



**Unity**®

# Unity Development: The Basics

Anna Jenelius, Valiant Game Studio



# Day 1

Games, Unity Intro

# Day 1 (09:00-12:00)

- Who am I?
- Game art styles
- Basic design concept
- A bunch of different types of games
- Navigating Unity
- Workshop!

Anna Jenelius

LION  BITE



Stockholms  
universitet



Star   
Stable

**DOUBLE**  
MOOSE

Lalecore  
STUDIOS

**VALIANT**  
GAME STUDIO





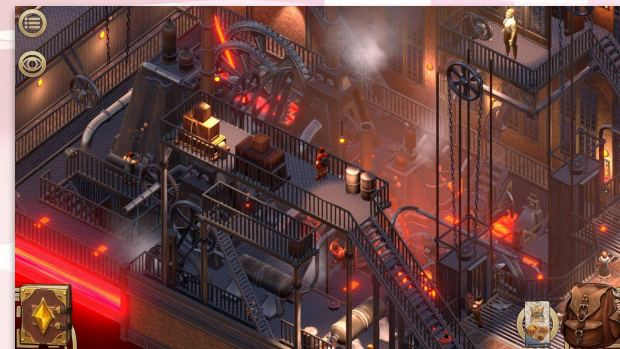
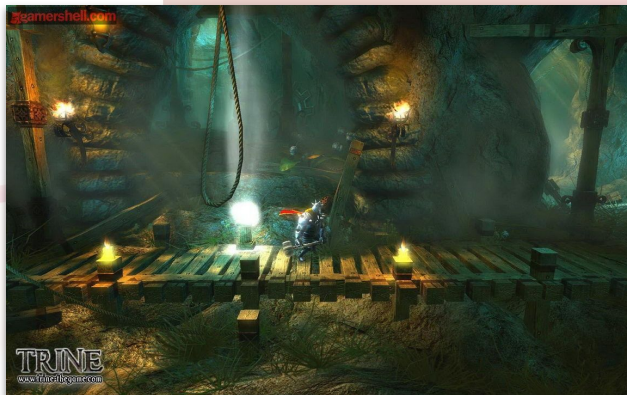
2D



2.5D



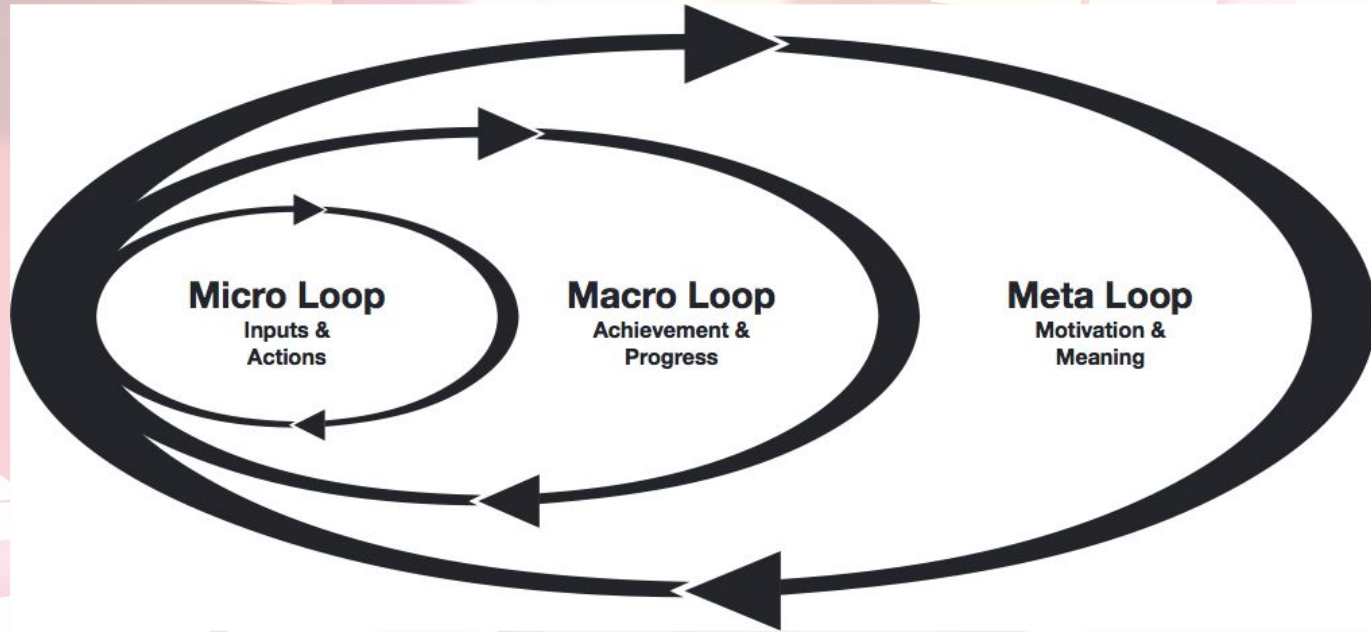
3D



# Art styles

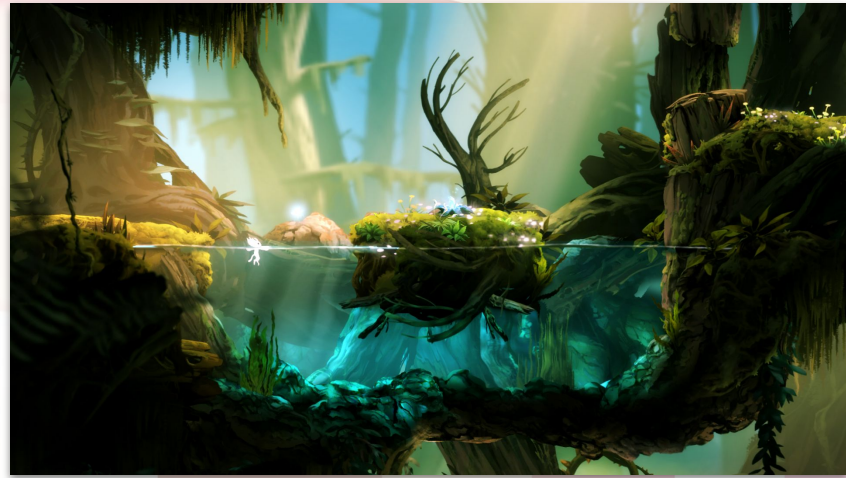


# What do you do in the game?

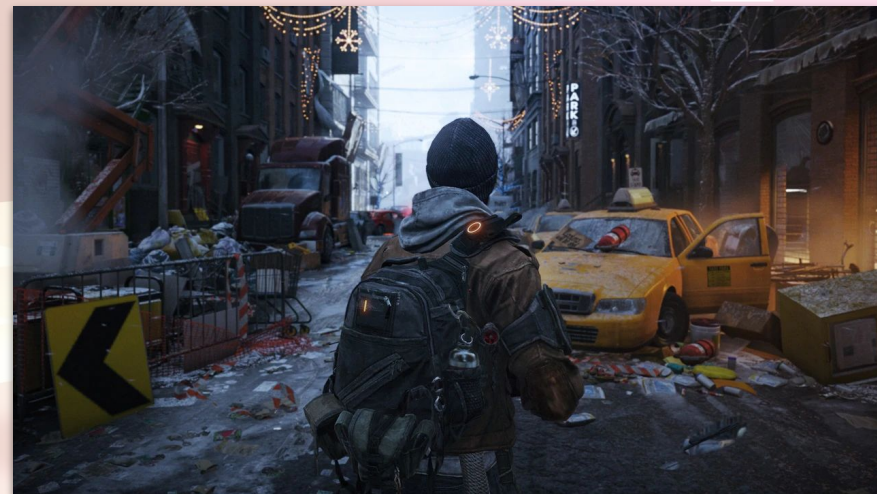




# Platformers



# Shooters



# Simulation games



# Strategy games



# Point-and-click



# Role-Playing games



# Survival/Crafting games



# Puzzle games





# Sports



Home

Posta in arrivo

Rosa

Dinamiche

Tattiche

Rapporto squadra

Staff

Allenamento

Centro medico

Calendario

Competizioni

Osservatori

Trasferimenti

Info Societarie

Visione societaria

Finanze

Centro Sv.

PROSSIMO RACCONTRO  
Leics 2nd XI (O)

8. YOURI TIELEMANS  
Centrocampista (Centrale) / FID - Smeraldo

37 LUG 2020  
Lun 9:00

POSTA

Disponibile un nuovo consiglio

Generale | Contratto | Trasferimenti | Sviluppo | Rapporti | Discuti | Confronto | Storia

Sotto contratto con il Leicester  
Valutato €32M  
£120m p/a fino al 30/6/2023  
Titolare fisso

23 anni (7/5/1997)  
28 presenze / 2 gol  
14 pres. U21 / 6 gol U21

Rapporto del preparatore  
★★★★☆ 12 Pro / 2 Centro  
Giocatore importante che può ancora migliorare

ABILITÀ POTENZIALE  
★★★★★

RUOLI > Evidenzia

Centrocampista (Centrale)

RUOLO E COMPITO

- ★★★★★ Regista arretrato (So)
- ★★★★★ Regista avanzato (So)
- ★★★★★ Mezzala (So)
- ★★★★★ Centrocampista centrale (At)

FORMA FISICA > Completamente disponibile  
CONDIZIONE FIS. FORMA PARTITA PREDISPOSIZIONE Normale

DINAMICHE > Giocatore molto influente ( Gruppo sociale second...  
Si possiede / Si rispetta  
È lieto di essere considerato un giocatore altamente influente all'interno dello spogliatoio e spera che un

PROGETTI > Piani a breve termine: 1  
Piani a lungo termine: 1  
Vuole vincere un trofeo ed è entusiasta delle opportunità della squadra nell'EURO Cup

QUALITÀ TECNICHE	QUALITÀ MENTALI	QUALITÀ FISICHE	PIEDE PREFERITO
Calci d'angolo 12	Aggressività 11	Accelerazione 12	Destro
Calci piazzati 14	Cinema 14	Agilità 14	
Colpi di testa 9	Concentrazione 12	Equilibrio 13	PERSONALITÀ
Contrasti 11	Coraggio 12	Forza 10	Abbastanza ambizioso
Controllo di p... 10	Decisioni 15	Integrità fisica 14	DESCRIZIONE DEI MED...
Cross 13	Determinazione 14	Massima elevazi... 8	Centrocampista
Dribbling 13	Fantasia 15	Resistenza 12	VALUTAZIONE COME...
Finalizzazione 12	Frieddezza 16	Velocità 11	3
Marcatura 11	Gioco di squa... 14	Altezza 176 cm	CARATTERISTICHE GI...
Passaggi 17	Impegno 15	Peso 72 kg	Prova spesso il passaggio decisivo
Rigori 14	Intuito 14		Tira dalla distanza
Rimesse lunghe 3	Posizione 12		Non spazza il pallone ma rischia il possesso
Tecnica 16	Senza palla 14		
Tiri da lontano 13	Visione di gioco 17		

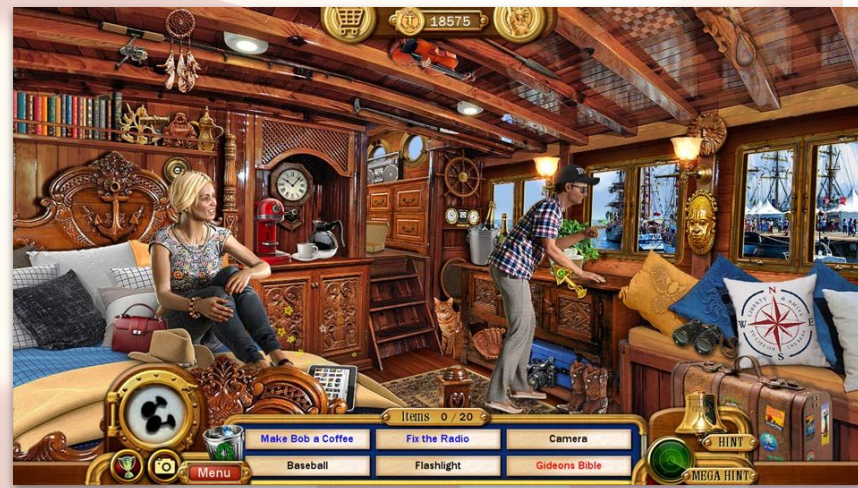
STAT. STAGIONALI

NESSUNA PARTITA GIOCATA

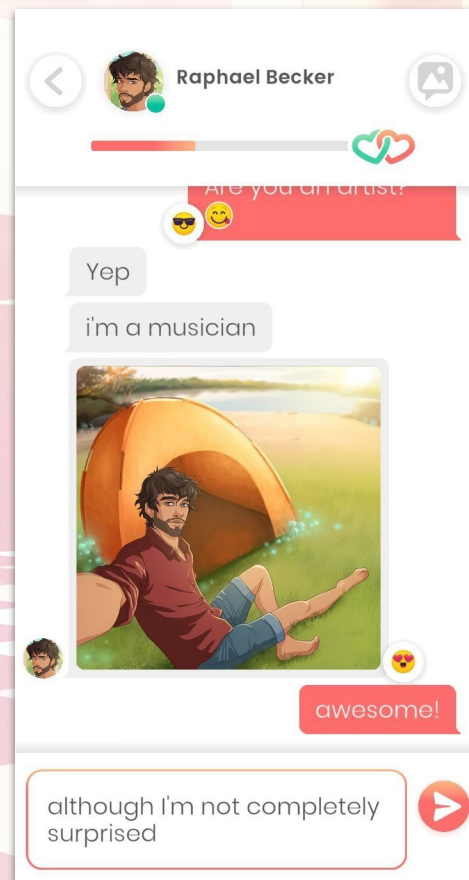
# Rogue-likes/Roguelites



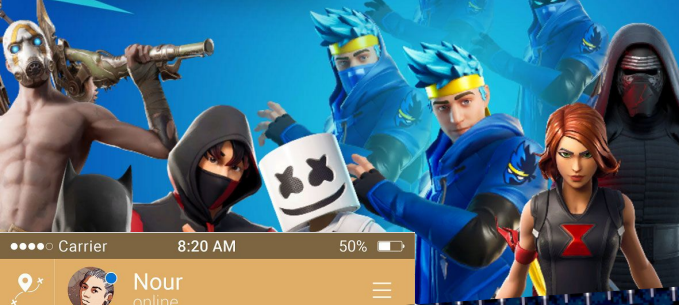
# Hidden Object games



# Dating sims

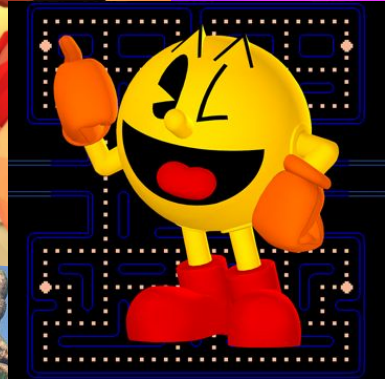
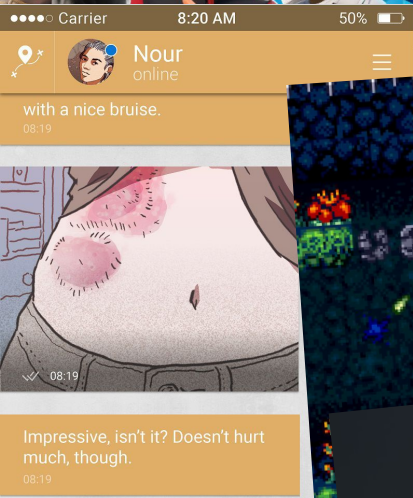


# FORTNITE

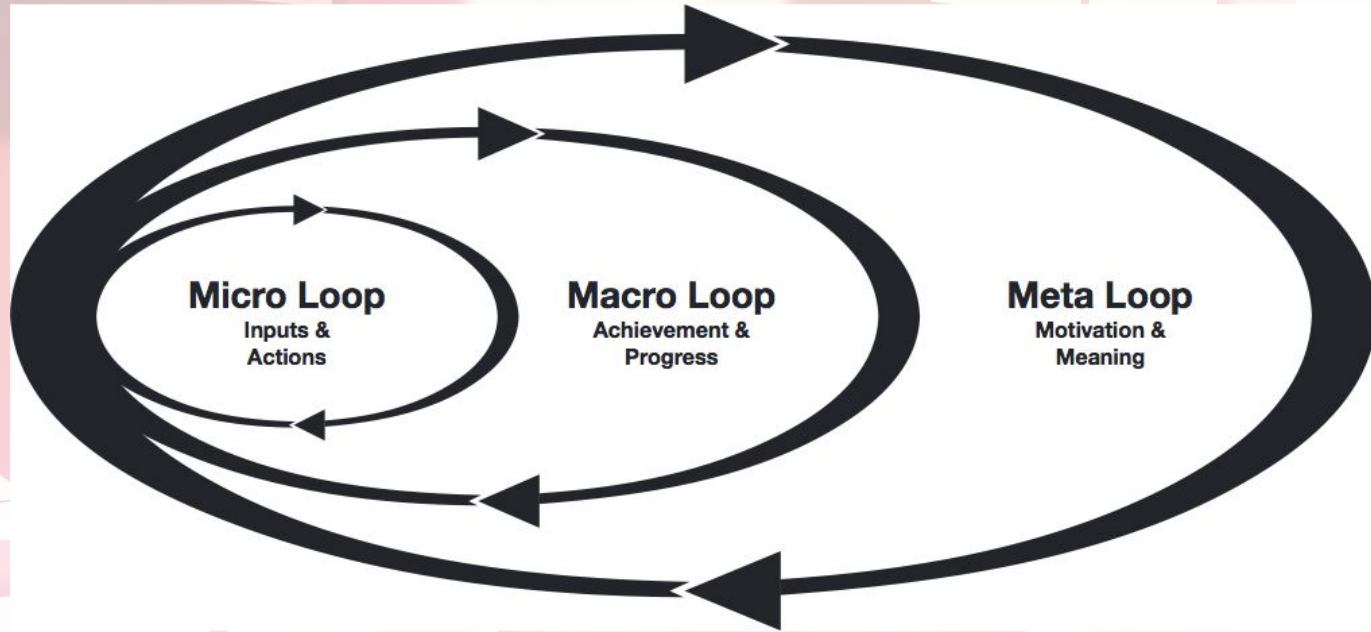


Etc, etc, etc...

Your favorites?

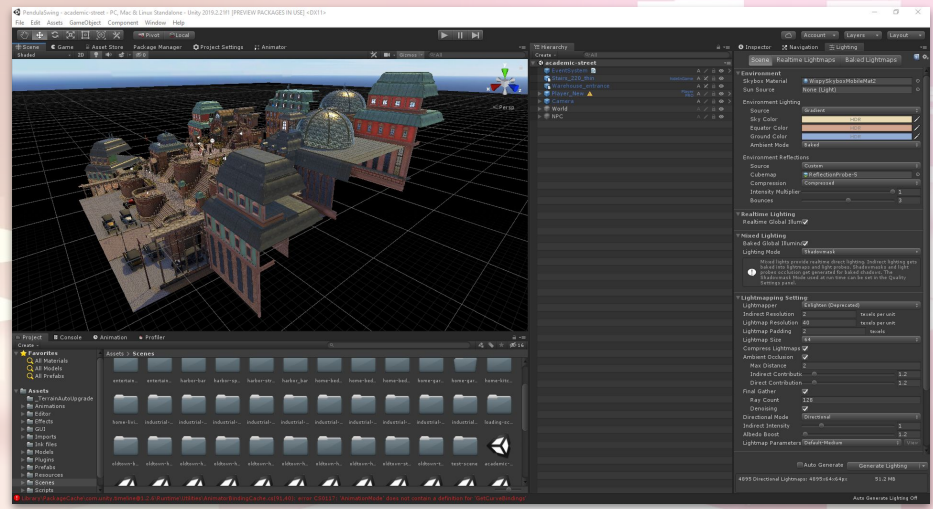
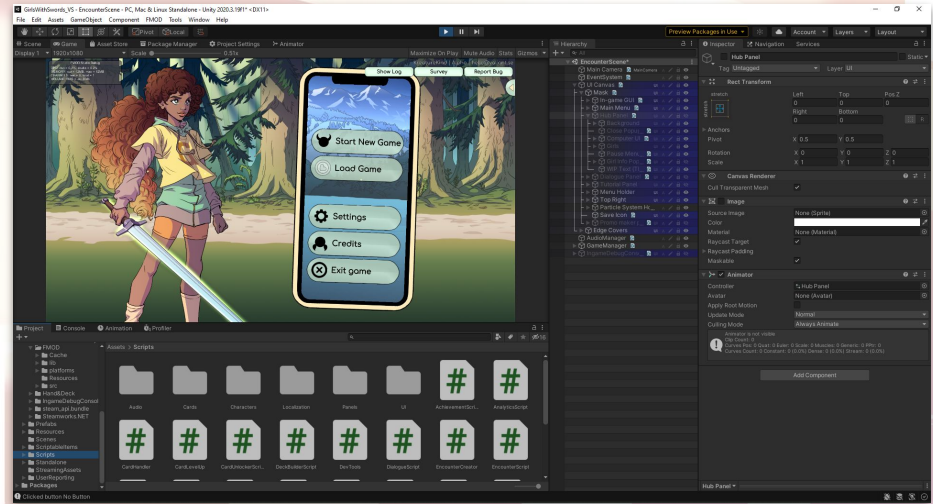
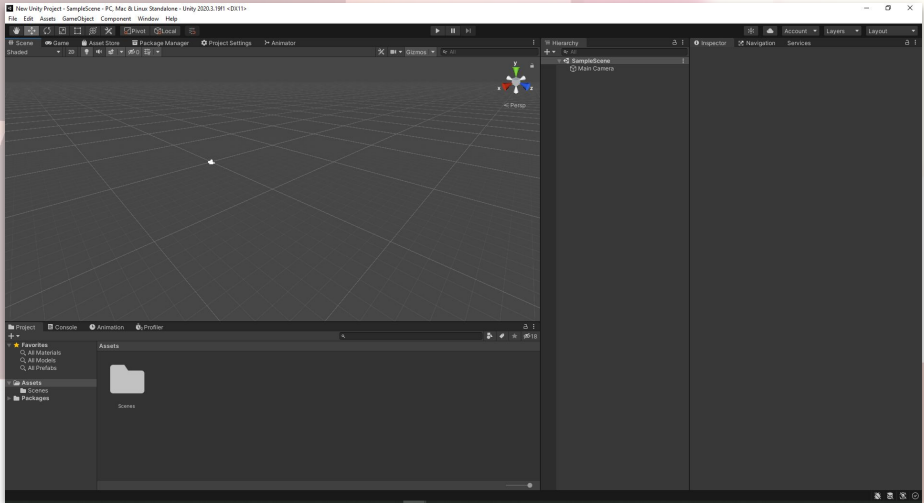


# What do you do in the game?



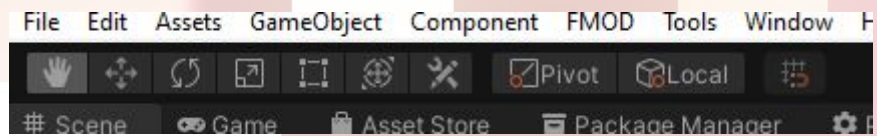


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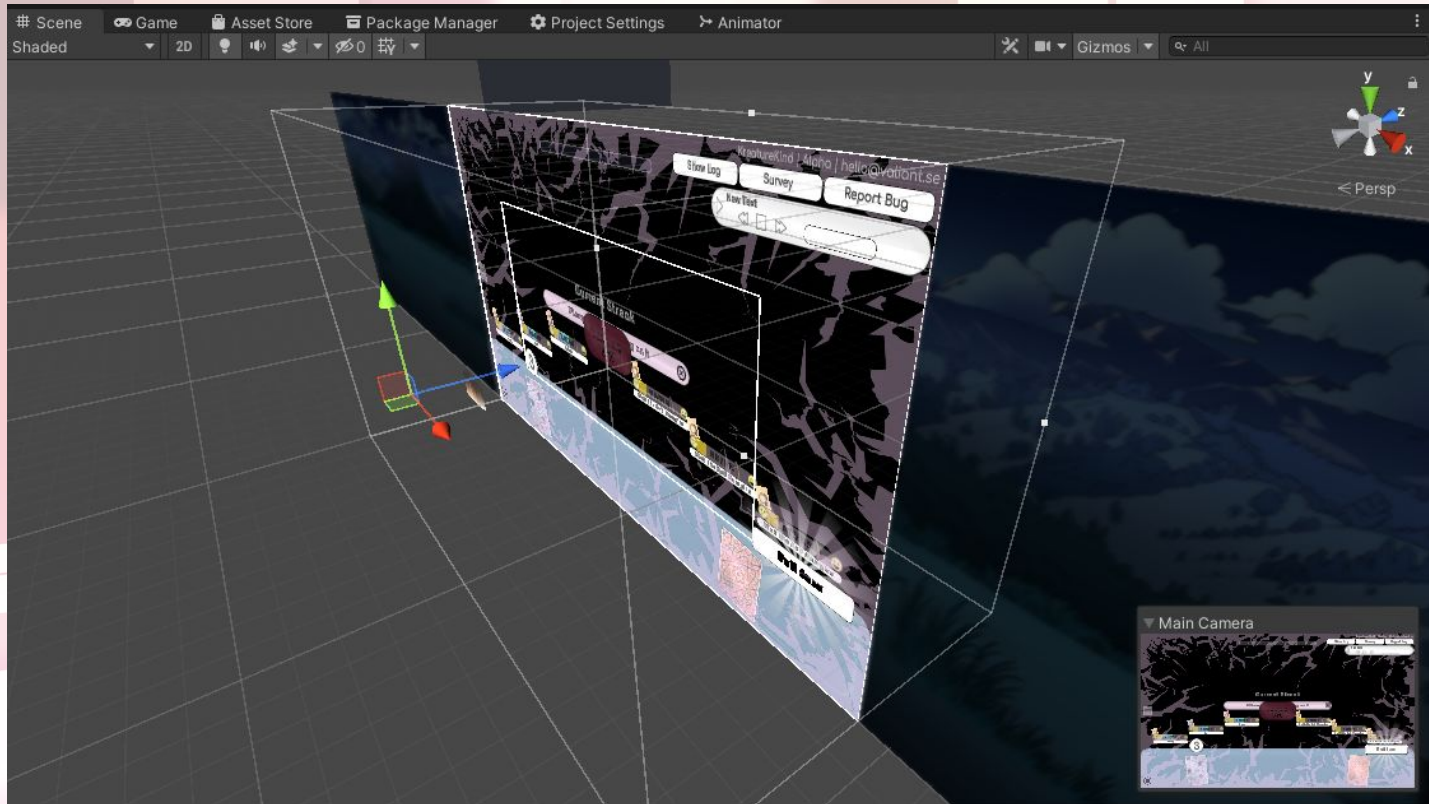




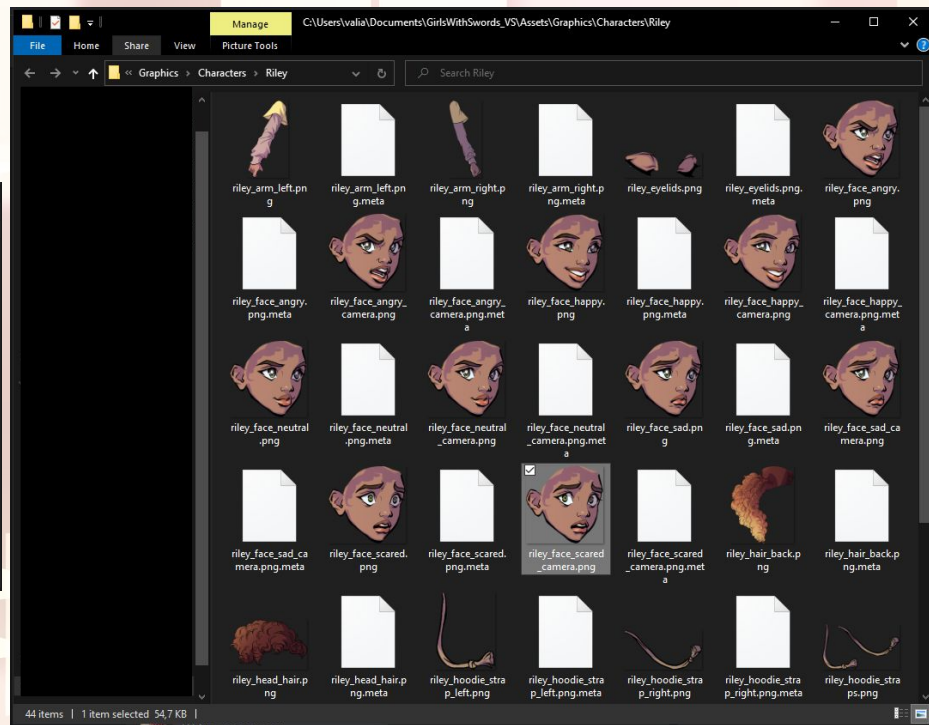
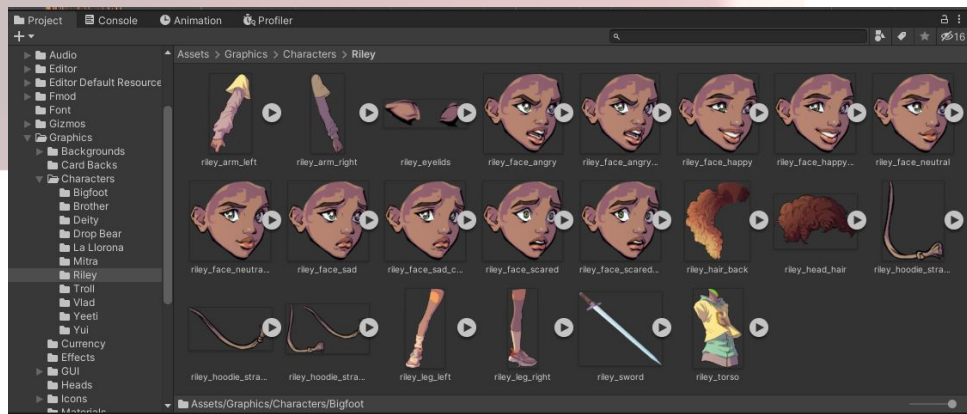
# Navigating the scene



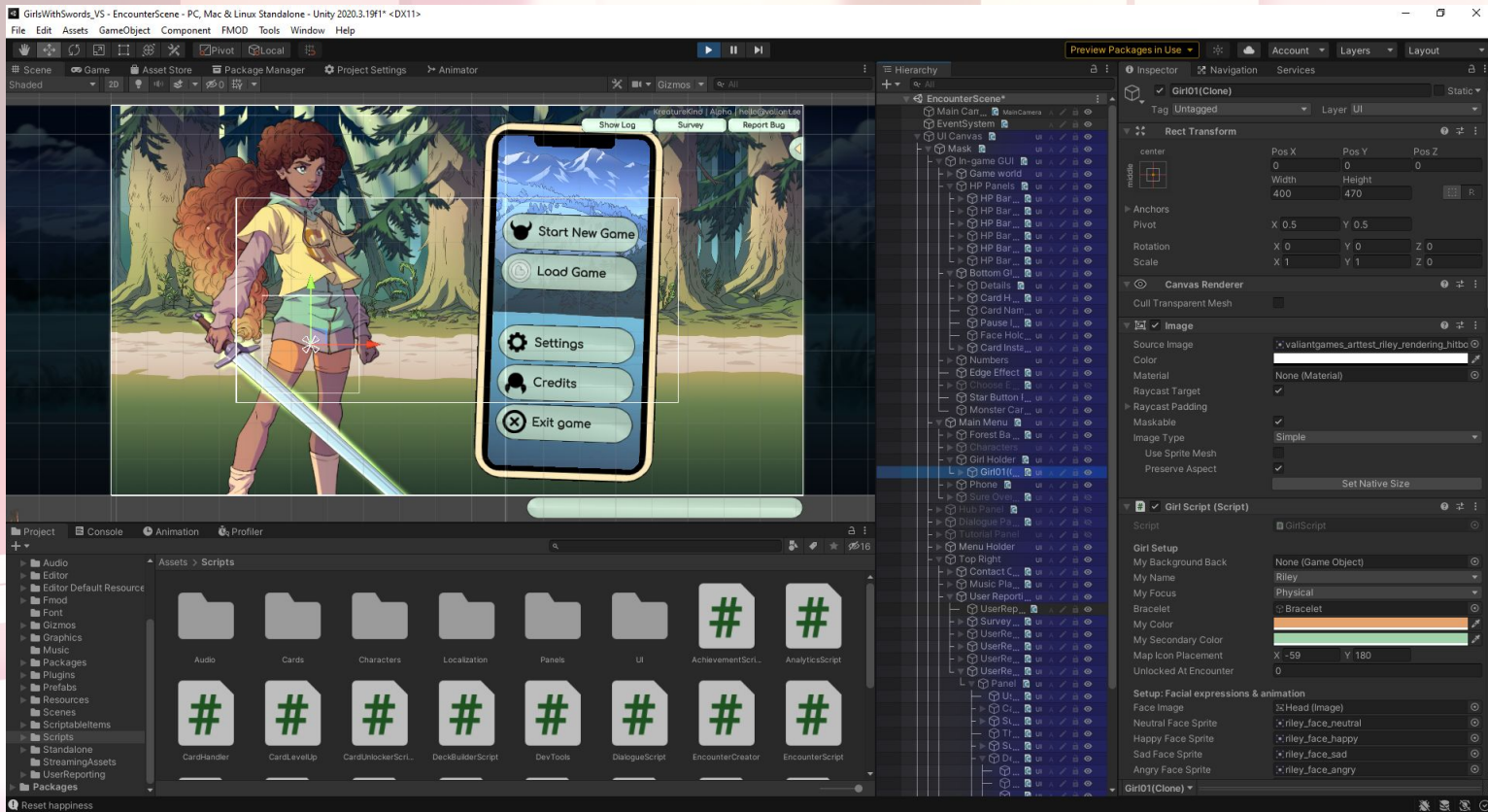
# Cameras, UI renderer



# Importing assets



# GameObjects



# Assignment:

Think of a game where you only press one button.

- What is the objective?
- What stories can you tell?
- Can you make it fun?



# Day 2

Scripting intro

# Assignment:

Think of a game where you only press one button.

- What is the objective?
- What stories can you tell?
- Can you make it fun?

What you you in play mode...

...IS NOT SAVED!

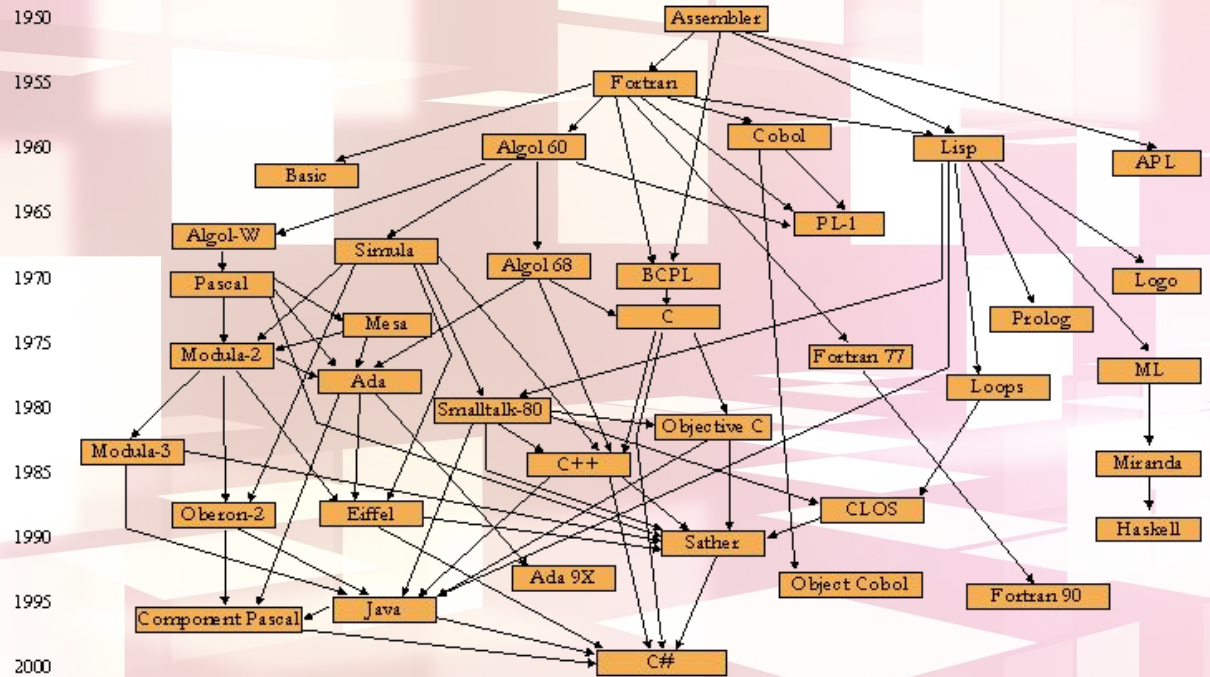




# Coding in C#

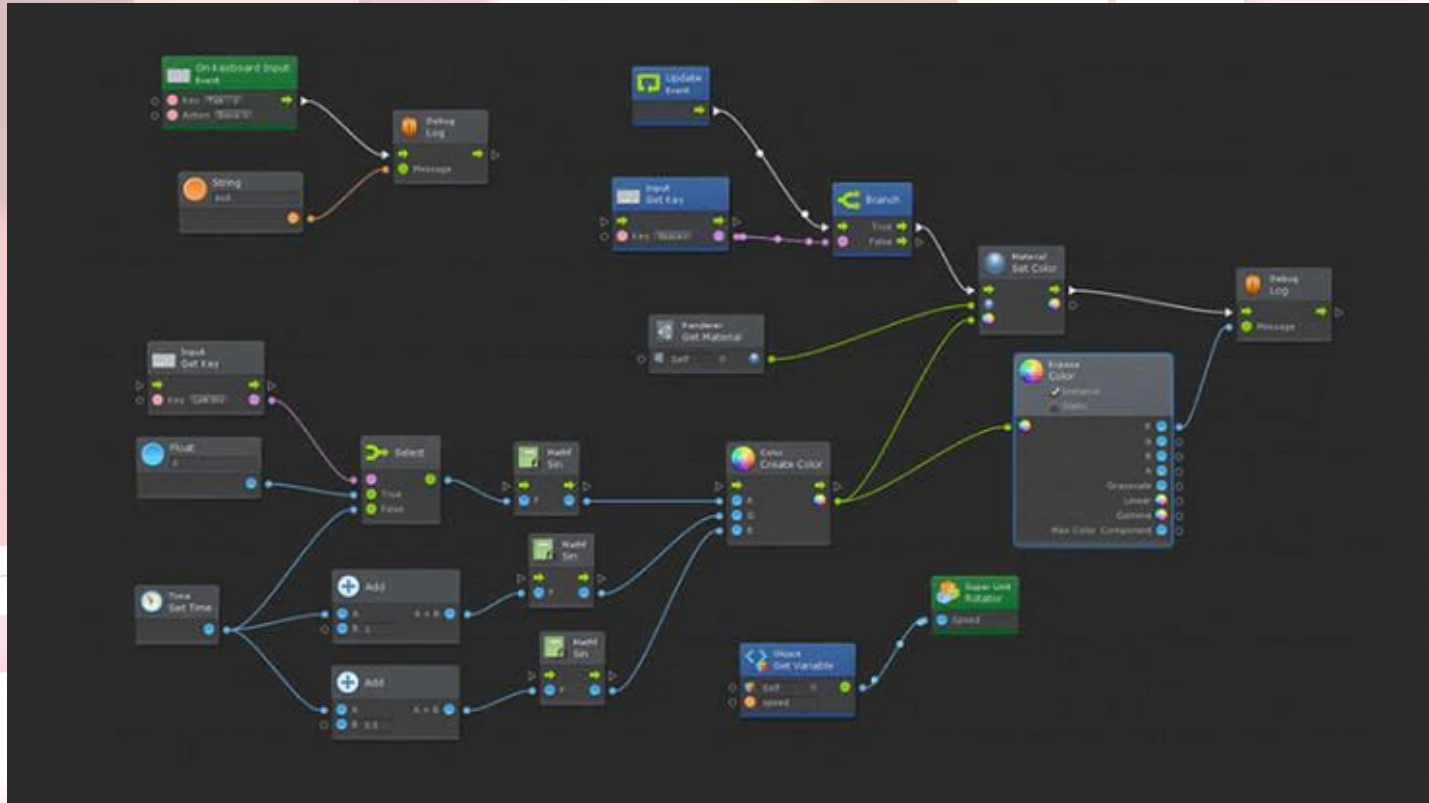


## Programming Language Family Tree



1 November, 2000

# Visual Scripting



```
using UnityEngine;
using System.Collections;

public class ExampleClass : MonoBehaviour
{
    void Update()
    {
        if (Input.GetKeyDown("space"))
        {
            print("space key was pressed");
        }
    }
}
```

## Variables

Bool            true/false

Int            -1, 0, 1, 2, 3...

Float          -4.5f, 99.3f, 344.9334f...

Vector        Vector2(-4.5f, 99.3f)

              Vector3(-4.5f, 99.3f, 344.9334f)

Color         Color.Blue

              Color(0, 0, 1, 1)

## **void Functions (Methods)**

Start()

Update()

MyFunction()

## **Access**

private

public

[SerializeField]

# Calling functions from Unity



```
using UnityEngine;

public class ExampleClass : MonoBehaviour
{
    //movement speed in units per second
    private float movementSpeed = 5f;

    void Update()
    {
        //get the Input from Horizontal axis
        float horizontalInput = Input.GetAxis("Horizontal");
        //get the Input from Vertical axis
        float verticalInput = Input.GetAxis("Vertical");

        //update the position
        transform.position = transform.position + new Vector3(horizontalInput * movementSpeed *
Time.deltaTime, verticalInput * movementSpeed * Time.deltaTime, 0);

        //output to log the position change
        Debug.Log(transform.position);
    }
}
```

```
[SerializeField] GameObject myObject;
```

```
void Start()
```

```
{
```

```
    myObject.SetActive(true);
```

```
    myObject.GetComponent<Image>().color = Color.green;
```

```
}
```



```
//Comments
```

```
/* And also
```

```
Longer comments */
```

# Animations



```
Animator myAnimator;  
myAnimator.Play("walk");
```

# Audio



```
using UnityEngine;

// The Audio Source component has an AudioClip option. The audio
// played in this example comes from AudioClip and is called audioData.

[RequireComponent(typeof(AudioSource))]
public class ExampleScript : MonoBehaviour
{
    AudioSource audioData;

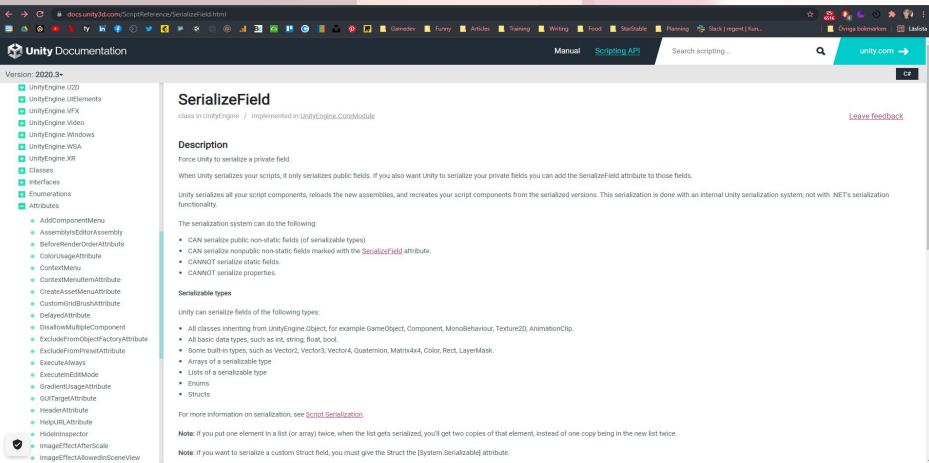
    void Start()
    {
        audioData = GetComponent<AudioSource>();
        audioData.Play(0);
        Debug.Log("started");
    }

    void OnGUI()
    {
        if (GUI.Button(new Rect(10, 70, 150, 30), "Pause"))
        {
            audioData.Pause();
            Debug.Log("Pause: " + audioData.time);
        }

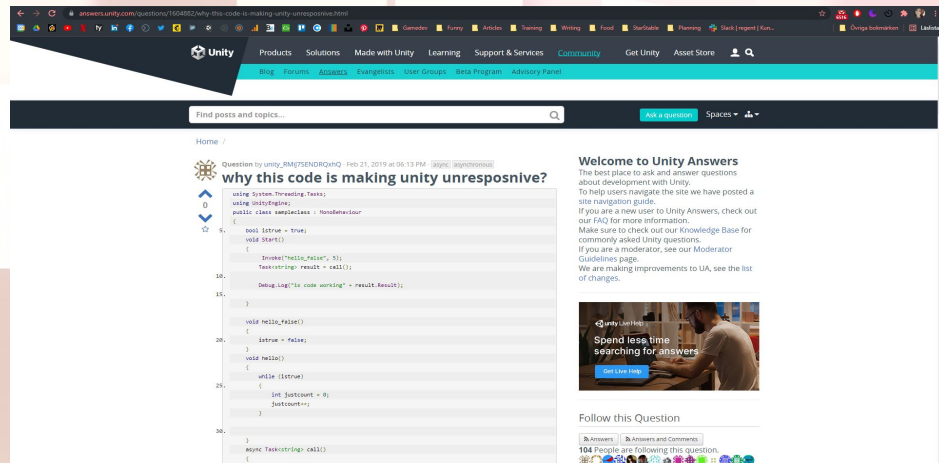
        if (GUI.Button(new Rect(10, 170, 150, 30), "Continue"))
        {
            audioData.UnPause();
        }
    }
}
```



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<https://docs.unity3d.com/>



<https://forum.unity.com/>

Google: "Unity C# [your question]"

# Assignment:

In unity - give an input and get an outcome!



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<https://www.linkedin.com/in/annajenelius/>