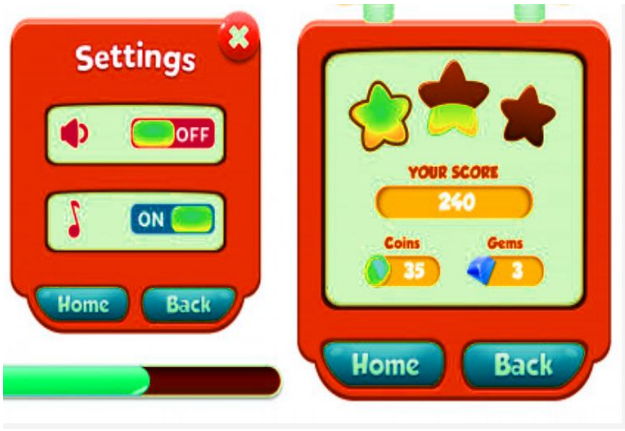
Game Adaptivity



What we did:

- Add sounds to the game
- Make the game increasingly complex as the game progresses
- Add AI to the Trex

How we did it:

Step 1: Add sounds to the game

The sounds have been uploaded in the Student Activity Link as:

jump.mp3 - Trex jump sound

die.mp3 - Trex dying sound

checkPoint.mp3 - Trex crossing 100 milestone sound

Jump sound: Play when the user presses space

```
51    if (ground.x < 0){
52      ground.x = ground.width/2;
53    }
54
55     //jump when the space key is pressed
56    if(keyDown("space") && trex.y >= 359){
57      trex.velocityY = -12 ;
58      playSound("jump.mp3");
59    }
60
61    //add gravity
62    trex.velocityY = trex.velocityY + 0.8;
```

Die Sound: Play when the obstacle touches the trex

```
73
74      //End the game when trex is touching the obstacle
75      if(ObstaclesGroup.isTouching(trex)){
76        gameState = END;
77        playSound("die.mp3");
78      }
79    }
```

Milestone sound: Play every time the trex crosses +100 in score

```
49      count = Math.round(World.frameCount/4);
50
51      if (count>0 && count%100 === 0){
52        playSound("checkPoint.mp3");
53      }
54
55      if (ground.x < 0){
56        ground.x = ground.width/2;
57      }
```

Step 2: Increase the speed in the game as the game progresses

Add ground velocity

```
if(gameState === PLAY){
  //move the ground
  ground.velocityX = -(6 + 3*count/100);
  //scoring
  count = Math.round(World.frameCount/4);

  if (count>0 && count%100 === 0){
    playSound("checkPoint.mp3");
  }

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

   //jump when the space key is pressed
```

Add obstacle velocity

```
function spawnObstacles() {
  if(World.frameCount % 60 === 0) {
    var obstacle = createSprite(400,365,10,40);
    obstacle.velocityX = - (6 + 3*count/100);

    //generate random obstacles
    var rand = randomNumber(1,6);
    obstacle.setAnimation("obstacle" + rand);

    //assign scale and lifetime to the obstacle
    obstacle.scale = 0.5;
    obstacle.lifetime = 70;
    //add each obstacle to the group
    ObstaclesGroup.add(obstacle);
  }
}
```

Step 3: Add some AI to the Trex

Make the T-Rex artificially intelligent so that it jumps on its own when it sees the obstacle

```
5
6  //create a trex sprite
7  var trex = createSprite(200,380,20,50);
8  trex.setAnimation("trex");
9
10 //set collision radius for the trex
11 trex.setCollider("rectangle",0,0,trex.width,trex.height);
12
13 //scale and position the trex
14 trex.scale = 0.5;
15 trex.x = 50;
```

```
71     //spawn obstacles
72     spawnObstacles();
73
74     //End the game when trex is touching the obstacle
75     if(ObstaclesGroup.isTouching(trex)){
76       trex.velocityY = -12 ;
77       playSound("jump.mp3");
78       // gameState = END;
79       // playSound("die.mp3");
80     }
```

What's next? : We'll learn the meaning of "scope" in programming.