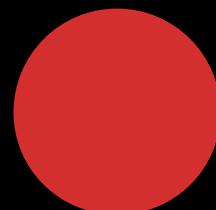


Soutenance
de Travail
de Maturité

Yves Zumbach

Un jeu vidéo,
de l'esprit à
l'écran

Avant de commencer



Introduction

1

Vous avez dit « jeu vidéo »





Eluria's Chronicles

2

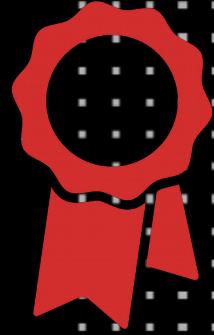


Gameplay

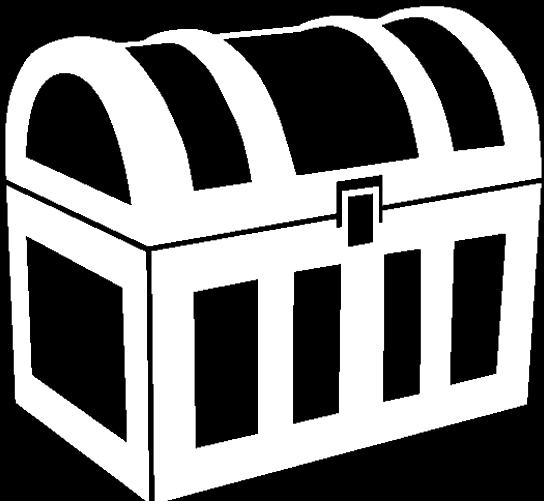




Peace and Love



Ressources



Graines

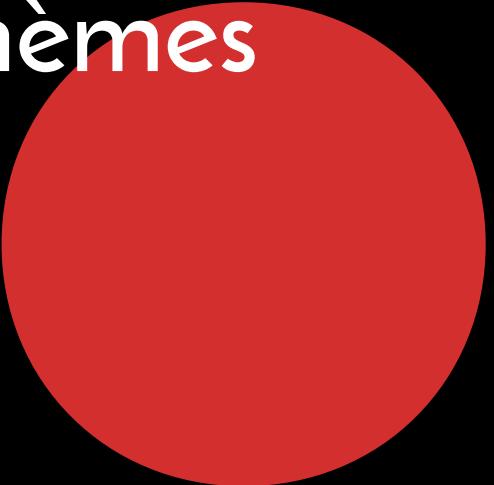
Énergie verte

Naturalité

%



Thèmes



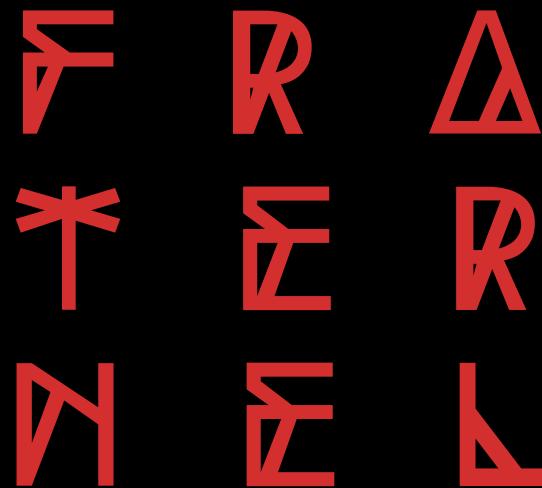


Nature



Technologie

Lien





Égalité des sexes



Raisons d'un insuccès

3

(1. Dimension du projet)

2. Choix des outils

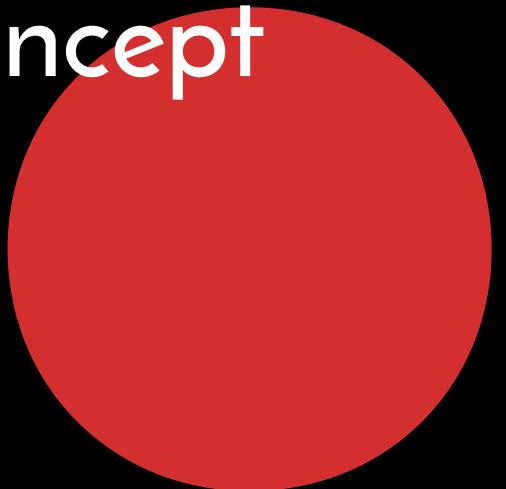
Contraintes
techniques



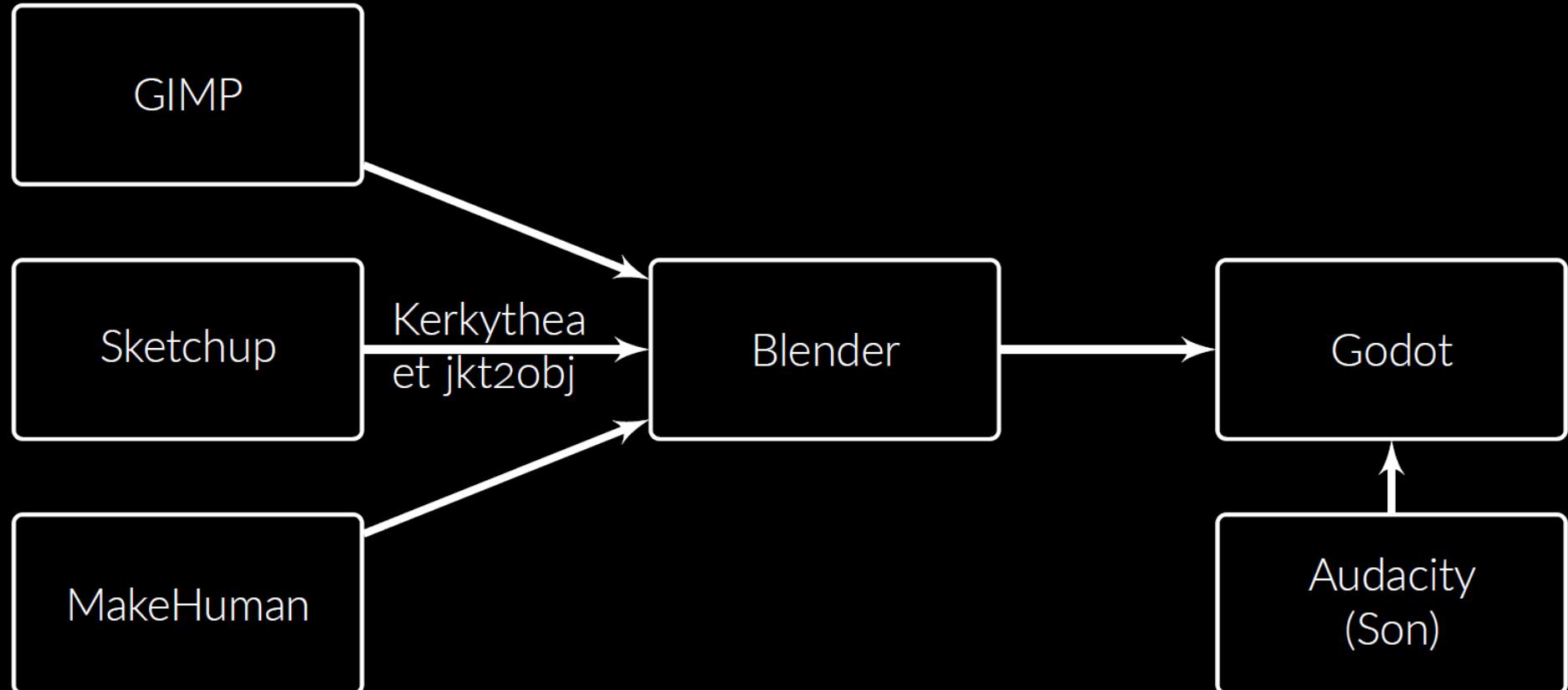
1. Logiciels gratuits
(2. Logiciels
libres)



Proof of concept



Réaliser une scène 3D



https://3dwarehouse.sketchup.com/search.html?q=victorian+house&backendClass=entity

3D Warehouse

victorian house

Search

Upload Model

Sign In

Google Tag Manager

597 Results

ALL Results Per Page Sort by Relevance

Victorian House by: Paulwall

Red and White Victorian by: BConstruction&Renovation

Victorian style house by: Siraj

Terraced Houses by: lukianzio...

Denver Brick Victorian House by: Rick K.

victorian home by: 1architectstudent

Victorian Home by: Ricarda Gonzalez

Houses #23, Cam by: John

Victorian House by: Znerol

Victorian Cottage by: WLeMay

Victorian Mansion by: Don East

Victorian Mansion Full furnishe... by: paktor

Queen Anne Revival Victorian (...) by: Jordan L.

Victorian House by: Paulwall

Victorian House by: Christopher

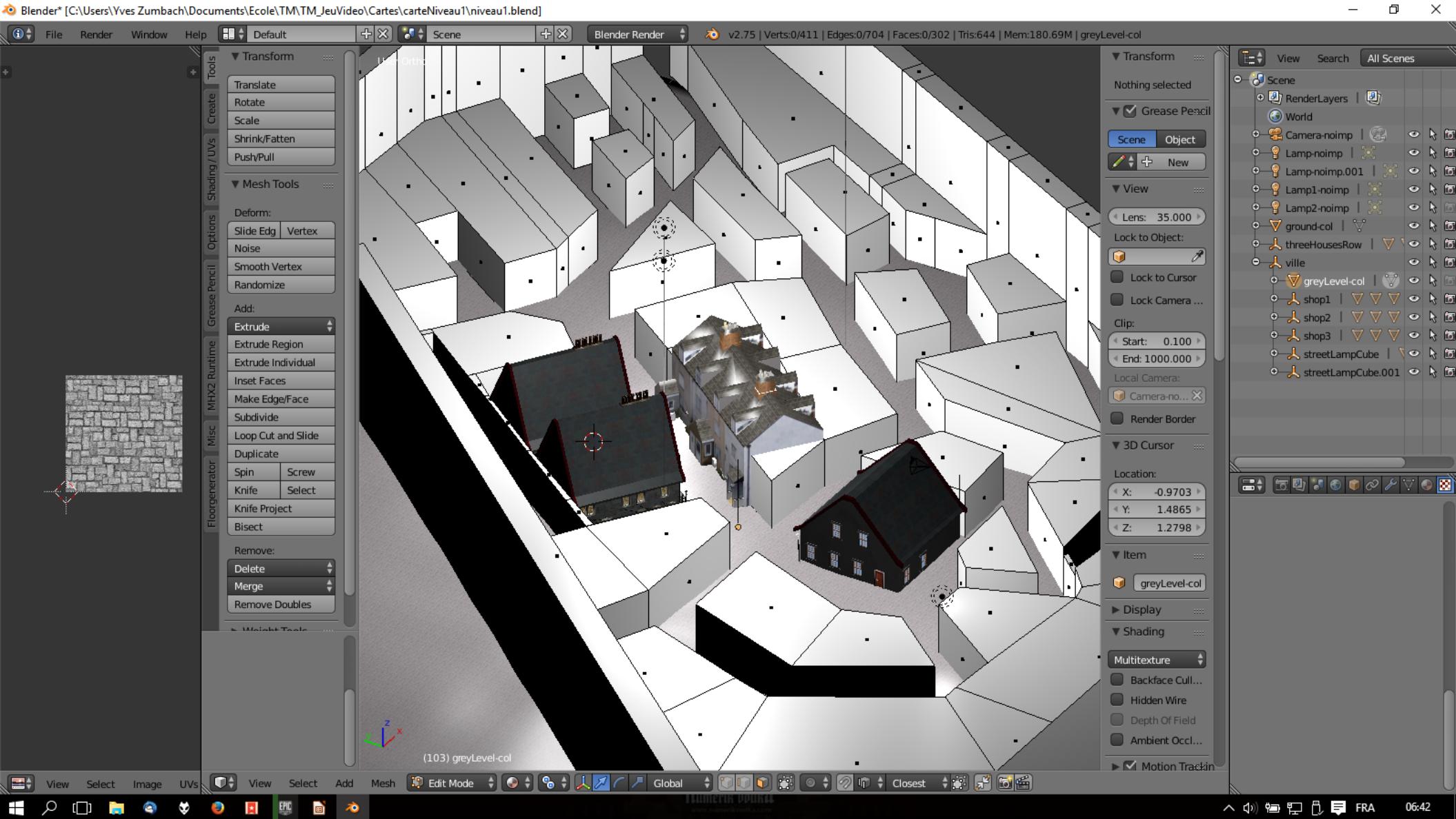
Opt. Attic Walls for Victorian Ho... by: bob1938

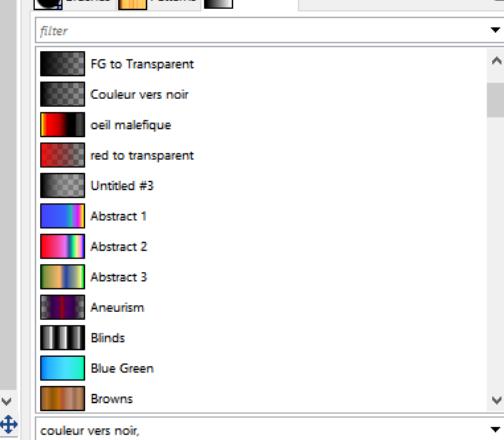
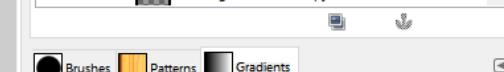
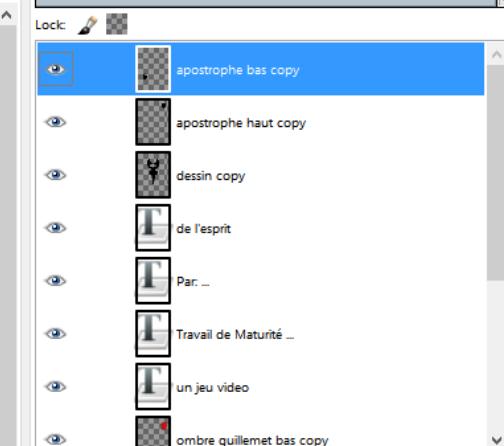
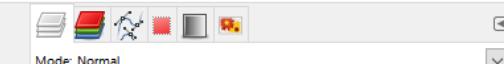
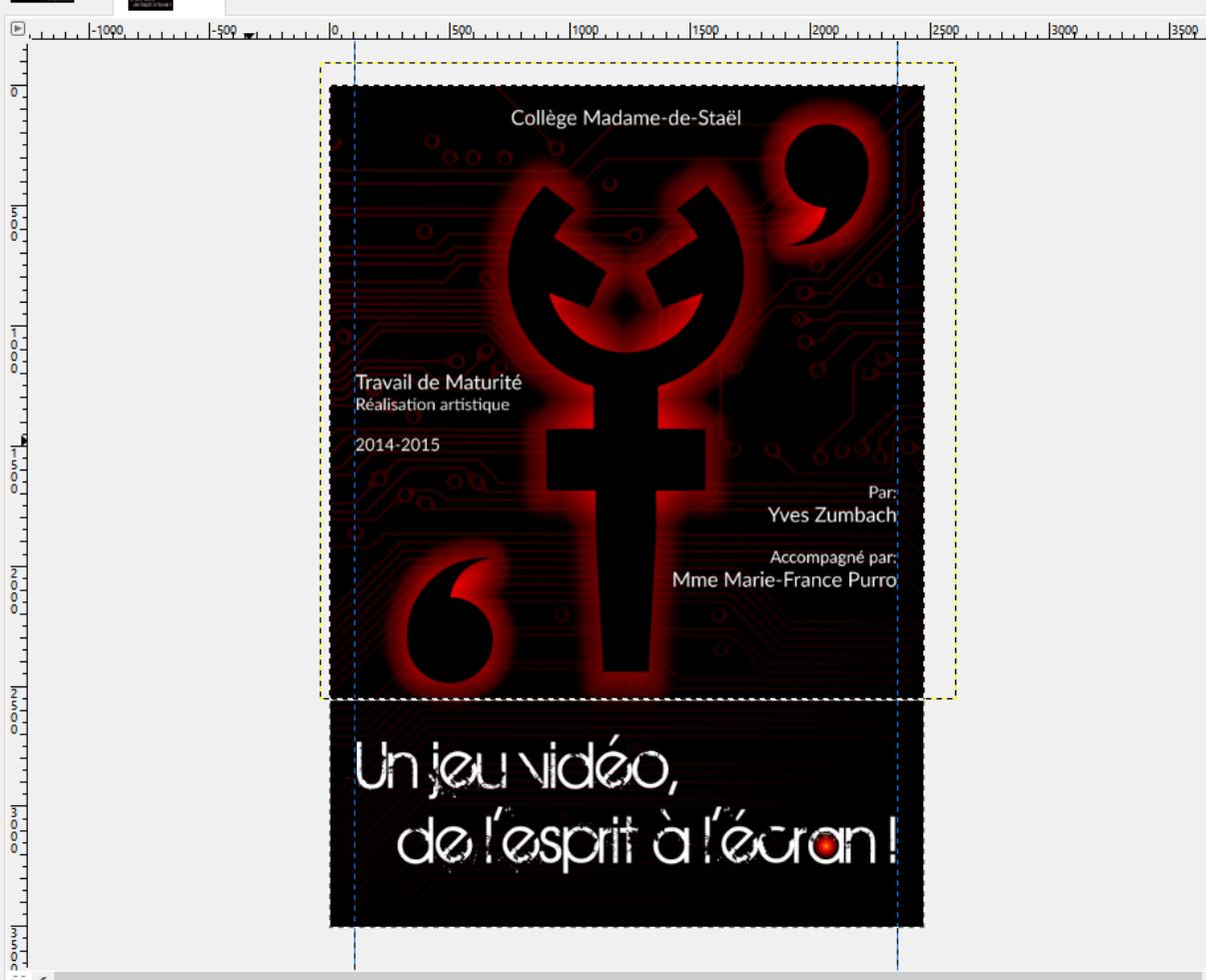
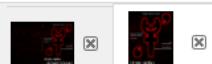
2015 Trimble Navigation Limited

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https://3dwarehouse.sketchup.com/model.html?id=823fc4c17e5dc94f0dc8a750c43283a43

FRA 06:46





Scene Import Export



Settings

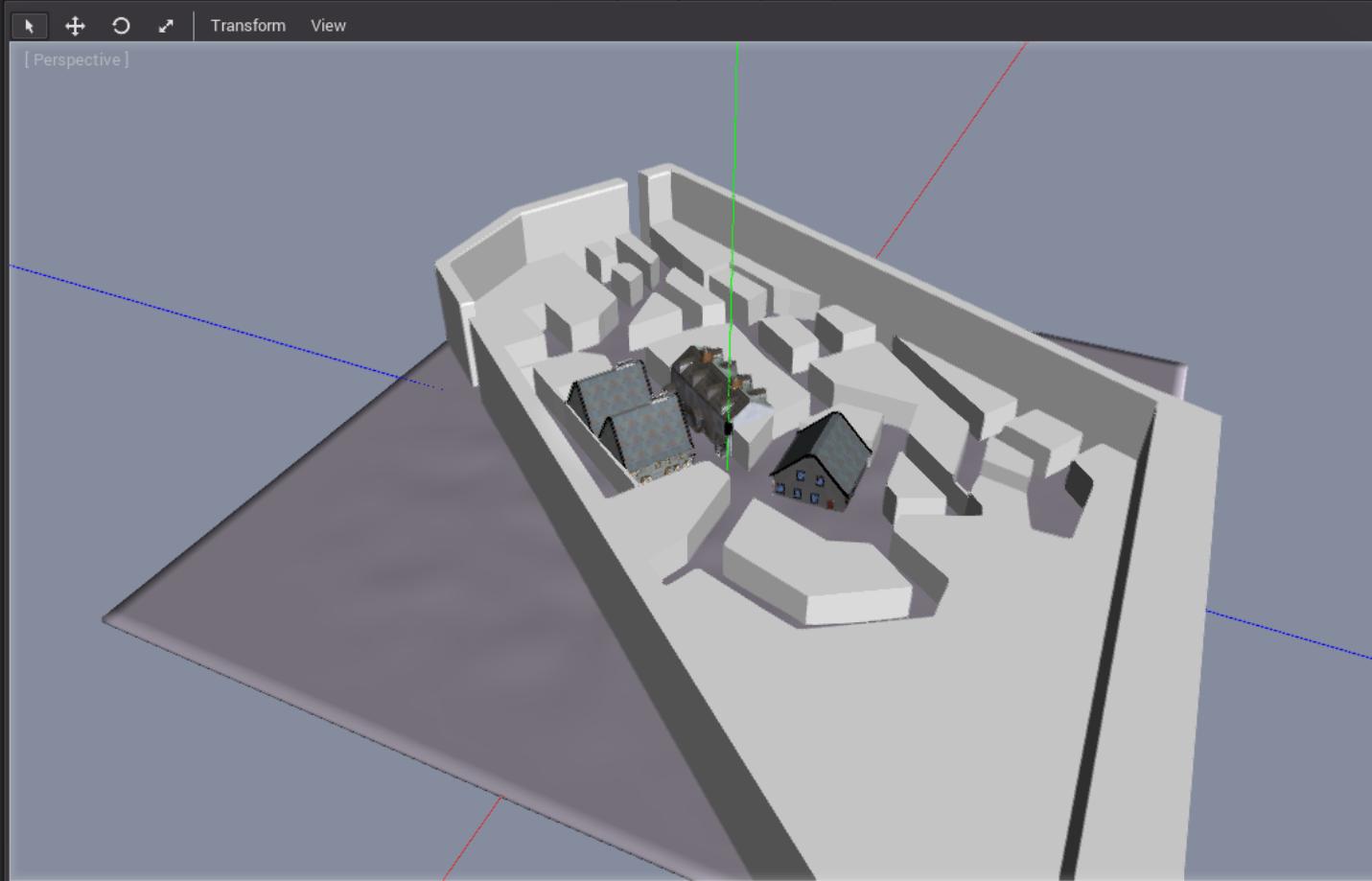
startMenu.scn LevelOne.xml

2D 3D Script Help

Scene

- LevelOne
 - Player
 - General3DConfig
 - Redel

File System



Inspector

LevelOne

Property	Value
Spatial	
Transform	
Local	1, 0, 0, 0, 1,
Translation	0, 0, 0
Rotation	0, 0, 0
Scale	1, 1, 1
Visibility	<input checked="" type="checkbox"/> Visible <input checked="" type="checkbox"/> On
Node	
Process	<input type="checkbox"/> Pause Mode <input type="checkbox"/> Inherit
Script	<input type="button"/> Script <null>

Switch Scene Tab



Scene Import Export



Settings

• startMenu.scn • LevelOne.xml

2D 3D Script Help

Scene

Inspector

LevelOne
Player
General3DConfig
Redel

File Edit Search Debug Help

- credits.gd
- global.gd
- lifebar.gd
- player.gd
- startButton.gd

```
01 extends RichTextLabel
02
03 var xShift = 200
04 var counter = 0
05 export(int) var scrolling_speed = 1
06 export(int) var time_before_returning_start_menu = 10
07 var size_y = 0
08
09 func _ready():
10     var screen_size = get_viewport_rect().size
11     set_pos(Vector2(xShift, screen_size.y))
12     set_size(Vector2(screen_size.x-2*xShift, 3.1*screen_size.y))
13     set_scroll_active(false)
14     set_use_bbcode(true)
15
16     var total_text = ""
17     var credits_path = "res://menu/credits/credits.txt"
18     var myfile = File.new()
19     if myfile.file_exists(credits_path):
20         myfile.open(credits_path, File.READ)
21         if myfile.is_open():
22             while( !myfile.eof_reached() ):
23                 var line = myfile.get_line()
24                 if line == "":
25                     total_text += "\n"
26                 else:
27                     total_text += line
28                 total_text += "\n"
29             myfile.close()
30         else:
31             print("Unable to read file!")
32         else:
33             print("File does not exist.")
```

Line: 1, Col: 0

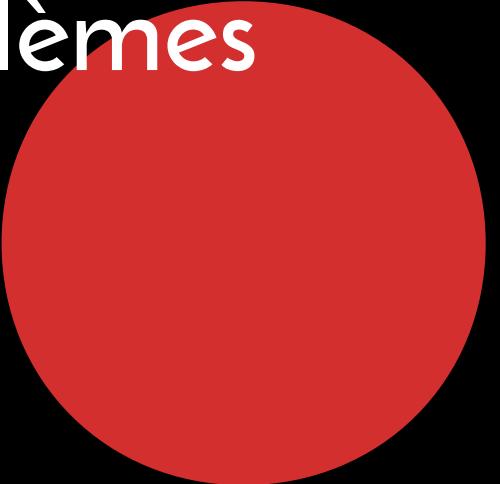
Property	Value
Spatial	
Transform	
Local	1, 0, 0, 0, 1, 0
Translation	0, 0, 0
Rotation	0, 0, 0
Scale	1, 1, 1
Visibility	
Visible	<input checked="" type="checkbox"/> On
Node	
Process	
Pause Mode	Inherit
Script	
Script	<null>

FileSystem

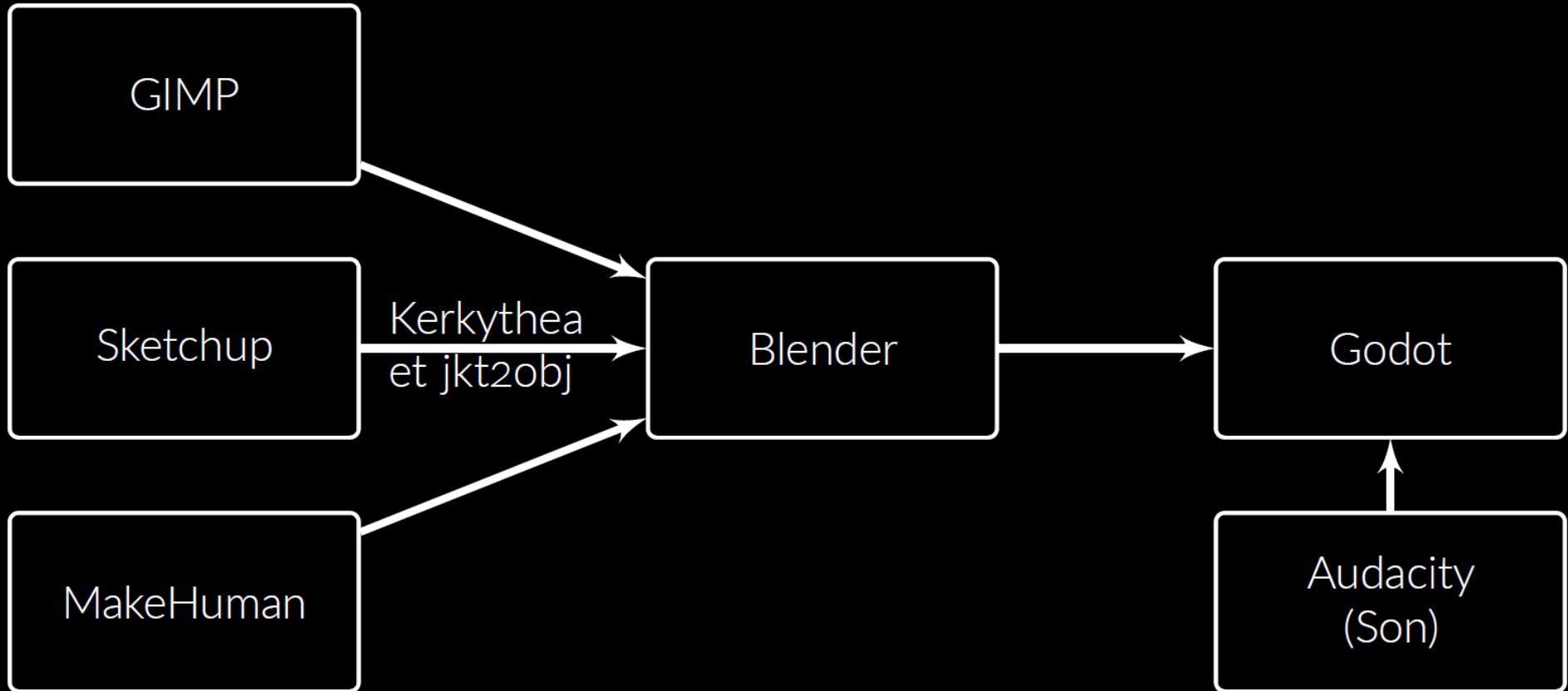
Favorites:

- res://
- Annexes
- 3D
 - generalConfig
- GUI
 - Divers
- HUD
 - Life_and_energy_bars
 - pickable
- Player
 - sounds
- Levels
- LevelOne

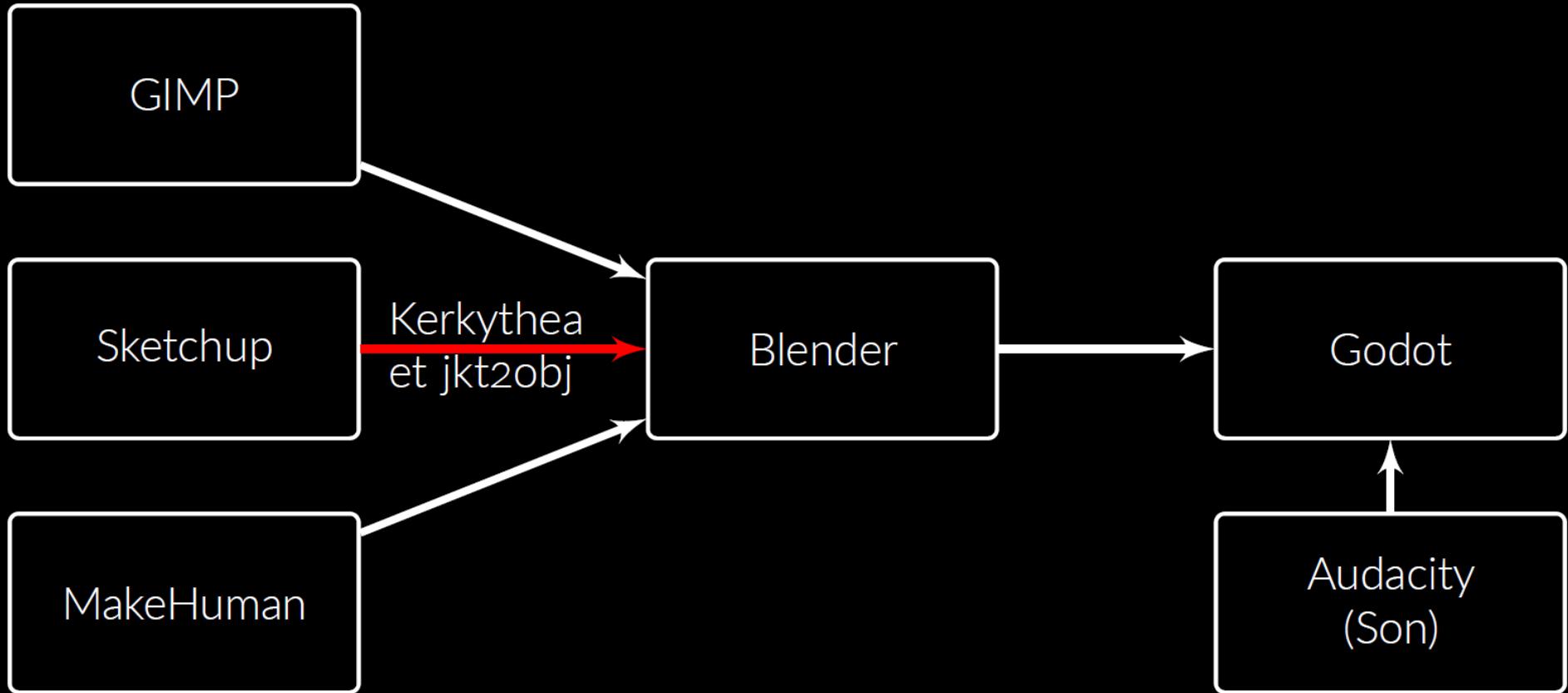
Les problèmes



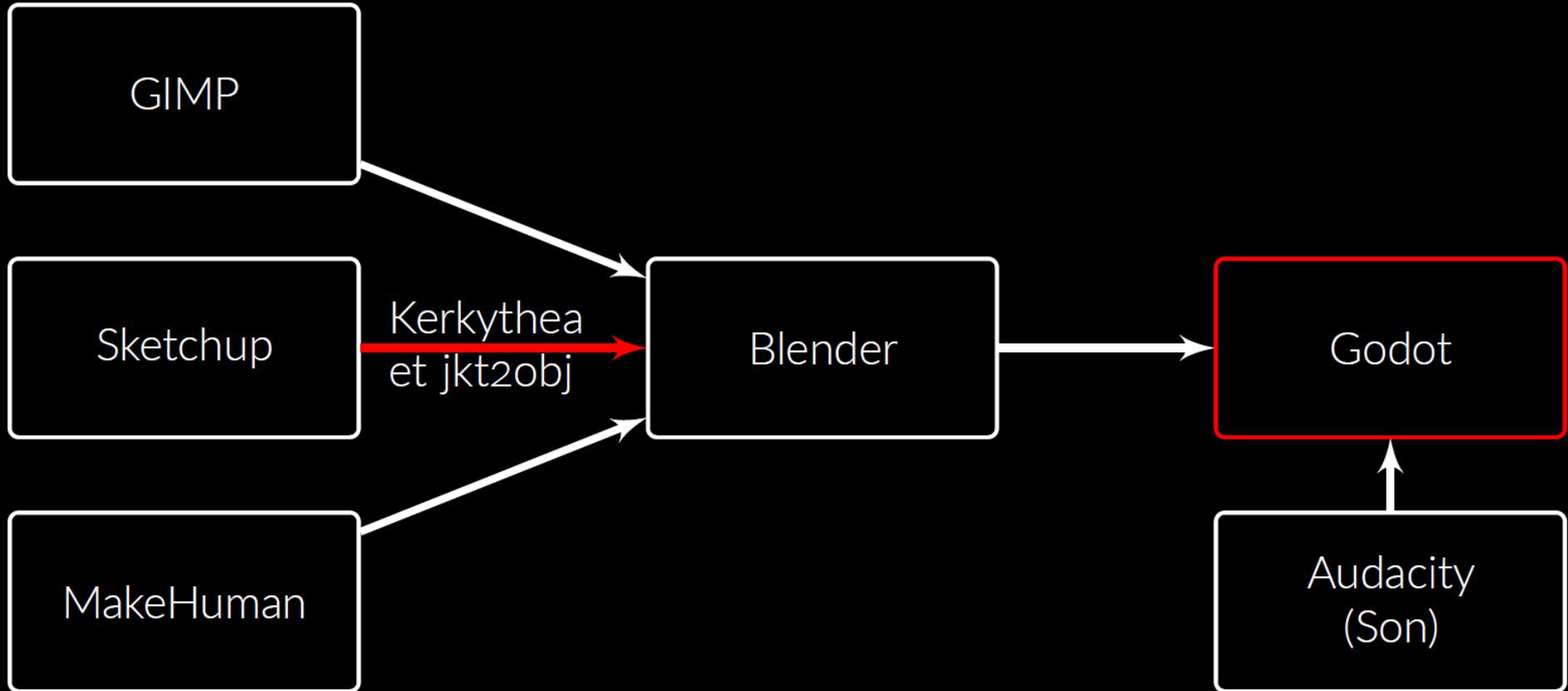
Réaliser une scène 3D



Réaliser une scène 3D



Réaliser une scène 3D



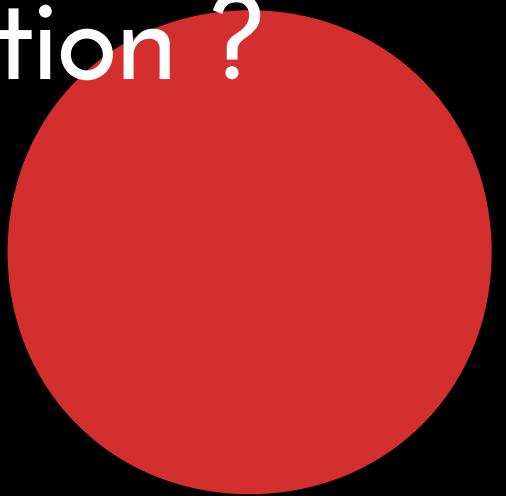
```
if ray.is_colliding():
    var up = state.get_total_gravity().normalized()
    var normal = ray.get_collision_normal()
    var floor_velocity = Vector3()
    var object = ray.get.collider()

    if object extends RigidBody or object extends StaticBody:
        var point = ray.get_collision_point() - object.get_translation()
        var floor_angular_vel = Vector3()
        If object extends RigidBody:
            floor_velocity = object.get_linear_velocity()
            floor_angular_vel = object.get_angular_velocity()
        elif object extends StaticBody:
            floor_velocity = object.get_constant_linear_velocity()
            floor_angular_vel = object.get_constant_angular_velocity()
        var transform = Matrix3(Vector3(1, 0, 0), floor_angular_vel.x)
        transform = transform.rotated(Vector3(0, 1, 0), floor_angular_vel.y)
        transform = transform.rotated(Vector3(0, 0, 1), floor_angular_vel.z)
        floor_velocity += transform.xform_inv(point) - point
        yaw = fmod(yaw + rad2deg(floor_angular_vel.y) * state.get_step(), 360)
        get_node("Yaw").set_rotation(Vector3(0, deg2rad(yaw), 0))

        var diff = floor_velocity + direction * walk_speed -
state.get_linear_velocity()
        var vertdiff = aim[1] * diff.dot(aim[1])
        diff -= vertdiff
        diff = diff.normalized() * clamp(diff.length(), 0, max_accel /
state.get_step())
        diff += vertdiff

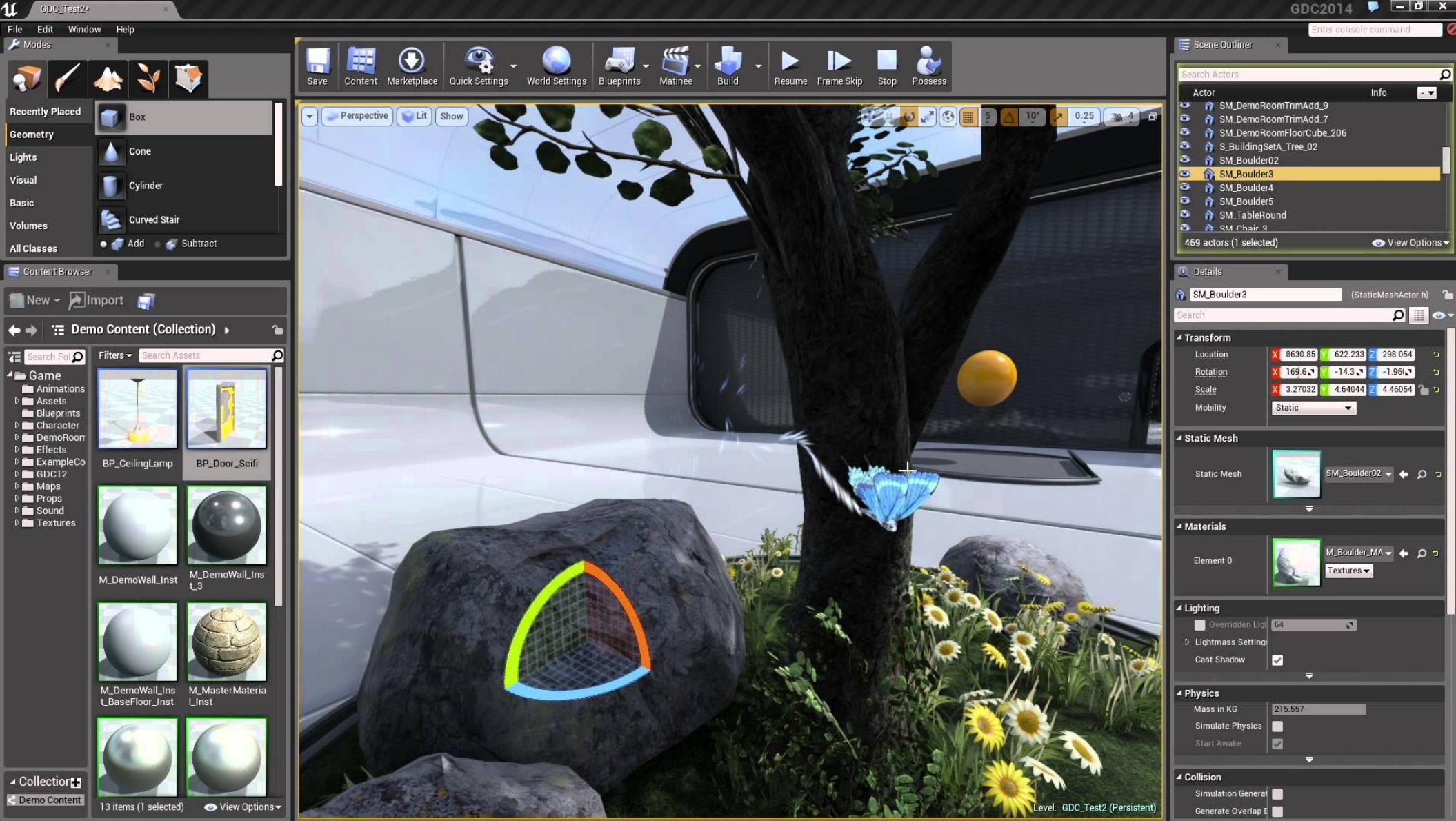
apply_impulse(Vector3(), diff * get_mass())
```

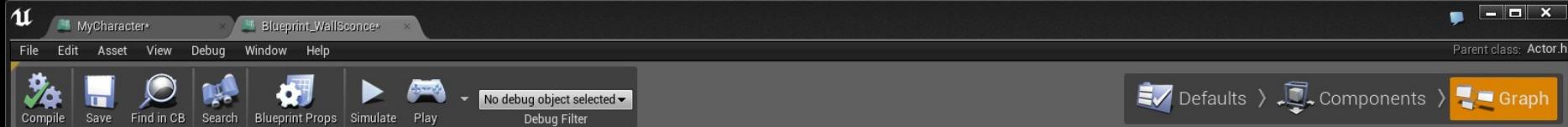
Une solution ?





**UNREAL
ENGINE**





My Blueprint

+V Variable +f Function +M Macro +G Graph +ED Event Dispatcher

Search
Graphs
EventGraph
Functions
ConstructionScript
Variables
SM_Lamp_Wall
PointLight2
Scene1
Light
Brightness
Color
Inner Cone Angle

Local Variables +

Show inherited variables

Details

Search

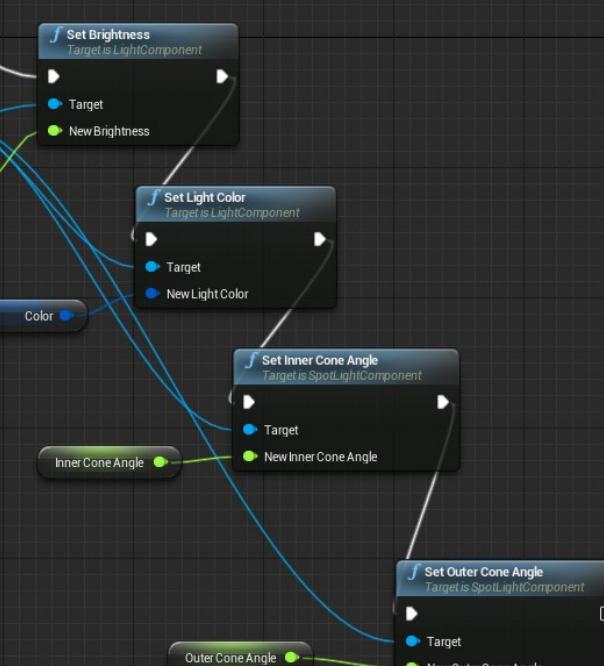
Variable
Variable Name: Brightness
Variable Type: float
Editable: checked
Tooltip:
Expose on Spawn: unchecked
Private: unchecked
Expose to Matlink: unchecked
Category: Light
Slider Range: 0 - 1000
Replication: None

Default Value
Brightness: 1000.0

EventGraph ConstructionScript

f Blueprint_WallSconce > ConstructionScript

Zoom -1



Defaults Components Graph

Palette

★ Favorites

Search
Add Event
Event Begin Play
Event Tick
Game
Get Player Pawn
Spawn Actor from Class
Utilities
Flow Control
Branch
Orientation
Get Actor Transform
Destroy Actor
Get All Actors Of Class

Find a Node

Class: All
Search
Movement
Poseable Mesh
Skeletal Mesh
Skinned Mesh
Sphere
Static Mesh
Timeline
Component Has Tag
Destroy Component
Get Child Component
Get Children Components
Get Num Children Components
Get Owner
Get Parent Components
Move Component To
Set Is Replicated
Development
Effects
Components
Particle System
Generate Particle Event
Get Num Active Particles
Set Actor Parameter
Set Beam End Point
Set Beam Source Point
Set Beam Source Strength
Set Beam Source Tangent
Set Beam Target Point
Set Beam Target Strength
Set Beam Target Tangent
Set Color Parameter

BLUEPRINT



Conclusion

4+



ALIVE

Credits

- Plato by Dabid J. Pascual from the Noun Project
- Magic Wand by Cognitive Dissonance from the Noun Project
- comment by Pham Thi Dieu Linh from the Noun Project
- Frame by Chris Gregory from the Noun Project
- Question by Syafiqah Fickle from the Noun Project
- seeds by Shawn Erdely from the Noun Project
- Sustainable Energy by Jens Windolf from the Noun Project
- Treasure Chest by Christian Mohr from the Noun Project
- Camera by Studio Fibonacci from the Noun Project