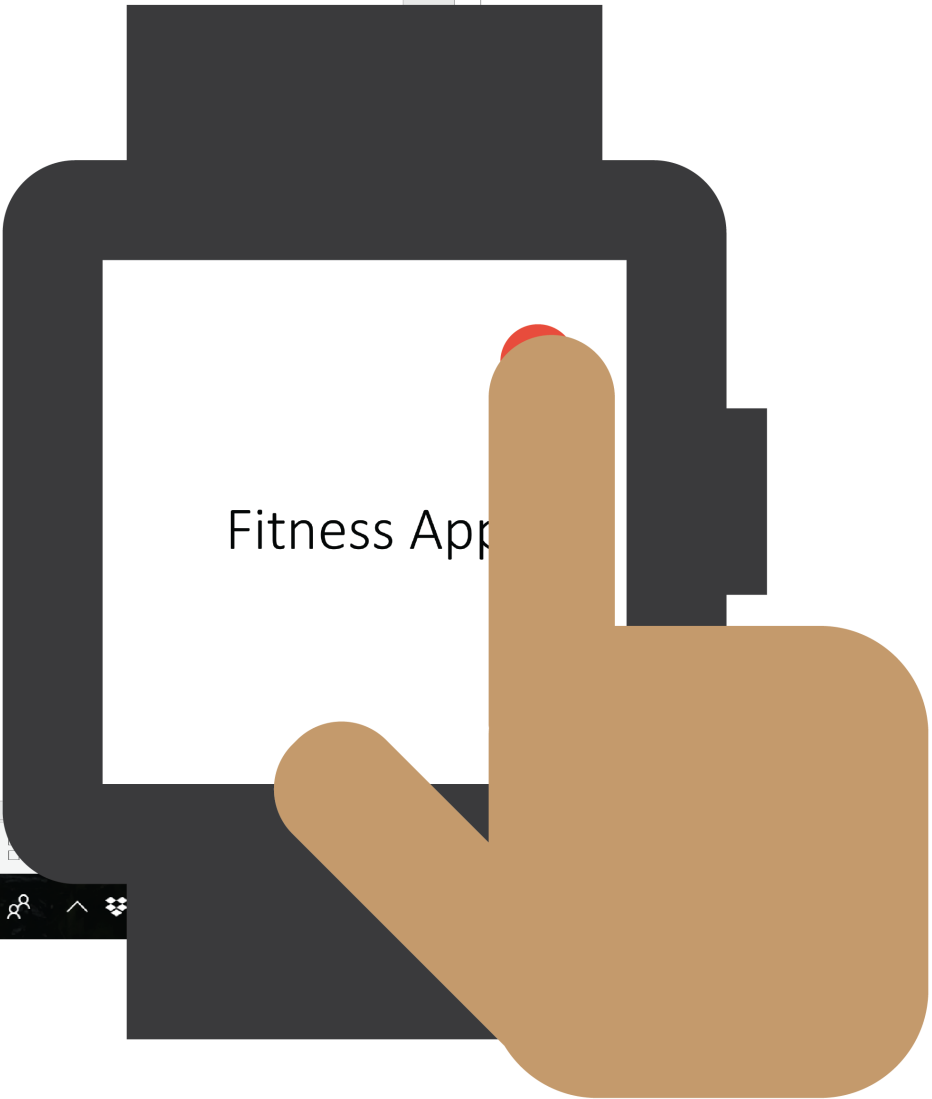
Coordinate

Region

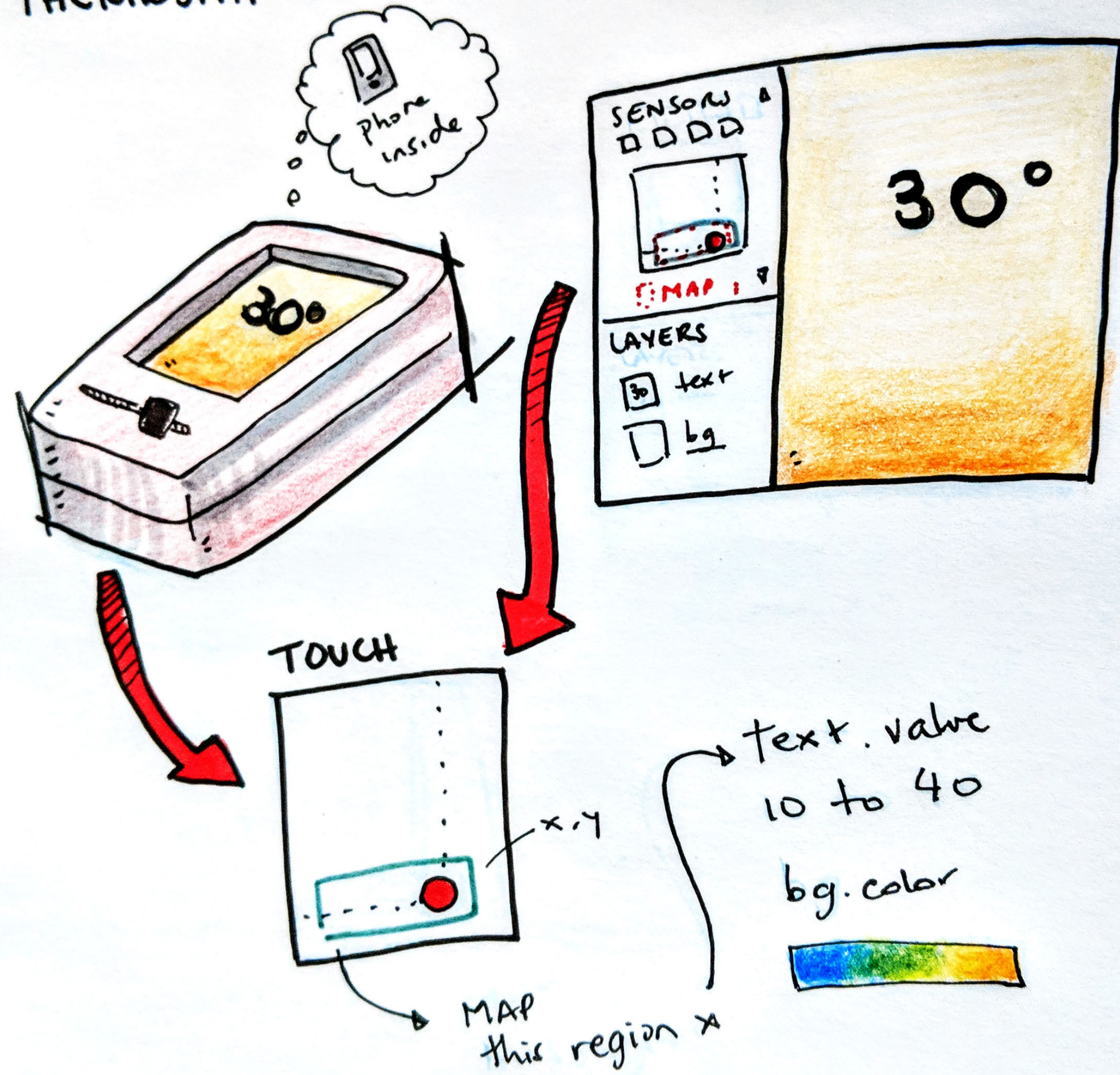
None

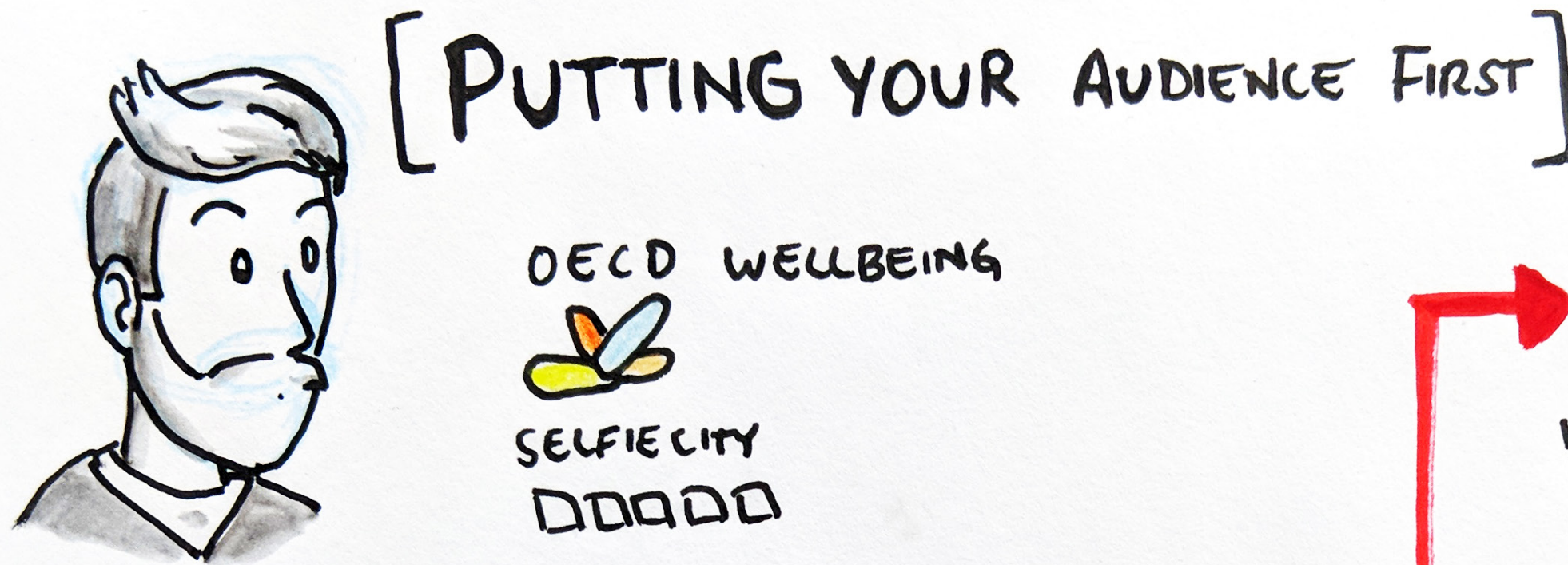


Slide 1 of 2English (Canada)NotesComments



THERMOSTAT





[PUTTING YOUR AUDIENCE FIRST]

OECD WELLBEING

SELFIE CITY
□□□□□

2017 ELECTION



DATA

Sense
makingFull of
stuff!!!

meow!

Internet is

one click away

WAHL 2017

GERMAN ELECTION
TAGSAN EXERCISE
IN COMMUNICATION

1-off experiences

ACCIDENTALLY DISCOVERY
SAME EXPECTATIONS AS THE
WWWpolitically 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 DISTORT DATA
 - bin
 - remap
- multiple vis
↓
battle complexity
- scroll hover filter search &

e.g. Postal code
↓
CITY!

SKETCHES BY PEOPLE

NICK SOUSANIS

Comic Artist

UNFLATTENING:
A DISSERTATION IN COMICS FORM

NICK SOUSANIS | DOCTORAL CANDIDATE
TEACHERS COLLEGE, COLUMBIA UNIVERSITY (USA)
NSOUSANIS@GMAIL.COM | WWW.SPINWEAVEANDCUT.COM

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

FORGOTTEN IS THE WONDER OF 'WHAT MIGHT BE.'

IN ITS PLACE, A SINGLE CHORUS...

THIS IS HOW IT IS.

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

JUST AS INHABITANTS OF ABBOTT'S FLATLAND ARE UNABLE TO FATHOM THE CONCEPT OF "UPWARDS" - WE TOO ARE UNABLE TO SEE BEYOND THE BOUNDARIES OF OUR CURRENT FRAME OF MIND.

IN THIS REGARD, THEY RESEMBLE THE TWO-DIMENSIONAL GEOMETRIC INHABITANTS OF EDWIN A. ABBOTT'S FLATLAND.

MOVING SHADOWS ON A VAST SHEET OF PAPER.

(BUT THIS IS OUR VIEW)

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

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 MODE?

COMICS LET US BE AMPHIBIOUS - BREATHE IN WORLDS OF IMAGE AND TEXT.

4.14

UNFLATTENING
Known: many dimensions?
meditation on...

WAYS OF SEEING → Calvin... Lightness
when community seems confined to heavy
look from different perspectives

Handwritten notes and sketches in the top right corner, including the word "HANDCASTLES" and some small drawings.

A Dream of Flatness

Not Literal (2D Flatness - will return to this)
Egypt art? - where people
Flatten (person) - of minor
Flattens of possibility (THIS IS HOW IT IS)
But WE built this - paradox - pill for better
someone who starts best with you



How did this come to be?
we do it to ourselves
A short history of tools, GAS, & INSTRUMENTS
MARCH OF DOORS (MEMES)
machine

Handwritten notes and sketches in the top right corner, including the word "HANDCASTLES" and some small drawings.

Life itself is a...
• Vennach
• Butterfly
• Solam
• Vennach rabbit
• pinocchio
Rubbie: Aufhebung
Upheld
pole vault

Stomach
Peculiar
Transitions
making parallels?

A CATAPULT

a Rift, that gives - (pin prick)
transformation, not unknown
all insides - carries itself
all outside (stealing state)
UPHEAVAL



Who has to? (Alice)
Alice
The idea of
change
leaving
about work
unpleasant
transformation
change

TURNING WORLD
UPSIDE DOWN
Data out the door...

Imagining as otherwise
unflattening → open a DOOR

Books = 200 ways
Pictures
APPROXIMATIONS

Referencing
Paradise → Heron Bright
masks walking
1st woman - she who speaks
sings?

FLAT UNFLAT
2D → 3D
Skip through
unflattening
unflattening

EYES OPEN
Another kind of door
unflattening
unflattening

What if we live our
life backwards?
What if we live our
life backwards?

Other you
WAKE UP...
To your life...

FLAT UNFLAT
2D → 3D
Skip through
unflattening
unflattening

EYES OPEN
Another kind of door
unflattening
unflattening

What if we live our
life backwards?
What if we live our
life backwards?

Other you
WAKE UP...
To your life...

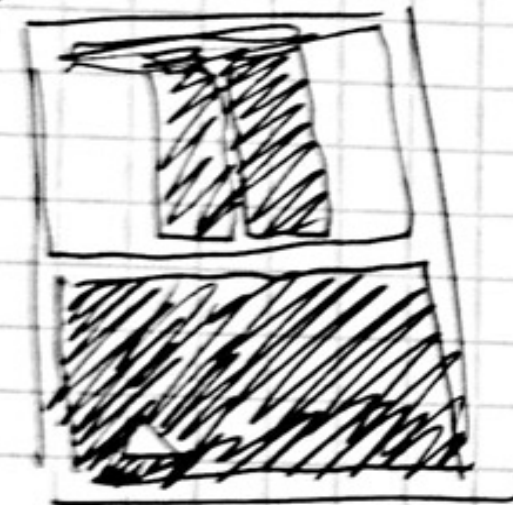
FLAT UNFLAT
2D → 3D
Skip through
unflattening
unflattening

EYES OPEN
Another kind of door
unflattening
unflattening

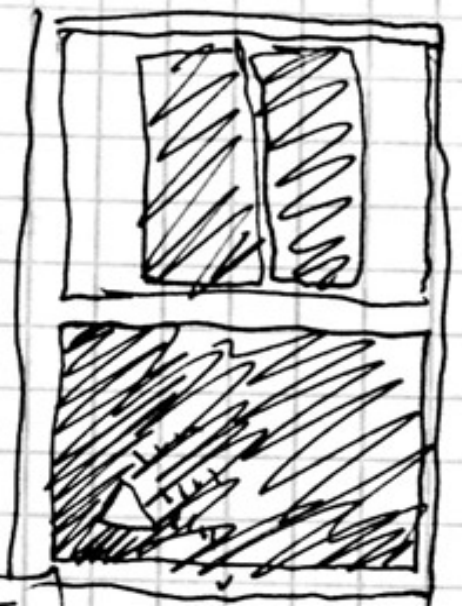
What if we live our
life backwards?
What if we live our
life backwards?

Other you
WAKE UP...
To your life...

Preced



IN OUT



Difficulty to Break

connected community

Similarity

Contrast

Shake speed

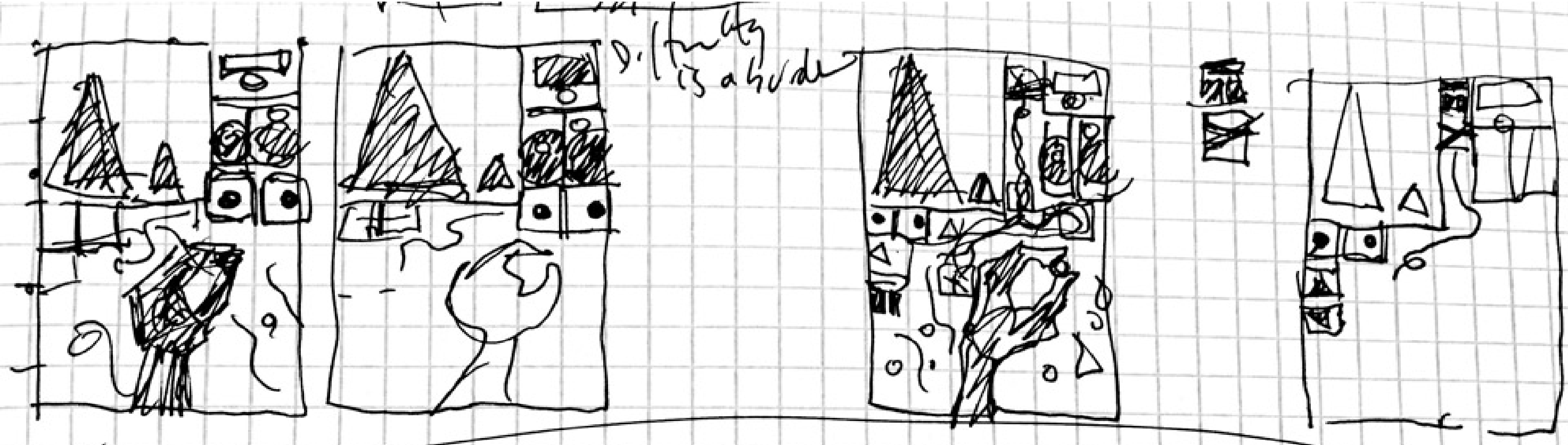
purposeful life is a journey

Burdens

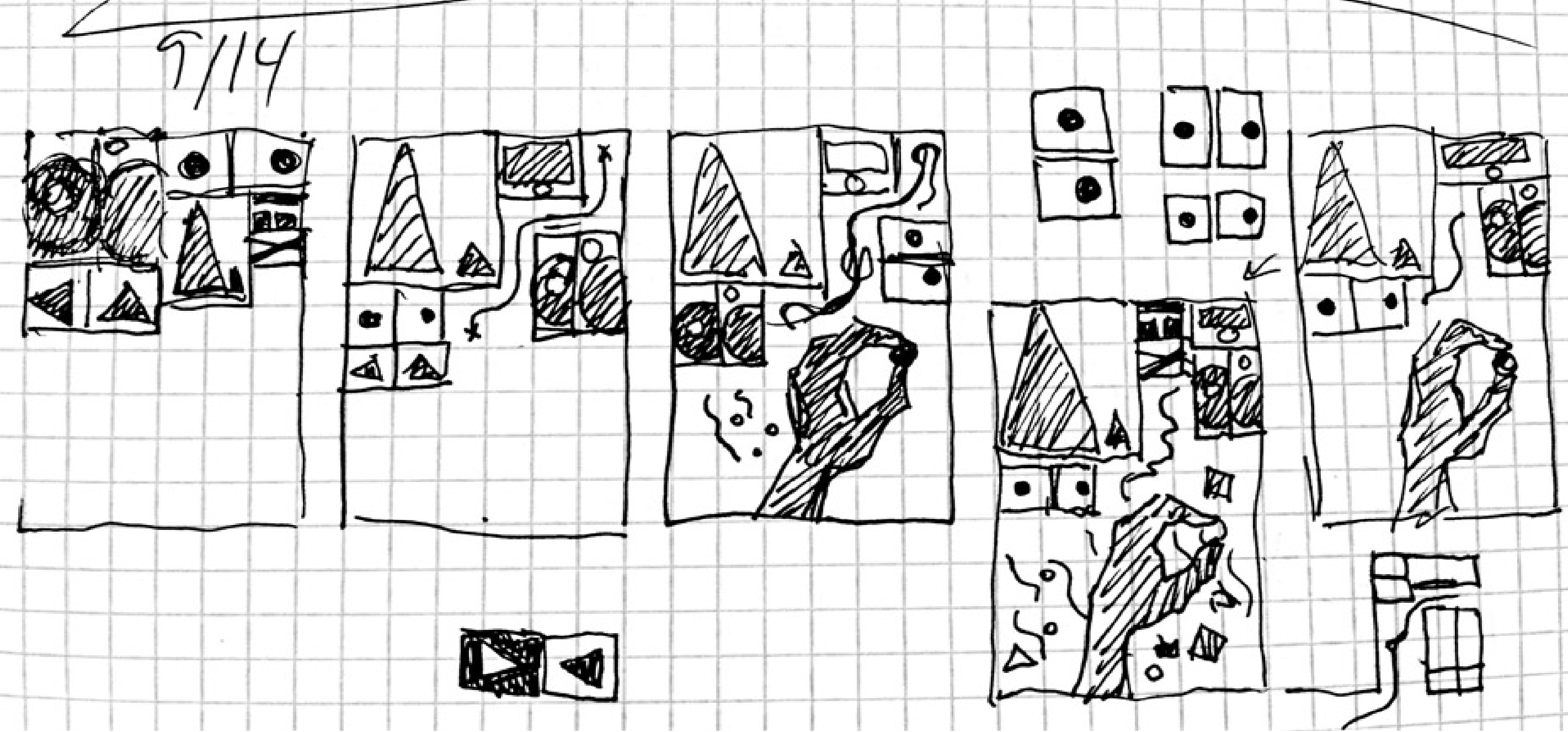
Argumentation

in-out light-dark

out
Continue



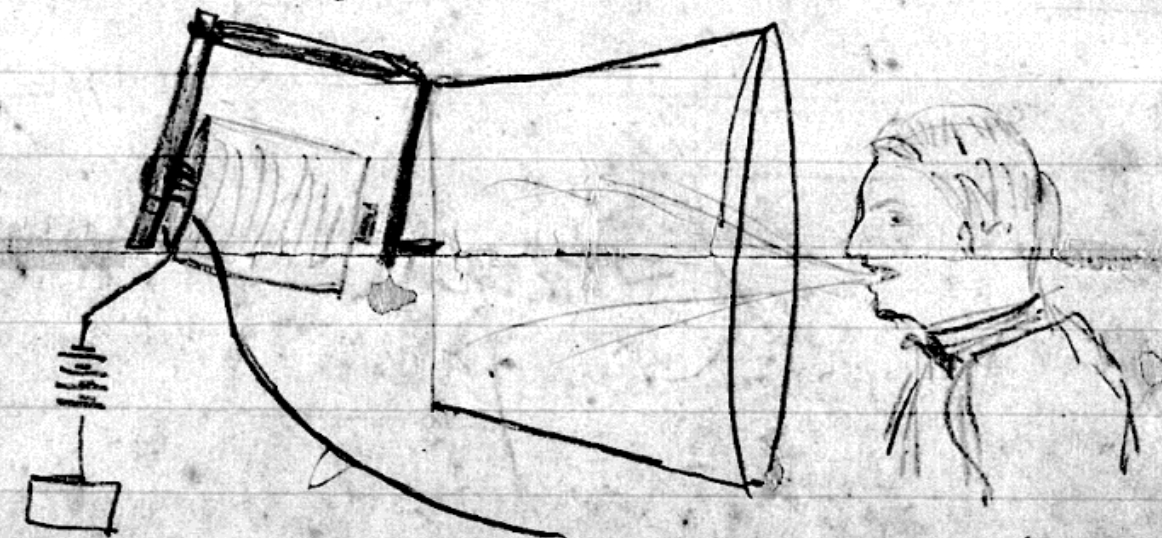
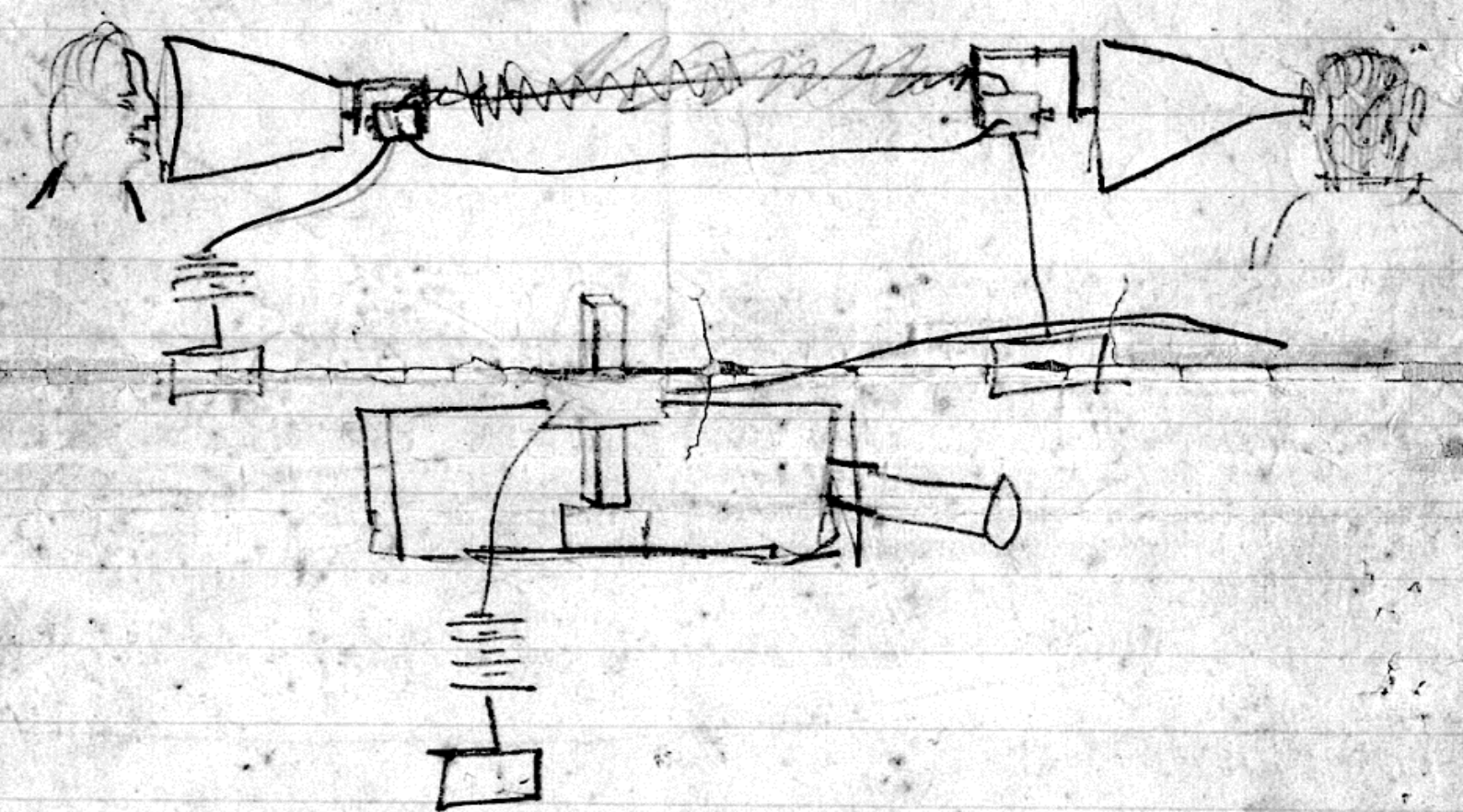
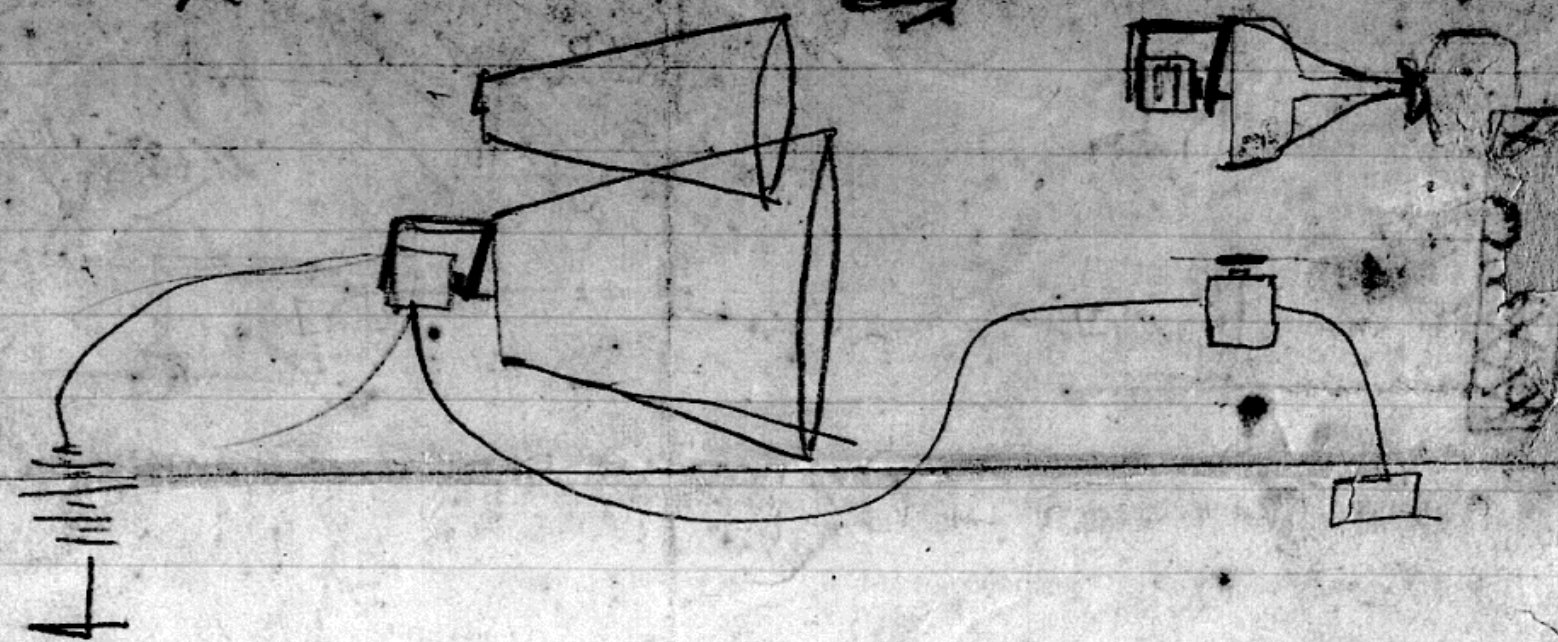
9/14
is a hude



ALEXANDER GRAHAM BELL

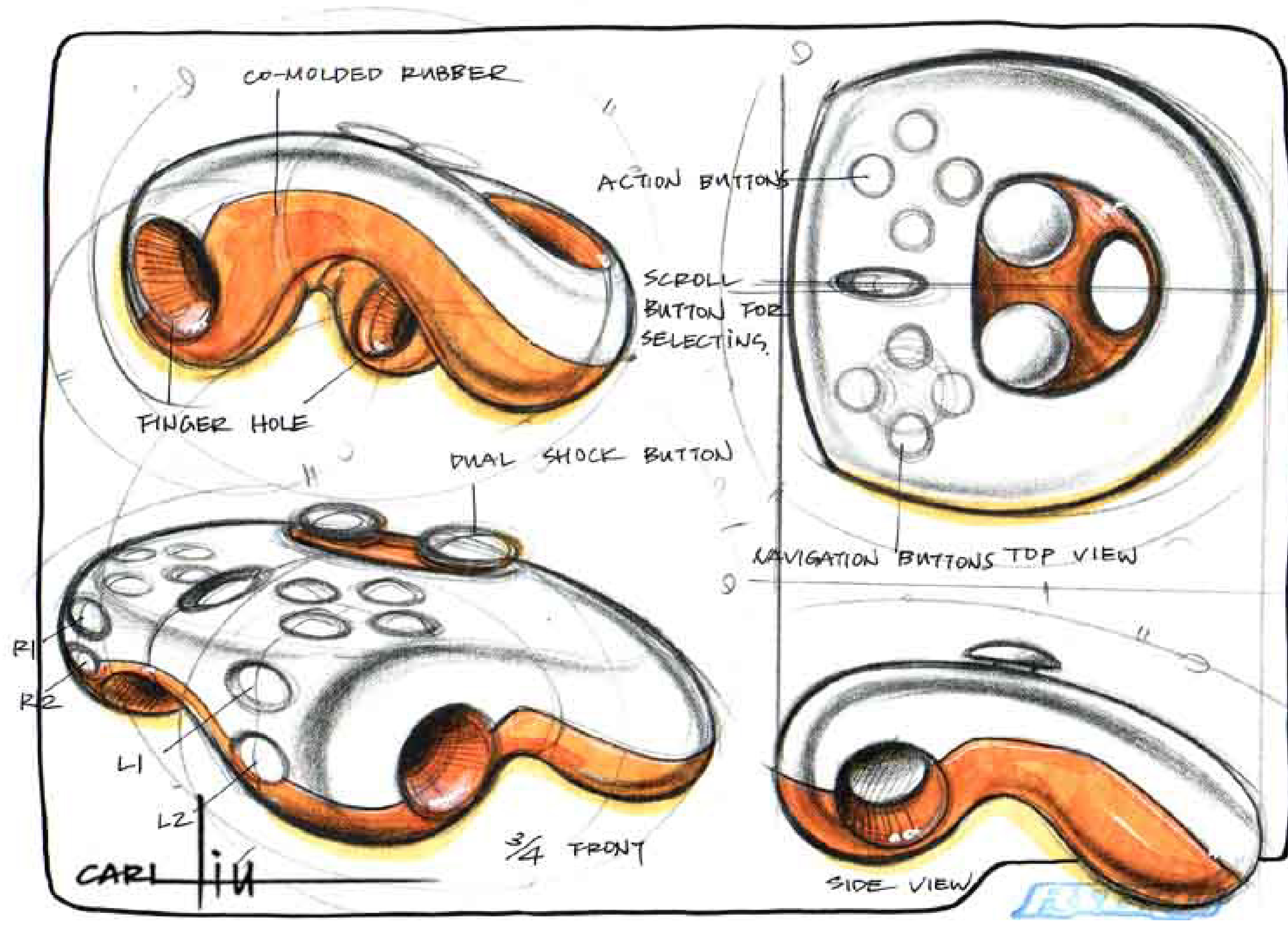
Scientist/Inventor

Boston, Mass. to Miss Frances B. Agnew
 Aug. 21st 1876 from A.G.B.



As far as I can remember these are the first designs
 made of my telephone - or instrument for the
 transmission of vocal utterances by telegraph.
 A. Graham B.

CARL LIU
Industrial Designer



CO-MOLDED RUBBER

ACTION BUTTONS

SCROLL
BUTTON FOR
SELECTING

FINGER HOLE

DUAL SHOCK BUTTON

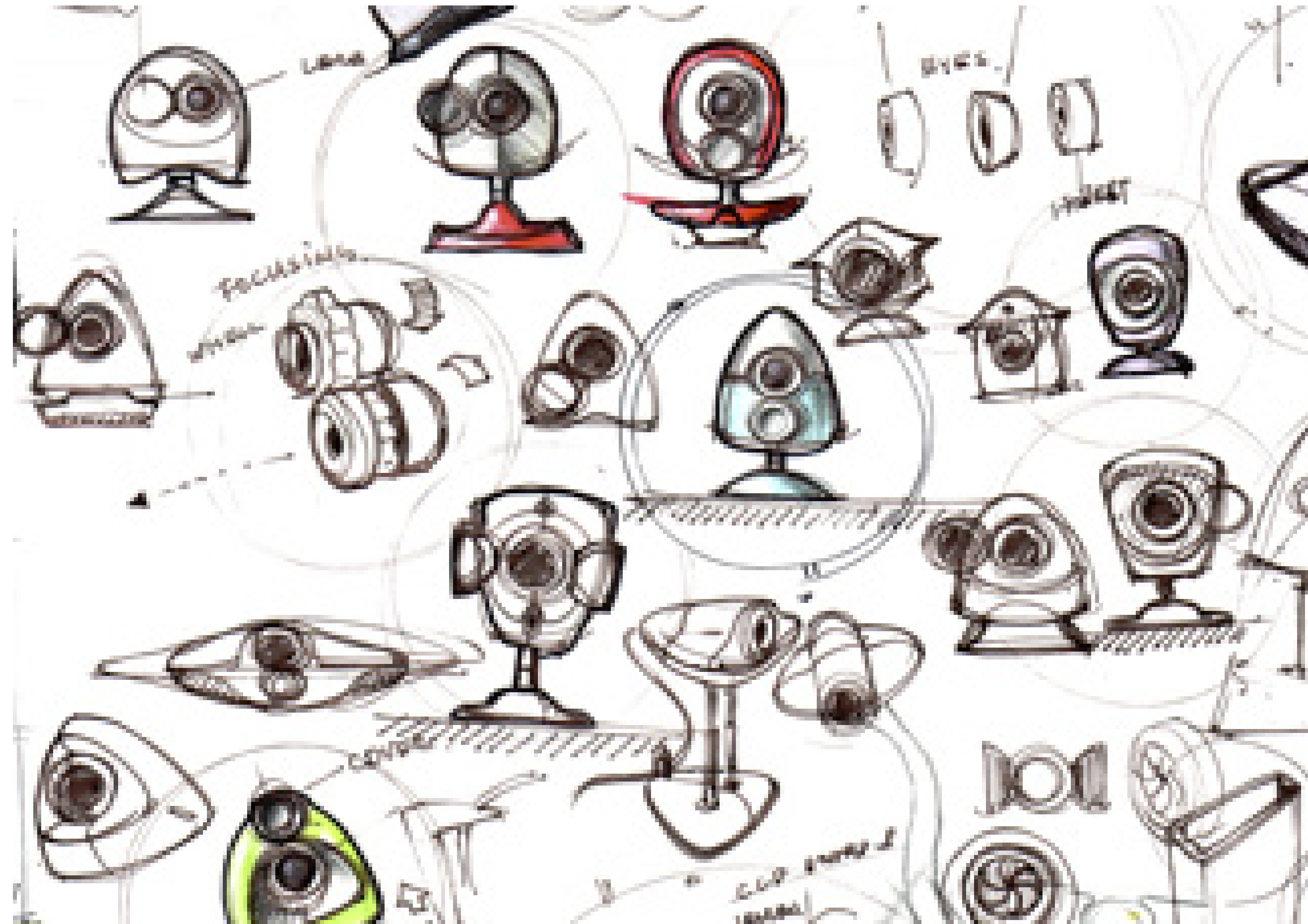
NAVIGATION BUTTONS TOP VIEW

3/4 FRONT

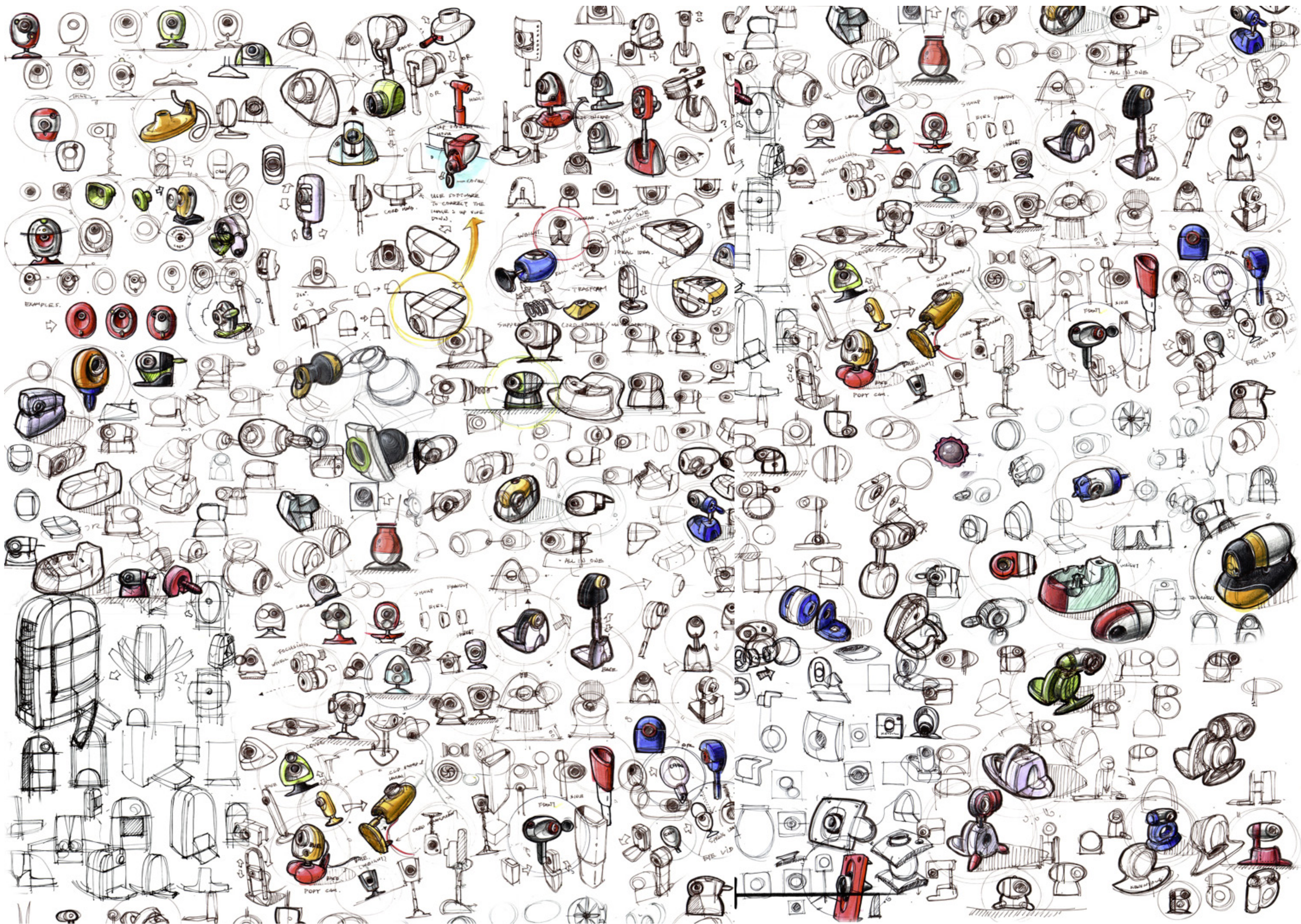
SIDE VIEW

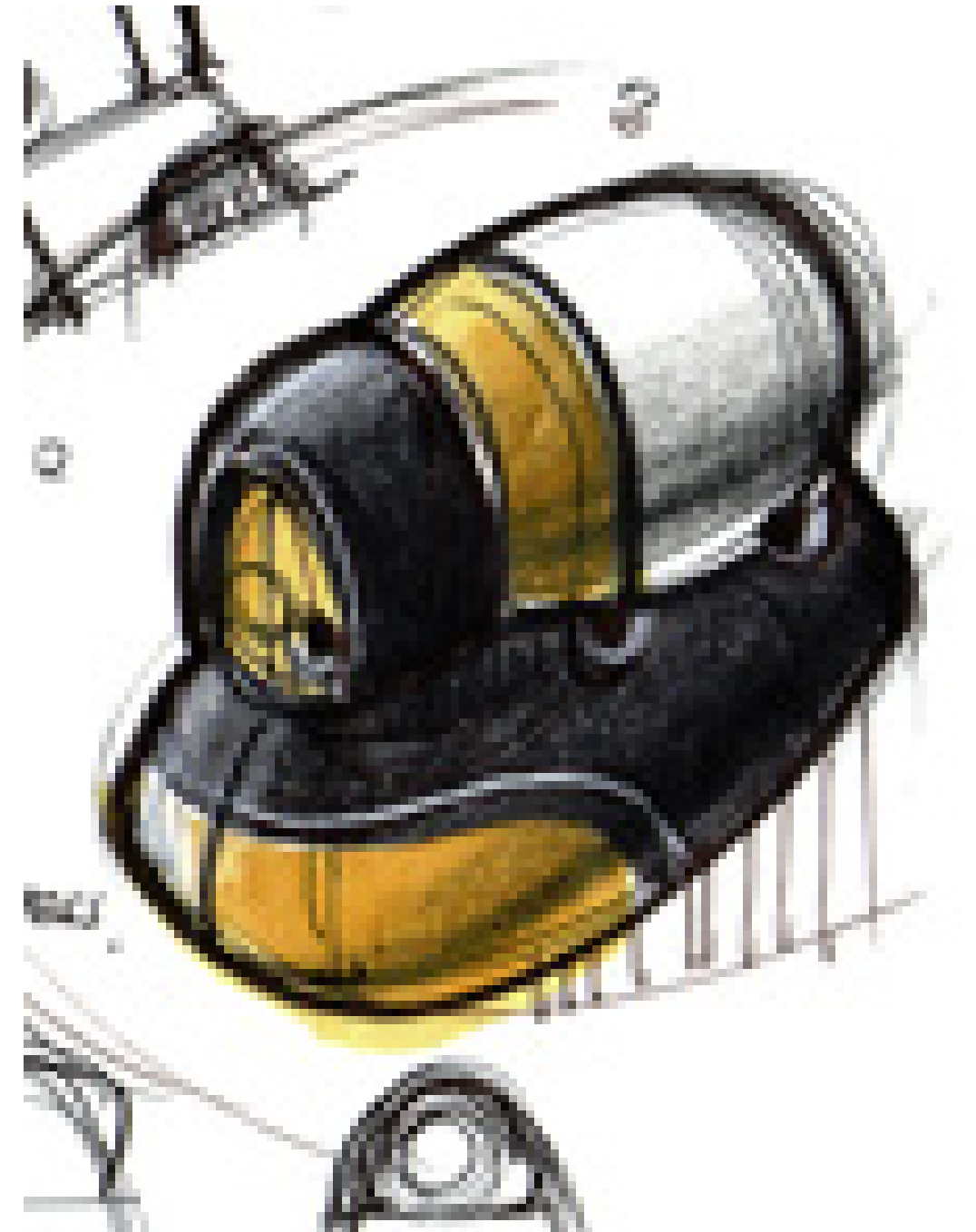
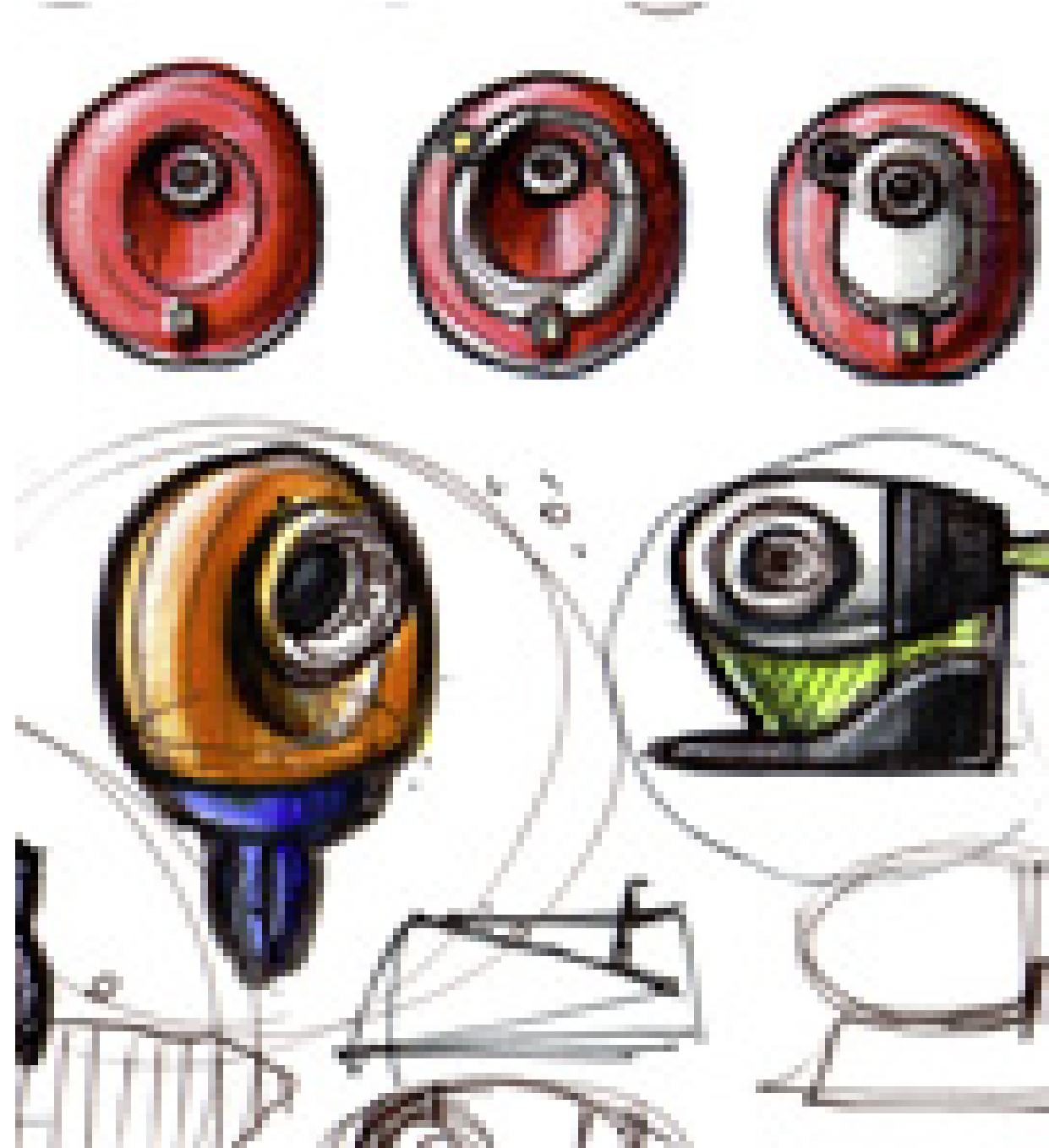
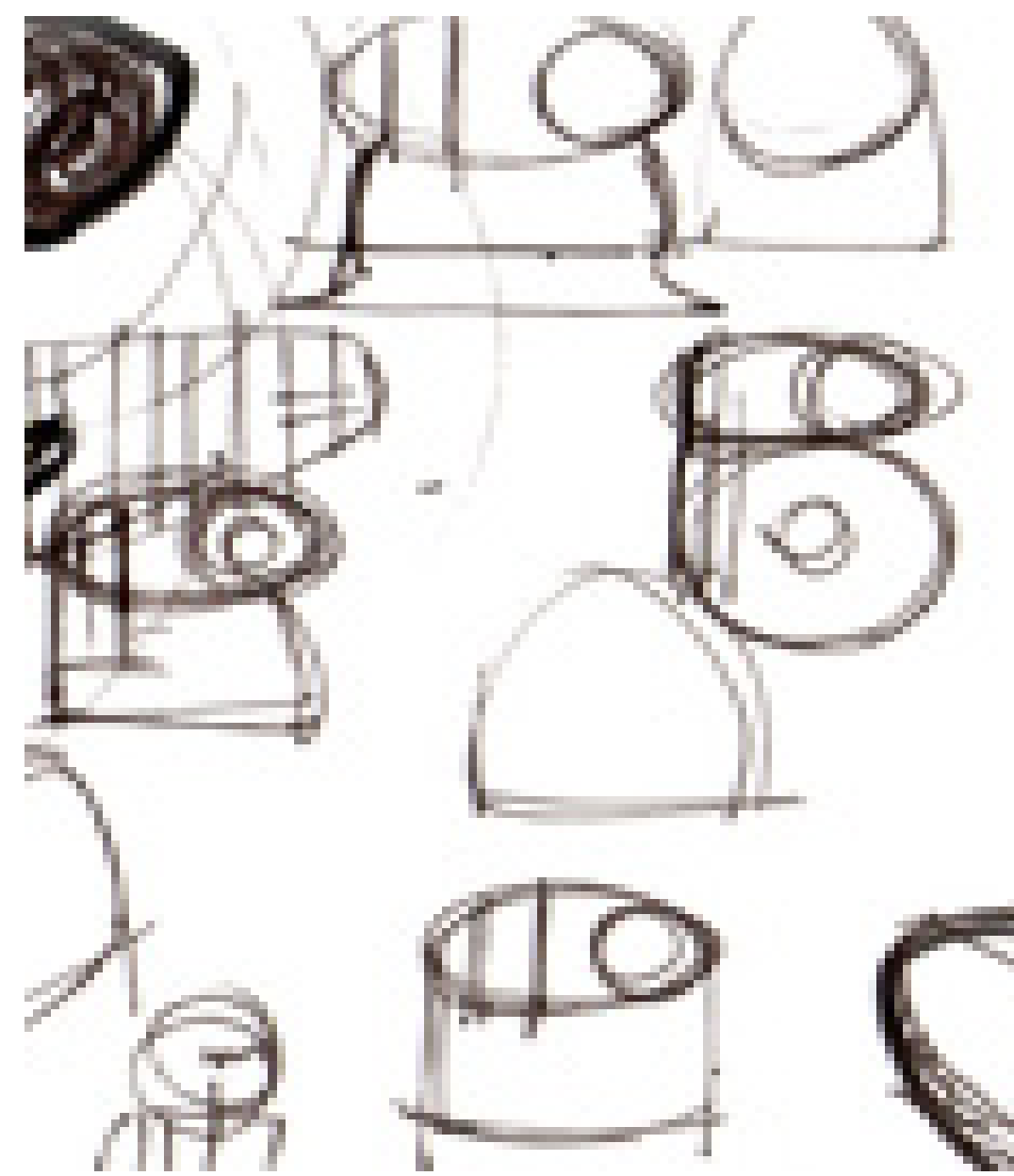
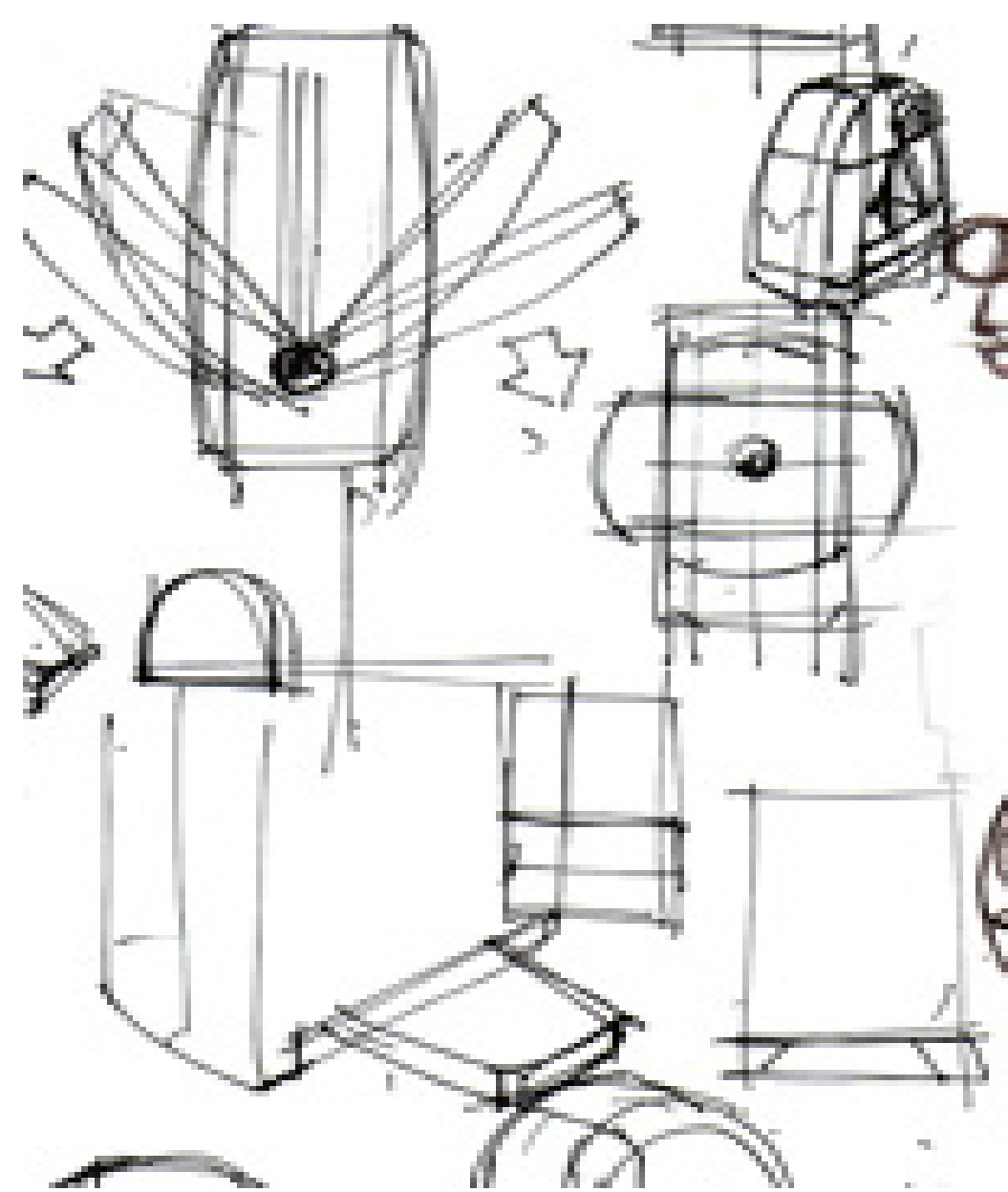
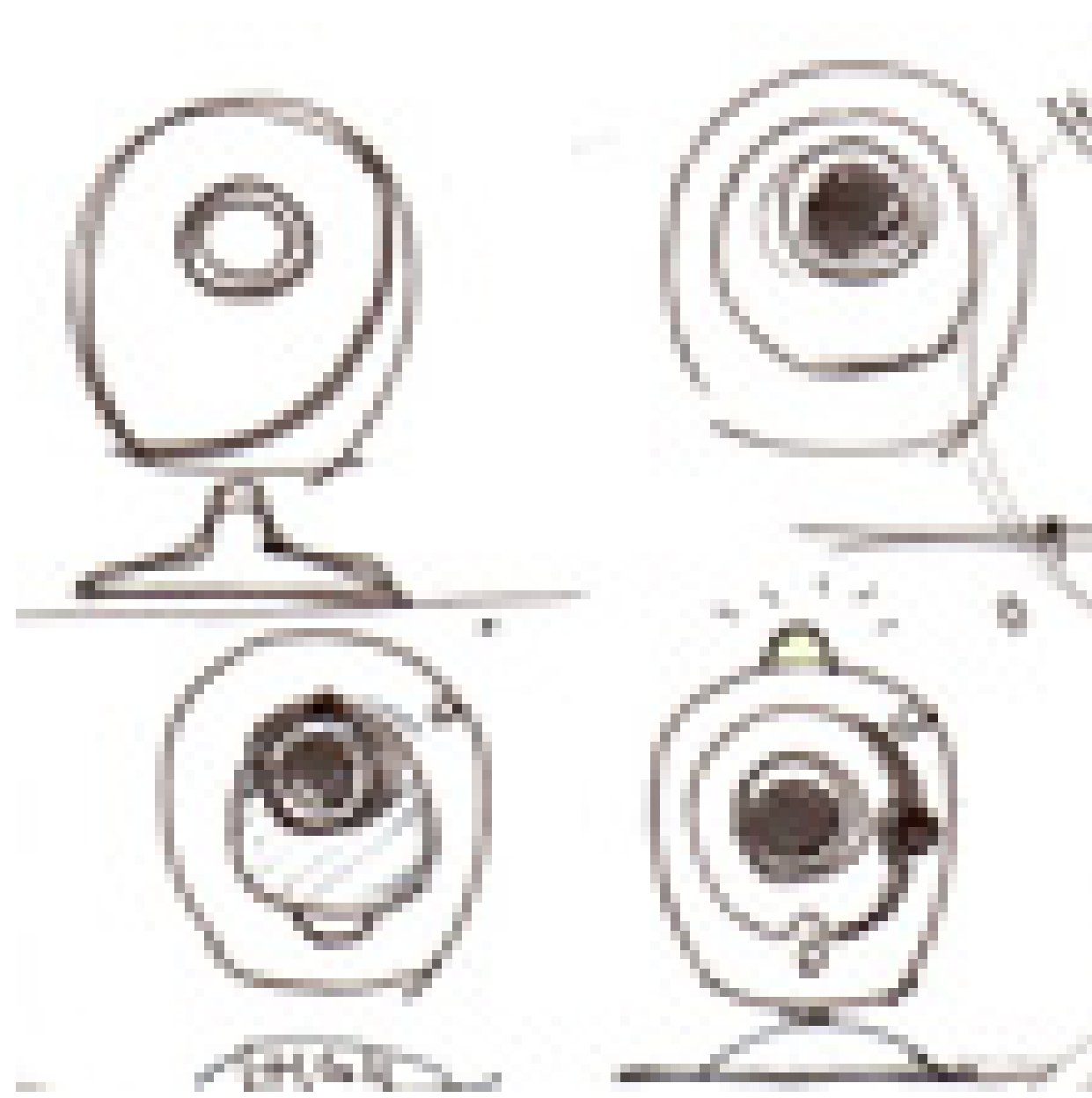
CARL iU









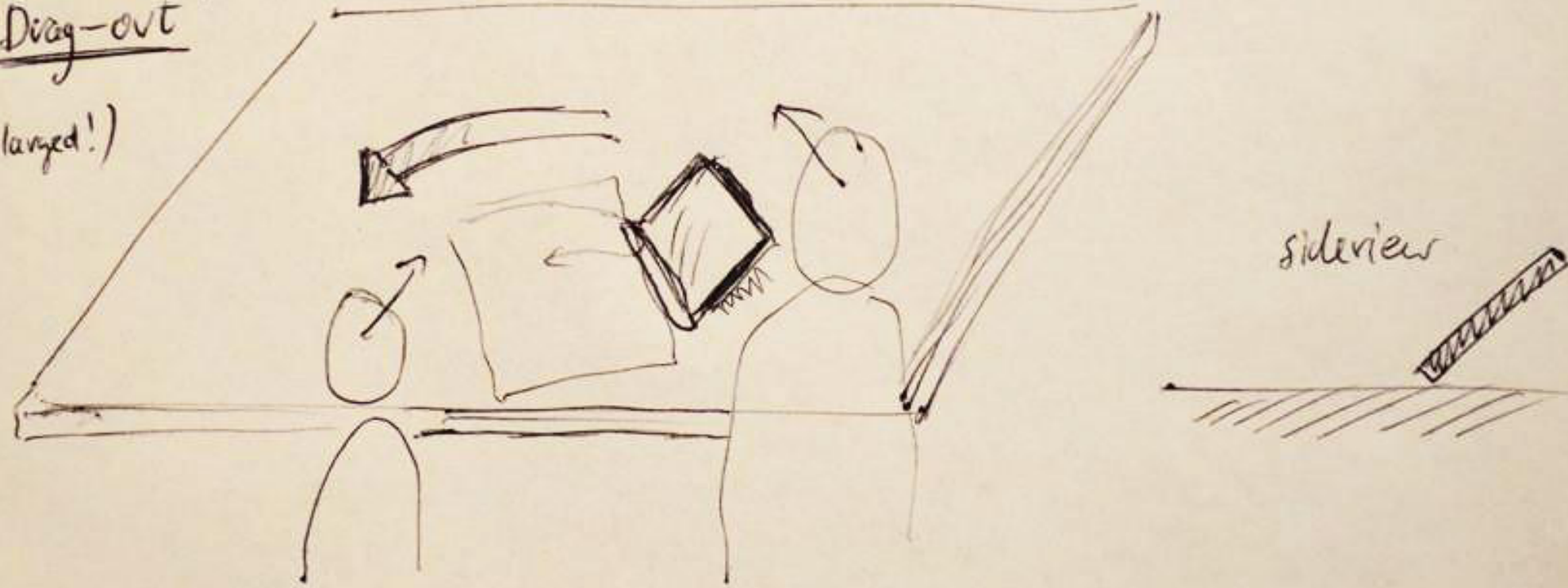


NICOLAI MARQUARDT

HCI Researcher

Tablets/
devices ~~XXXXXXXXXX~~ + table + ^{supporting} micro-mobility

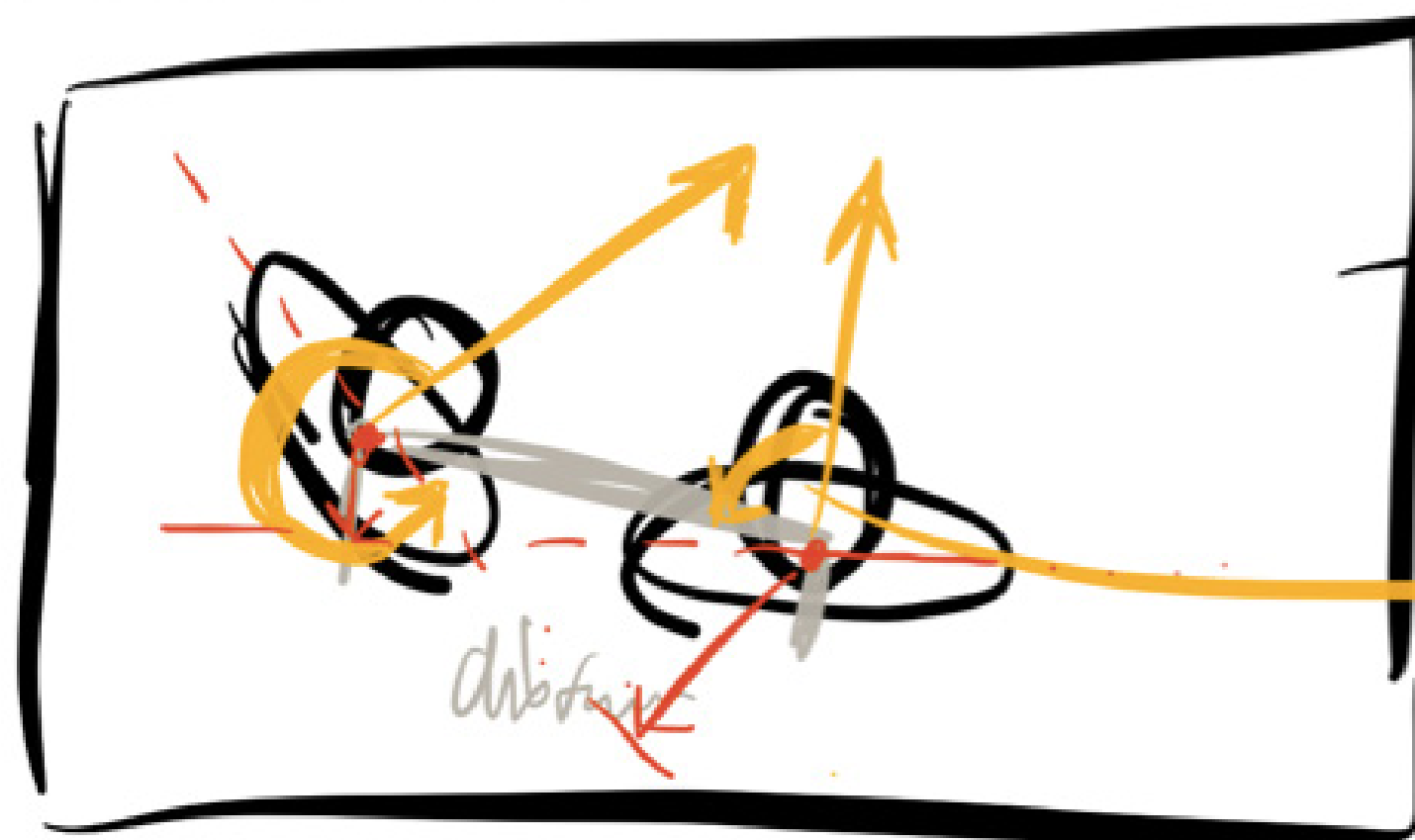
① ~~Fan-out~~
~~Pro~~ "Drag-out"
(enlarged!)





could be
part of
figure 2
(smaller!)

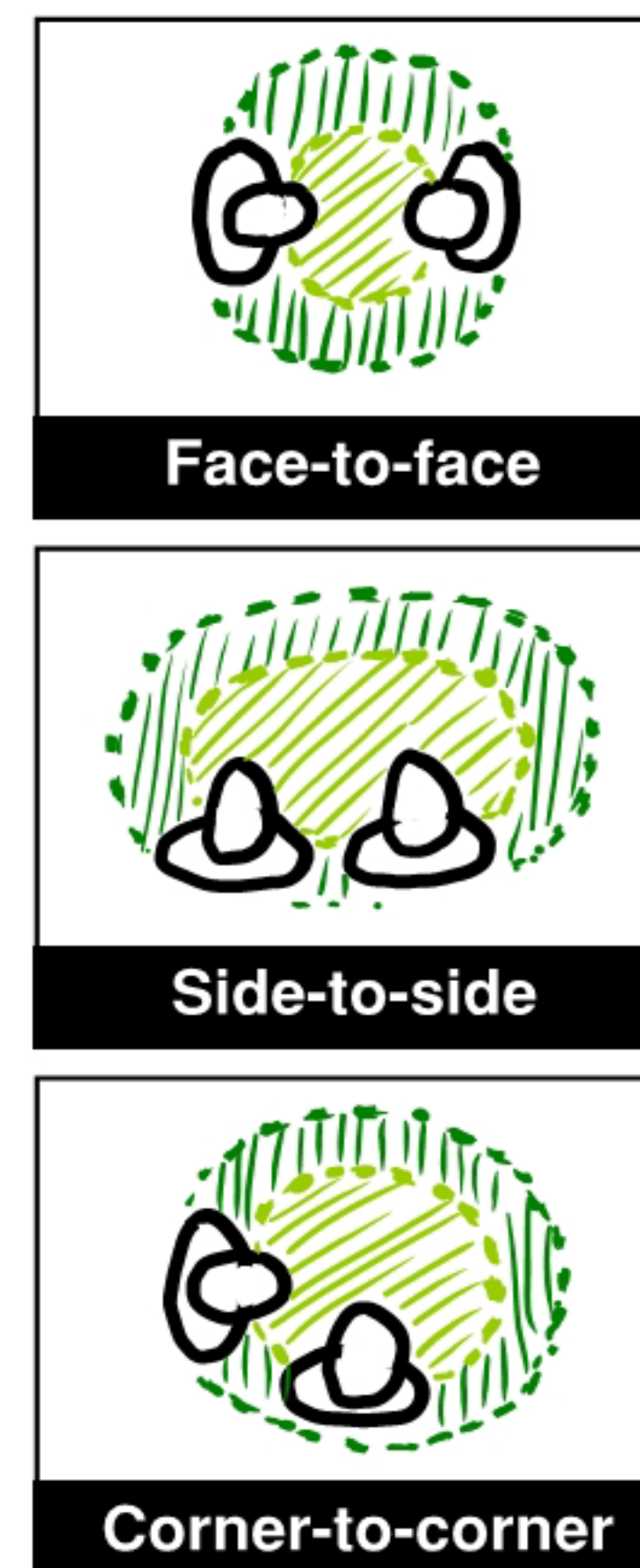
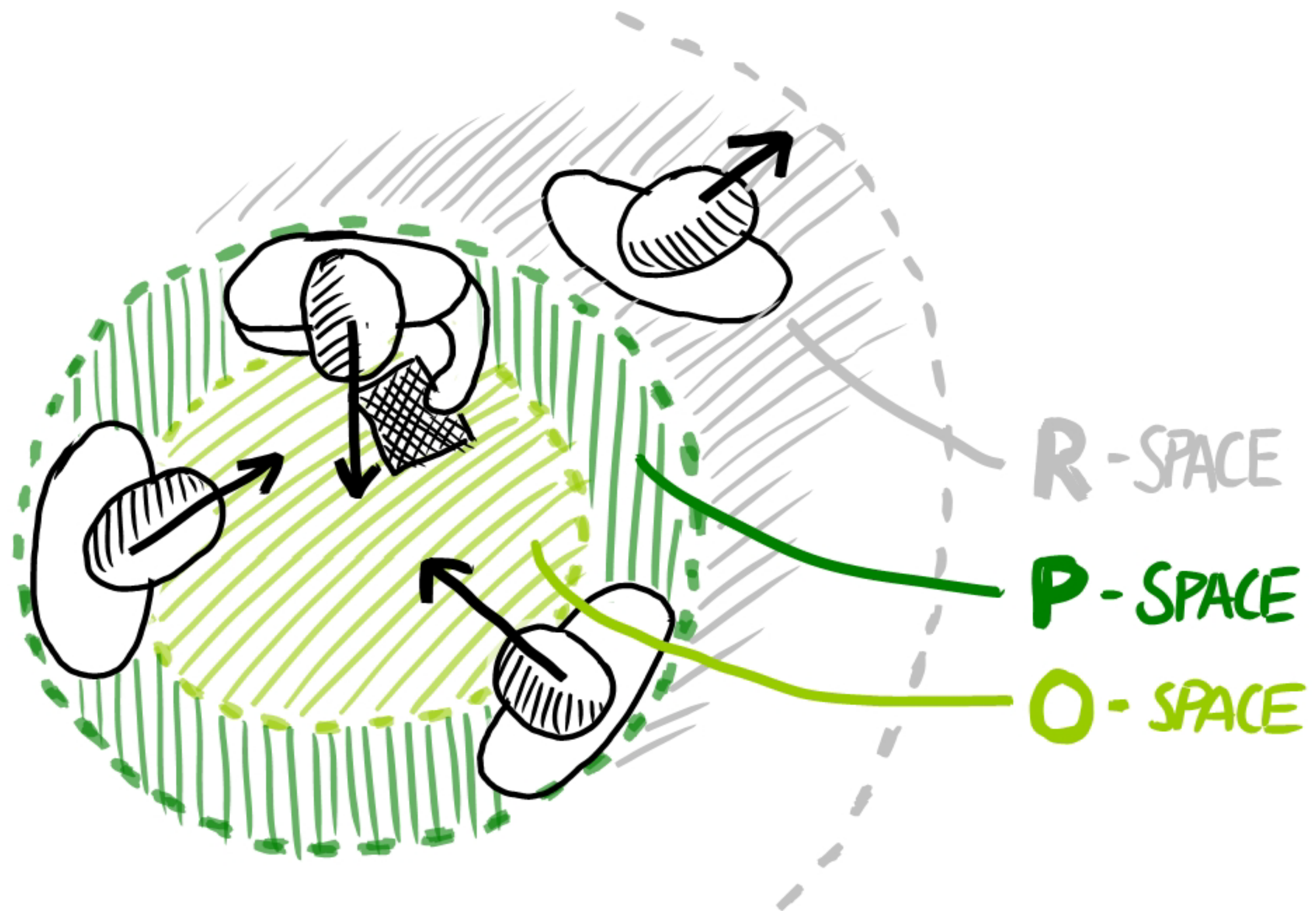
distal
formations

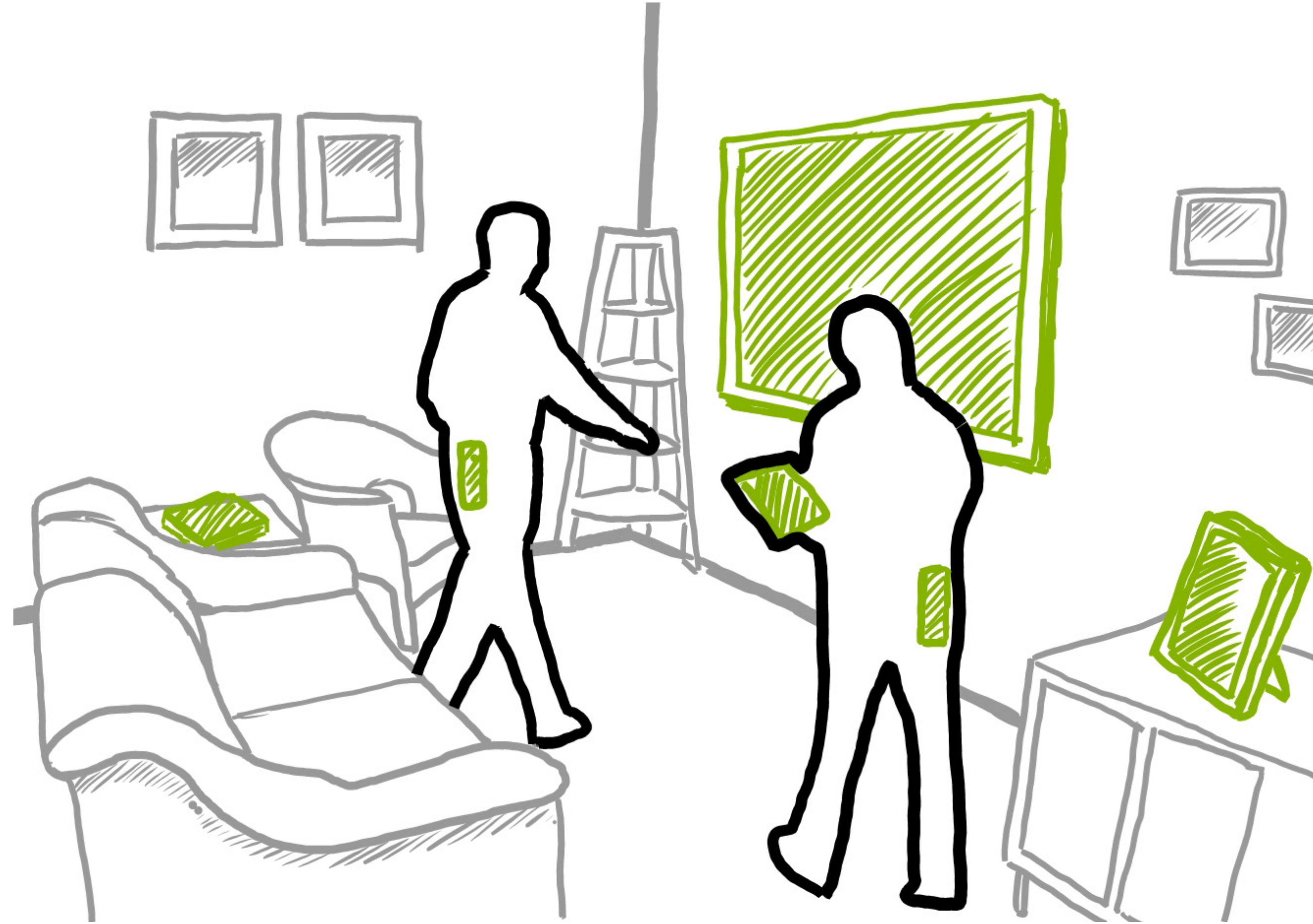


tolerance
values

angles

distal



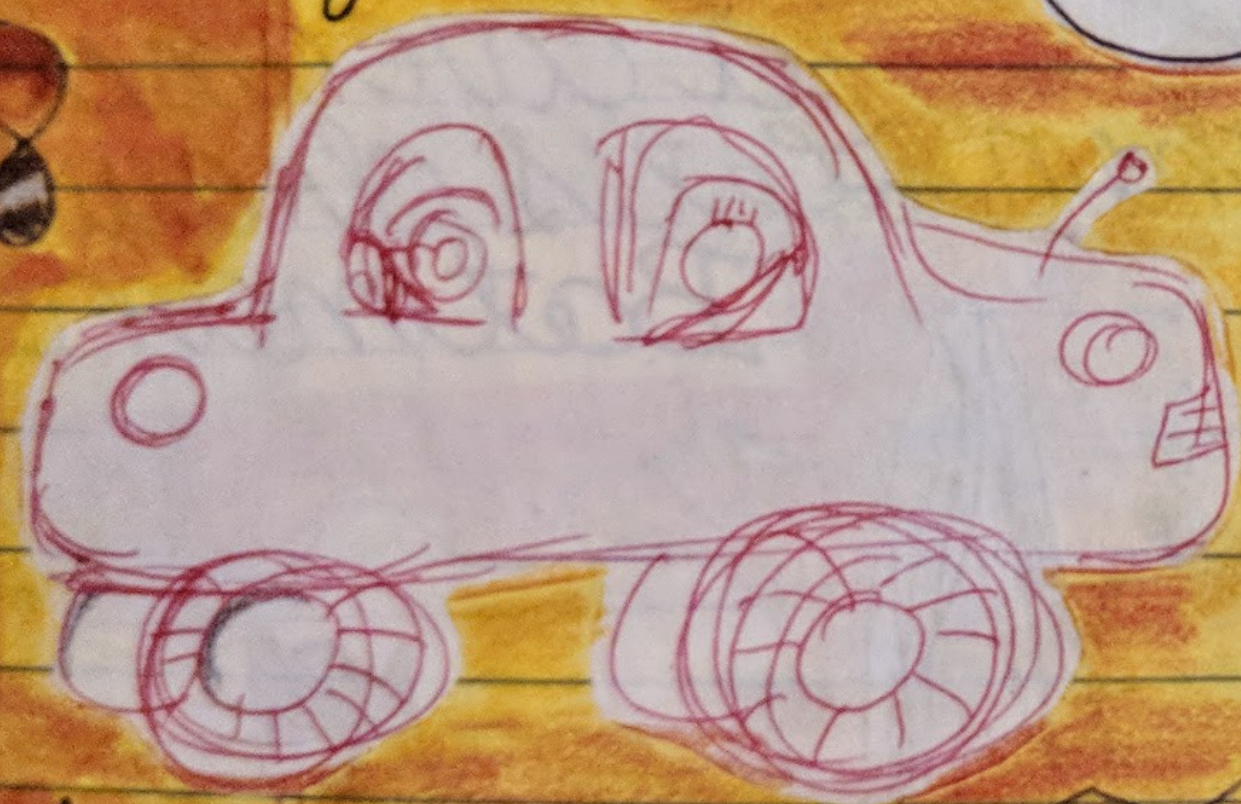
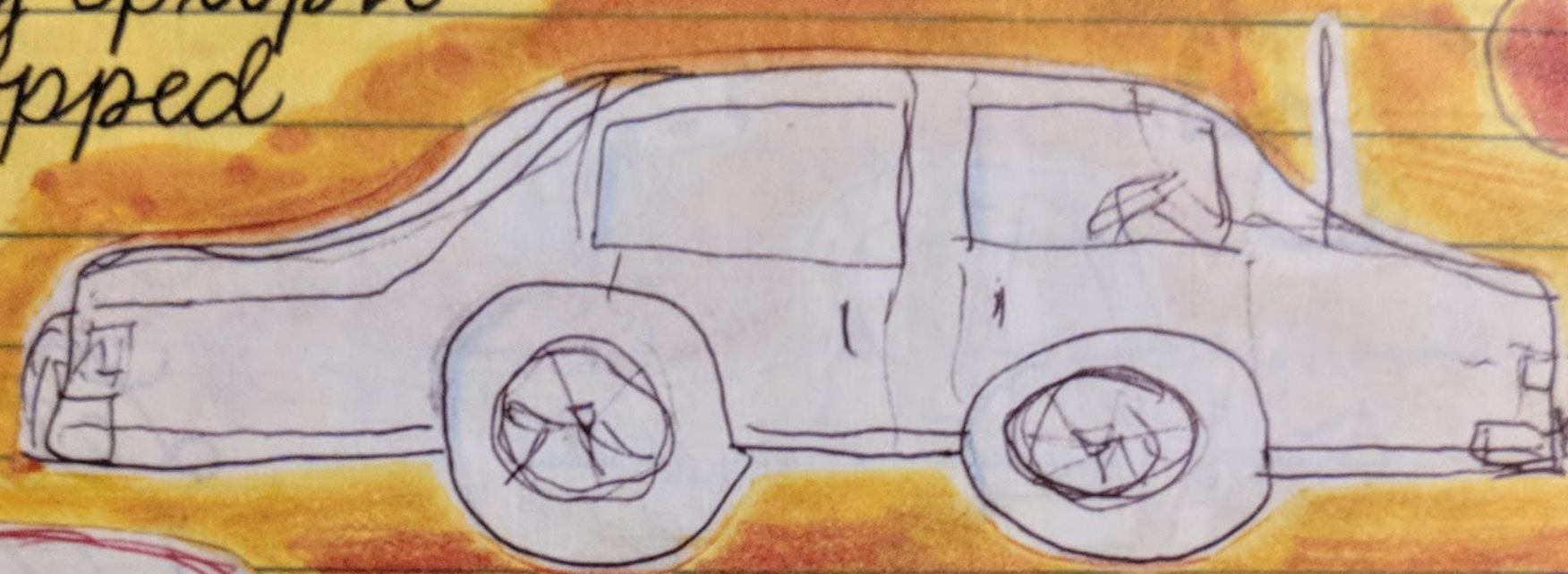




LYNDA BARRY

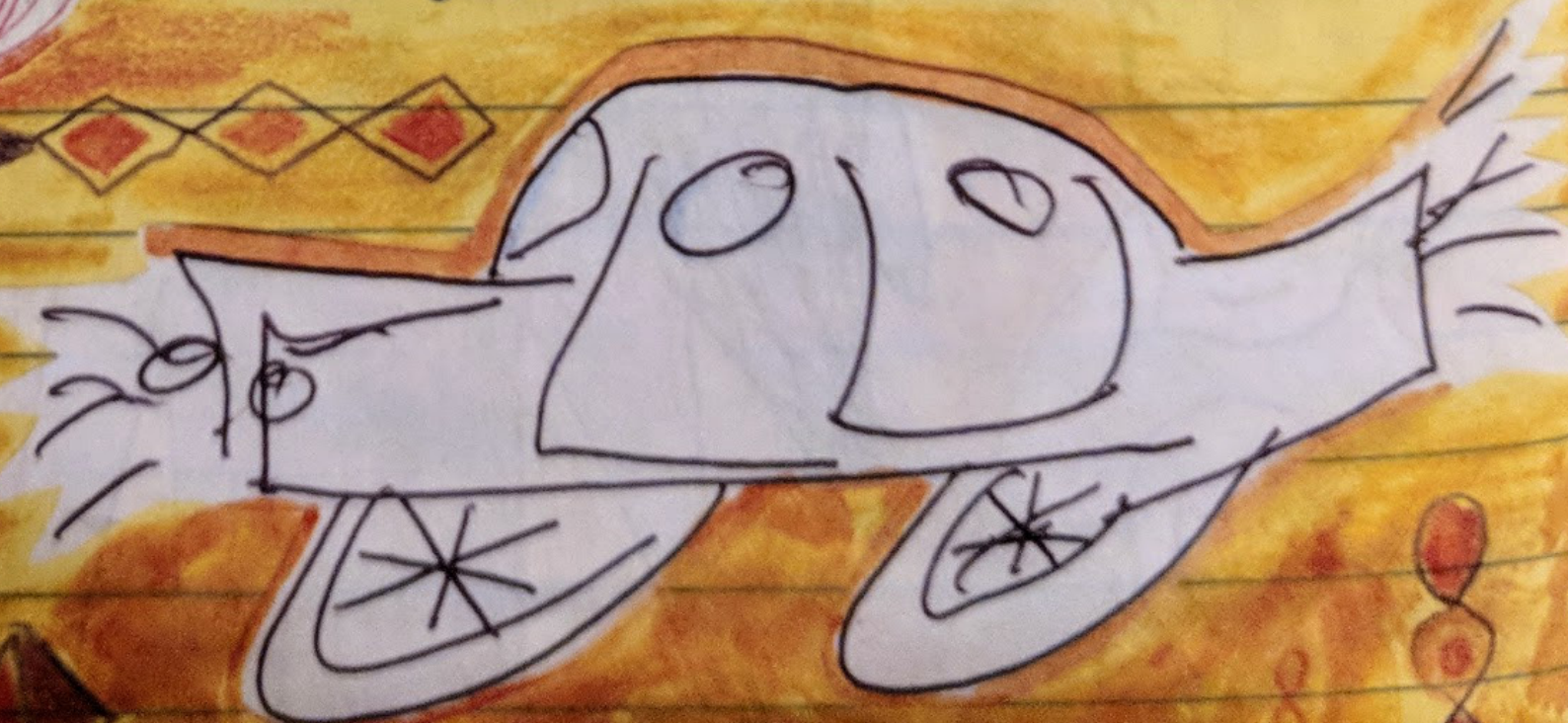
Comic Artist

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

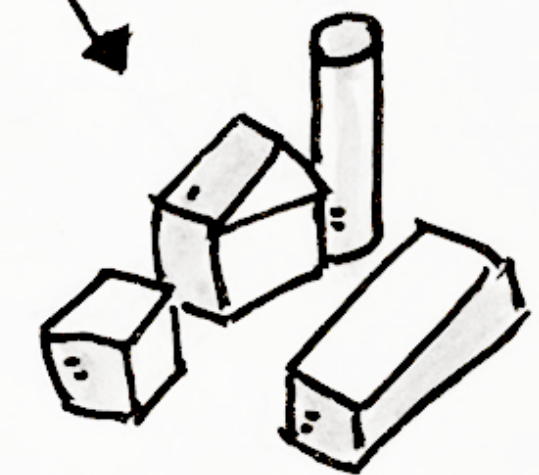
THE PARTS TO DRAWING



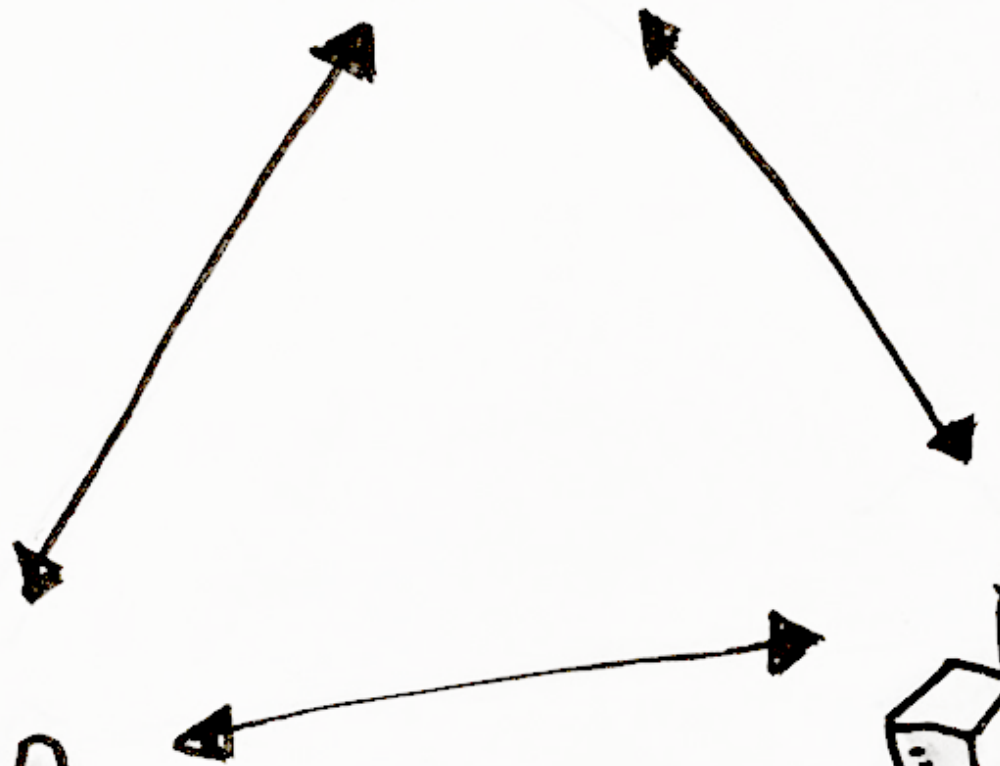
VISION
ability to understand
space visually.



**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 (*avoid chicken scratch*)

Draw circles, try different starting points and directions

Draw concentric circles, from inside out

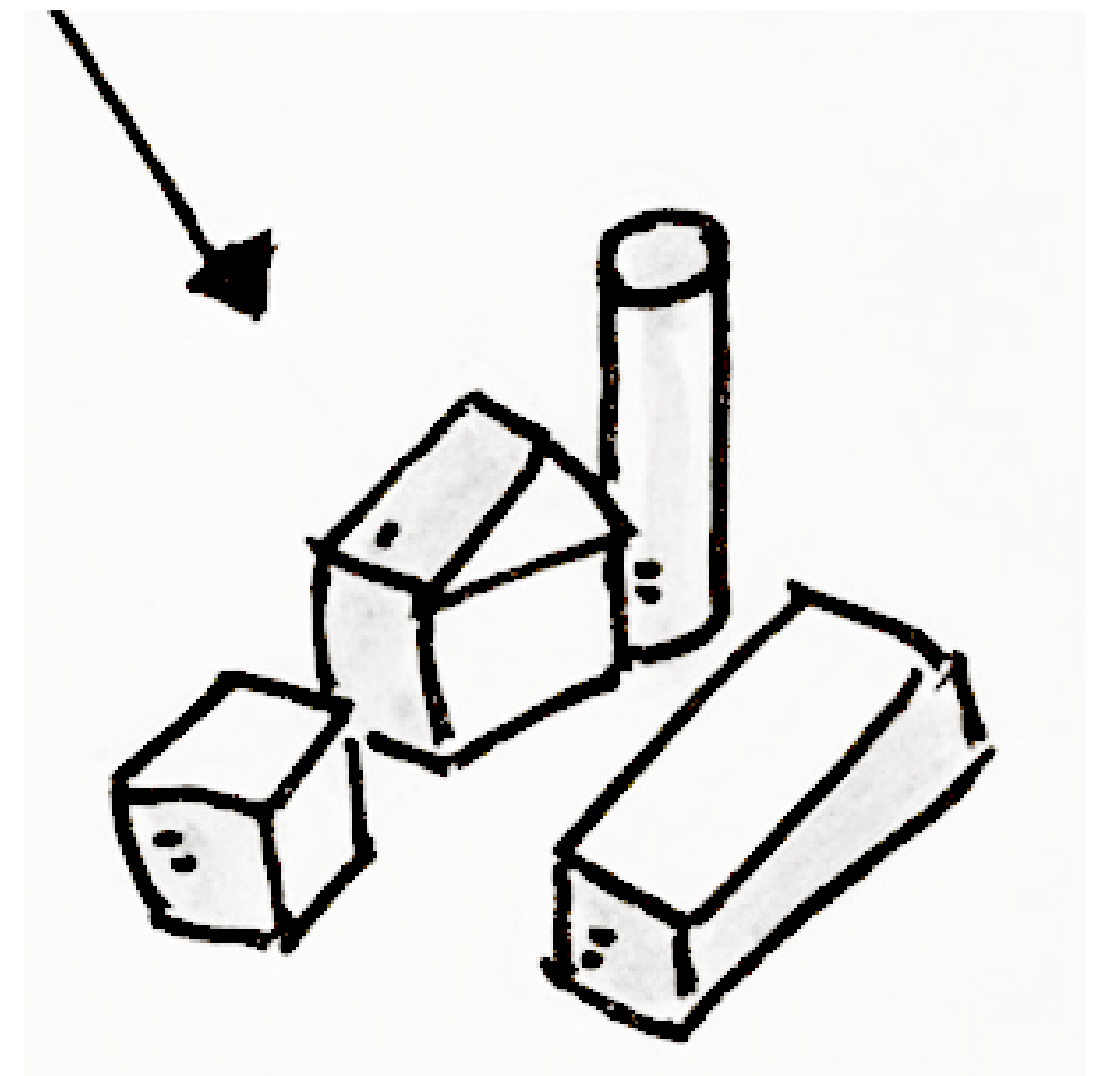
TRAINING YOUR EYE



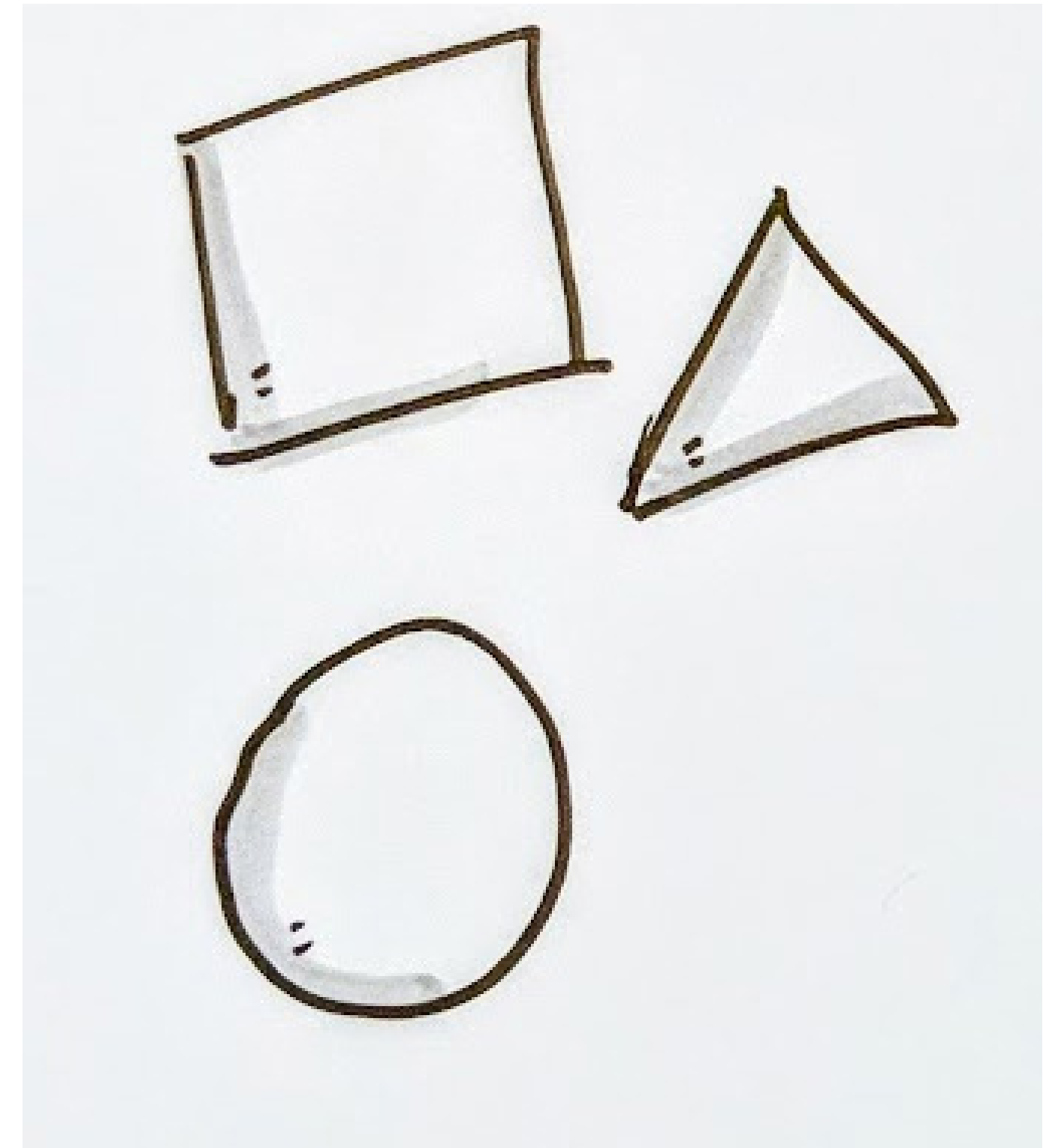
EXERCISE

Contour drawing - draw an object near you without looking at the page (3 mins)

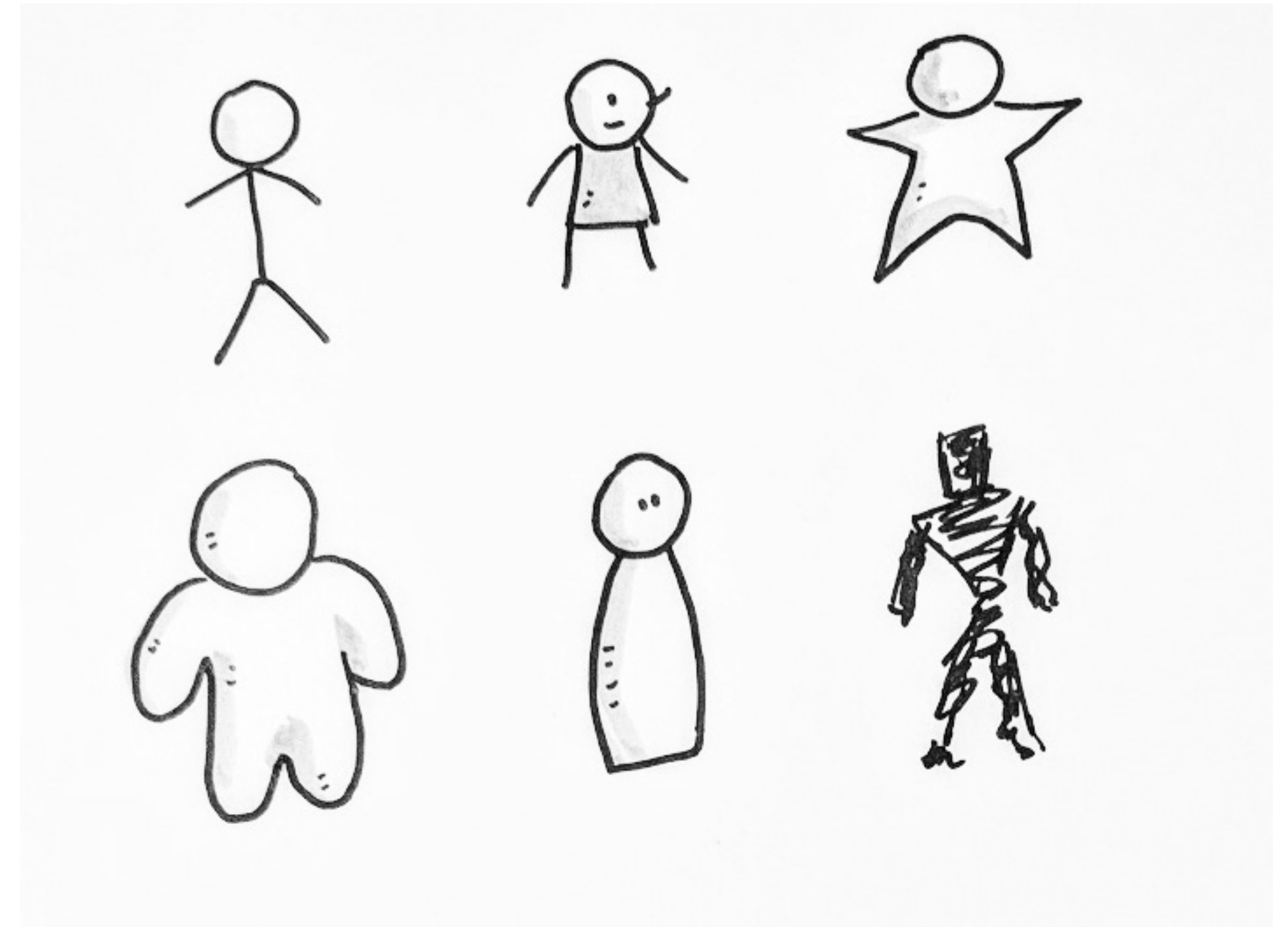
VISUAL VOCABULARY



SHAPES



PEOPLE



REALISTIC -----> ABSTRACT



PORTRAIT -----> IDEA

McCloud, S. *Understanding Comics*

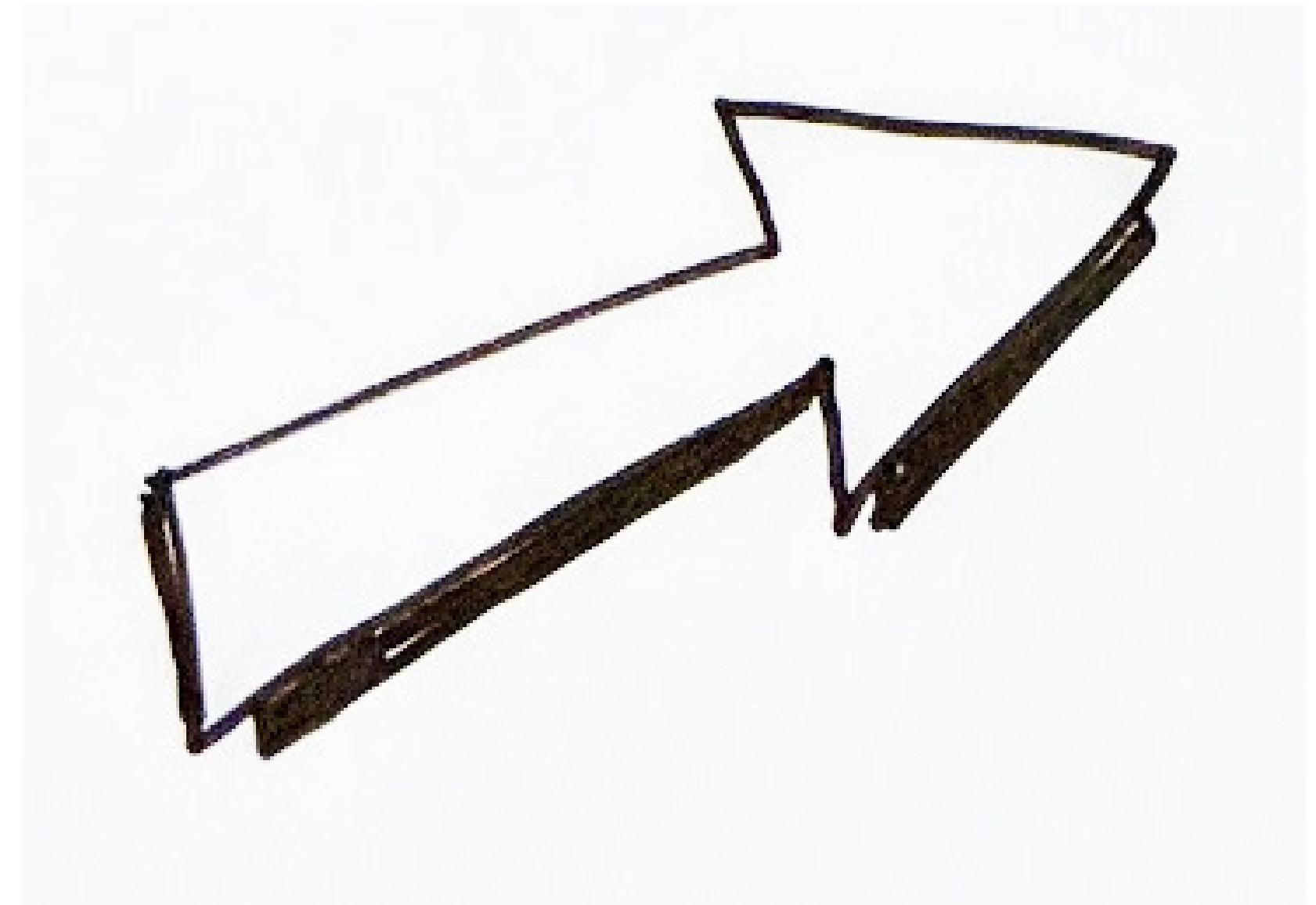
EXERCISE

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

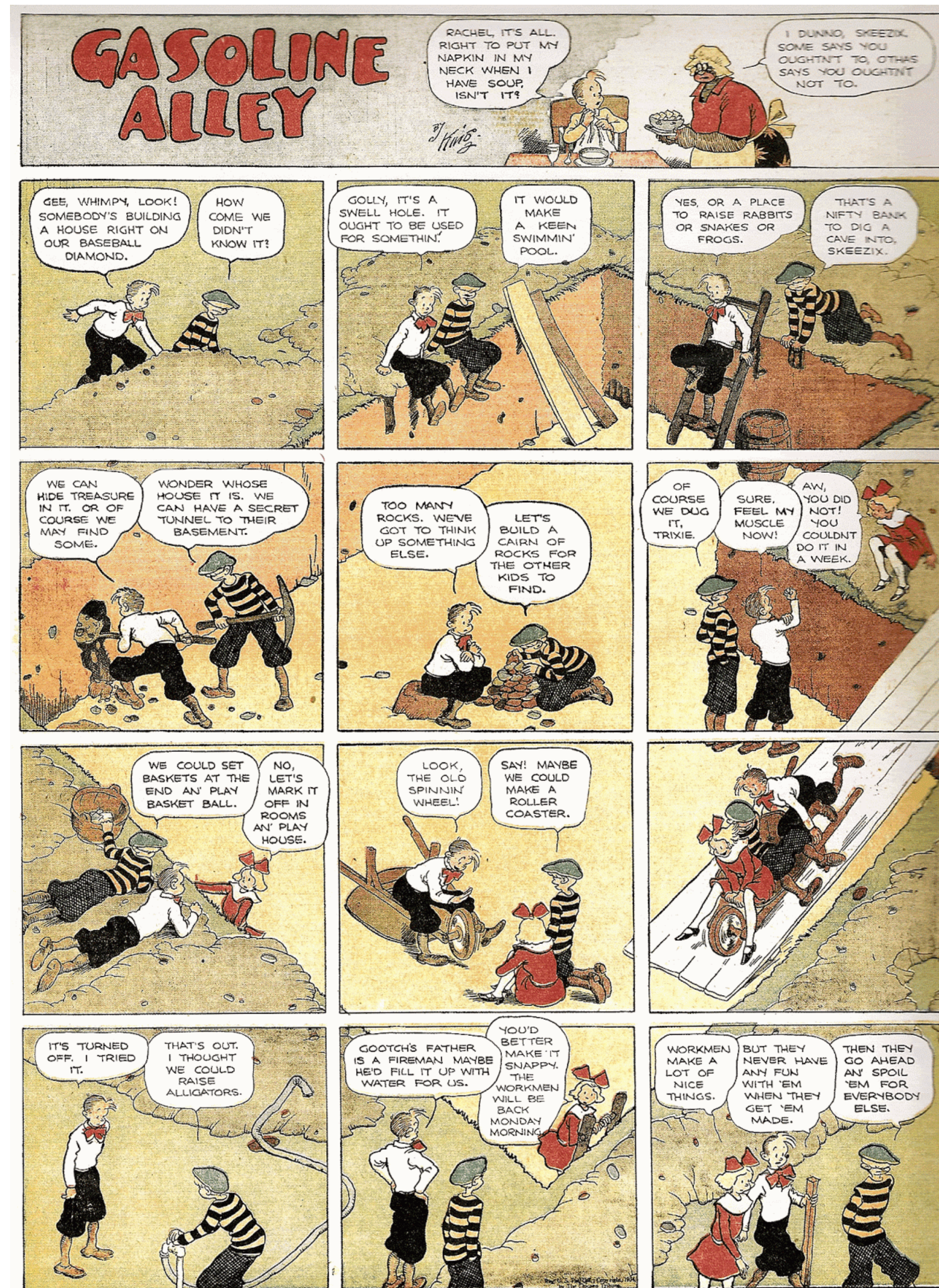
TIME = SPACE



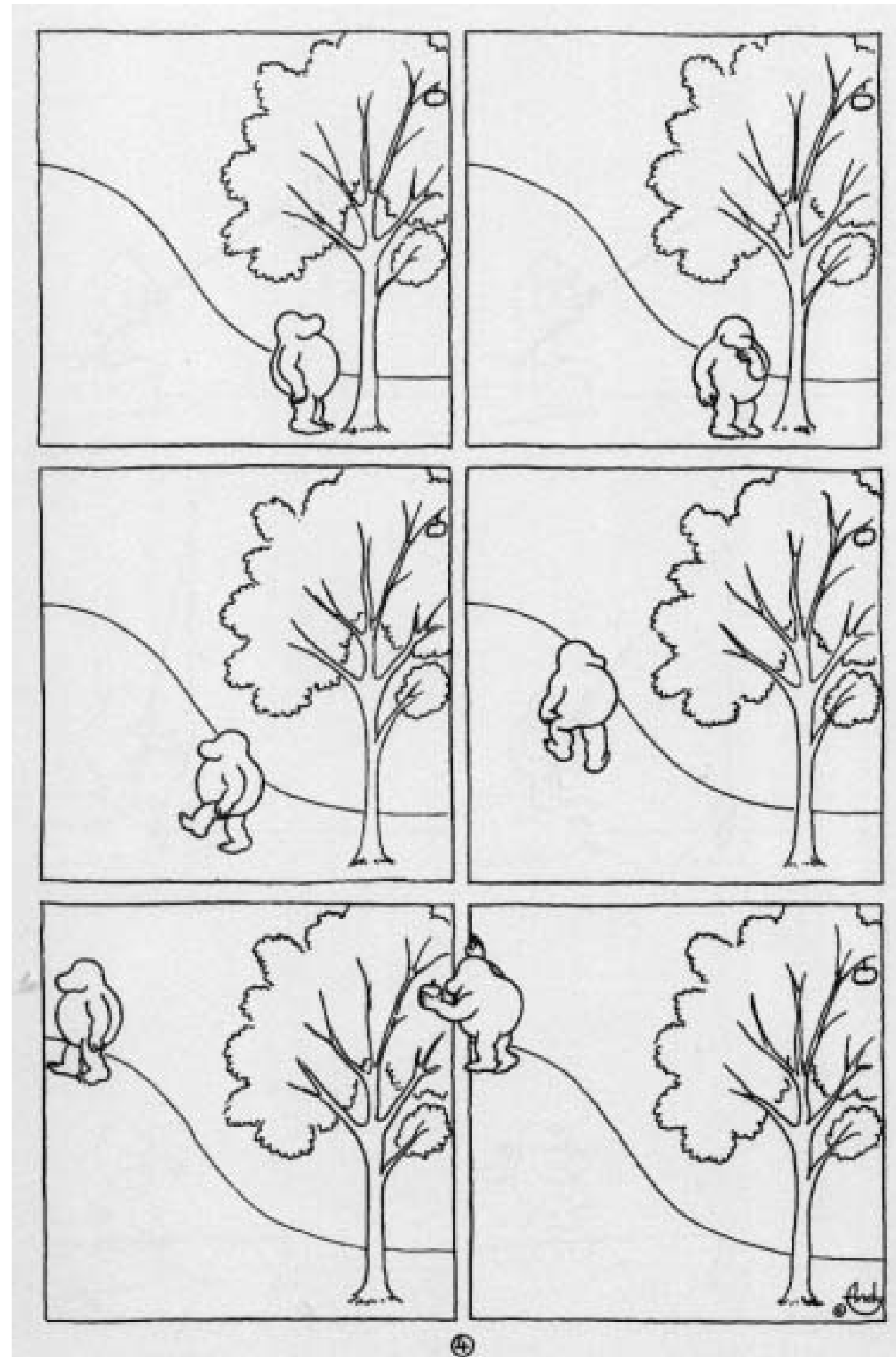
Here (Richard McGuire)



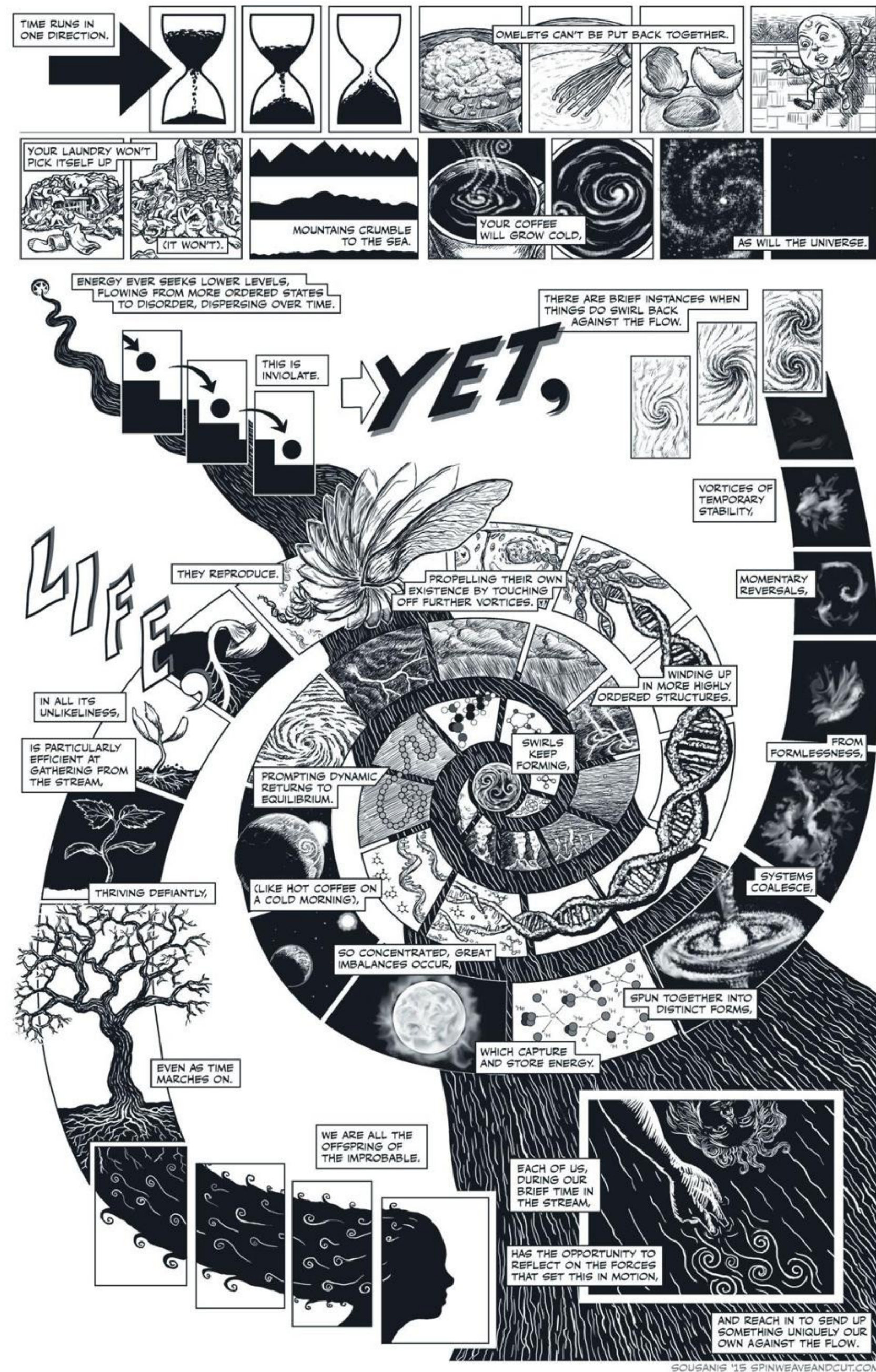
Here (Richard McGuire)



Frank King



Andy Bleck



Sousanis (2015)

GRIDS AND GESTURES

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*

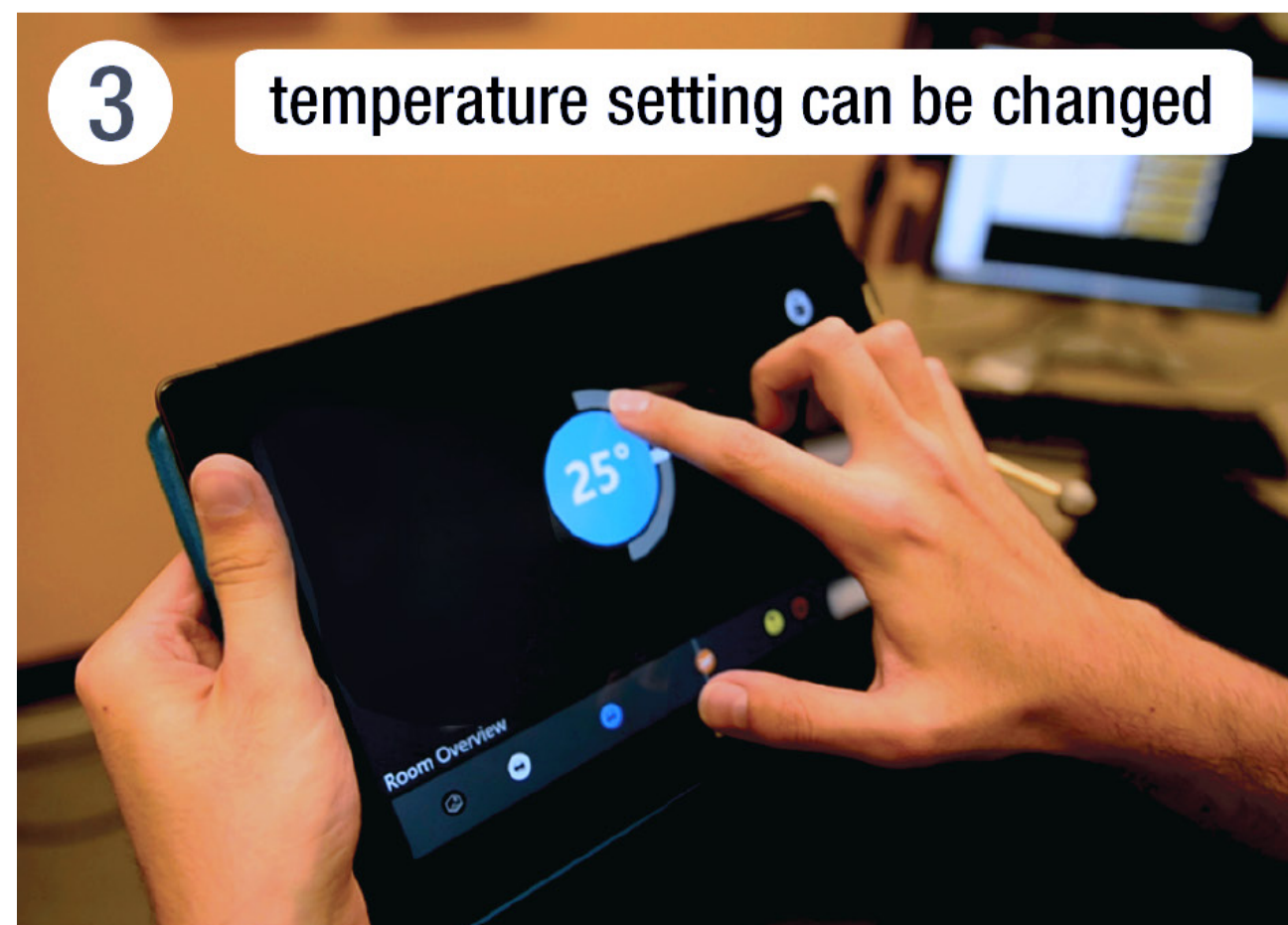
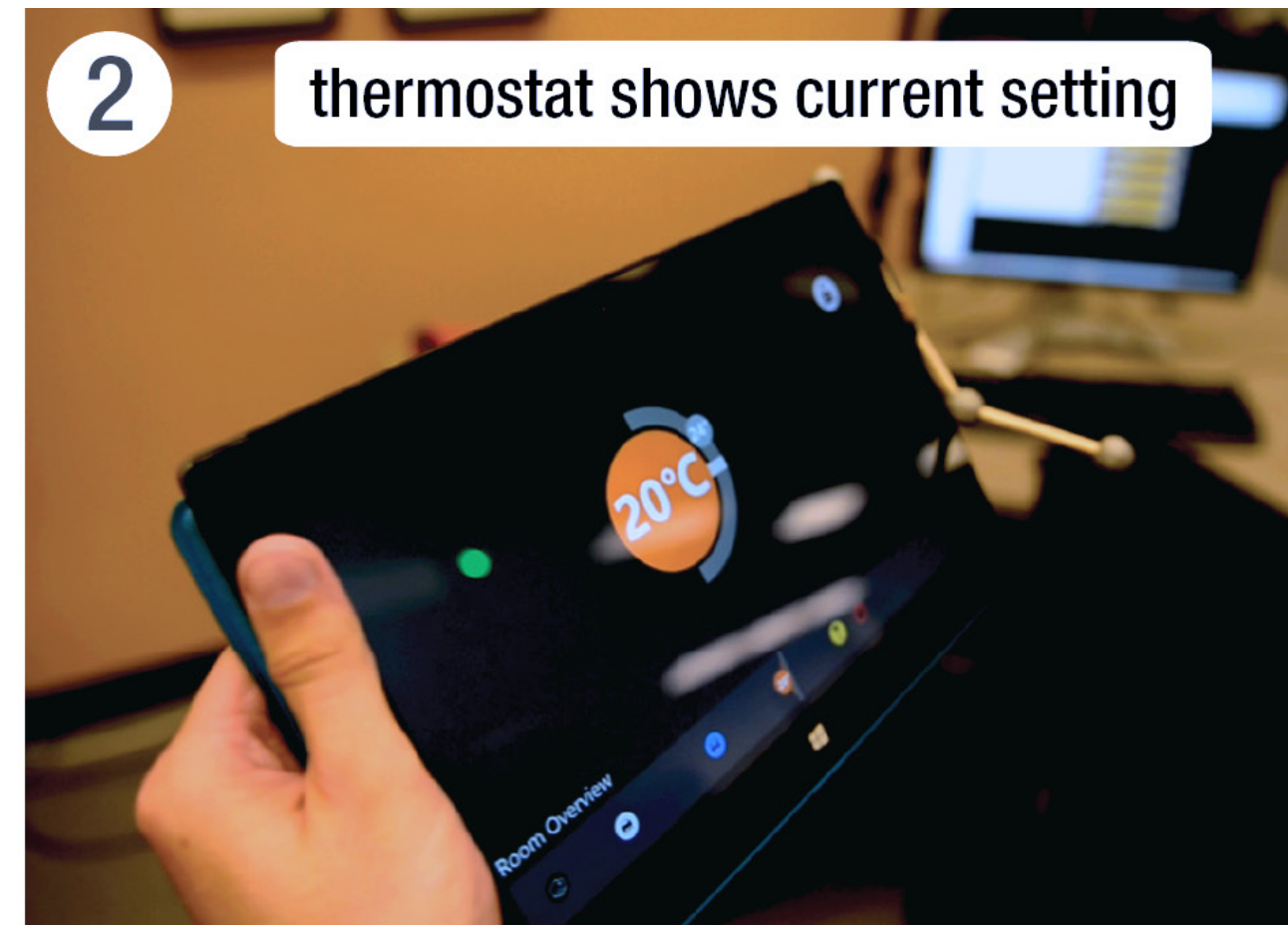
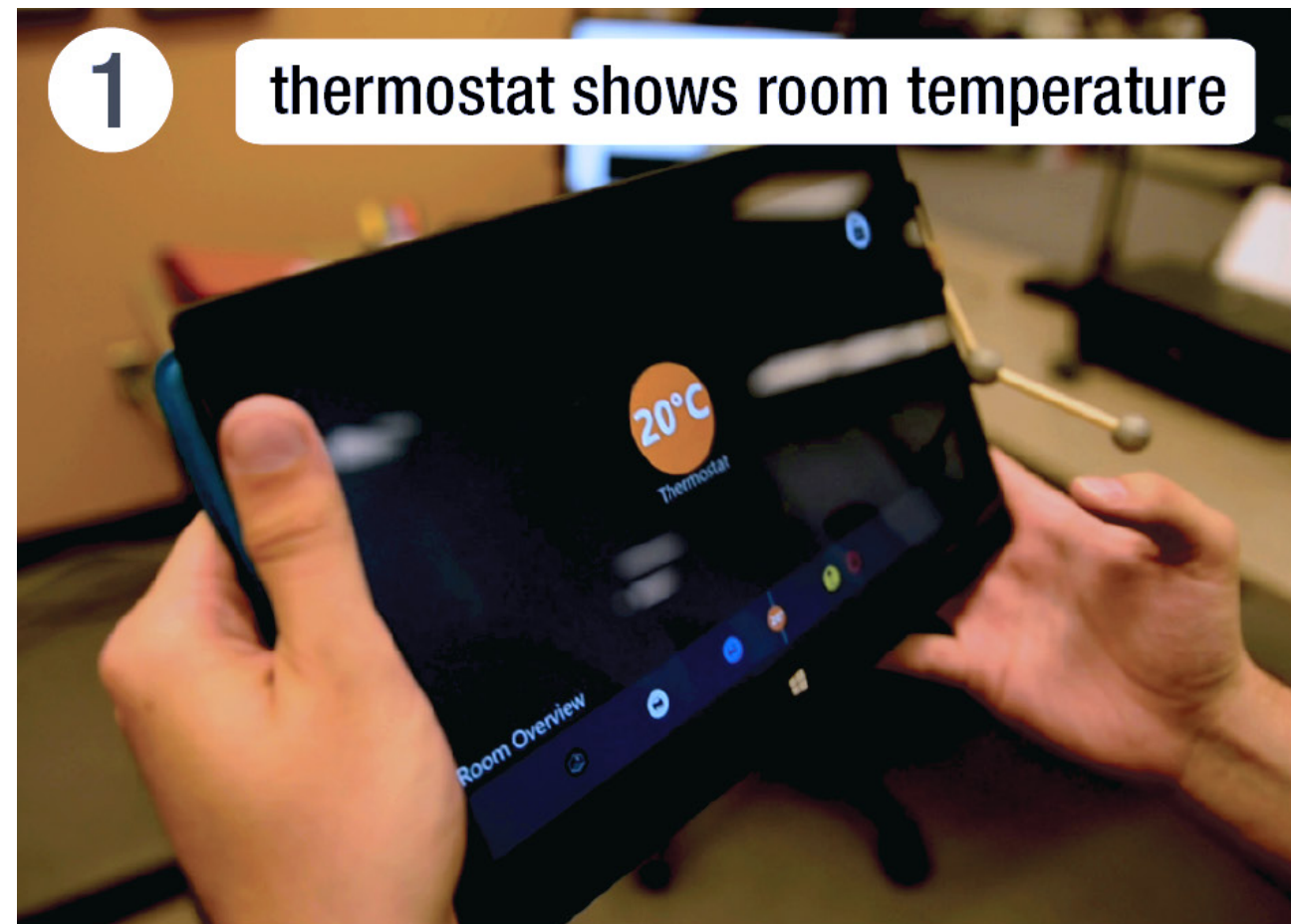
(10 mins)

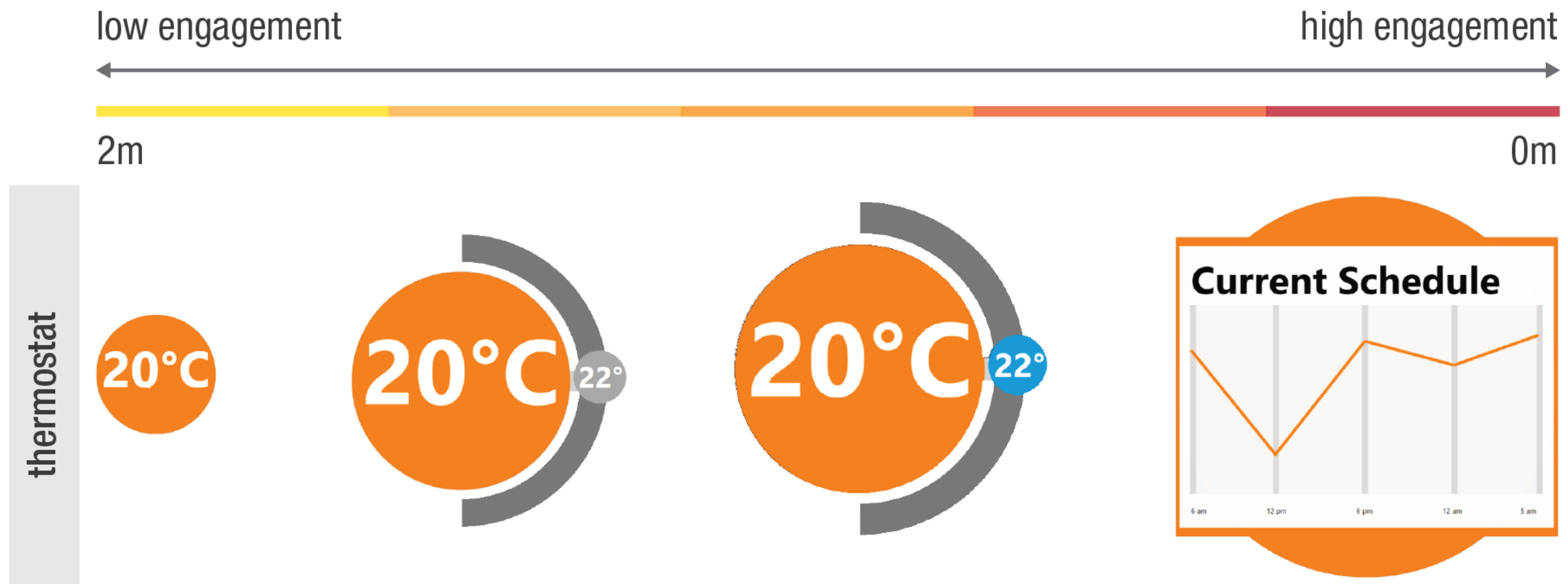
EXAMPLE – MSc (2012-2014)

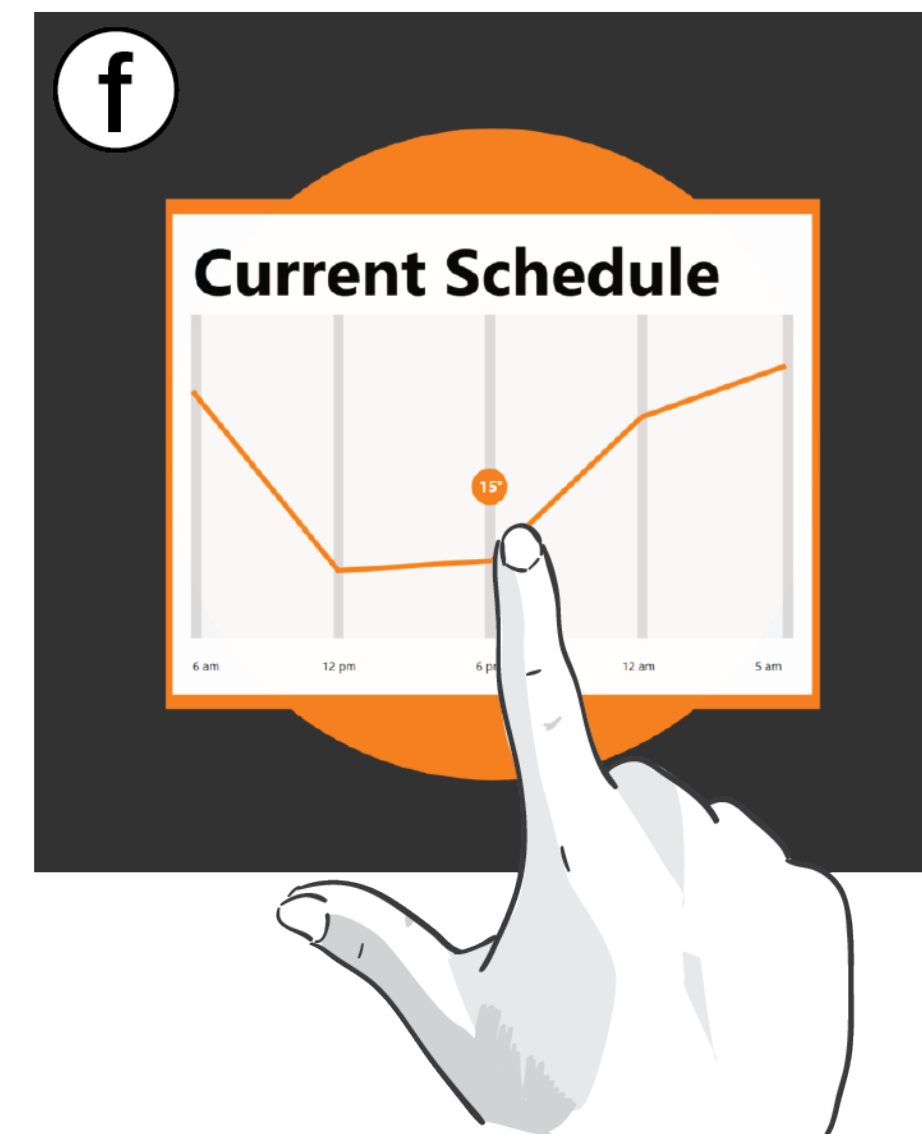
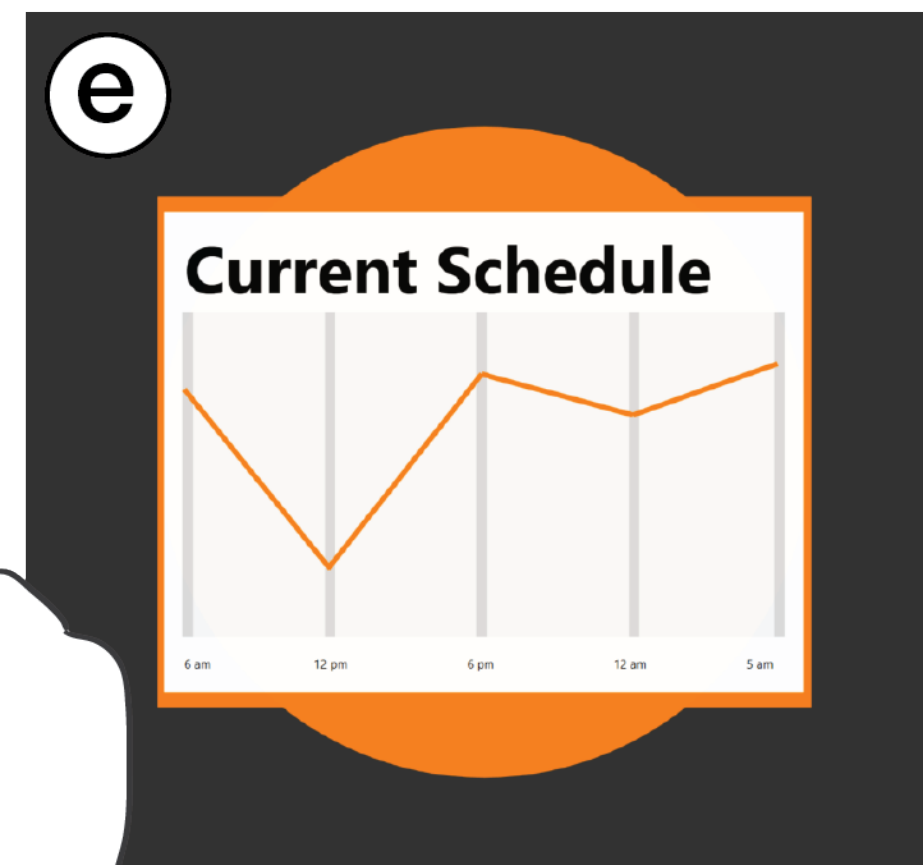
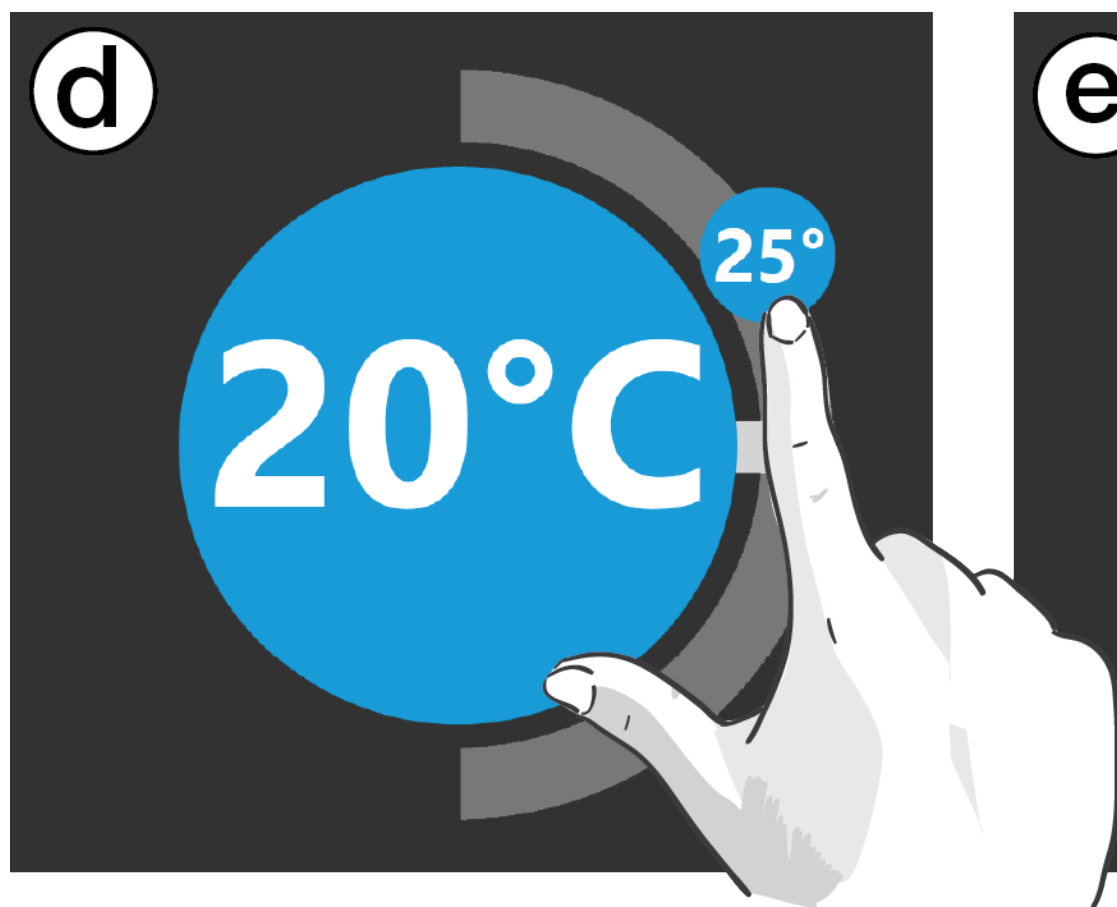
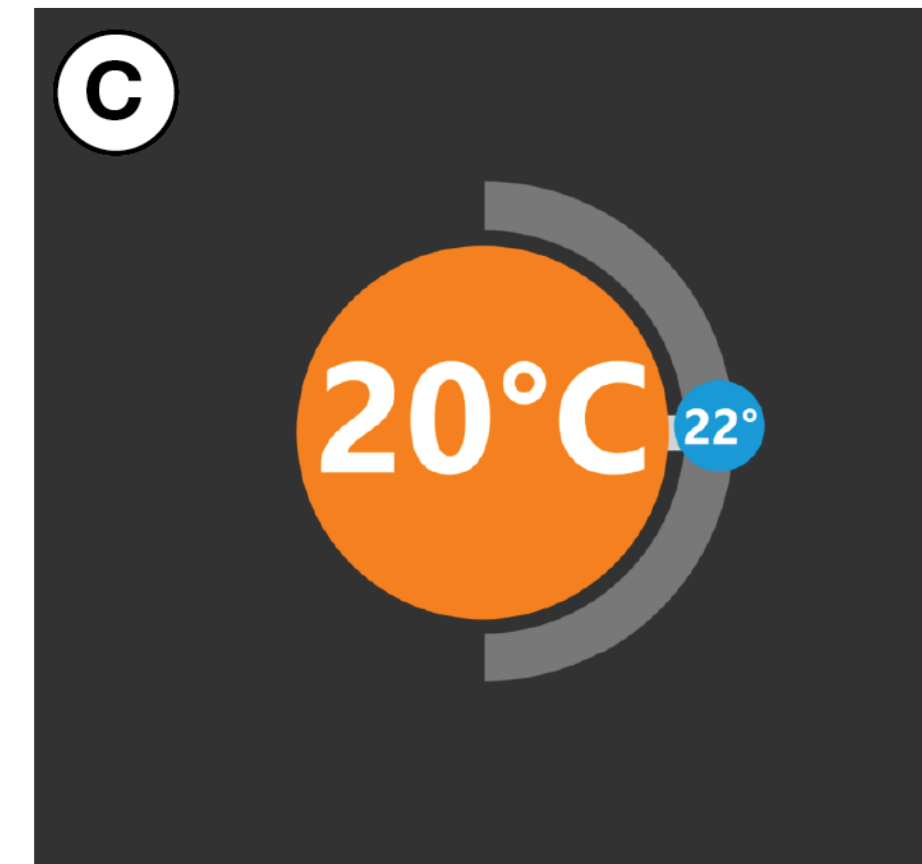
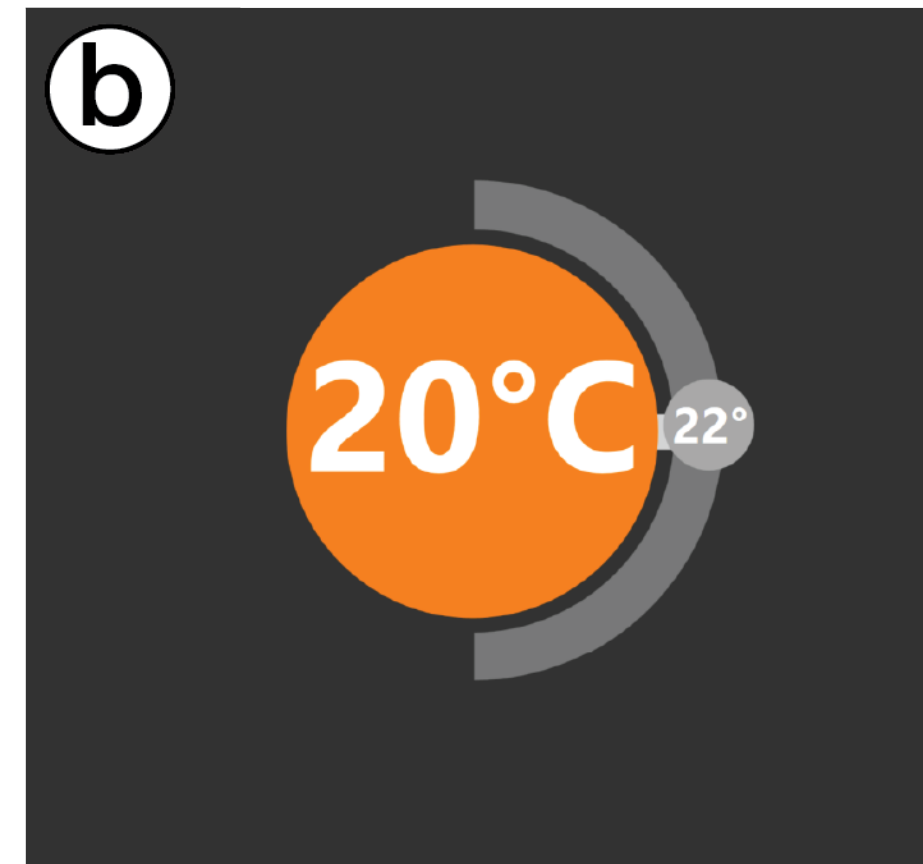
Using physical proximity to interact with a thermostat

– Try describing it visually

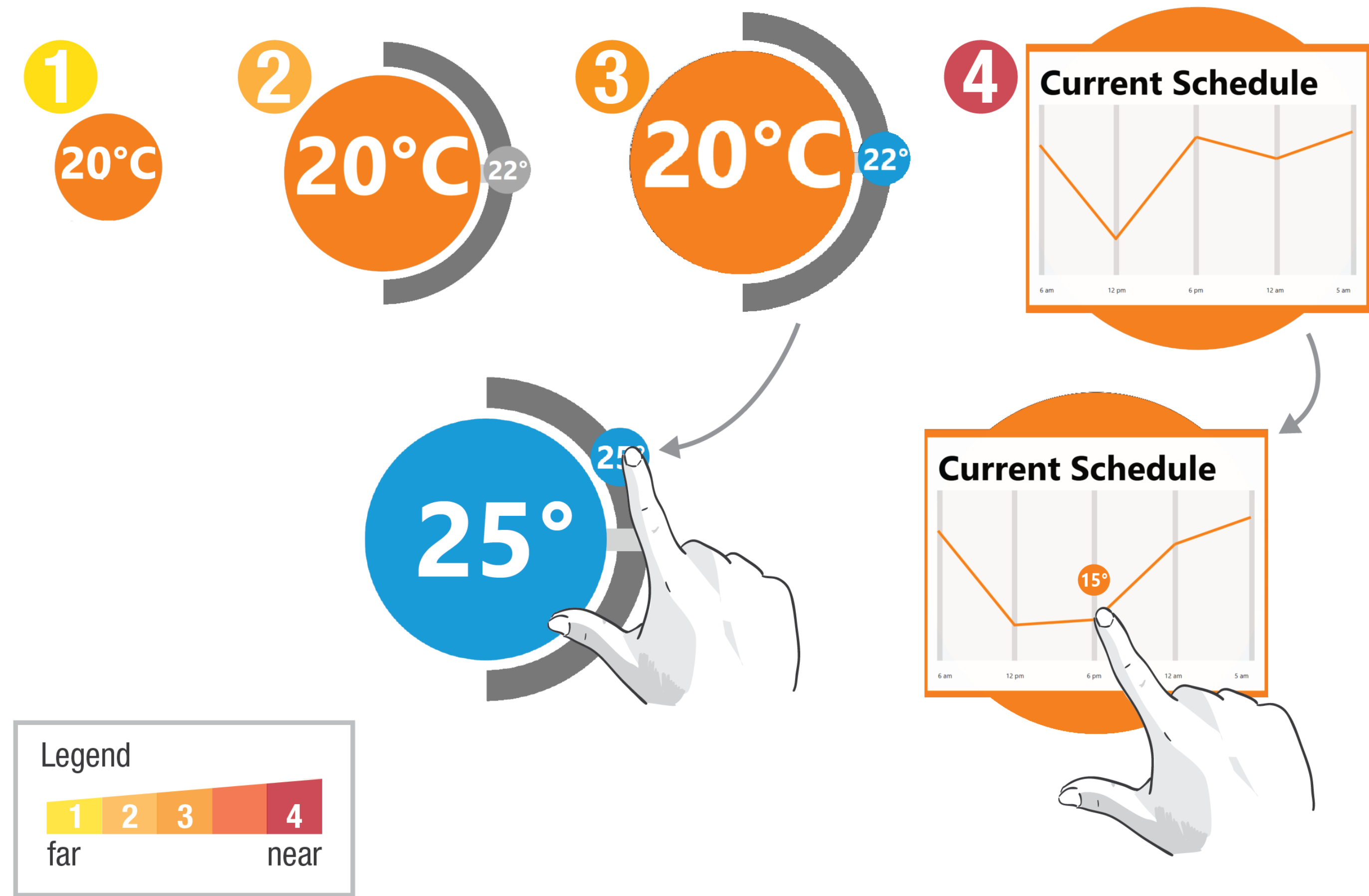


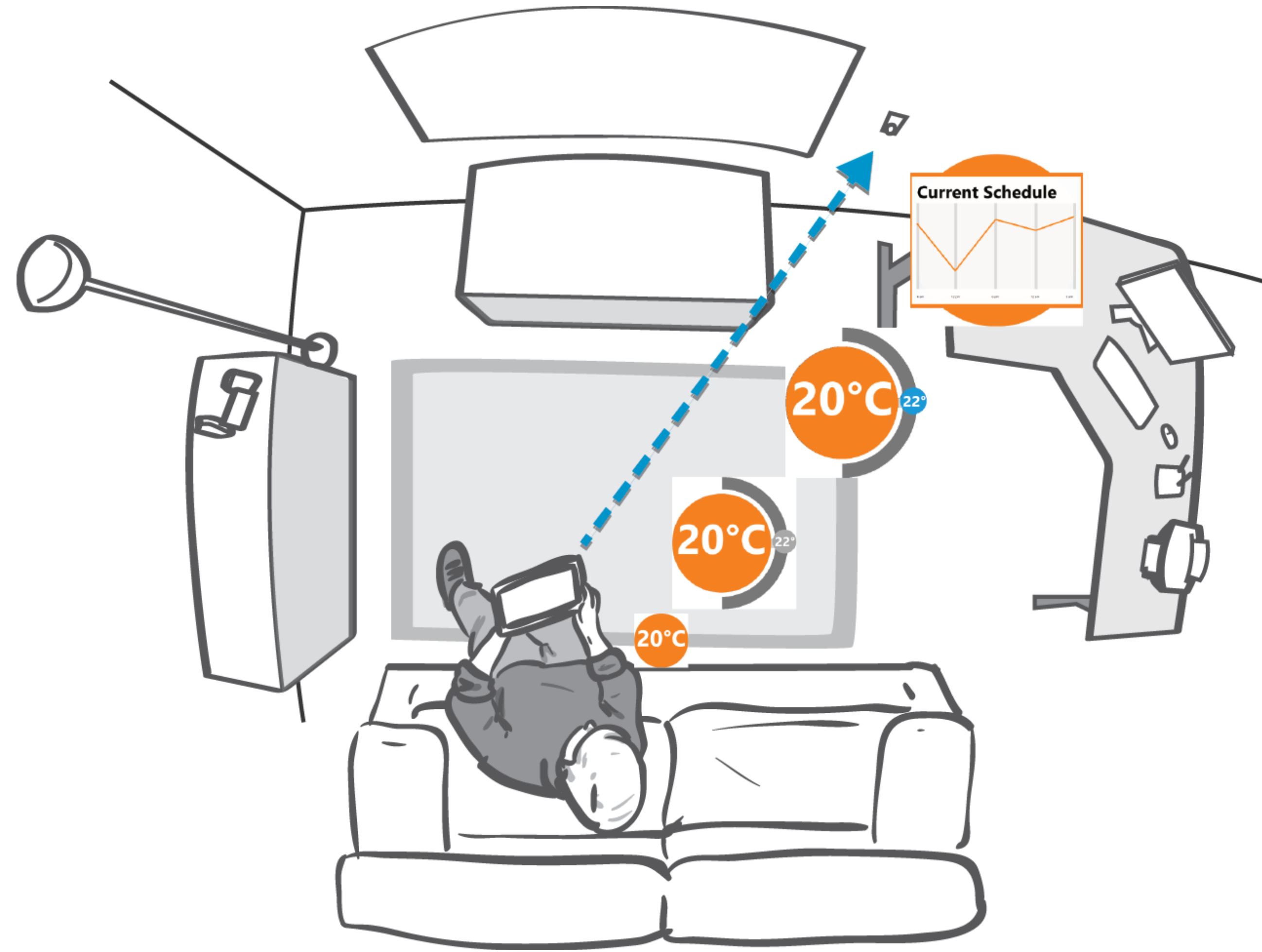






THERMOSTAT INTERFACE





20°C

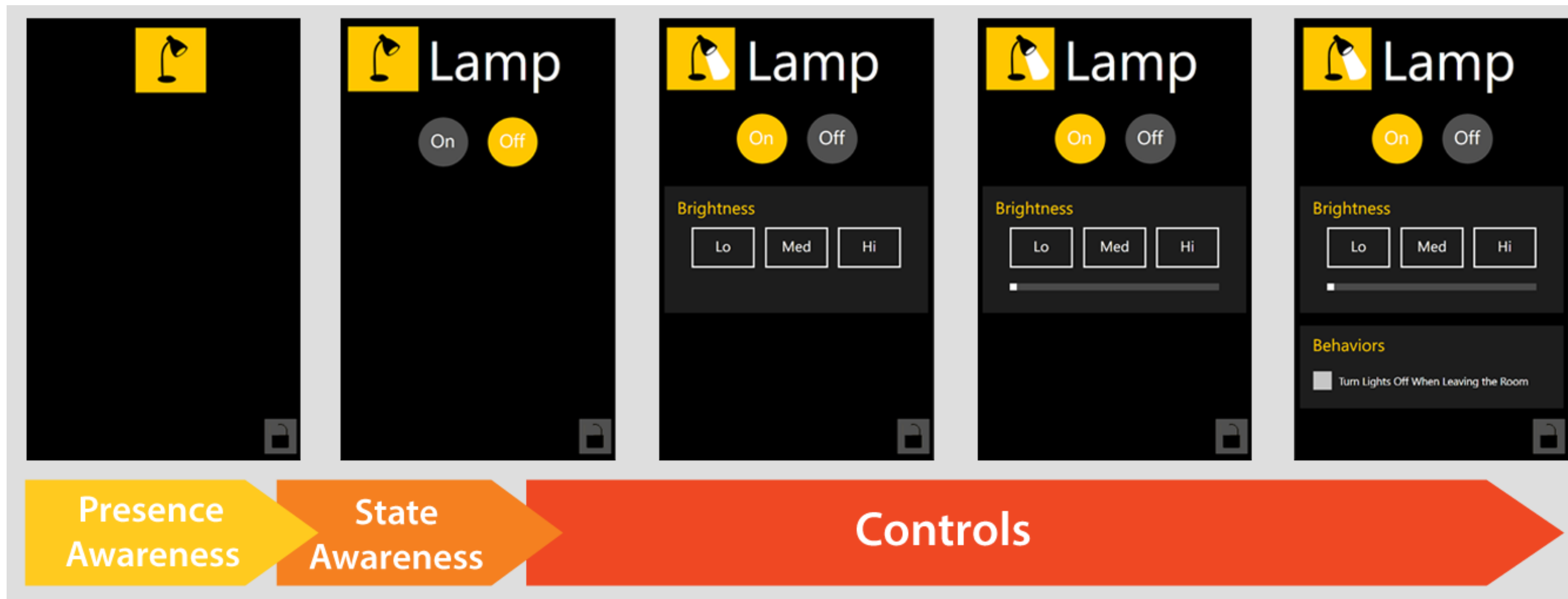
20°C 22°

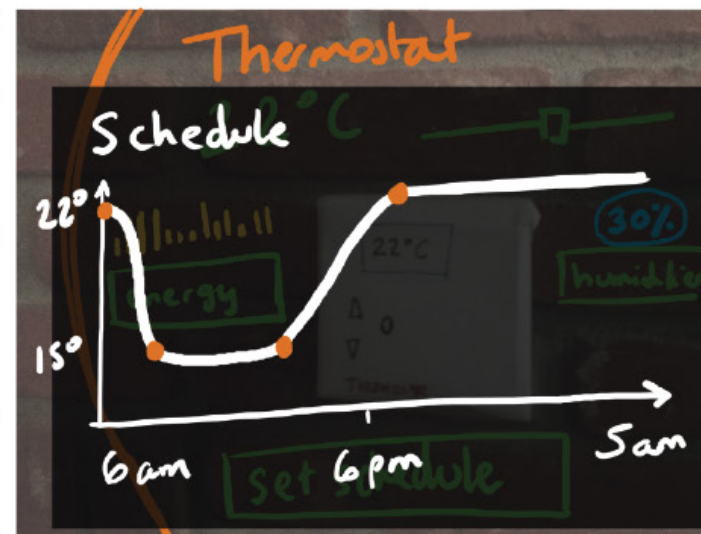
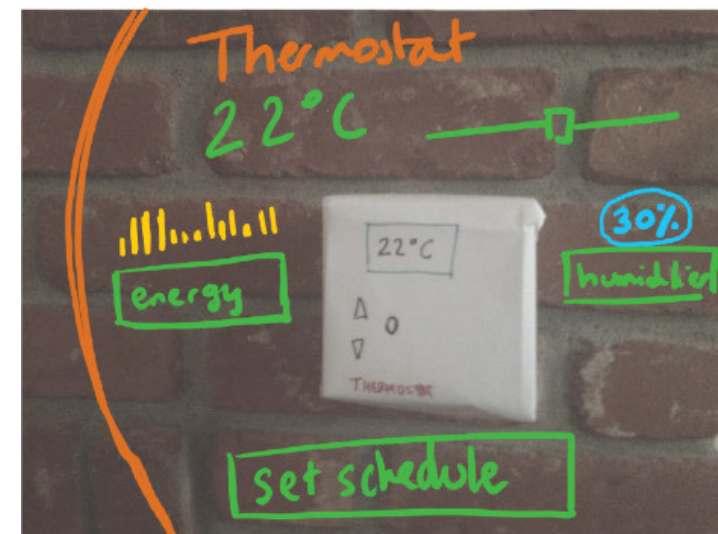
20°C 22°



10







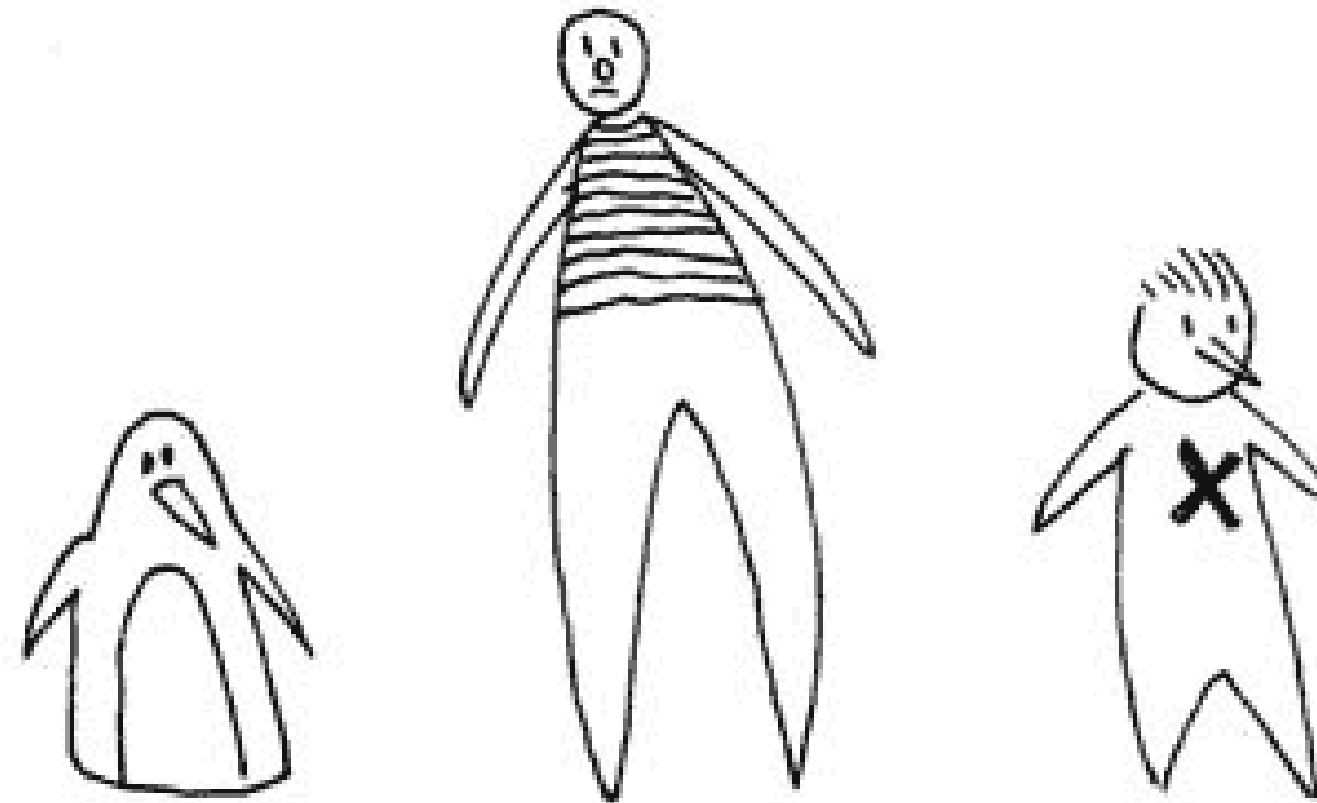
VISUAL INTERPRETATION

PANEL LOTTERY

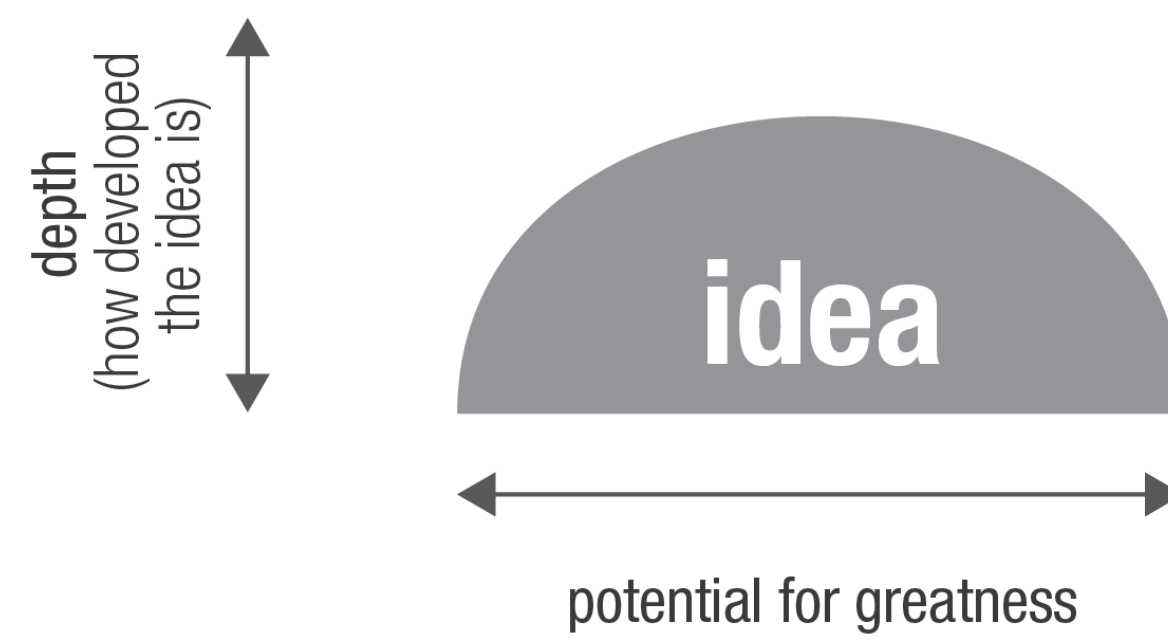
Draw a few random comic panels (one panel per sheet)

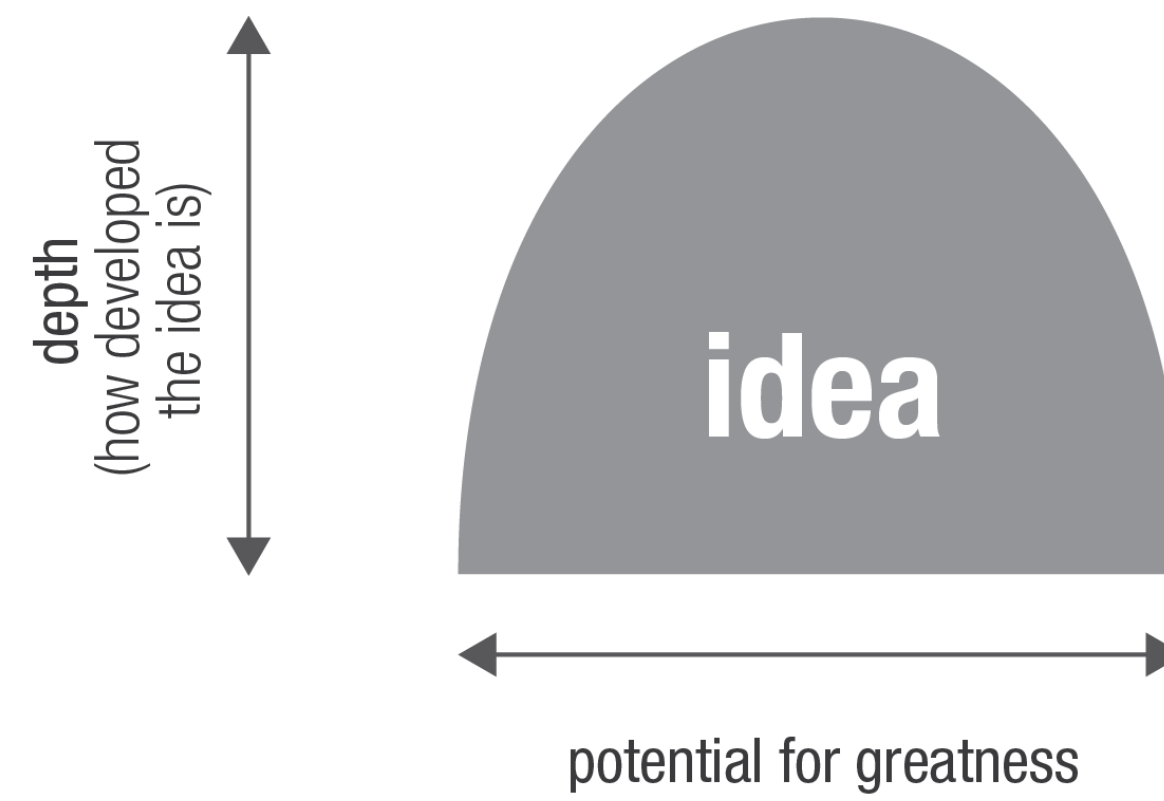
Use one of these characters: Pingüino, Lucky, Kriss Kross

Then... we shuffle

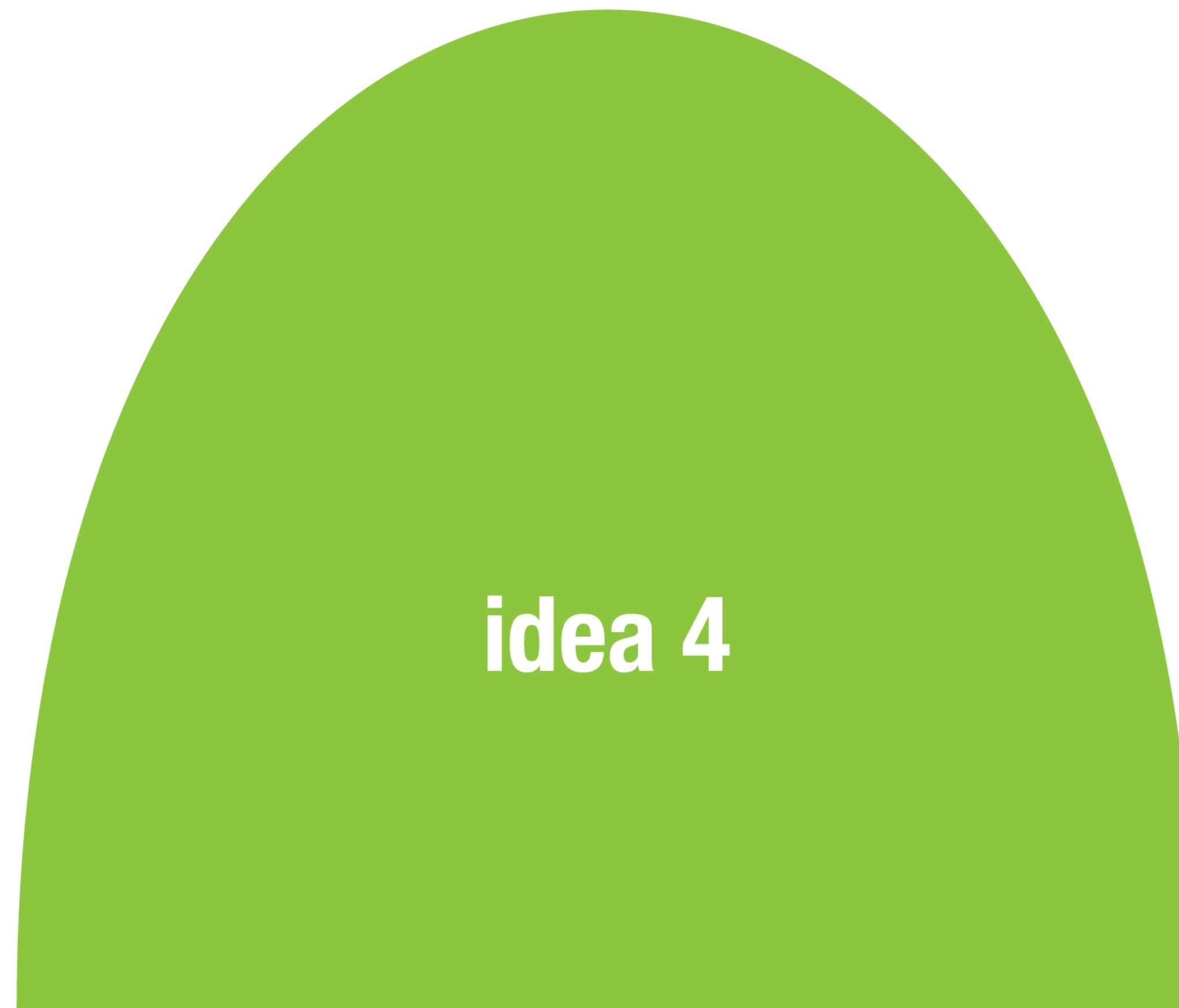


**SKETCHING IS
DESIGN THINKING**





The resulting design can only be as good as the idea



“Getting the design right versus getting
the right design”

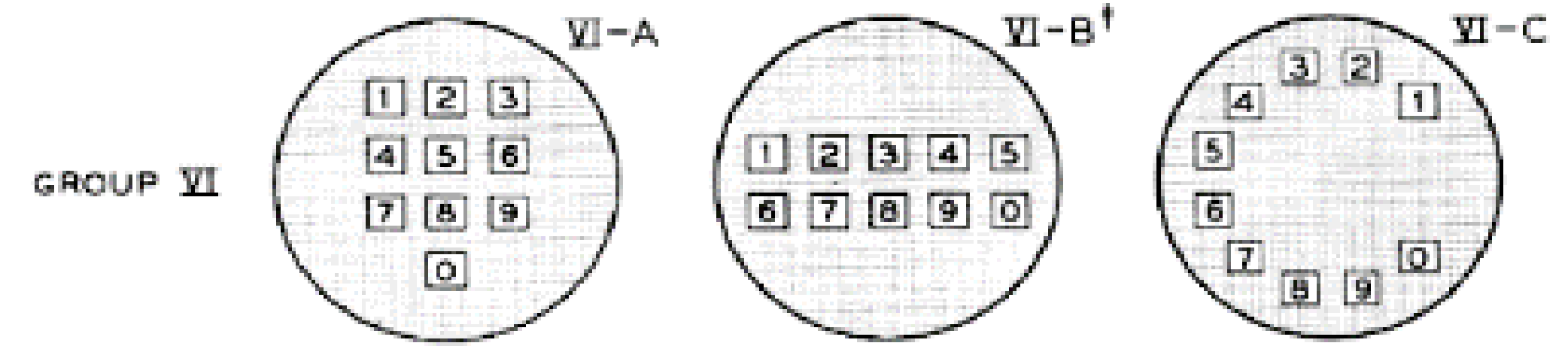
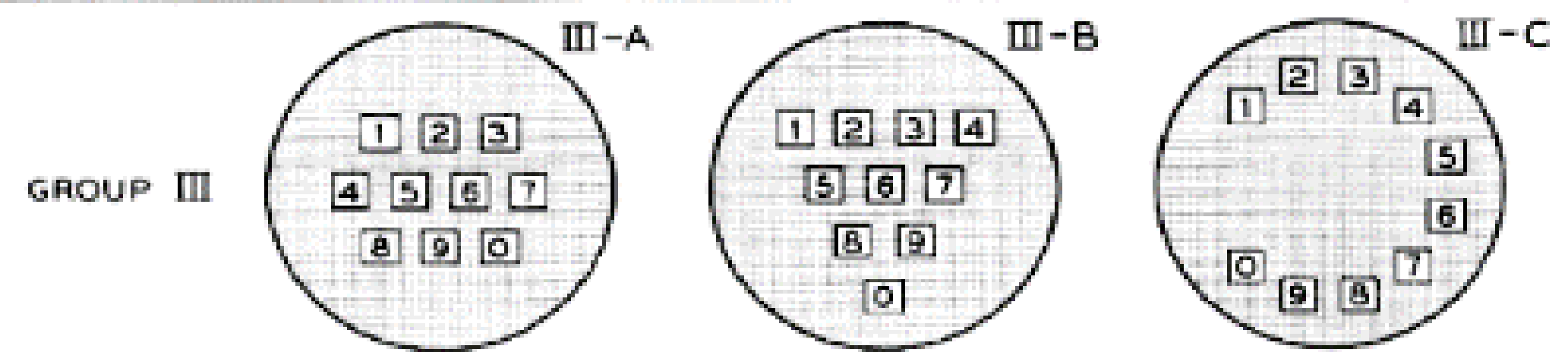
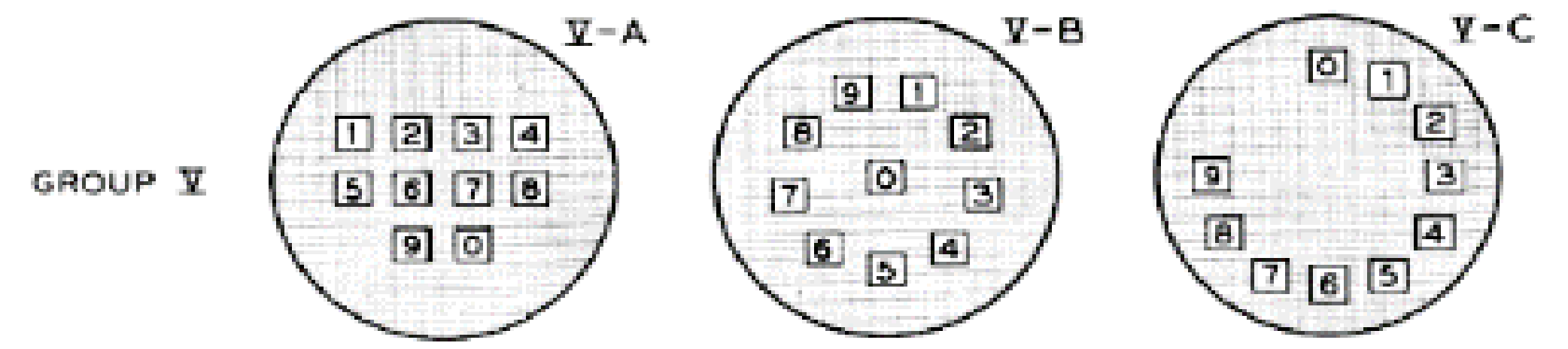
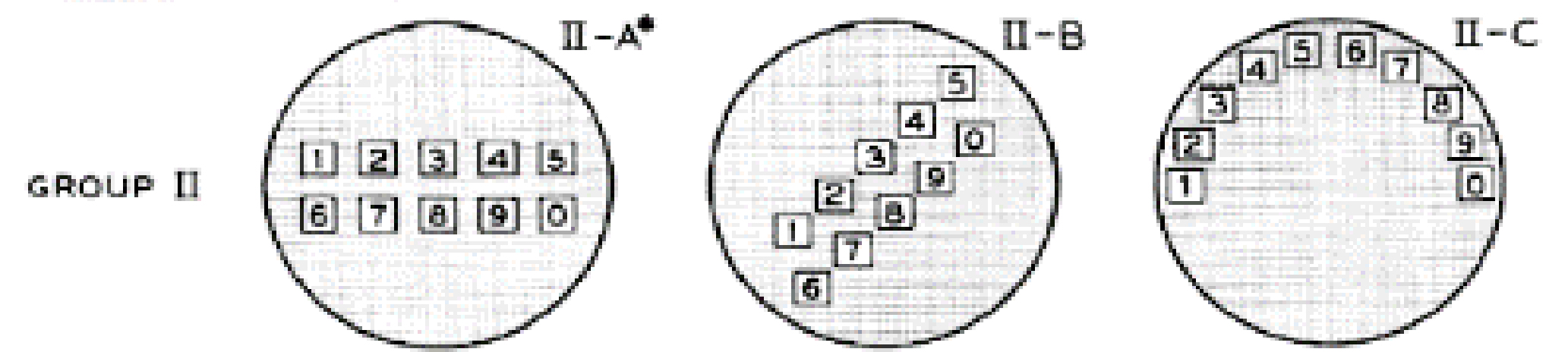
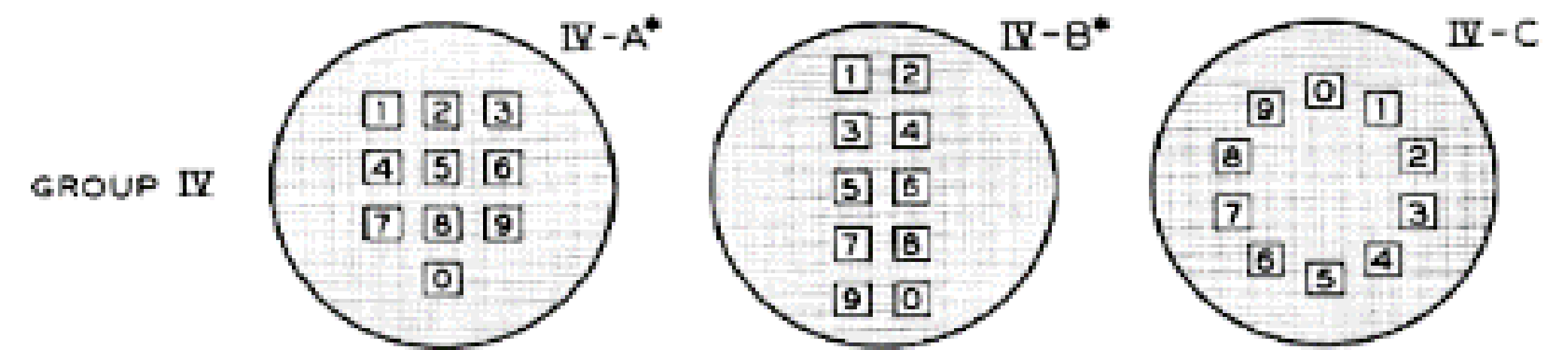
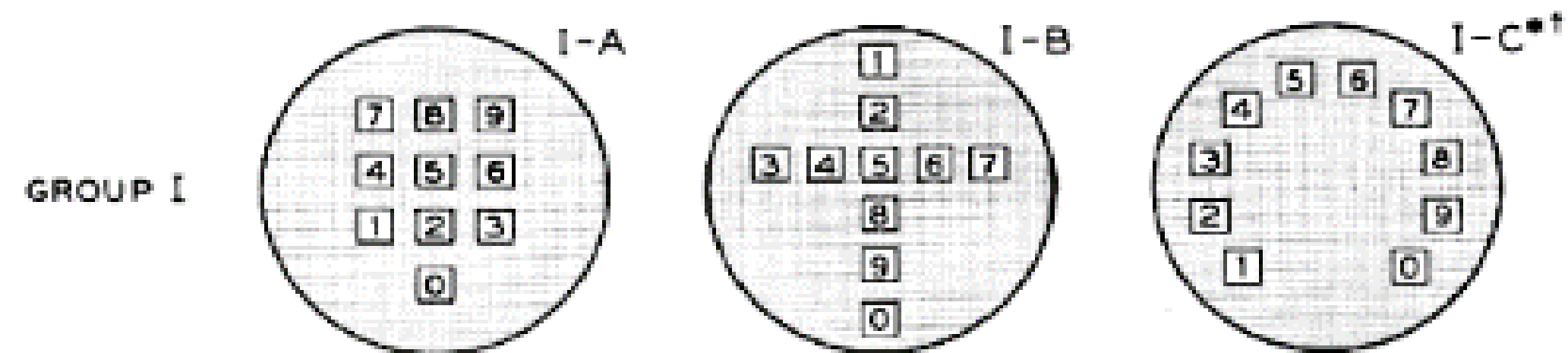
- Bill Buxton

First get the right design, then focus on
getting that design right.

An example...

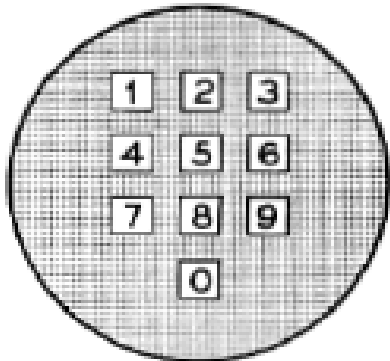
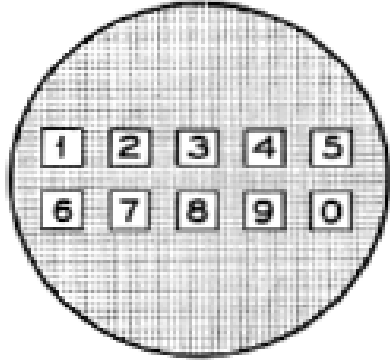
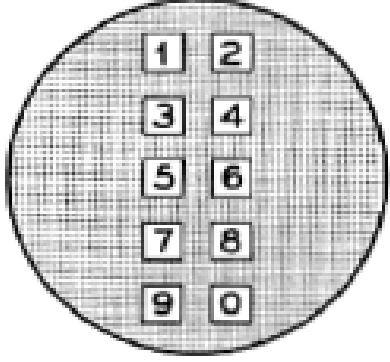
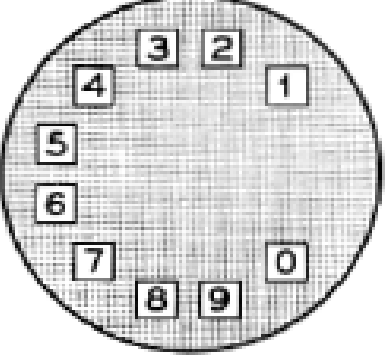
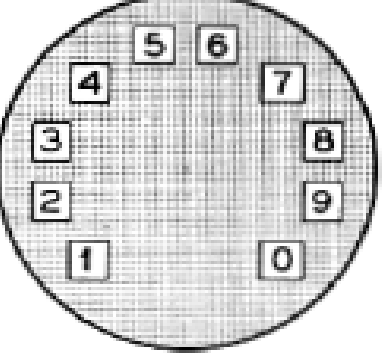
TELEPHONE LAYOUTS

Deininger, R. L. – *“Human Factors Engineering Studies of the Design and Use of Pushbutton Telephone Sets”*, 1960.

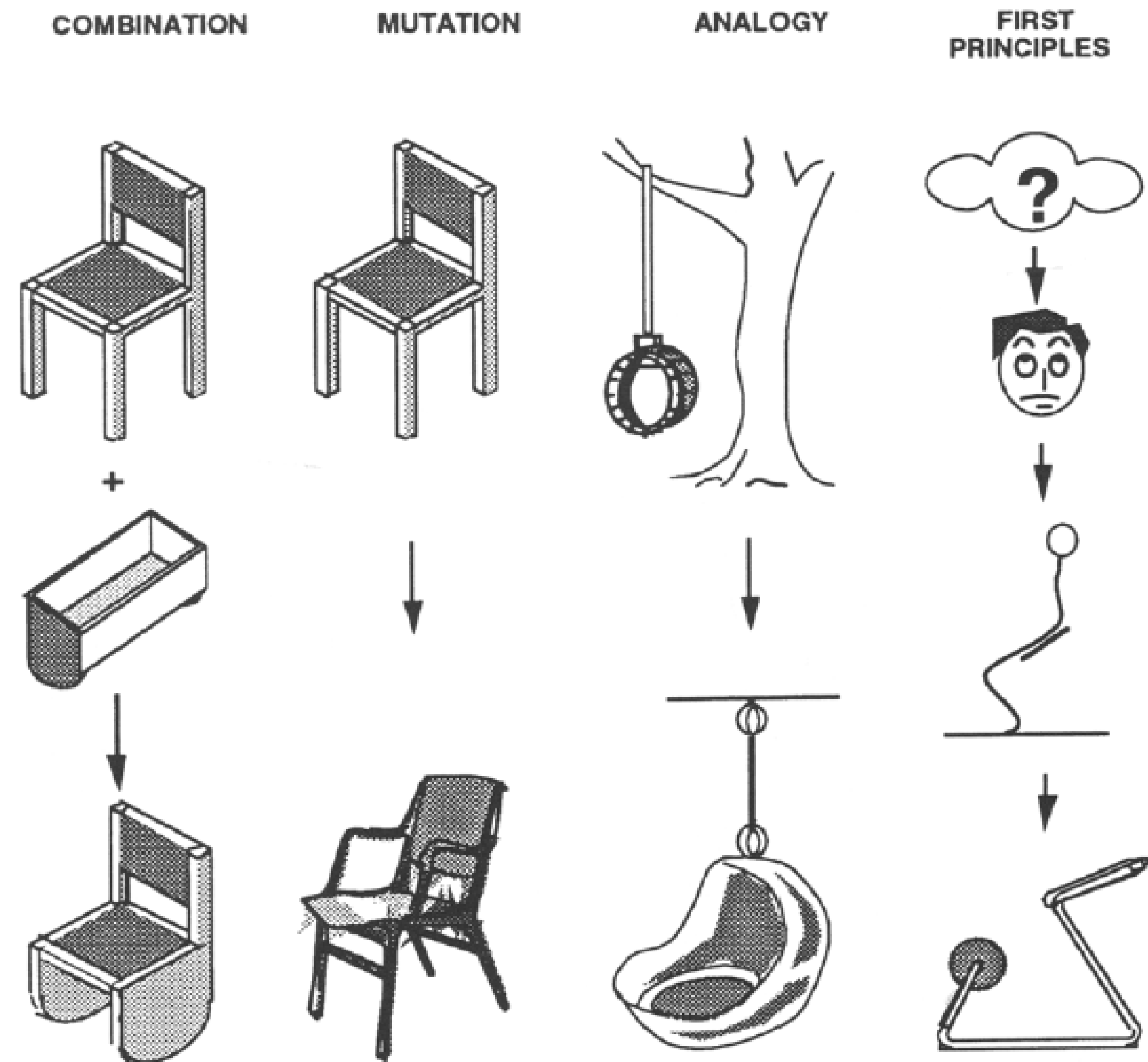


* SIGNIFICANTLY SHORTER KEYING TIME
† SIGNIFICANTLY LOWER ERROR RATE

† SIGNIFICANTLY MORE PREFERRED

ARRANGEMENT	KEYING TIME (SECONDS)	PER CENT ERRORS	RANKING FOR	RANKING AGAINST
 <p>THREE-BY-THREE PLUS ONE</p>	6.01	2.5	3RD	2ND
 <p>TWO HORIZONTAL ROWS</p>	6.17	2.3	1ST (MOST)	4TH
 <p>TWO VERTICAL COLUMNS</p>	6.12	1.3	5TH (LEAST)	1ST (MOST)
 <p>TELEPHONE</p>	5.90	2.0	2ND	5TH (LEAST)
 <p>SPEEDOMETER</p>	5.97	3.0	4TH	3RD

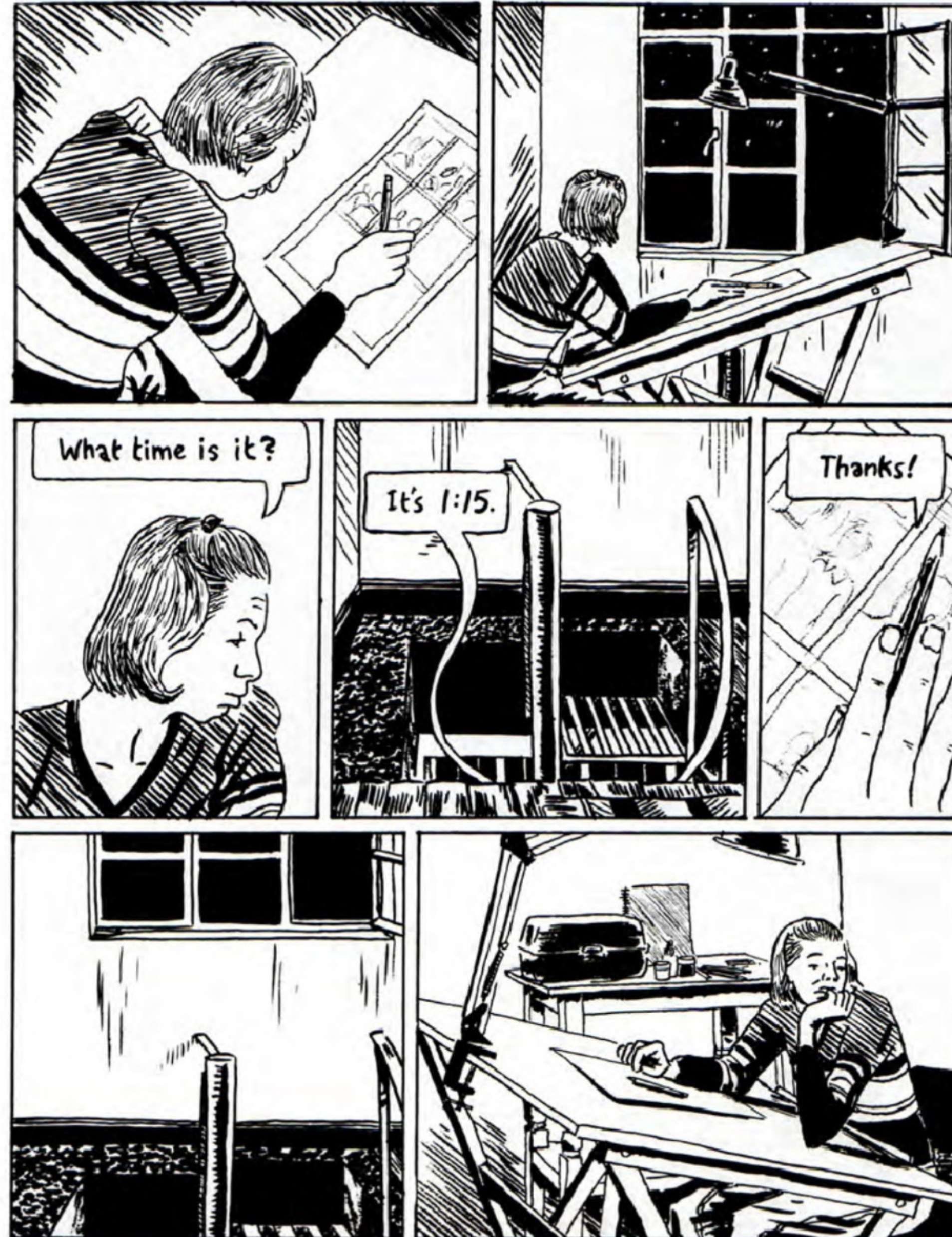
Ideas can come from many places, don't
be afraid to mix and match



Cross, N. *Descriptive Models of Creative Design: Application to an Example* (1997)

VARIATIONS





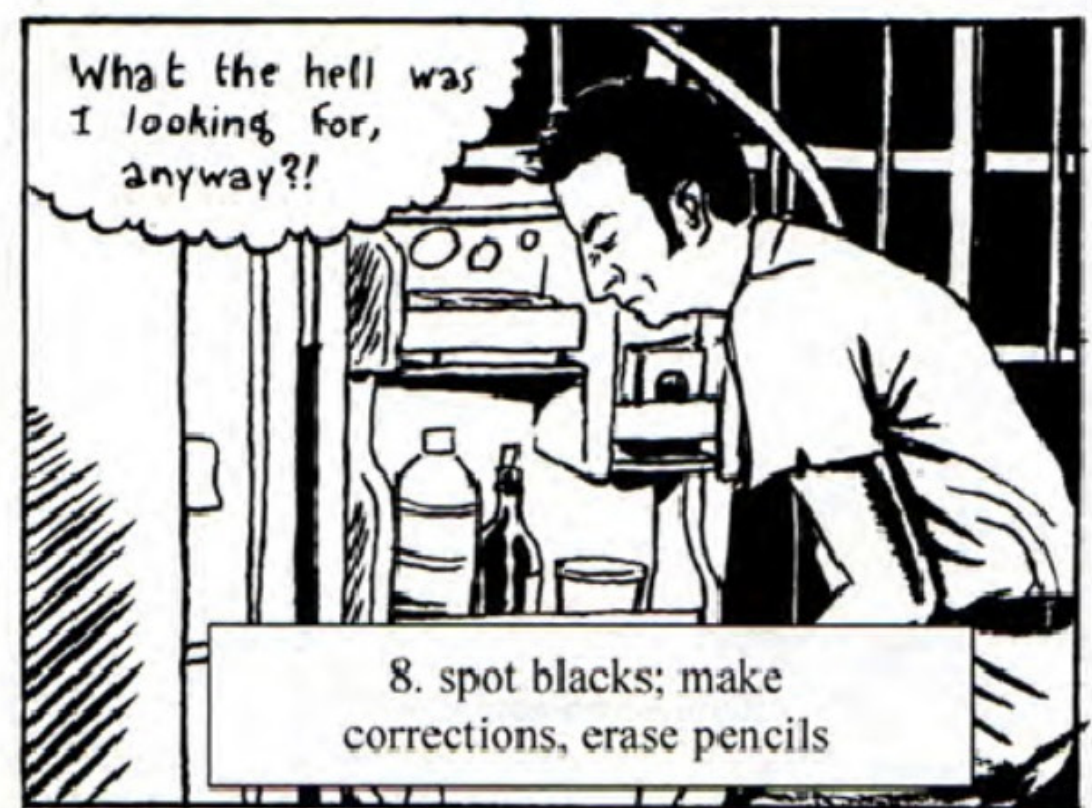
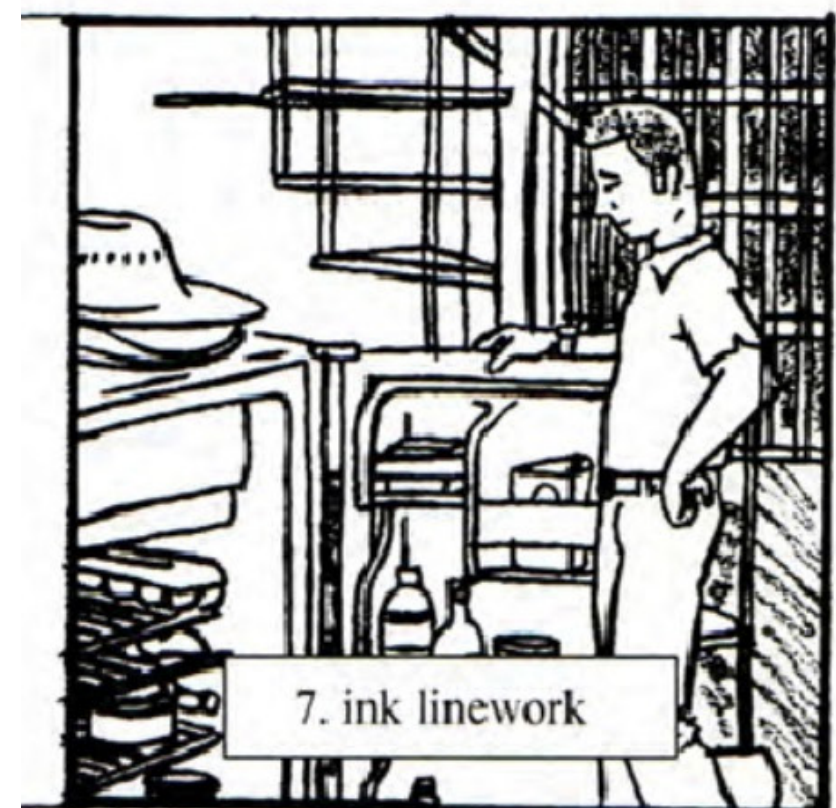
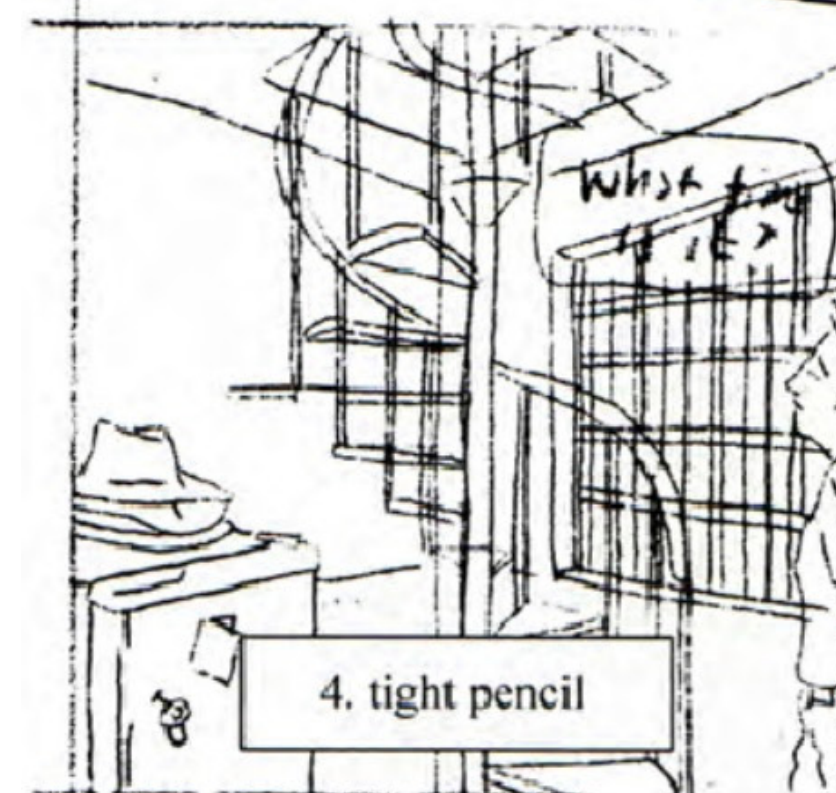
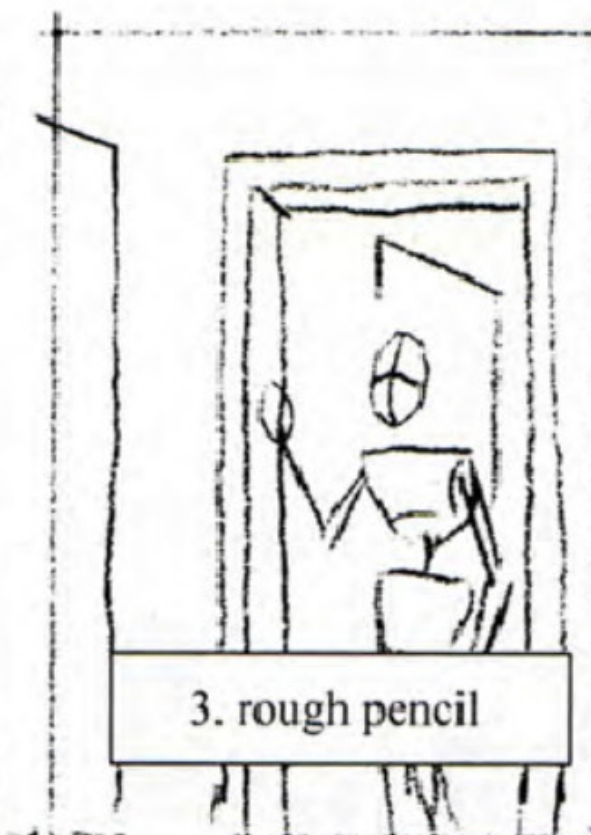
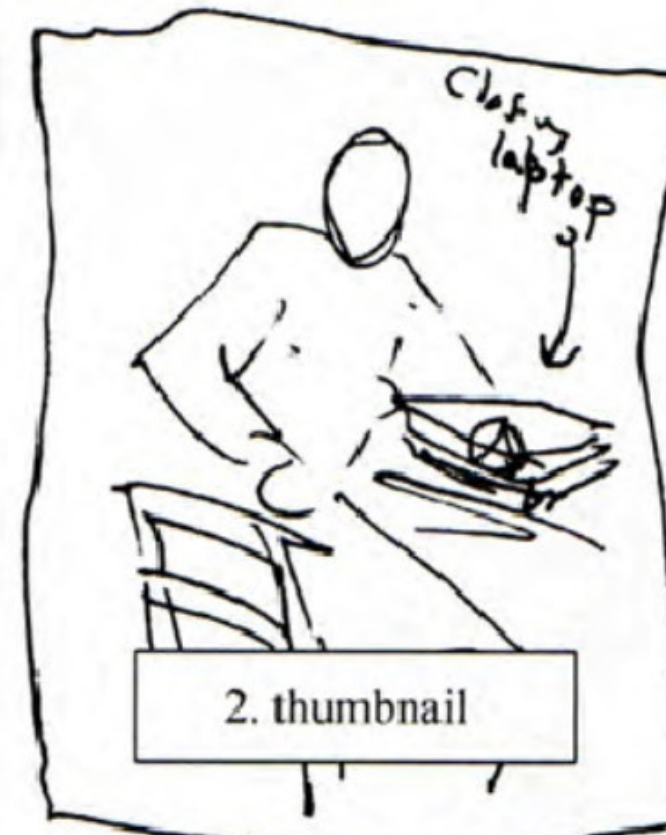


Exercises in Style

panel 1:
M working at computer
viewed from behind.

panel 2:
M gets up from comput
shuts laptop

1. script



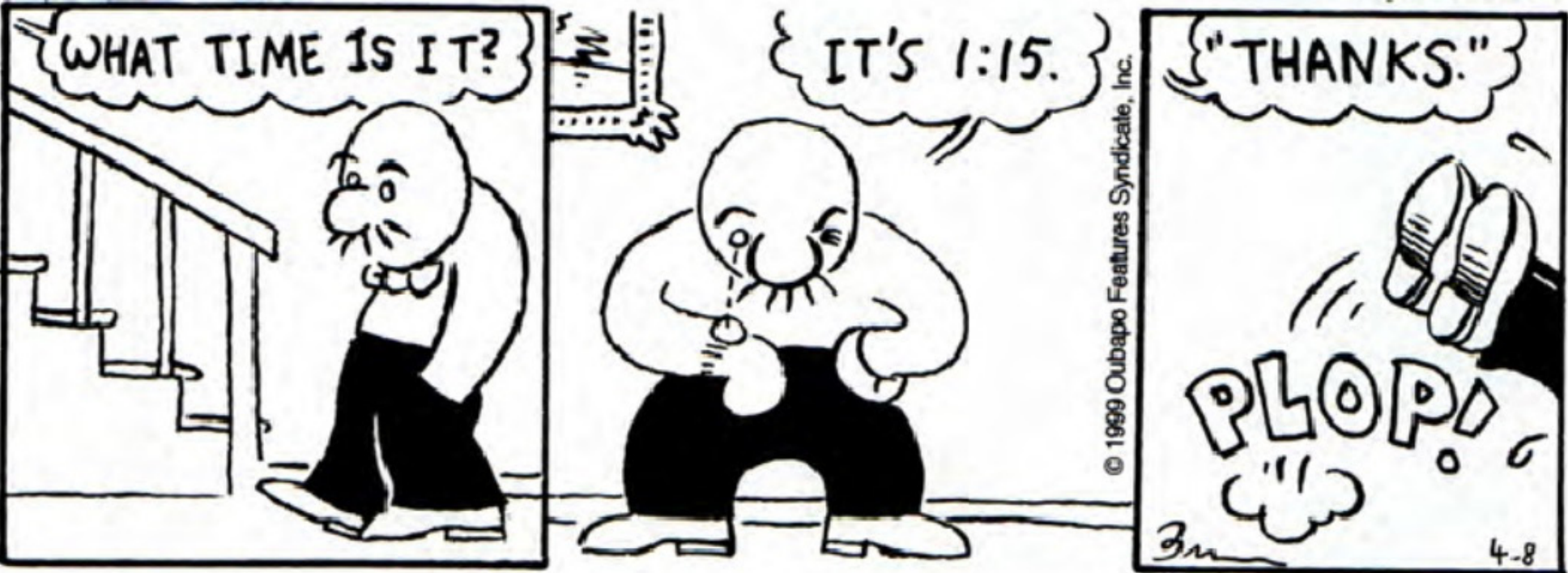
Machinery, P.I.

By Clint Smith



Life with Biggsie

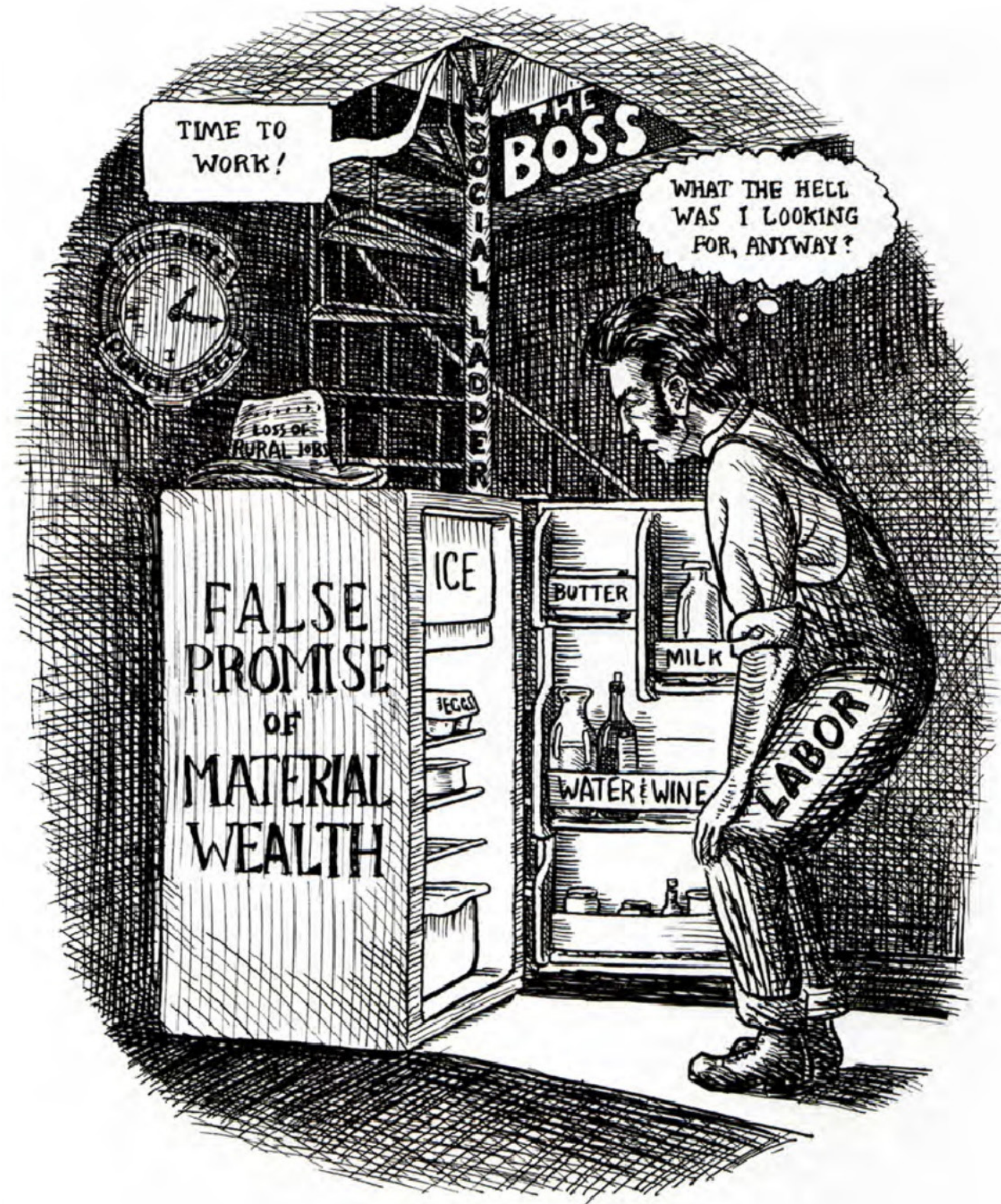
By Brube

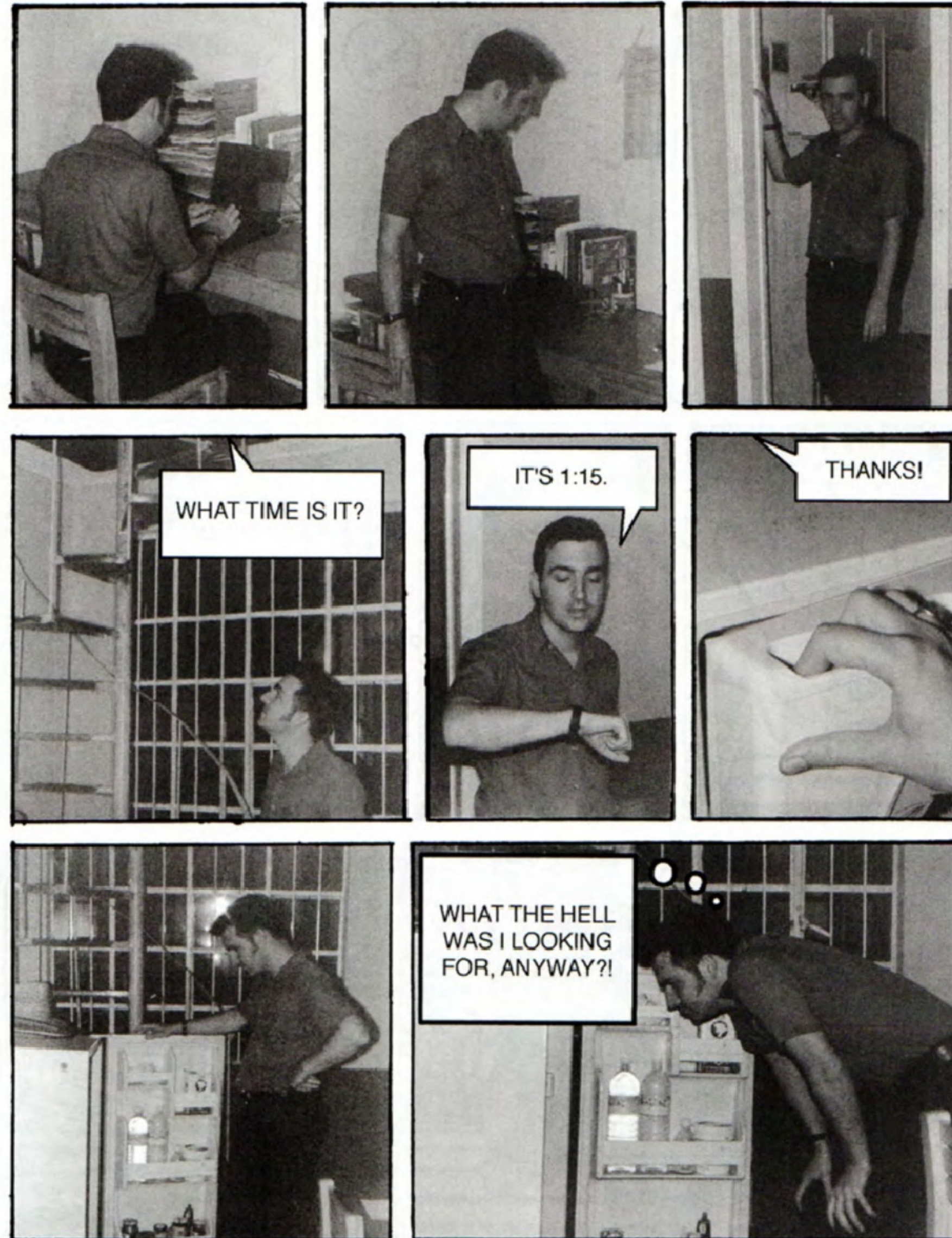


Poopsie the Cat

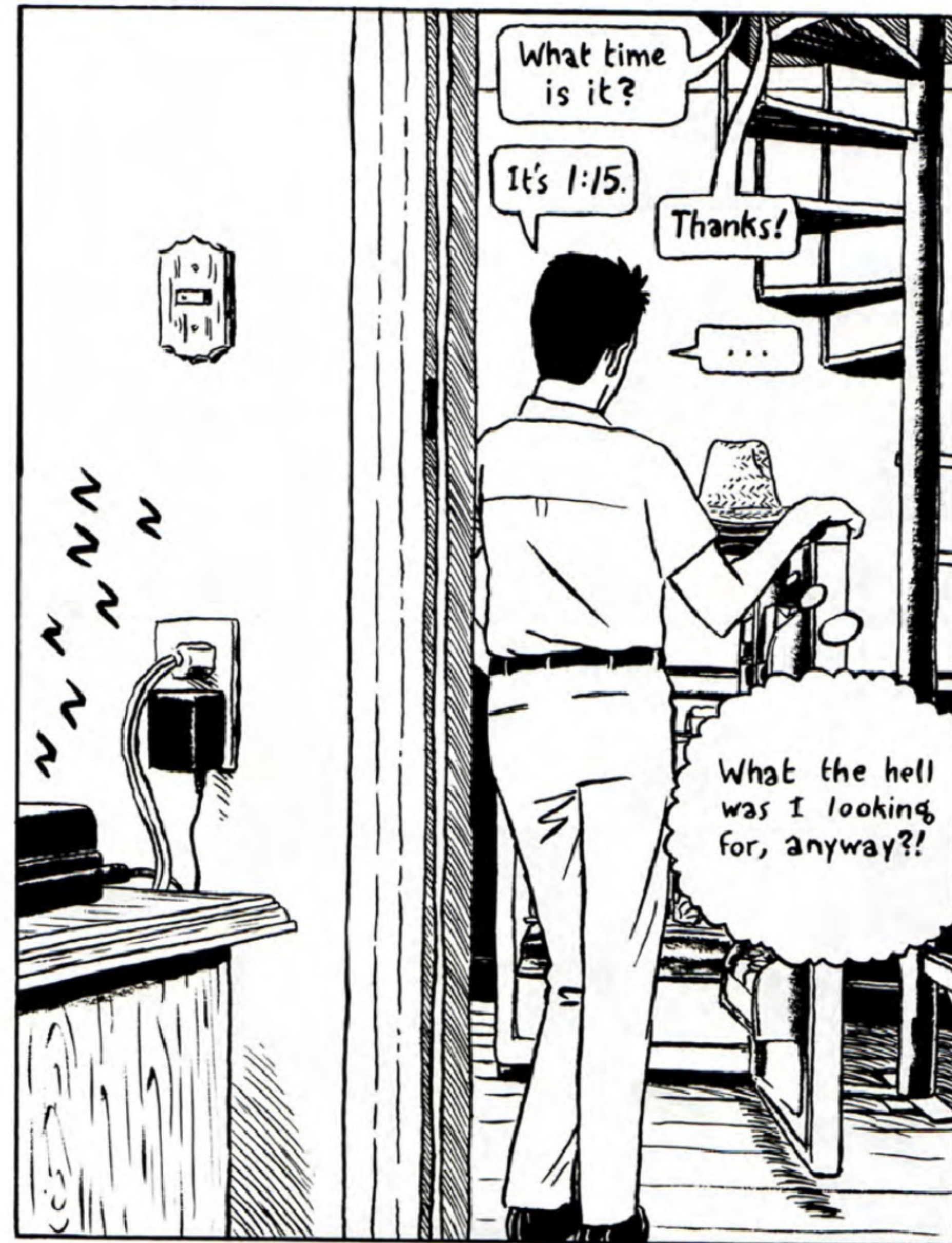
By MUGS

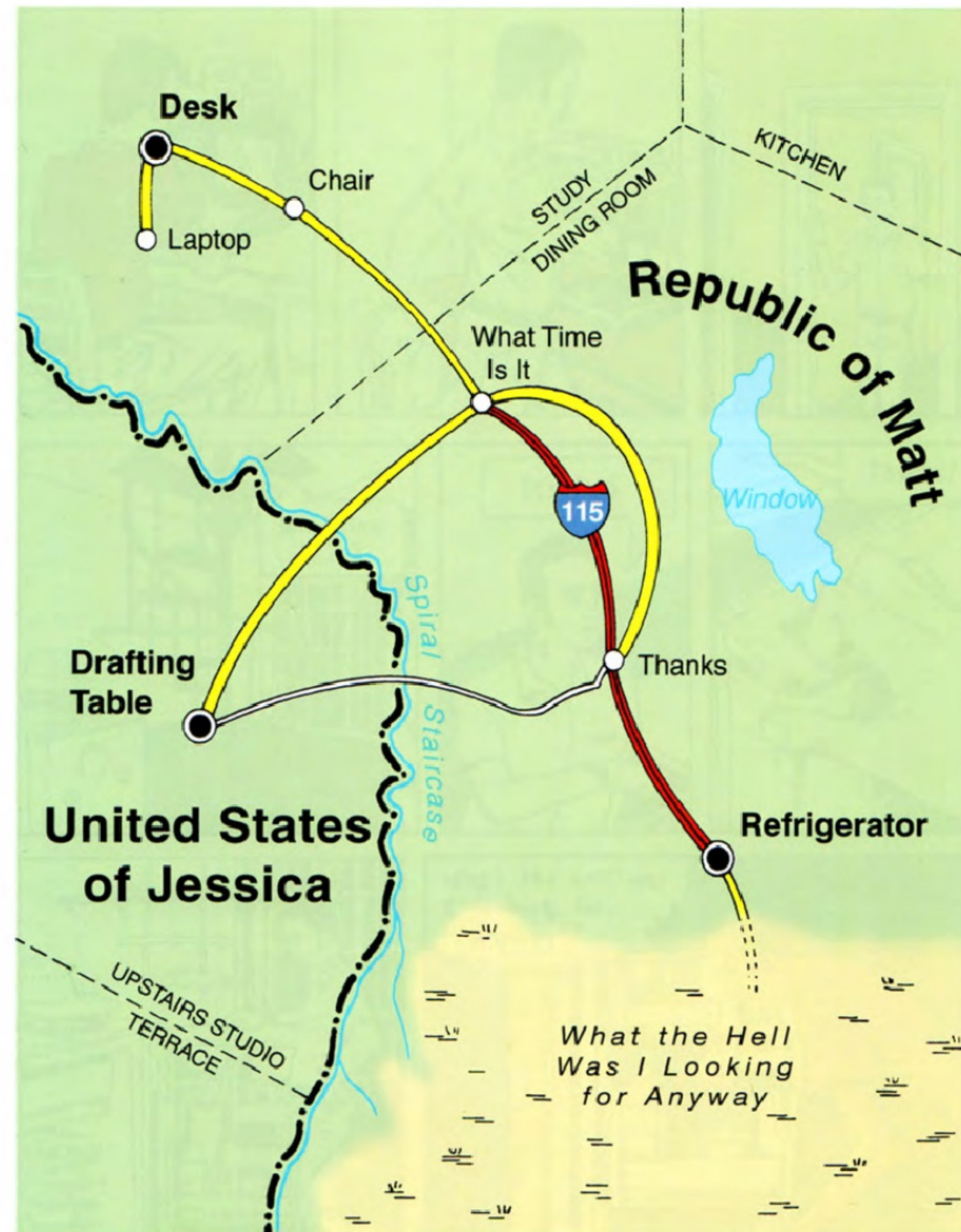












WHAT IS VARYING?

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

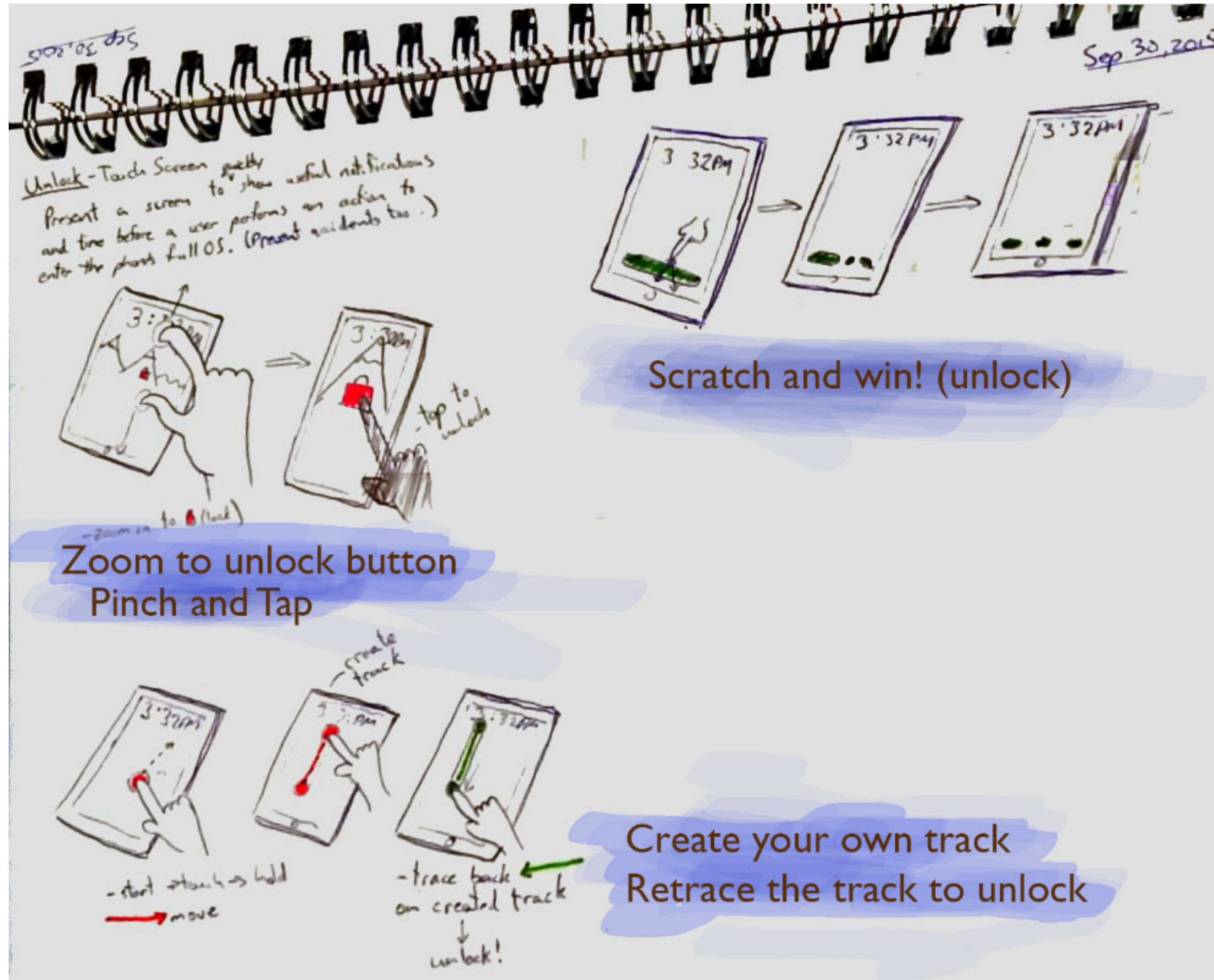
Vary the visuals, how it happens

SLIDE TO UNLOCK

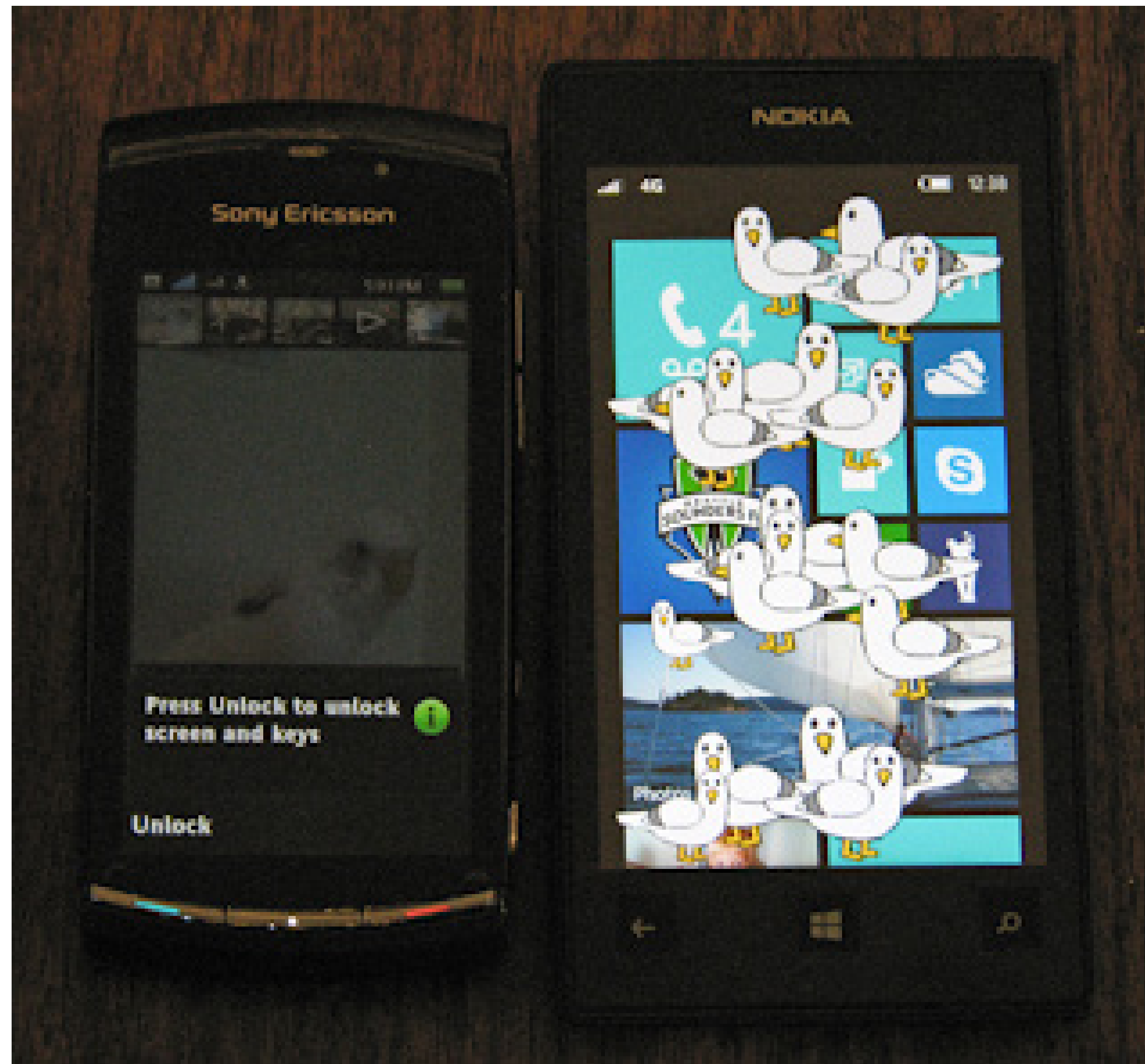
How would you unlock a phone?

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

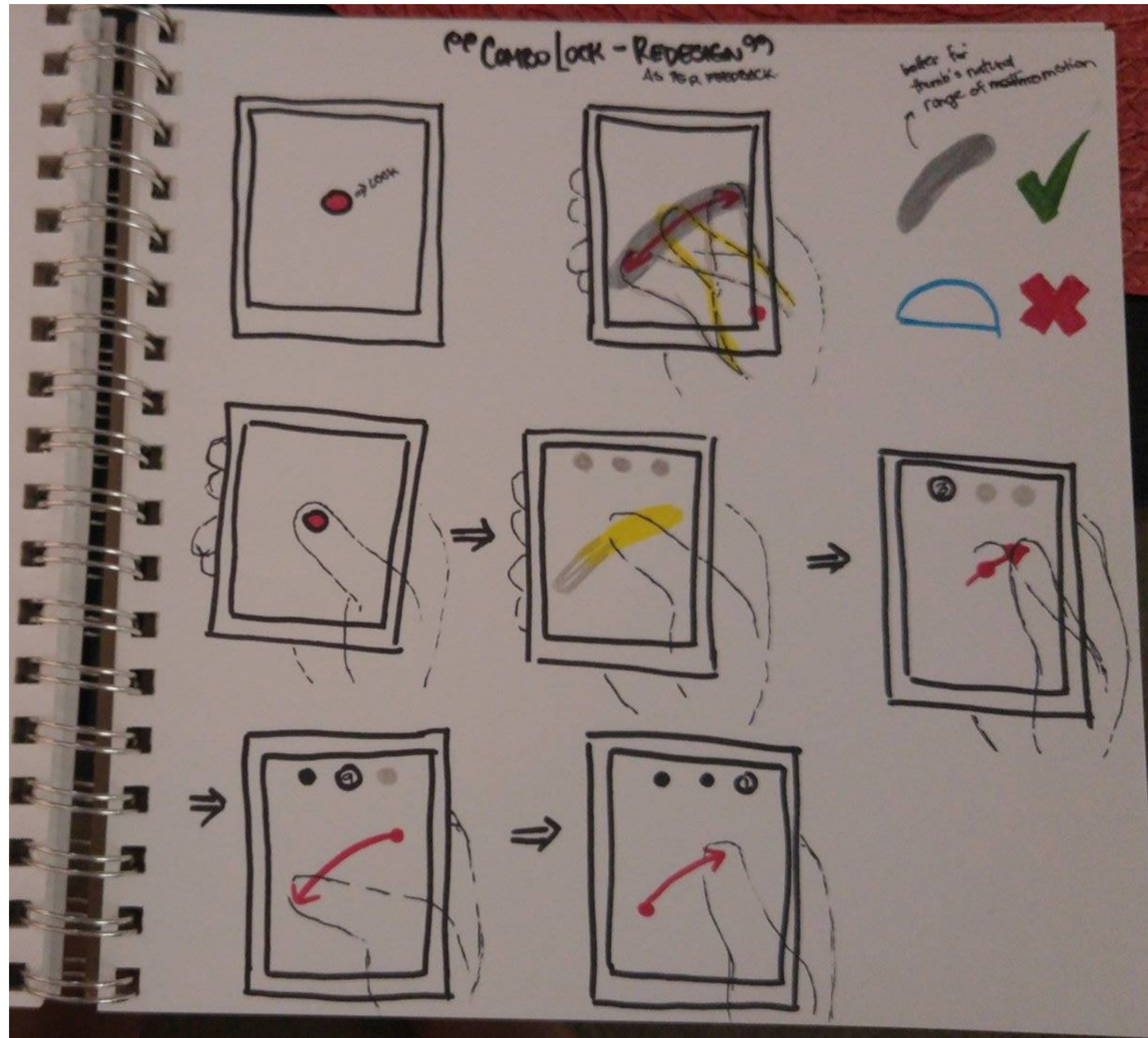
Vary the interaction

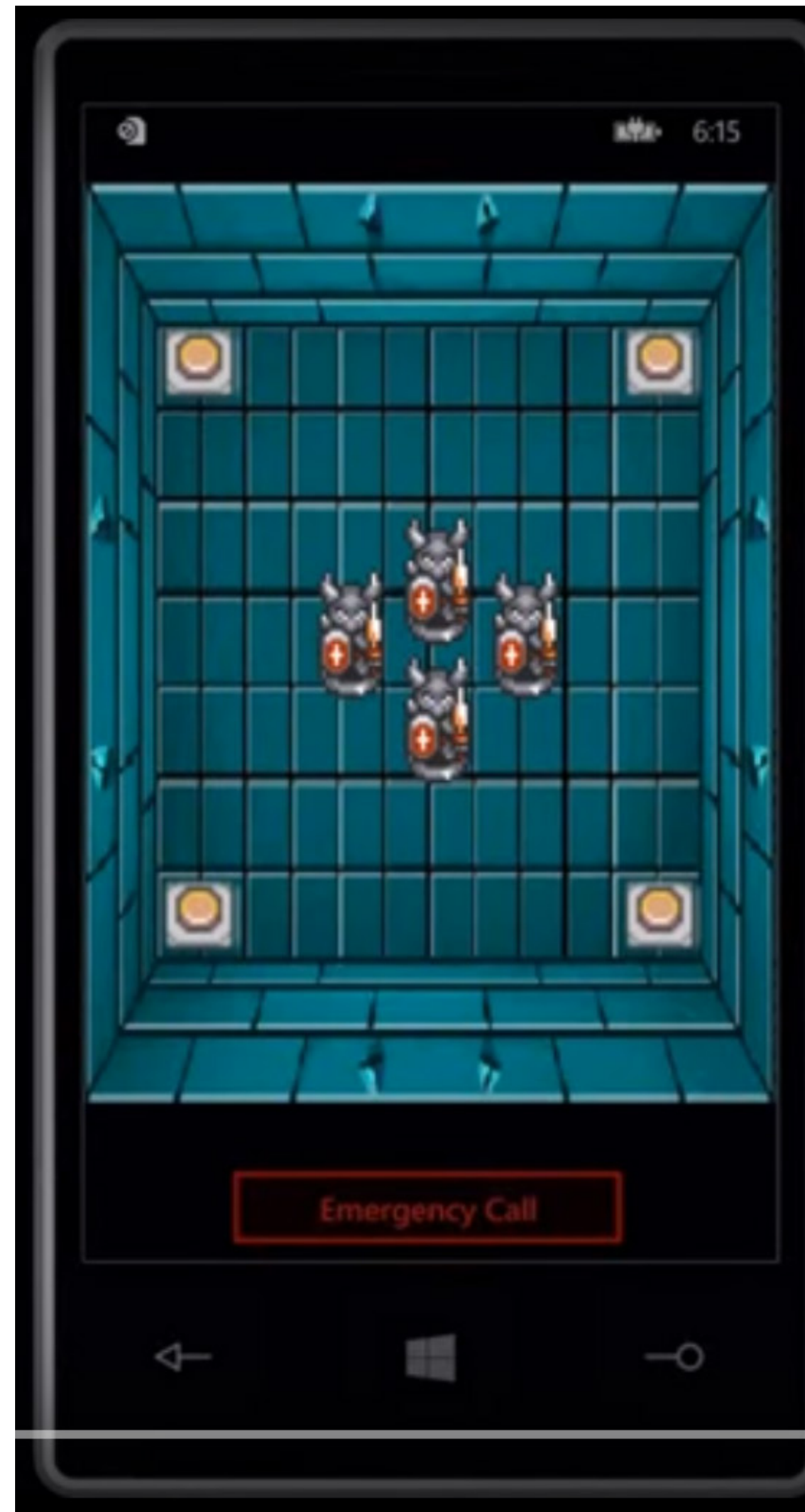


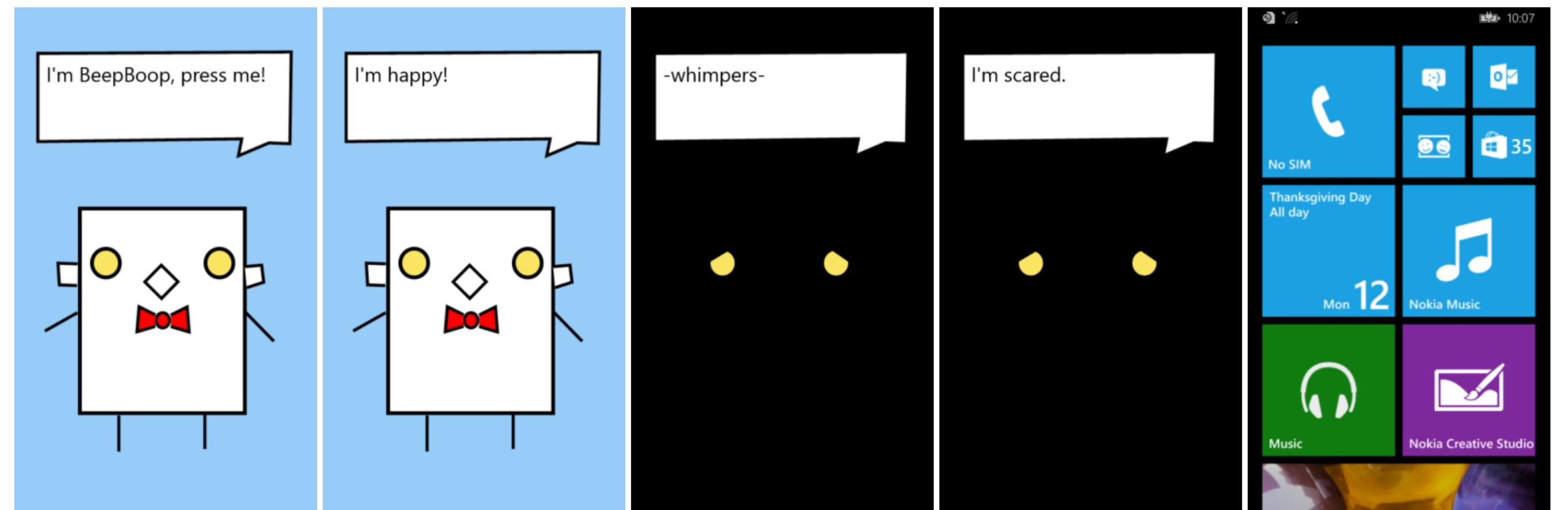
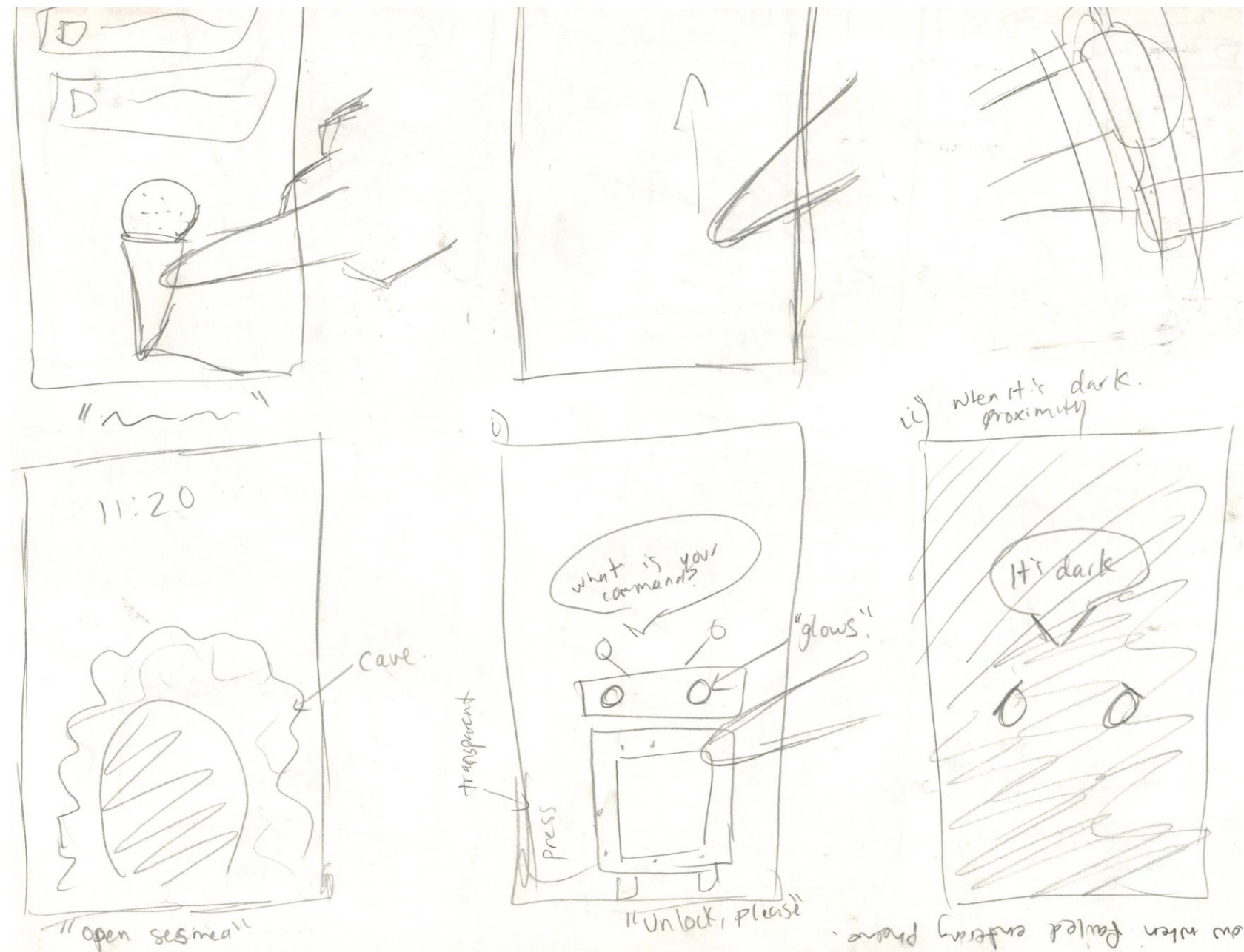


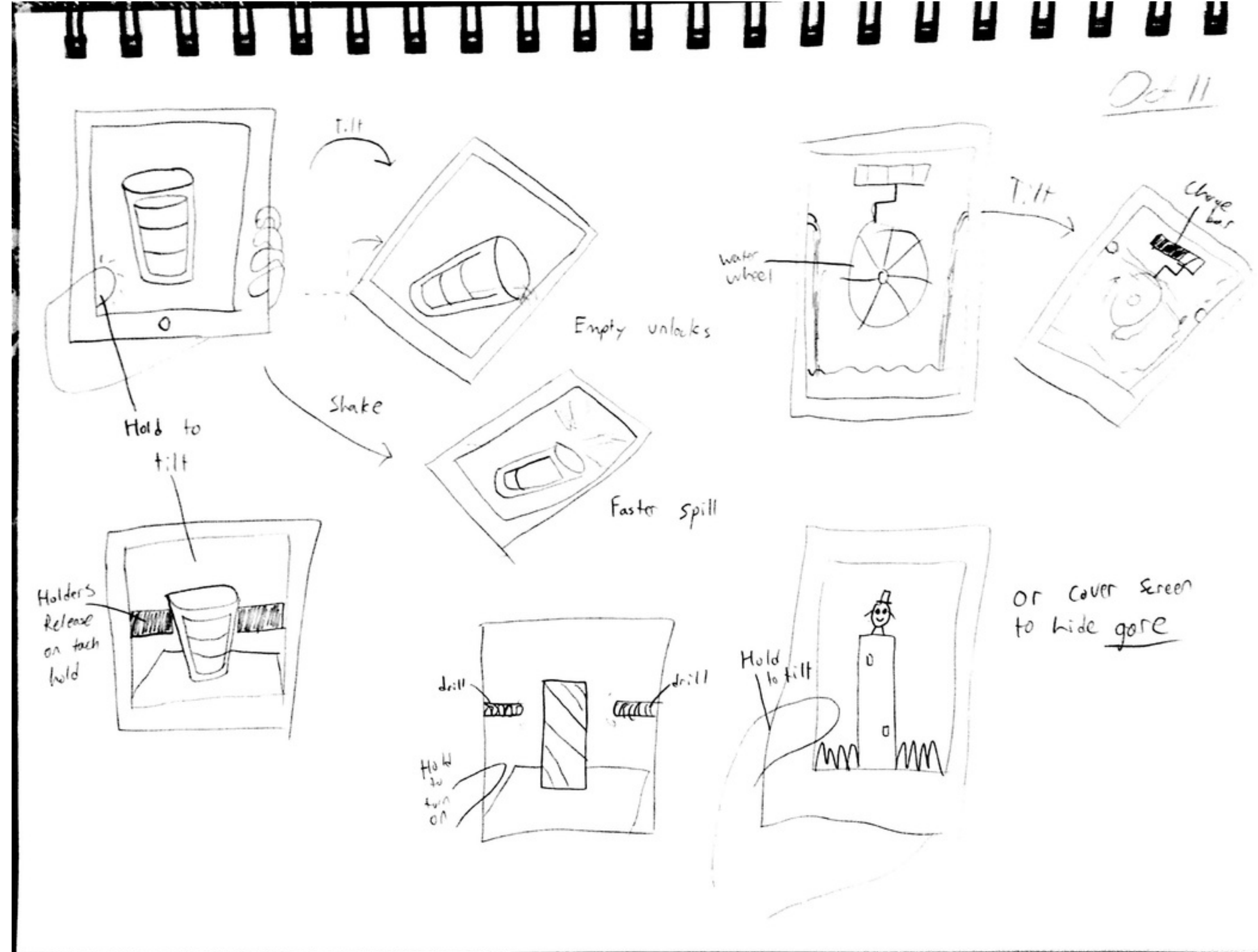














**OTHER THINGS
TO CONSIDER**

MY MATERIALS



Copic Multiliners (0.7 and 1.0)



Blue Pencil



Tombow Dual Brush (different colours + grey)

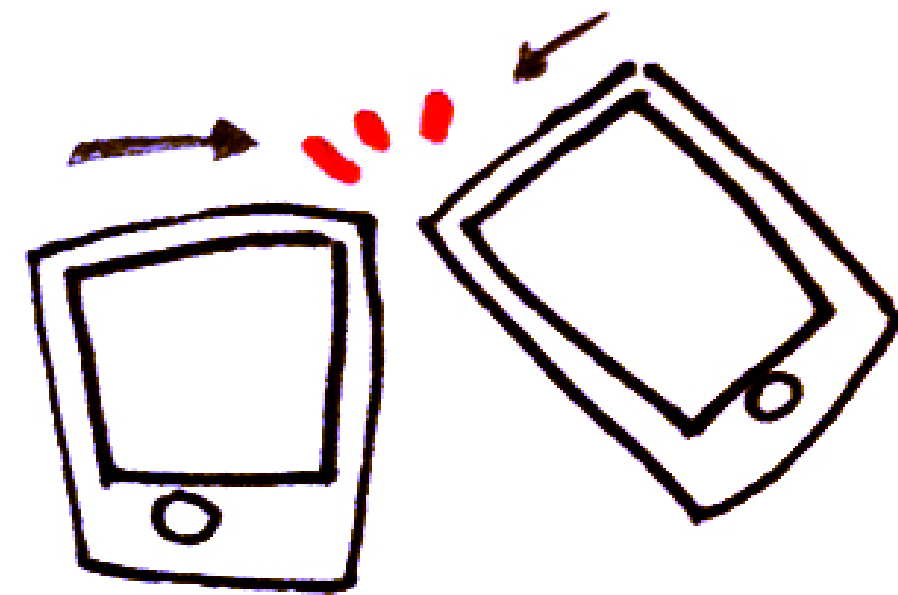
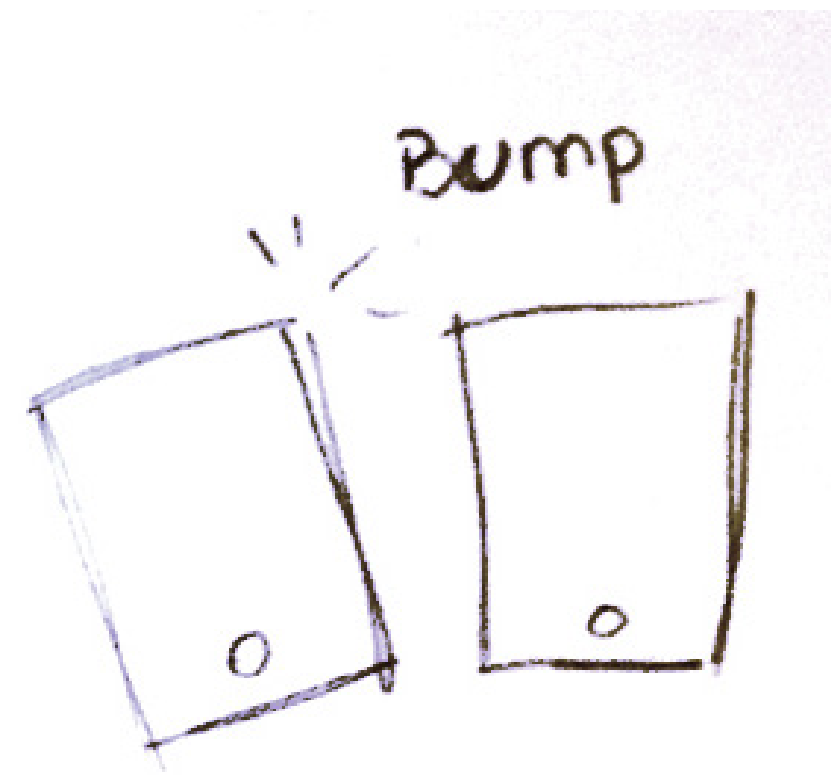


Derwent Coloursoft Pencils

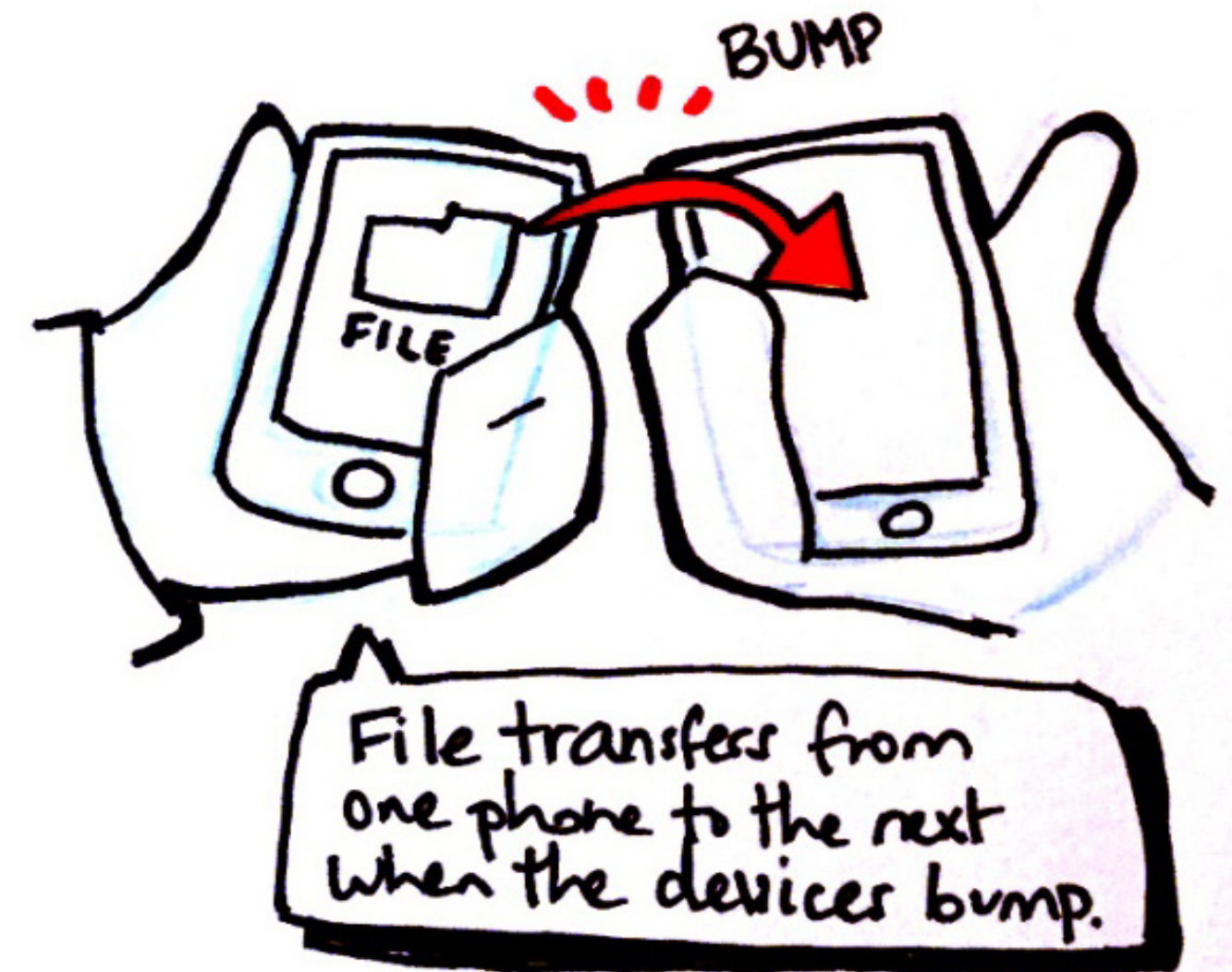


Sharpie Markers (be careful with the paper)

PLAYING WITH STYLES



We bump two
phones to
connect.



Detail of a sketch depends
on the stage and the purpose.

The Stages

based on Baskinger and Bardel (2013)

sketching to think

sketching to communicate



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:

Computer	Message	Robot
Shoe	Coal	Protest
Winter	Time	Roller Coaster