

Bugs - The Curious Case of Disappearing Game Objects



What is our GOAL for this MODULE?

We diagnosed and designed a solution to the problem of disappearing obstacles and clouds.

What did we ACHIEVE in the class TODAY?

- Set the collider radius so that the game ends when T-Rex touches the obstacle.
- Diagnosed and designed a solution to the problem of disappearing obstacles and clouds.
- Added animation and reset function when the game ends.

Which CONCEPTS/ CODING BLOCKS did we cover today?

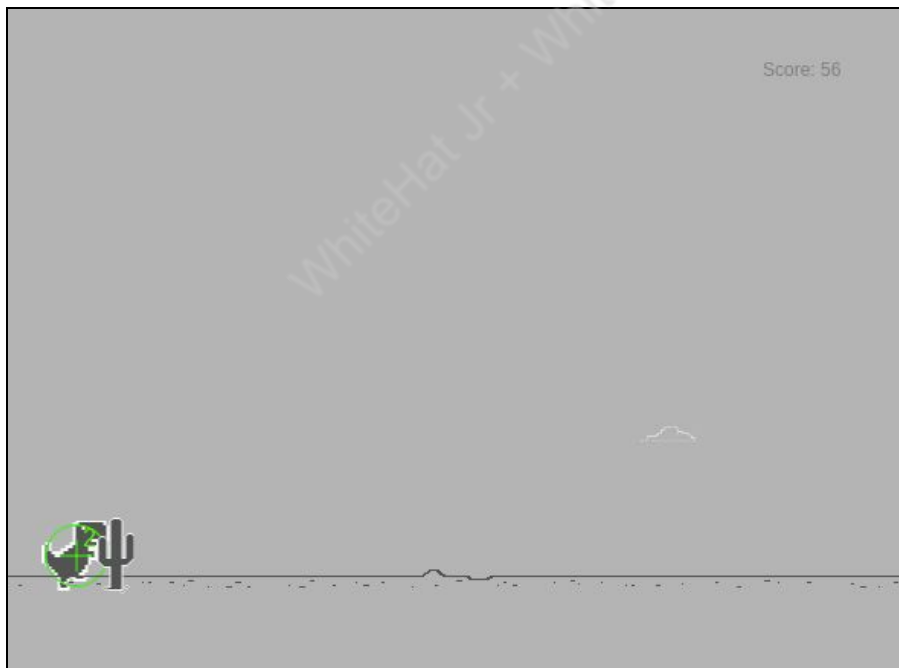
- Adding animation
- Ending game when T-Rex touches obstacle

How did we DO the activities?

Step 1: Set the collision radius of the T-Rex

sprite.setCollider() function is used to set the collider shape and size —
trex.setCollider("circle",0,0,40).

```
42
43 invisibleGround = createSprite(200,390,400,10);
44 invisibleGround.visible = false;
45
46 //create Obstacle and Cloud Groups
47 obstaclesGroup = createGroup();
48 cloudsGroup = createGroup();
49
50 console.log("Hello" + 5);
51
52 trex.setCollider("circle",0,0,40);
53 trex.debug = true
54
55 score = 0;
56
57 }
```



Step 2: Print the game state in the console and see it change when the collision happens.

```
59▼ function draw() {  
60  
61   background(180);  
62   //displaying score  
63   text("Score: "+ score, 500,50);  
64  
65   console.log("this is ",gameState)  
66  
67  
68▼ if(gameState === PLAY){  
69   //move the ground  
70   ground.velocityX = -4;  
71   //scoring  
72   score = score + Math.round(getFrameRate()/60);  
73  
74▼   if (ground.x < 0){  
75     ground.x = ground.width/2;  
76   }
```

Step 3: Change the T-Rex animation after END state changes to a different image where its eyes pop out after the collision.



- sketch.js
- index.html
- style.css
- trex1.png
- trex3.png
- trex4.png
- trex_collided.png
- ground2.png
- gameOver.png
- restart.png
- cloud.png
- obstacle1.png
- obstacle5.png
- obstacle2.png
- obstacle4.png
- obstacle6.png
- obstacle3.png
- p5.play.js

Step 4: Change the T-Rex animation when the gameState becomes END.

```
94     }
95 }
96 else if (gameState === END) {
97     ground.velocityX = 0;
98     //change the trex animation
99     trex.changeAnimation("collided",trex_collided);
100     obstaclesGroup.setVelocityXEach(0);
101     cloudsGroup.setVelocityXEach(0);
102 }
```

Step 5: Set the lifetime of the game object to -1.

This is so that every frame will move away from 0 and never reach 0.

Step 6: Write the code for setting the Lifetime of all the spawned objects in the groups to be -1 in the END condition of the game.

```
91
92 if(obstaclesGroup.isTouching(trex)){
93     gameState = END;
94 }
95 }
96 else if (gameState === END) {
97     ground.velocityX = 0;
98     //change the trex animation
99     trex.changeAnimation("collided",trex_collided);
100
101     //set lifetime of the game objects so that they are
    never destroyed
102     obstaclesGroup.setLifetimeEach(-1);
103     cloudsGroup.setLifetimeEach(-1);
104
105     obstaclesGroup.setVelocityXEach(0);
106     cloudsGroup.setVelocityXEach(0);
107 }
108
109
110 //stop trex from falling down
111 trex.collide(invisibleGround);
112
```

Step 7: Resolve the bug where, when we press space just at the time of the collision, the T-Rex flies upwards without gravity.

```

91
92▼   if(obstaclesGroup.isTouching(trex)){
93       gameState = END;
94   }
95 }
96▼   else if (gameState === END) {
97       ground.velocityX = 0;
98       trex.velocityY = 0
99       //change the trex animation
100      trex.changeAnimation("collided",trex_collided);
101
102      //set lifetime of the game objects so that they are
  never destroyed
103      obstaclesGroup.setLifetimeEach(-1);
104      cloudsGroup.setLifetimeEach(-1);
105
106      obstaclesGroup.setVelocityXEach(0);
107      cloudsGroup.setVelocityXEach(0);
108  }
  
```

Step 8: Set Game Over text and restart icon displayed on the screen when the game ends.

```

34   trex = createSprite(50,380,20,50);
35   trex.addAnimation("running", trex_running);
36   trex.scale = 0.5;
37
38   ground = createSprite(200,380,400,20);
39   ground.addImage("ground",groundImage);
40   ground.x = ground.width /2;
41
42   gameOver = createSprite(300,100);
43   gameOver.addImage(gameOverImg);
44
45   restart = createSprite(300,140);
46   restart.addImage(restartImg);
47
48   gameOver.scale = 0.5;
49   restart.scale = 0.5;
50
51   invisibleGround = createSprite(200,390,400,10);
52   invisibleGround.visible = false;
  
```



```
103 }  
104 else if (gameState === END) {  
105     gameOver.visible = true;  
106     restart.visible = true;  
107  
108     ground.velocityX = 0;  
109     trex.velocityY = 0;  
110     //change the trex animation  
111     trex.changeAnimation("collided", trex_collided);  
112  
113     //set lifetime of the game objects so that they are  
114     never destroyed  
115     obstaclesGroup.setLifetimeEach(-1);  
116     cloudsGroup.setLifetimeEach(-1);  
117  
118     obstaclesGroup.setVelocityXEach(0);  
119     cloudsGroup.setVelocityXEach(0);  
120 }
```

What's next?

We will add sounds to the game.

Extend Your Knowledge:

You can read more about the different functions and their usage of p5.play by exploring the examples in the following link:

<https://molleindustria.github.io/p5.play/examples/index.html?fileName=animation.js>