

TD 1

Download Unity 2017 or 2018 or 2019 using the instructions of this video
<https://www.youtube.com/watch?v=2HXvqgSXUaQ>

1 Create a new unity project 2D and give it a name.

Create new folders Sprites, Animations, Scripts, Scenes and so on under the project.

2 Use flappy bird pictures, import them to unity by drag and drop.

3 Transform them to sprites. We need here a background, a bird, a pipe. Then use them.

We firstly add a background to the scene. Use 9:16 aspect to fit the camera.

(If you don't have this aspect, choose Aspect Rate (9:16 for width and height)).

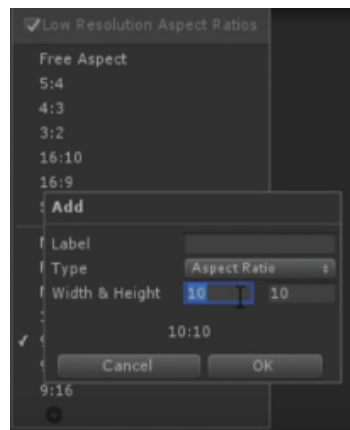


Figure 1 Adding aspect 9 :16

Creation of the bird and its animation.

Add the ground. Set the bird and the ground layers to 1 and 2 respectively.

Add physics and capsule collider to the bird and set its direction to horizontal and edit it to fit the bird.

Add a script that sets the velocity to up and multiply it by 1 if `GetMouseButtonDown(0)`. Set the gravity Scale (of Rigidbody 2D) and the velocity 1.4 and hit play.

```
FlyLittleBird.cs
Flappy
FlyLittleBird
Update()

1 using System.Collections;
2 using System.Collections.Generic;
3 using UnityEngine;
4
5 public class FlyLittleBird : MonoBehaviour {
6     public float velocity = 1;
7     private Rigidbody2D rg;
8     // Use this for initialization
9     void Start () {
10         rg = GetComponent<Rigidbody2D>();
11     }
12
13     // Update is called once per frame
14     void Update () {
15         if(Input.GetMouseButtonDown(0))
16         {
17             rg.velocity = Vector2.up * velocity;
18         }
19     }
20 }
21
```

Add a box collider 2d to the ground and set to auto tiling to match the size.

Add pipes and create an empty game object place it at the center of the 2 pipes, name it Pipe then add them as children of that object.

Create a new script for the pipe to move to the left and name it Move.

```
Move.cs
FlyLittleBird.cs
Move
Update()

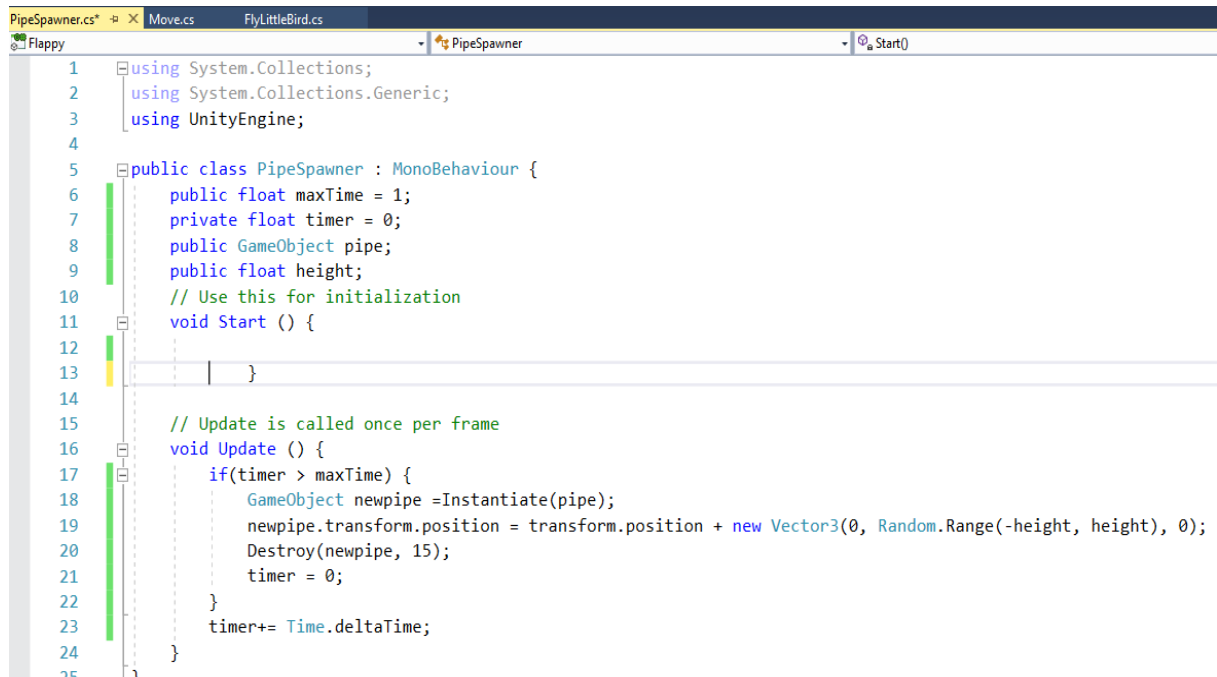
1 using System.Collections;
2 using System.Collections.Generic;
3 using UnityEngine;
4
5 public class Move : MonoBehaviour {
6     public float speed;
7     // Use this for initialization
8     void Start () {
9
10     }
11
12     // Update is called once per frame
13     void Update () {
14         transform.position += Vector3.left * speed * Time.deltaTime;
15     }
16 }
17
```

Add box collider 2D to the pipes and let it fit them.

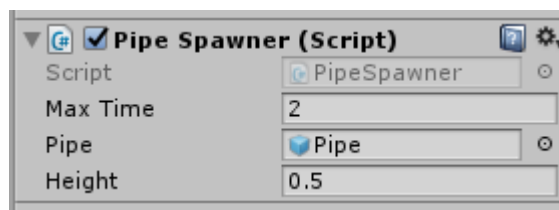
Set the speed to 1.4

Add pipe to prefabs

Create an empty game object and name it PipeSpawner, set its position in the position of the pipe and add new script PipeSpawner.



```
1 using System.Collections;
2 using System.Collections.Generic;
3 using UnityEngine;
4
5 public class PipeSpawner : MonoBehaviour {
6     public float maxTime = 1;
7     private float timer = 0;
8     public GameObject pipe;
9     public float height;
10    // Use this for initialization
11    void Start () {
12
13    }
14
15    // Update is called once per frame
16    void Update () {
17        if(timer > maxTime) {
18            GameObject newpipe = Instantiate(pipe);
19            newpipe.transform.position = transform.position + new Vector3(0, Random.Range(-height, height), 0);
20            Destroy(newpipe, 15);
21            timer = 0;
22        }
23        timer+= Time.deltaTime;
24    }
25 }
```



And hit play.

Useful Links

The Function GetMouseButtonDown()

<https://docs.unity3d.com/ScriptReference/Input.GetMouseButtonDown.html>

Velocity

<https://docs.unity3d.com/2017.4/Documentation/ScriptReference/Rigidbody-velocity.html>