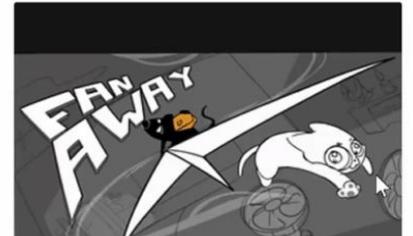


Curso de Herramientas de Unity

Hederson Carrasquero



 [hedersonleeh](#)  [@hederson_leeh](#)



Hi, my name is Hederson Carrasquero!





CRISTALES



**¿Qué son
herramientas
para desarrollar
videojuegos?**

¿Qué son?

“Cualquier hardware o software que nos facilite o asista al momento de hacer/crear/desarrollar un juego”



```
string CutEmptySpaces(string str);
```

```
void ChangeFolder();
```

Crowd simulation

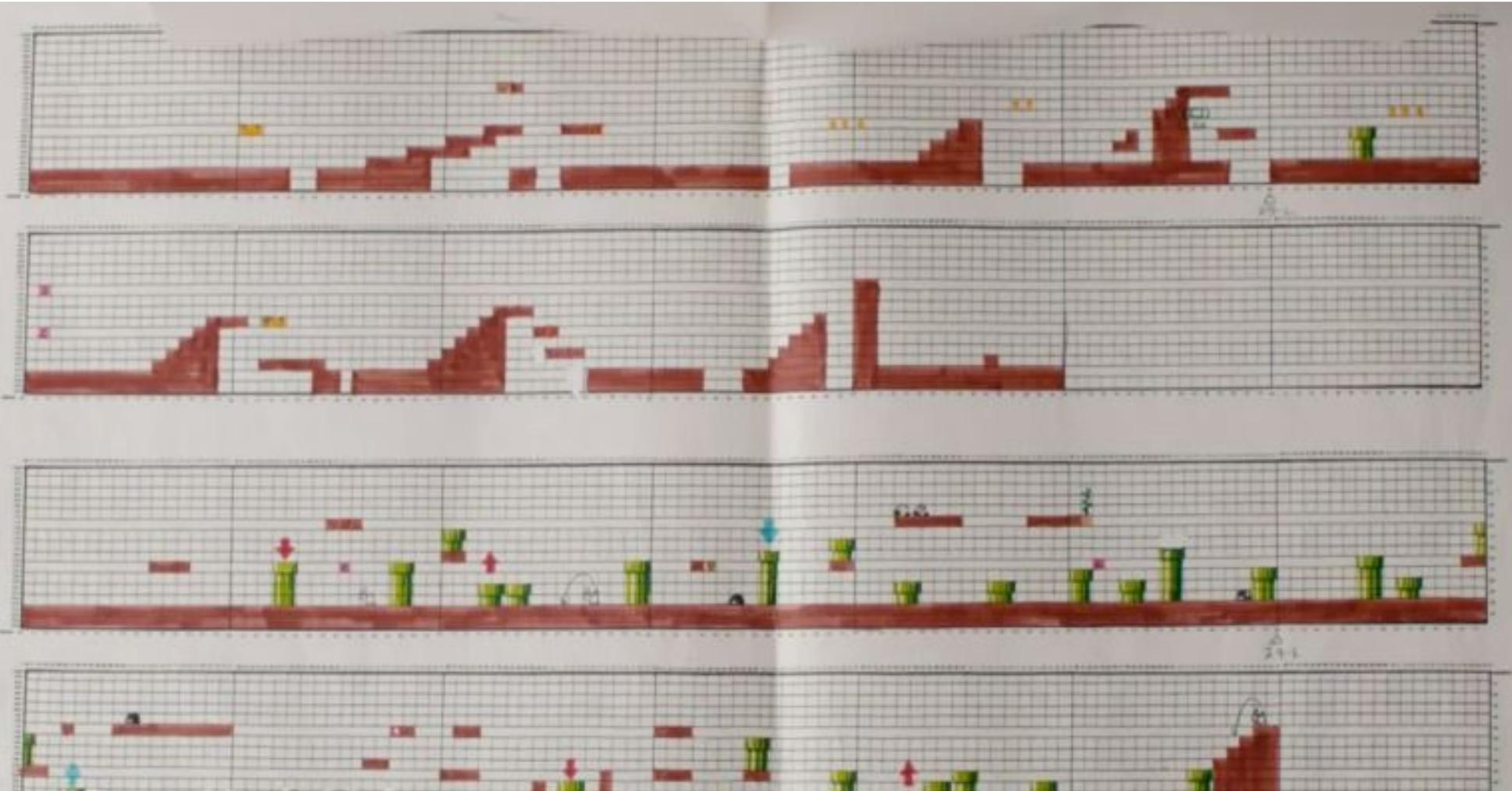


¿Por qué son tan importantes?

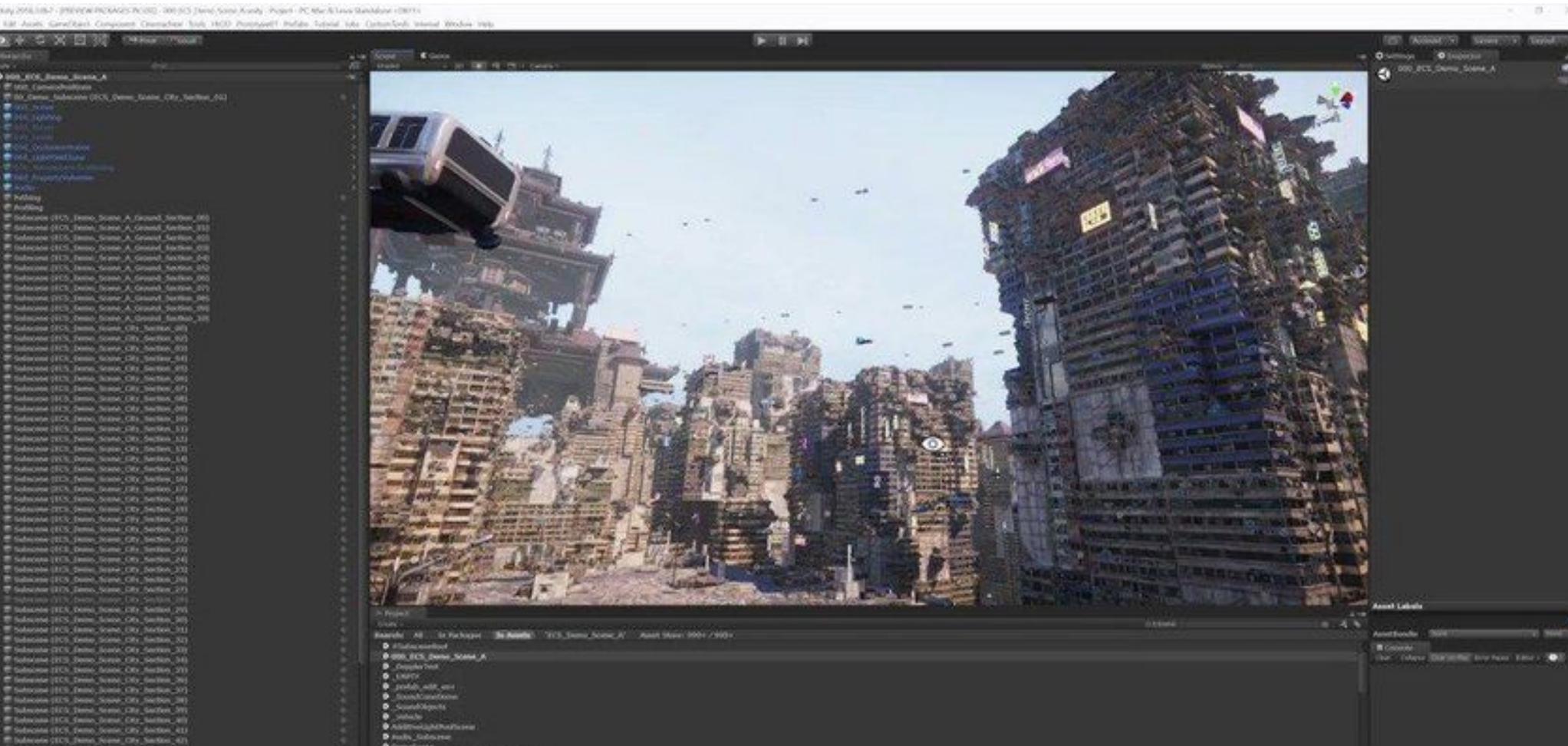
TIEMPO

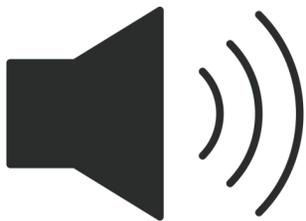
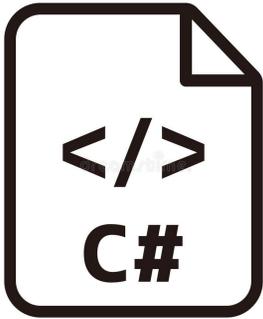
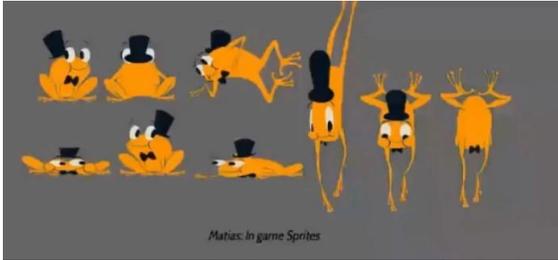


Editor de niveles

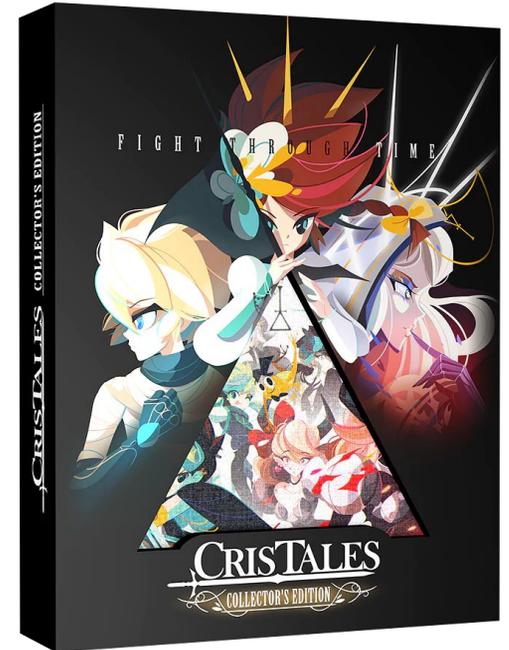


Editores de hoy





Unity®



En proyectos grandes

- Setups más específicos
- Menos generales



Pros and cons

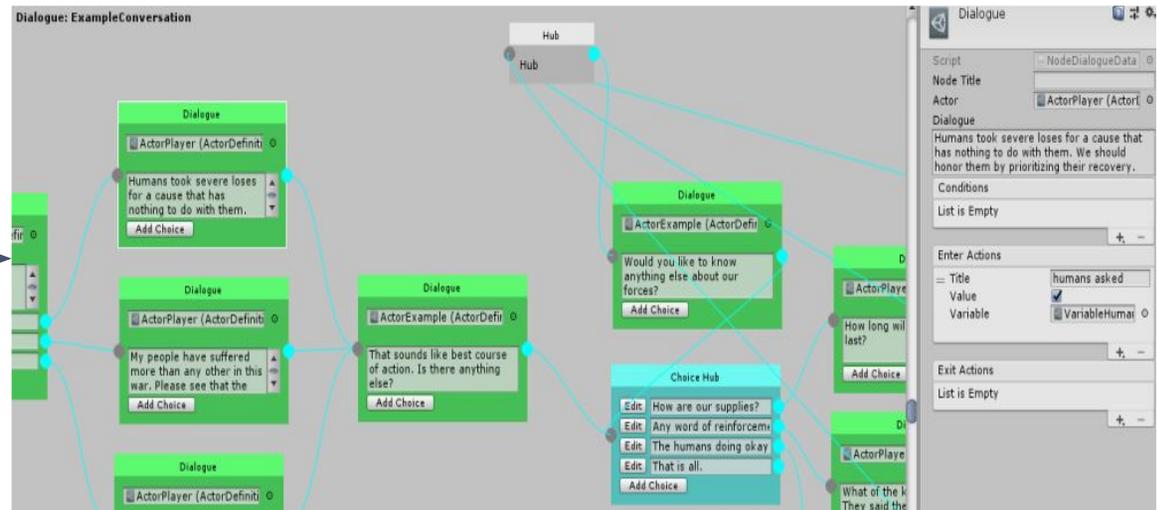
- Control
- Tiempo
- Tener feedback instantáneo



Data vs. visuals

The Inspector panel shows the configuration for a dialogue system. The 'Script' is set to 'DialogueData'. The 'NPC ID' is 2 and the 'NPC Name' is 'Mum'. The 'Messages' list contains three entries:

- Message 0: Text: "Oh hello dear, what are your plans today?". Responses: Size 2. Element 0: Next 1, Reply "I'm going to study!". Element 1: Next 2, Reply "I'm going to burn stuff!".
- Message 1: Text: "That's my boy!". Responses: Size 1. Element 0: Next -1, Reply "Leave".
- Message 2: Text: "I think we need to get help for you...". Responses: Size 1. Element 0: Next -1, Reply "*Put away lighter*".



“

**Good tools keep designer
in flow state**

”

Brett Taylor

Funciones

- Crear interfaces
 - Pipelines de trabajo
 - Tareas repetitivas
 - Procesos de importación
 - Verificación de archivos o assets
- 

TIEMPO

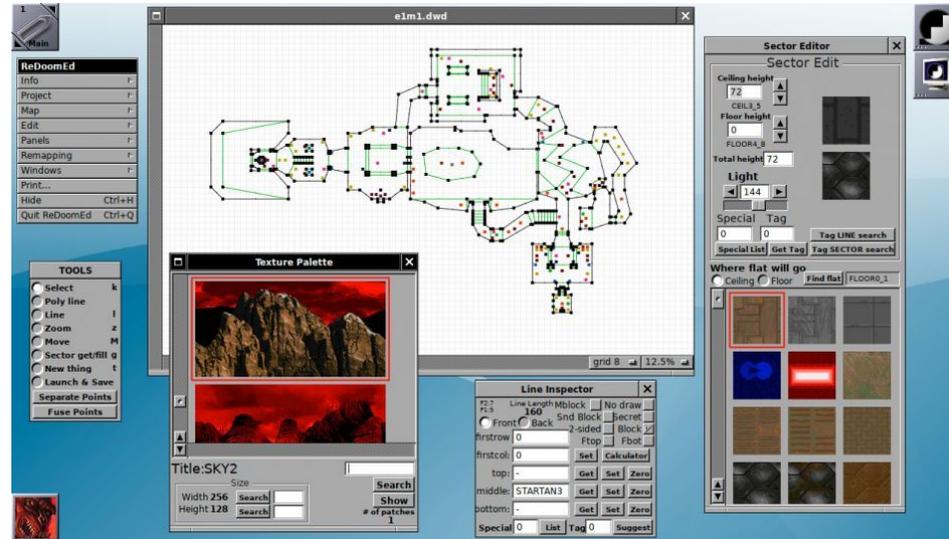
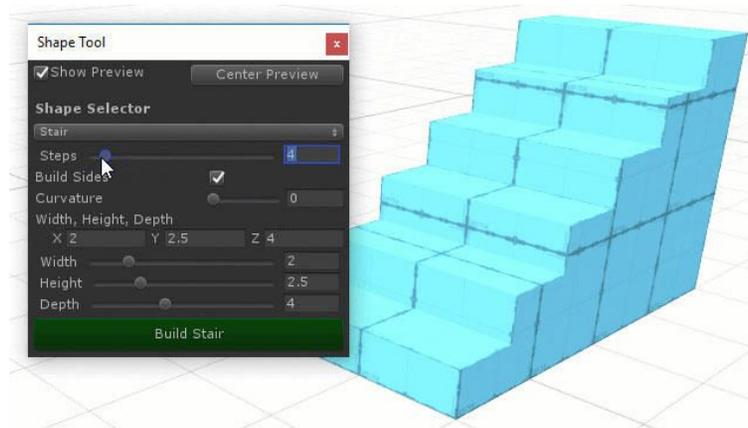
“

**The Faster and more
efficiently we can
work, the more cool
things we can do.**

”

Brett Taylor

**Herramientas
más comunes en
el mundo del
desarrollo de
videojuegos**



Tipos de herramientas

- Time saver
 - Content management
 - Programming tools
 - Testing tools
 - Content creator
- 

Time savers

Time savers

The image displays three panels from a software interface:

- WindowLaunchers:** A sidebar menu with a tree view containing items like 'RGUI.Field() Part1', 'RGUI.MinMaxSlider()', and 'Misc'. A 'Save' button is located at the bottom.
- RGUI.Field() Part1:** A control panel for various data types including string, bool, int, float, color (with an HSV color picker), enum, enumFlags, vector2, vector3, vector4, vector2Int, vector3Int, rect, rectInt, rectOffset, bounds, boundsInt, position, size, array, and list.
- RGUI.MinMaxSlider():** A control panel for sliders, showing sliders for float, ref float, int, vector2, vector3, vector4, vector2Int, and vector3Int.

Content management

Content management

GDC³⁵



Sean Low
Technical Art Director
Riot Games

Character Asset

CHAMP

PREFAB 3D FBX IMAGES

CHAMP/ SKIN1

PREFAB 3D FBX IMAGES

CHAMP/ SKILL1

PREFAB 3D FBX IMAGES

CHAMP/ SKILL1 - SKIN2 variant

PREFAB 3D FBX IMAGES

.meta .json



Asset Analysis Tool

Mesh, Material, Animation, VFX of

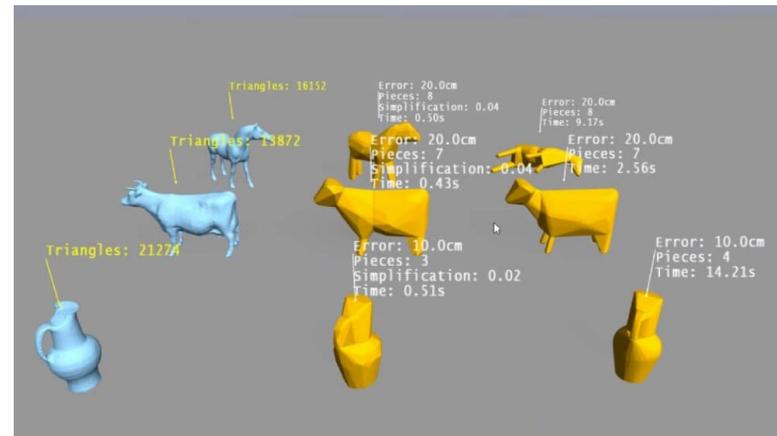
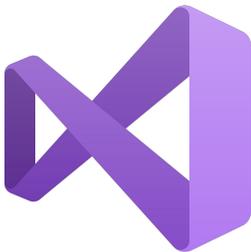
- Champions
- Skins
- Skills

Example of data extracted:

Champ Name: Garen Attack Range: Melee Lane: Top	Champ data
Icon: Garen/UI/Headshot Prefab: Garen/Prefab Model: Garen/Ingame Env: Demacia/Palace	Champ asset
Skill 1: Decisive Strike Anim: Garen/Skill1/Anim/q Duration: 75 frames	Skill asset
Skin 1: Dreadknight Garen FBX: Garen/Skin1/Ingame/FBX Vert Count: 1125	Skin asset

Programming tools

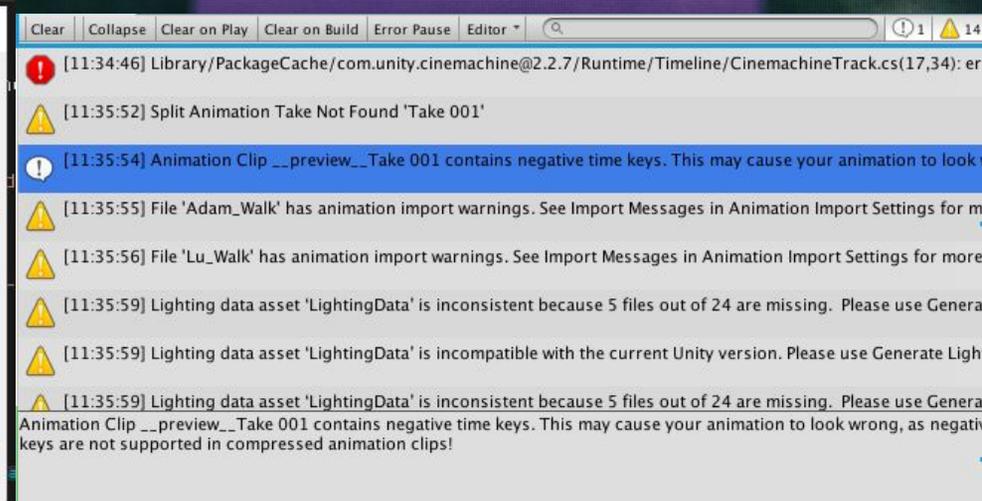
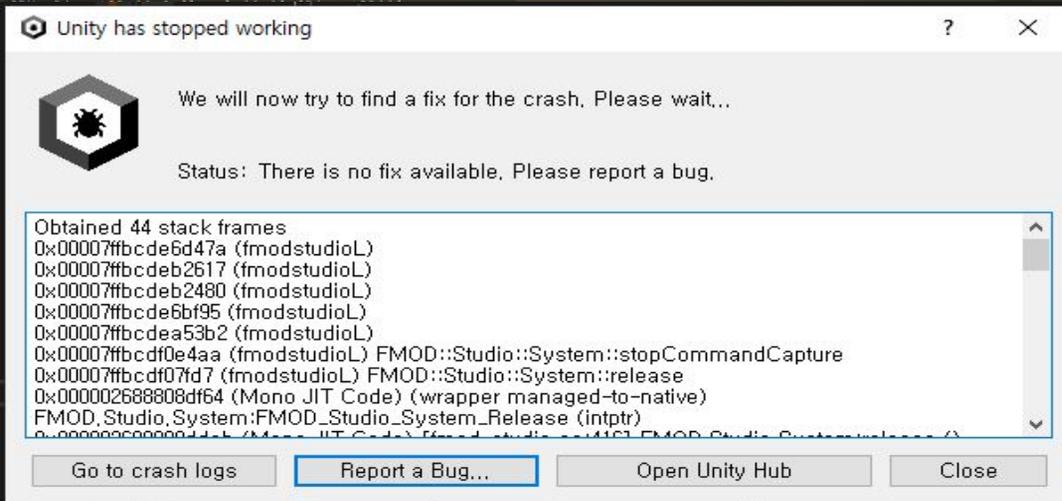
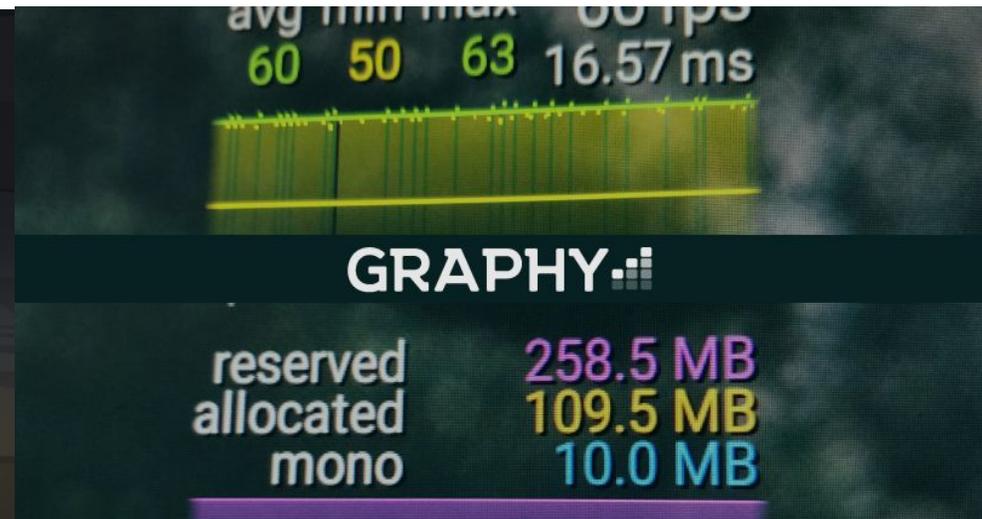
Programming tools



 [raizam / gamedev_libraries](#) Public

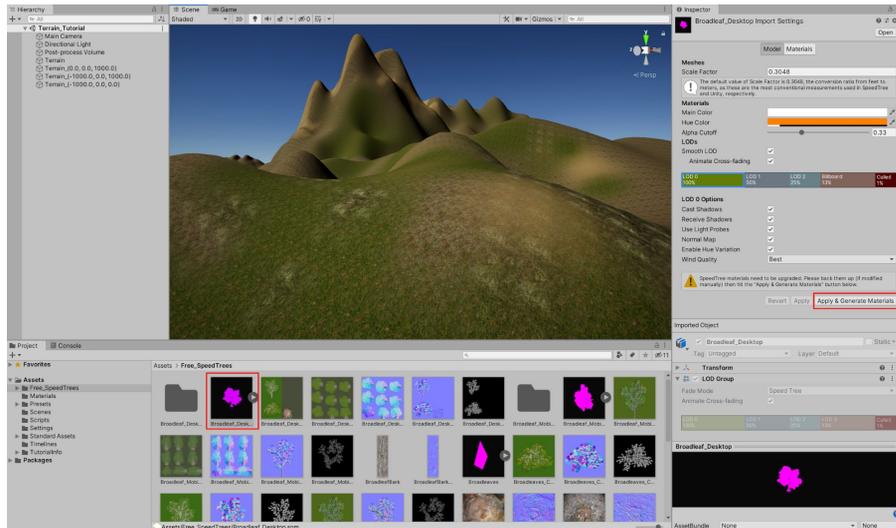
Testing tools

Testing tools



Content creator

Content creator



Editor de tiles

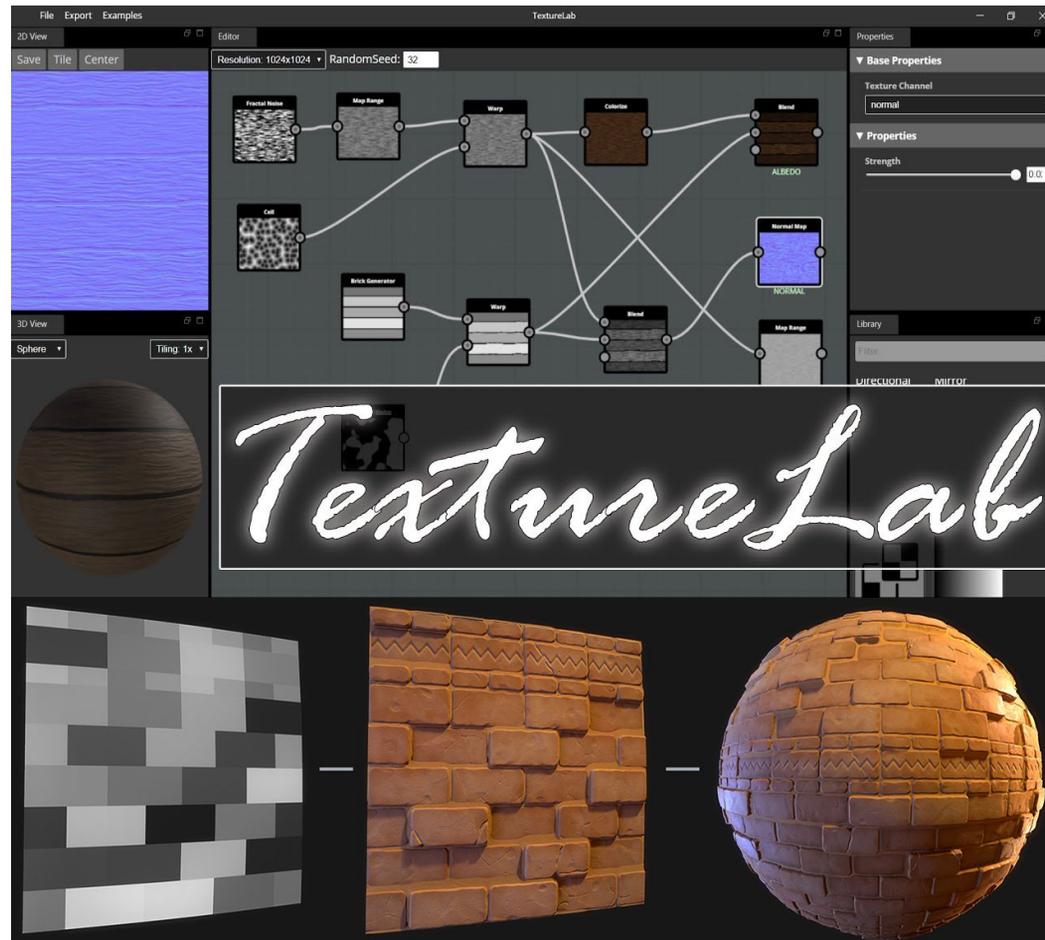
- Es una herramienta de alineación.
- Definir tamaño y separación de tiles.
- Crear comportamientos para el tile.
- Tiled.
- Unity Tile Editor.
- Paper 2D Tile Sets (Unreal).

Editor de texturas

- Crear y definir.
- Procedural o tradicional.



Editor de texturas



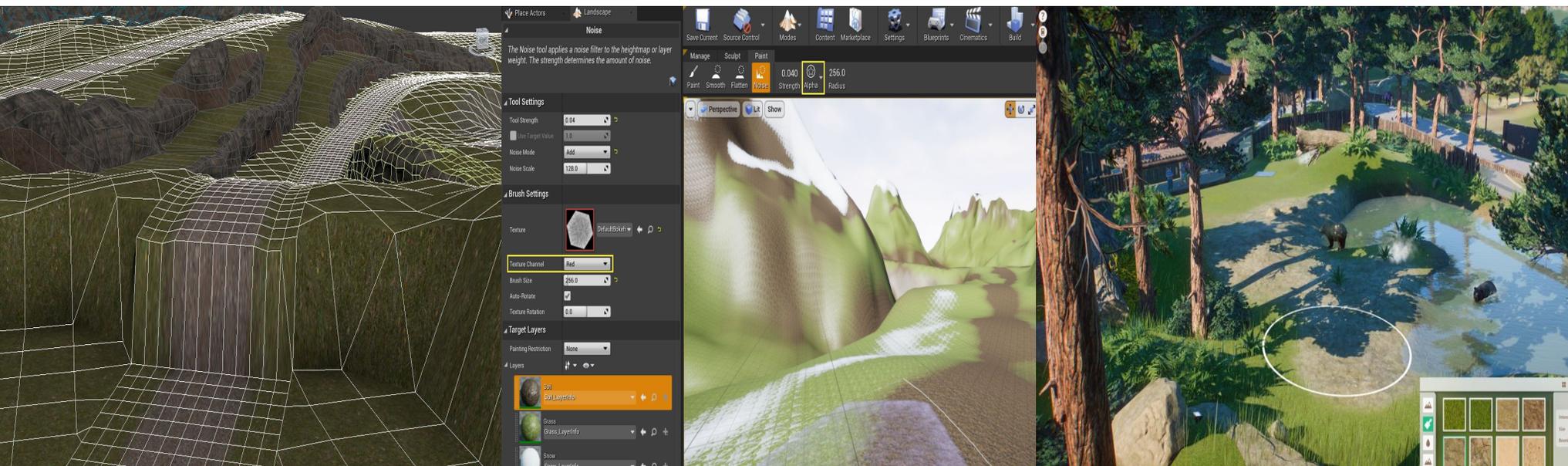
Modelado 3D

- Generar meshes para renderizar
- Creación de UVs
- Exportar modelos para engines



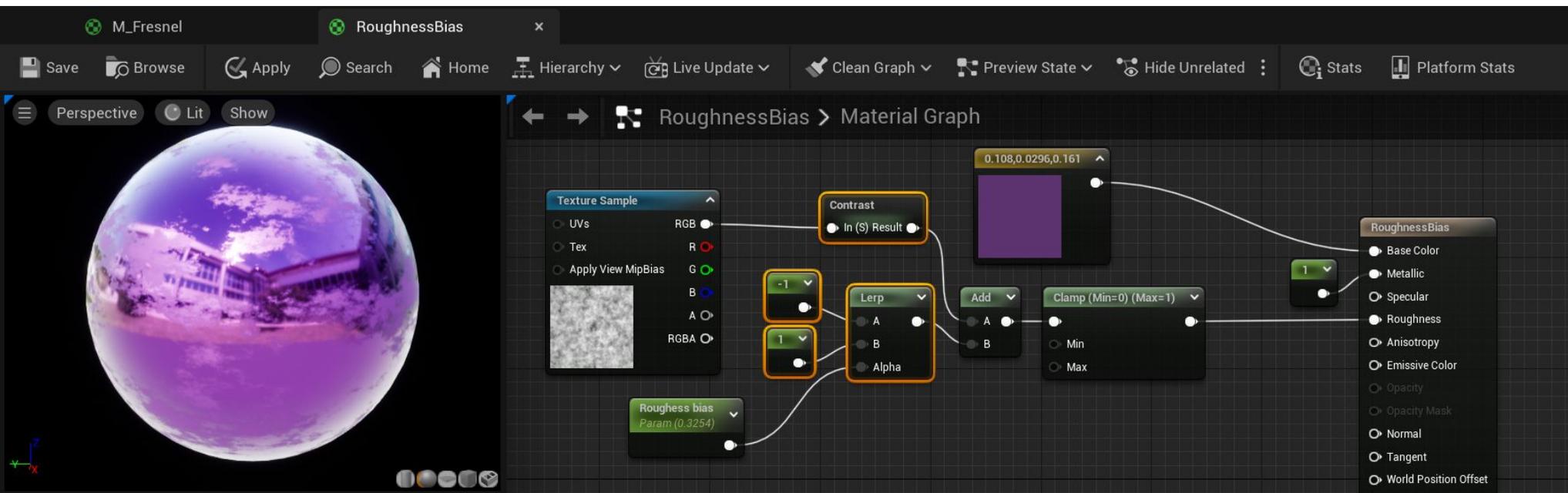
Terrain tools

- Son una herramienta de modelado.
- Mediante brushes crear diferentes modelados.
- Permite colocar objetos como árboles.
- Integrada en engine.



Creación de materiales

- Crear materiales de forma sencilla
- Se basa en nodos
- Integrada al engine



Animator

- La herramienta que nos permite dar vida a nuestros modelos o sprites.
- Generar movimientos de objetos en el juego.
- Interpolaciones.
- State machine.



Sistema IMGUI

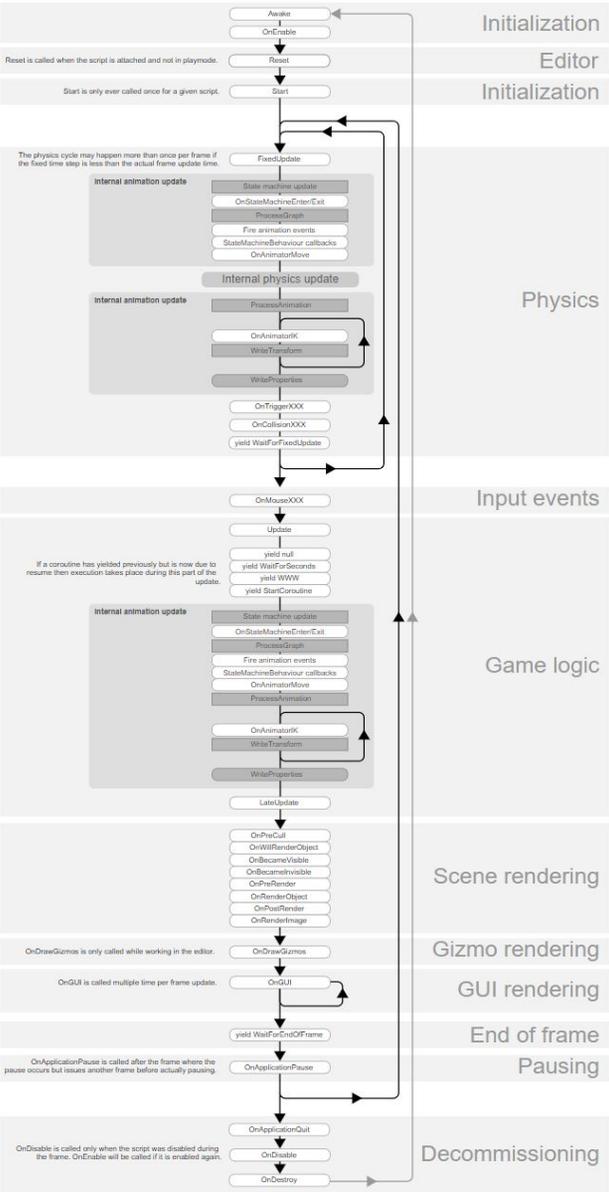
Sistema IMGUI

**Immediate
Mode
Graphic
User
Interface**

Unity Editor Cycle

Editor Life cycle

- Reset
- OnDrawGizmos
- OnDrawGizmosSelect
- OnGUI
- OnSceneGUI
- OnInspectorGUI
- Etc...



Controles

```
//Anatomia
```

```
Tipo.Control(posicion, contenido)
```

```
//Type
```

```
//GUI o GUILayout como clases
```

```
//posicion
```

```
//Rect vs Layout
```

```
//Contenido
```

```
//Pueden ser campos, textos o texturas
```

```
Ejemplo:
```

```
GUILayout.Button(new Rect(), "Platzi")
```

```
//Anatomia
```

```
Tipo.Control(posicion, contenido)
```

```
//Type
```

```
//GUI o GUILayout como clases
```

```
//posicion
```

```
//Rect vs Layout
```

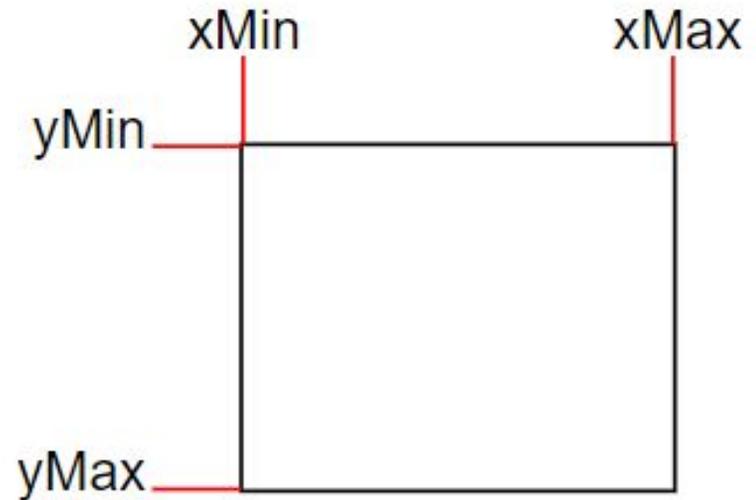
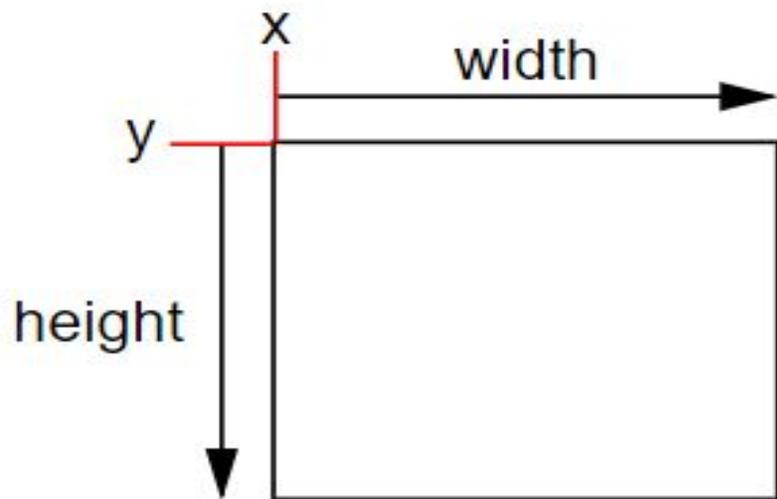
```
//Contenido
```

```
//Pueden ser campos, textos o texturas
```

```
Ejemplo:
```

```
GUILayout.Button(new Rect(), "Platzi")
```

Rects



```
//Anatomia
```

```
Tipo.Control(posicion, contenido)
```

```
//Type
```

```
//GUI o GUILayout como clases
```

```
//posicion
```

```
//Rect vs Layout
```

```
//Contenido
```

```
//Pueden ser campos, textos o texturas
```

```
Ejemplo:
```

```
GUILayout.Button(new Rect(), "Platzi")
```

GUI vs GUILayout

Controls

- Buttons
- Toggles
- Slider
- Text Field
- Toolbar

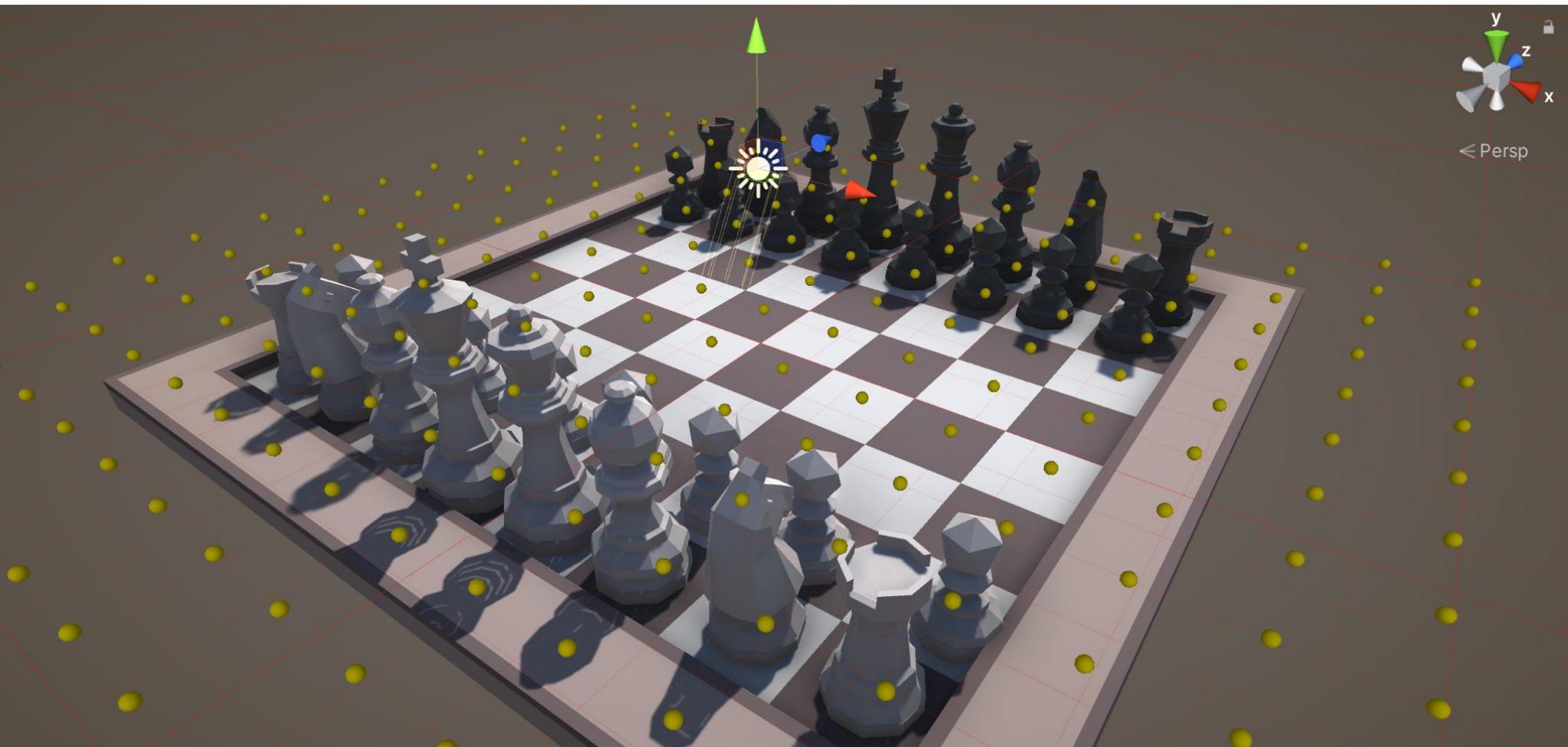
The image shows a dark-themed control panel with various input fields and controls. The controls are organized into sections:

- string:** A text input field containing "some string".
- bool:** A radio button control.
- int:** A text input field containing "12".
- float:** A text input field containing "345".
- color:** A color picker control showing "HSV 0.46 0.74 0.61" with a green color bar.
- enum:** Three buttons labeled "One", "Two", and "Three".
- enumFlags:** Three radio button controls labeled "Flag001", "Flag010", and "Flag100".
- vector2:** Two text input fields for "x" and "y", both containing "0".
- vector3:** Three text input fields for "x", "y", and "z", all containing "0".
- vector4:** Four text input fields for "x", "y", "z", and "w", all containing "0".
- vector2Int:** Two text input fields for "x" and "y", both containing "0".
- vector3Int:** Three text input fields for "x", "y", and "z", all containing "0".
- rect:** Four text input fields for "x", "y", "width", and "height", all containing "0".
- rectInt:** Four text input fields for "x", "y", "width", and "height", all containing "0".
- rectOffset:** Four text input fields for "left", "right", "top", and "bottom", all containing "0".
- bounds:** Three text input fields for "x", "y", and "z", all containing "0".
- boundsInt:** Three text input fields for "x", "y", and "z", all containing "0".
- array:** A list of three text input fields, each containing "0", with "+" and "-" buttons at the bottom right.
- list:** A list of three text input fields, each containing "0", with "+" and "-" buttons at the bottom right.

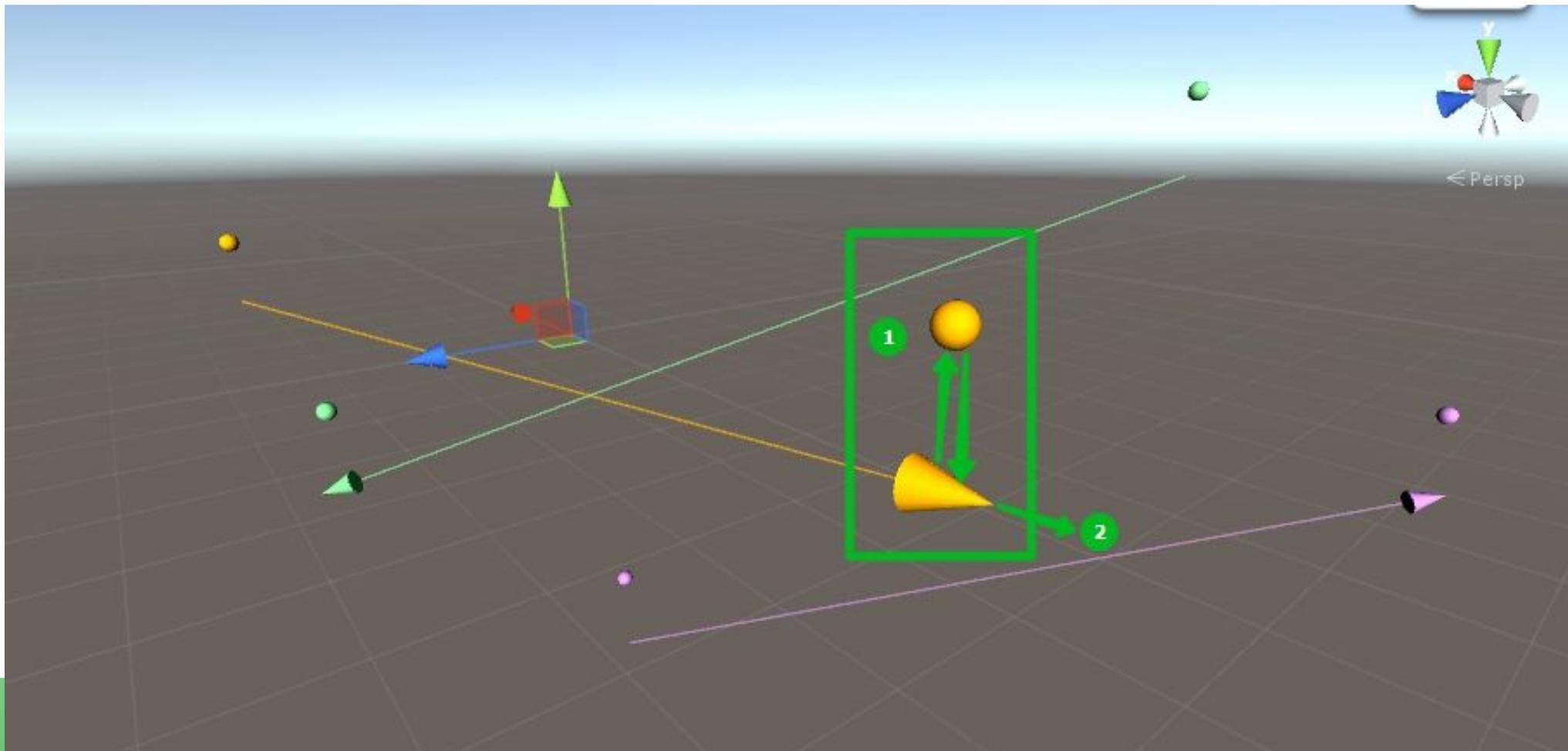
Gizmos y Handles

Debug visual

Gizmos



Handles

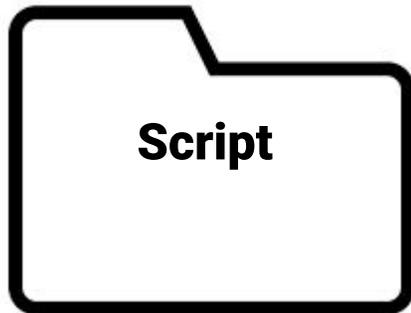


Shortcuts útiles del editor

Context menus y attributes

Attributes

Attributes

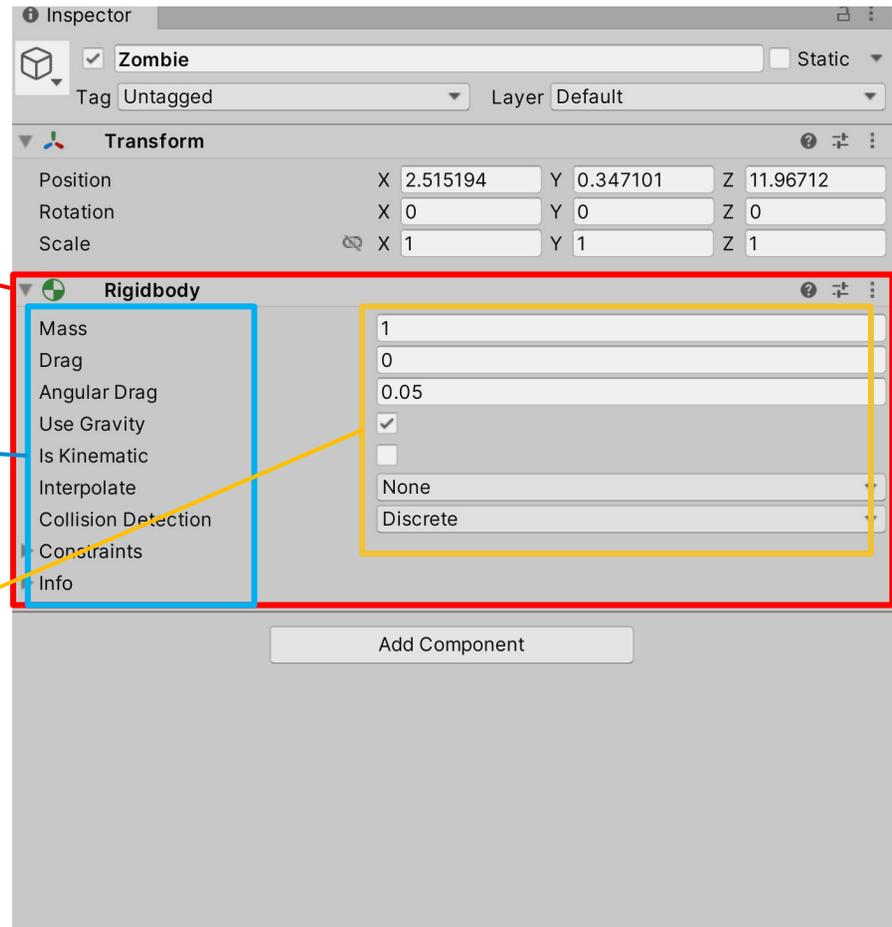
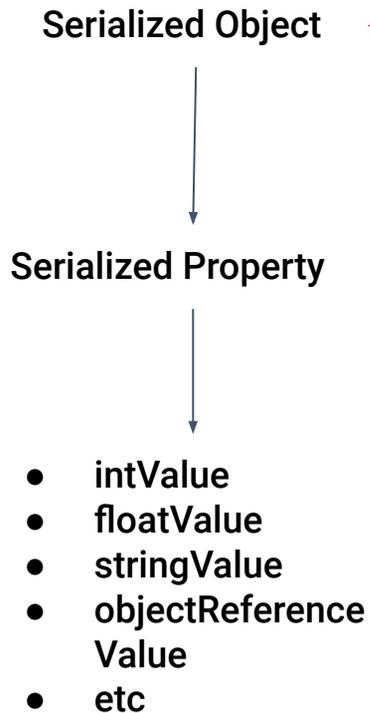


Property Attribute



Property Drawer

SerializedProperty/Object

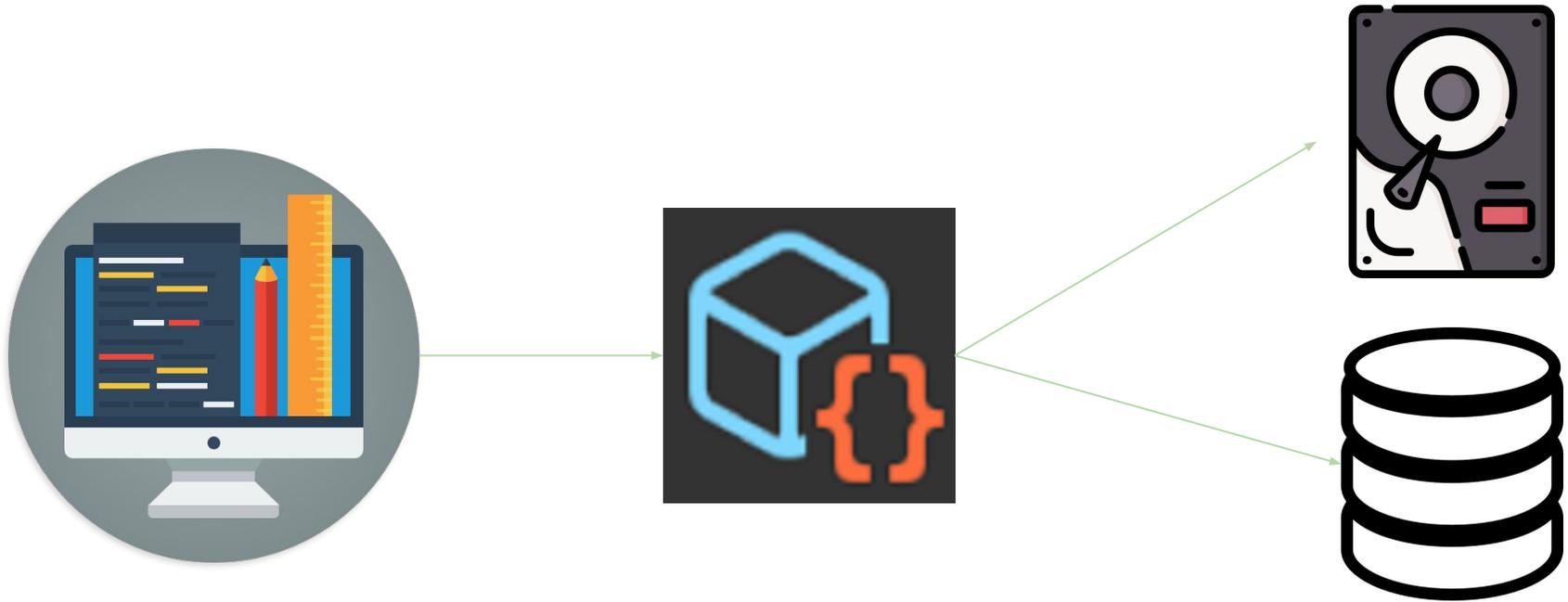


Custom Editor

Editor Window

Serialización

Serialización



Reglas

- Público o con el atributo `serializedField`.
- No se permite estáticos.
- No se permite constantes.
- No se permite tipos `read only`.
- Listas y arrays con tipos serializables.

Tipos que pueden ser serializados

- Datos primitivos (int, float, double, bool, string).
- Enumeradores.
- Tipos built-in de Unity (Vector2, Vector3, Rect y demás).
- Structs (con atributo).
- Custom classes (con atributo).
- Arrays y listas.