

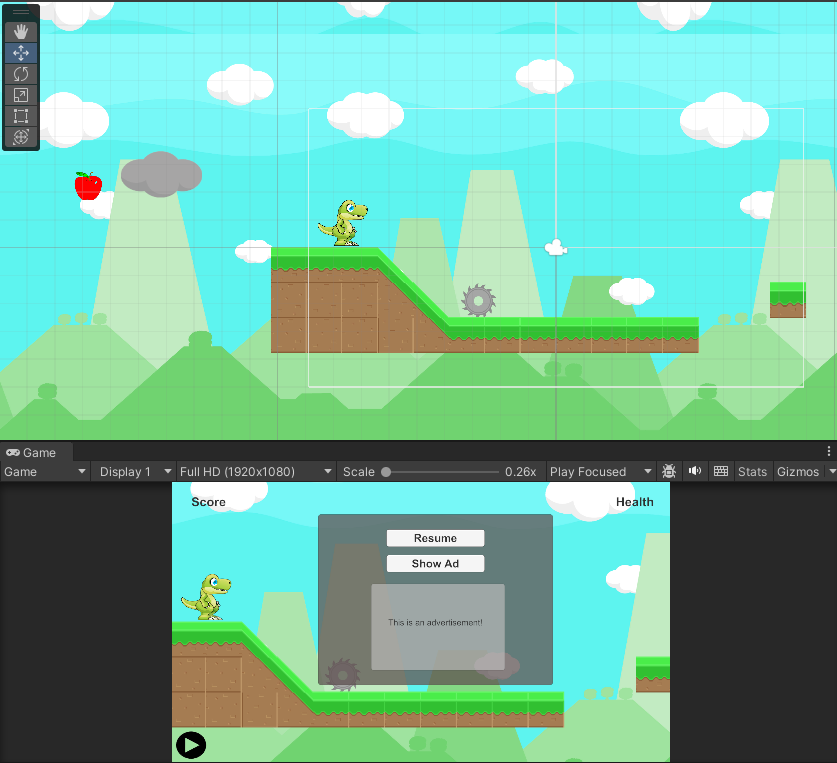
**COMSATS University Islamabad (Lahore Campus)**

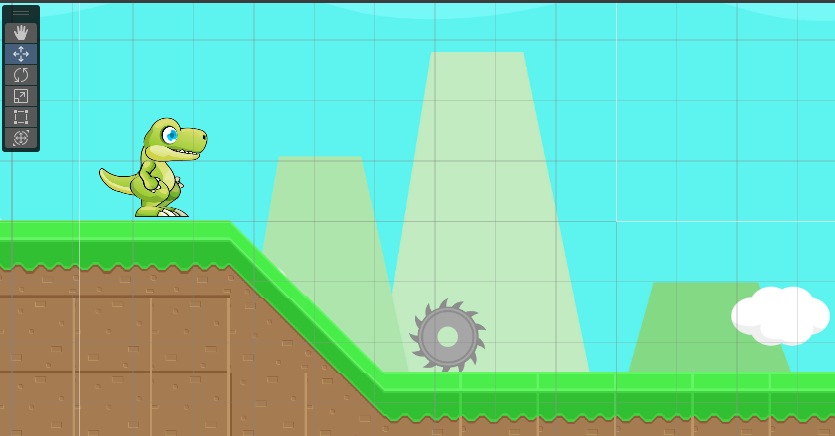
**<Lab Assignment 3> – SPRING 2024**

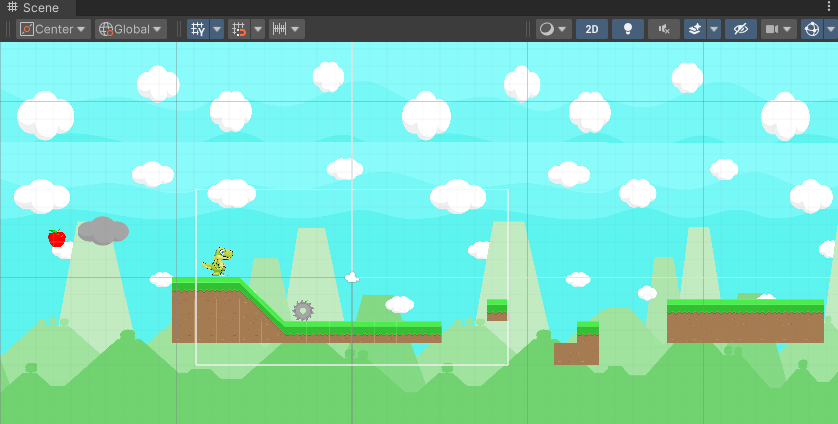
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| --- | --- | --- | --- | --- | --- |
| Course Title: | Game Development | Course Code: | CSC495 | Credit Hours: | 3 |
| Course Instructor/s: | Saira Aslam | Program | BSE | | |
| **Submission Deadline** | **11:55 pm, 01-5-2024** | **Maximum Marks:**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

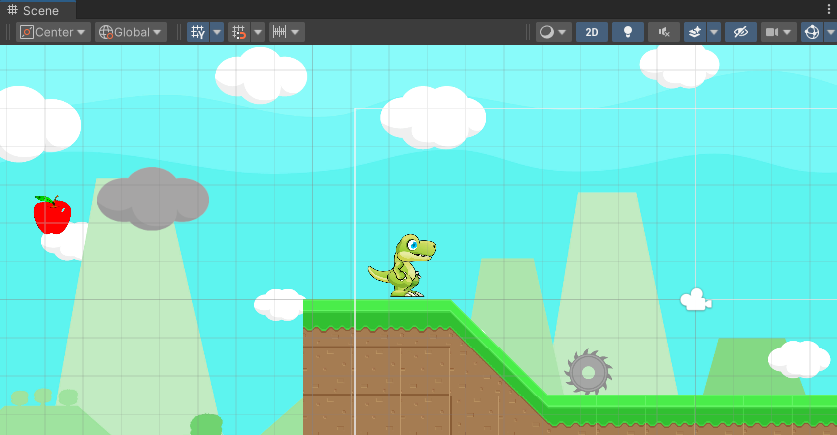
***Question No 1.***

***CLO: <3>; Bloom Taxonomy Level: <****Apply****>* [80]**



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**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 sawMovemement : 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);

    }

}