@ Yaya (ZIYI WANG) - 24009588

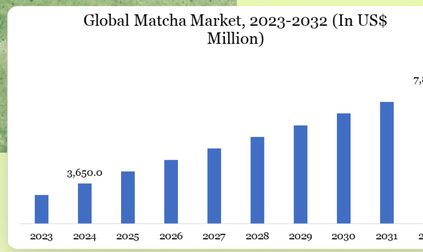


DRINKING THE GREEN

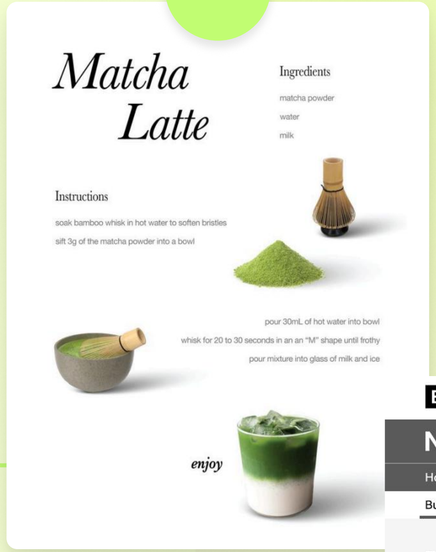
MATCHA

a global obsession





https://www.datamintelligence.com/research-report/matcha-market



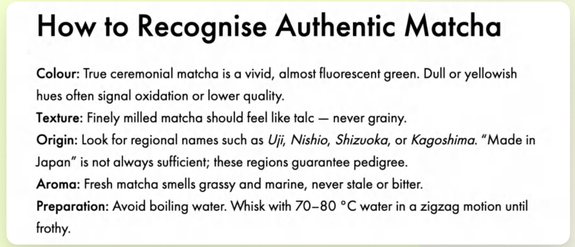
https://www.bbc.co.uk/news/articles/cgq7w1n00xeo



why matcha?

- **Inspired by news about global matcha shortages**

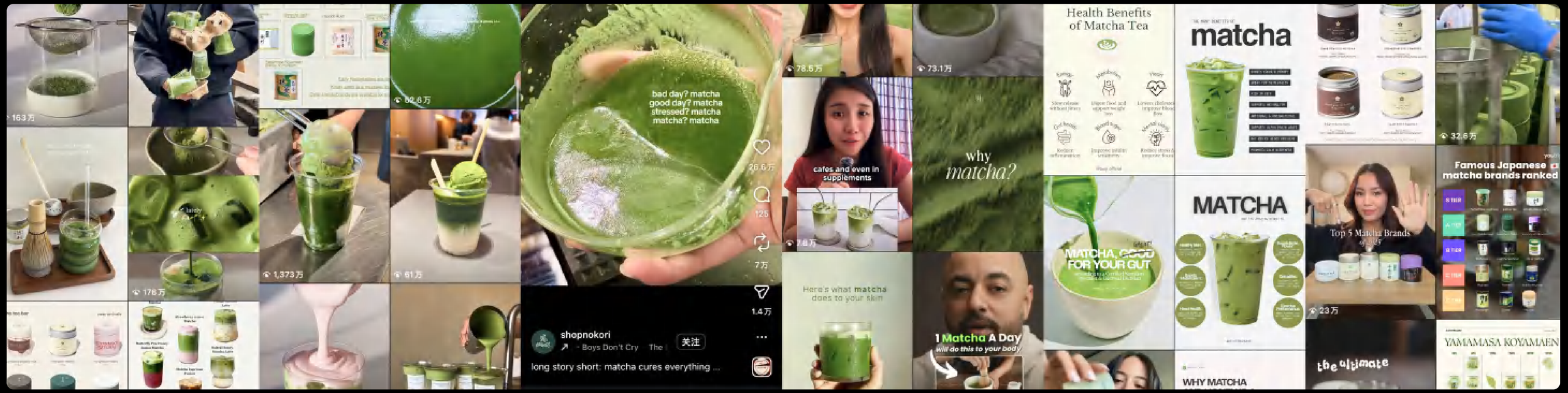
- **Matcha is no longer just a drink**
- **It has become a global visual and cultural symbol**



https://luxeat.com/blog/a-green-obsession-inside-the-global-matcha-boom/



SCREENSHOT FROM INSTAGRAM



MATCHA

a trendy symbol

“green, clean, calm, premium”

“Constantly aestheticized online”

“Consumed as lifestyle as much as taste”

THE CRITICAL TENSION

trendy symbol

consumerism

East Asia

the West

"labor"











"netural ? "









"aestheticzation"





"de contextualization"

"cultural commodification"

"authentic"
"premium"
"healthy"

who have authority to define ?

who profits from it ?

who is silenced ?



"the snobbery chain"



WHAT IS BEING CONSUMED?
A DRINK?
A RITUAL?
A STATUS SYMBOL?
AN IMAGE OF AUTHENTICITY?



@ Yaya (ZIYI WANG) - 24009588

FOR THESE TOPICS

“the snobbery chain”
“consumerism”
“de contextualization”
“trendy symbol”



I WANT PEOPLE TO TRIGGER PLAYFUL INTERACTIVE EFFECTS BY DRINKING A REAL CUP OF MATCHA.

CONCEPT

How I defined the concept

- Started from visual fascination
- Shifted toward critical consumption
- Focused on data, image, and performance



YOU ARE WHAT YOU CONSUME

WHY THE AUDIENCE HAS TO ACTUALLY DRINK ?

physical computing



NO BUTTON,
NO FAKE GESTURE,

I've tried many different interaction methods before, but none of them were as interesting as this idea.



REAL CONSUMPTION AS INPUT

I want the interaction to be genuine “consumption,” so the audience actually drinks a matcha latte through a straw.



THE BODY BECOMES PART OF THE SYSTEM

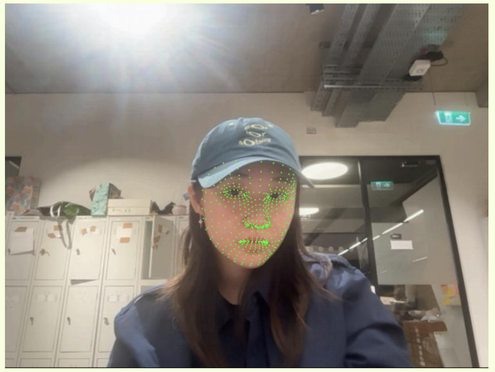
The physical action (drinking matcha latte through a straw) is not a simulation, but the work itself.

EARLY IDEAS AND TRY

Video-pixels



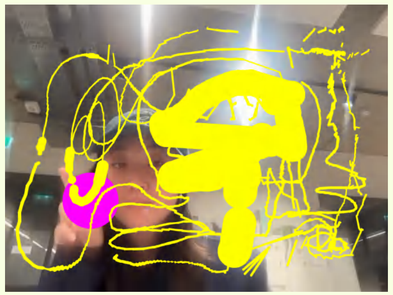
VIDEO INTERACTION



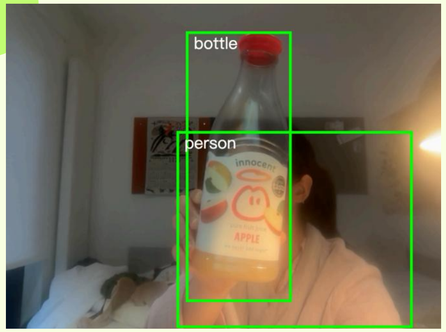
ml5.js FaceMesh

USE FACE TRACKING:
MAKE SOME COLD POCKER FACE CAN CREATE SOME CHANGES?

ml5.js
HandPose



HAND TRACKING:
OPTION-1. DRAW A ROUTE INTERACTIVELY?
OPTION-2. STIRRING GESTURE CONTROLS IMAGE?



ObjectDetection
ml5.js

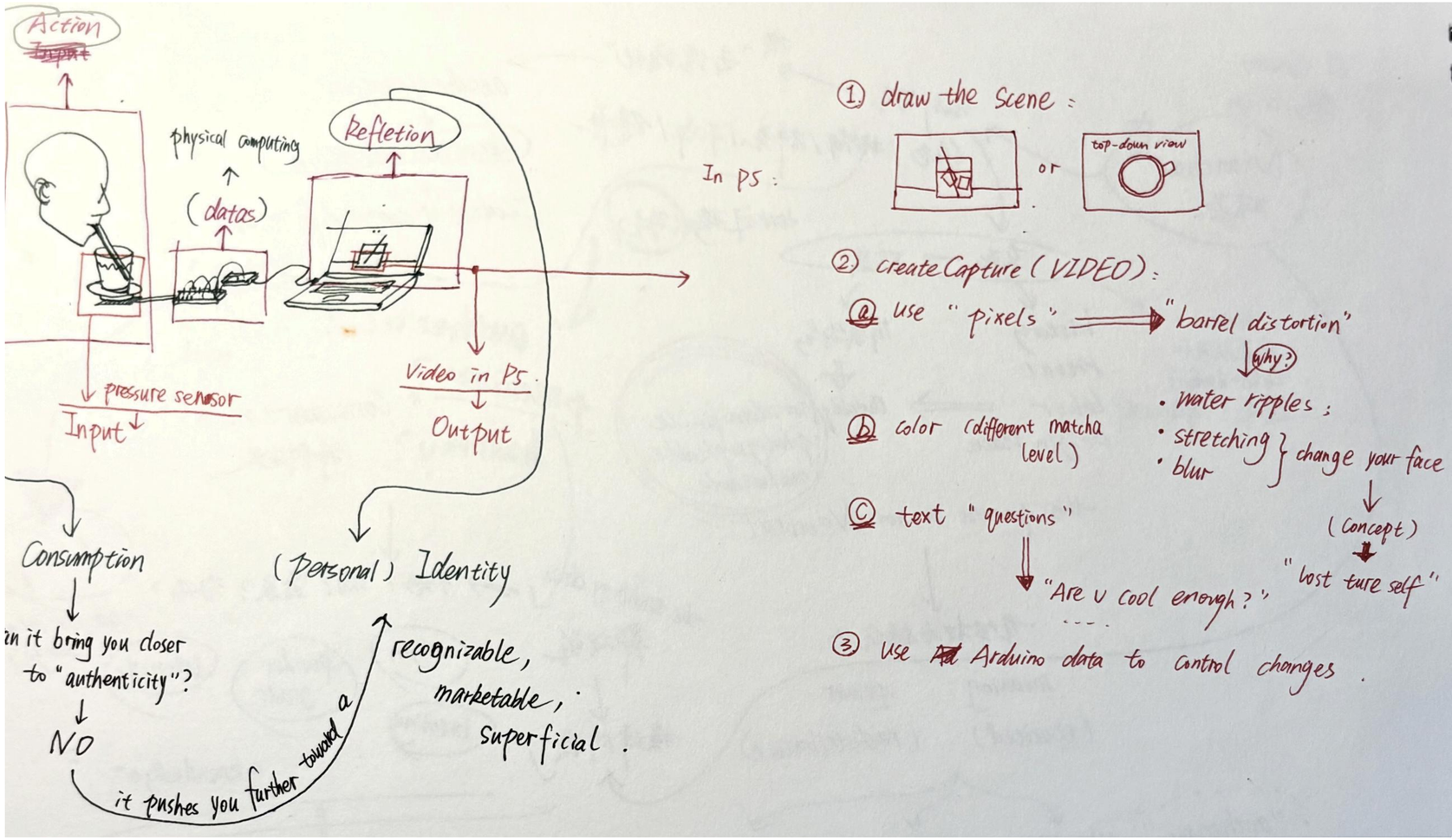
DETECT A CUP OF MATCHA?

FINAL INTERACTION LOGIC

ACTION
drink real matcha latte

DATAS
➔ pressure sensor
➔ Arduino serial data
➔ p5.js
➔
/video distortion
/ tint
/ pixelation
/ questions

REFLECTION



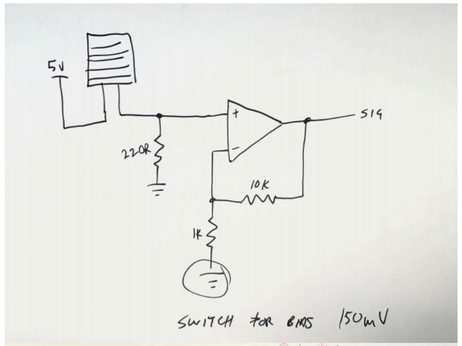
Final interaction system-SKETCH

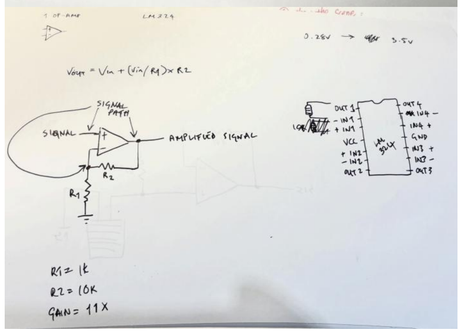


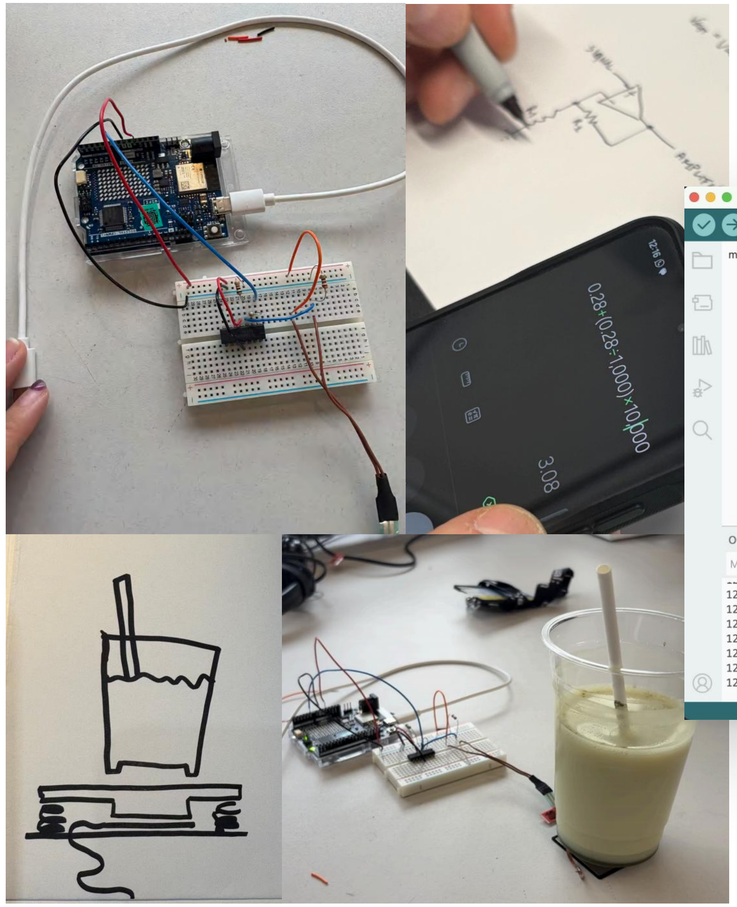
PHYSICAL TEST & SETUP

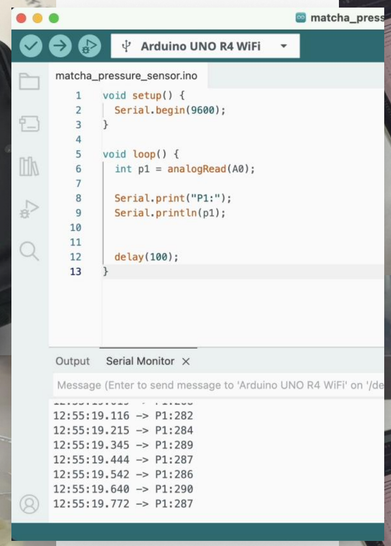
Arduino part

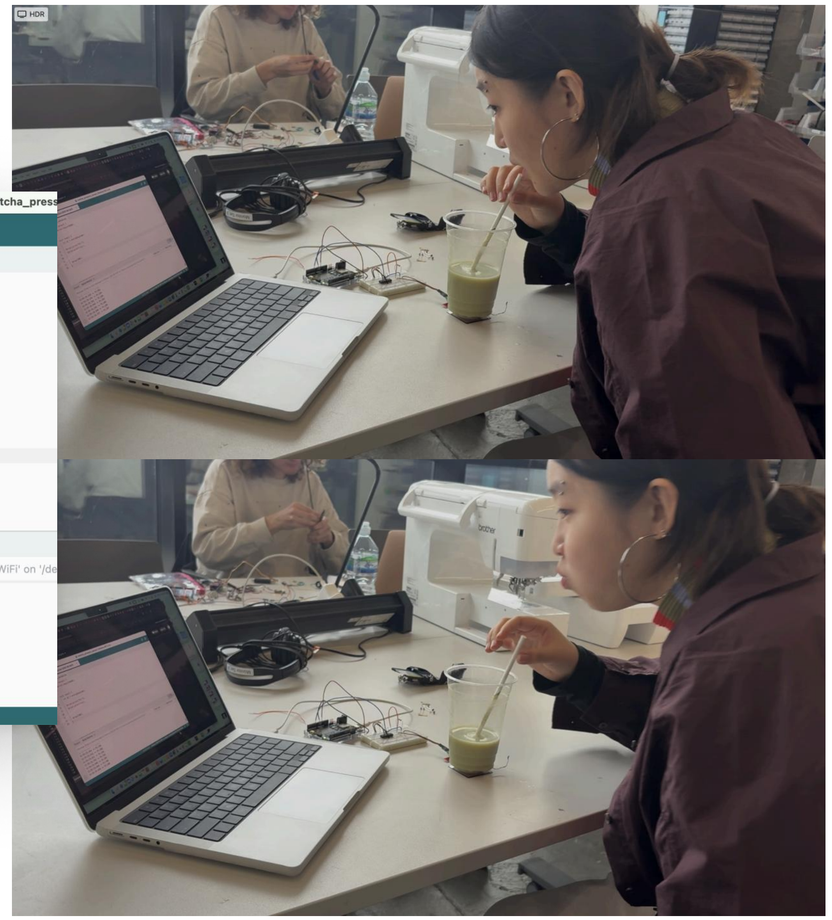
got data
-3/4 cup: around 500–600
-One sip: about 60–80 decrease









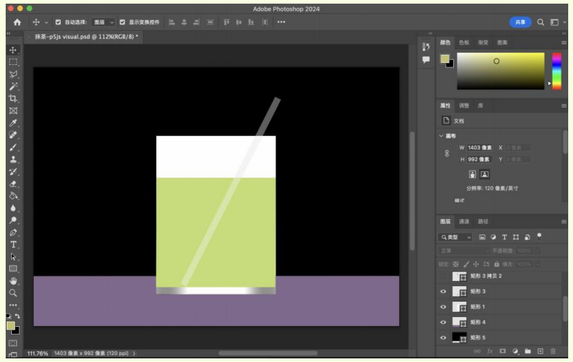


Challenge: Resolved the issue of pressure sensor data readings being unresponsive by utilizing the LM324 mode.

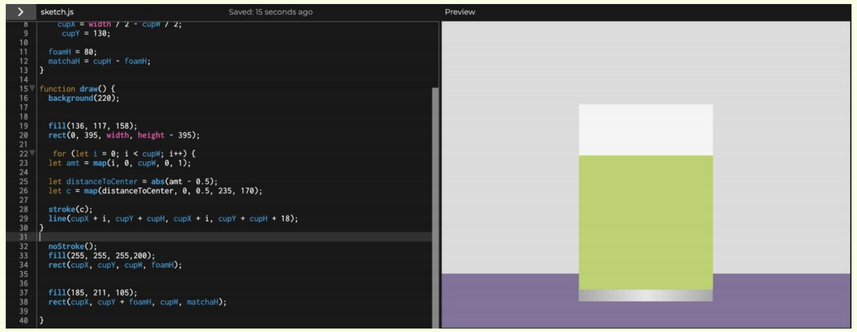
VISUAL TEST & SETUP

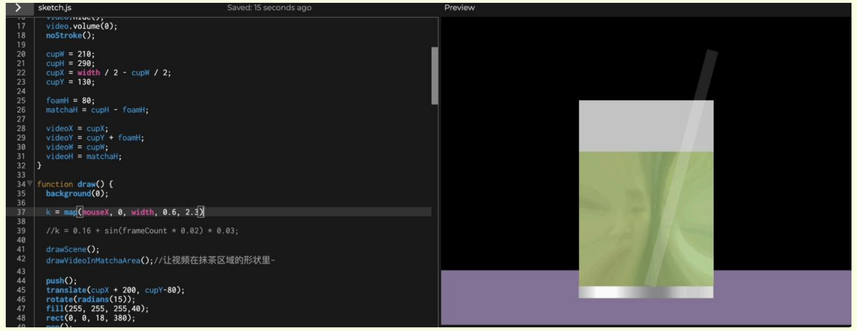
p5.js part

Code iteration
- Built cup structure and liquid area
- Mapped webcam into matcha area
- Adjusted barrel distortion to stay readable
- Connected serial data
- Triggered question bubbles on sip events



design the basic visual in **photoshop**





process will be explained after



What I did:
1.Webcam video placed inside the matcha area

2.Pixel blocks instead of full-resolution image

3.Gentle barrel distortion

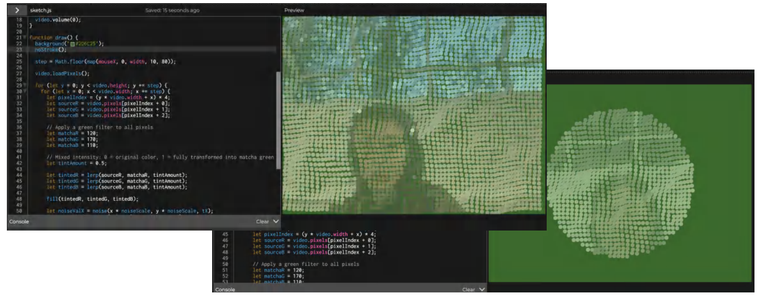
4.Matcha green tint (color)

CHALLENGES IN P5

1. barrel distortion



the example i found



```
video.loadPixels();

let cx = width / 2;
let cy = height / 2;
//Since barrel distortion is a type of distortion centered around the focal point, we define the canvas center point here.
//因为 barrel distortion 是一种以中心为基准的变形。所以在这里定义定义画布中心点。


//Use the image radius for normalization.
// 用画面半径做归一化
let maxR = dist(0, 0, cx, cy);


//For example, if step = 12, then: x: 0, 12, 24, 36...; y: 0, 12, 24, 36... This creates a simple pixelated style rather than a high-definition image. (I want to blur the video while still allowing viewers to recognize themselves.)
//这里比如 step = 12，那就是：x: 0, 12, 24, 36...; y: 0, 12, 24, 36...这样可以形成一种简单的 pixel 风格，而不是高清图像。(我想模糊视频但又可以让观众看到自己)
for (let y = 0; y < height; y += step) {
  for (let x = 0; x < width; x += step) {

    let dx = x - cx;
    let dy = y - cy;
    //Distortion is not about “where this point is on the canvas,” but rather “how far this point is from the center and in which direction.” Therefore, dx and dy represent the horizontal or vertical offset, respectively.
    //distortion 不是看“这个点在画布哪里”，而是看“这个点离中心有多远，方向是什么”，所以里的 dx,dy分别为左右或上下偏移了多少
    let dr = dist(x, y, cx, cy);
    let rn = dr / maxR;   // 归一化到 0~1
    //let r2 = dx * dx + dy * dy;
    //Here we calculate how far a point is from the center using the distance formula (distance = sqrt(dx*dx + dy*dy)), where we directly use r².
    //The larger r², the closer the point is to the edge; the smaller r², the closer the point is to the center.
    //这里在计算点离中心有多远，距离公式（distance = sqrt(dx*dx + dy*dy)），这里直接用r²。
    //r2 越大，说明这个点越靠边缘；r2 越小，说明这个点越靠近中心。

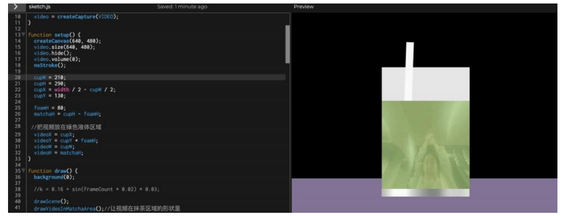

    let factor = 1 + k * rn * rn;
    //let factor = 1 + k * r2;// barrel distortion!!!!!

    let srcX = cx + dx / factor;
    let srcY = cy + dy / factor;
    //Because the larger the factor, the smaller dx / factor becomes. For example, originally: dx = 200. If factor = 2, then dx / factor = 100. This means that instead of sampling the color at a position 200 units from the center, we now sample the color at a position 100 units from the center.
    //Therefore, the outer areas receive more saturated colors, which can create a visual effect of “stretching/bulging.”
    //因为 factor 越大，dx / factor 就越小。比如原来：dx = 200，如果 factor = 2，dx / factor = 100，也就是说，本来离中心 200 的位置，现在去采样“离中心 100”的颜色。
    //所以外面的区域拿到了更靠里的颜色，这可以导致“拉伸 / 鼓起”的视觉效果。

    let ix = floor(srcX);
    let iy = floor(srcY);

    //The pixel formula taught in class
    let index = (iy * video.width + ix) * 4;
```

I've figured out the code logic for **barrel distortion**.







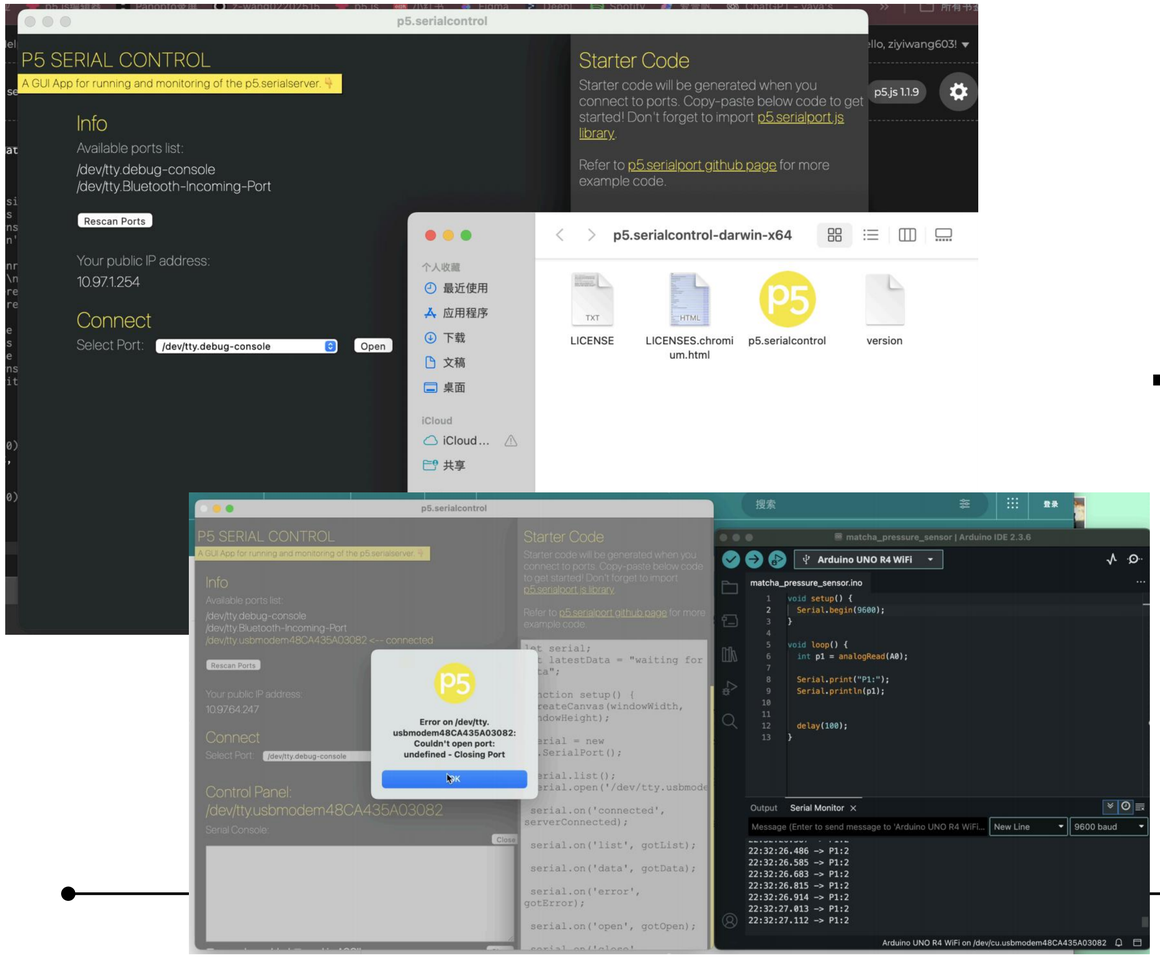
code learning from class:
Webcam Sample Pixels: Motion

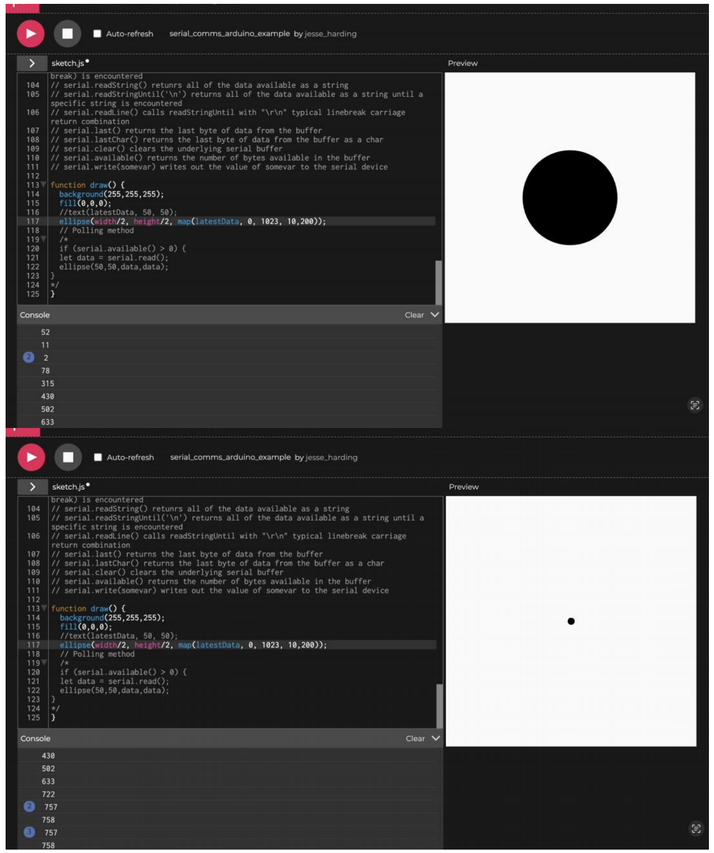
Applied in live webcam

CHALLENGES IN P5

2. p5.serialport

code learning from YouTube:
Connecting p5 & Arduino through the serial port





I've figured out: you **CANNOT** open the p5 serial control and Arduino together!

Connection successful!!! Try **mapping the read values** and then controlling the size of a ellipse.

INTERACTION RULE

Main rule
reflection

The more the audience drinks:

➔ the image becomes more pixelated

➔ more distorted

➔ more matcha-colored
Arduino serial data



WHY THIS MATTERS
CONCEPTUALLY
CONSUMPTION DOES NOT
REVEAL THE SELF
IT ABSTRACTS
IT STYLIZES
IT COMMODIFIES



DEVELOPMENT

➔ + text

Why I chose questions instead of explanation

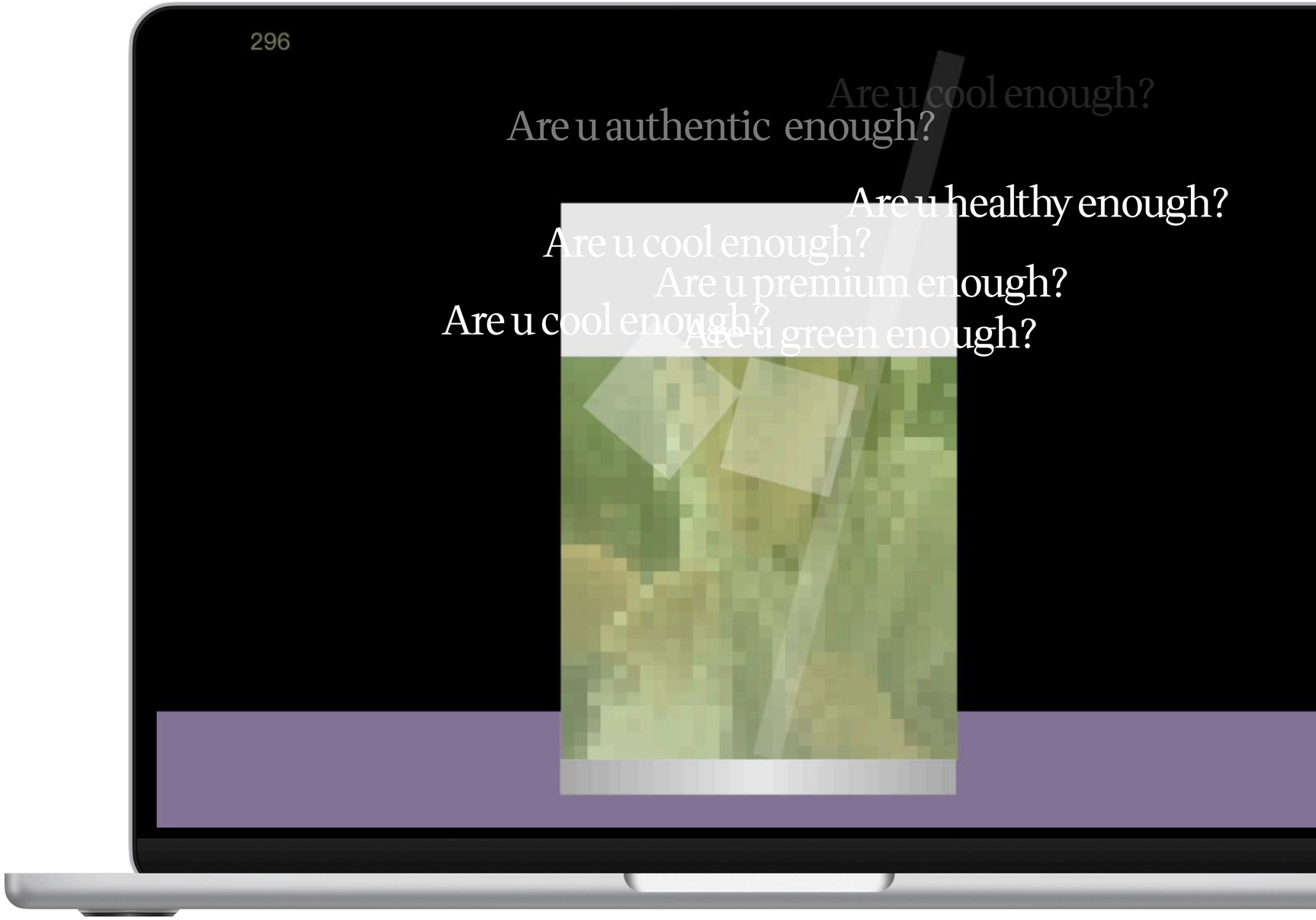
- Less didactic
- More uncomfortable

➔ + sound

From serene and elegant ambient music, meditation

tracks to

ads sounds, social media promotional video audio, matcha tutorial audio, and more.



SUM



MATCHA AS IMAGE,
NOT ONLY DRINK
CONSUMPTION AS PERFORMANCE
DATA AS A TOOL OF CRITIQUE

24009588





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