

Course

: 2D Game Programming

Effective Period

: September 2016

People Innovation Excellence

2D Game Programing LAB 05



UNIVERSITY Acknowledgement

These slides have been adapted from:

Pereira, V. (2014). Learning Unity 2D Game Development by Example, Packt Publishing, Inc. San Francisco. ISBN: 9781783559046

Chapter 4



Learning Objectives

LO 1: Create 2D game for PC platform

LO 3: Design 2D game for PC platform



Let's add enemies to our game.

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Remember this scene?





Add high score text

€ Game

¢ 16:9

Animator

Display 1

-=

Scene

Press Any Key to Continue

Animation

\$ Scale (

Hierarchy Asset Store

Create ▼ (Q▼AII

⊘ Scene00*

Main Camera

Jumping Jacks bg castle Game Title People Any Key Innovation highScore title Excellence highScore value





The Script

Create a new script and name it Load





Edit the script

```
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```

```
1 using System.Collections;
 2 using System.Collections.Generic;
 3 using UnityEngine;
 5 public class Load : MonoBehaviour {
 6
      // Use this for initialization
      void Start () {
 8
 9
10
11
12
      // Update is called once per frame
13
      void Update () {
          this.GetComponent<TextMesh>().text = PlayerPrefs.GetInt("highScore",0).ToString();
14
15
16 }
17
```



Try it out

Nothing seems to happened





Go Back to Scene01

Unity 2017.1.0f3 Personal (64bit) - Scene01.unity - Latihan - PC, Mac & Linux Standalone <DX11>

File Edit Assets GameObject Component Mobile Input Tiled2Unity Window Help ⊕ + S 💢 🔟 ■ Center S Local ▶ II ▶ © Collab → △ Acc à -≡ 88 Animator € Game # Scene

Animation Display 1 + 16:9 Maximize On Play Mute Audio Stats Gizmos ▼ Scene01 ▶ Main Camera Score: 0 ▶ Player Reset Zone springboardDown ▶ MyLevel ► FloatingPlatform
FloatingPlatform (1)
FloatingPlatform (2) flagGreen EventSystem spikes spikes (1) spikes (2) spikes (3) Enemy1 boxAlt boxAlt (1) Console n Project 4 9 * ▼ 🏠 Favorites All Materials All Models Q All Prefabs All Scripts a Assets Scripts ▶ 📾 Standard Assets ► Tiled2Unity ▼ 🚞 Visuals **Enemies** i Objects ▼ Scene01.unity





Update GameHandler script

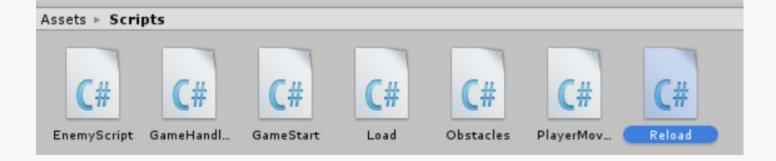
Onto the AddScore function

```
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```

```
public void AddScore() {
    score += 10;
    ScoreUI.text = score.ToString();
    if (score > PlayerPrefs.GetInt ("highScore", 0)) {
        PlayerPrefs.SetInt ("highScore", score);
    }
}
```



Create another script

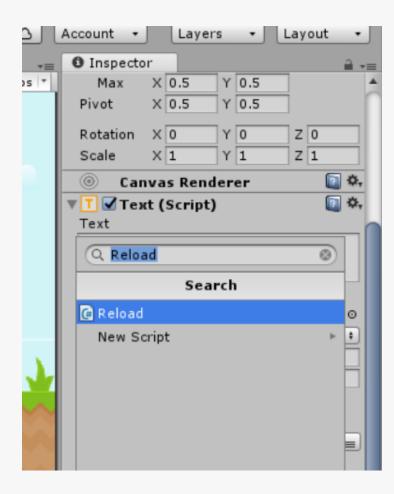




Edit script

```
1 using System.Collections;
 2 using System.Collections.Generic;
 3 using UnityEngine;
 4 using UnityEngine.SceneManagement;
 6 public class Reload : MonoBehaviour {
      public const float TIME LIMIT = 5f;
      private float timer = 0f;
10
      // Use this for initialization
11
      void Start () {
12
13
14
15
      // Update is called once per frame
16
      void Update () {
17
          this.timer += Time.deltaTime;
18
          if (this.timer >= TIME LIMIT) {
19
              SceneManager.LoadScene ("Scene00");
20
21
22
23
24 }
25
```





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Attach script to GameOver and Winning Game object



People Innovation Excellence **PLAY THE GAME!!!!!!!**



Edit some code

```
void OnTriggerEnter2D(Collider2D c) {
    if (c.name == "coin") {
        AddScore();
        Debug.Log ("get coin");
        Destroy(c.gameObject);
    else if (c.tag == "Water") {
        health = 0;
        Debug.Log ("water");
        healthUI.text = health.ToString();
        gameOverUI.SetActive(true);
        StopGame();
    else if (c.tag == "Ending") {
        Debug.Log ("end");
        youWinUI.SetActive(true);
        StopGame();
```

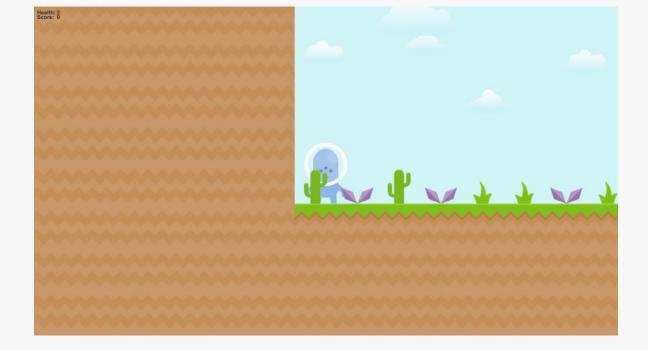


BUILD THE GAME





Run your game







Check your output log

INATHE	Date mounted	Type	SIZE
Managed	1/7/2018 5:32 PM	File folder	
Mono	1/7/2018 5:32 PM	File folder	
Resources	1/7/2018 5:32 PM	File folder	
app.info	1/7/2018 5:32 PM	INFO File	1 KB
√ D boot.config	1/7/2018 5:32 PM	XML Configuration	0 KB
globalgamemanagers	1/7/2018 5:32 PM	File	27 KB
globalgamemanagers.assets	1/7/2018 5:32 PM	ASSETS File	32 KB
level0	1/7/2018 5:32 PM	File	7 KB
level1	1/7/2018 5:32 PM	File	26 KB
output_log.txt	1/7/2018 5:40 PM	Text Document	5 KB
sharedassets0.assets	1/7/2018 5:32 PM	ASSETS File	5 KB
sharedassets0.assets.resS	1/7/2018 5:32 PM	RESS File	32 KB
sharedassets1.assets	1/7/2018 5:32 PM	ASSETS File	99 KB
sharedassets1.assets.resS	1/7/2018 5:32 PM	RESS File	7,356 KB



What's in it?

```
output_log.txt - Notepad

File Edit Format View Help

highscore is 10

(Filename:
C:/buildslave/unity/build/artifacts/generated/common/runtime/DebugBi ndings.gen.cpp Line: 51)

get coin

(Filename:
C:/buildslave/unity/build/artifacts/generated/common/runtime/DebugBi ndings.gen.cpp Line: 51)
```



References

Freeman, J. (2015). Unity's New 2D Workflow Vidyasagar. (2014. Unity and C#: Game Loop.CodeProject Pereira, V. (2014). Learning Unity 2D Game Development by Example. Packt Publishing, Inc. San Francisco. ISBN: 9781783559046