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.

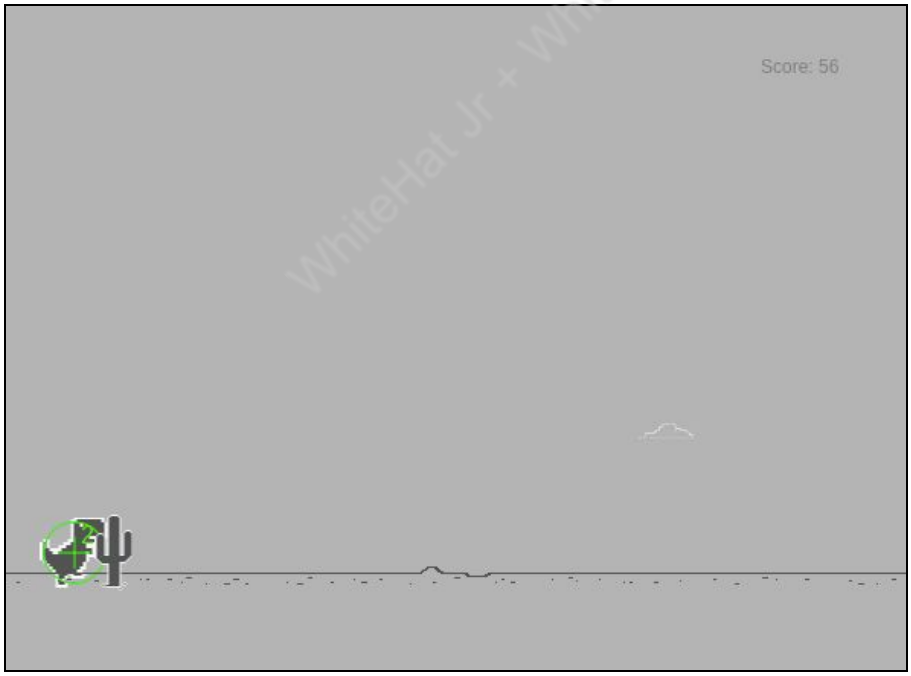
Which CONCEPTS/ CODING BLOCKS did we cover today?

- Adding animation
- Ending game when Trex 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.

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

```
    }
  }
   else if (gameState === END) {
      ground.velocityX = 0;
      //change the trex animation
      trex.changeAnimation("collided",trex_collided);
     obstaclesGroup.setVelocityXEach(0);
     cloudsGroup.setVelocityXEach(0);
   }
```

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.

```

    if(obstaclesGroup.isTouching(trex)){
        gameState = END;
    }
  }
   else if (gameState === END) {
      ground.velocityX = 0;
      //change the trex animation
      trex.changeAnimation("collided",trex_collided);

      //set lifetime of the game objects so that they are never destroyed
    obstaclesGroup.setLifetimeEach(-1);
    cloudsGroup.setLifetimeEach(-1);

     obstaclesGroup.setVelocityXEach(0);
     cloudsGroup.setVelocityXEach(0);
   }


  //stop trex from falling down
  trex.collide(invisibleGround);

```

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

```
    if(obstaclesGroup.isTouching(trex)){
        gameState = END;
    }
  }
   else if (gameState === END) {
      ground.velocityX = 0;
      trex.velocityY = 0
      //change the trex animation
      trex.changeAnimation("collided",trex_collided);

      //set lifetime of the game objects so that they are never destroyed
    obstaclesGroup.setLifetimeEach(-1);
    cloudsGroup.setLifetimeEach(-1);

     obstaclesGroup.setVelocityXEach(0);
     cloudsGroup.setVelocityXEach(0);
   }
```

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

```
  trex = createSprite(50,380,20,50);
  trex.addAnimation("running", trex_running);
  trex.scale = 0.5;

  ground = createSprite(200,380,400,20);
  ground.addImage("ground",groundImage);
  ground.x = ground.width /2;

   gameOver = createSprite(300,100);
  gameOver.addImage(gameOverImg);

  restart = createSprite(300,140);
  restart.addImage(restartImg);

  gameOver.scale = 0.5;
  restart.scale = 0.5;

  invisibleGround = createSprite(200,390,400,10);
  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
    never destroyed
114     obstaclesGroup.setLifetimeEach(-1);
115     cloudsGroup.setLifetimeEach(-1);
116
117      obstaclesGroup.setVelocityXEach(0);
118      cloudsGroup.setVelocityXEach(0);
119    }
```

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