

Process & Decision Documentation

Project/Assignment Decisions

For this side quest, I was inspired by the classic internet creepypasta named “The Backrooms”, which is a fictional space that does not exist in reality, and is composed of seemingly endless interiors that tend to be eerie and oddly empty. I wanted to customize the maze code into a backroom styled game, where the player can continue to loop through the levels endlessly, while witnessing some unusual things happen as they go.

I also wanted to incorporate my art into this, and instead of having colored walls or circle characters, I made some pixel art sprites to replace the solid colors, making the game feel more immersive.

GenAI Documentation

No genAI was used in my addition to the original example code.

Summary of Process

All of the repo changes are available on the github commit page.

The first step I did was copying the files onto my own repo, and changing the player sprite. The player sprite was uploaded to an image folder and then loaded in the preLoad() function. When a key is pressed, the player sprite also changes directions.

File Edit View Repository Branch Help

Current repository j366lee.sidequest4_W4

Current branch main Fetch origin Last fetched 4 minutes ago +457 -0

Changes History

No branches to compare

comments j366lee • 4 minutes ago

finalizing things j366lee • 1 hour ago

randomized levels j366lee • 1 hour ago

more sprites and more levels j366lee • 2 hours ago

fun backgrounds! j366lee • 23 hours ago

copied files + changing player j366lee • 23 hours ago

copied files + changing player j366lee • 23 hours ago

18 changed files player.js

```

29 +     setCell(r, c) {
30 +         this.r = r;
31 +         this.c = c;
32 +     }
33 +
34 +     // Convert grid coords to pixel center (for drawing a circle).
35 +     pixeIX() {
36 +         return this.c * this.ts + this.ts / 2;
37 +     }
38 +
39 +     pixely() {
40 +         return this.r * this.ts + this.ts / 2;
41 +     }
42 +
43 +     draw() {
44 +         // Same "simple high-contrast avatar" idea as your original.
45 +         fill(20, 120, 255);
46 +         imageMode(CENTER);
47 +         image(chr[chrOrientation], this.pixeIX(), this.pixely());
48 +
49 +
50 +     /*
51 +      Try to move by (dr, dc) tiles.
52 +
53 +      Inputs:
54 +      - level: a Level instance, used for bounds + wall collision + goal detection
55 +      - dr/dc: desired movement step, typically -1,0,1
56 +
57 +      Returns:
58 +      - true if the move happened
59 +      - false if blocked or throttled
60 +    */
61 +     tryMove(level, dr, dc) {

```

File Edit View Repository Branch Help

Current repository j366lee.sidequest4_W4

Current branch main Fetch origin Last fetched 6 minutes ago +457 -0

Changes History

No branches to compare

comments j366lee • 6 minutes ago

finalizing things j366lee • 1 hour ago

randomized levels j366lee • 1 hour ago

more sprites and more levels j366lee • 2 hours ago

fun backgrounds! j366lee • 23 hours ago

copied files + changing player j366lee • 23 hours ago

copied files + changing player j366lee • 23 hours ago

18 changed files sketch.js

```

78 +     text(`Level ${li + 1}/${levels.length} - WASD/Arrows to move`, 10, 16);
79 +
80 +
81 +     function keyPressed() {
82 +         /*
83 +          Convert key presses into a movement direction. (WASD + arrows)
84 +        */
85 +         let dr = 0;
86 +         let dc = 0;
87 +
88 +         if (keyCode === LEFT_ARROW || key === "a" || key === "A") {
89 +             ((dc = -1), (chrOrientation = "left"));
90 +         } else if (keyCode === RIGHT_ARROW || key === "d" || key === "D") {
91 +             ((dc = 1), (chrOrientation = "right"));
92 +         } else if (keyCode === UP_ARROW || key === "w" || key === "W") {
93 +             ((dr = -1), (chrOrientation = "back"));
94 +         } else if (keyCode === DOWN_ARROW || key === "s" || key === "S") {
95 +             ((dr = 1), (chrOrientation = "front"));
96 +         } else return; // not a movement key
97 +
98 +         // Try to move. If blocked, nothing happens.
99 +         const moved = player.tryMove(levels[li], dr, dc);
100 +
101 +         // If the player moved onto a goal tile, advance levels.
102 +         if (moved && levels[li].isGoal(player.r, player.c)) {
103 +             nextlevel();
104 +         }
105 +     }
106 +
107 +     // ----- Level switching -----
108 +
109 +     function loadLevel(idx) {
110 +         li = idx;

```

The second commit added the first 2 backgrounds in, as well as changing up some levels to be different from the example file.

The screenshot shows the GitHub Desktop application interface. The repository is 'j366lee_sidequest4_W4'. The current branch is 'main'. The fetch origin was last fetched 7 minutes ago. The 'Changes' tab is selected, showing 3 changed files: 'level.js', 'levels.json', and 'sketch.js'. The 'level.js' file has 50 additions and 16 deletions. The code changes are as follows:

```

const v = this.grid[r][c];
if (v === 1) fill(0);
else fill(255);
rect(c * this.ts, r * this.ts, this.ts, this.ts);
if (v === 1) {
  (fill(0), rect(c * this.ts, r * this.ts, this.ts));
} else {
  imageMode(CORNER);
  image(floor[floorState], c * this.ts, r * this.ts);
  if (this.grid[r - 1][c] === 1) {
    image(floor[floorState], c * this.ts, r * this.ts - this.ts);
  }
  for (let i = 0; i < 32; i++) {
    stroke(71, 65, 60, 100 * ((32 - i) / 32));
    strokeCap(SQUARE);
    strokeWeight(1);
    line(
      c * this.ts,
      r * this.ts - i,
      c * this.ts + this.ts,
      r * this.ts - i,
    );
  }
}
// Goal highlight overlay (only on tile 3).
if (v === 3) {
  ...
}

```

The third commit was similar. It added more sprites and more levels, as well as the shadow that prevents the player from seeing the entire map (and figuring out the puzzle quickly). The shadow increases in size as the player progresses.

The screenshot shows the GitHub Desktop application interface. The repository is 'j366lee_sidequest4_W4'. The current branch is 'main'. The fetch origin was last fetched 8 minutes ago. The 'Changes' tab is selected, showing 6 changed files: 'images\mallroomfloor.png', 'images\mallroomwall.png', 'images\shadow.png', 'levels.json', 'player.js', and 'sketch.js'. The 'sketch.js' file has 27 additions and 0 deletions. The code changes are as follows:

```

@ -42,6 +42,9 @@ let floorState = "back";
function preload() {
  // Ensure level data is ready before setup runs.
  levelsData = loadJSON("levels.json");
  @ -50,6 +53,7 @@ function preload() {
  wall.pool = loadImage("images/poolroomall.png");
  floor.back = loadImage("images/backroomfloor.png");
  floor.pool = loadImage("images/poolroomfloor.png");
  shadow = loadImage("images/shadow.png");
}
function setup() {
  @ -131,9 +135,11 @@ function loadLevel(idx) {
  if (l1 === 1) {
    wallState = "pool";
    floorState = "pool";
    shadow.resize(3000, 3000);
  } else if (l1 === 0) {
    wallState = "back";
    floorState = "back";
    shadow.resize(4000, 4000);
  }
  // Ensure the canvas matches this level's dimensions.
}

```

The fourth commit made it so on the 3rd level, the walls become randomized as the player moves. Something notable that happened in this commit was that my code would break.

In a previous commit, I made this code that will show a wall if the floor is touching a tile that is not a floor on the top.

```
imageMode(CORNER);
image(floor[floorState], c * this.ts, r * this.ts);
if (this.grid[r - 1][c] === 1) {
    image(wall[wallState], c * this.ts, r * this.ts - this.ts);
    for (let i = 0; i < 32; i++) {
```

A major issue in this code I didn't notice though, is that if r is 0, the code will not function as grid[-1] is not valid. However, I did not have a problem until this commit as there would be no case where r would be 0, and the grid placement would be on 1, as the top row in my json file levels were 1.

However, I let it so the randomization code could turn a tile in the first row into a floor tile. This was fixed, but the (let r = 1; part was a 0 instead of 1 when the error happened.

```
let randomStage = levels[2].grid;
for (let r = 1; r < randomStage.length; r++) {
    for (let c = 0; c < randomStage[r].length; c++) {
```

The last two commits were just comments and an extra sprite addition for the final stage, as well as finalizing some details.

In addition, I included screenshots of the sprites I created. Layer information can be seen on the right side.



