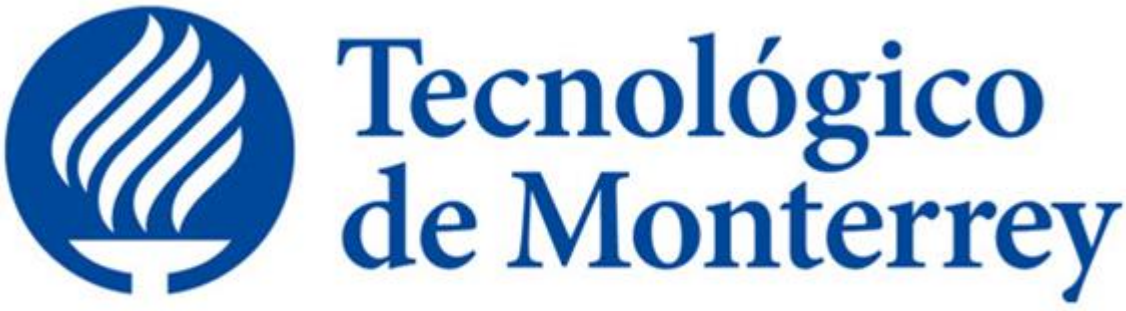


Laboratorio 3

Reporte

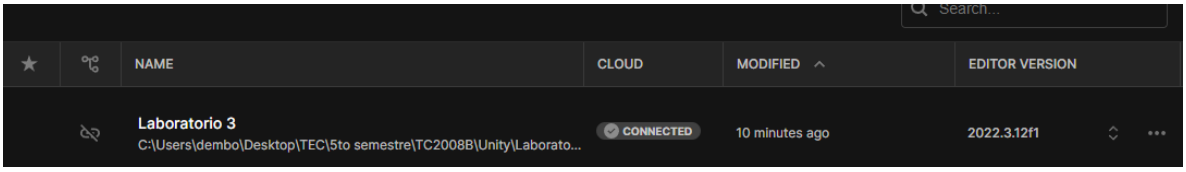
Arturo Díaz López A01709522

TC2008B.301

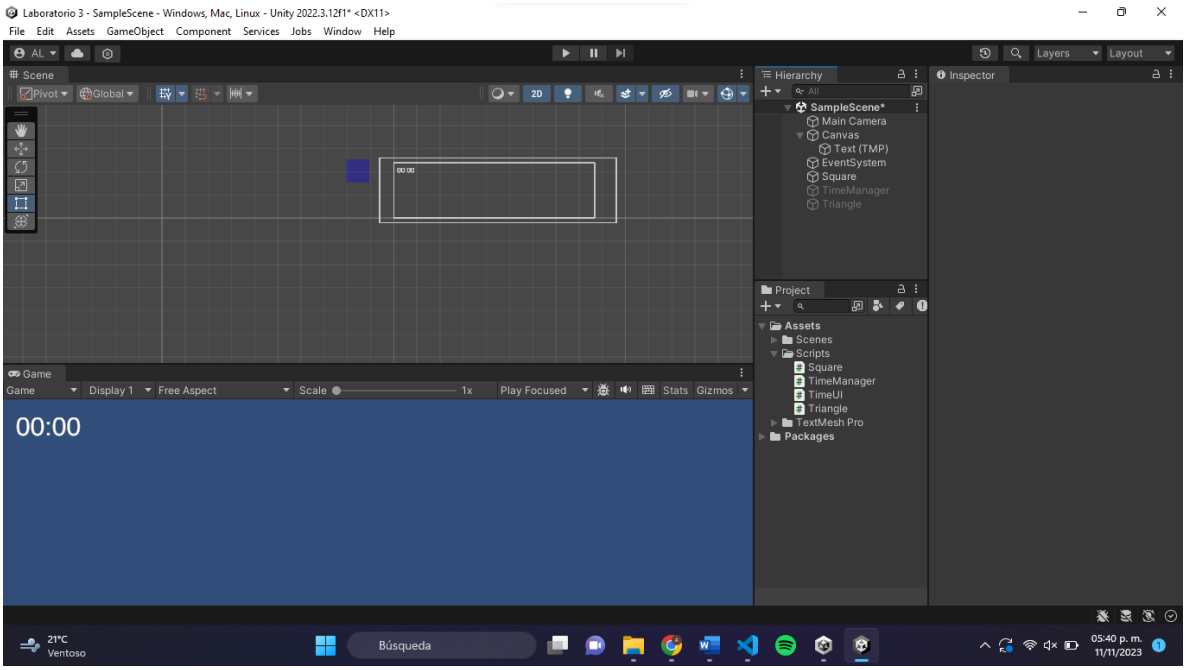
11/11/2023

Video: [Laboratorio 3.mp4]

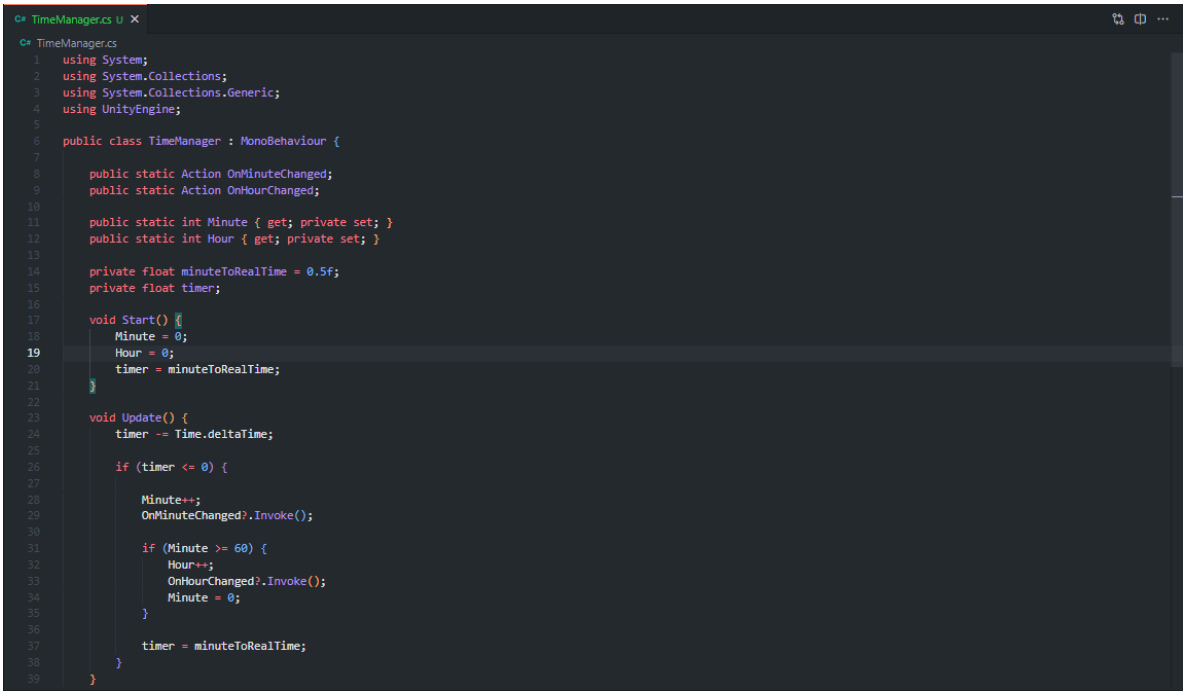
Paso 1



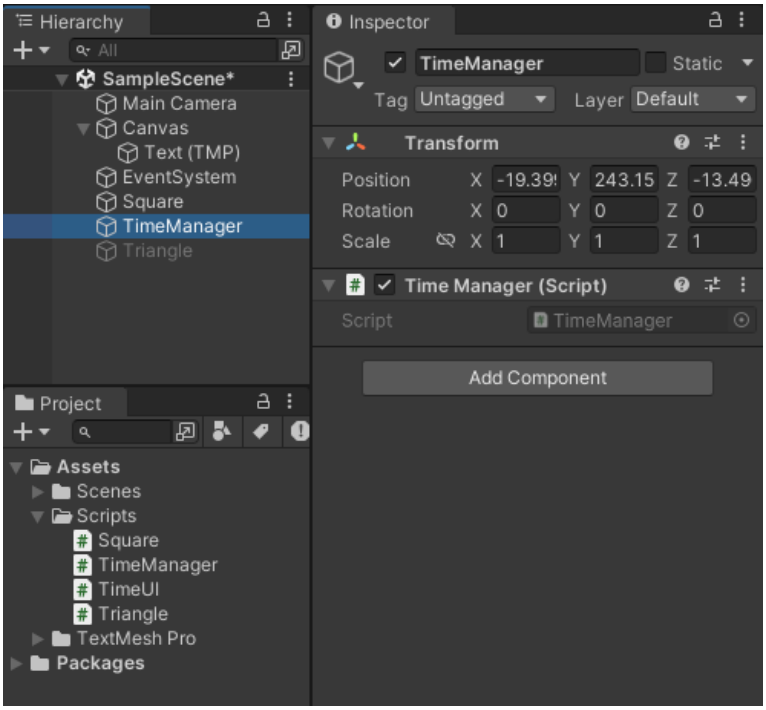
Paso 2



Paso 3


TimeManager.cs U
TimeManager.cs
using System;
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
public class TimeManager : MonoBehaviour {
public static Action OnMinuteChanged;
public static Action OnHourChanged;
public static int Minute { get; private set; }
public static int Hour { get; private set; }
private float minuteToRealTime = 0.5f;
private float timer;
void Start() {
Minute = 0;
Hour = 0;
timer = minuteToRealTime;
}
void Update() {
timer -= Time.deltaTime;
if (timer <= 0) {
Minute++;
OnMinuteChanged?.Invoke();
if (Minute >= 60) {
Hour++;
OnHourChanged?.Invoke();
Minute = 0;
}
timer = minuteToRealTime;
}
}

Paso 4


Hierarchy
All
SampleScene*
Main Camera
Canvas
Text (TMP)
EventSystem
Square
TimeManager
Triangle
Inspector
TimeManager
Static
Tag Untagged
Layer Default
Transform
Position X -19.39 Y 243.15 Z -13.49
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1
Time Manager (Script)
Script TimeManager
Add Component
Project
Assets
Scenes
Scripts
Square
TimeManager
TimeUI
Triangle
TextMesh Pro
Packages

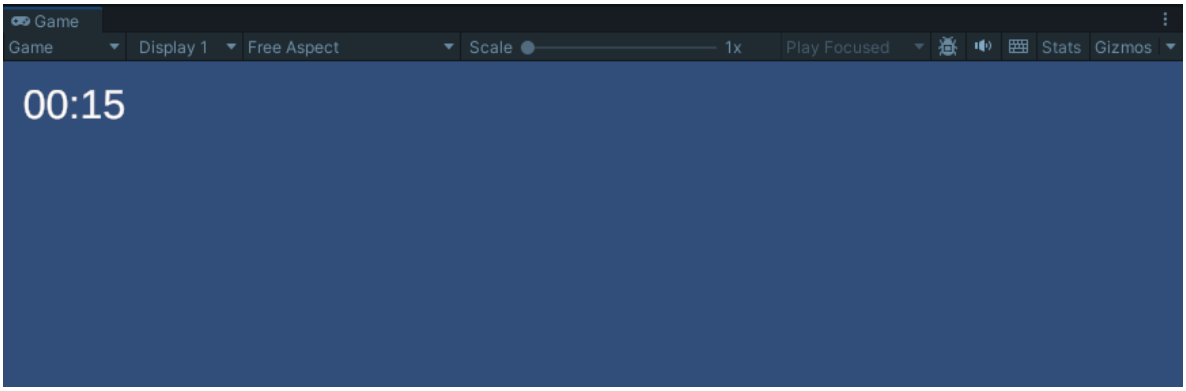
Paso 5

C# TimeUI.cs U

C# TimeUI.cs

```
1   using System.Collections;
2   using System.Collections.Generic;
3   using UnityEngine;
4   using TMPro;
5
6   public class TimeUI : MonoBehaviour {
7
8       public TextMeshProUGUI timeText;
9
10      void OnEnable() {
11          TimeManager.OnMinuteChanged += UpdateTime;
12          TimeManager.OnHourChanged += UpdateTime;
13      }
14
15      void OnDisable() {
16          TimeManager.OnMinuteChanged -= UpdateTime;
17          TimeManager.OnHourChanged -= UpdateTime;
18      }
19
20      private void UpdateTime() {
21          timeText.text = $"{TimeManager.Hour.ToString("00")}:{TimeManager.Minute:00}";
22      }
23  }
24
```

Paso 6



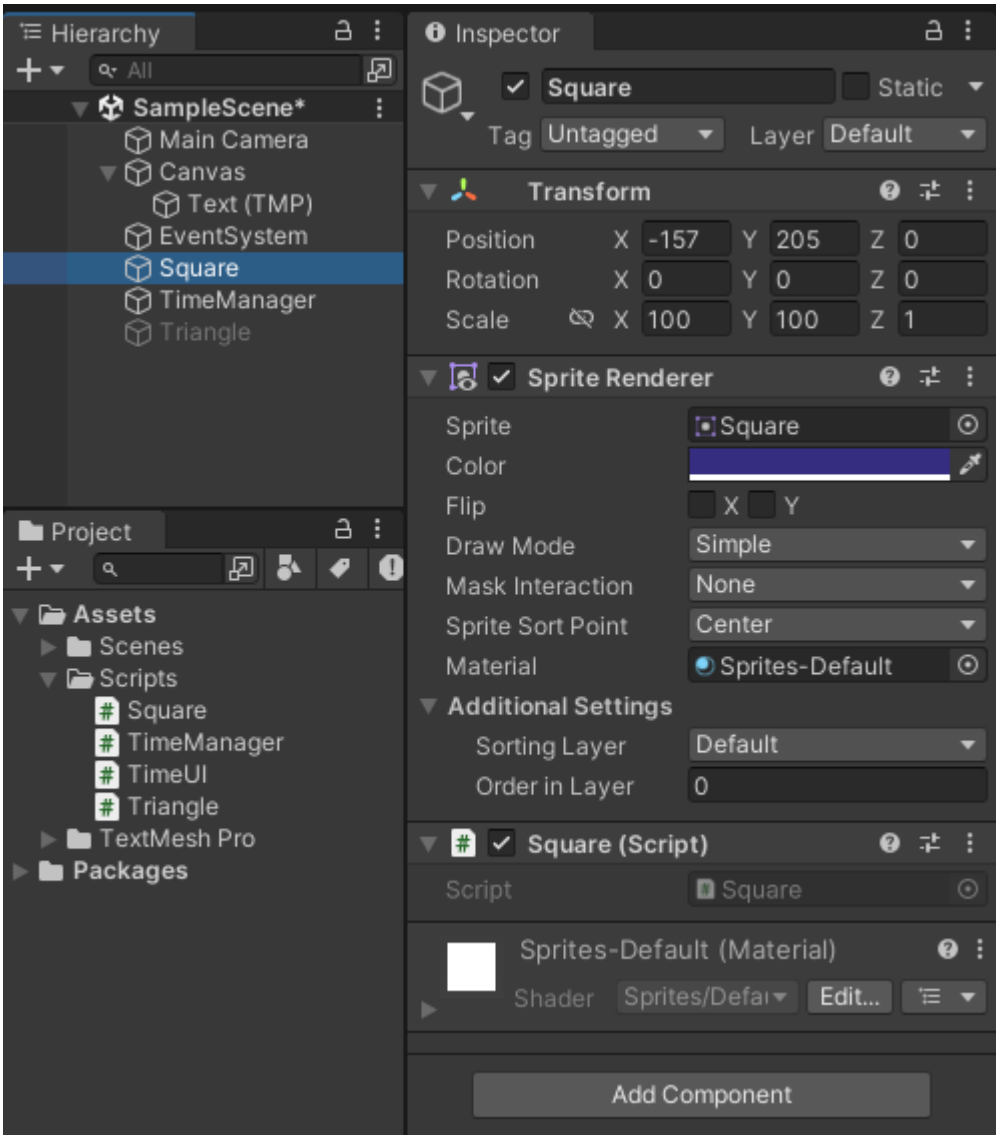
Paso 7

Square.cs U

Square.cs

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class Square : MonoBehaviour {
    public void OnEnable() {
        TimeManager.OnMinuteChanged += TimeCheck;
    }

    public void OnDisable() {
        TimeManager.OnMinuteChanged -= TimeCheck;
    }

    private void TimeCheck() {
        if(TimeManager.Hour == 00 && TimeManager.Minute == 05)
        {
            StartCoroutine(MoveSquare());
        }
    }

    private IEnumerator MoveSquare() {
        transform.position = new Vector3(-100f,109f,0);
        Vector3 targetPos = new Vector3(1200f,109f,0);

        Vector3 currentPos = transform.position;

        float timeElapsed = 0;
        float timeToMove = 3;

        while(timeElapsed < timeToMove){
            transform.position = Vector3.Lerp(currentPos,targetPos,timeElapsed/timeToMove);
            timeElapsed += Time.deltaTime;
            yield return null;
        }

    }
}

```

Paso 8


Hierarchy
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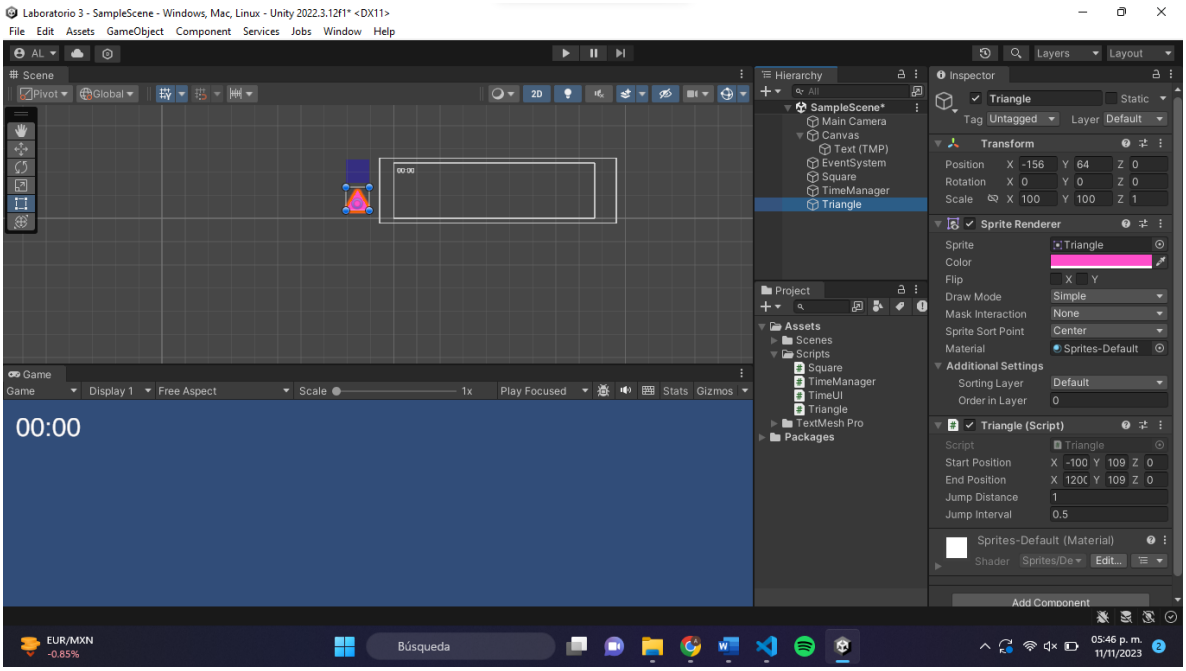
TextMesh Pro
Packages
Inspector
Square
Static
Tag Untagged
Layer Default
Transform
Position X -157 Y 205 Z 0
Rotation X 0 Y 0 Z 0
Scale X 100 Y 100 Z 1
Sprite Renderer
Sprite Square
Color
Flip X Y
Draw Mode Simple
Mask Interaction None
Sprite Sort Point Center
Material Sprites-Default
Additional Settings
Sorting Layer Default
Order in Layer 0
Square (Script)
Script Square
Sprites-Default (Material)
Shader Sprites/Defa
Edit...
Add Component

Paso 9

Triángulo:

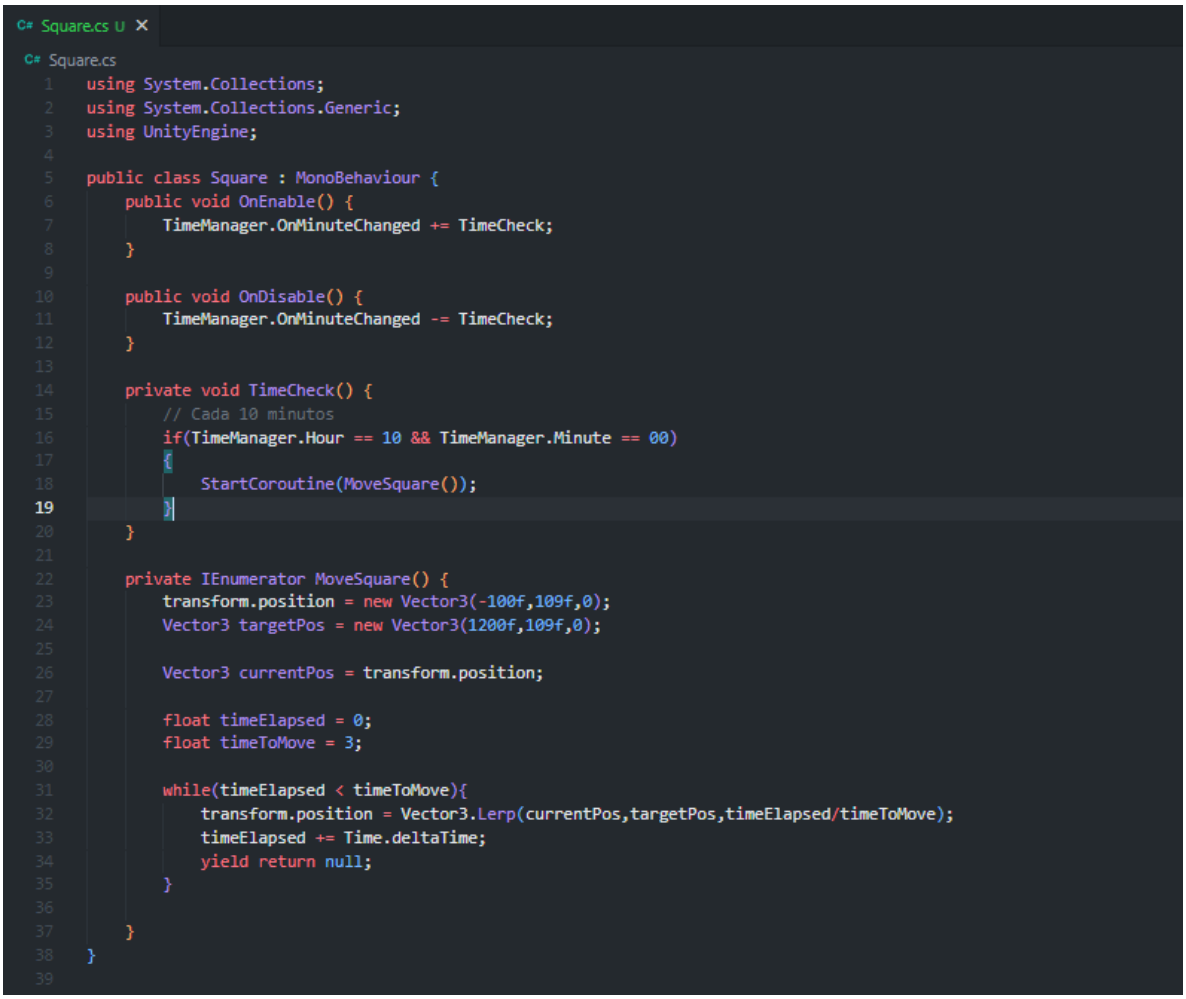


Triangle.cs U

Triangle.cs

```
using System.Collections;
using UnityEngine;

public class Triangle : MonoBehaviour {
    public Vector3 startPosition = new Vector3(-100f, 109f, 0);
    public Vector3 endPosition = new Vector3(1200f, 109f, 0);
    public float jumpDistance = 10000000000000.0f;
    public float jumpInterval = 0.001f;

    private bool shouldMove = false;

    void OnEnable() {
        TimeManager.OnMinuteChanged += TimeCheck;
    }

    void OnDisable() {
        TimeManager.OnMinuteChanged -= TimeCheck;
    }

    void TimeCheck() {
        if (TimeManager.Hour == 0 && TimeManager.Minute == 5) {
            shouldMove = true;
            StartCoroutine(MoveTriangle());
        }
    }

    IEnumerator MoveTriangle() {
        while (shouldMove) {
            float remainingDistance = Vector3.Distance(transform.position, endPosition);

            while (remainingDistance > jumpDistance) {
                transform.position = Vector3.MoveTowards(transform.position, endPosition, jumpDistance*160);
                yield return new WaitForSeconds(jumpInterval);
                remainingDistance = Vector3.Distance(transform.position, endPosition);
            }

            transform.position = endPosition;
            shouldMove = false;

            yield return null;
        }
    }
}
```

Cuadrado se ejecute cada 10 minutos



```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class Square : MonoBehaviour {
    public void OnEnable() {
        TimeManager.OnMinuteChanged += TimeCheck;
    }

    public void OnDisable() {
        TimeManager.OnMinuteChanged -= TimeCheck;
    }

    private void TimeCheck() {
        // Cada 10 minutos
        if(TimeManager.Hour == 10 && TimeManager.Minute == 00)
        {
            StartCoroutine(MoveSquare());
        }
    }

    private IEnumerator MoveSquare() {
        transform.position = new Vector3(-100f,109f,0);
        Vector3 targetPos = new Vector3(1200f,109f,0);

        Vector3 currentPos = transform.position;

        float timeElapsed = 0;
        float timeToMove = 3;

        while(timeElapsed < timeToMove){
            transform.position = Vector3.Lerp(currentPos,targetPos,timeElapsed/timeToMove);
            timeElapsed += Time.deltaTime;
            yield return null;
        }

    }
}
```