Asset Documentation

Euclid Engine

Introduction

Welcome to Euclid Engine's documentation! If you are here, you are likely in the midst of testing our brand-new asset targeting VR development.

To better guide you in your journey as a beta tester, we have written this documentation so that you will be able to test out all of our features without missing a drop of them.

To make a short resume if you don't know anything about the Euclid Engine's plugin on Unity, basically, this plugin means to help and improve the overall capacities of Virtual Reality developers when they are developing either games or apps. As you may know, Virtual Reality's main purpose is to make the players/users feel as most immersion as possible, but with our current technology, some problems are still there and they actually degrade overall immersion. And our plugin is here to try to deflect these problems, "which problems?" you may say. We are focused mainly on the problem of users/players having only small spaces (~$7m^2$) to play in. These players' movements can not go as far as other may walk around. And so, most VR games/apps use teleportation or movement with sticks as a mean of transportation. But as the player doesn't walk around by moving his own body, immersion can be hugely taken off. We aim to fix that issue with non-euclidean technologies. Don't worry if these words may confuse you, everything will be explained later.

But enough talking, let's use Euclid Engine!

Document Description

Title	Euclid Engine Asset Documentation
Object	User Documentation on How to Use Euclid Engine's plugin
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Commits Table

Date	Version	Authors	Modified Sections	Comments
2022/06/14	1.0	Kevin PRUVOST	*	1st Version

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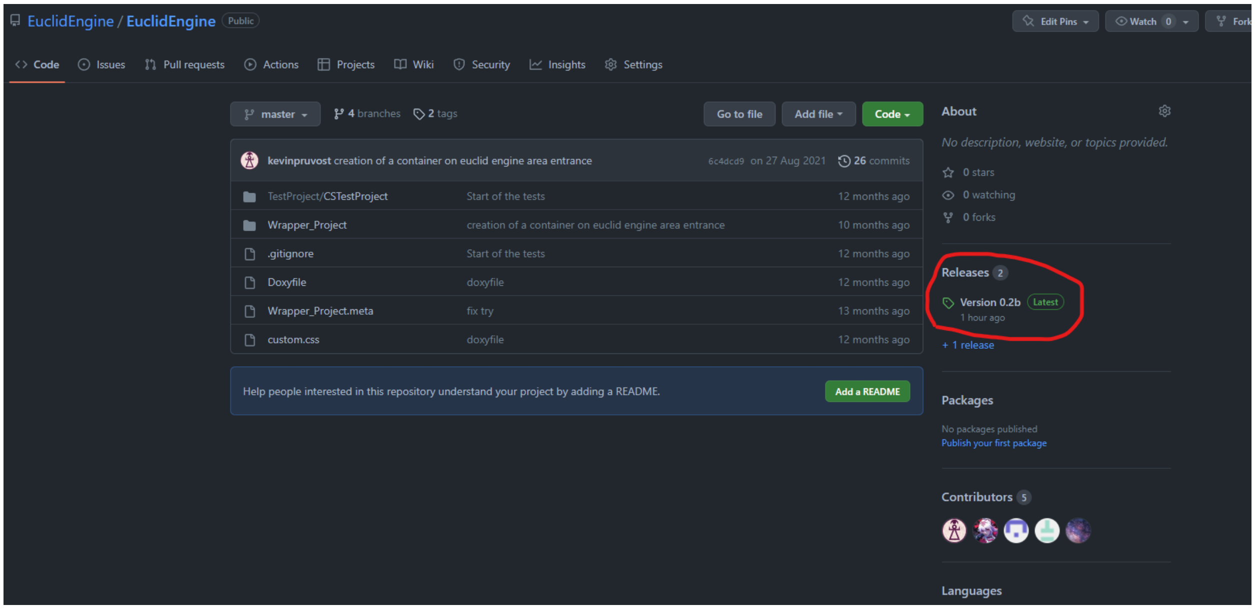
Installation & Uninstallation

Installation

For now, downloading Euclid Engine is done through the EuclidEngine's repository (https://github.com/EuclidEngine/EuclidEngine) on the "Releases" page:



kevinpruvost creation of a container on euclid engine area entrance 6c4dcd9 on 27 Aug 2021 26 commits

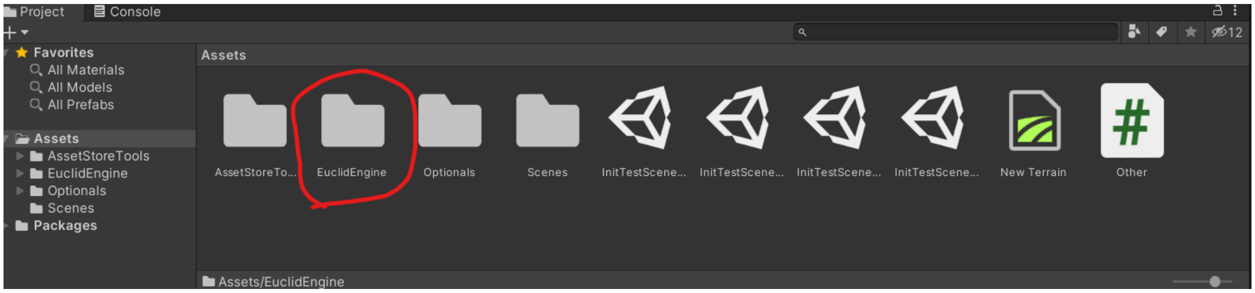
TestProject/CSTestProject	Start of the tests	12 months ago
Wrapper_Project	creation of a container on euclid engine area entrance	10 months ago
.gitignore	Start of the tests	12 months ago
Doxyfile	doxyfile	12 months ago
Wrapper_Project.meta	fix try	13 months ago
custom.css	doxyfile	12 months ago

Help people interested in this repository understand your project by adding a README.

No description, website, or topics provided.

No packages published

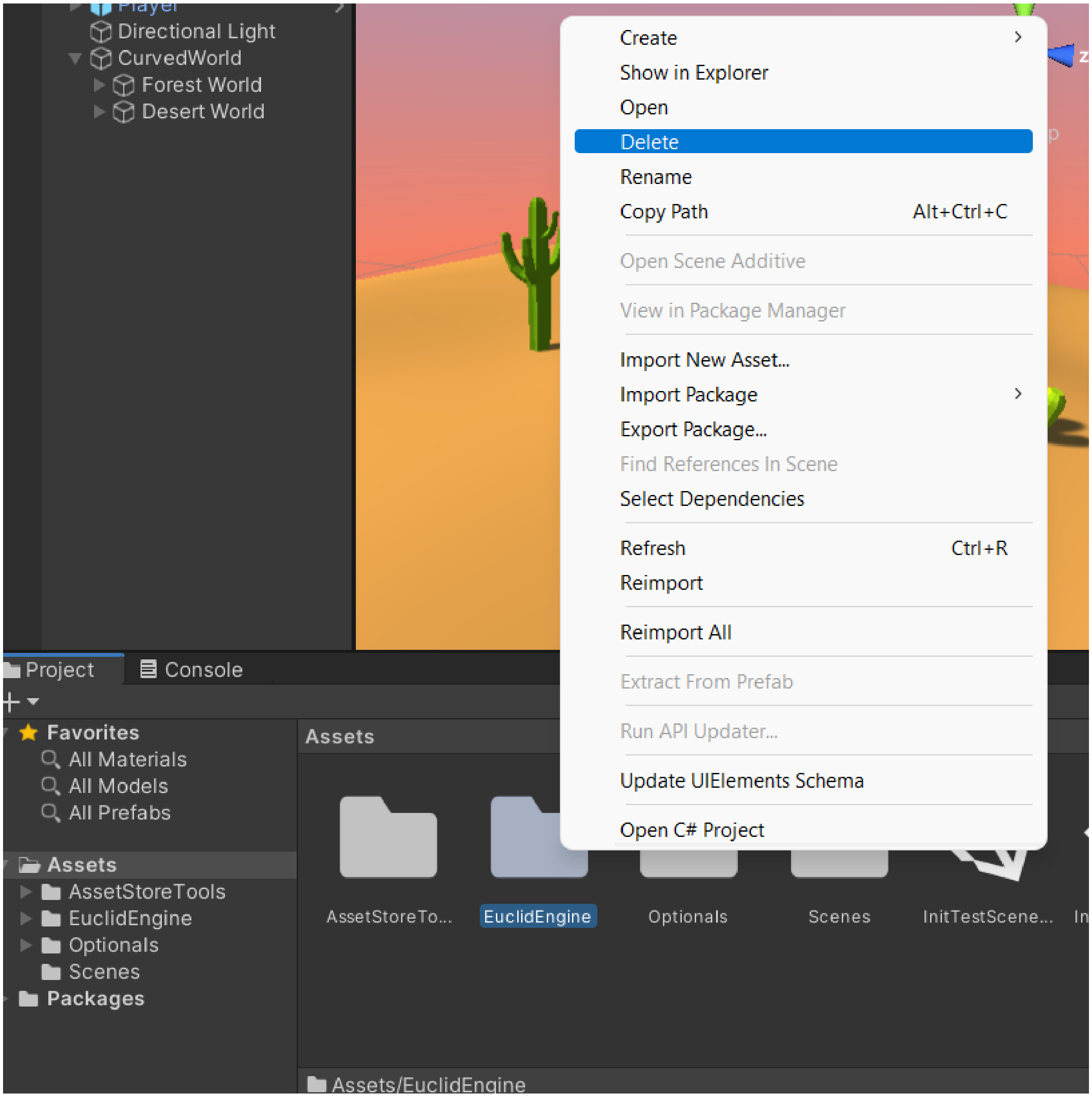
After downloading EuclidEngine, simply insert the .unitypackage file into your project by double clicking on the .unitypackage file while having your project opened, and then you should have this folder into your project:



Then, we're good! EuclidEngine has been installed.

Uninstallation

If you want to uninstall, EuclidEngine, simply remove the imported .unitypackage by removing EuclidEngine folder:

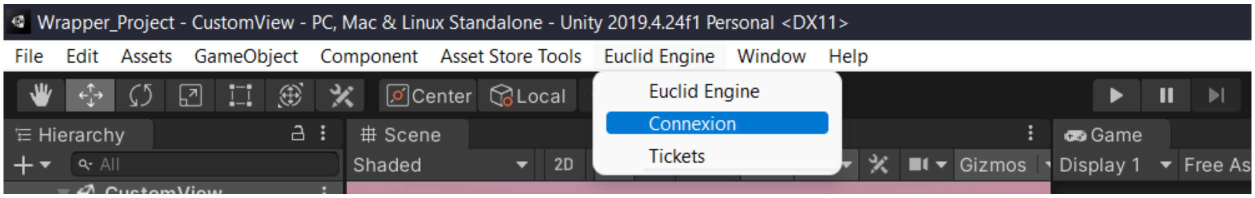


Then, Euclid Engine is gone!

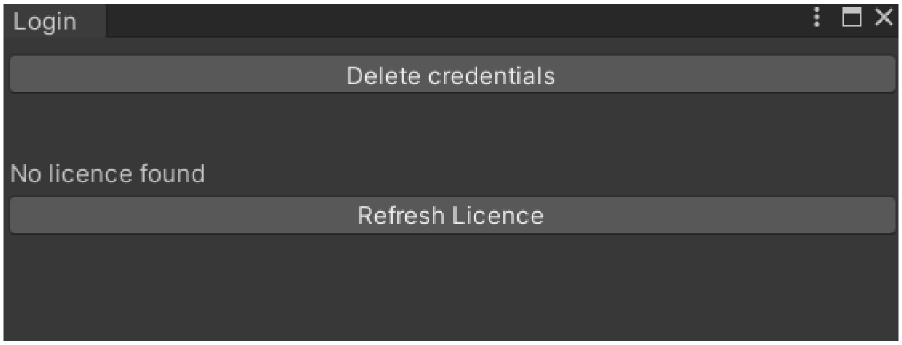
Login

First of all, you'll need to log into your EuclidEngine account to be able to use all features freely.

- To do that, go into **Euclid Engine -> Connexion:**



- Enter your credentials and Log into your account, then you'll have that window:

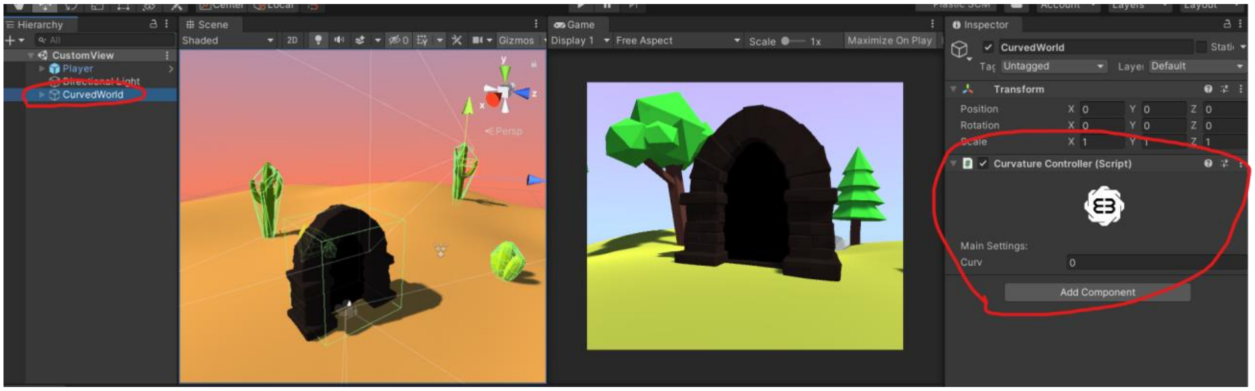


No licence found

- Once, you're logged on, everything's set, you can start using EuclidEngine!

World Curvature

Create or Use a parent object that will be considered the World Curvature main parent, then all children within that object will get the effects of curvature.



CurvedWorld

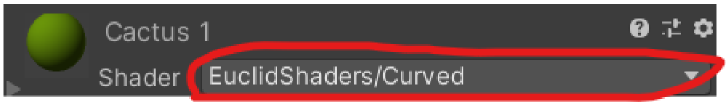
Tag Untagged Layer Default

Position	X 0	Y 0	Z 0
Rotation	X 0	Y 0	Z 0
Scale	X 1	Y 1	Z 1

Main Settings:

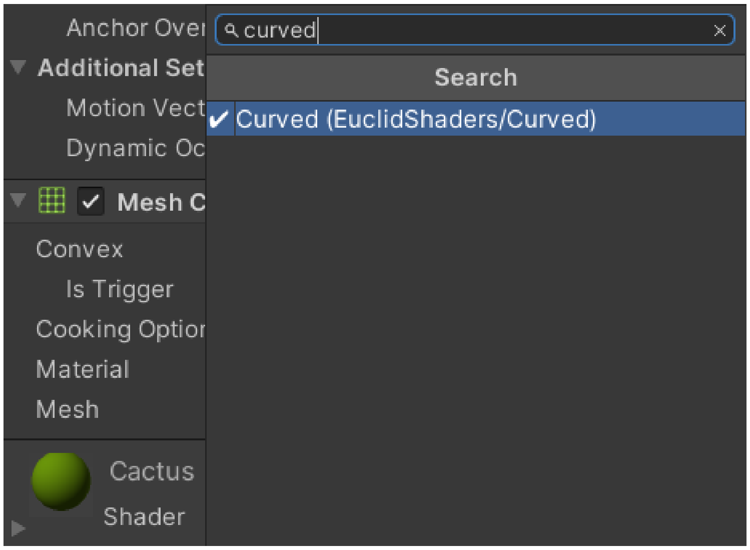
Curv 0

Then, change all shaders of the materials you want to affect with curvature to “EuclidEngine/Curved”:



Cactus 1

Shader EuclidShaders/Curved



curved

✓ Curved (EuclidShaders/Curved)

And that’s it ! Repeat the process for every needed object.

Non-Euclidean Area

Non-Eucidean areas are basically zones that modify sizes of objects, it can be used in contexts in, for instance, where you want to make your character go through longer distances while walking the same amount of time.

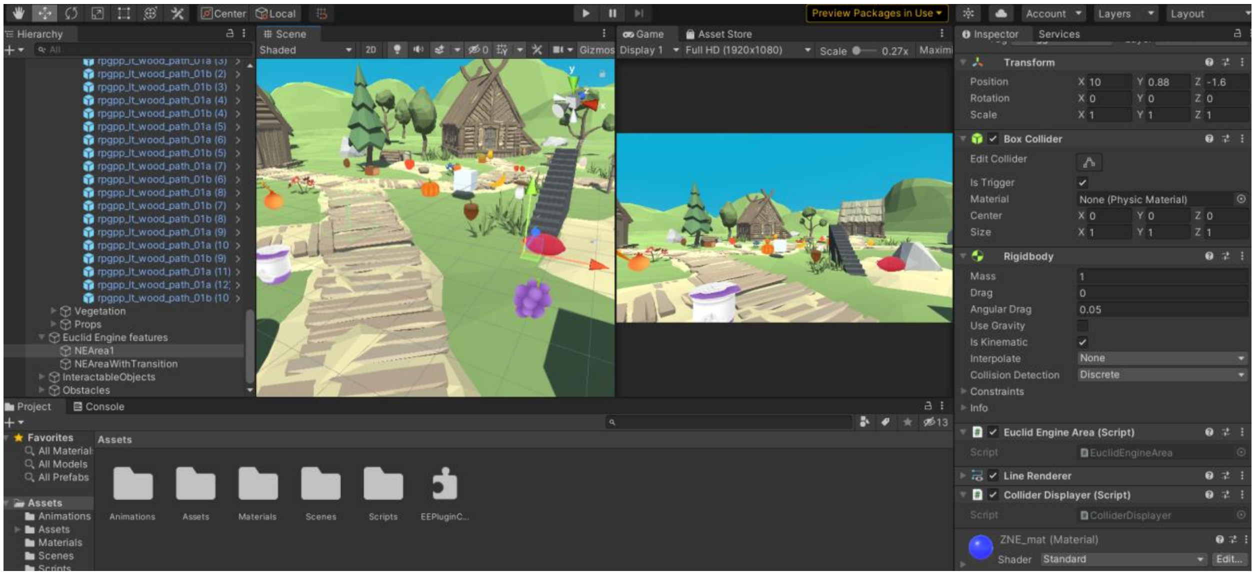
There is 3 scripts to consider:

- Euclid Engine Area
- Add_Transition
- Collider Displayer

“Euclid Engine Area” will give the capacity to your object to be a non-euclidean area, though you will need a box collider so that the non Euclidean area knows where to apply its effect.

“Add_Transition” will give the capacity to an Euclid Engine Area to have transitional size modifications. You’ll just have to add the script to a non-euclidean area and then set the “internal size” so that the script knows where to start and end the size modification.

“Collider Displayer” will give you an insight on where the non-euclidean area is, so only use it on Debug mode.


Center
Local
Preview Packages in Use
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Full HD (1920x1080)
Scale 0.27x
Maximi
rpgpp_lt_wood_path_01a (3)
rpgpp_lt_wood_path_01b (2)
rpgpp_lt_wood_path_01b (3)
rpgpp_lt_wood_path_01a (4)
rpgpp_lt_wood_path_01b (4)
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rpgpp_lt_wood_path_01b (6)
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rpgpp_lt_wood_path_01b (8)
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rpgpp_lt_wood_path_01b (9)
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rpgpp_lt_wood_path_01b (10
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Scripts
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EEPluginC...
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Transform
Position X 10 Y 0.88 Z -1.6
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1

Box Collider ✓
Edit Collider
Is Trigger ✓
Material None (Physic Material)
Center X 0 Y 0 Z 0
Size X 1 Y 1 Z 1

Rigidbody
Mass 1
Drag 0
Angular Drag 0.05
Use Gravity □
Is Kinematic ✓
Interpolate None
Collision Detection Discrete
Constraints
Info

Euclid Engine Area (Script) ✓
Script EuclidEngineArea

Line Renderer ✓

Collider Displayer (Script) ✓
Script ColliderDisplayer

ZNE_mat (Material)
Shader Standard Edit...

Non-Euclidean Chamber

This feature is still in WIP (Work In Progress) state, but it will be available in the next updates.