

Sci-Fi Endless Runner (Live Builder)

This document explains how to build a browser-based sci-fi endless runner game with live editable controls using JavaScript and HTML canvas.

Features: - Player movement (mouse controlled) - Obstacles spawning dynamically - Live controls for speed and spawn rate - Collision detection

Complete Code:

```
<!DOCTYPE html>
<html>
<head>
<title>Sci-Fi Runner Builder</title>
<style>
  body { background: #0a0a0a; color: white; font-family: Arial; }
  canvas { background: black; display: block; margin: 20px auto; }
  .panel { text-align: center; }
  input { margin: 5px; }
</style>
</head>
<body>

<h2 style="text-align:center;">Sci-Fi Runner Builder</h2>

<canvas id="game" width="400" height="600"></canvas>

<div class="panel">
  Speed: <input type="number" id="speed" value="4"><br>
  Spawn Rate: <input type="number" id="spawn" value="2"><br>
</div>

<script>
const canvas = document.getElementById("game");
const ctx = canvas.getContext("2d");

let player = { x: 180, y: 500, size: 20 };
let obstacles = [];

let speed = 4;
let spawnRate = 2;

document.getElementById("speed").oninput = e => speed = +e.target.value;
document.getElementById("spawn").oninput = e => spawnRate = +e.target.value;

document.addEventListener("mousemove", e => {
  player.x = e.clientX - canvas.offsetLeft;
});

function update() {
  if (Math.random() < spawnRate * 0.01) {
    obstacles.push({
      x: Math.random() * 380,
      y: 0,
      size: 20
    });
  }

  for (let o of obstacles) {
    o.y += speed;
  }
  for (let o of obstacles) {
```

```
        if (
            o.x < player.x + player.size &&
            o.x + o.size > player.x &&
            o.y < player.y + player.size &&
            o.y + o.size > player.y
        ) {
            alert("Game Over");
            obstacles = [];
        }
    }
}

function draw() {
    ctx.clearRect(0, 0, 400, 600);

    ctx.fillStyle = "cyan";
    ctx.fillRect(player.x, player.y, player.size, player.size);

    ctx.fillStyle = "red";
    for (let o of obstacles) {
        ctx.fillRect(o.x, o.y, o.size, o.size);
    }
}

function loop() {
    update();
    draw();
    requestAnimationFrame(loop);
}

loop();
</script>

</body>
</html>
```