

Athena Hackathon 2022

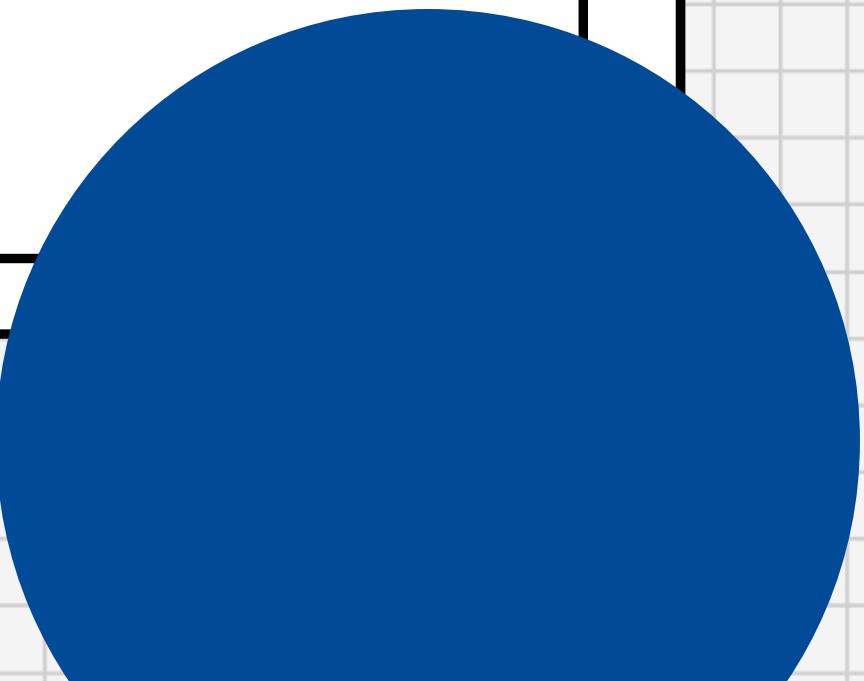
Search



ooo

+

School of Code
Girls

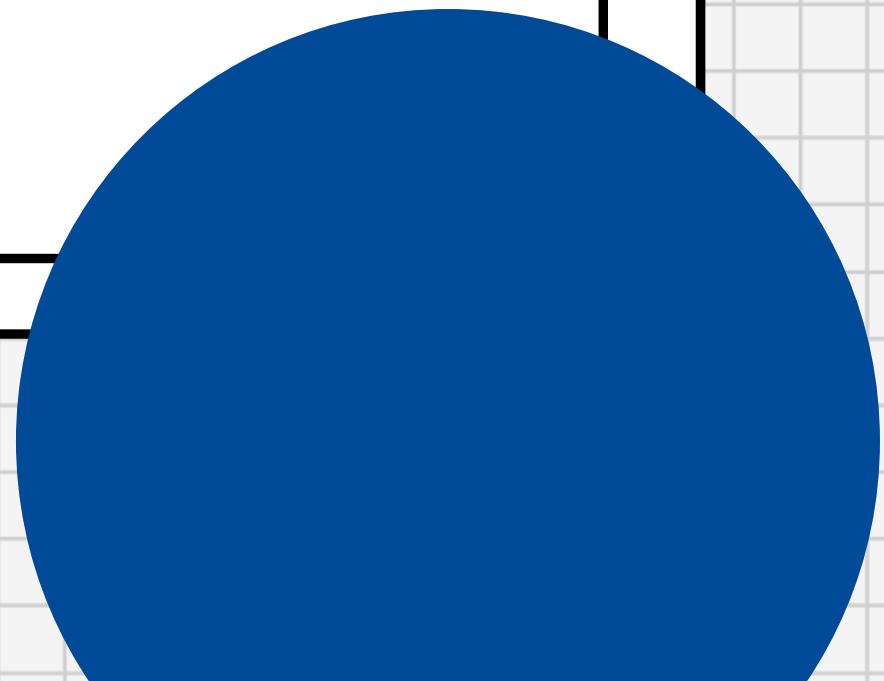


School of Code Girls

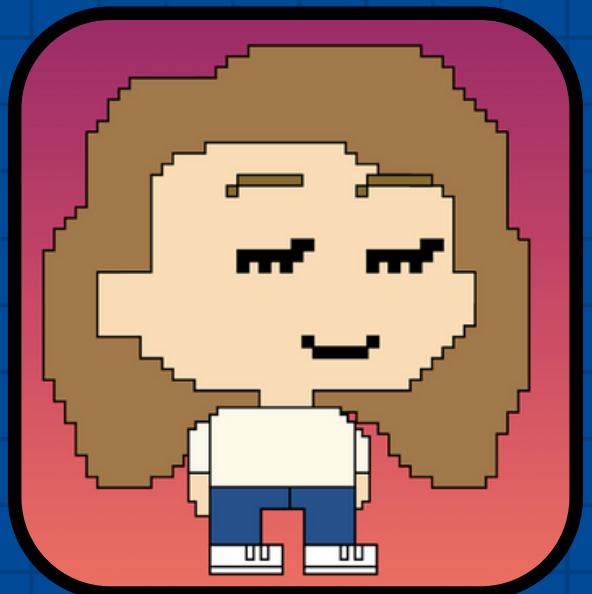
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Lloyds Banking Group:
Making Technology more
Accessible



Our Team!



Cloe Hotham



Maria Moller



Raina Blackett



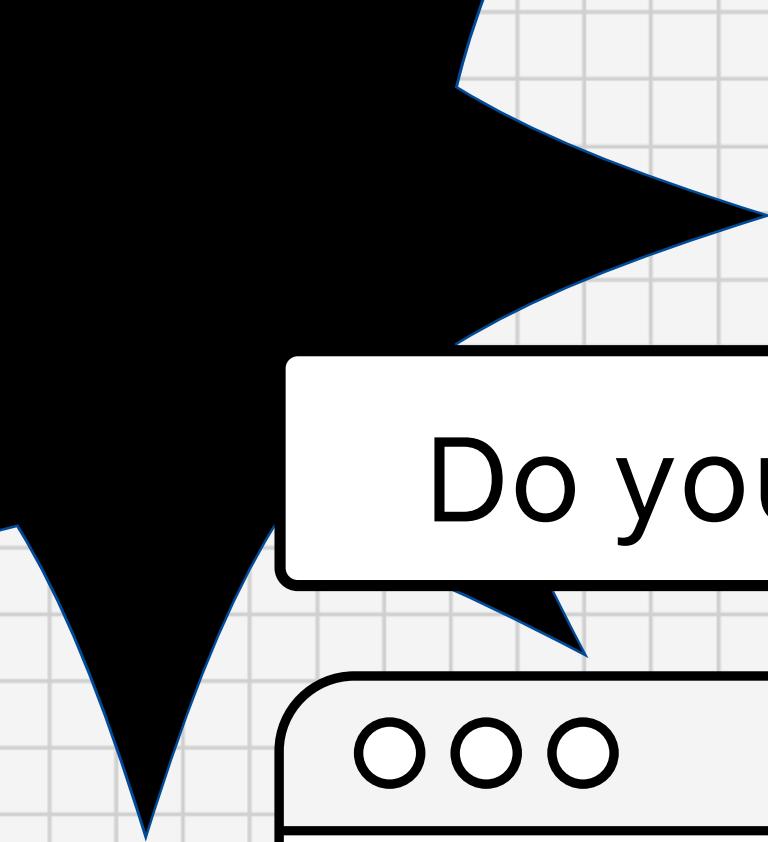
Samantha Wu



Simran Toor

School of Code
Bootcampers

Week 7

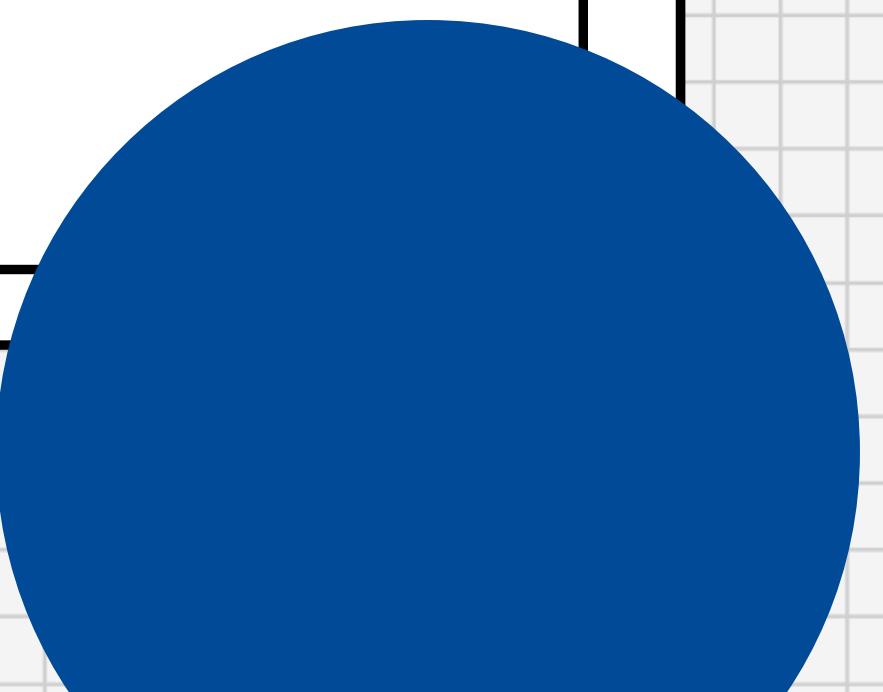


Do you know what it is?

Search



Neurodiversity



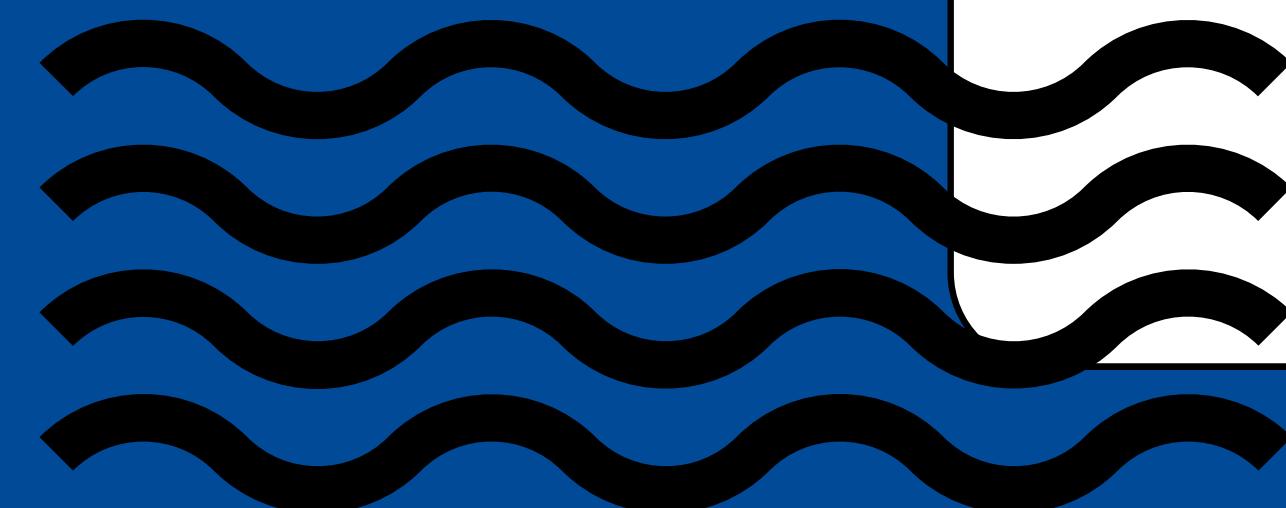
What is **neurodiversity**?



- it's normal and acceptable for people to have **brains that function differently** from one another.
- There is nothing wrong or problematic when **some people don't operate similarly to others**, neurodiversity embraces all differences



- **Autism (ASD)**
- Attention Deficit / Hyperactivity Disorder (**ADHD**)
- **Dyslexia**.
- Dyspraxia (Developmental Coordination Disorder **DCD**)
- **Dyscalculia**
- and many others!



Bombastic facts

it is estimated that around

1 in 7 people

(more than 15% of
people in the UK)

are neurodivergent



**3 / 5 of us are
neurodivergent!**



Maybe you are **neurodivergent**, meaning that your brain functions, learns, and processes information differently.

Faced Problems

What are the biggest problems, and how to be more inclusive?

Neurodiversity awareness

Lack of awareness about disability law

Tackle shame associated with asking for and needing help

Dispel media stereotypes

Gender differences in neurodiversity

Being dismissed

How to bring awareness without that being taxing to neurodiverse people

Initial Brainstorm Ideas

Google extension to aid web accessibility

An app to educate people on neurodiversity

Create something that allows others to relate to the neurodiverse experience

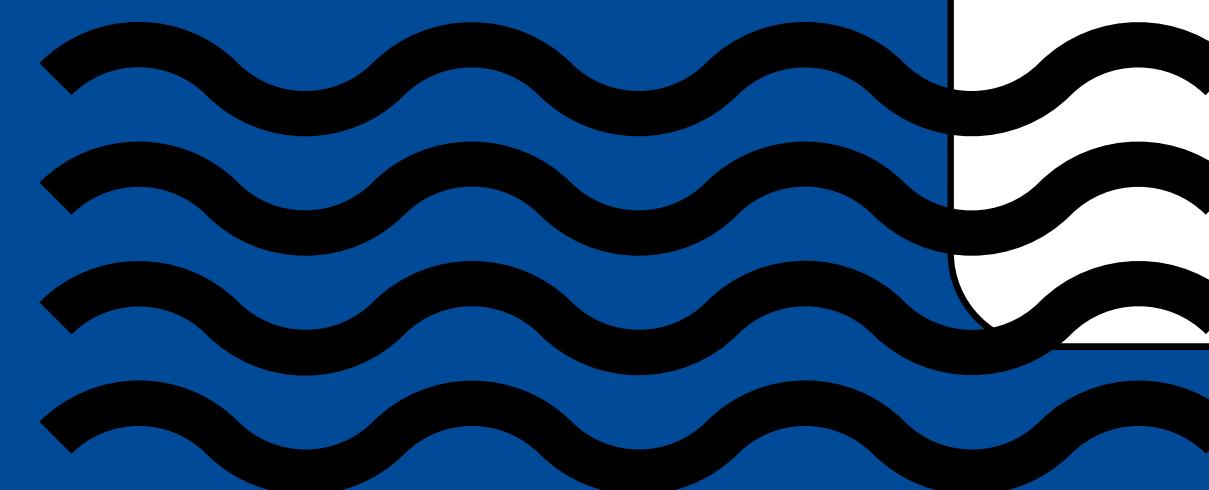
To evoke empathy in a genuine way without relying on inaccurate stereotypes or misrepresenting neurodiversity

Refined Goals

- How can we educate people about neurodiversity without putting the onus to educate on neurodiverse people?
- How can we make people care about neurodiversity in the way they care for their friends?

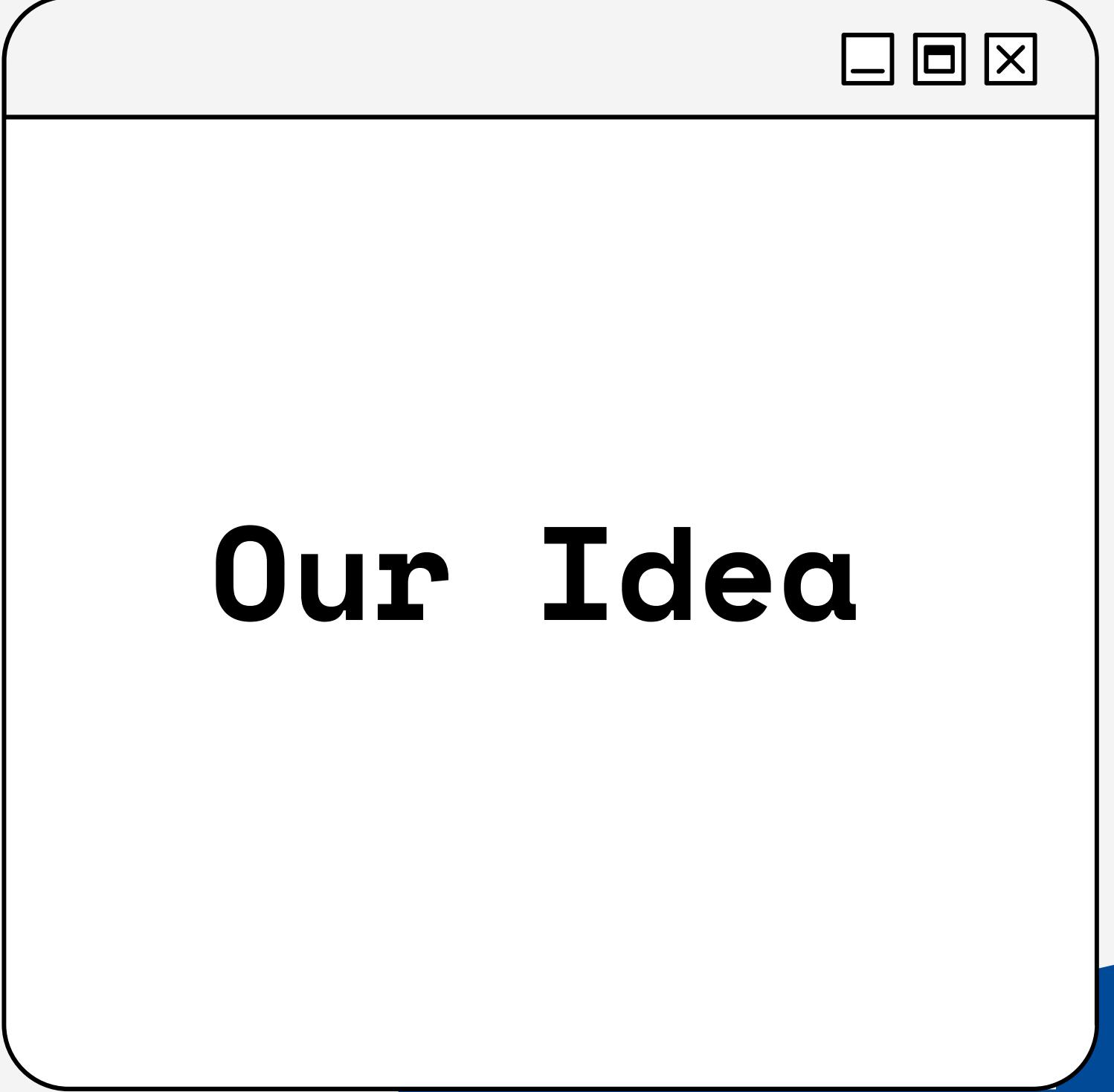


- A member of our team learned about Autism through her autistic friend...
- This made us think that we need to create something that enables people to empathise and care for neurodiverse people whether they know neurodiverse people or not...





**why not gamify
learning?**



Our Idea

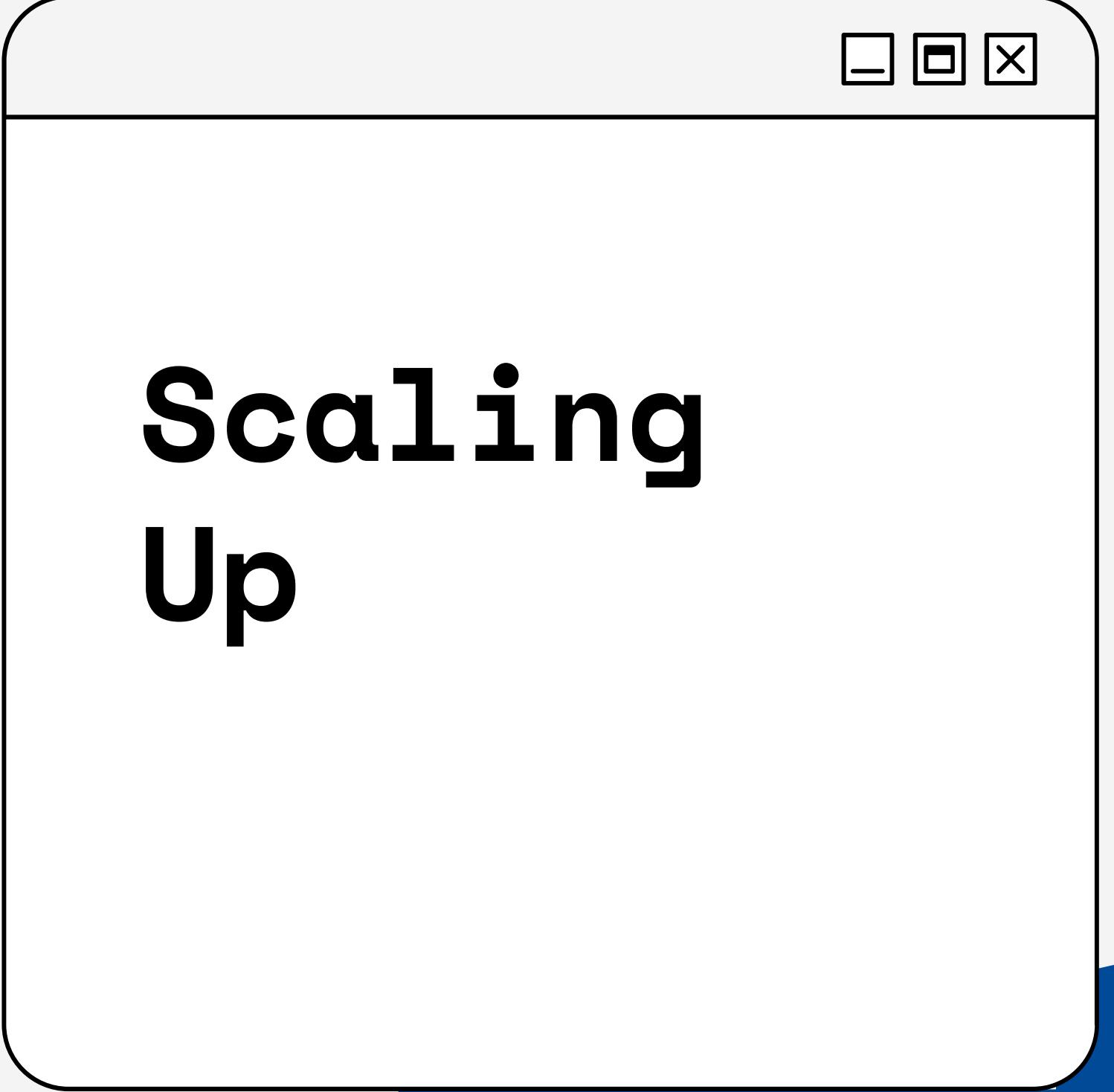
- To create a game that simulates the experiences and struggles that neurodiverse people regularly face
- Gameify these challenges

Our Intentions

- To connect with the character and learn about neurodiversity in this way

Things to Avoid

- We didn't want to perpetuate harmful stereotypes.
- We didn't want to make an explicitly neurodivergent game



Scaling Up

- In a full version, the game would follow the life of a neurodiverse character from youth to adult life
- There would be battle levels at all stages of life as the character grows up and develops in the game

Scaling Up

- The process of self-discovery as a mystery

ideas for other levels in
the game as the main
character develops

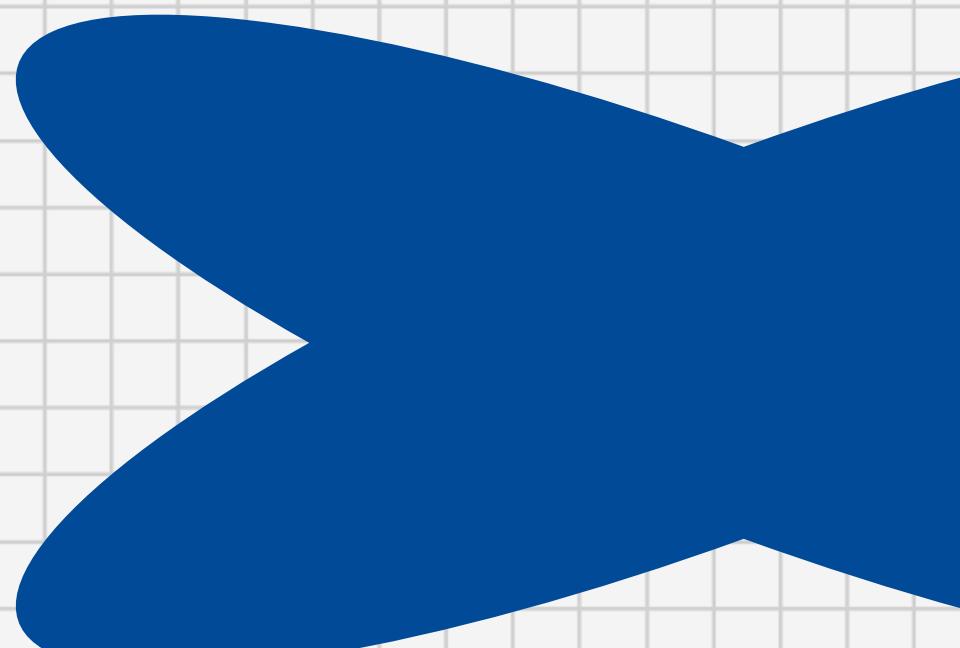
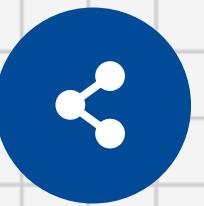
Other Game Levels

+ Work / Interviews

+ Social settings

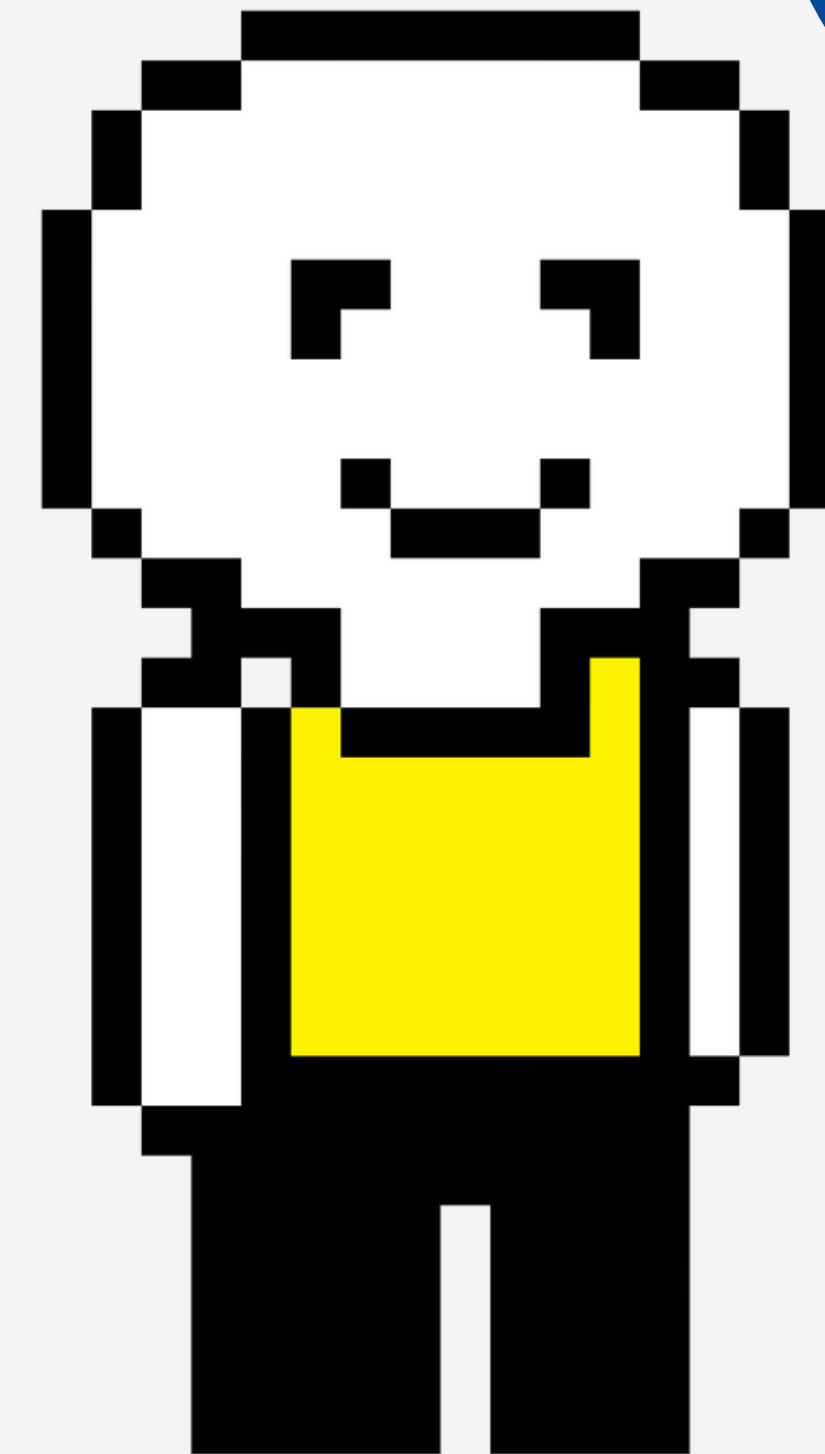
+ Relationships

+ Hobbies and Special Interests



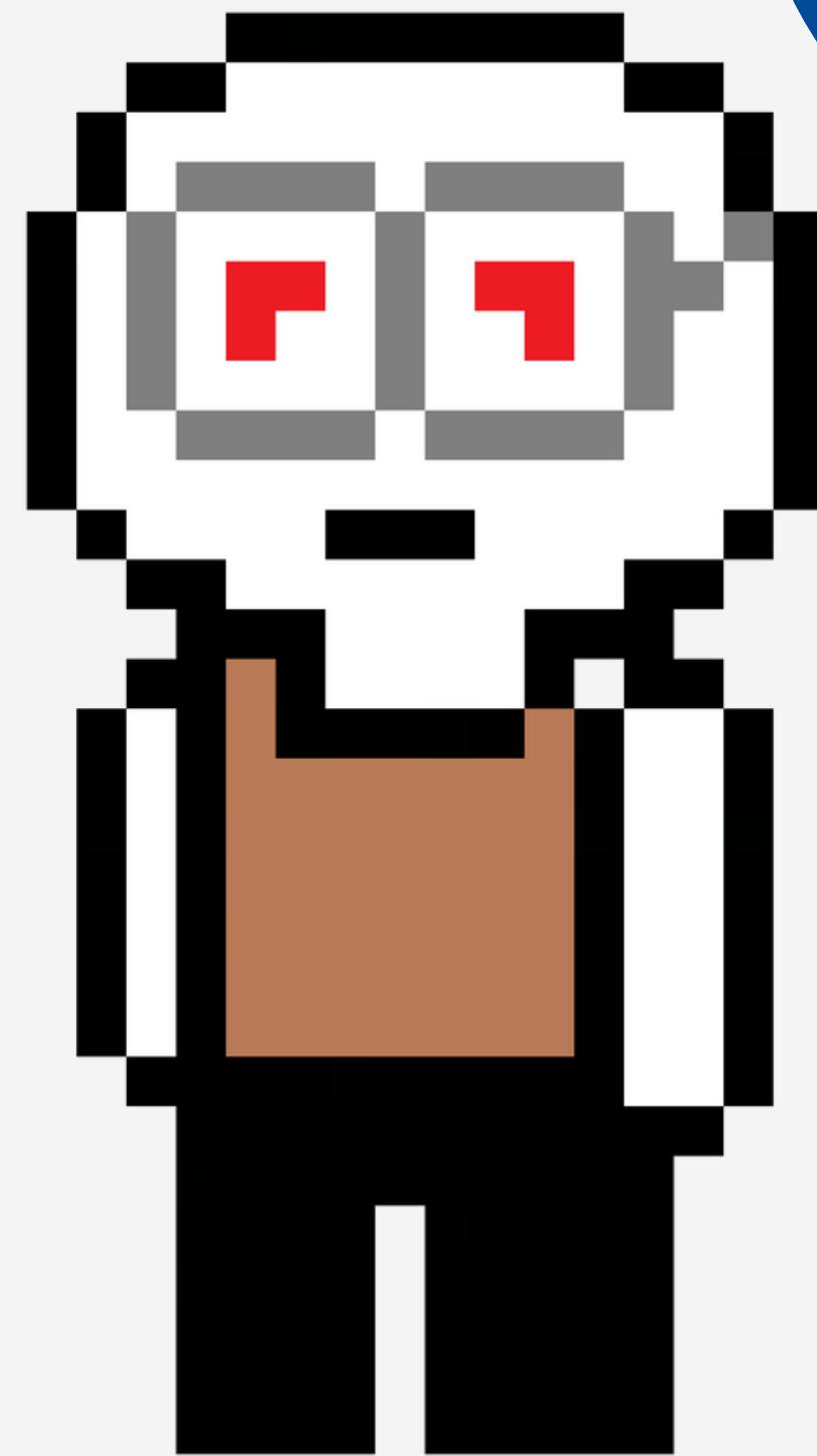
The Main Character

- Gender-neutral character - inclusivity
- (stereotyped to be male) neurodivergent women are overlooked and don't receive the support they need
- We didn't want to perpetuate these stereotypes in our game

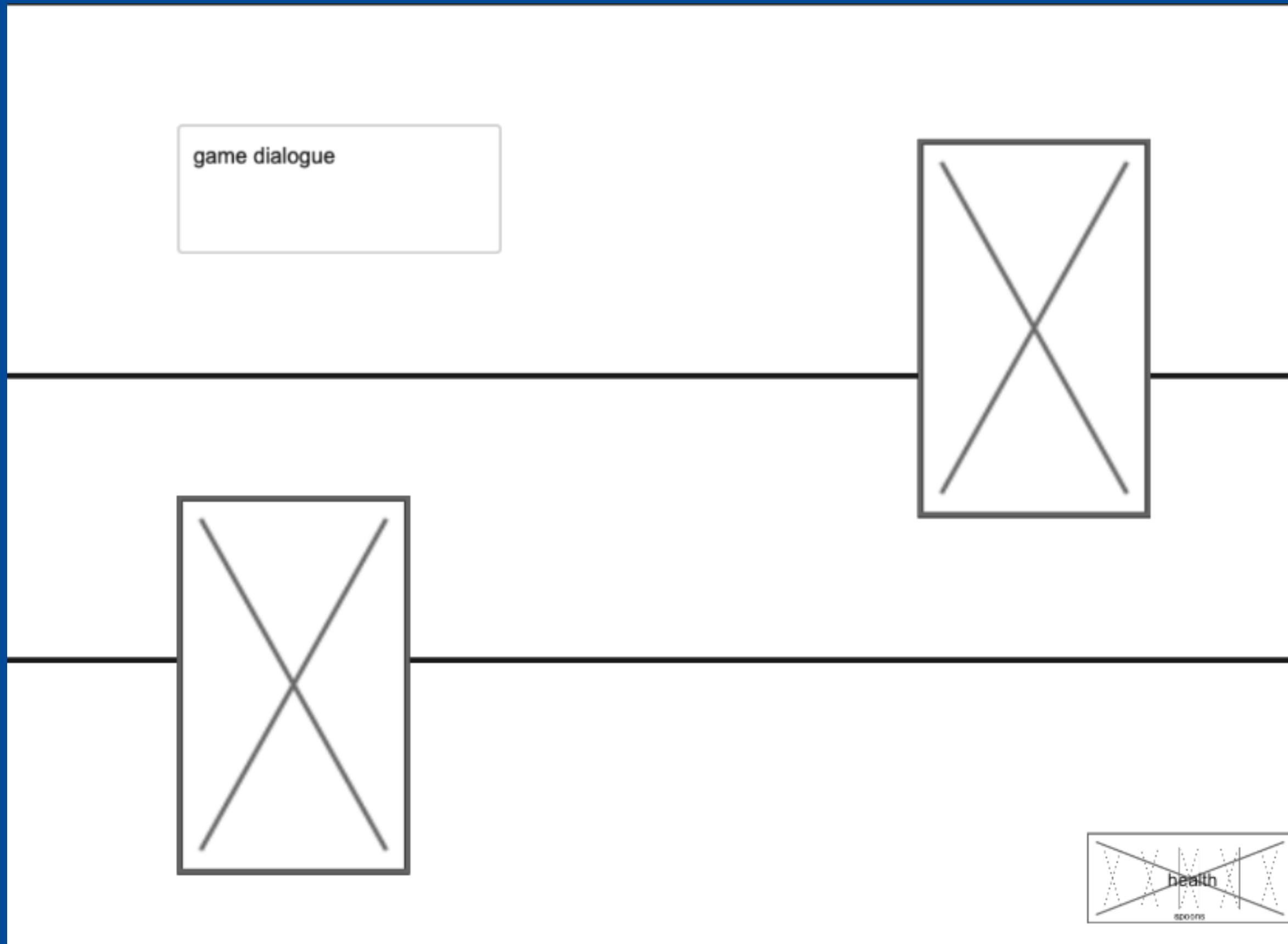


Look & Feel

- Classic 8-bit design style

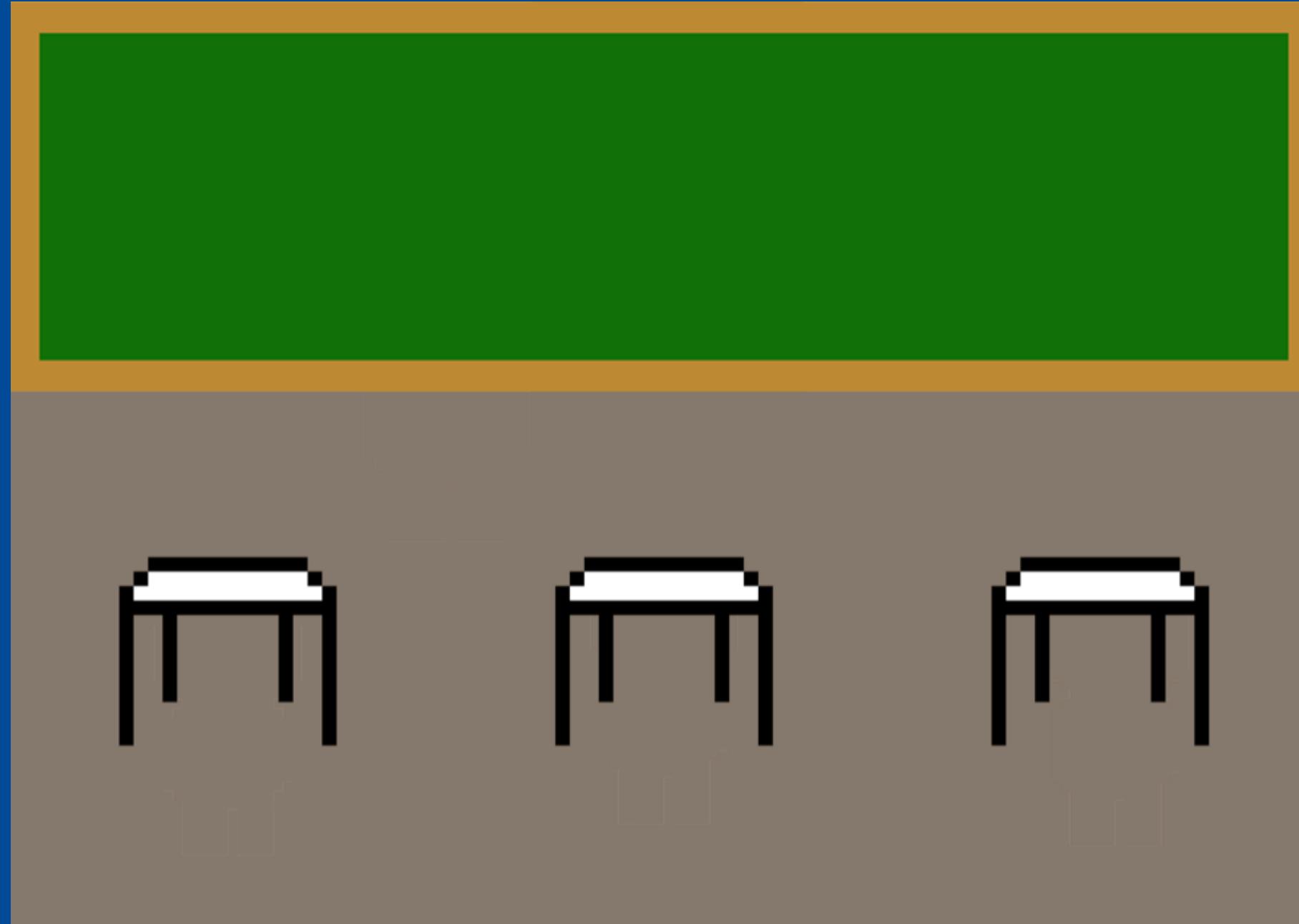


Wireframes & Mockups



MVP Mockup

Setting#1



Rationale



- We chose school as our first setting as schools are often the first, most challenging situations that neurodiverse people encounter

MVP Mockup

Setting#1



Context



- This scene explores the difficulty of being called on in class - this can be an extremely anxiety inducing situation for many neurodivergent people
- Also explores the difficulty in establishing and maintaining eye contact

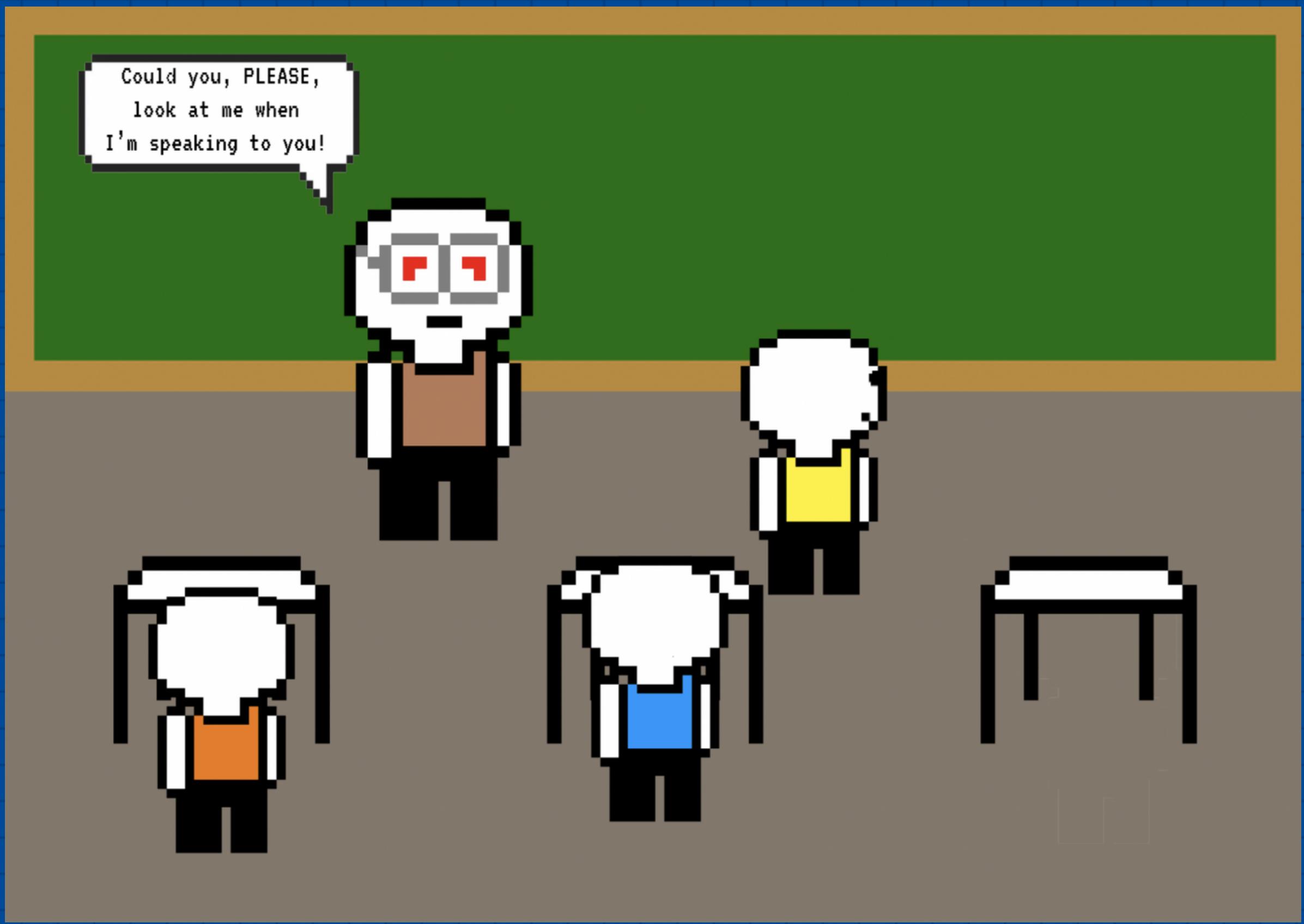
Being called . . .



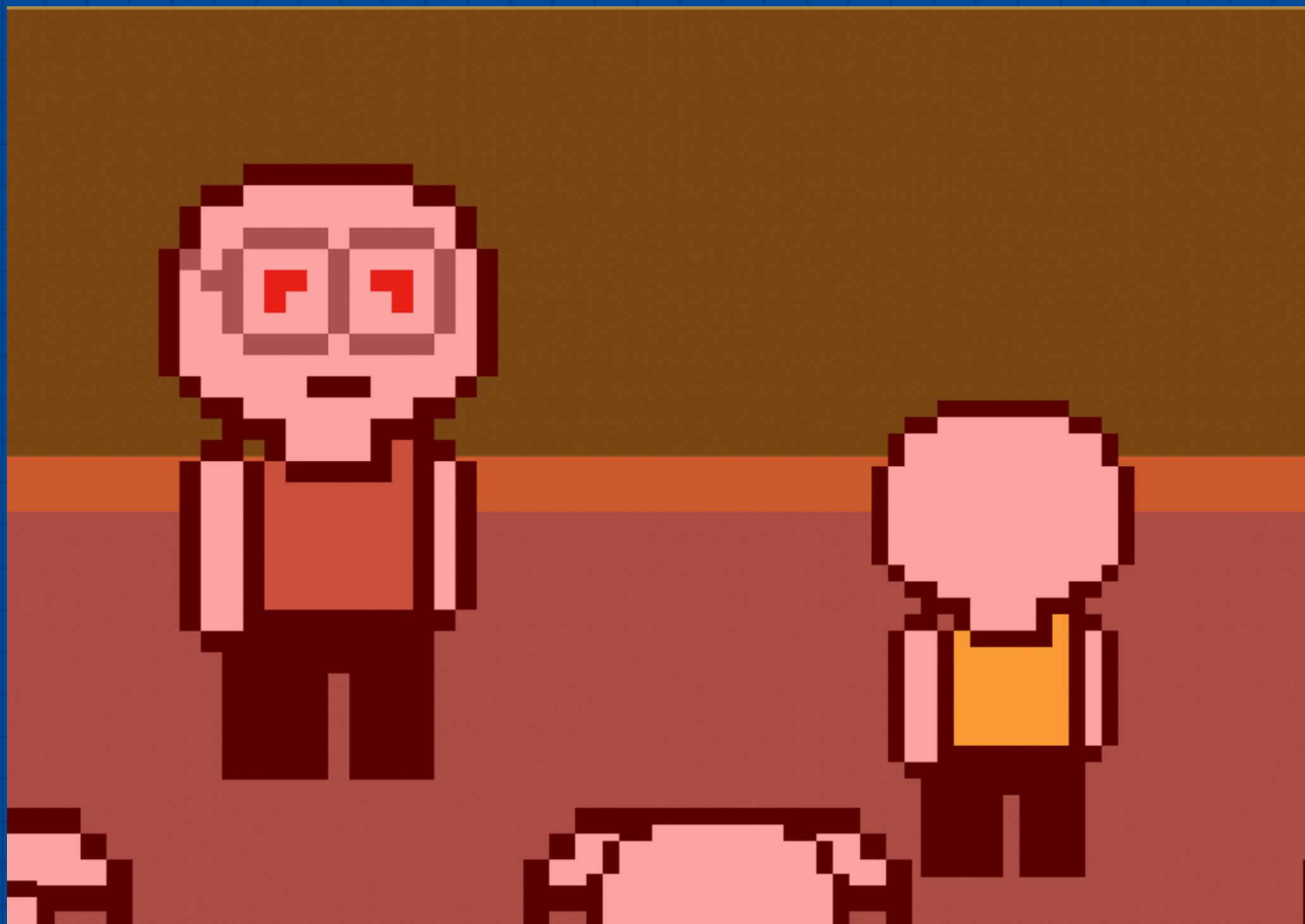
...in front of everyone...



Eye contact...

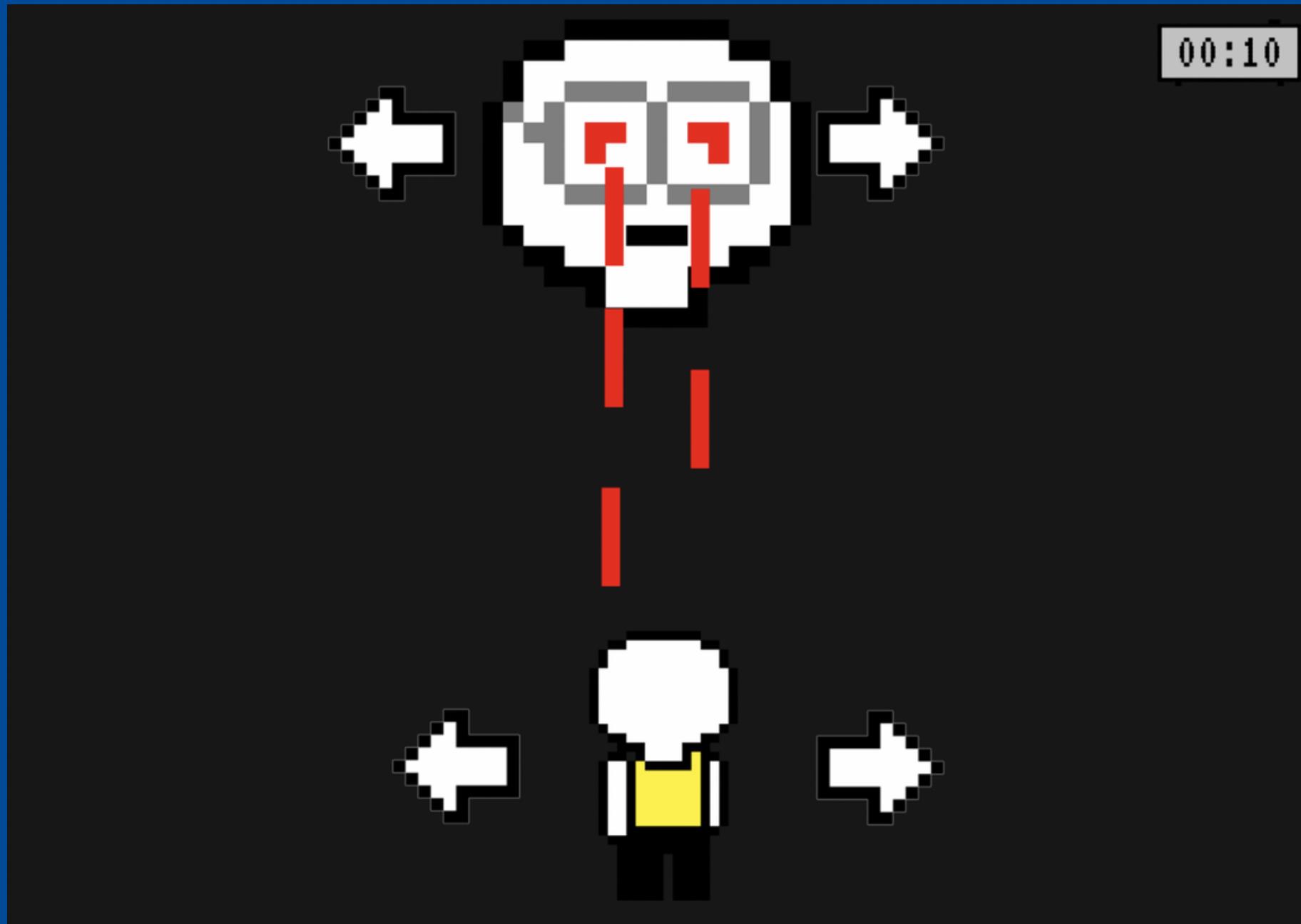


Panic moment



MVP Mockup

Phase 1



Phase explanation

- At this point, the game goes into battle mode, where the main character battles the difficulty
- For this mockup, the teacher has lazer eyes to represent the intense difficulty with eye contact

Game Health

Spoons

Spoon Meter

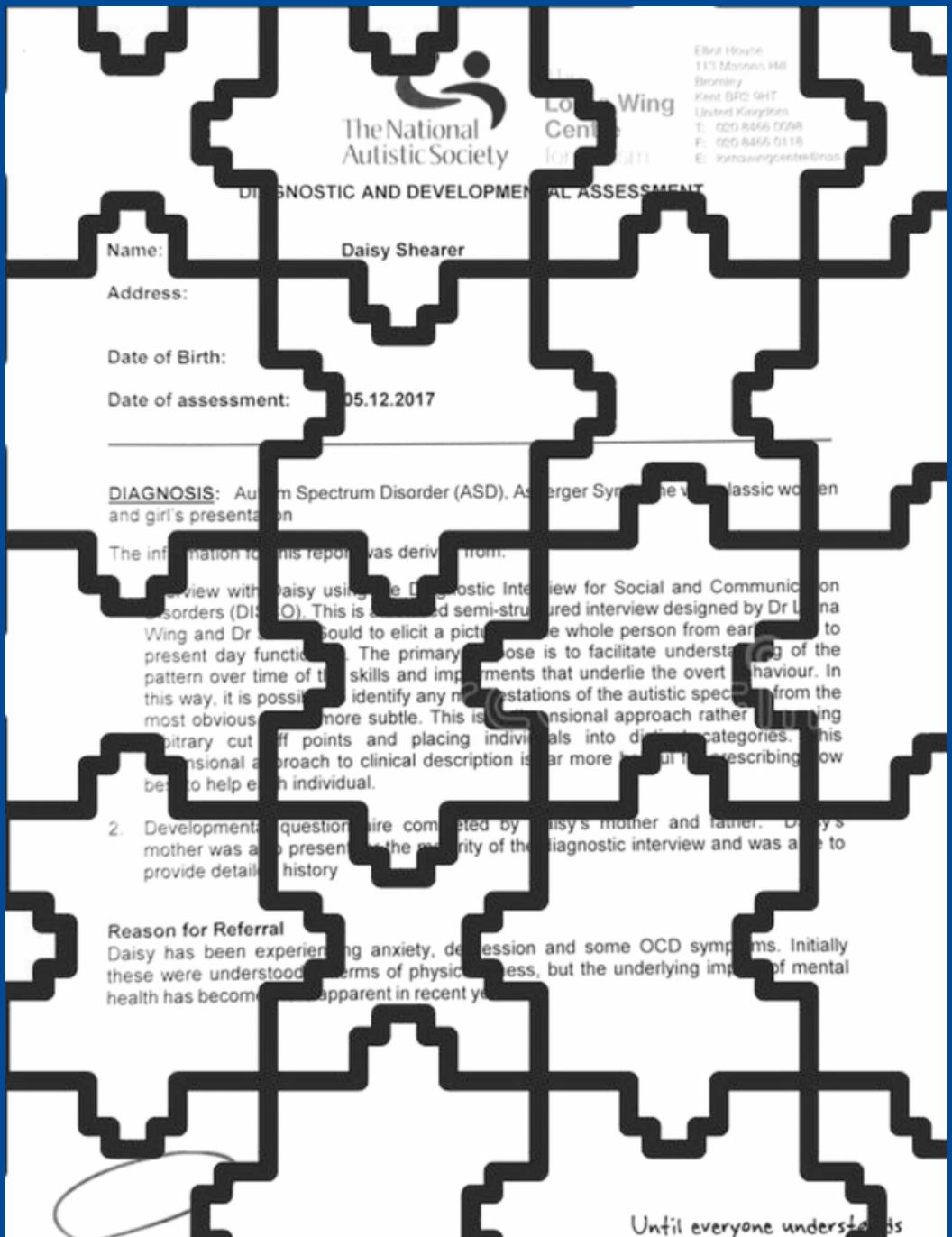


What are Spoons?

- In the neurodivergent community (and other communities!) the concept of spoons is used to represent the amount of mental or physical energy a person has available for activities and tasks
- We used this spoon metaphor to represent our character's game health

Reward of each phase

Puzzle



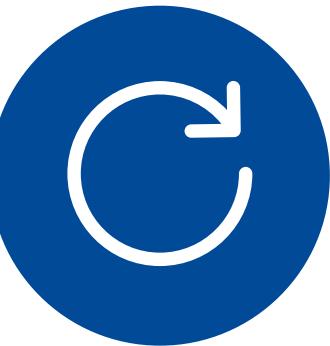
Diagnosis letter



- In each phase you get one piece
- the puzzle at the end explains that the game is what neurodiverse people struggle with on a daily basis

Until everyone understands

Points we tried to keep in mind



1

UNIQUENESS:

- No games for all ages
- Just for kids/ question games.
Boring.

2

VIABILITY:

- Simple game but interesting
- Marketing via game /neurodiversity influencers

3

HIT THE BRIEF:

- Accessible and inclusive for all diverse people
- Make awareness about what is, bringing great skills

FUNCTIONALITY:

game.html - Attached location

```
game.html X README.md
```

```
game.html > ...
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta http-equiv="X-UA-Compatible" content="IE=edge">
6 </head>
7 <meta name="viewport" content="width=device-width, initial-scale=1.0"/>
8 <style>
9 canvas {
10   border:1px solid #d3d3d3;
11   background-color: #f1f1f1;
12 }
13 </style>
14 </head>
15 <body onload="startGame()">
16   
17   
18 <script src="game.js"></script>
19 </body>
20 </html>
```



game.html - Attached location

```
game.html X game.js M README.md
```

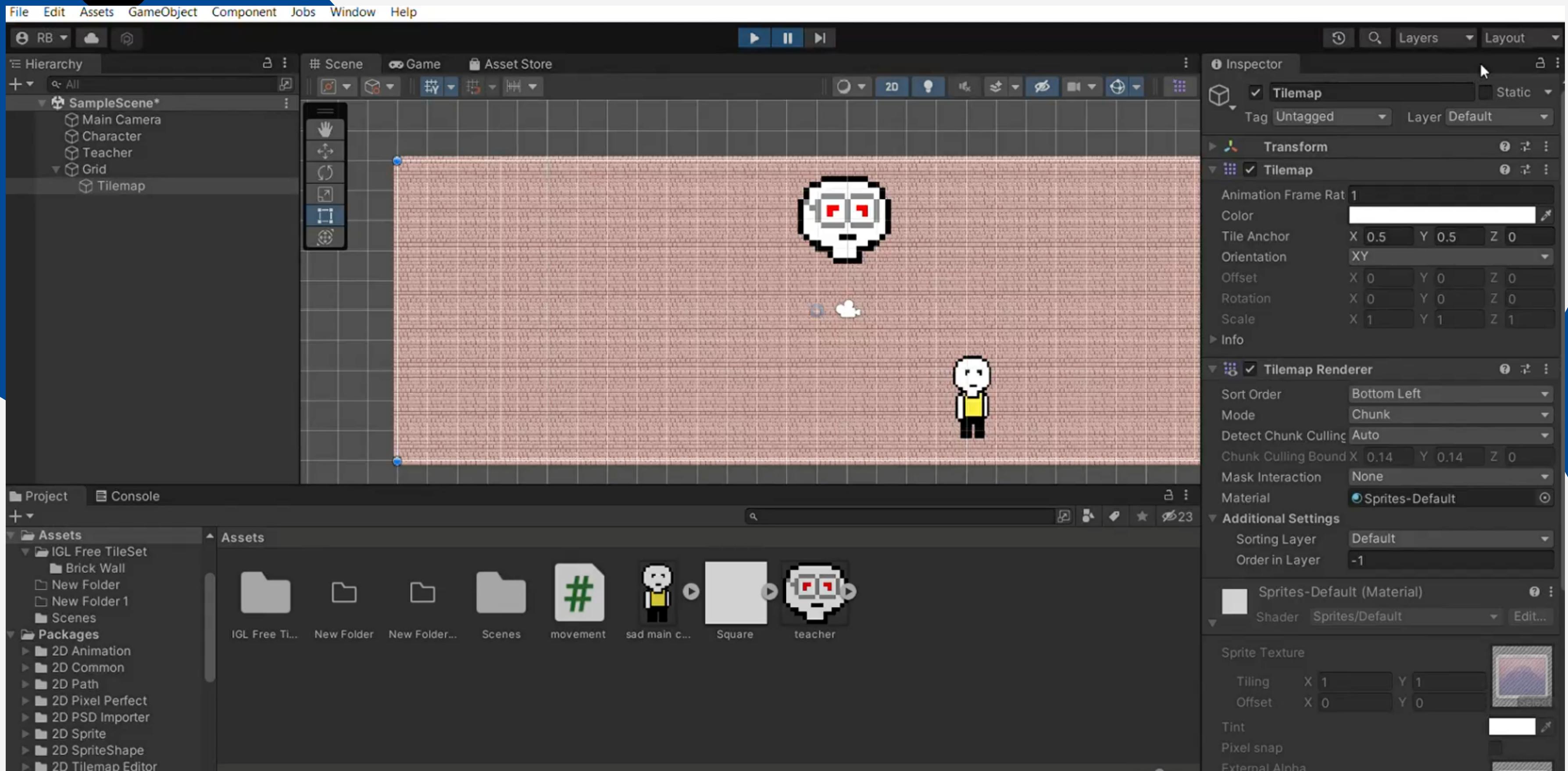
```
game.js > ...
1 let playerGamePiece, teacherGamePiece;
2 const mainChar = document.querySelector(".main-char");
3 const teacher = document.querySelector(".teacher");
4
5 function startGame() {
6   playerGamePiece = new component(50, 50, "green", 650, 425);
7   teacherGamePiece = new component(100, 100, "red", 10, 10);
8   myGameArea.start();
9 }
10
11 let myGameArea = {
12   canvas: document.createElement("canvas"),
13   start: function () {
14     this.canvas.width = 1350;
15     this.canvas.height = 500;
16     this.context = this.canvas.getContext("2d");
17     document.body.insertBefore(this.canvas, document.body.childNodes[0]);
18     this.interval = setInterval(updateGameArea, 20);
19     window.addEventListener("keydown", function (e) {
20       myGameArea.key = e.keyCode;
21     });
22     window.addEventListener("keyup", function (e) {
23       myGameArea.key = false;
24     });
25   },
26   clear: function () {
27     this.context.clearRect(0, 0, this.canvas.width, this.canvas.height);
28   },
29 }
30
31 function component(width, height, color, x, y) {
32   this.width = width;
33   this.height = height;
34   this.x = x;
35   this.y = y;
36   this.bounce = 1;
37   this.gravitySpeed = 0;
38   this.update = function () {
39     ctx = myGameArea.context;
40     ctx.fillStyle = color;
41     ctx.fillRect(this.x, this.y, this.width, this.height);
42   };
43   this.newPos = function () {
```

game.html - Attached location

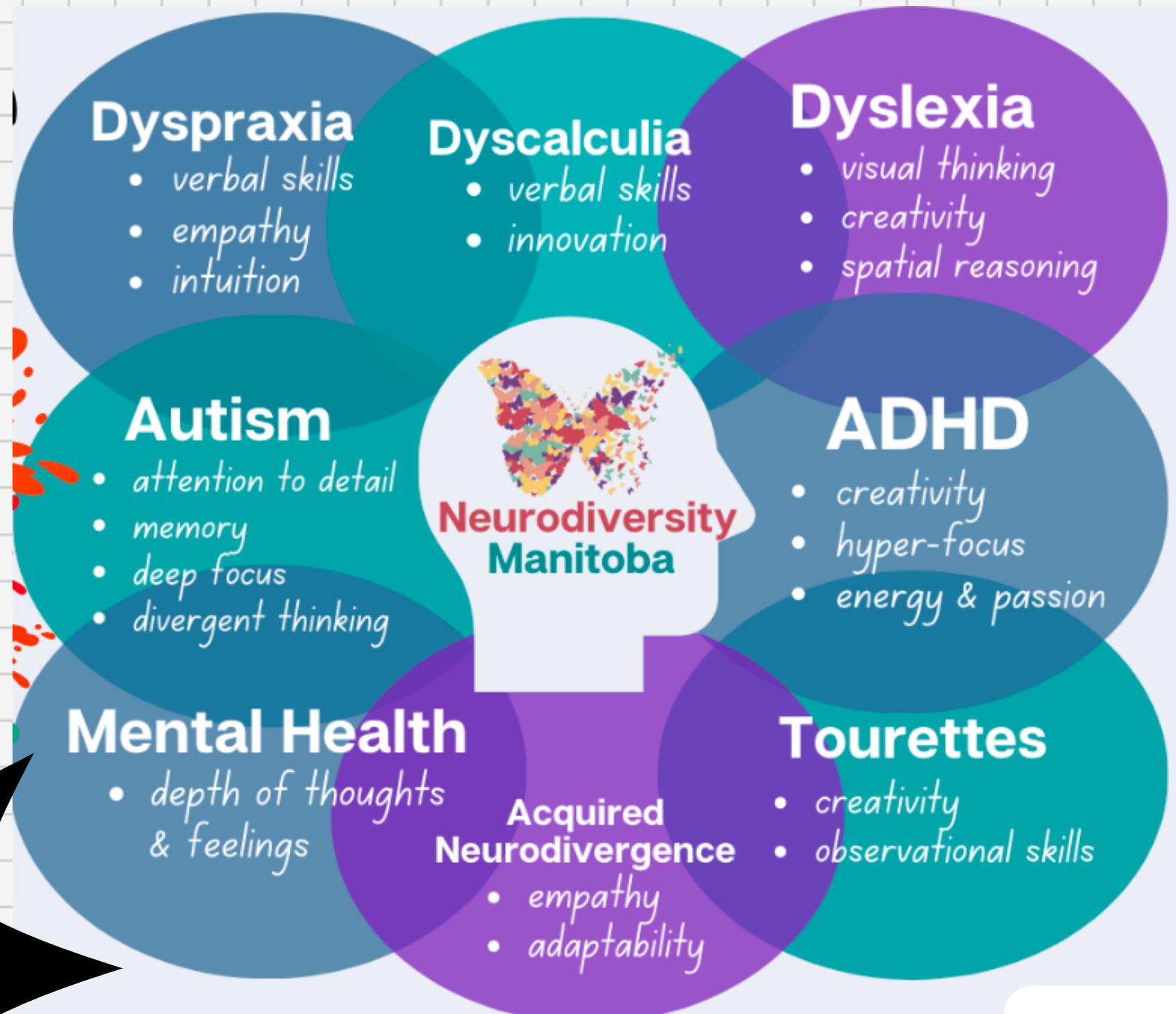
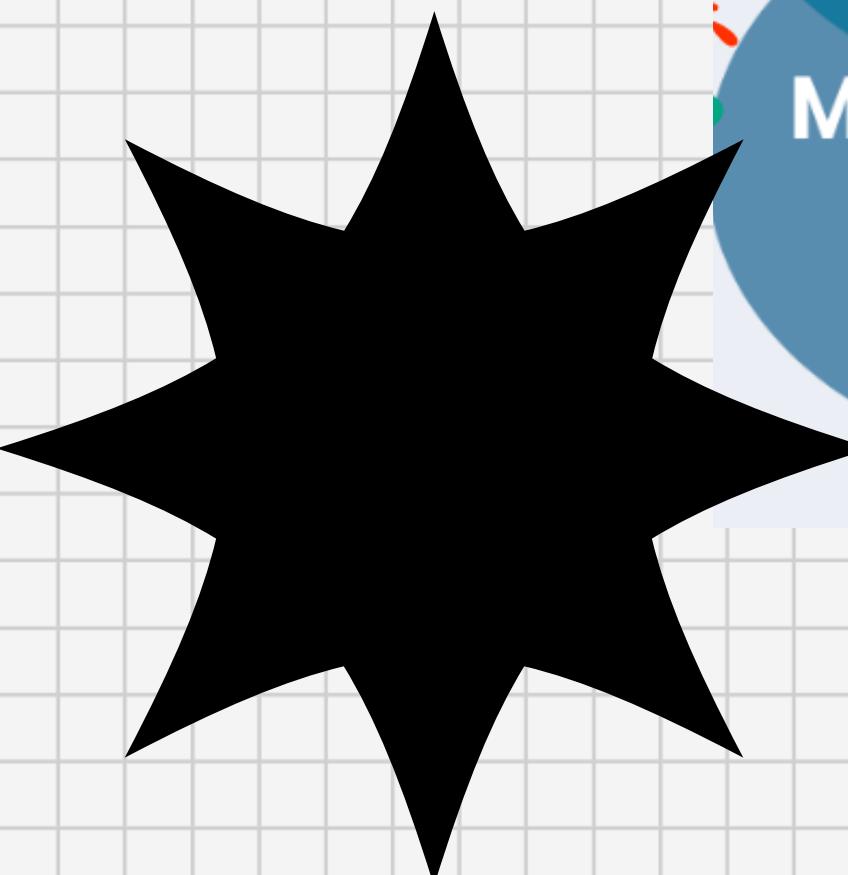
```
game.html X game.js M README.md
```

```
game.js > ...
32   this.width = width;
33   this.height = height;
34   this.x = x;
35   this.y = y;
36   this.bounce = 1;
37   this.gravitySpeed = 0;
38   this.update = function () {
39     ctx = myGameArea.context;
40     ctx.fillStyle = color;
41     ctx.fillRect(this.x, this.y, this.width, this.height);
42   };
43   this.newPos = function () {
44     this.x += this.speedX;
45     this.y += this.speedY;
46   };
47 }
48
49 function updateGameArea() {
50   myGameArea.clear();
51   playerGamePiece.speedX = 0;
52   playerGamePiece.speedY = 0;
53   if (myGameArea.key && myGameArea.key == 37) {
54     playerGamePiece.speedX = -2;
55   }
56   if (myGameArea.key && myGameArea.key == 39) {
57     playerGamePiece.speedX = 2;
58   }
59   if (myGameArea.key && myGameArea.key == 38) {
60     playerGamePiece.speedY = -2;
61   }
62   if (myGameArea.key && myGameArea.key == 40) {
63     playerGamePiece.speedY = 2;
64   }
65   playerGamePiece.newPos();
66   playerGamePiece.update();
67   playerGamePiece.update();
68   teacherGamePiece.speedX = 3;
69   teacherGamePiece.speedY = 0;
70
71   teacherGamePiece.newPos();
72   teacherGamePiece.update();
73 }
```

4



Super POWER !



Did you know ?

Autistic people can have extraordinary vision; on average they can see from 6 m / 20 ft what a non-autistic can see at 2 m / 7 ft. They are also better at pattern recognition, and see visual details that non-autistics don't tend to register.



