## **Tutorial 6 – Global Behavior and Empty Objects**

Estimated Time: 60 minutes

### **Prerequisites**

If, else, conditionals

### **Learning Objectives**

Students will learn about empty objects and global behavior (script methods that are not limited in scope to an individual object).

### **API Methods Covered**

* givePoints()
* takePoints()
* checkPoints()
* winGame()
* loseGame()

1. Explain the role of empty objects and global behaviors
2. Explain the API method groups
   1. Managing points
   2. End game scenario (winGame/loseGame)
   3. Random numbers
3. Create plane and place walls upon the plane (from Walls category)
4. Add a script to the cubes (pointsWall.cs)
   1. When the player touches the cube, they receive 100 points
5. Create a empty object, add a script (addPoints.cs)
   1. When the player has 300 points, they win

### **Scripts**

**addPoints.cs**

void updateGame()

{

if (checkPoints() == 300) {

winGame();

}

}

**pointsWall.cs**

bool pointsReceived = false;

void updateGame () {

if (isControllerTouching() && !pointsReceived){

givePoints(100);

pointsReceived = true;

}

}

### **Optional Tutorial 6B**

Estimated Time: 30 minutes

1. Create empty object, add script (movePoints.cs)
   1. If the player has move to a 2 specific corners of the game area, give them points
   2. If the player moves to a 2 different corners, take points
2. Create plant object (in BasicAssets category)
3. Add script (plantPoints.cs) that displays the current points

#### ***Source Code***

**movePoints.cs**

void updateGame()

{

if (getPlayerPositionX() > 1 && getPlayerPositionZ() > 1 ||

getPlayerPositionX() < -1 && getPlayerPositionZ() < -1)

{

givePoints(100);

}

if (getPlayerPositionX() > 1 && getPlayerPositionZ() < -1 ||

getPlayerPositionX() < -1 && getPlayerPositionZ() > 1)

{

takePoints(100);

}

}

**plantPoints.cs**

void updateGame () {

setObjectText("Points: " + checkPoints());

}

### **Optional Tutorial 6C**

Estimated Time: 30 minutes

1. Create empty object, add script (endGame.cs)
2. If both controller grips are down win game
3. If both controller triggers are down, lose game

#### ***Source Code***

**endGame.cs**

void updateGame(){

if (isControllerRightTriggerDown() && isControllerLeftTriggerDown()){

loseGame();

}

if(isControllerRightGripDown() && isControllerLeftGripDown()){

winGame();

}

}