TODAY YOU WILL LEARN

– How to use drawing as a way to think
– How to come up with potential apps
– How to generate and draw your ideas
A FEW THINGS TO KEEP IN MIND

– I don’t believe in talent
   \textit{I believe in creating an understanding and practicing to be better each time}

– This is a journey that we are taking together
   \textit{Learn, have fun and help each other out}
We will study and we will play — and we will see that those activities aren’t so different.
ACTIVITY #1

“Who am I?”
ACTIVITY – WHO AM I?

We are going to draw. The exercise has 3 parts:
– Drawing yourself
– Writing a bit about yourself
– Sharing with your group
I'm David Ledo

I'm here because I like teaching and helping people express themselves.

I like graphic design and playing flamenco guitar.

I'm good at drawing, but I wish I was better at checking my emails.
ACTIVITY – WHO AM I?

Draw yourself in 5 minutes
ACTIVITY – WHO AM I?

Write about yourself!
– What’s your name?
– Why are you here
– What do you like doing?
– What are you good at?
– What do you wish you were better at?
I'M DAVID LEDO

I'm here because I like teaching and helping people express themselves.

I like graphic design and playing flamenco guitar.

I'm good at drawing, but I wish I was better at checking my emails.

Venezuelan Canadian
ACTIVITY – WHO AM I?

Share with your group!
I'm David Ledo

I'm here because I like teaching and helping people express themselves.

I like graphic design and playing flamenco guitar.

I'm good at drawing, but I wish I was better at checking my emails.

Venezuelan Canadian
ACTIVITY – WHO AM I?

Does someone want to share with everyone?
VISUAL THINKING
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

Starting Point:

Mobile Device

proximity = semantic zooming
more information is displayed

Large Display

Approaching enables viewing videos

NEWS HEADLINE

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
MAGIC 8 BALL

- On shake, displays random answer

BASEBALL COUNTER

- "Total" button
- Counts for balls and strikes

POLICE CAR

- Siren, sirenable, and play sound

RADIO

- Plays music
- Shows when on/off
- Sliders change volume

LEVEL

- "Bubly" position centers when loaded

BASEBALL BAT

- Ensure standing stance is 90°
- (and also)
- Cause swings
- Bear hit wisely

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: 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.
Presentation Mockup

SENDSPACE
THERMOSTAT

Phone inside

30°

SENSOR

LAYER

MAP

TOUCH

x,y

MAP this region x

Text, value
10 to 40

bg. color
PUTTING YOUR AUDIENCE FIRST

OECD WELLBEING
SELFIE CITY
2017 ELECTION

DATA -> SENSE MAKING -> FULL OF STUFF!!!

Internet is one click away
WAHL 2017
GERMAN ELECTION TAGS

AN EXERCISE IN COMMUNICATION
ACCIDENTALLY DISCOVERED SAME EXPECTATIONS AS THE WWW

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 e.g. Postal code
  - multiple vis 
    battle complexity
- From here after search Q

politically interested
Journalists
linked from news
SKETCHES BY PEOPLE
NICK SOUSANIS
Comic Artist
UNFLATTENING: A DISSERTATION IN COMICS FORM

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.

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.

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

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 IMAGES AND TEXT.
ALEXANDER GRAHAM BELL
Scientist/Inventor
As far as I can remember these are the first drawing I made of the telephone - or instrument for transmitting vocal or even musical tones. - Alexander Bell.
CARL LIU
Industrial Designer
NICOLAI MARQUARDT
HCI Researcher
Tablets/devices + table + supporting mobility

Click & drag-over

(view)
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.
ACTIVITY #2
“You CAN Draw”
ACTIVITY – YOU CAN DRAW

Divide your page into 4 parts

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

Pick one of these: HOUSE, CAR, SANDCASTLE

Draw your choice 4 times
ACTIVITY – YOU CAN DRAW

Share with your group!

Can you guess what other people drew?
SKETCHING = THINKING
THE PARTS TO DRAWING
**Hand Motor Skills**

ability to draw our 'mental vision' onto paper.

**Vision**

ability to understand space visually.

**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.
ARROWS
LABELS
EXERCISE

In the next 2 minutes -

Draw a dinosaur named Oswald with an eyepatch

Draw an umbrella with a hole in it
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 THINKING
The resulting design can only be as good as the idea.
“Getting the design right versus getting the right design”
- Bill Buxton
An example...

TELEPHONE LAYOUTS
<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
FINDING AN APP TO BUILD
WHERE CAN YOU USE AN APP?

1. Try something you are passionate about
2. Look at local news / talk to people in your community
3. Look at the world today
WHAT DO WE LOOK FOR?

1. Find a situation

2. Write the problem as a sentence

3. Draw ideas
TRYING A PASSION

I like guitar, but I find it hard to practice scales

Situation: practicing an instrument

Problem: How do we help people practice scales?
Situation: people in Calgary are putting the wrong things into the recycling bins

Problem: How might we help people know what goes into the blue bin in Calgary?

https://globalnews.ca/news/6142980/calgary-recycling-education-cost/
Plastic Bags in the Ocean

By Vijayalaxmi Kinhal
Ecologist, B.Sc. Agriculture, M.S. Ecology and Environment Sciences

The hazard of plastic bags in the ocean is greater than ever before. Studies show new effects and are revealing the extent of the problem it poses.

Plastic, Plastic Everywhere!

Plastic has become an integral part of people’s lives. It is single-use plastic packages, especially bags, that are a matter of grave concern as they are used for a few minutes and then thrown away rather than being recycled. Their use can be reduced or avoided completely. The bags’ buoyancy carries them from landfills and dumps. They reach streams and rivers and finally enter oceans explains a 2017 National Geographic report.

Situation: many plastic bags wind up in the ocean, affecting the local ecosystem

Problem: How might we help people reuse existing bags?

https://globalnews.ca/news/6142980/calgary-recycling-education-cost/
LET’S BRAINSTORM

Lost Pets
Many people lose their pets in the city

Food waste
At the end of the day, many restaurants, bakeries and cafes have to dispose of their food

Friends as an Adult
Many adults find it hard to make new friends

Lead Contamination in Water
A recent study found high amounts of lead contamination in many piping systems, affecting local water

Car-Pooling
Currently, there is no longer a way to find ground transportation that can take you across western Canada

Garage Sales
Neighbours find it hard to advertise or find garage sales

Vaccination
Alberta Health Services has a flu vaccination program, and wants to reach out to citizens for free vaccinations

Visiting a New City
Tourists visit Calgary and want to find out local events, as well as interesting attractions

Skill Share
Sometimes people are good at certain things, but want to learn something new, it might be interesting to help connect people with matching interests

Holidays Not Alone
Many holidays (e.g. Thanksgiving, Christmas) result in people spending the time by themselves.