



COMSATS University Islamabad (Lahore Campus)

<Lab Assignment 3> – SPRING 2024

Course Title:	Game Development	Course Code:	CSC495	Credit Hours:	3
Course Instructor/s:	Saira Aslam	Program	BSE		
Submission Deadline	11:55 pm, 01-5-2024	Maximum Marks:	50		

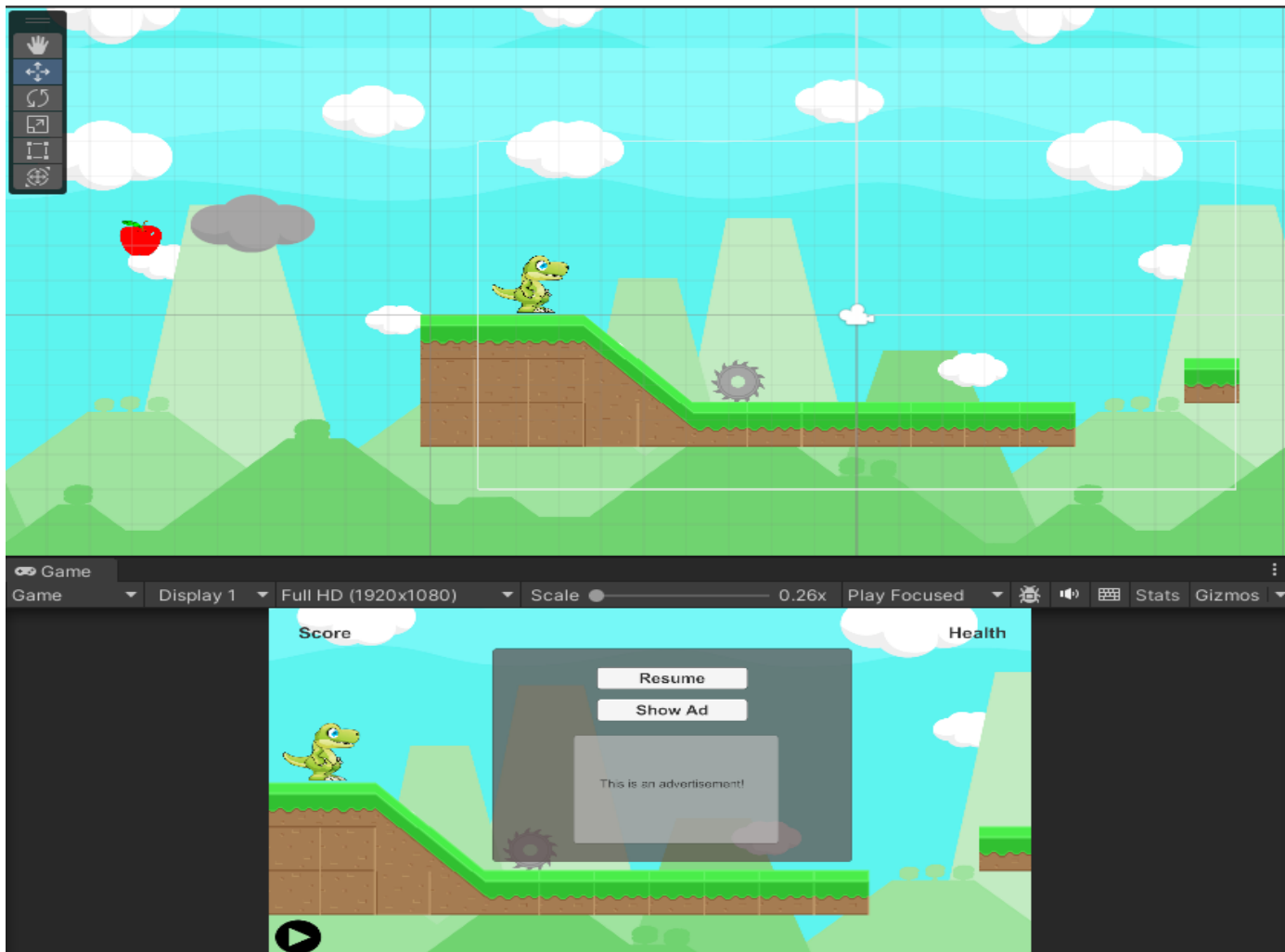
Important Instructions / Guidelines:

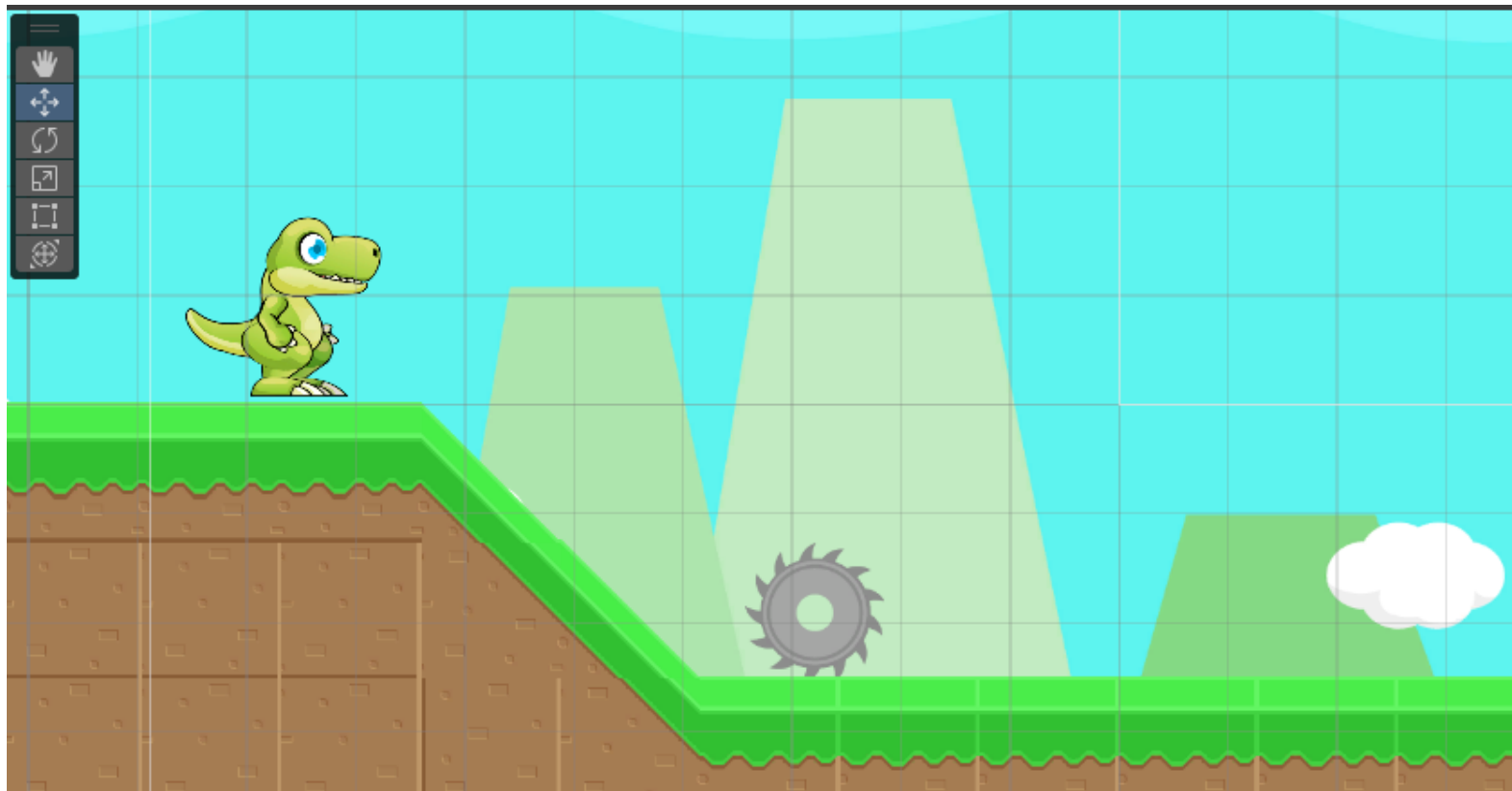
- Submit a 10 seconds video, 4 screenshots, and all your scripts in Lab Assignment 3 submission at google classroom
- Paste your screenshots and scripts inside Lab Assignment-1 submission file provided

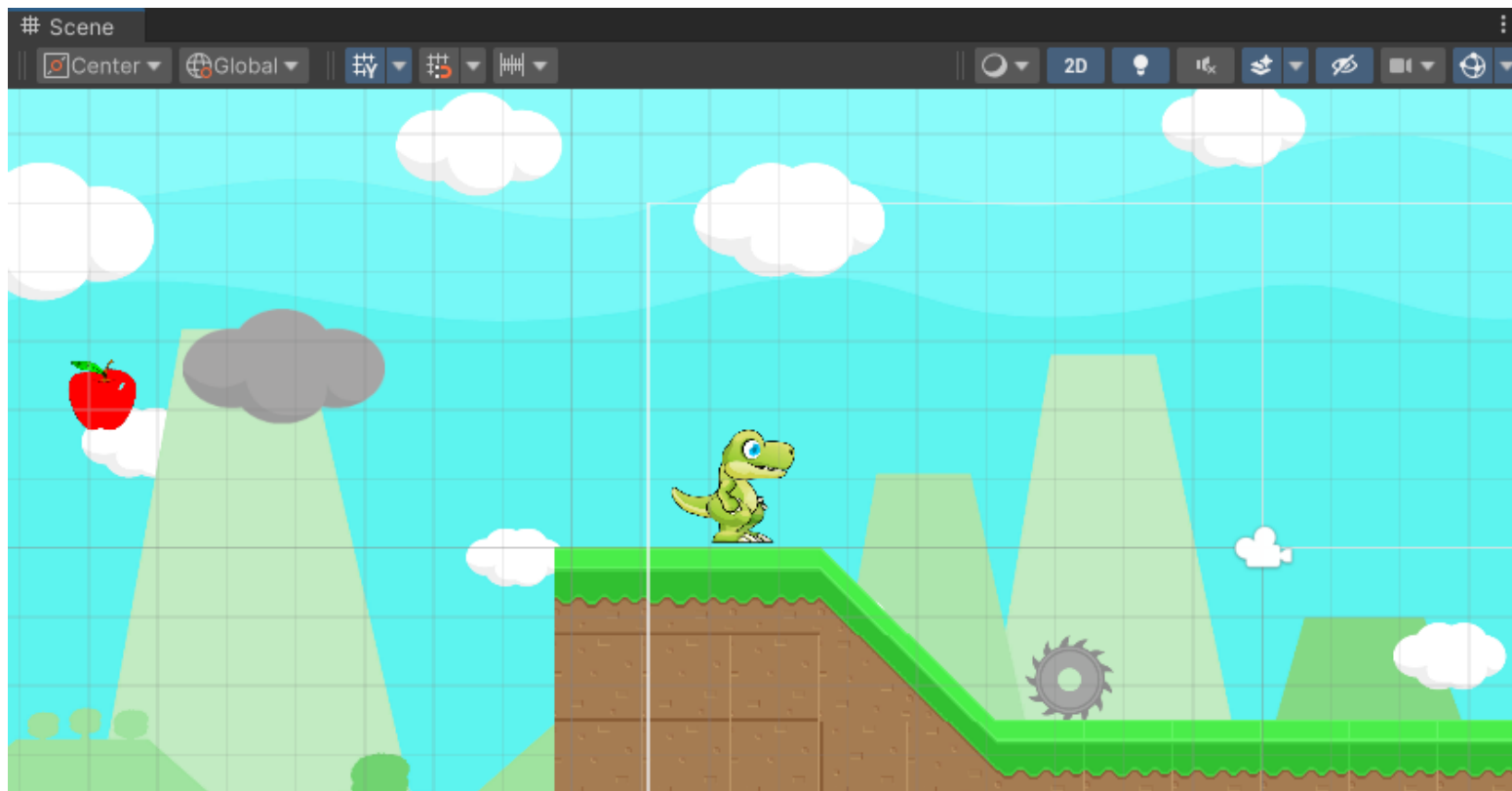
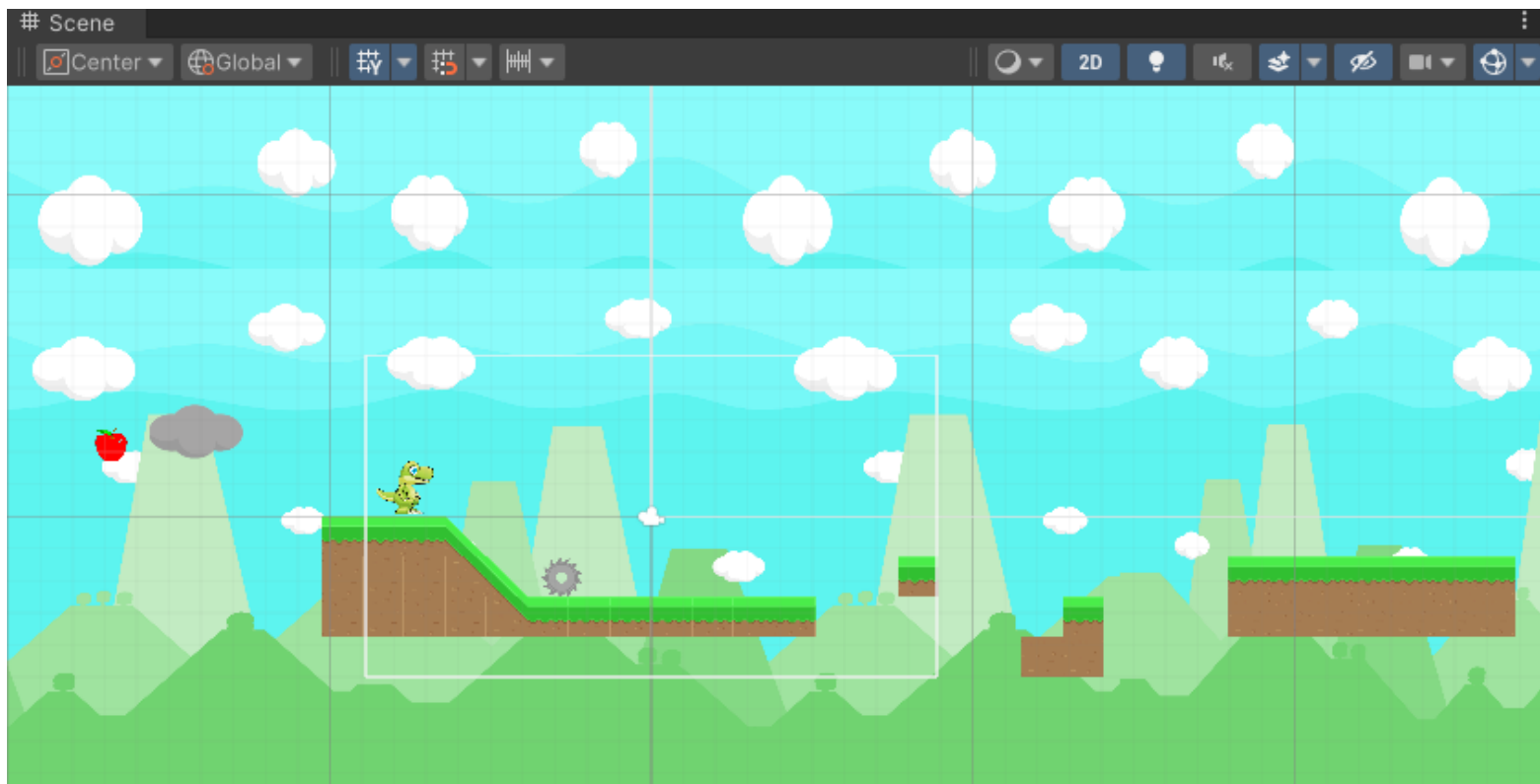
Question No 1.

CLO: <3>; Bloom Taxonomy Level: <Apply>

[80]







dinoMove.cs

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

public class dinoMove : MonoBehaviour
{
    Animator anim;
    public CharacterController2D controller;

    float lefthorizontalmove = -10f;
    float righthorizontalmove = 10f;
    bool jump = false;
    bool croach = false;
    public Text ScoreText,HealthText;
    // public GameObject cloud;

    private float score = 0;
    private float health = 50;
    // Start is called before the first frame update
    void Start()
    {
        anim = GetComponent<Animator>();
        HealthText.text = "Health: "+health.ToString();
        ScoreText.text = "Score: "+score.ToString();
    }

    void Update()
    {
        if(Input.GetKey(KeyCode.Space))
        {
            transform.Translate(Vector2.up * 20 *Time.fixedDeltaTime);
        }
    }
    // Update is called once per frame
    void FixedUpdate()
    {
        if(Input.GetKey(KeyCode.LeftArrow))
        {
            controller.Move(lefthorizontalmove *Time.fixedDeltaTime,croach,jump);
            anim.SetTrigger("walk");
        }
        if(Input.GetKey(KeyCode.RightArrow))
        {
            controller.Move(righthorizontalmove *Time.fixedDeltaTime,croach,jump);
            anim.SetTrigger("walk");
        }
        if(Input.GetKey(KeyCode.Space))
```

```

    {
        anim.SetTrigger("jump");
    }
    else{
        anim.SetTrigger("idle");
    }
}
private void OnCollisionEnter2D(Collision2D col)
{
    if(col.gameObject.name.StartsWith("Saw"))
    {
        health -= 10;
        HealthText.text = "Health: "+health.ToString();
        if(health == 0)
        {
            anim.SetTrigger("dead");
        }
    }
    if(col.gameObject.CompareTag("cloud"))
    {
        transform.gameObject.transform.parent = col.gameObject.transform;
    }
    if(col.gameObject.name.StartsWith("Apple"))
    {
        score += 10;
        ScoreText.text = "Score: "+score.ToString();
        Destroy(col.gameObject);
    }
}
}
}

```

sawMovement.cs

```

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

public class sawMovement : MonoBehaviour
{
    public Vector2 pos1;
    Vector2 pos2;
    public Vector2 positionDiff = new Vector2(7.2f,0f);
    public float speed = 0.5f;
    // Start is called before the first frame update
    void Start()
    {
        pos1 = transform.position;
        pos2 = pos1 + positionDiff;
    }
}

```

```

    // Update is called once per frame
    void Update()
    {
        transform.position = Vector2.Lerp(pos1, pos2,Mathf.PingPong(Time.time*speed,1.0f));
        transform.Rotate(0,0,3f);
    }
}

```

cloudMovement.cs

```

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

public class cloudMovement : MonoBehaviour
{
    public Vector2 pos1;
    Vector2 pos2;
    public Vector2 positionDiff = new Vector2(70f,0f);
    public float speed = 0.5f;
    // Start is called before the first frame update
    void Start()
    {
        pos1 = transform.position;
        pos2 = pos1 + positionDiff;
    }

    // Update is called once per frame
    void Update()
    {
        transform.position = Vector2.Lerp(pos1,
pos2,Mathf.PingPong(Time.time*speed,1.0f));
    }
}

```

appleController.cs

```

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

public class appleController : MonoBehaviour
{
    public GameObject apple;
    // Start is called before the first frame update
    void Start()
    {
        for(int i = 0;i<=10;i++){
            Vector2 applePos = new Vector2(Random.Range(0,50),Random.Range(-4,4));
            Instantiate(apple,applePos,Quaternion.identity);
        }
    }
}

```

```

    }
}

// Update is called once per frame
void Update()
{
}
}

```

UIManager.cs

```

using UnityEngine;
using UnityEngine.UI;

public class UIManager : MonoBehaviour
{
    public GameObject MenuPanel;
    public GameObject AdPanel;

    public GameObject button;
    public Sprite playSprite;
    public Sprite pauseSprite;
    Image _spriteRef;
    void Start()
    {
        _spriteRef = button.GetComponent<Image>();
        MenuPanel.SetActive(false);
        AdPanel.SetActive(false);
    }
    public void PauseGame()
    {
        Time.timeScale = 0;
        MenuPanel.SetActive(true);
        _spriteRef.sprite = pauseSprite;
    }
    public void ResumeGame()
    {
        Time.timeScale = 1;
        MenuPanel.SetActive(false);
        AdPanel.SetActive(false);
        _spriteRef.sprite = playSprite;
    }
    public void ShowAdPanel()
    {
        AdPanel.SetActive(true);
    }
}

```