# GAME ADAPTIVITY

## What is our GOAL for this MODULE?

Increase the game complexity as the game progresses.

## What did we ACHIEVE in the class TODAY?

- Added sounds to the Trex game
- Made the game increasingly complex as the game progressed

## Which CONCEPTS/ CODING BLOCKS did we cover today?

- sound.play()

## How did we DO the activities?

**Step 1:** Add the jump sound whenever Trex is jumping.

```
if(gameState === PLAY){
  //move the
  gameOver.visible = false;
  restart.visible = false;

  ground.velocityX = -(4 + 3* score/100)
  //scoring
  score = score + Math.round(frameCount/60);

  if(score>0 && score%100 === 0){
     checkPointSound.play()
  }

  if (ground.x < 0){
    ground.x = ground.width/2;
  }

  //jump when the space key is pressed
  if(keyDown("space")&& trex.y >= 100) {
      trex.velocityY = -12;
      jumpSound.play();
  }

  //add gravity
  trex.velocityY = trex.velocityY + 0.8

  //spawn the clouds
  spawnClouds();
```

**Step 2:** Add the dying sound when Trex hits an obstacle.

sketch.js

```
107     trex.velocityY = trex.velocityY + 0.8
108
109     //spawn the clouds
110     spawnClouds();
111
112     //spawn obstacles on the ground
113     spawnObstacles();
114
115     if(obstaclesGroup.isTouching(trex)){
116
117         gameState = END;
118         dieSound.play()
119
120     }
121   }
122    else if (gameState === END) {
123      gameOver.visible = true;
124      restart.visible = true;
125
126      ground.velocityX = 0;
127      trex.velocityY = 0
128      //change the trex animation
129      trex.changeAnimation("collided",trex_collided);
130
```

**Step 3:** Add the condition to play the **checkpoint** sound for a score>0 and score divisible of 100.

sketch.js

```
82
83  if(gameState === PLAY){
84    //move the
85    gameOver.visible = false;
86    restart.visible = false;
87
88    ground.velocityX = -(4 + 3* score/100)
89    //scoring
90    score = score + Math.round(frameCount/60);
91
92    if(score>0 && score%100 === 0){
93      checkPointSound.play()
94    }
95
96    if (ground.x < 0){
97      ground.x = ground.width/2;
98    }
99
100   //jump when the space key is pressed
101   if(keyDown("space")&& trex.y >= 100) {
102     trex.velocityY = -12;
103     jumpSound.play();
104   }
105
106   //add gravity
107   trex.velocityY = trex.velocityY + 0.8
108
109   //spawn the clouds
110   spawnClouds();
111
112   //spawn obstacles on the ground
113   spawnObstacles();
```

**Step 4:** Increase the speed of the obstacle.

sketch.js

```
147
148   function spawnObstacles(){
149    if (frameCount % 60 === 0){
150      var obstacle = createSprite(400,165,10,40);
151      obstacle.velocityX = -(6 + score/100);
152
153       //generate random obstacles
154       var rand = Math.round(random(1,6));
155       switch(rand) {
156         case 1: obstacle.addImage(obstacle1);
157                 break;
158         case 2: obstacle.addImage(obstacle2);
159                 break;
160         case 3: obstacle.addImage(obstacle3);
161                 break;
162         case 4: obstacle.addImage(obstacle4);
163                 break;
164         case 5: obstacle.addImage(obstacle5);
165                 break;
166         case 6: obstacle.addImage(obstacle6);
167                 break;
168         default: break;
169       }
170
171       //assign scale and lifetime to the obstacle
172       obstacle.scale = 0.5;
173       obstacle.lifetime = 300;
174
175      //add each obstacle to the group
176       obstaclesGroup.add(obstacle);
177    }
178   }
179
```

**Step 5:** Increase the speed by 3 times the previous number.

sketch.js

```
82
83    if(gameState === PLAY){
84      //move the
85      gameOver.visible = false;
86      restart.visible = false;
87
88      ground.velocityX = -(4 + 3* score/100)
89      //scoring
90      score = score + Math.round(frameCount/60);
91
92      if(score>0 && score%100 === 0){
93          checkPointSound.play()
94      }
95
96      if (ground.x < 0){
97        ground.x = ground.width/2;
98      }
99
100     //jump when the space key is pressed
101     if(keyDown("space")&& trex.y >= 100) {
102         trex.velocityY = -12;
103         jumpSound.play();
104     }
105
106     //add gravity
107     trex.velocityY = trex.velocityY + 0.8
108
109     //spawn the clouds
110     spawnClouds();
111
112     //spawn obstacles on the ground
113     spawnObstacles();
```

## What's next?

We will learn the **scope** of variables in programming and add functionality to restart the game.

## Extend Your Knowledge:

1. You can read more about the Game Adaptivity: https://medium.com/@brucerobbins/adaptive-games-48e6d2c21821