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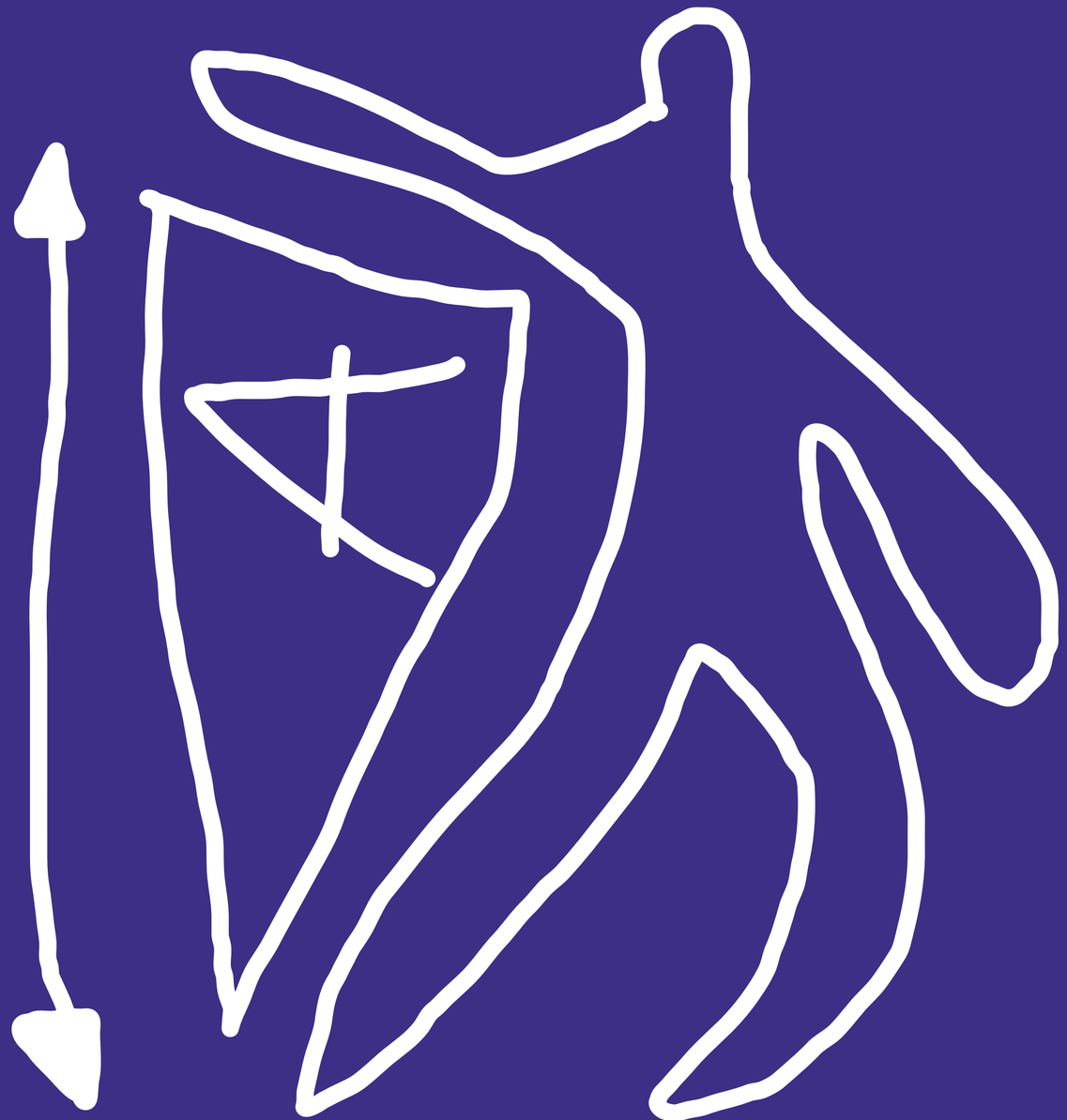
Embodied Interaction



Day 1 —
fingers & hands

INTL

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- hello :–)
- workspace & tools
- 1 – p5.js basics
- 2 – tracking basics
- 3 – typography
- 4 – our toolbox
- 5 – interaction

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Hello!

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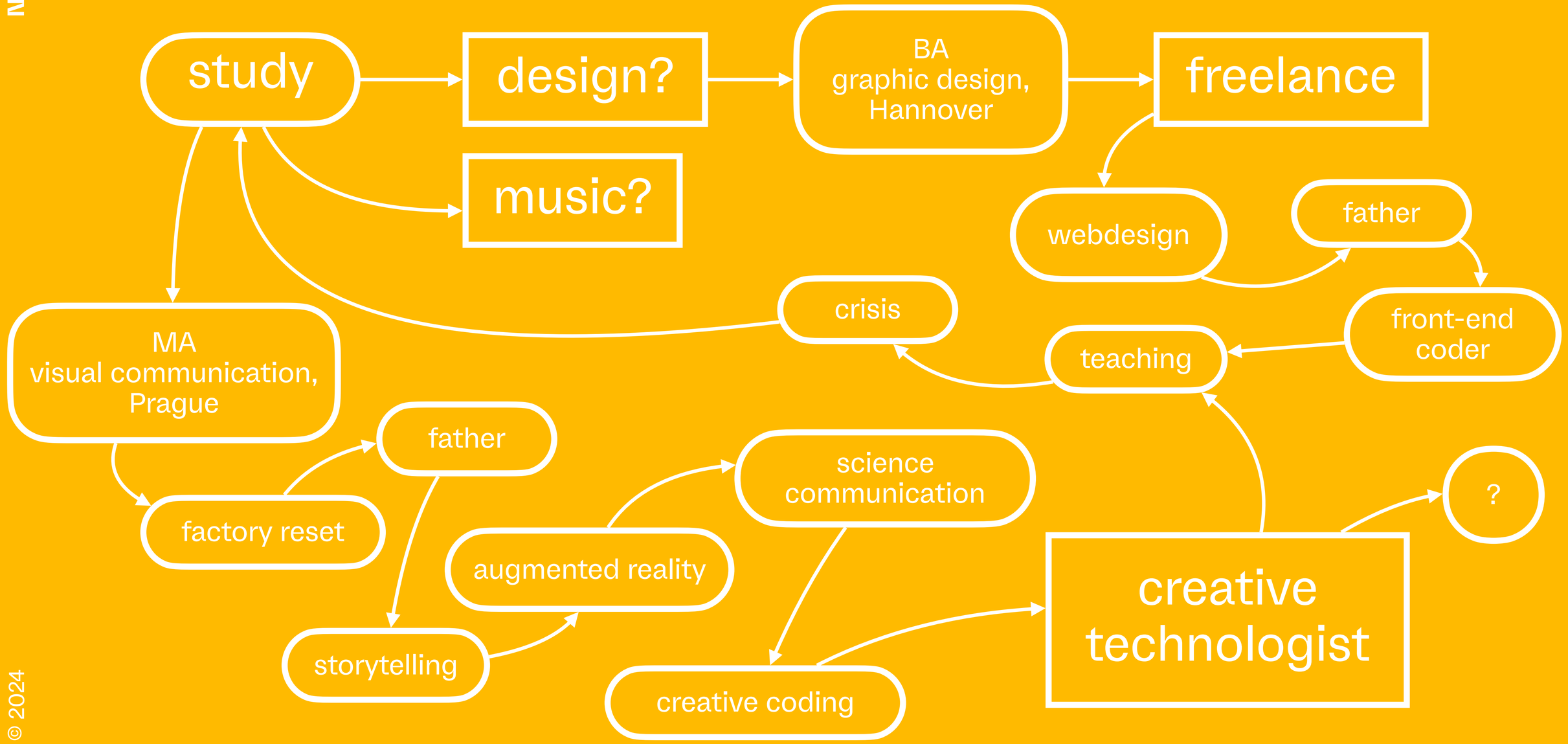
my journey



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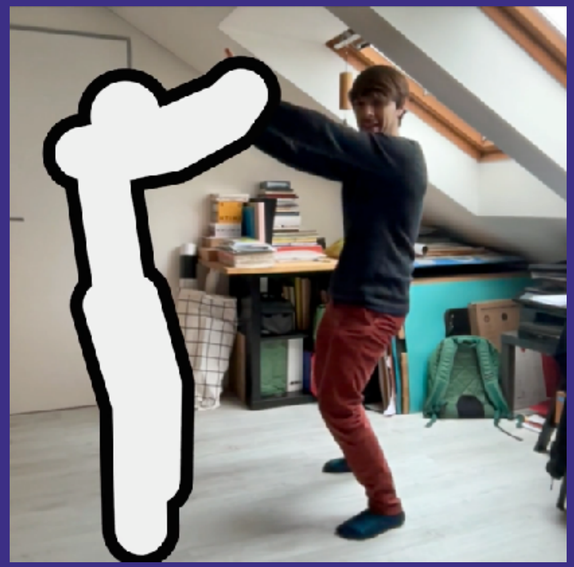
Embodied Interaction

36 Days of Type, 2023

Dancing team



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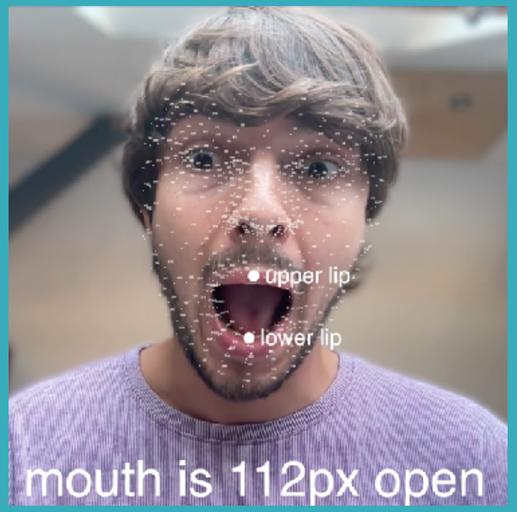
Type magnet
(with Superiortype)



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embodied interaction is about ...

→ exploring my body as an interface

→ using body language as a tool to talk to machines

→ reconnecting and reflecting on my own body and mind (as a result of AI)

→ exploring augmented reality

→ creating playful prototypes

→ having a lot of fun

→ opening up new paths

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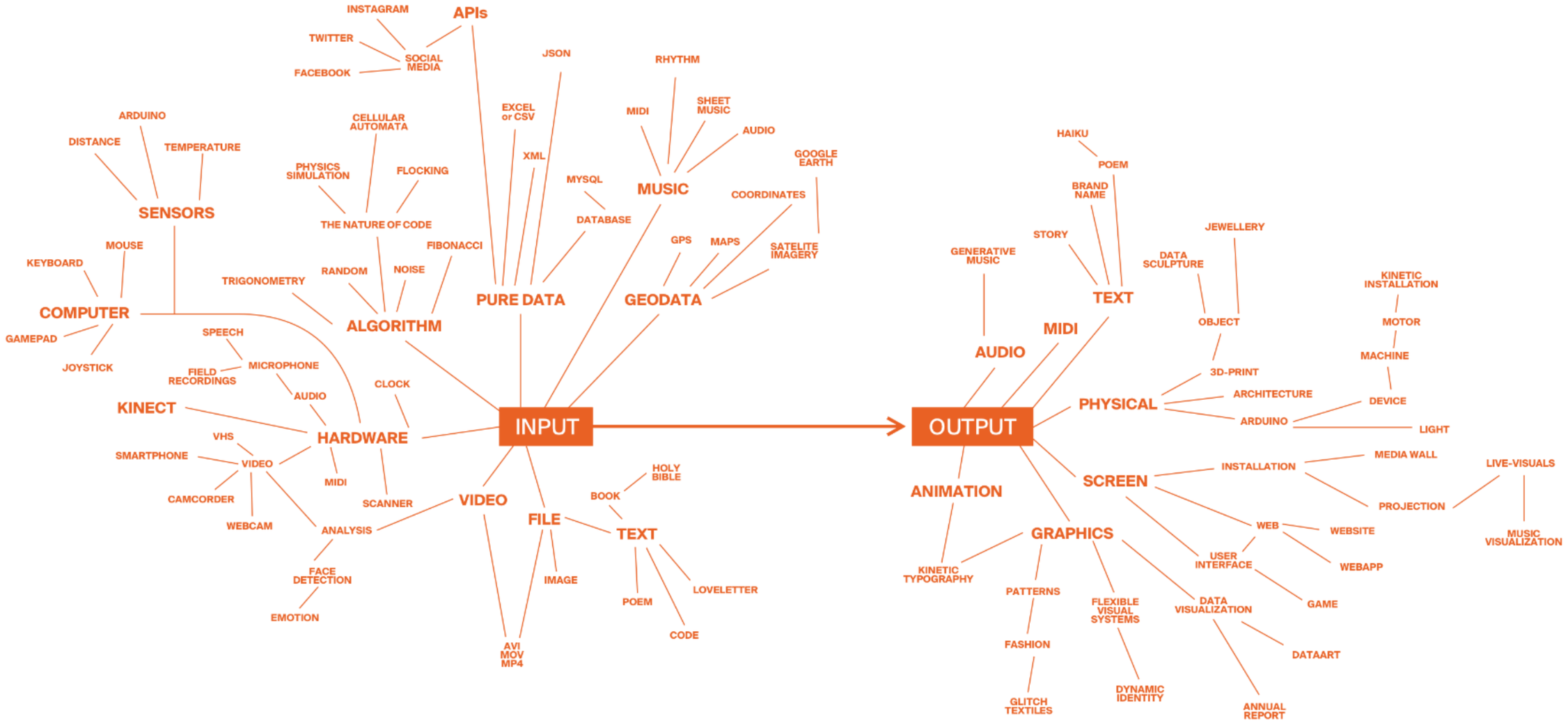

Patrik Hübner & Tim Rodenbröker
https://master.timrodenbroeker.de/definition.php

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→ explore new frontiers through creative coding

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about this workshop

→ a series of quick inputs (me)

→ tasks and experiments (you)

☺ document everything you do with screen capture

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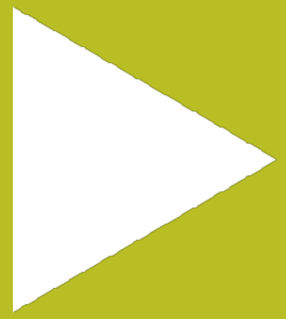

workspace & tools

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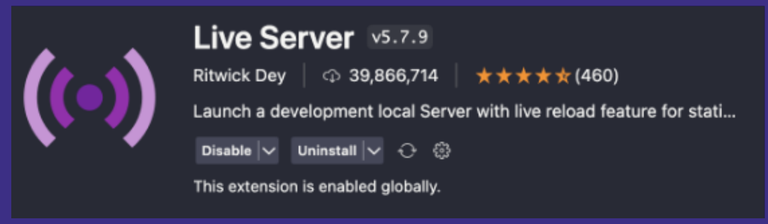
set up your workspace

→ install VS code

→ install extension

VS code/view/extensions

Live Server (Ritwick Dey)



https://code.visualstudio.com/Download

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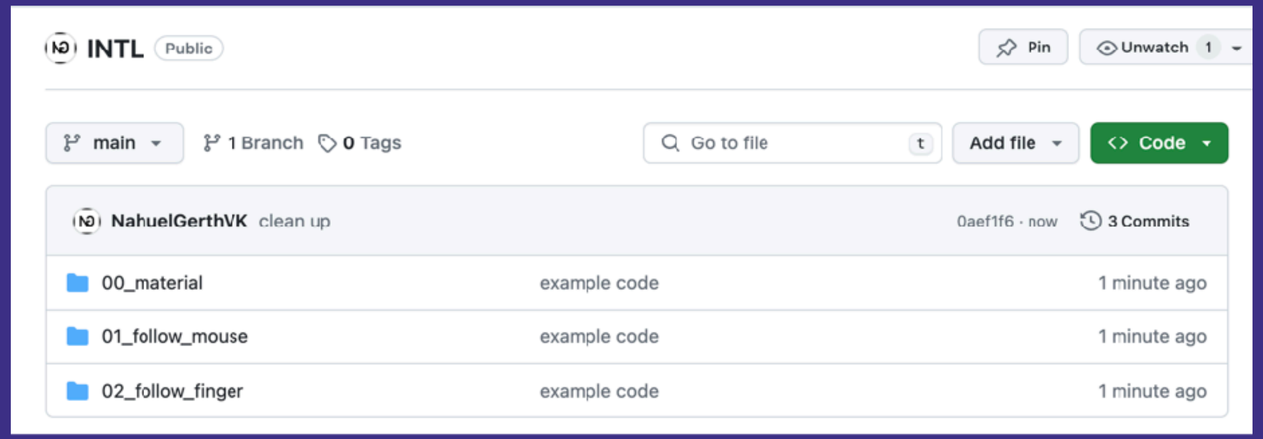
our repository



→ download course repository

→ copy first example, rename it, open folder in VS code

→ run live preview in browser

https://github.com/NahuelGerthVK/INTL

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✎ Task (20 mins)

☞ set up your workspace!

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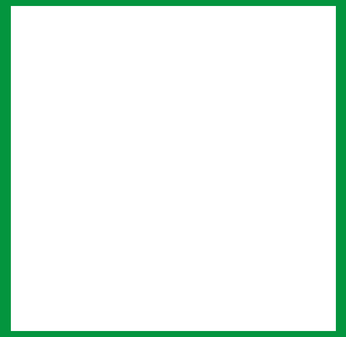

1 —
p5.js basics

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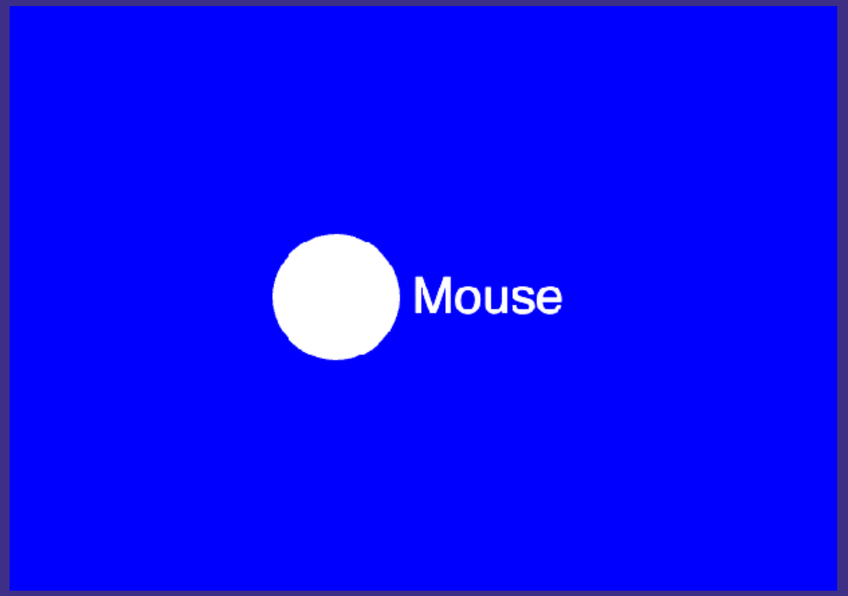
✌ input — ellipse follows mouse



→ how does the code work?

- setup, draw
- brackets
- semicolons
- order of code
- coordinates

→ where can we manipulate?

→ ellipse function & styling options

- hex colors
- stroke & fill color
- size

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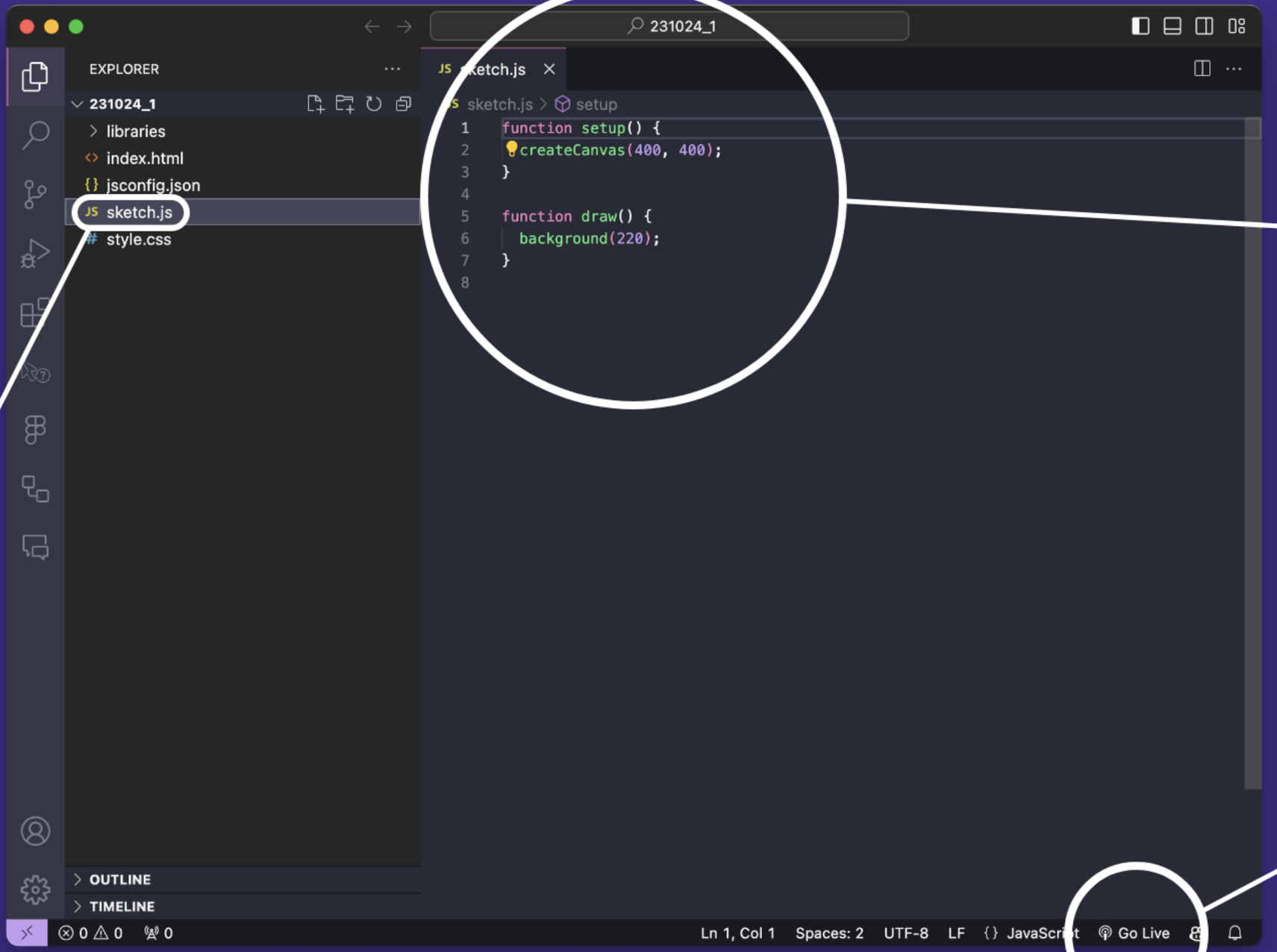

our working file

here goes our code

live preview in browser

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✌ basics

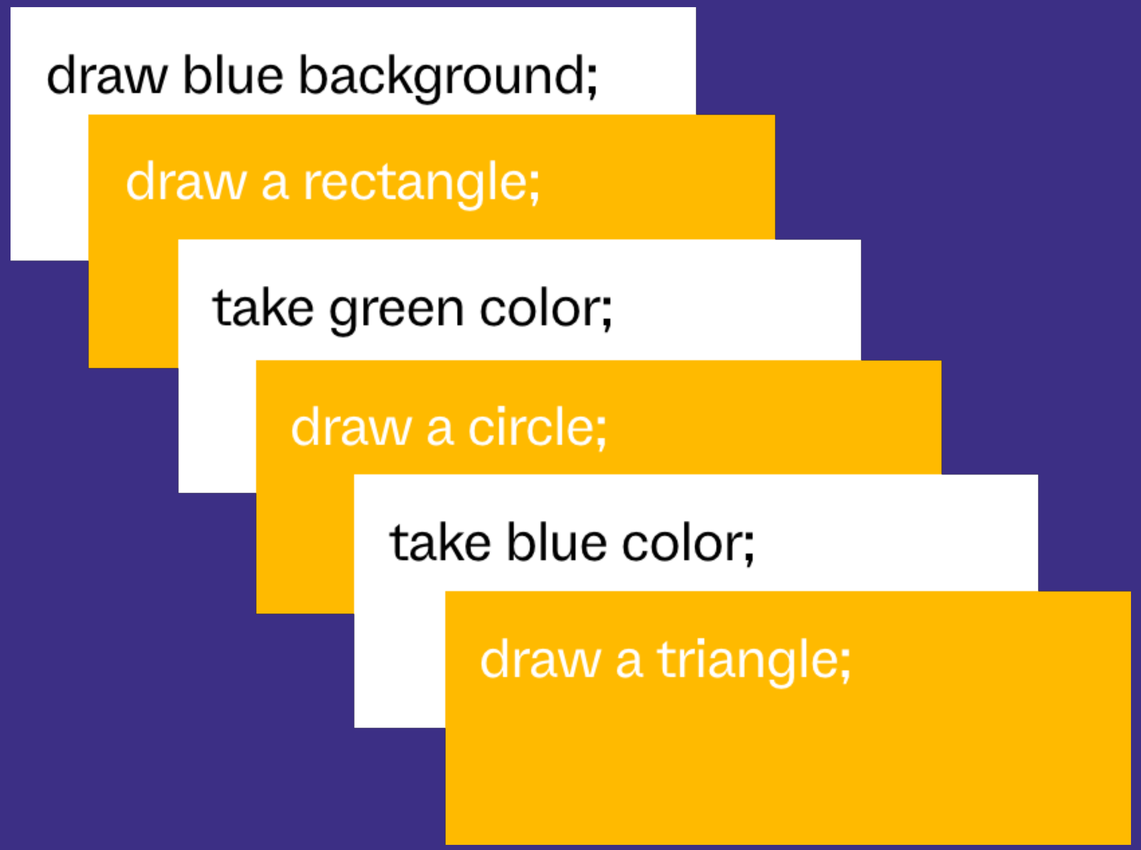
→ setup()
runs only once

→ draw()
loops continuously
(60 times per second)

→ createCanvas()
our window size
(width and height)

→ // comment
ignored by the program

✌ order of the code



→ last line gets rendered on top (like the highest Photoshop layer)

→ we draw inside the draw() loop

→ always close your brackets!
( ) [ ] { }

→ separate functions with semicolons
;

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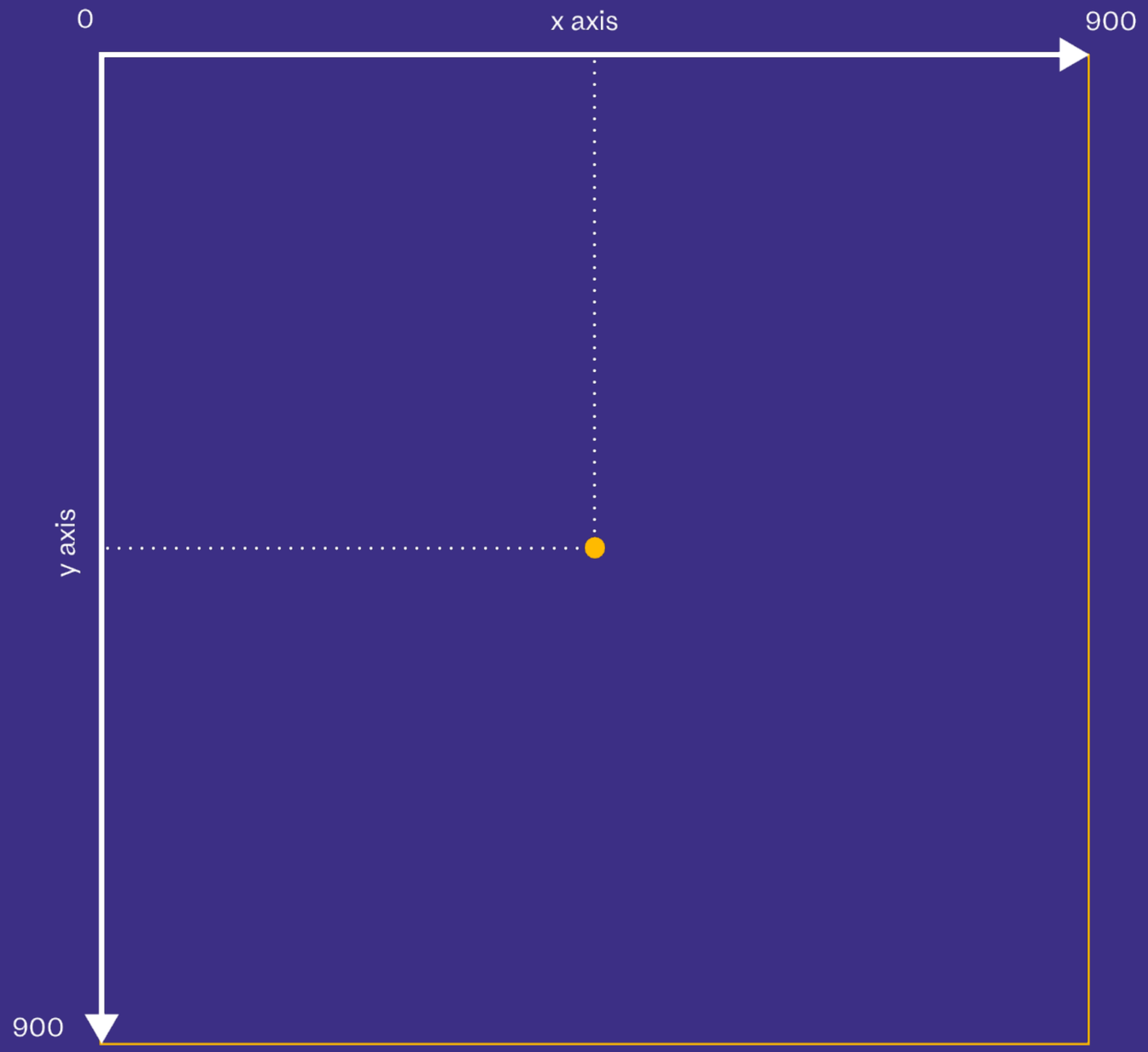
✌ coordinate system




```
point (450, 450);
point (width/2, height/2);
```

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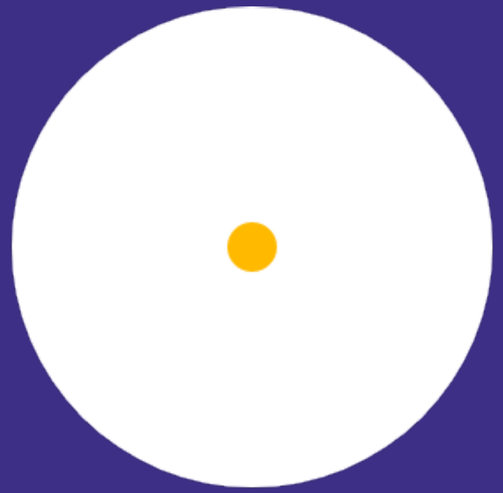
✌ ellipse function



```
ellipse(x, y, w, h);
```

✌ styling

hex color picker
https://g.co/kgs/9h4Esb

```
fill("#FFBA00");
noStroke();
```

```
stroke("#FFBA00");
strokeWeight(20);
noFill();
```

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✎ Task (20 mins)

- ☞ copy example 01_follow_mouse
- ☞ change color, stroke and size of ellipse
- ☺ play

15mins break

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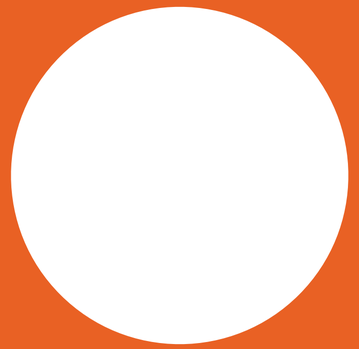

2 — tracking basics

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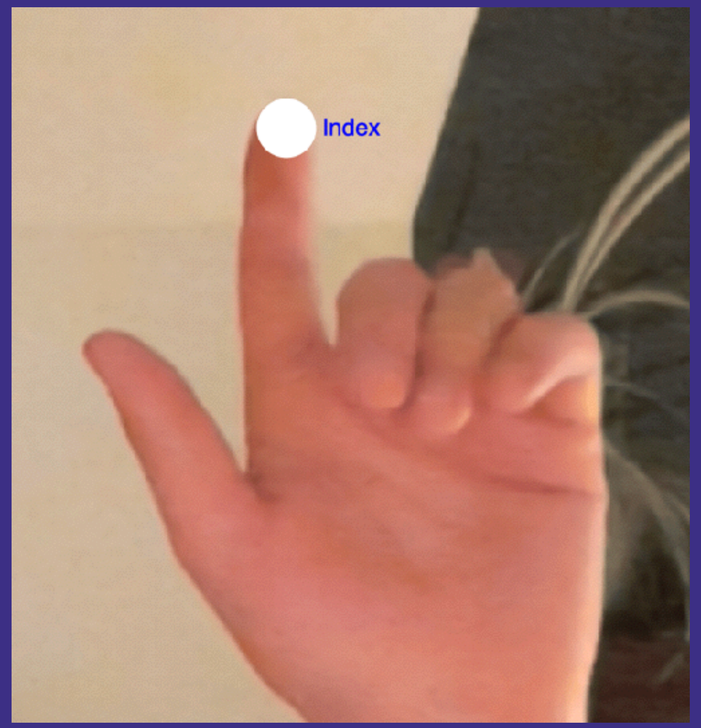
✌ input — ellipse follows index finger

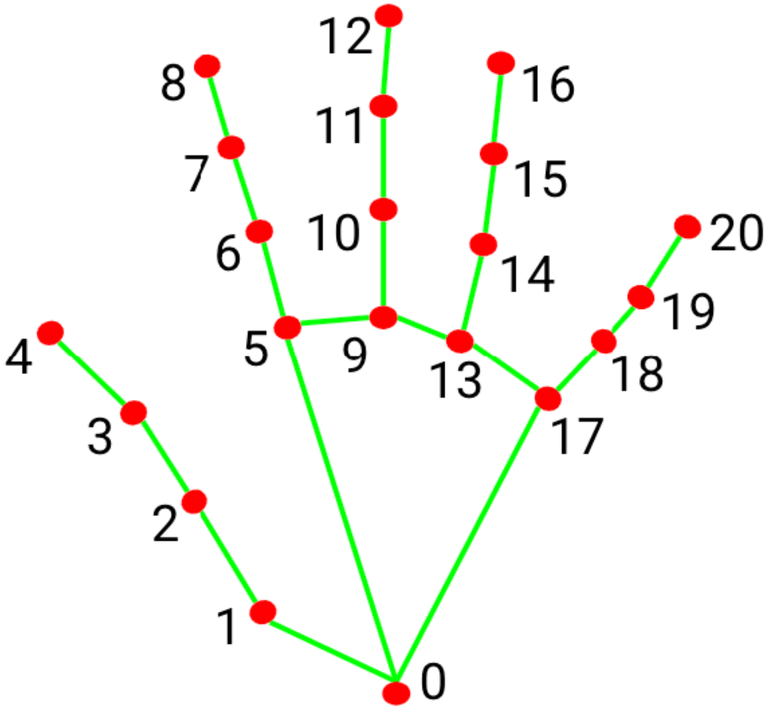


→ how does the code work?

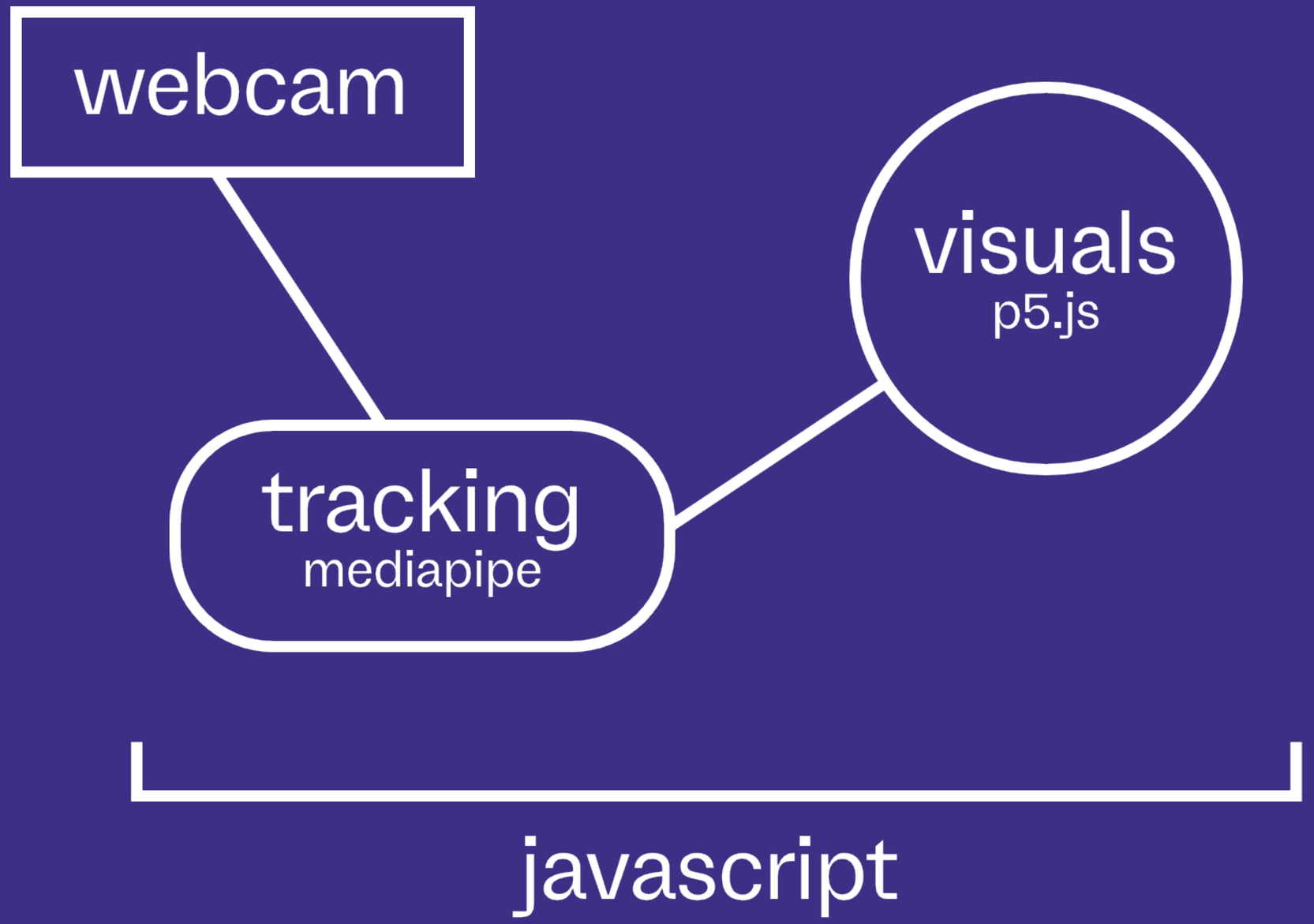
- what has changed?
- where can we manipulate?

→ tracking points

- how we can use different points?



0. WRIST
1. THUMB_CMC
2. THUMB_MCP
3. THUMB_IP
4. THUMB_TIP
5. INDEX_FINGER_MCP
6. INDEX_FINGER_PIP
7. INDEX_FINGER_DIP
8. INDEX_FINGER_TIP
9. MIDDLE_FINGER_MCP
10. MIDDLE_FINGER_PIP
11. MIDDLE_FINGER_DIP
12. MIDDLE_FINGER_TIP
13. RING_FINGER_MCP
14. RING_FINGER_PIP
15. RING_FINGER_DIP
16. RING_FINGER_TIP
17. PINKY_MCP
18. PINKY_PIP
19. PINKY_DIP
20. PINKY_TIP



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✎ task (20 mins)

- ☞ copy example 02_follow_finger
- ☞ attach ellipse to new finger points
- ☞ change ellipse styling
- ☞ use multiple ellipses
- ☺ play

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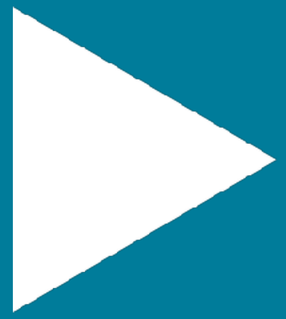

3 —
introducing
type

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✌ input — introducing type

→ text function

→ styling options

- font family
- size
- fill & stroke color

✌ text function


```
text("Aa", x, y);
```

✌ text styling

→ size

```
textSize(20);
```

→ fill

```
noFill();
fill("#FFBA00");
```

→ alignment (x, y)

```
textAlign(CENTER, CENTER);
textAlign(LEFT, TOP);
textAlign(RIGHT, BOTTOM);
```

→ stroke

```
noStroke();
noFill();
stroke("#FFBA00");
strokeWeight(20);
```

✌ font family

- → save your font to your sketch folder
- → create a variable to hold the font
- → preload()
  load the font from your folder
- → textFont()
  set the font before drawing text

```
let myFont;

function preload(){
  myFont = loadFont("fonts/my-nice-font.ttf");
}

function setup() {
  createCanvas(900, 900);
  textFont(myFont);
}

function draw() {
  background(255);

  text("Neat text in nice font", 100, 0, 900, 900);
}
```

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✎ task (15 mins)

- ☞ copy example 03_type
- ☞ attach a colored letter to each finger
- ☞ use your own font
- ☺ play with styling

10mins break

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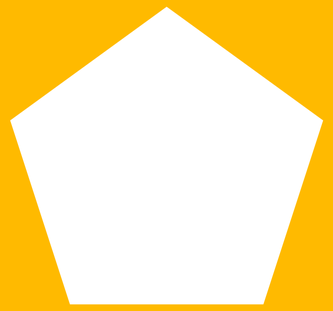

4 —
expanding our toolbox

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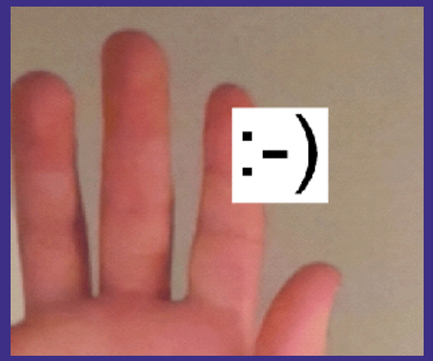
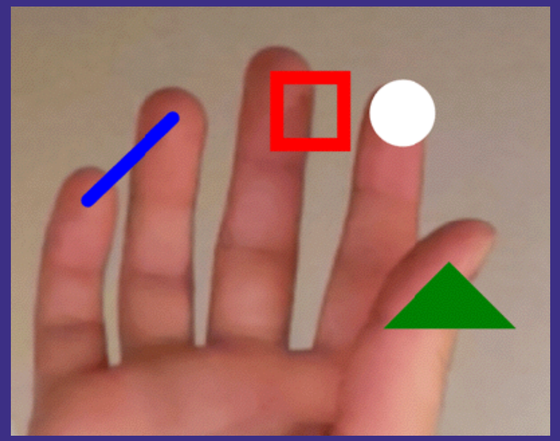
✌ input — expanding our toolbox





→ p5.js reference

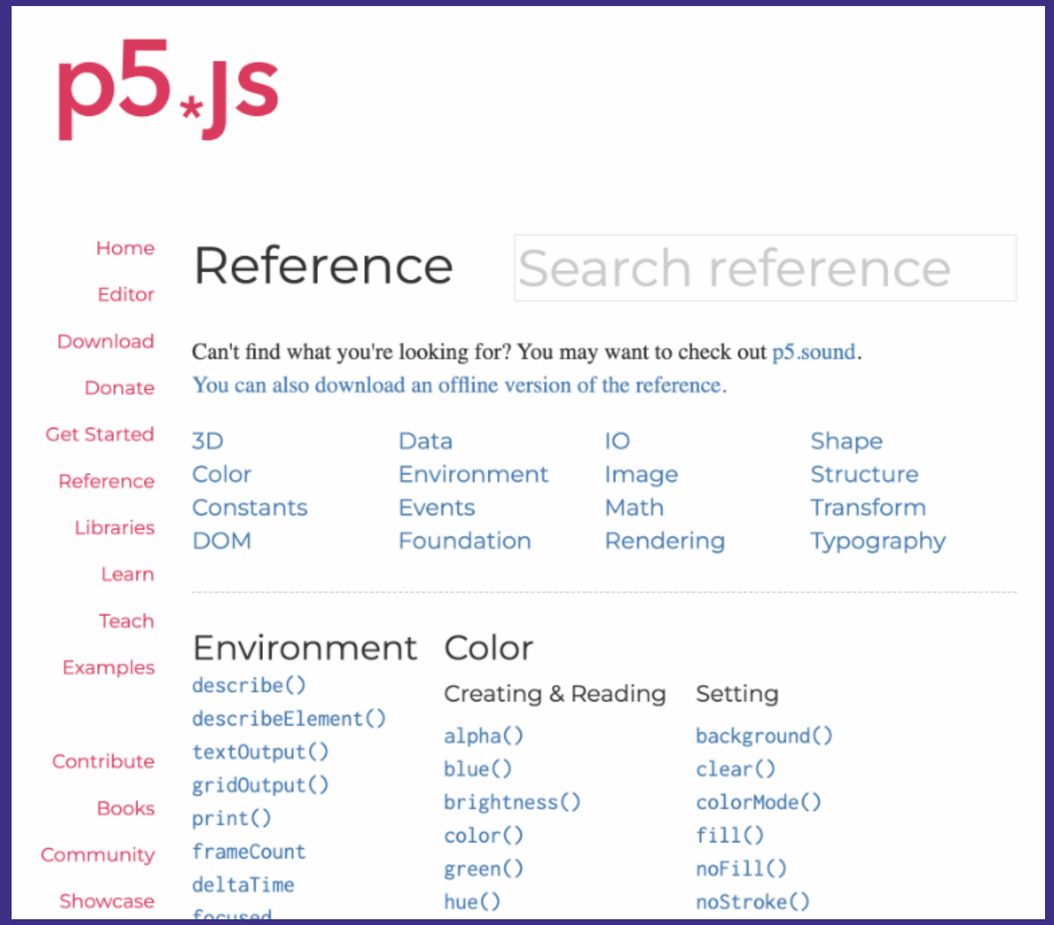
→ our basic shapes

- ellipse
- rectangle
- triangle
- line
- text
- image

→ how to style them

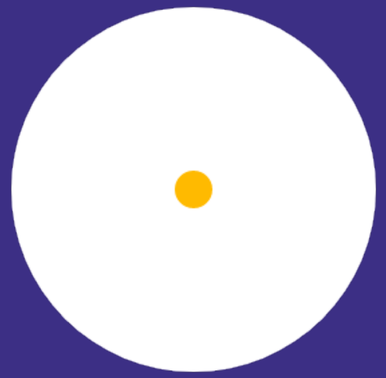
- size
- fill & stroke color

✌ p5.js reference

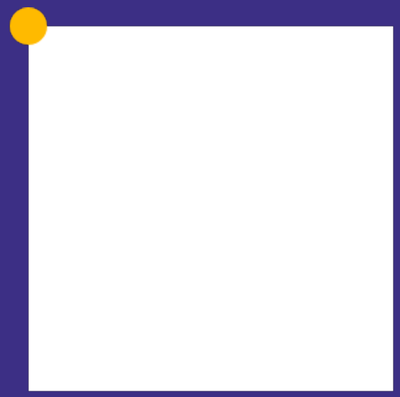


https://p5js.org/reference/

✌ basic shapes

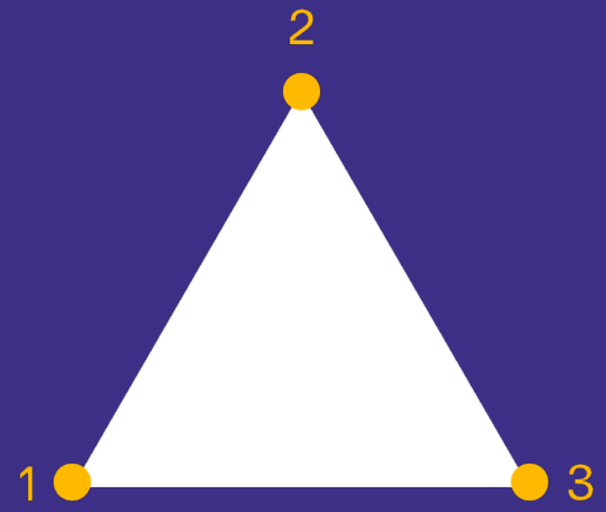


ellipse(x, y, w, h);



rect(x, y, w, h);

✌ basic shapes




```
line(x1, y1, x2, y2);
```

```
triangle(x1, y1 ,x2, y2, x3, y3);
```

✌ image

```
image(myImage, x, y, w, h);
```

✌ image

- → save your image to your sketch folder
- → create a variable to hold the image
- → preload()
  load the image from your folder
- → draw()
  place the image on the canvas

```
let myImage;

function preload(){
  myImage = loadImage("my-nice-image.jpg");
}

function setup() {
  createCanvas(900, 900);
}

function draw() {
  background(255);

  image(myImage, 0, 0, 900, 900);
}
```

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✎ task (15 mins)

- ☞ copy example 04_shapes or 05_image
- ☞ try out what you can do with the new shapes
- ☺ go crazy

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5 —
interaction

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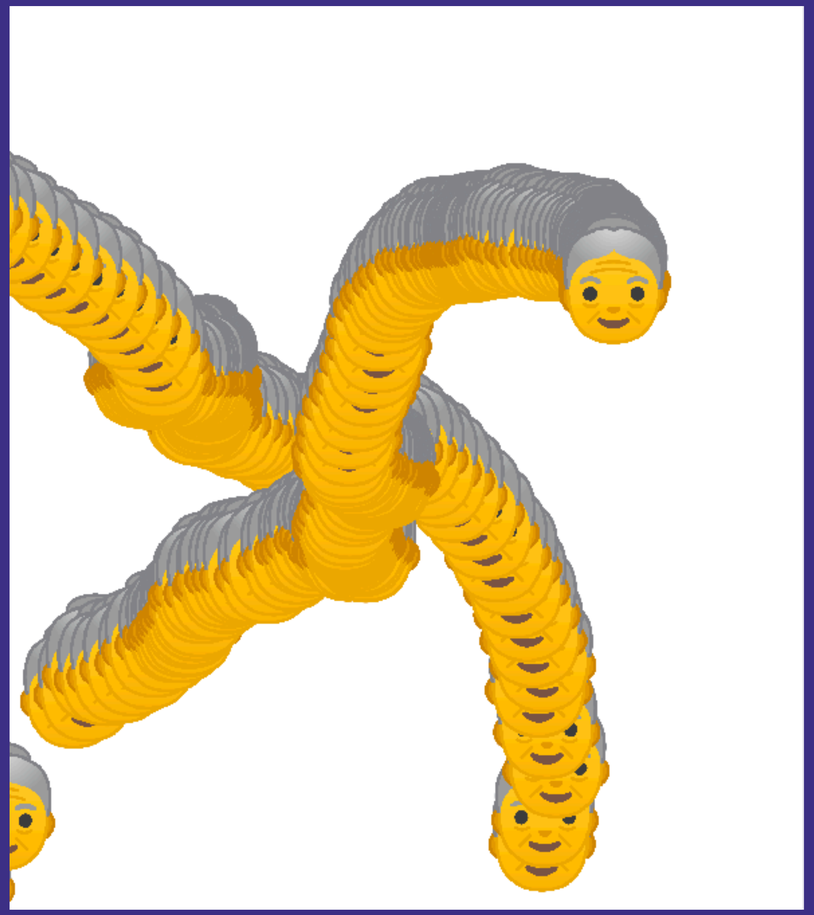
✌ input — interaction



→ if we draw images without using background and webcam, we get a fun drawing app

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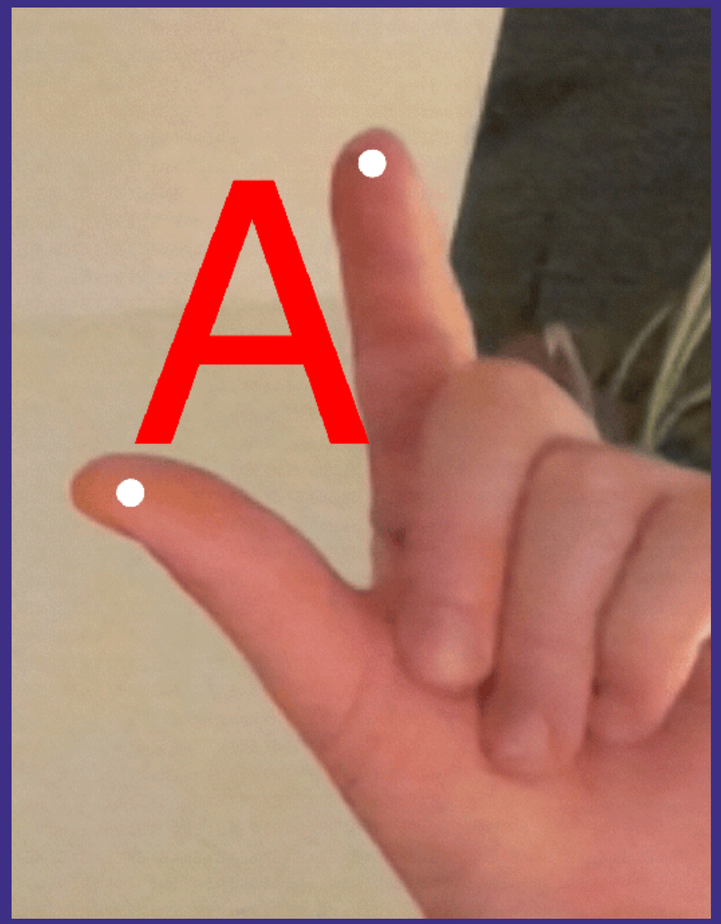
✌ input — interaction

→ we can measure the distance between two points to scale things



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✎ task (25 mins)

- ☞ copy example 06_image_drawer or 07_resize_letter
- ☞ experiment
- ☞ try out other points for scaling
- ☺ scale different things

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Thank you :-)

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