

Learn Unity, version 0.1

Free eBook: Creating 3D games



By
Adam Higherstein

This is an ebook that teaches 3D game programming with Unity.

This version is free!!!

It will be updated a bit later!

We build a terrain and add there trees, grass, water, wind, clouds and other objects

Later we use 3D constructions and add there different kinds of objects...

We also add dancers to the project and use personal camera...

Feedback is welcome!

Thank you!

Table of Contents

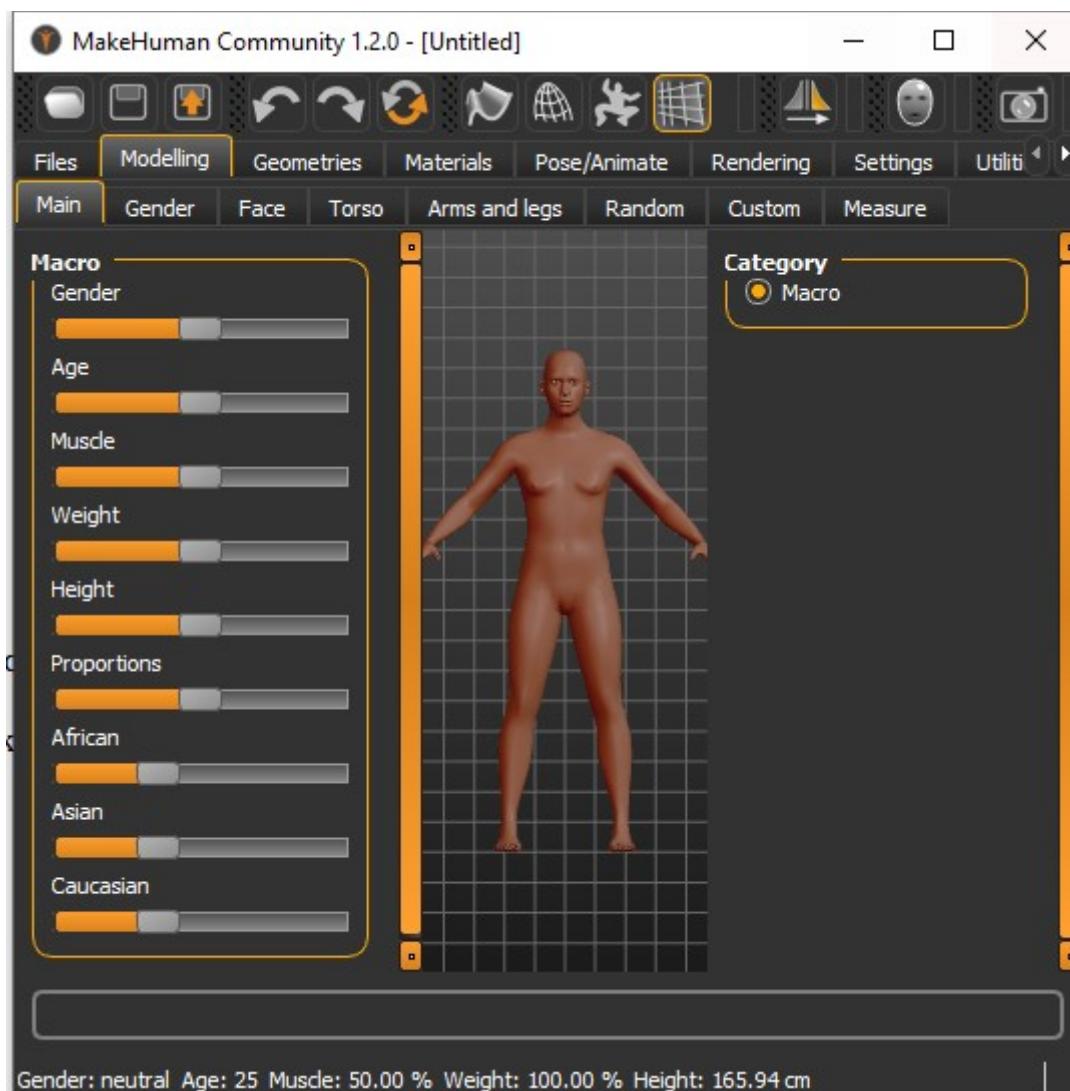
Characters.....	1
MakeHuman.....	1
Mixamo.....	4
Starting 3D project.....	6
Orientation.....	6
Example: basics and simple platform.....	6
Example 2: player in the project.....	10
Add free 3. person character.....	11
Add basic objects.....	13
Skybox.....	18
Add text component.....	22
Add code 1.....	23
Add free trees from Assets.....	24
Add jumping balls.....	25
Add collision detection.....	28
Deleting balls.....	29
Add Mixamo character.....	31
Create stairs.....	35
Add an apple object.....	37
Adding audio and cannon.....	39
Adding drone.....	43
Note: try also another 3. person.....	53
More about 3D game creating.....	55
Terrain.....	50
Paint terrain.....	51
Create layers.....	52
Create own texture.....	52
Add skybox.....	57
Add trees.....	58
Add wind.....	60
Add player.....	61
Helicopter to the sky.....	62
Helicopter movements code.....	63
Helicopter sound.....	63
Helicopter code update.....	65
Add house and create your own garden.....	66
Add 3D house.....	68
Go on creating your own garden!.....	70
Adding a 3D city model.....	71
Moving in the city: examples here.....	73
Let's dance!.....	76
Mixamo.....	77
Problem 1: too high place.....	86
Solution 1: Build stairs.....	86
Solution 2: ramps.....	90
Problem 2: gap between places.....	90
Solution 1:use a block as a bridge.....	92
How to add follower.....	93

Catch follower.....	97
Labyrinth.....	98
Puzzle (sokoban style).....	99
Create a quick real maze!.....	102
Use free assets.....	105
Quaternions.....	105
Devils Workshop.....	107
Kenney.....	108
PolyPizza.....	109
Free3D.....	109
Unity's own Assets.....	112
ProBuilder tool.....	115

Characters

Take a look at tools like MakeHuman and Mixamo.

MakeHuman



With this tool you can create characters that can be taken to Unity project.

You can download makehuman and install it.

From makehuman web site you can also download new assets.

The screenshot shows a web browser window with the title bar "User contributed assets | www.n X". The address bar contains the URL "www.makehumancommunity.org/content/user_contributed_assets.html". The page itself has a dark background with the MakeHuman logo and text "Open Source tool for making 3D characters" and "COMMUNITY". Below this is a navigation bar with links: News, Downloads, Forum, Docs & FAQ, Bugtracker, Assets, and Support us. The main content area is titled "User contributed assets". It contains text about repositories for user-created content and links to recent changes and comments. Below this, there's a section titled "Clothes" featuring a 3D model of a character wearing a hat and a description of what the assets are used for.

MAKEHUMAN™
Open Source tool for making 3D characters
COMMUNITY

News Downloads Forum Docs & FAQ Bugtracker Assets Support us

User contributed assets

There are several repositories for user created content on this site. If there is no appropriate repository for a piece you would like to contribute, it's always possible to attach it as a zip file to a forum post.

If you want an overview of what has happened lately, you can see a [list of recent changes](#), as well as a [list of recent comments](#).

If you know what author produced the asset you are looking for, you can see the [assets by author](#) overview. There is also a view with [all asset authors sorted by number of assets published](#).

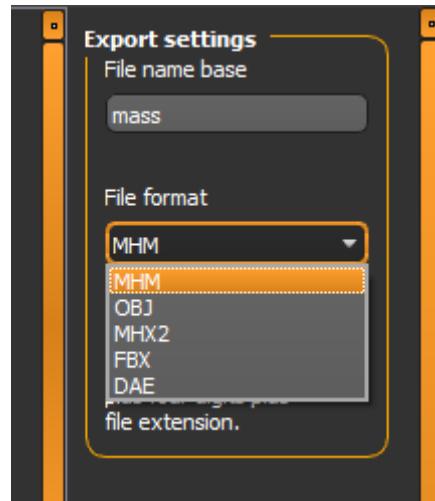
Clothes

These are dresses, equipment and accessories you can add to your toon inside MakeHuman

Add properties to the character, e.g. here is one example:



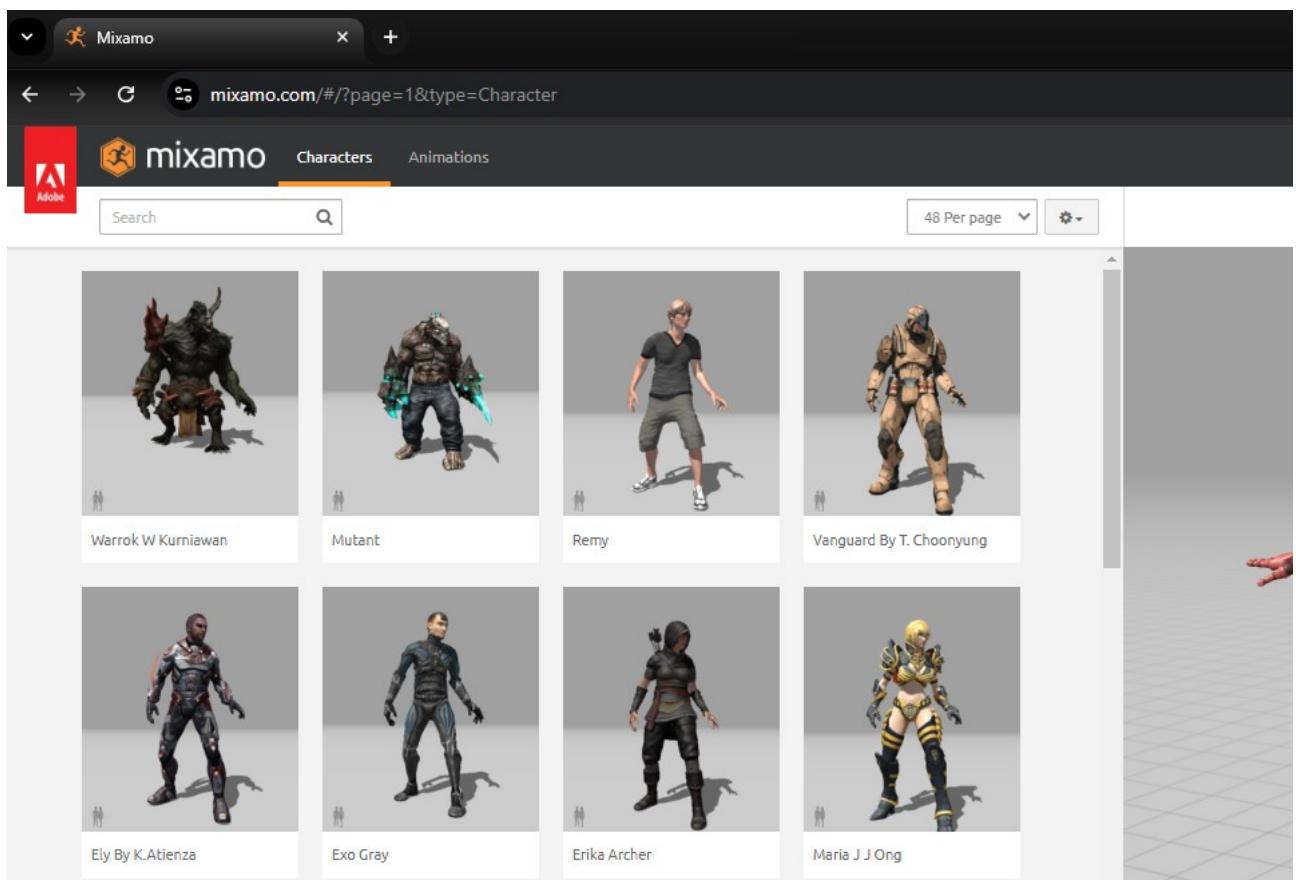
When you are ready, download the result in right format:



You can upload makehuman character e.g. to Mixamo and add animation to it.

Mixamo

Mixamo is an online tool



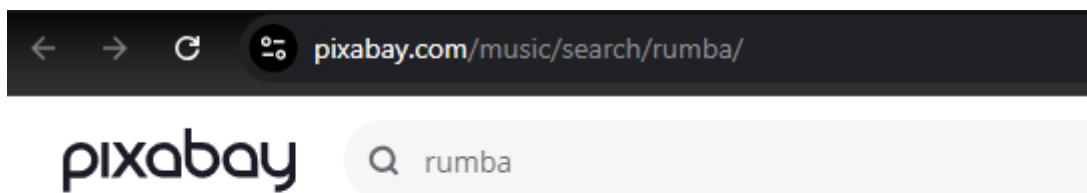
How to get free dance music?

Let's try Youtube AudioLibrary...

There are also other good sites to get free music...

We can try also to generate sounds with some free online tool...

Example

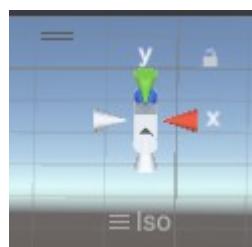


Starting 3D project

Create a 3D project: now we can create e.g. 3D core project.

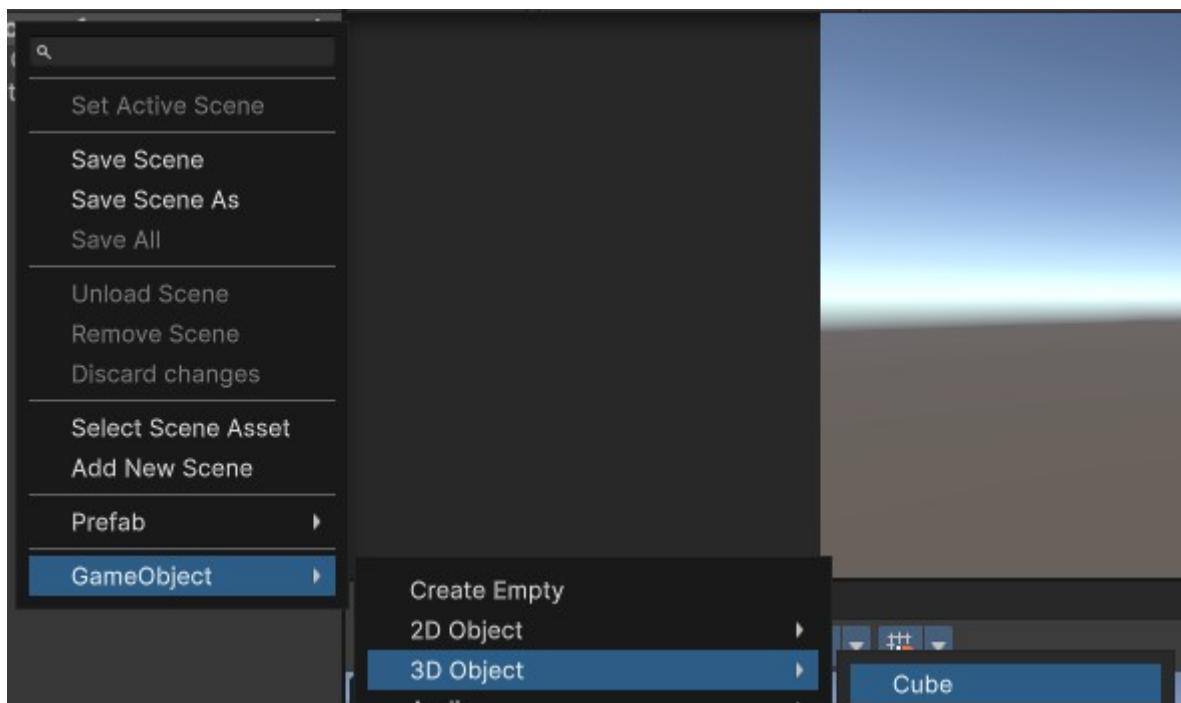
Orientation

Normally I use this orientation:

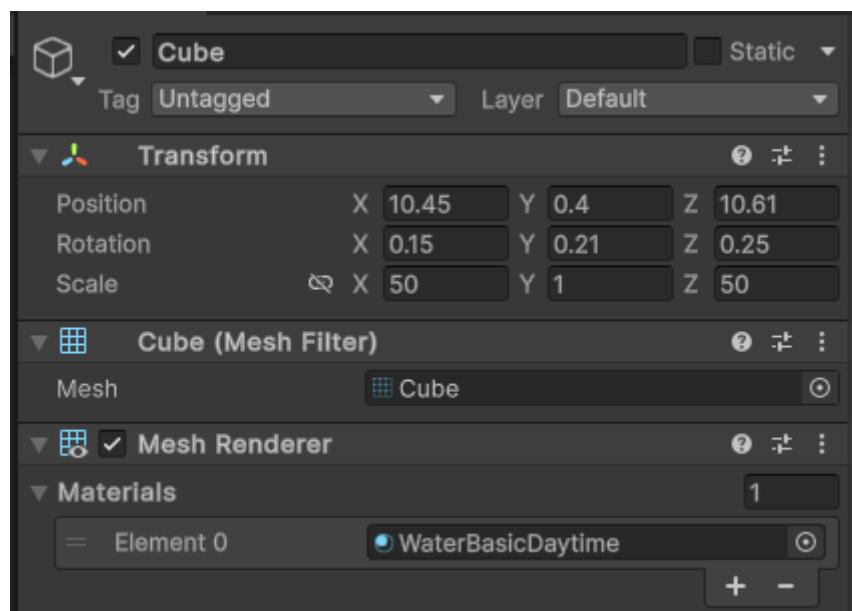


Example: basics and simple platform

We add first the floor: it can be 3D Object, Cube.



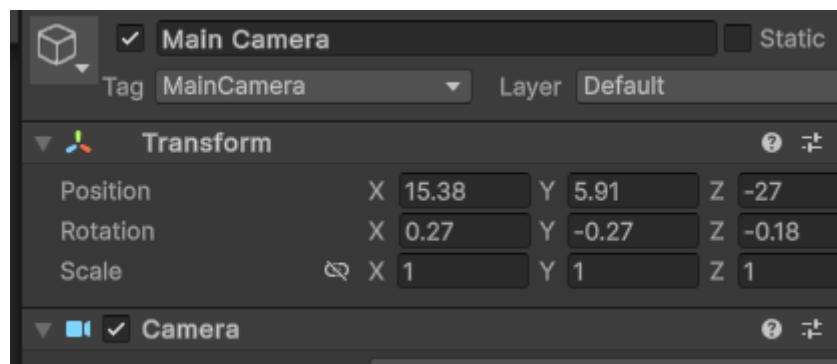
I have these field values added to cube



Try to find values for coordinates and scale so that floor is seen well in Scene part and in Game part...

Note: I have changed floor colour - it is now blue. You may have some colours to be used in your project - check by choosin Mesh Renderer and Materials!

You can also change camera values if needed. I have these values:

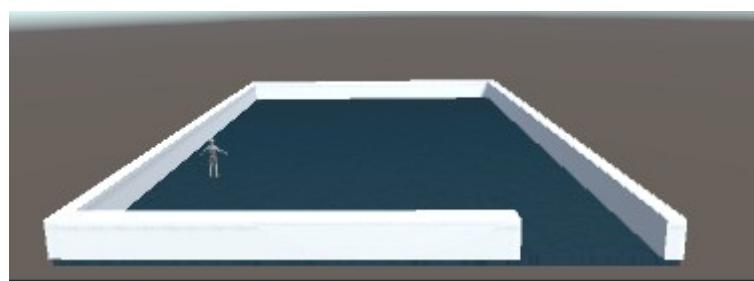


Now you can add walls: just cubes. Adjust their values.
Here is one wall:



Make one wall ready and then copy and edit it...

Final arena looks like this.



In this first example we just put there an object that we can move with arrow keys or maybe with mouse...

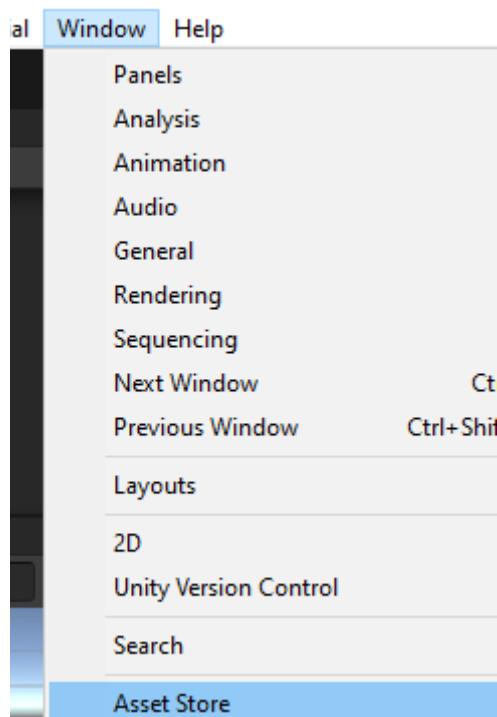
Then we add there objects that have to be pushed to some defined place.

Example 2: player in the project

Now we take a look at the player.

You can get it easiest by importing Starter Assets to your project.

Open Windows menu and choose Asset Store:

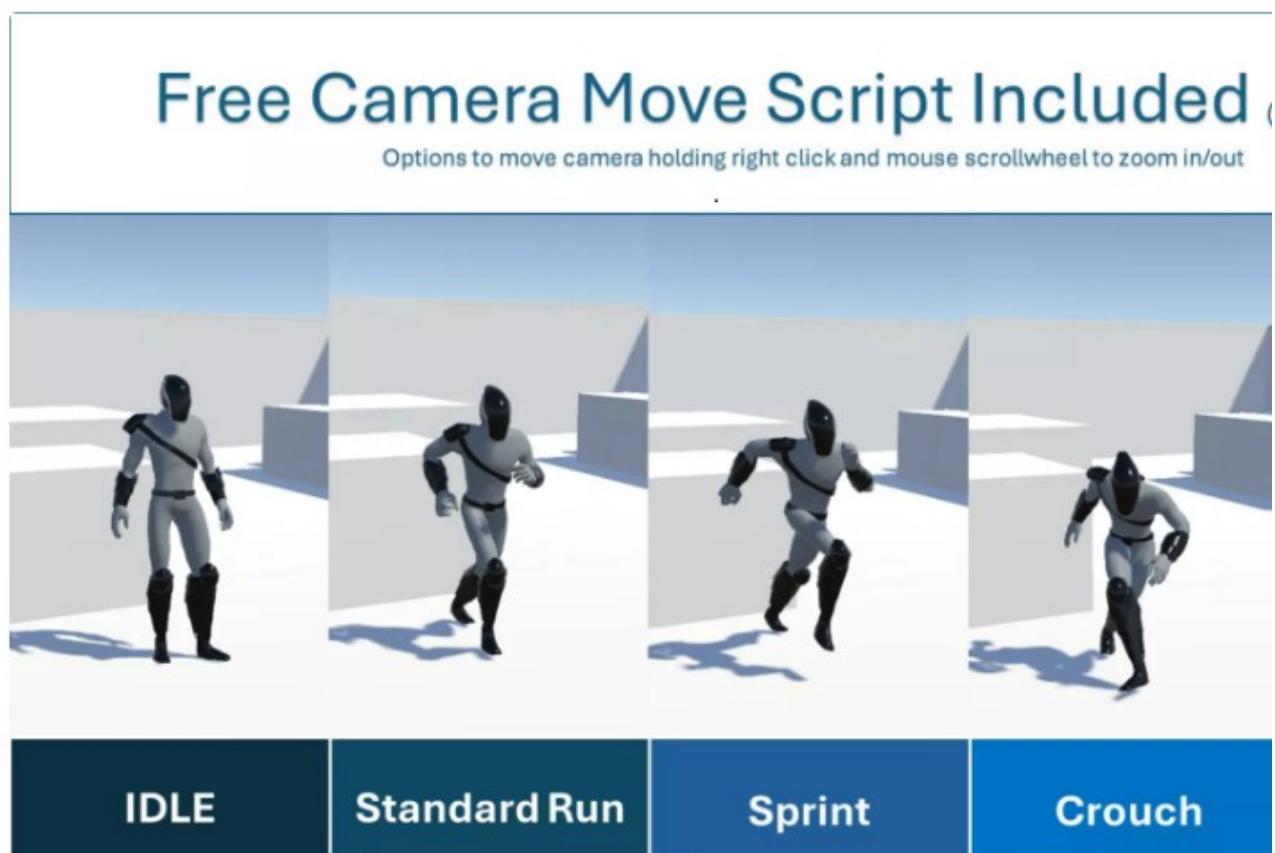


You can search for Starter Assets and there 1. or 3. person character.

Add free 3. person character

There are also other choices. Here is one smaller package:

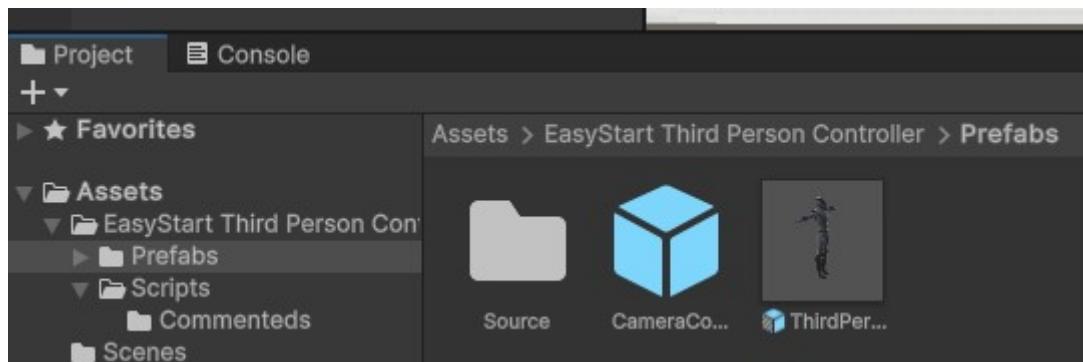
assetstore.unity.com/packages/tools/game-toolkits/easystart-third-person-controller-278977



You can download, import and open it in Unity project.

First you can create a platform: 3d cube is ok in this case. Just add it and change size and position...

Then you can add the person to your project.





Add basic objects

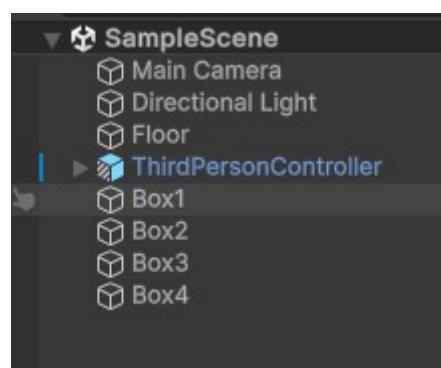
Add there some 4 smaller cubes.

Then add rigidbodies and colliders.

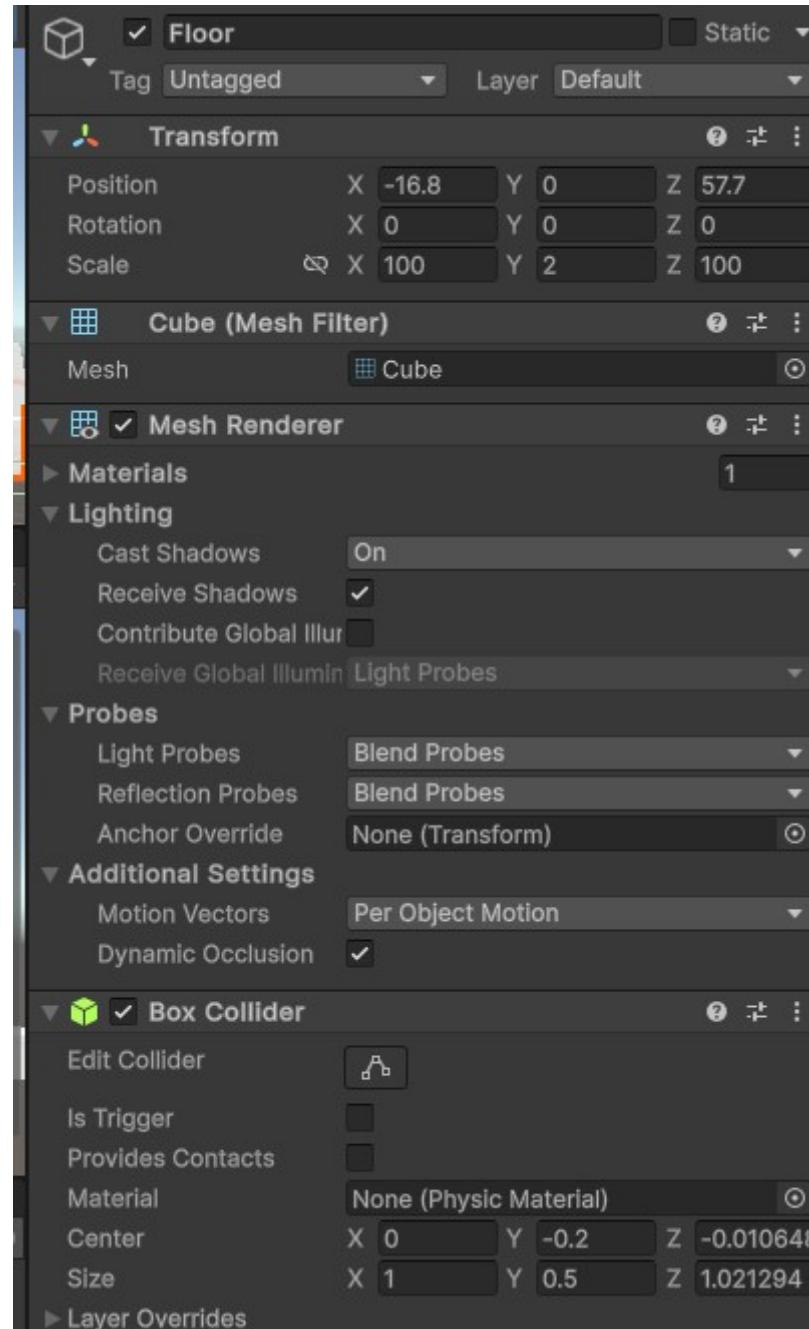
Idea is to push smaller cubes away from the floor.



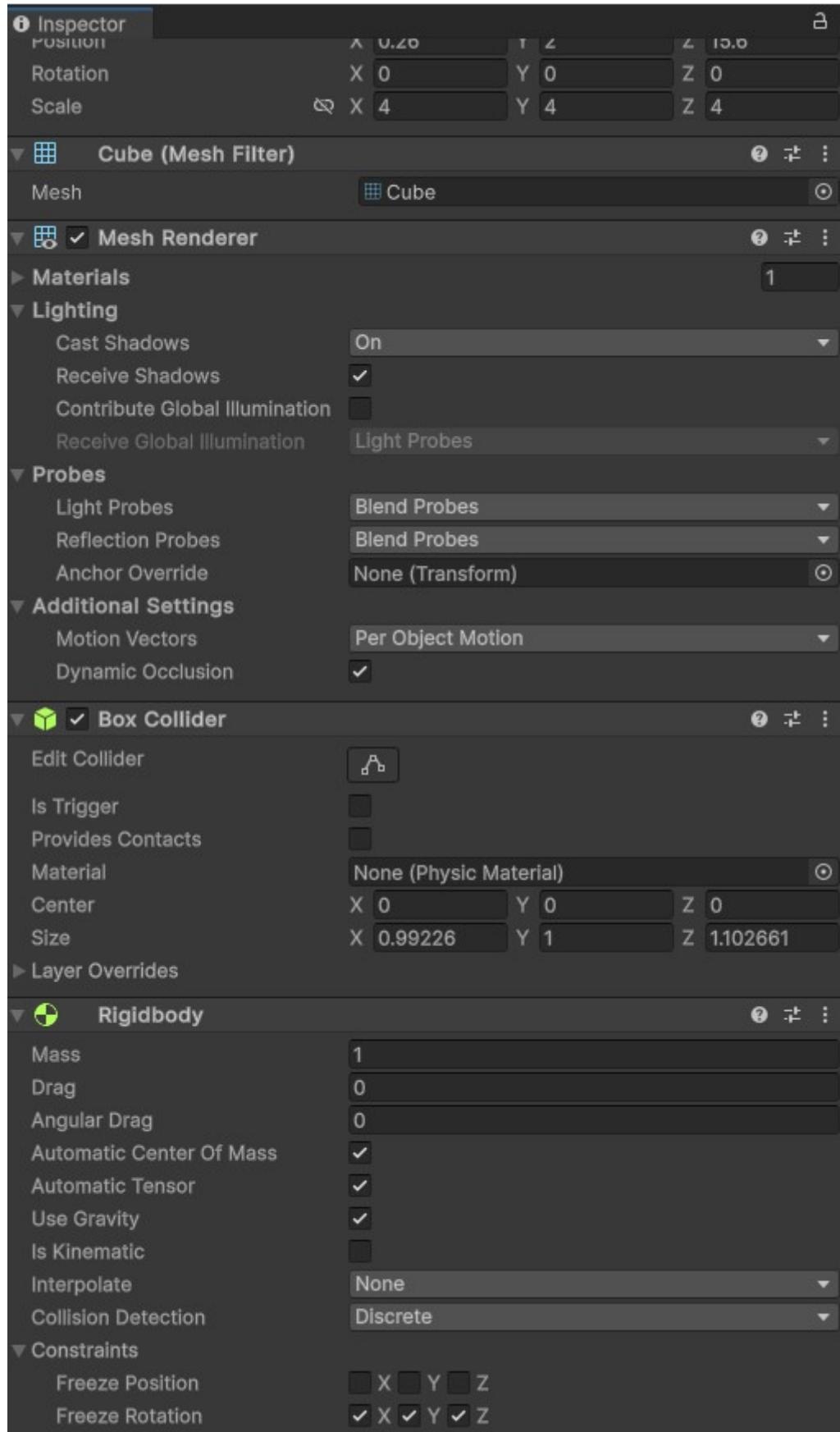
Here you see objects in my scene's hierarchy:



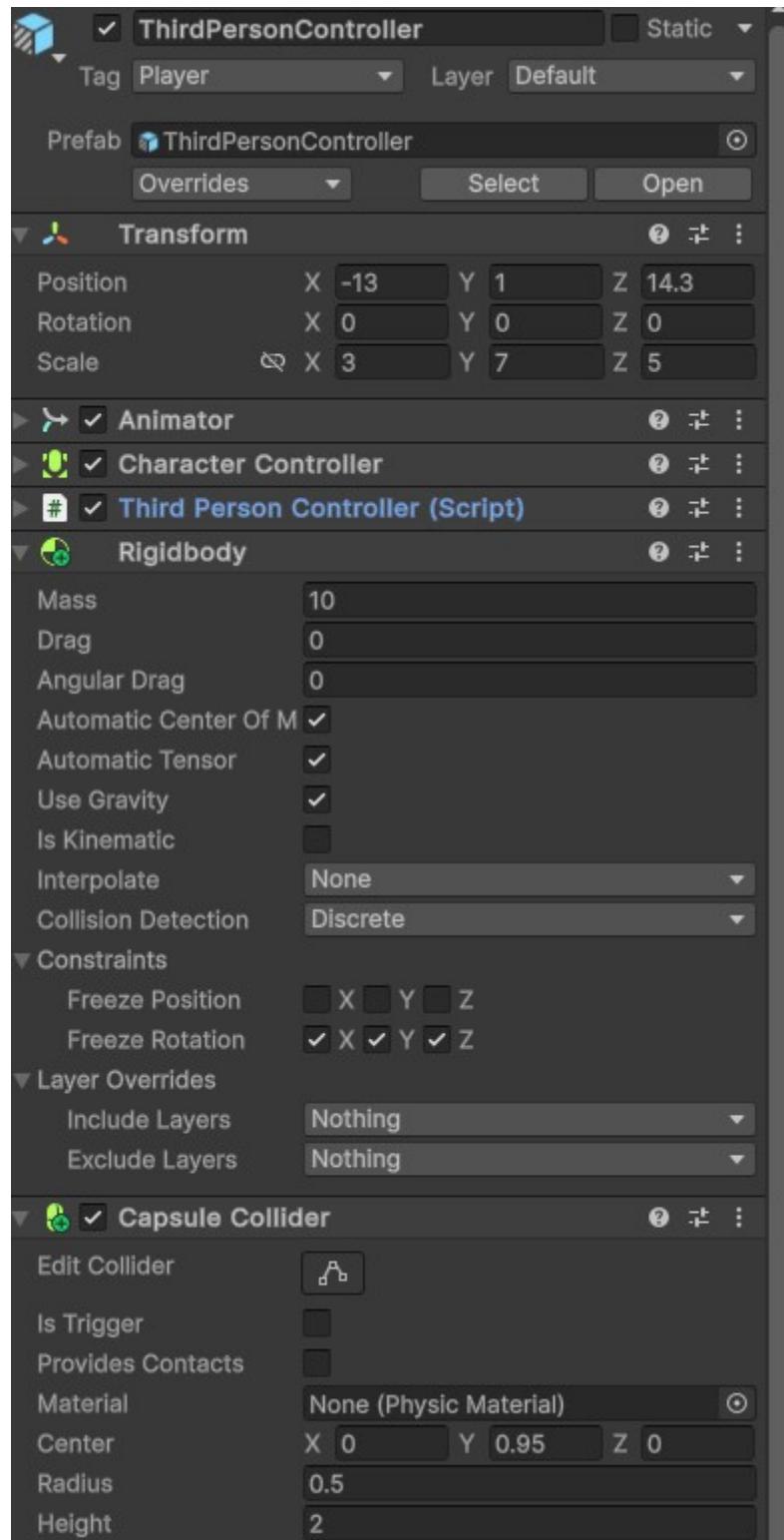
Floor settings



Box settings



Third person settings

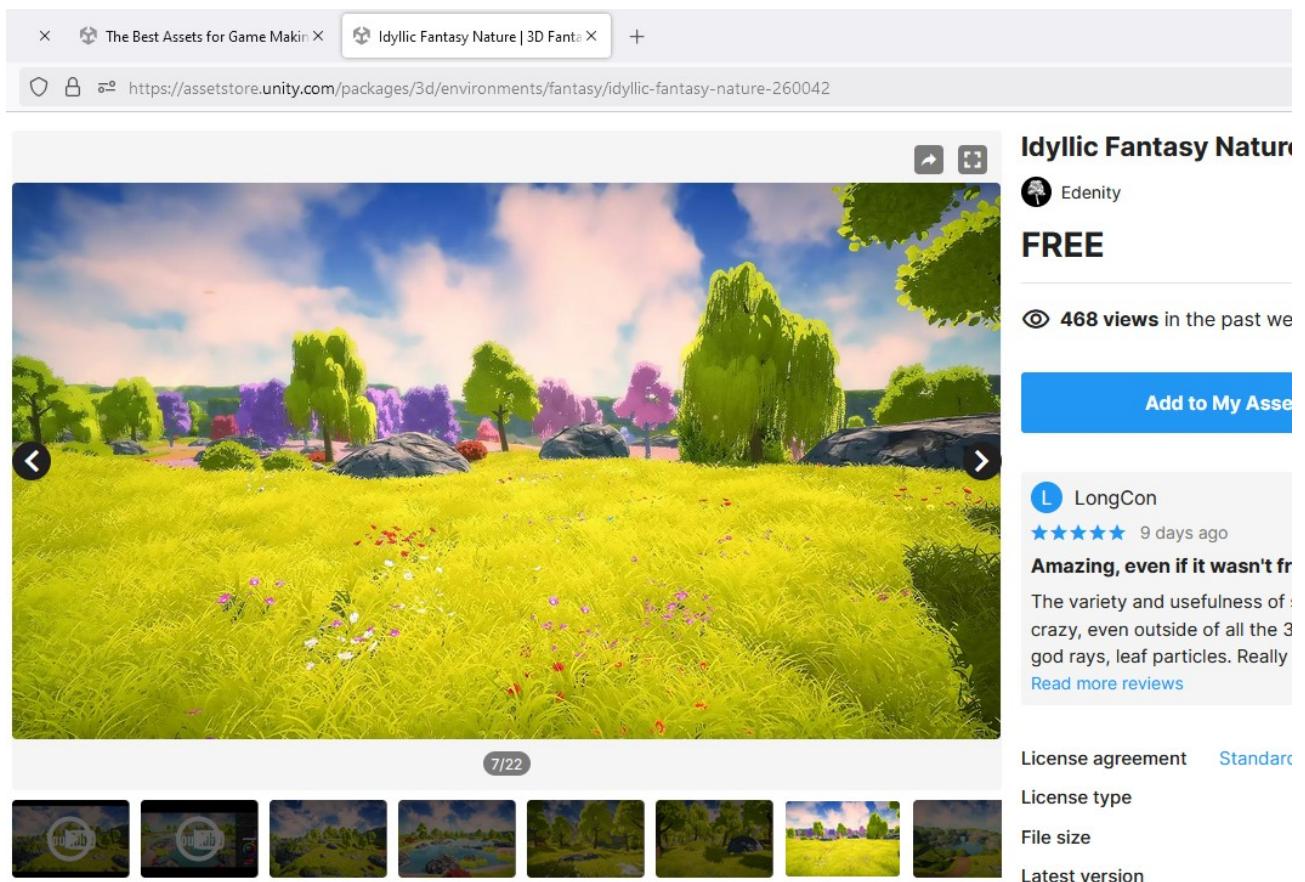


You can try with own values...

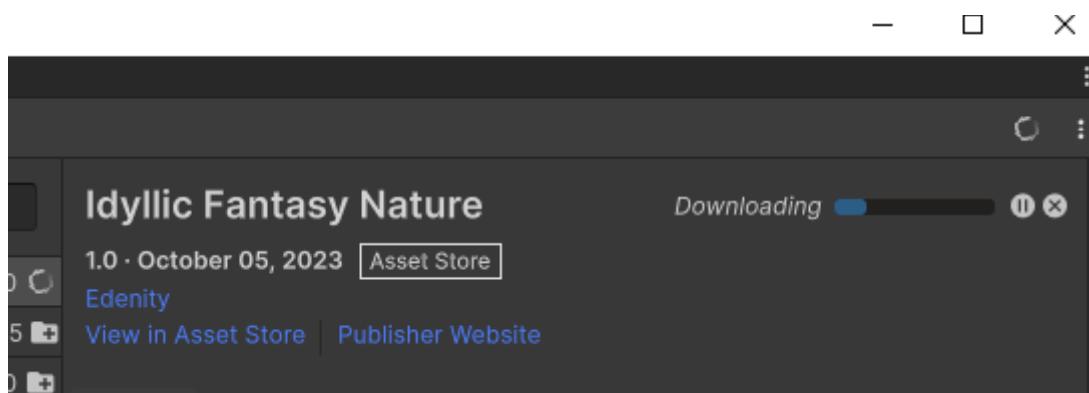
Let's make the game world a bit richer!

Skybox

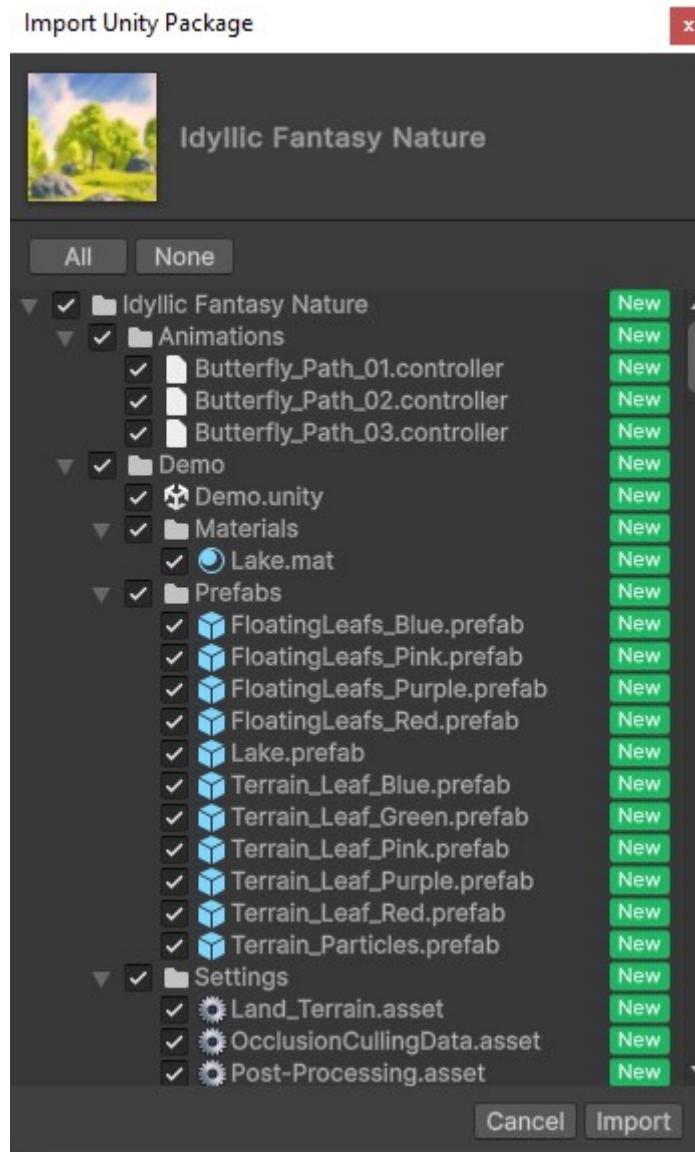
Here is one example: skybox



Download



Then Import

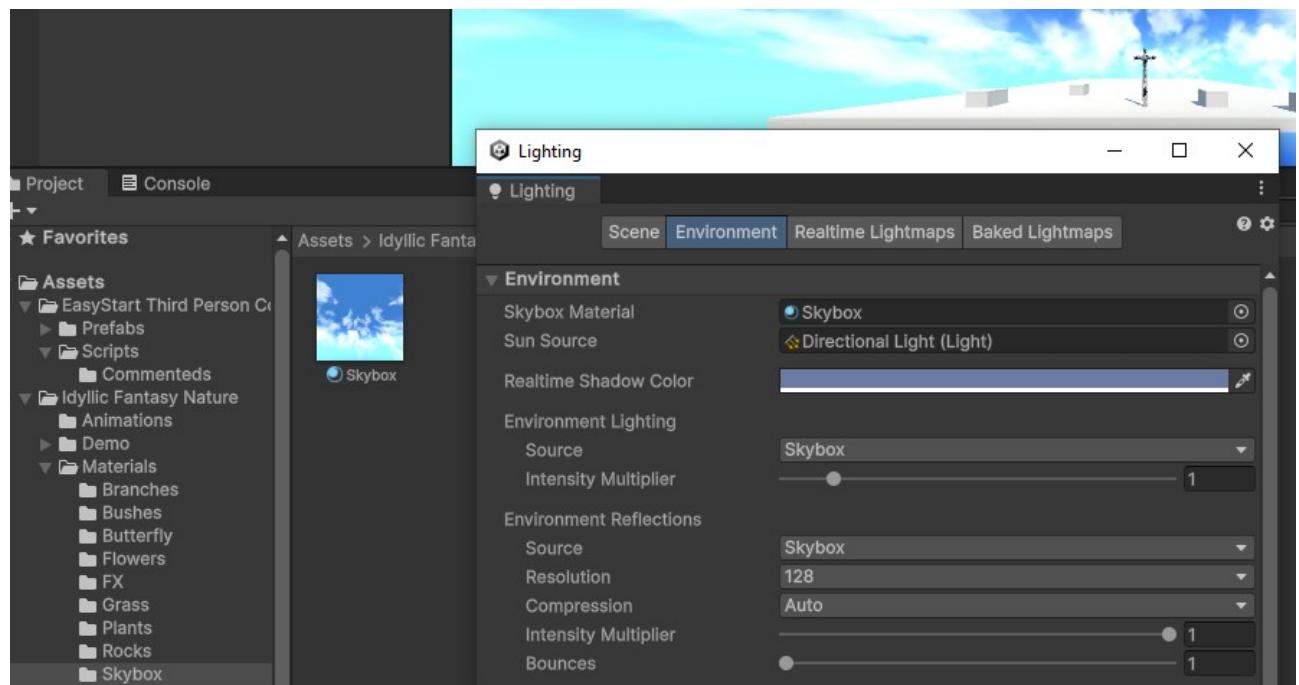


Let's try to change default skybox.

Choose

Window -> Rendering -> Lighting -> Environment

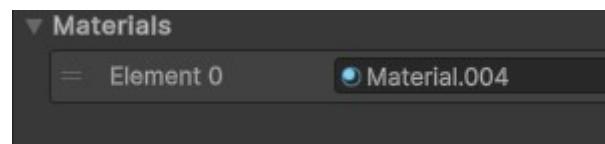
We just imported assets to our project. Search for skybox and replace the default!



Scene looks better now (I think)



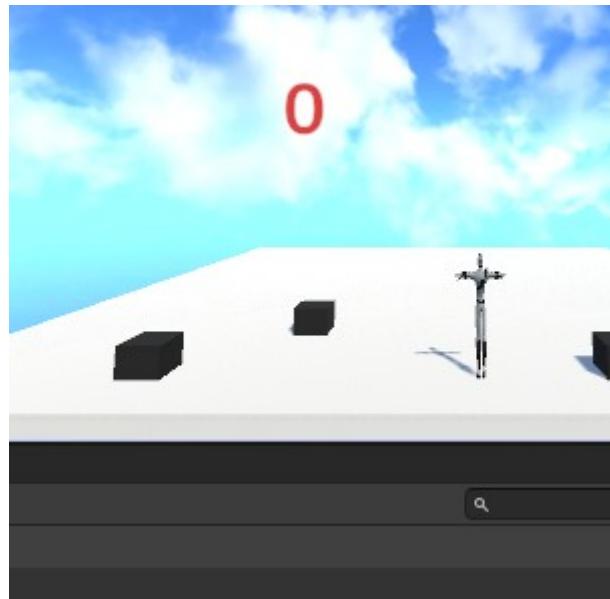
I also changed the material of boxes: when we added new assets we got also many materials that we can now use for boxes.



The game is not so funny yet: we can add there time taking first.

Add text component

Add there a text component:



Add code 1

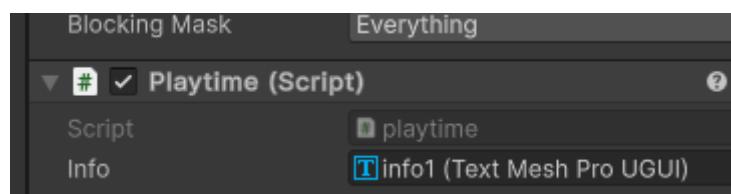
```
using UnityEngine.UI;
using TMPro;

public class playtime : MonoBehaviour
{
    public TMP_Text info;
    void Start()
    {
    }
    float timer = 0.0f;

    void Update()
    {
        timer += Time.deltaTime;
        int seconds = (int)(timer % 60);
        info.text = "" + seconds;
    }
}
```

Add code to Canvas object.

Then drop your text component to script's field.



A bit better game?

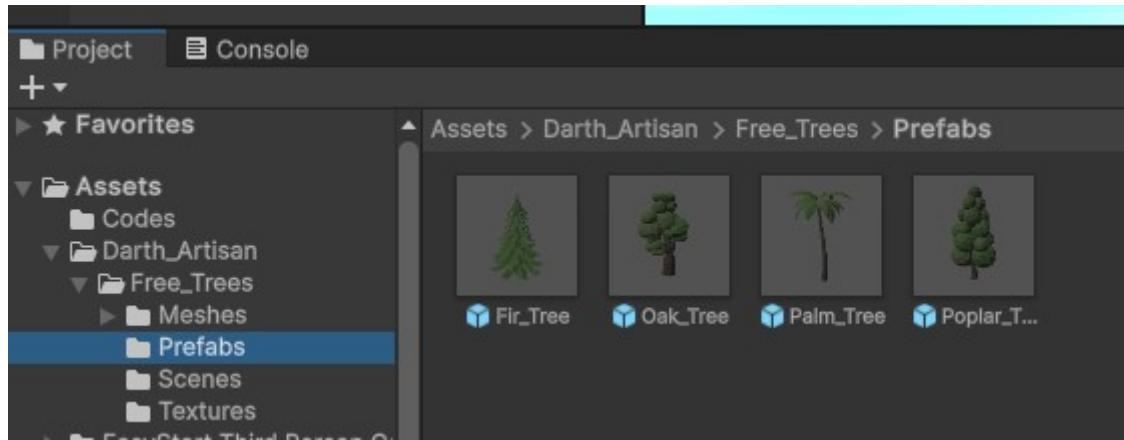
Let's go on!

Add free trees from Assets

Nature needs something: let's add trees

We can create own hills, trees, grass and so on with Unity's own tools.

Now we take some trees from Assets.



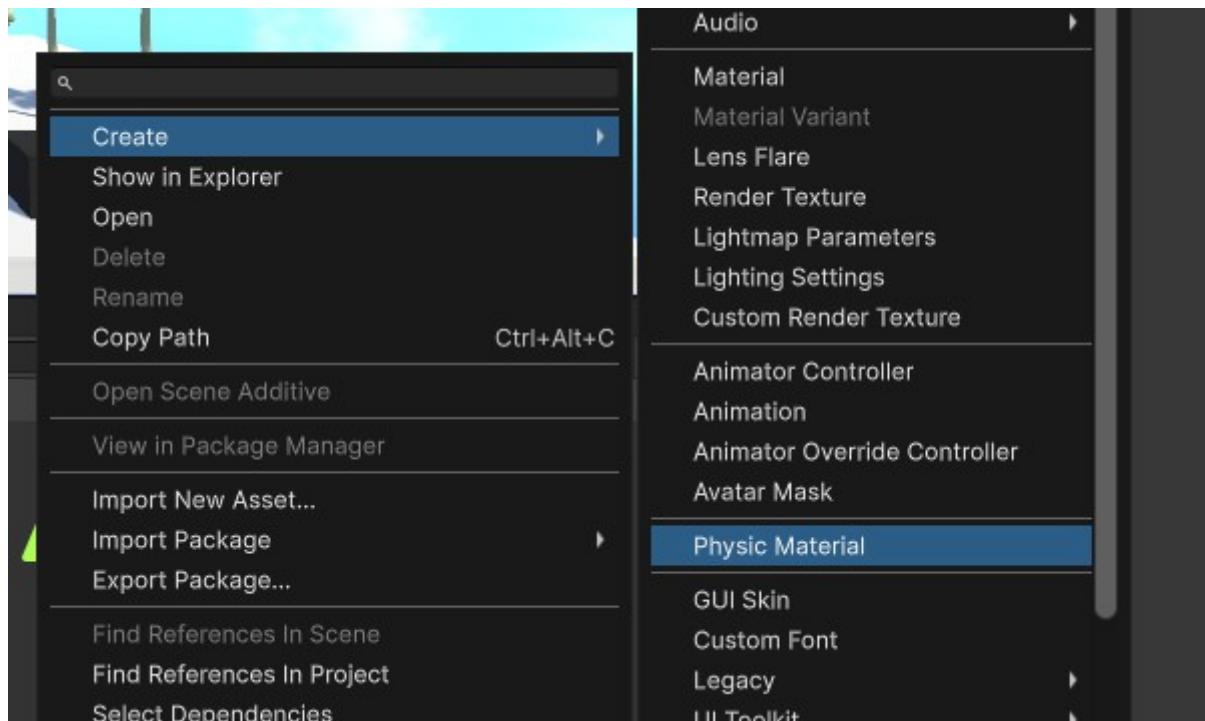
A bit better



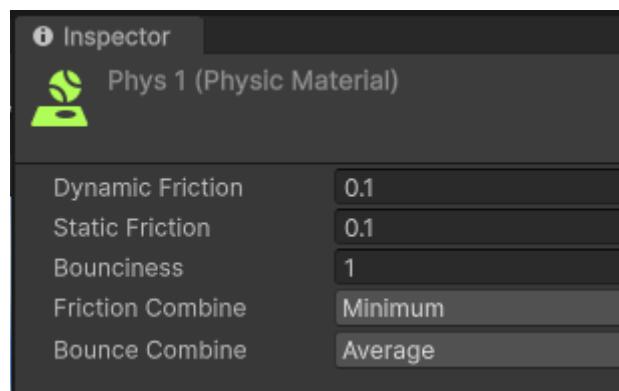
Add jumping balls

Then we add more features: spheres that are deleted when player touches them.

We can add there 4 balls that are jumping. To get balls jumping we have to create physical material and add it to balls.



Bounciness is taken into account here



Add spheres:



Then materials and rigidbody



Test: balls are jumping!

Add collision detection

Now we add collision detection

When collision is detected, ball is deleted.

So, we need code now!

It easier to see how code works when we make balls public:

```
public GameObject ball1, ball2, ball3, ball4;
```

So, we have to add real objects to those public variables before running the code.

Collision detection is here:

```
private void OnCollisionEnter(Collision collision)
{
    if (collision.collider.name == "Ball1")
    {
        GameObject.Destroy(ball1);
    }
    if (collision.collider.name == "Ball2")
    {
        GameObject.Destroy(ball2);
    }
    if (collision.collider.name == "Ball3")
    {
        GameObject.Destroy(ball3);
    }
    if (collision.collider.name == "Ball4")
    {
        GameObject.Destroy(ball4);
    }
}
```

So, just to make all more visible we have these if-statements for every ball. We could also be able to use Tag-property...

Deleting balls

Now we add script to our player: when player touches some of those balls, ball is deleted.

We take a new 3. person character from assets first.

Search for Starter Assets - here is again one choice!!

Let's now go on first by using starter assets 3. person scene.

Third Person Controller - Basic Locomotion FREE

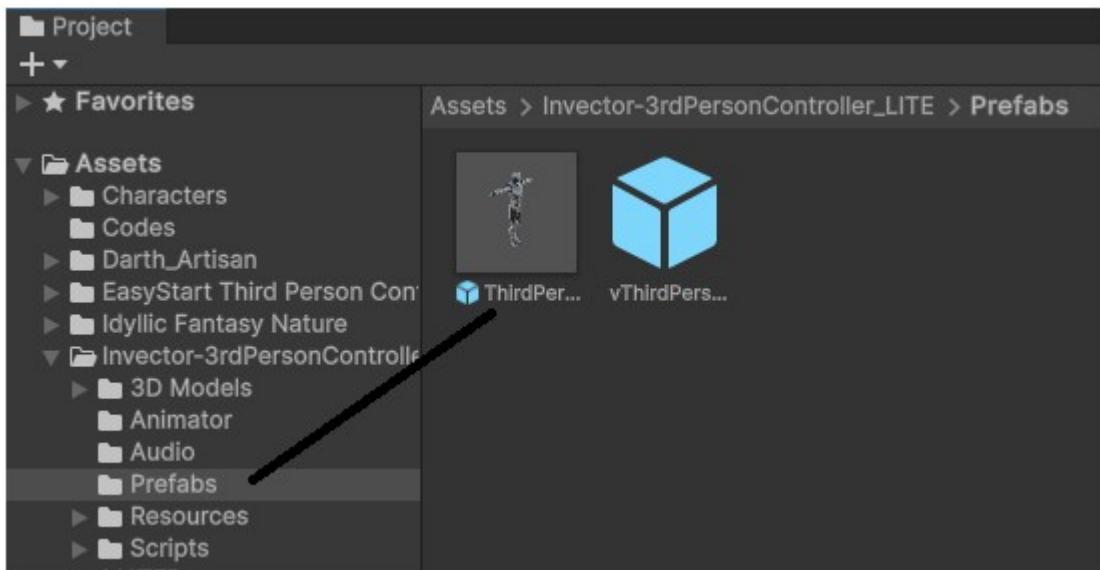
 Invector ★★★★★ (428) | ❤ (11348)

FREE

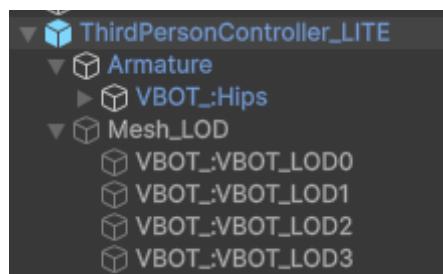
🕒 1377 views in the past week

[Open in Unity](#) 

License agreement	Standard Unity Asset Store EULA
License type	Extension Asset
File size	57.8 MB
Latest version	2.0
Latest release date	Jan 20, 2020
Original Unity version ⓘ	2018.4.12 or higher
Support	Visit site



Here character is inside Hierarchy:



Add Mixamo character

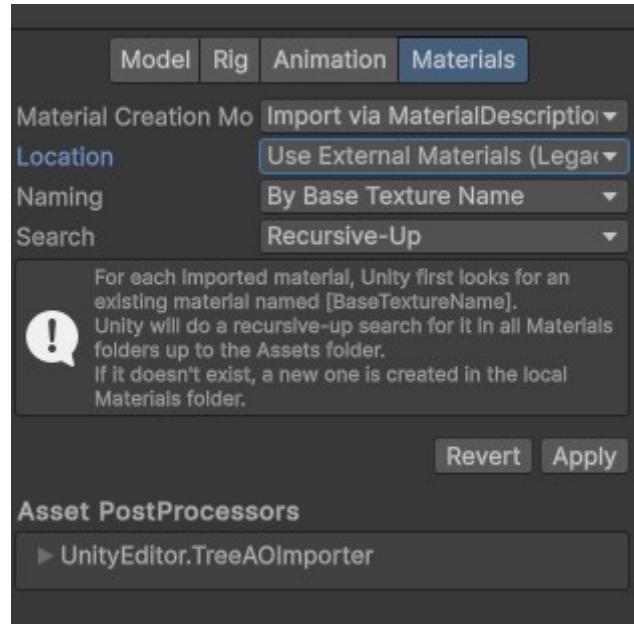
Now we add a new character to the project. It comes from Mixamo.



Here it is first inside assets

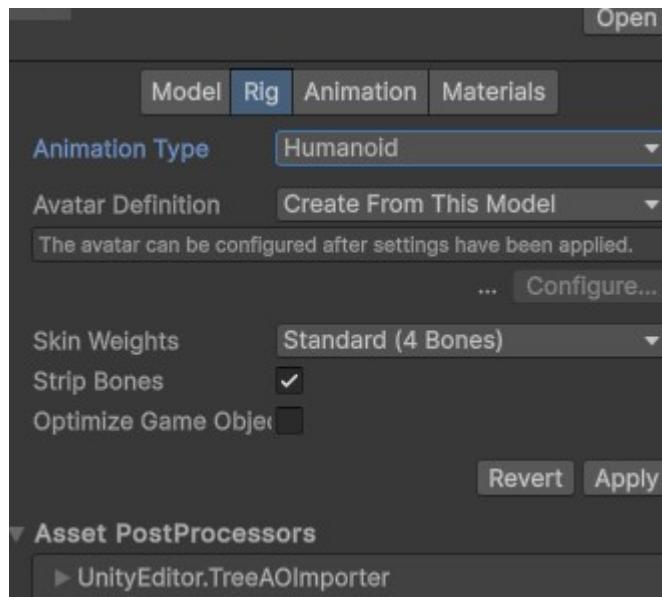


Settings 1

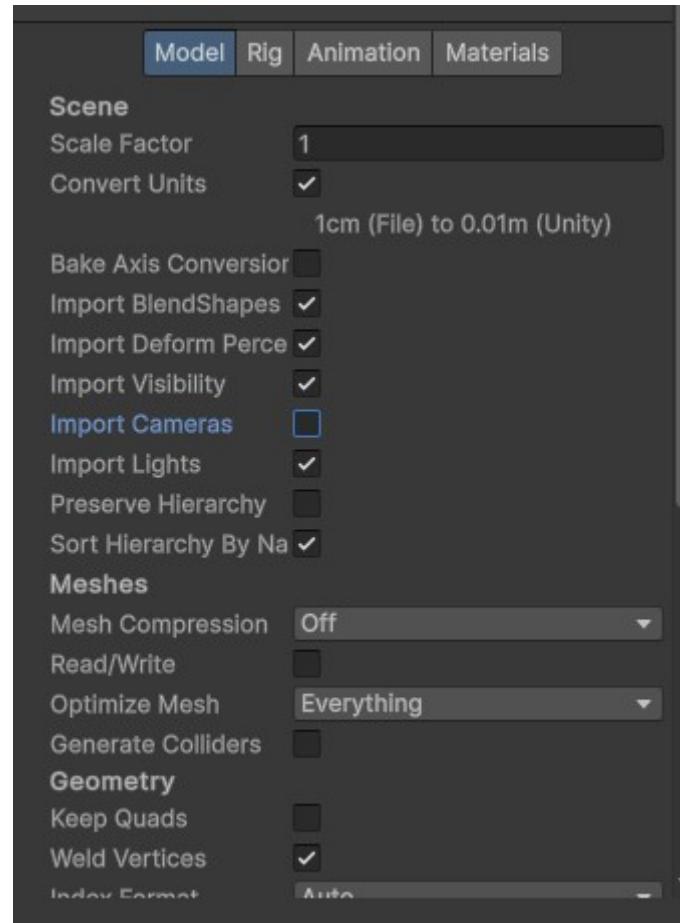


Remember **apply...**

Settings 2



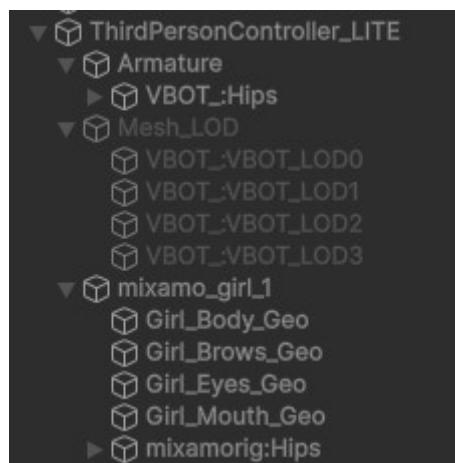
Settings 3



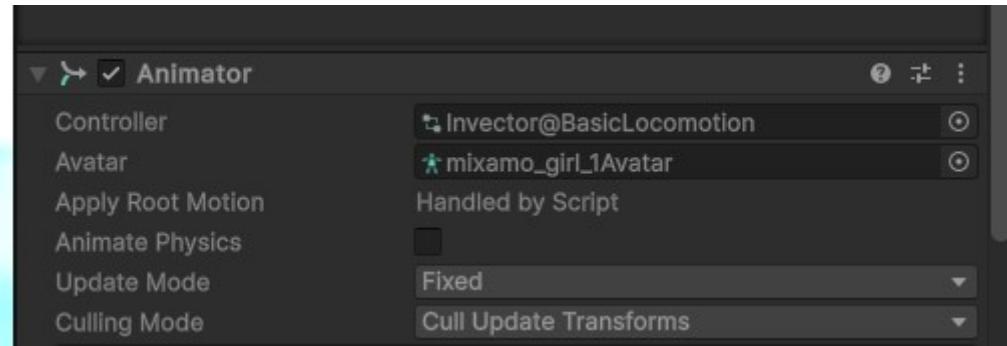
Now add new character to our previous 3. person character.

Result is seen!

Mixamo is added to ThirdPersonController.



Avatar has to be changed, too.



Try it.



Try to move Mixamo-character!

Create stairs

Oh no, there is a problem: player has to work a lot and is getting hungry: we have to find food!

Fortunately, there are coconuts! How to catch them?

Now we add a new feature to our project: player has to build stairs to be able to pick a coconut from the palm.

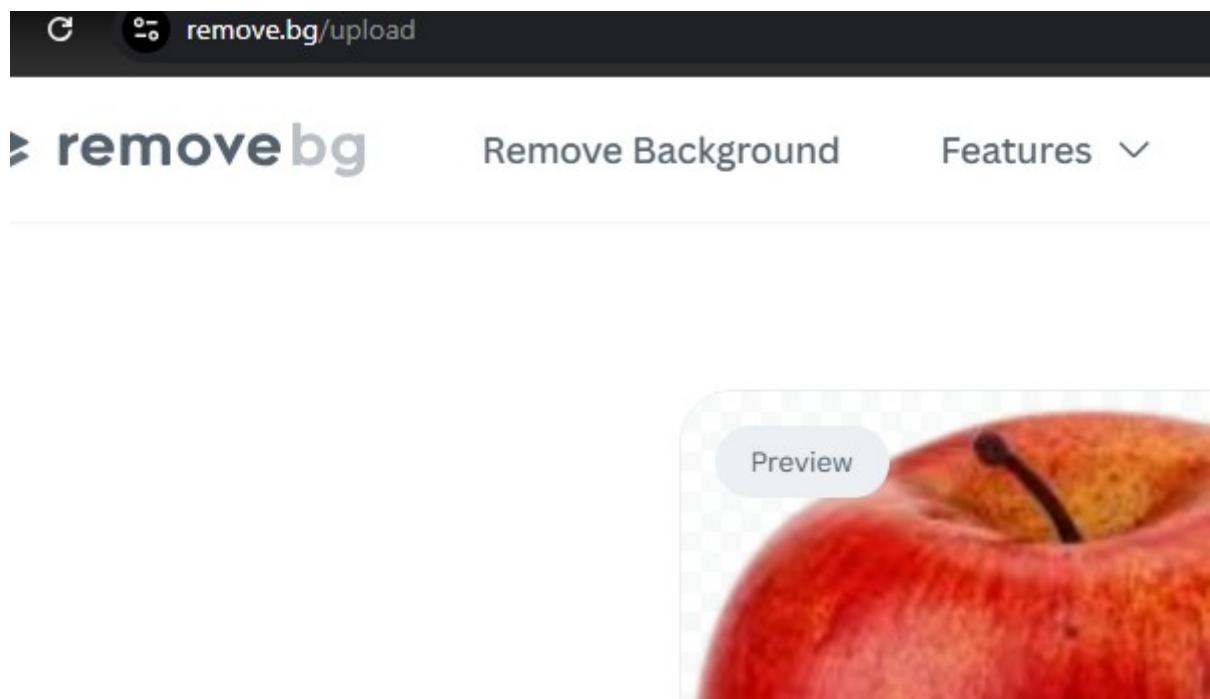
We have to find coconut or draw it ourselves. We try assets first.

For stairs we have some cubes. their heights vary and you can move them so that it is possible to reach the coconut!

We take apple now:

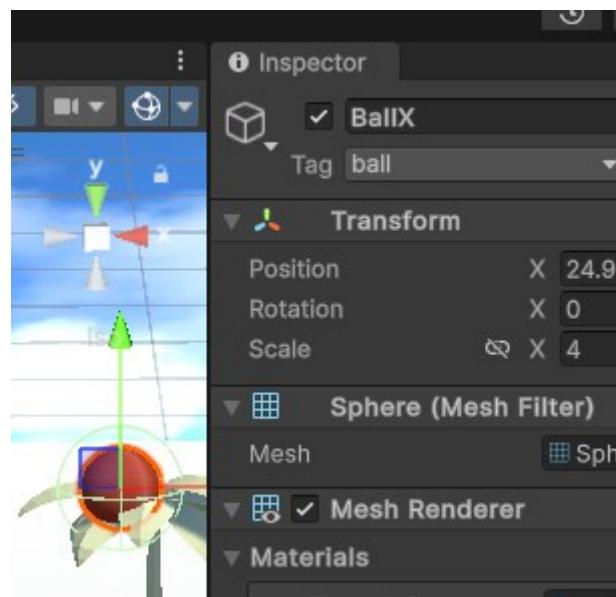
find apple image and remove background color.

Here is one place.



Add an apple object

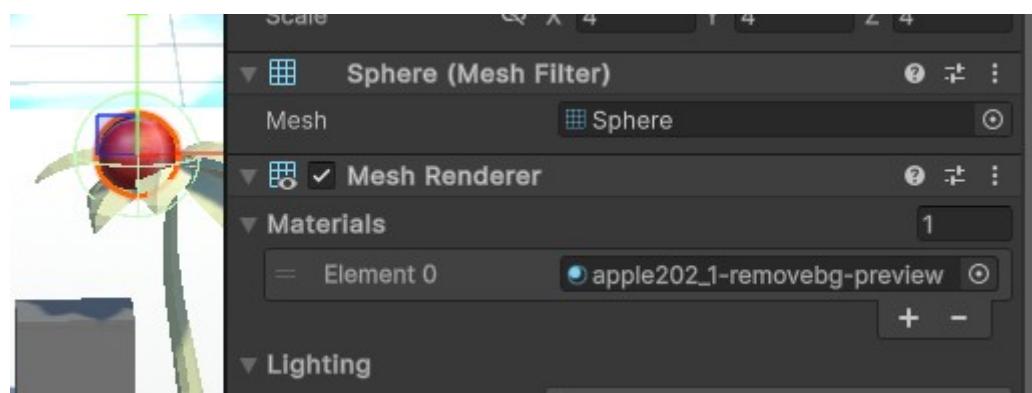
Add extra ball to you project first.



Make it kinematic - it does not fall down as other balls ..

Then take apple to Unity project and replace material.

Assign apple image to box:



Now the apple is in the tree:



Add apple collision to the code, too.

Add some 4 cubes that then form a stairs.



Player has to move cubes so that it is possible to catch the apple!

Check cubes heights and weights!

When player touches the apple, it is deleted.

Now this version 2 is ready.



Version 3 now

Adding audio and cannon

We have to have at least one AudioListener in the project: it is normally as default in Camera object.

Then you can add one or more audiosources to objects and those audiosources have a field for a real audio clip.

Then you have to decide when audio clip is played - often by code.

Add cannon first: we can find it from Assets.

Here is one choice:

https://assetstore.unity.com/packages/3d/props/weapons/stylized-cannon-hand-painting-216360

AssetStore

Search for assets

3D 2D Add-Ons Audio AI Decentralization Essentials Templates Tools VFX Sale

You purchased this item on Jan 13, 2025.

Stylized Cannon (Hand Painting)

Infinity3DGame (not enough rating)

FREE

31 views in the past week

[Open in Unity](#)

License agreement Standard Unity Asset Store

License type Extensive

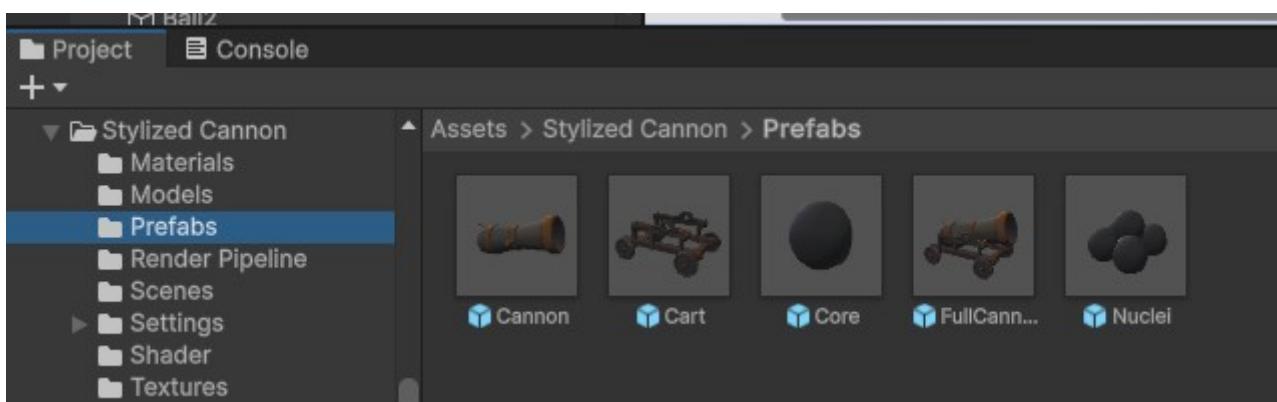
File size

Latest version

Latest release date Sep 2021

Original Unity version 2021.3.28

We import objects and put them to the project:



And now it is seen here

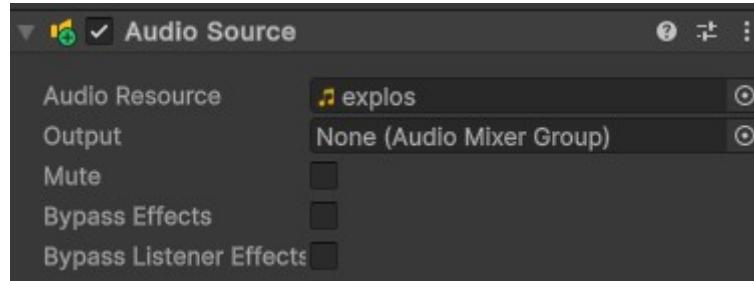


I have added crosshair to the cannon: it is used as a point where new cones are created and shot. It is just a transparent sphere.



I have also added a small platform to the cannon so that can put to a better position easily.

Cannon has an audiosource and a clip is added to to be played.



Explosion sound is played when shooting occurs...

Here is the whole code

```
public class gunfire : MonoBehaviour
{
    private GameObject crosshair = null;

    private float angle = 0f;
    public GameObject bullet = null;
    AudioSource effect;
    void Start()
    {
        this.crosshair = GameObject.Find("crosshair");
        effect = GameObject.Find("FullCannon").GetComponent<AudioSource>();
    }
    private float bulletForce = 1000f;

    int n = 0;
    void Update()
    {
        n++;

        if (Input.GetKey(KeyCode.Space) && n % 20 == 0)
        {
            GameObject temp = Instantiate(this.bullet,
this.crosshair.GetComponent<Transform>().position,
                this.crosshair.GetComponent<Transform>().rotation);
            float rad_angle = this.angle * Mathf.Deg2Rad;
            float x1 = Mathf.Cos(rad_angle);
            float y1 = Mathf.Sin(rad_angle);

            temp.GetComponent<Rigidbody>().AddForce(new Vector3(3,3,0) *
this.bulletForce);
            effect.Play();
            Destroy(temp.gameObject, 3f);
        }

        if (Input.GetKey(KeyCode.C))
        {
            if (bulletForce < 5000)
                bulletForce += 50;
        }

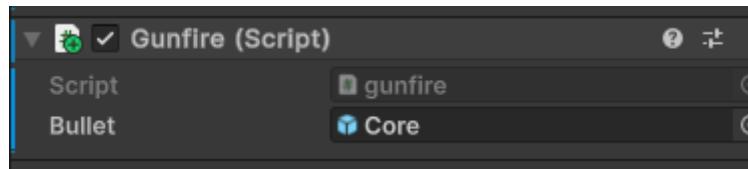
        if (Input.GetKey(KeyCode.V))
        {
```

```

        if (bulletForce >= 1000)
            bulletForce -= 50;
    }
}

```

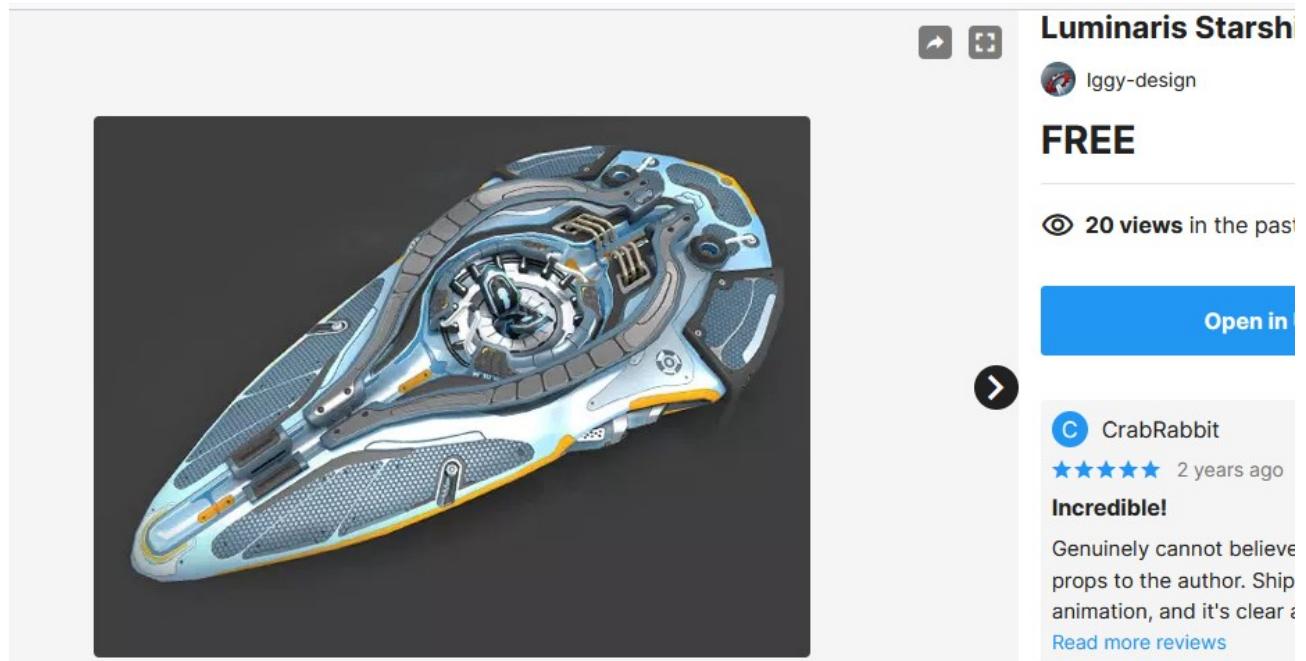
Code is attached to cannon. Bullet is added to the public field.



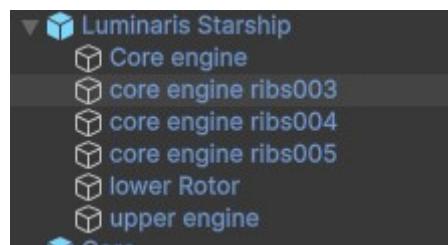
Adding drone

Now we add something that we shoot: it can be a drone taken from assets.

Check this:



It is here now



And looks like this:



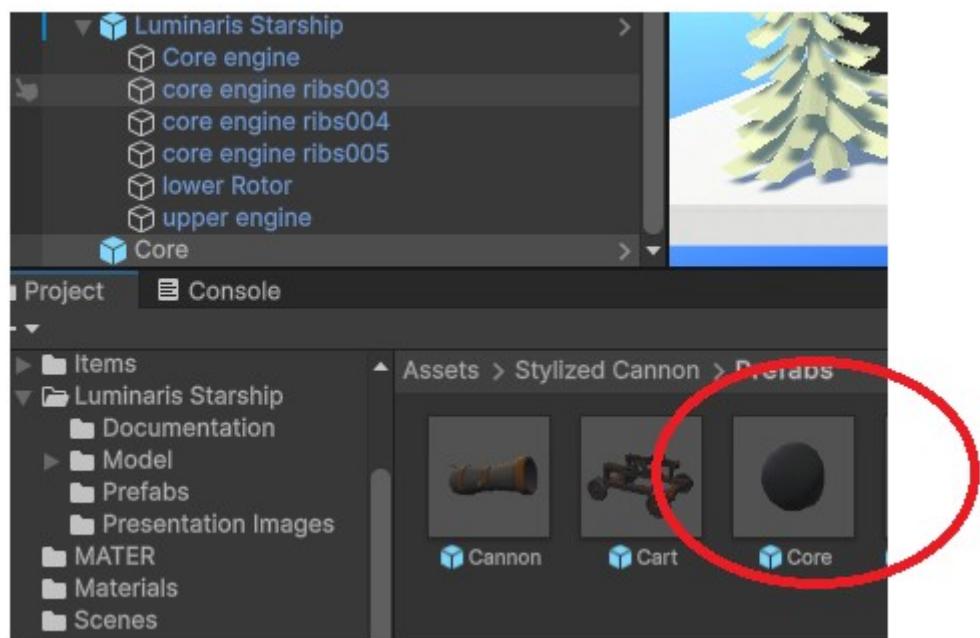
Now new code is needed:

```
GameObject dest;
UnityEngine.Object Unity Message | 0 references
void Start()
{
    dest = GameObject.Find(this.name);
}
int n = 0;

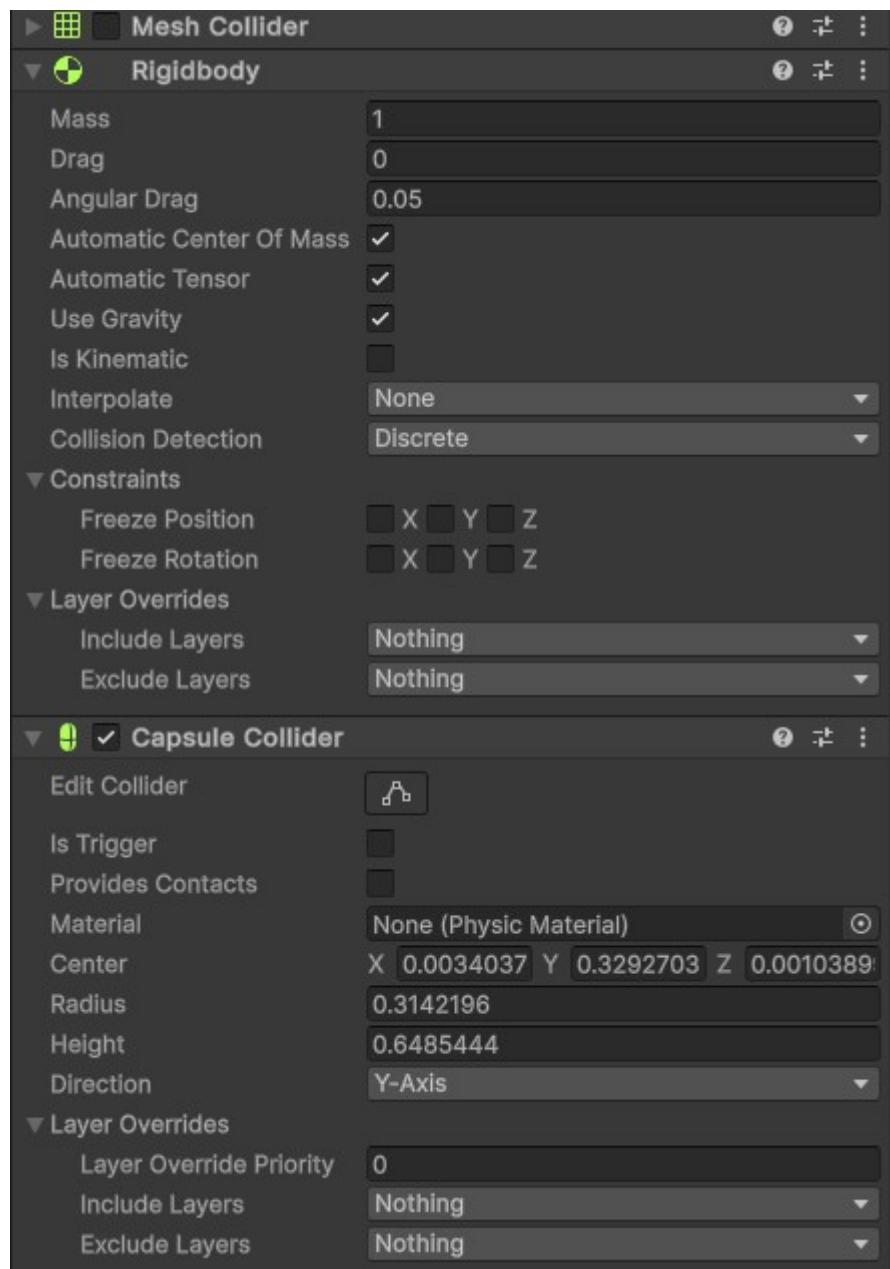
UnityEngine.Object Unity Message | 0 references
private void OnTriggerEnter(Collider other)
{
    if (other.name.Equals("Core(Clone)"))
    {
        n++;
        if (n > 4)
            Destroy(dest, 1f);
    }
}
```

We add this codefile to the drone.

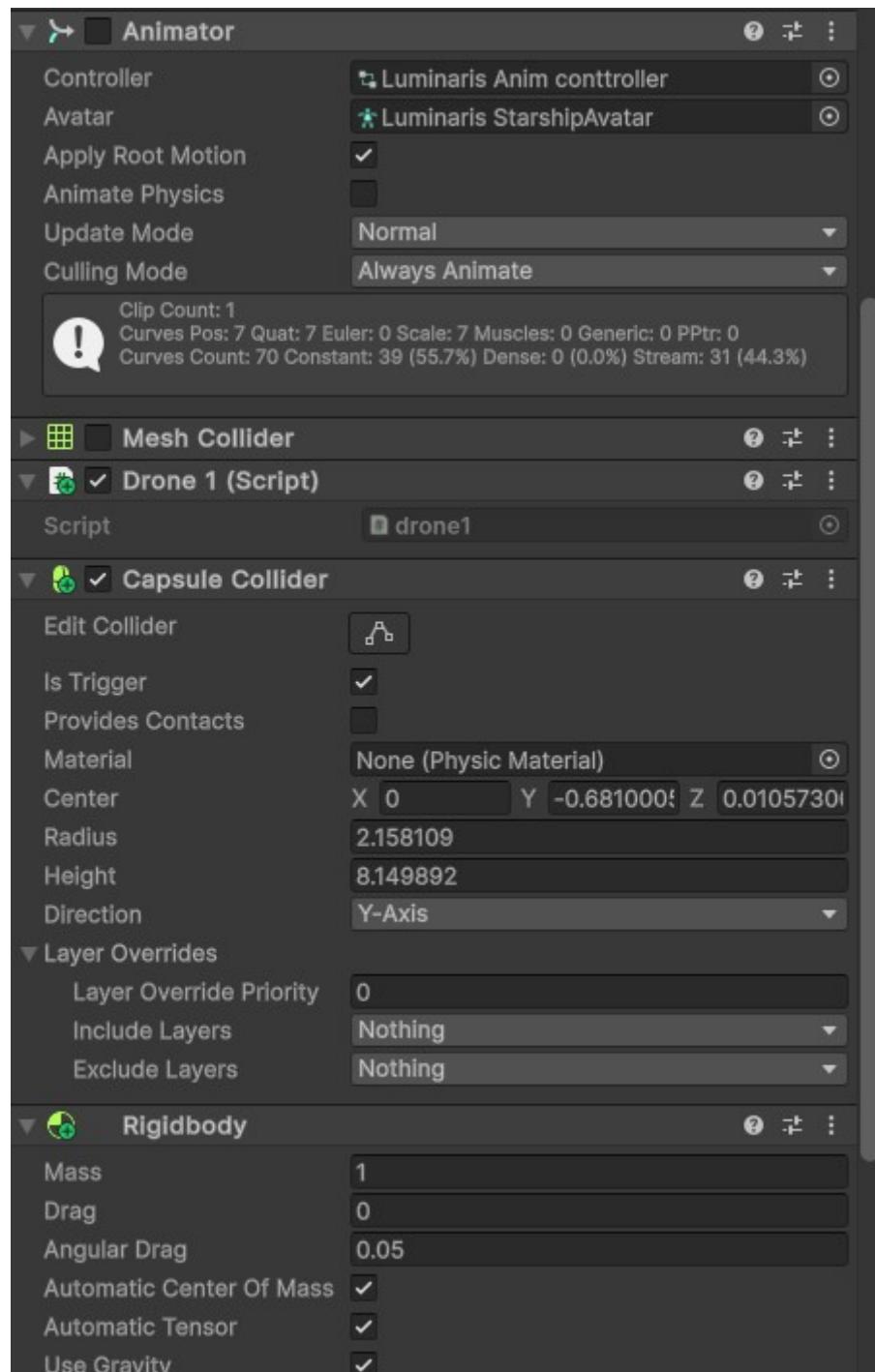
Cone (now called Core) is also taken from cannon package:



Settings can be seen here:



And drone settings



Here is the final gunfire-code:

```
gunfire : MonoBehaviour
{
    private GameObject crosshair = null;

    private float angle = 0f;
    public GameObject bullet = null;
    AudioSource effect;

    GameObject plane = null;

    float xx, yy, zz;
    void Start()
    {
        this.crosshair = GameObject.Find("crosshair");
        effect = GameObject.Find("FullCannon").GetComponent<
```

```
        xx += -0.045f;
        plane.transform.position = new Vector3(xx, yy, zz);
    }
}
```

And drone.cs code:

```
GameObject dest;
void Start()
{
    dest = GameObject.Find(this.name);
}
int n = 0;

private void OnTriggerEnter(Collider other)
{
    if (other.name.Equals("Core(Clone)"))
    {
        n++;
        if (n > 4)
            Destroy(dest, 1f);
    }
}
```

Scene looks like this now:



Note: try also another 3. person

"unity starter assets" in All Categories

CATEGORIES

3D (189)

2D (101)

Tools (98)

Templates (90)

Audio (29)

VFX (20)

Essentials (8)

Add-Ons (4)

Filters

Price

Sale

Rating

Results 1-96 of 539 for unity starter asset



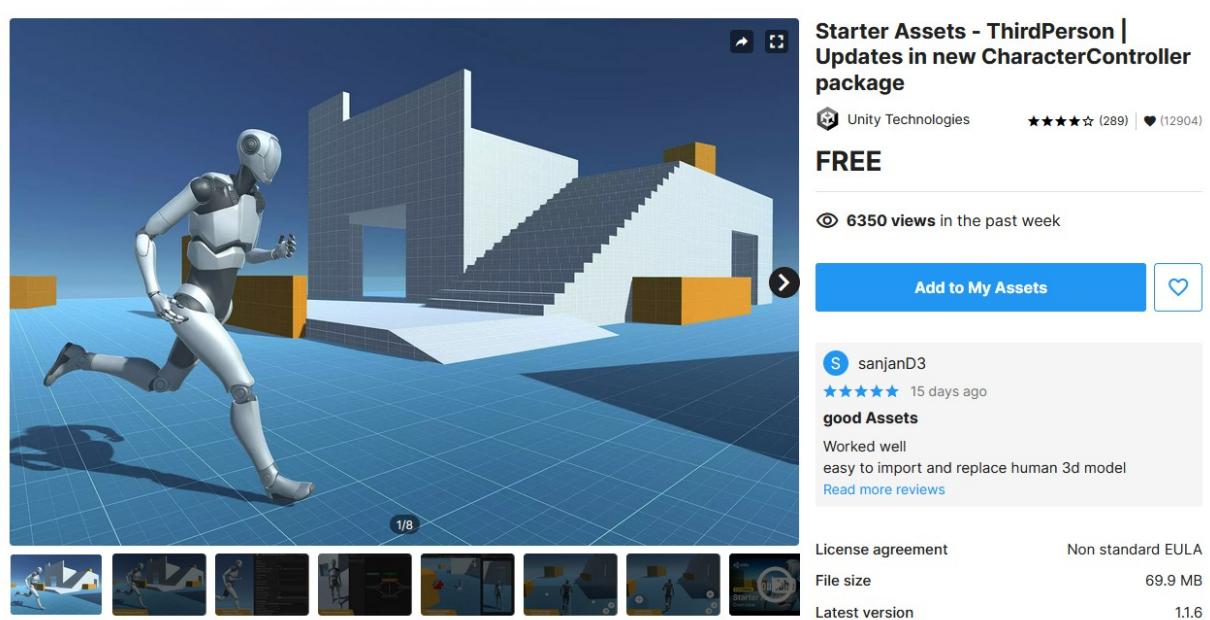
[Starter Assets - ThirdPerson |](#)
Updates in new...

4.2 (289)

UNITY TECHNOLOGIES

Free

Add package



Import it to your project.

More about 3D game creating

Terrains

Dancers

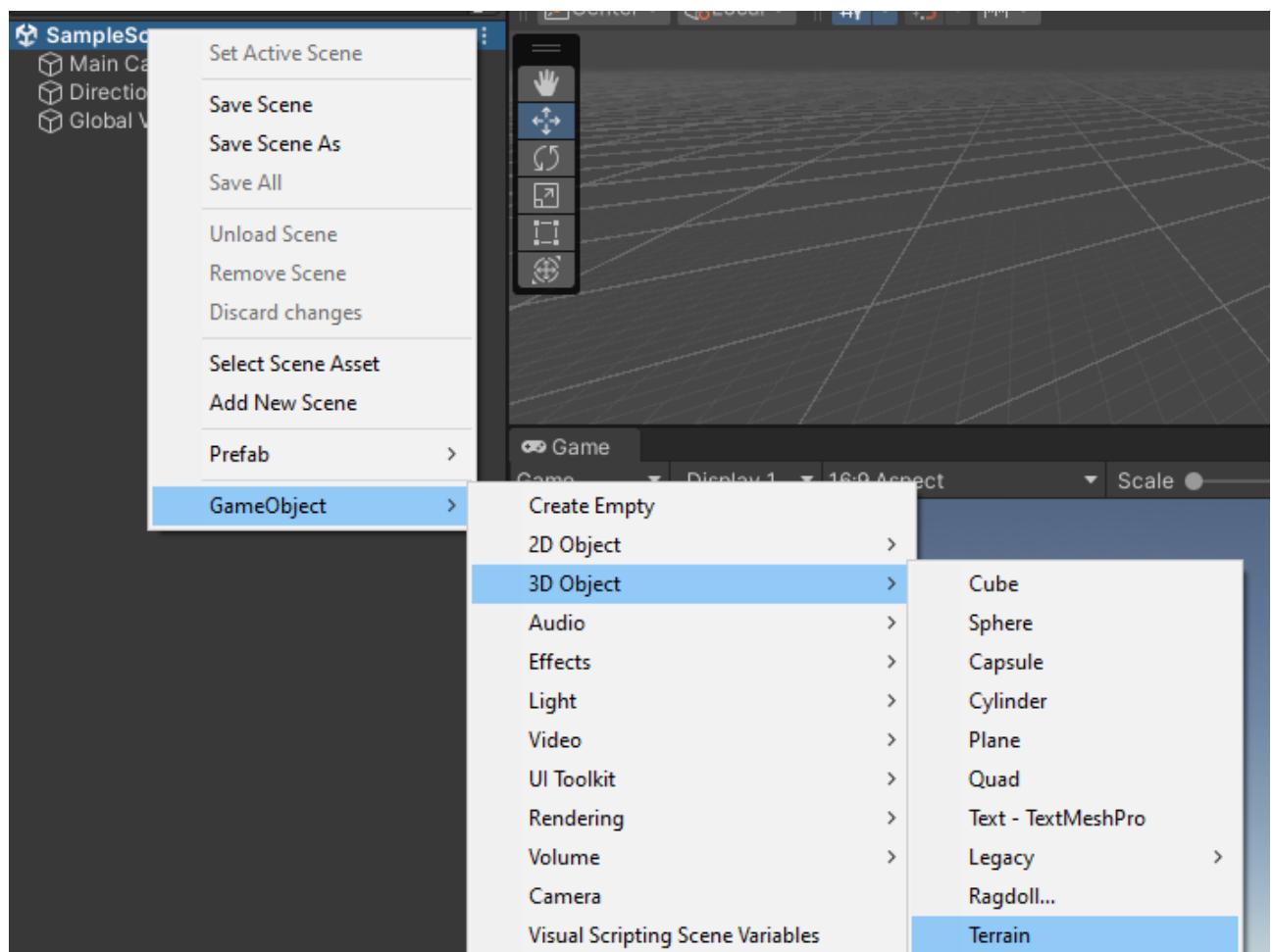
Audio

Camera

Terrain

Start a new 3D project.

Add there first terrain.



Note: Standard Assets are no more supported

So, we can not use assets like trees, water, third person and so on that Standard Assets contains!

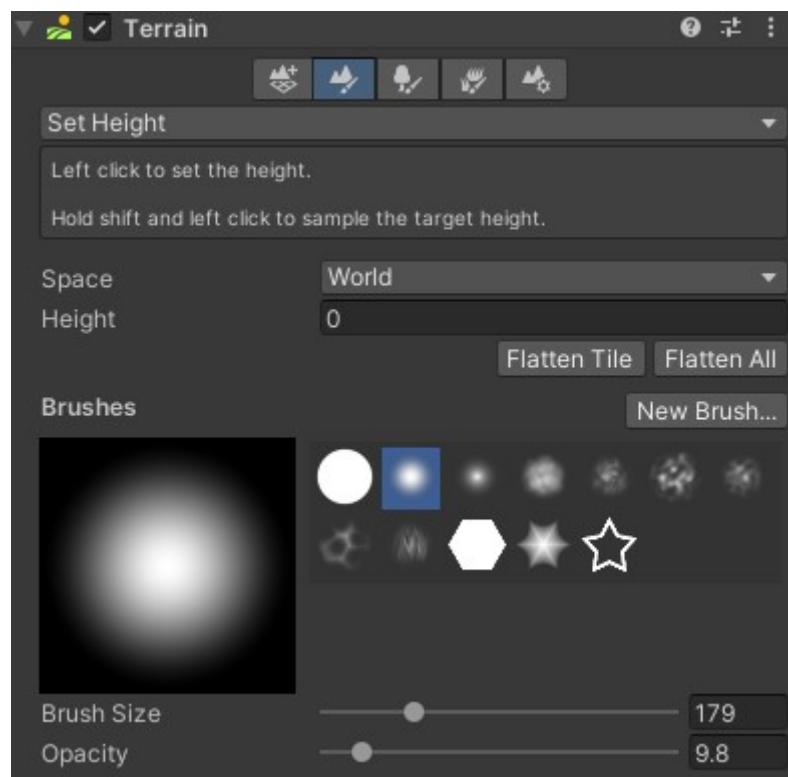
We have to use packages like Starter Assets and may be some free assets (we can make assets also ourselves or buy them....)

Paint terrain

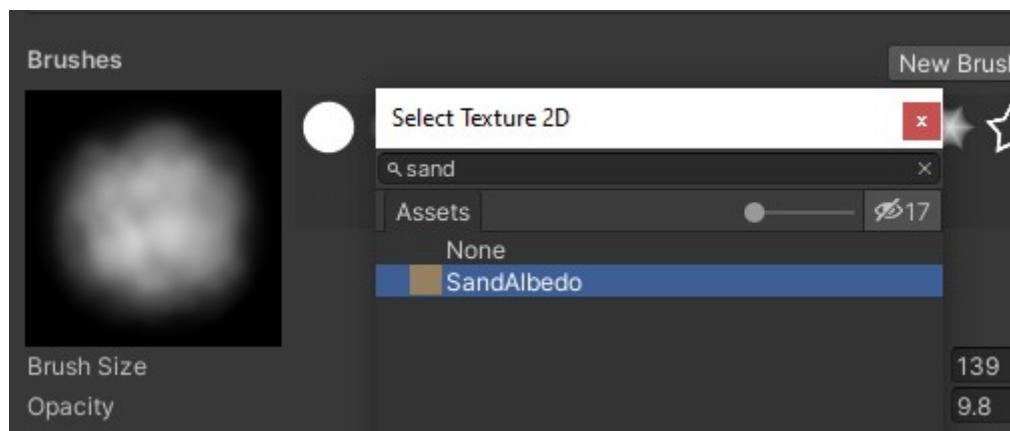
If we have started a new project we do not normally have so many textures to be used in painting terrains.

BUT: we can import textures or draw them self.

If there are already textures for brushes you can try to use them.



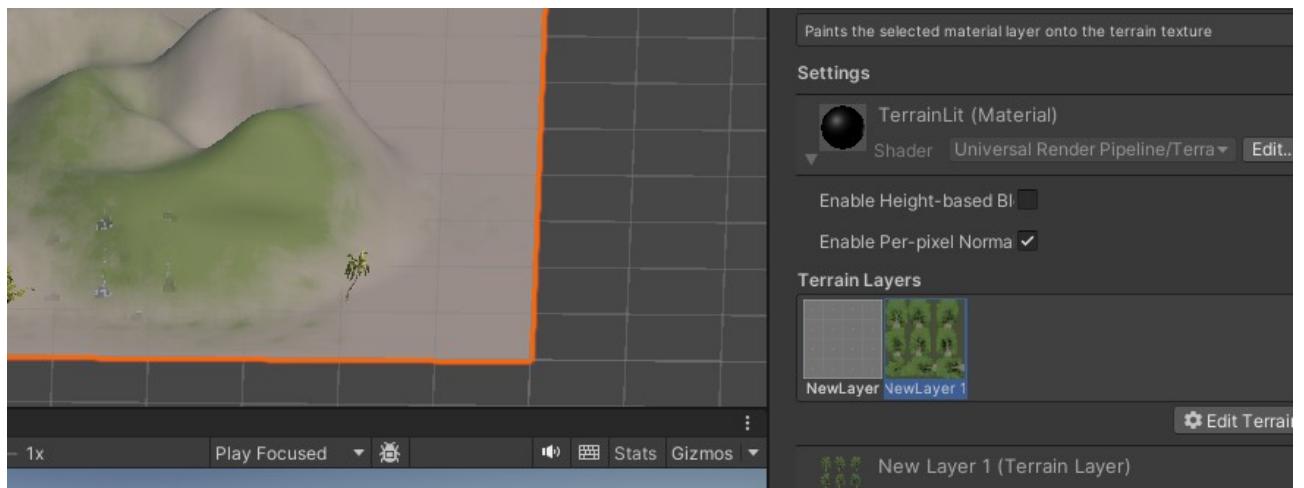
Choose color/pattern for the brush



Paint using left mouse button!

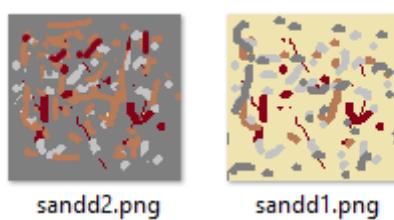
Create layers

Create layers and use them to paint natural colors and patterns.



Create own texture

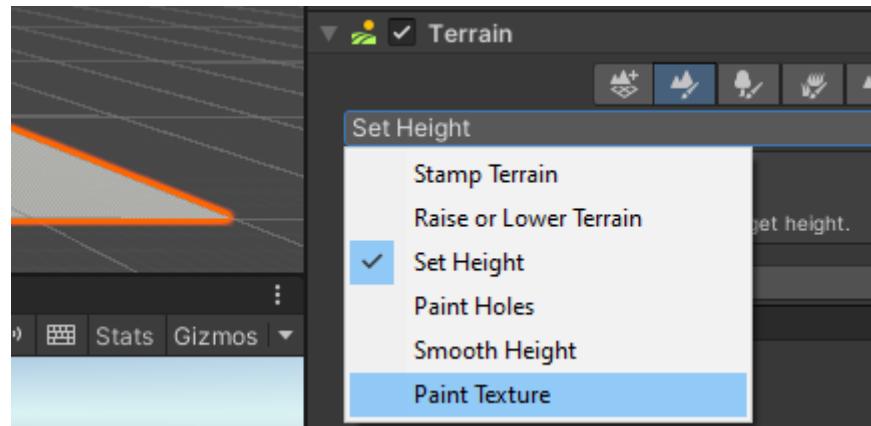
We use own colors in layers and terrain painting:



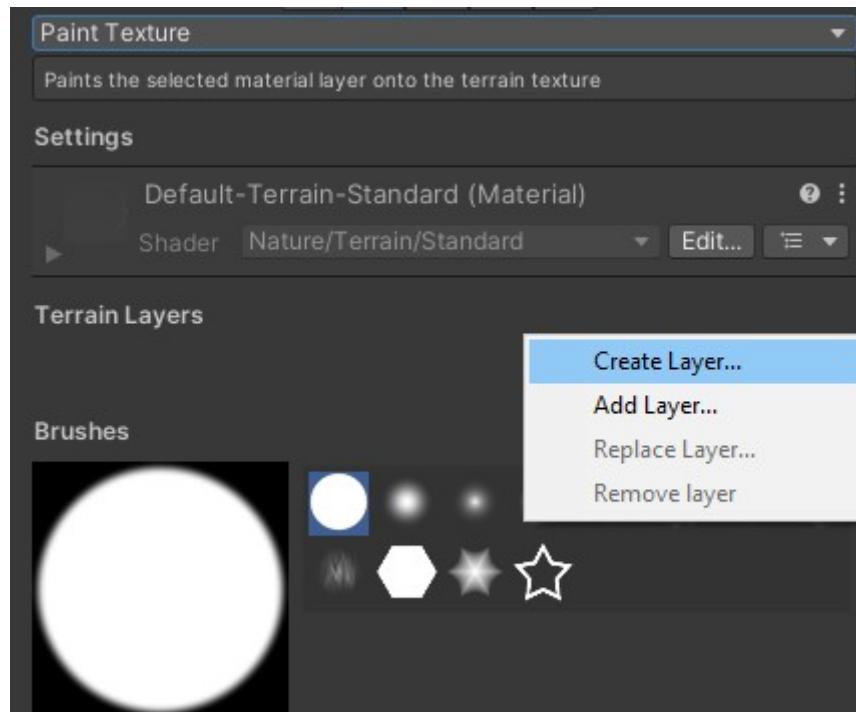
A bit about terrain building.

Add terrain and create layers.

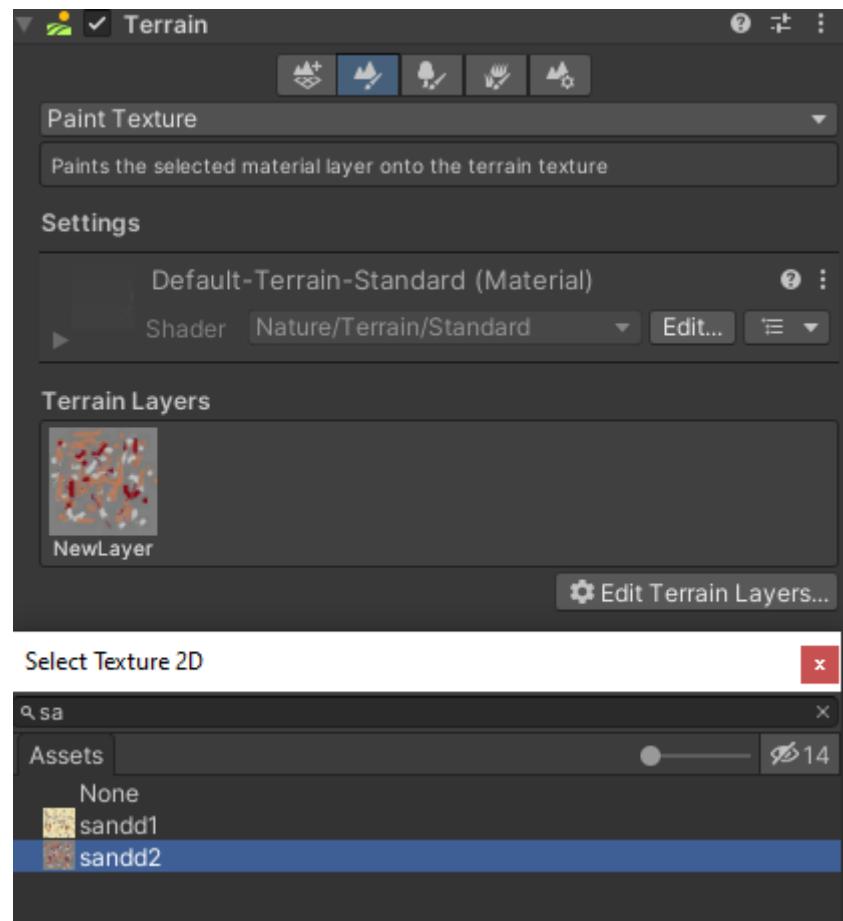
Choose Paint Texture



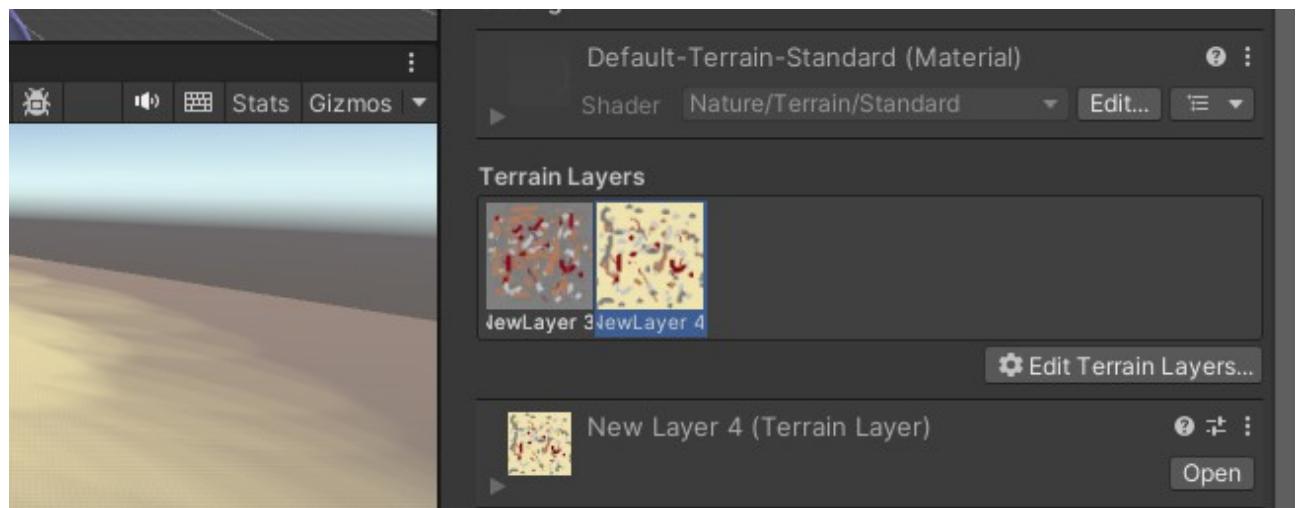
Add new layer



Choose layer texture (now we have created as an example an own pattern...or two...)

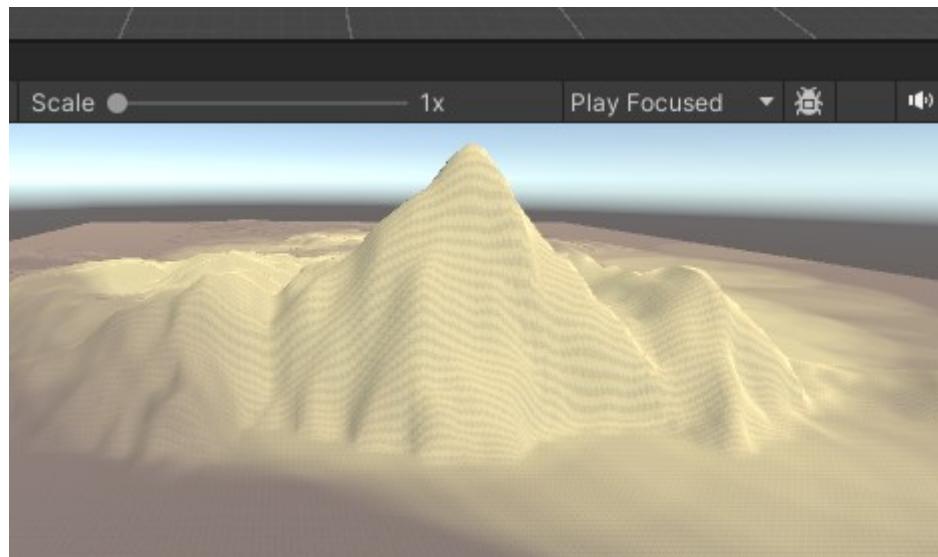
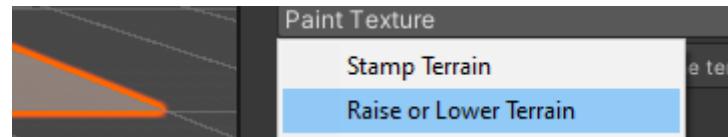


You can then create new layers and paint using chosen texture, example here.



Add hills!

By choosing option Raise or Lower Terrain, you can add height differences:



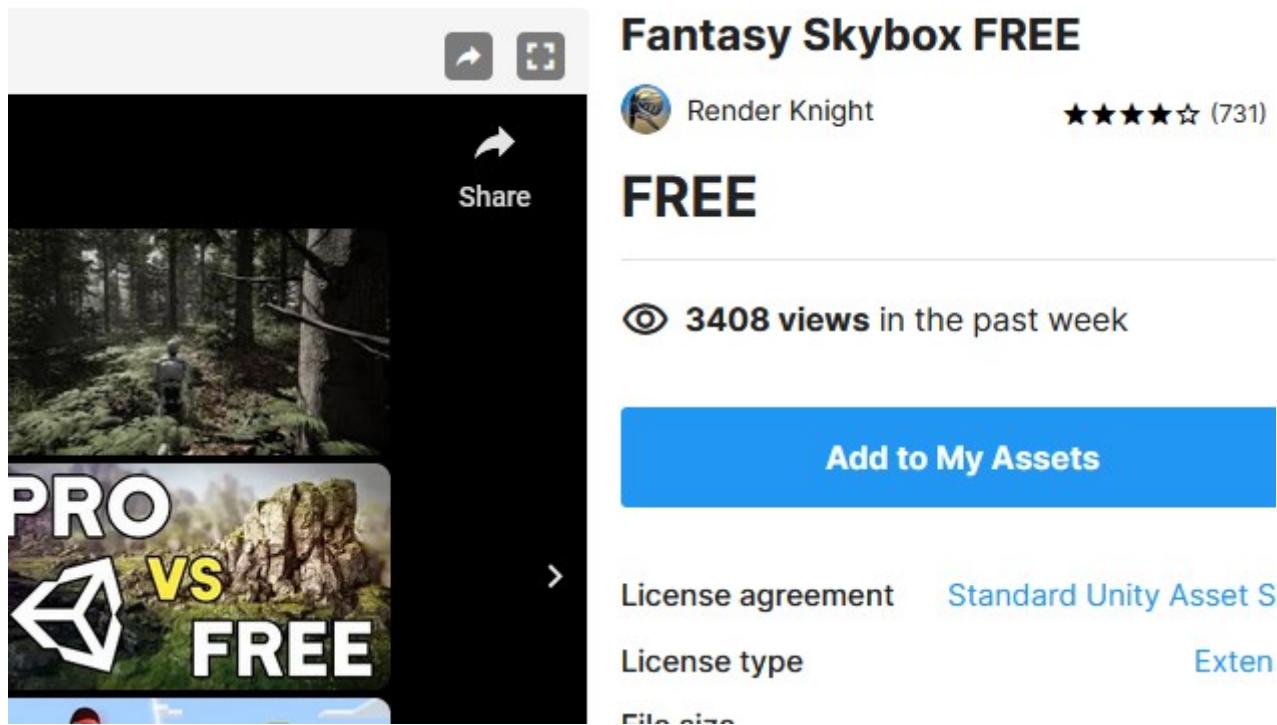
You can also define height that is used...

Here is an example of different things you can add:



Add skybox

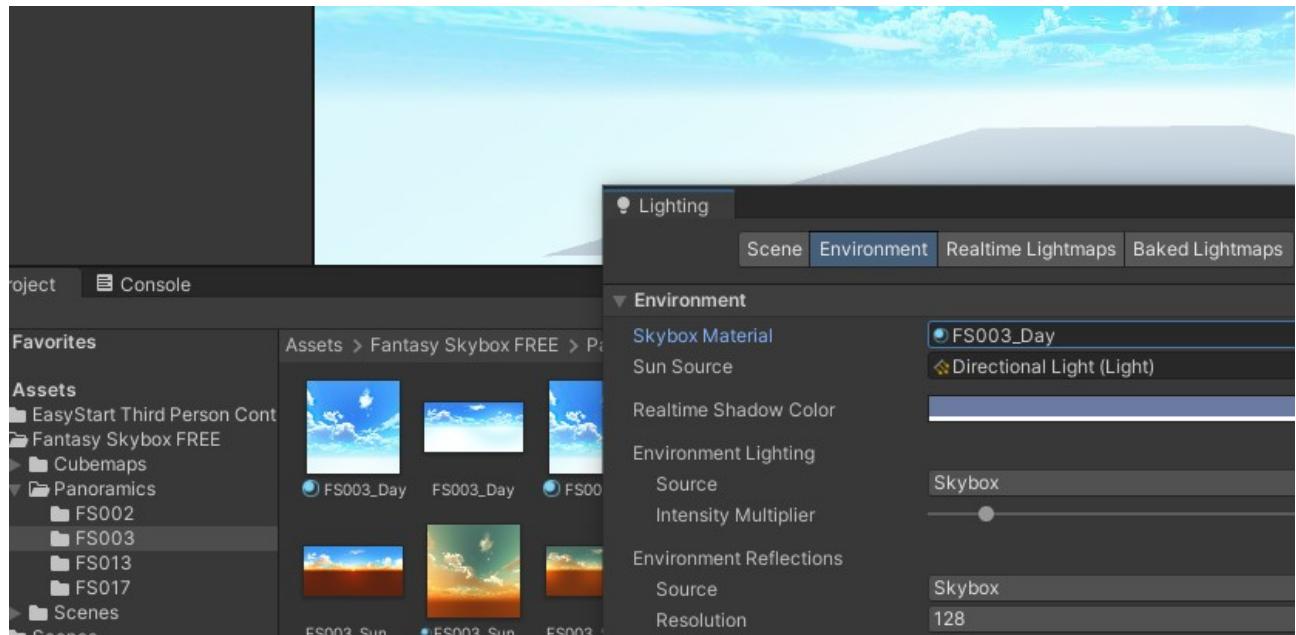
From Unity assets we can find for example this package that contains skyboxes!!



Download and import

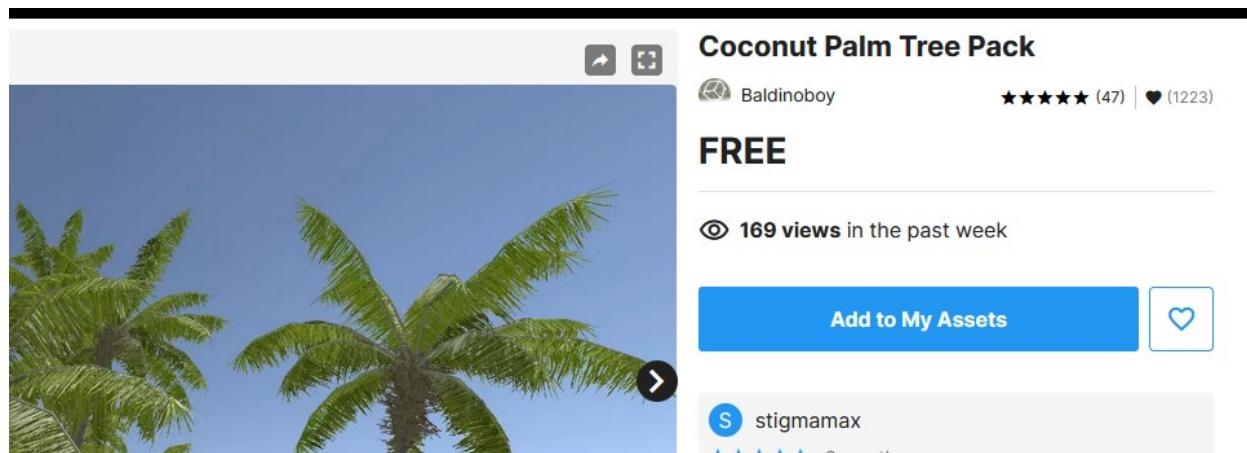


Choose Window - Rendering and Lighting and try with different skyboxes...

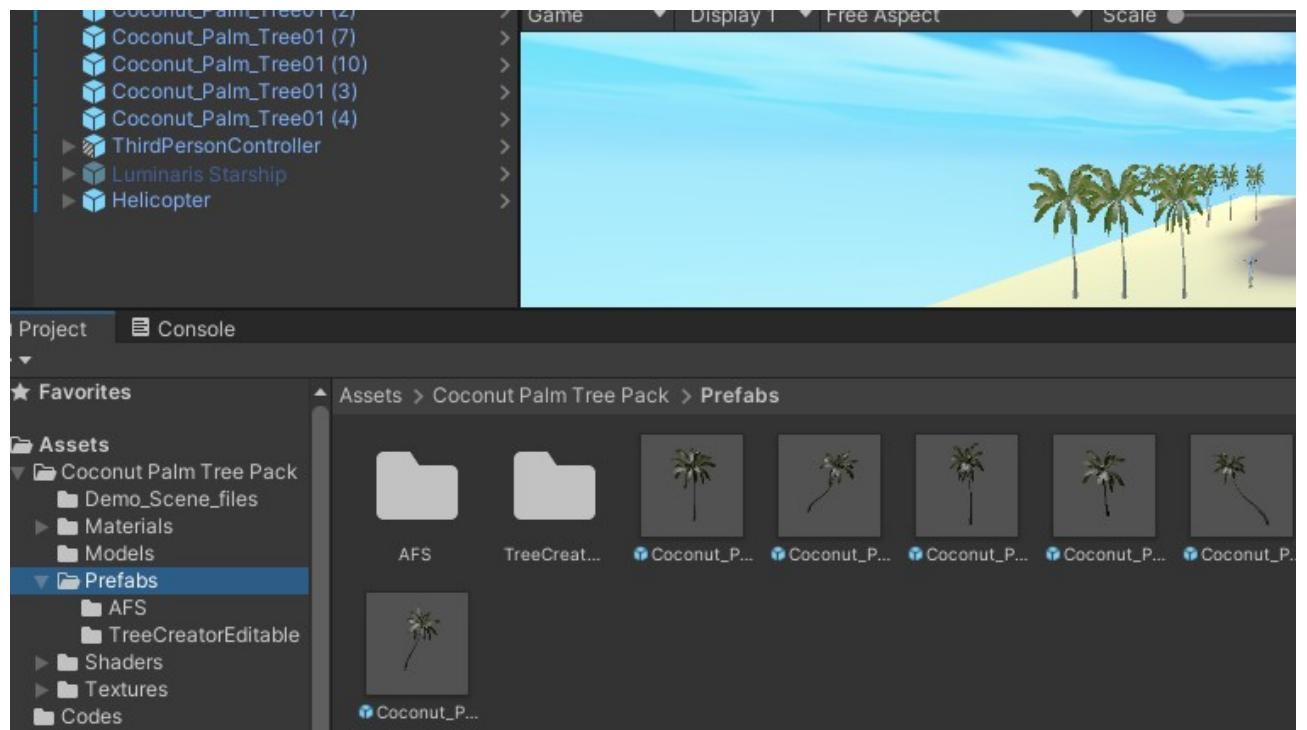


Add trees

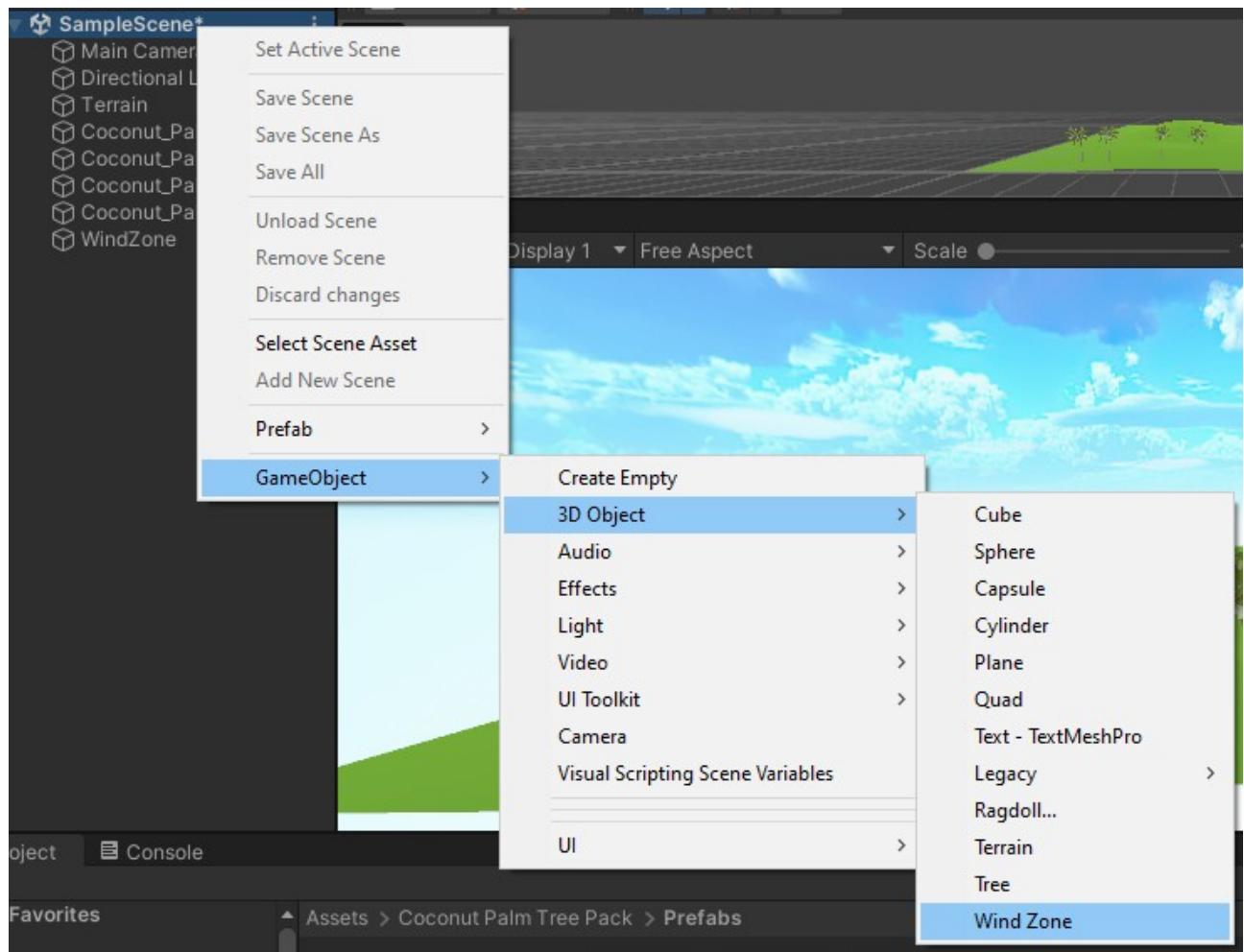
Let us take a free tree package from assets



Add some palms to your project.



Add wind



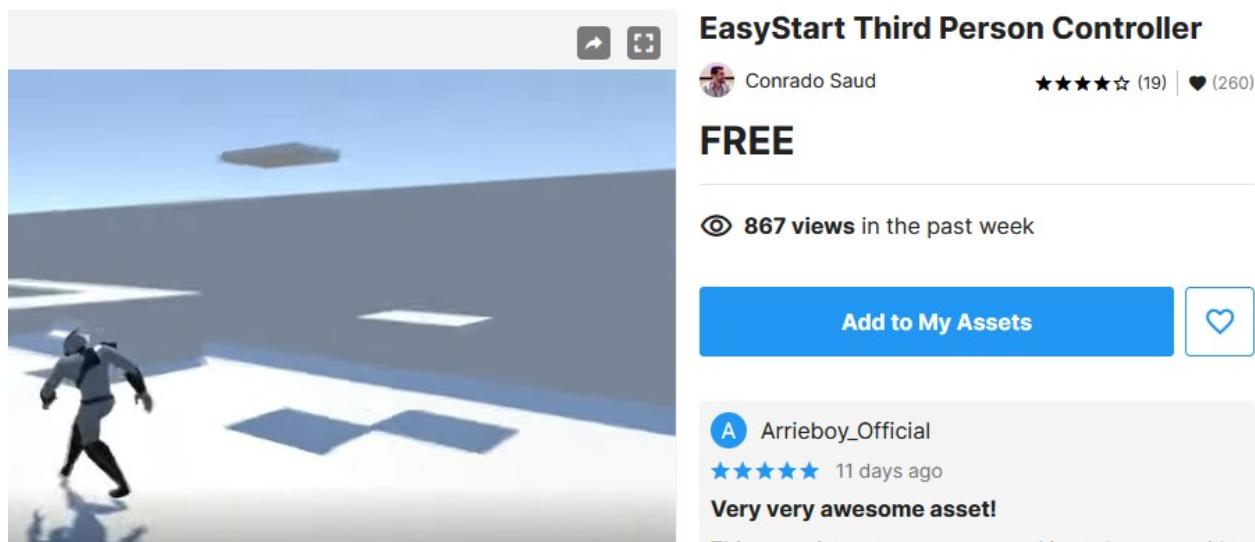
Try with different wind values...

Add player

We can use some free Third Person Controller now.

Here is one possible.

on Controller



Download, import and add to the terrain



Helicopter to the sky

From assets we find this example:

Filters ▾ Clear Filters

Police Car & Helicopter

1.1 · December 03, 2016 [Asset Store](#)

SICS Games

[View in Asset Store](#) | [Publisher Website](#) | [Publisher Support](#)

[Overview](#) [Releases](#) [Images](#)

Download, import and add to the project!



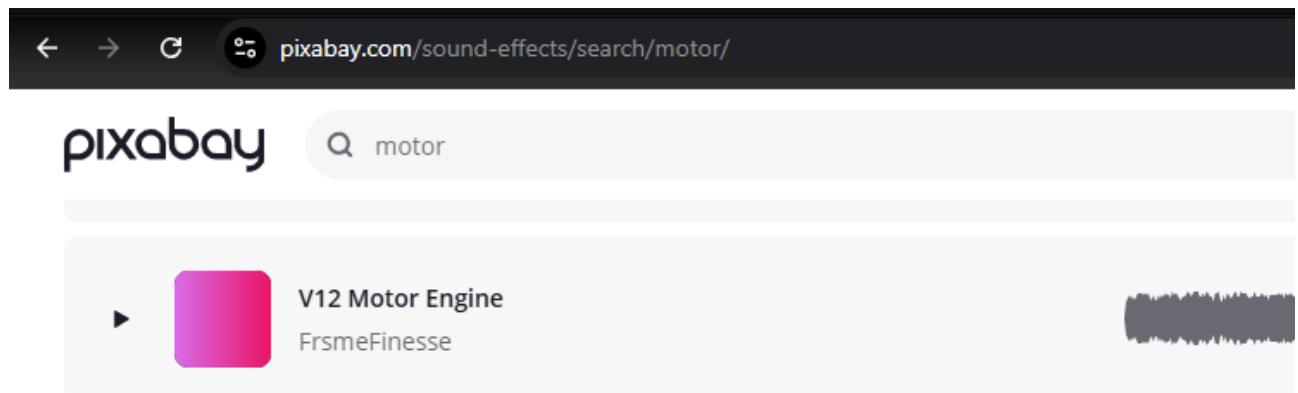
Helicopter movements code

Add movement to helicopter and also sound:

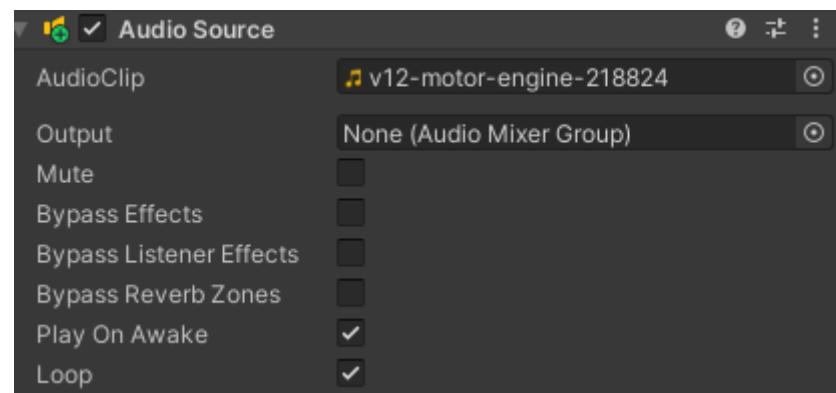
```
 AudioSource effect;  
  
 GameObject copter = null;  
  
 float xx, yy, zz;  
 void Start()  
 {  
     effect = GameObject.Find("Helicopter").GetComponent<AudioSource>();  
  
     copter = GameObject.Find("Helicopter");  
     xx = copter.transform.position.x;  
     yy = copter.transform.position.y;  
     zz = copter.transform.position.z;  
 }  
  
 // Update is called once per frame  
 void Update()  
 {  
     if (copter != null)  
     {  
         yy += -0.085f;  
         xx += -0.045f;  
         copter.transform.position = new Vector3(xx, yy, zz);  
     }  
 }
```

Helicopter sound

We take a free sound from pixabay:



Then we add AudioSource to Helicopter object...and the clip is dropped to clip field.



Helicopter code update

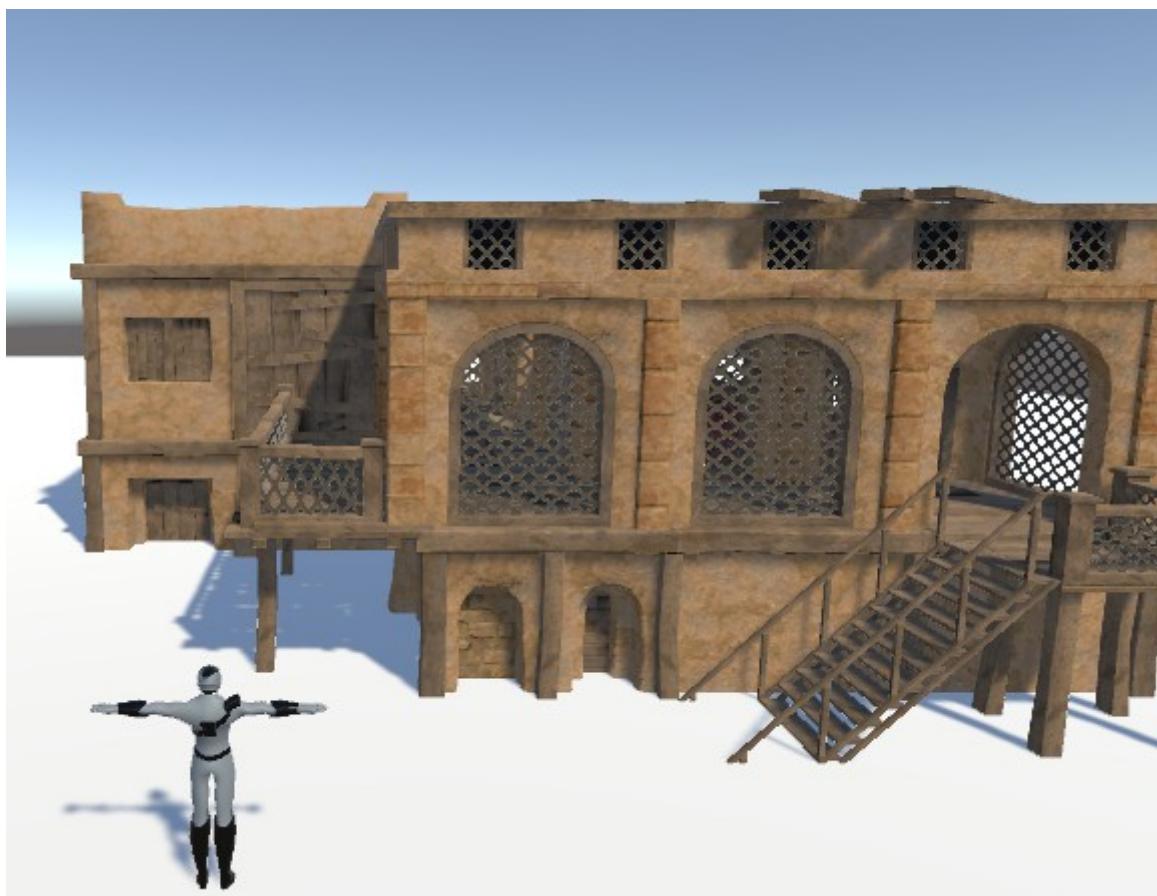
We make now the code a bit more versatile so that helicopter first comes near the ground, rotates there and then rises up again.

```
 AudioSource effect;
 GameObject copter = null;
 float xx, yy, zz;

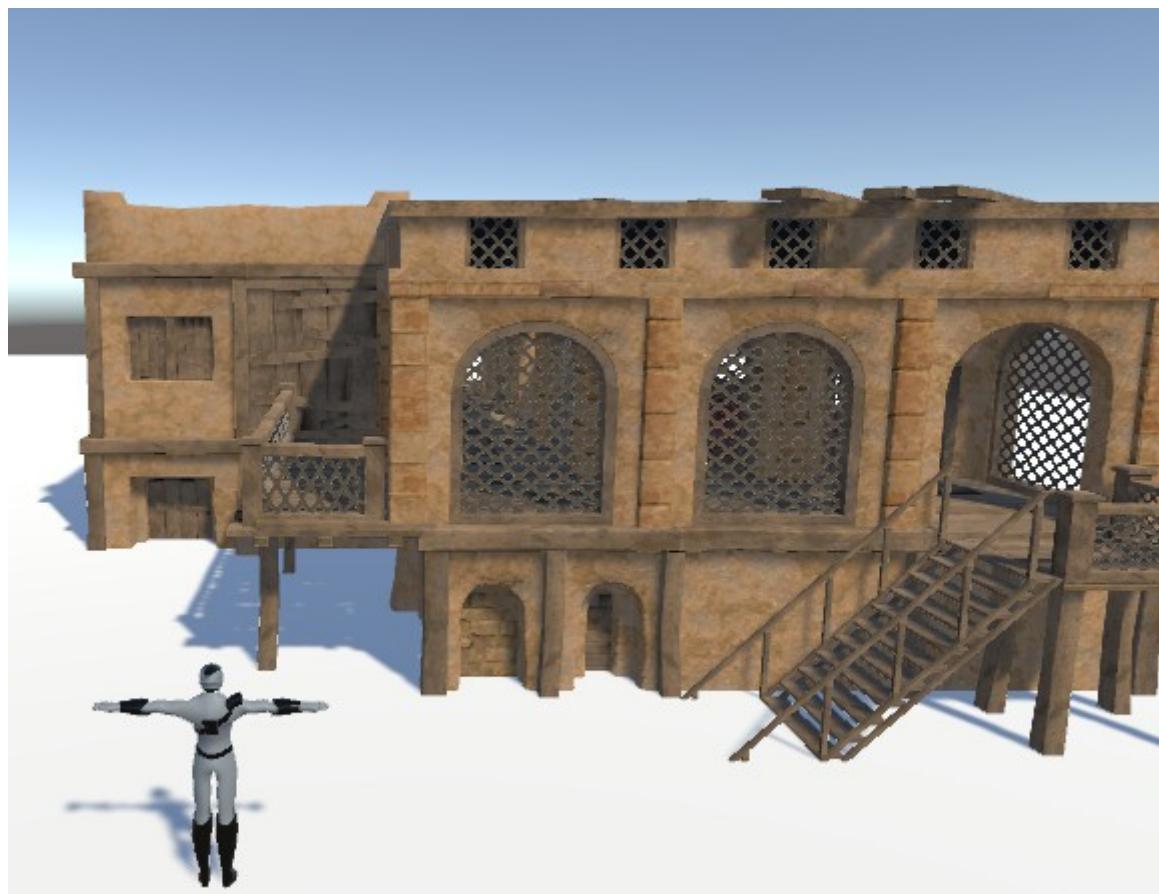
 private float xAngle = 0f;
 private float yAngle = 0.3f;
 private float zAngle = 0f;

 float xxStep = -0.5f;
 float yyStep = -1f;
 void Start()
 {
     effect = GameObject.Find("Helicopter").GetComponent<
```

Add house and create your own garden



Unity 3D part 2 c



Free eBook by
Adam Higherstein

Add 3D house

Add a house from assets. Here is one choice:

Desert Set House

1.0 · January 26, 2019 [Asset Store](#)

CrazyCool
[View in Asset Store](#) | [Publisher Website](#)

[Overview](#) [Releases](#) [Images](#)

Supported Unity Versions 5.5.0 or higher

Package Size Size: 525,11 MB (Number of files: 74)

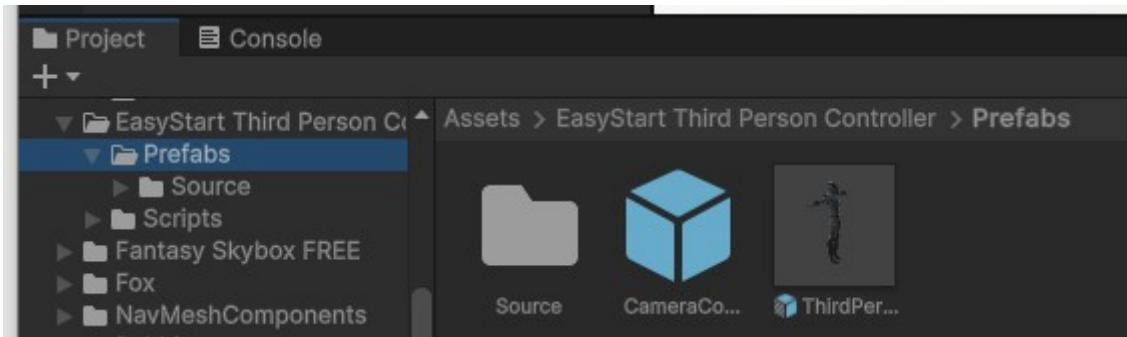
Purchased Date January 16, 2025

This model is part of larger package.
Desert City Set (<https://www.assetstore.unity3d.com/en/?stay#!/content/137219/>)
House Model have 9049 polygons , 12 PBR materials.
Model is one mesh
Model have only exterior.
This is standalone package but it can be combined with Package in the link above.

Project has a plane and house is added there"



There is also 3. person



You can use stairs, too

Go on creating your own garden!

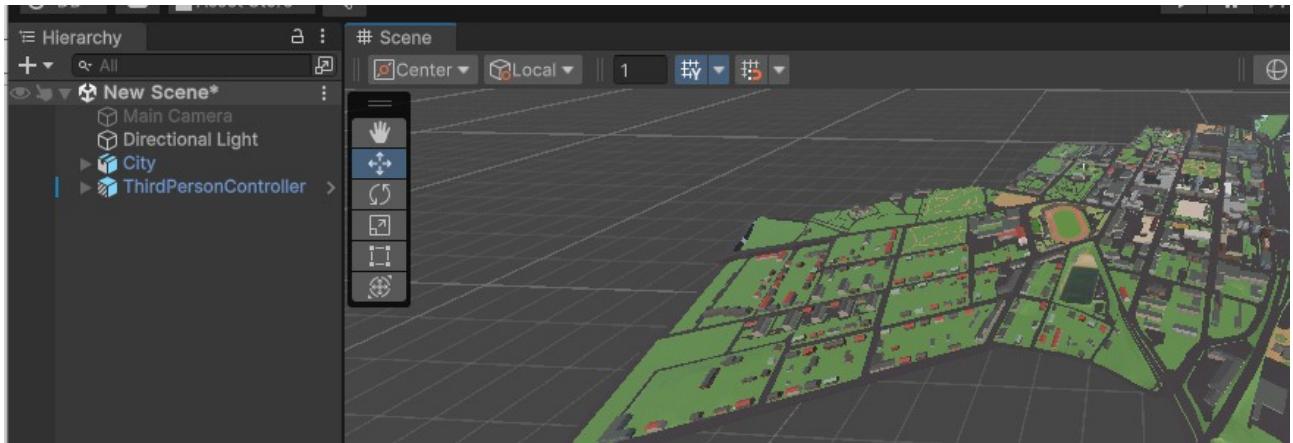
Add objects like trees, smaller houses, benches, flowers, skybox, wind, objects to pick and so on!!

Use assets and try with 3D constructions!



Adding a 3D city model

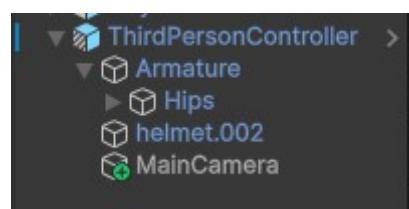
We import a city model to our project.



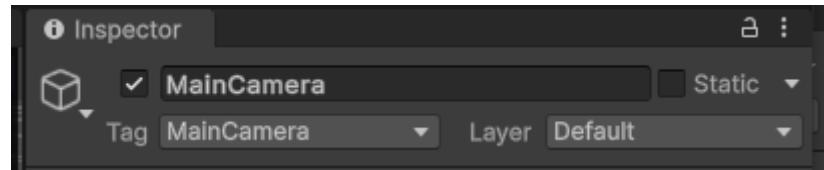
Then add there 3. person



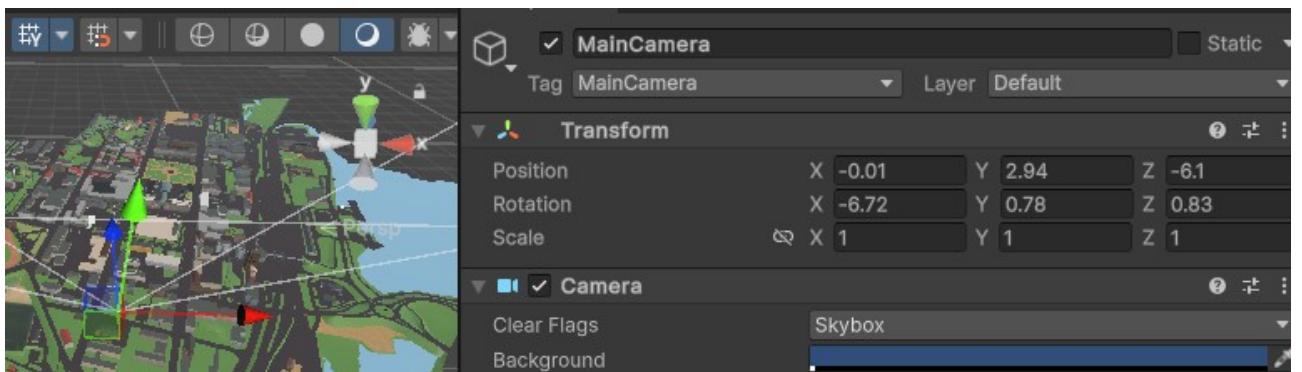
remove the main camera and add new camera to player:



Change name and tag:



Adjust camera so that you can see details of the city...

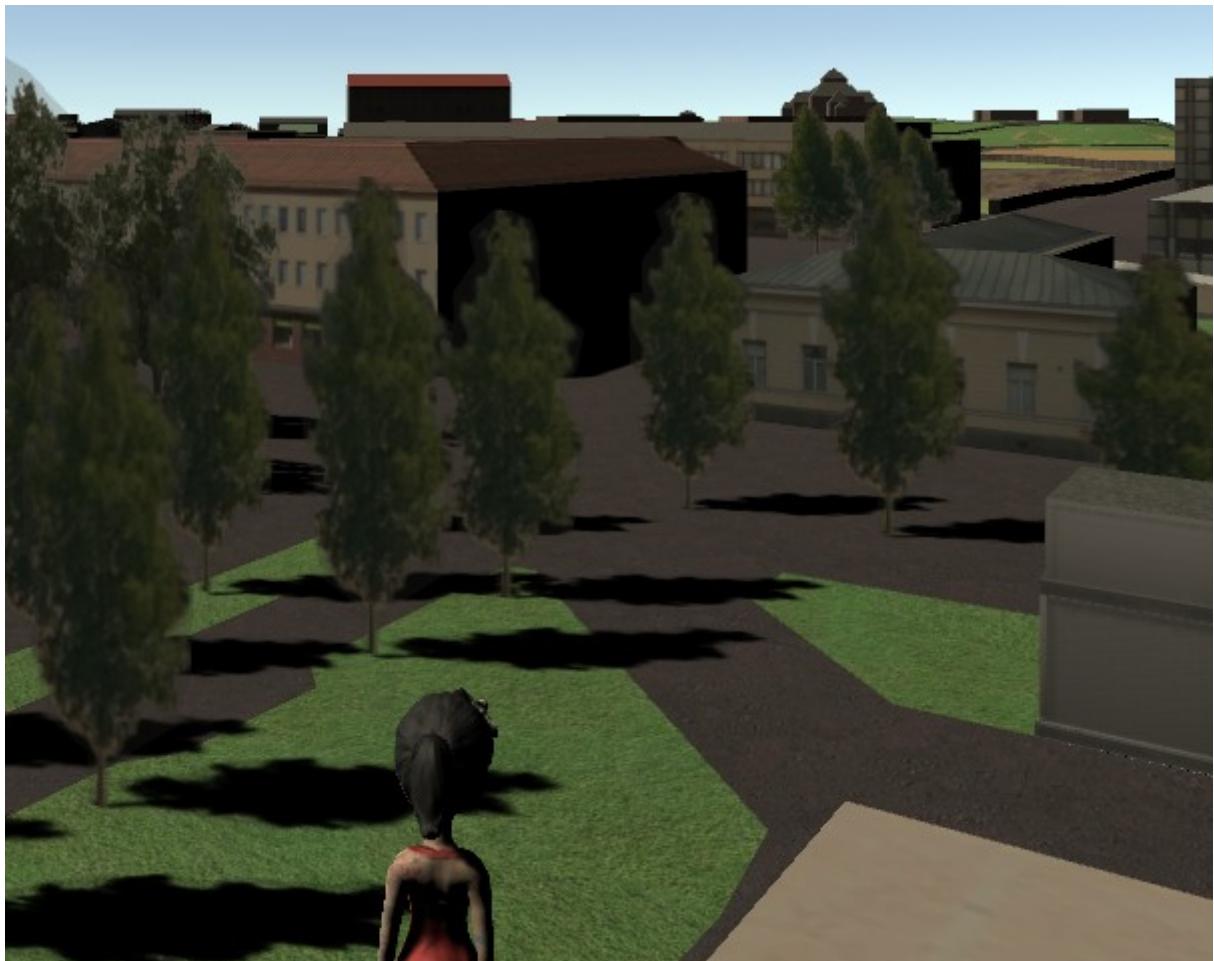


Now walk around the city.

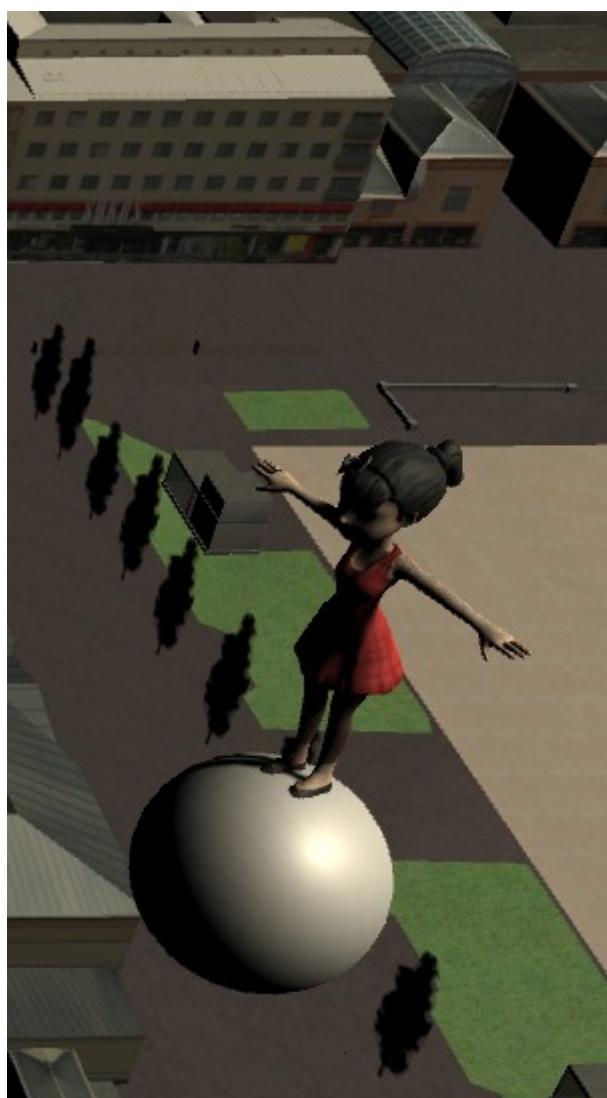
Add there new trees, busses, characters, buildings and object to search...

Moving in the city: examples here

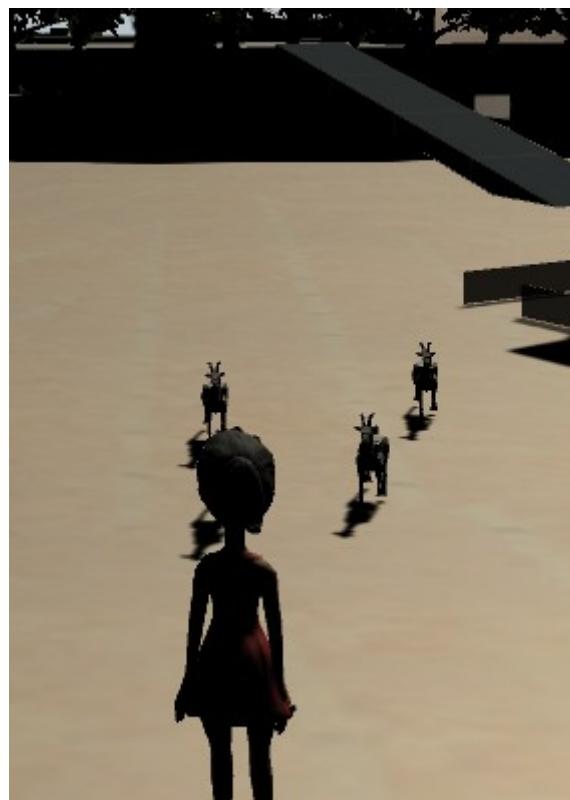
Moving around



Flying over city



Someone (goats now) following you (navigation needed)



Do experiments!

Let's dance!

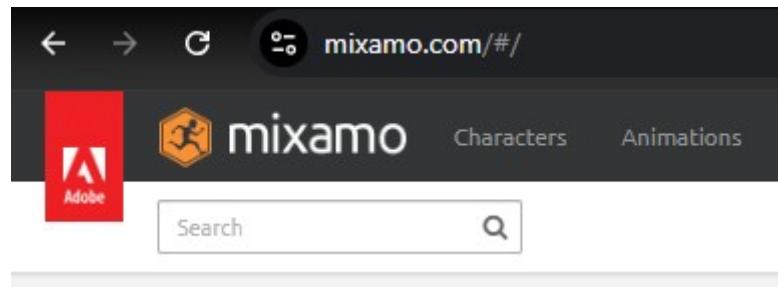
Now we dance a bit.

We take a dancer from Mixamo.

Then we create 3D project with terrain and add dancer there.

We also take music with.

Mixamo



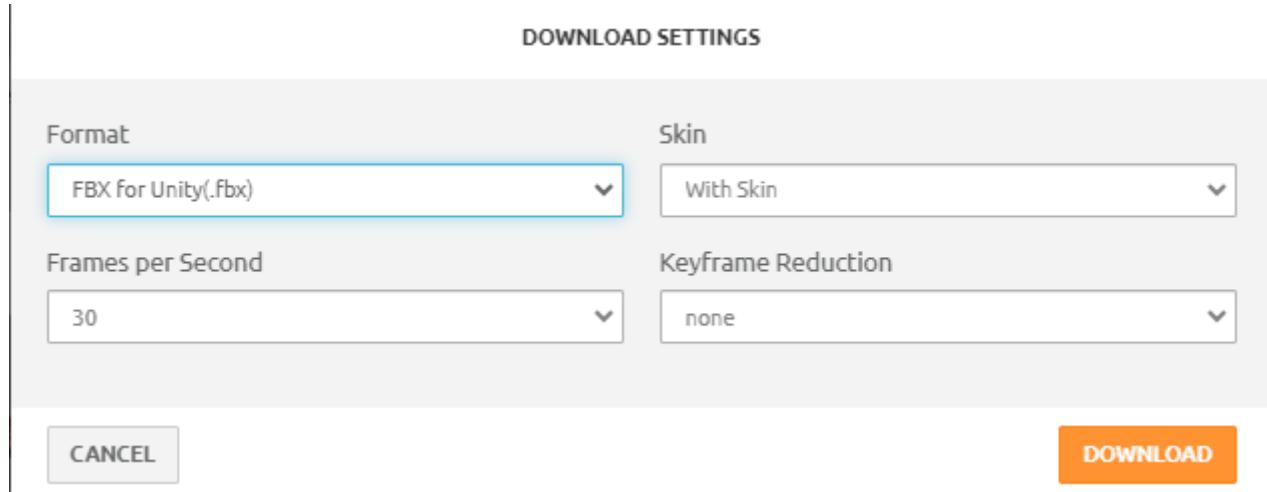
Browse character and animation pages: try to find suitable dancer!!

I have no this character dancing rumba.

Now we download this choice.



We use these settings



We can download music also: here is one good place (you can listen first choices...)

pixabay.com/music/search/rumba/

pixabay

rumba

62+ Rumba no copyright music

Download rumba royalty-free audio tracks and instrumentals for your next project.

latin south america music dance latin america spain salsa to dance samba

Royalty-free music tracks

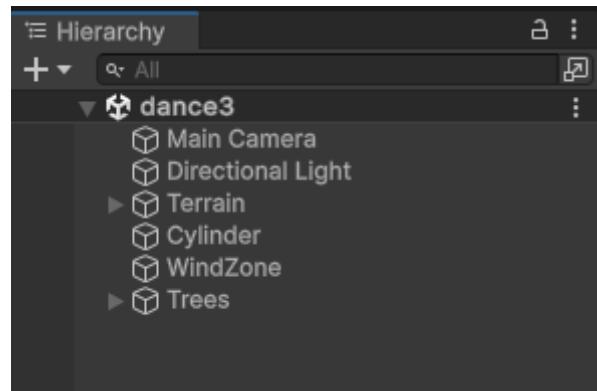
Rumba by ahmad

Some Notes:

Dancing and music may need to be adjusted somehow
Dance musicality is may be needed a bit...
For example the rumba is a slow dance in 4/4 time...

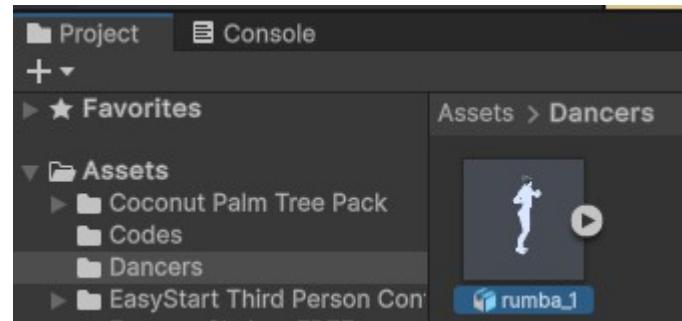
Now we take Mixamo character to Unity project.

Project has these objects (we use partially some older project, copy previous scene and parse it a bit)



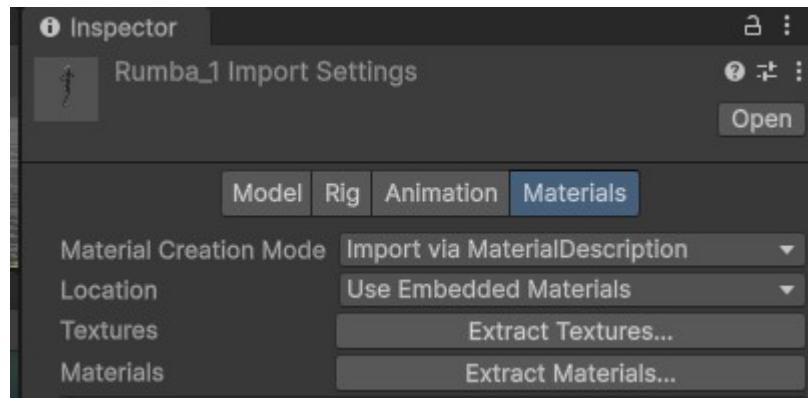
There is terrain and also a cylinder.

Dancer is imported to Dancers folder.

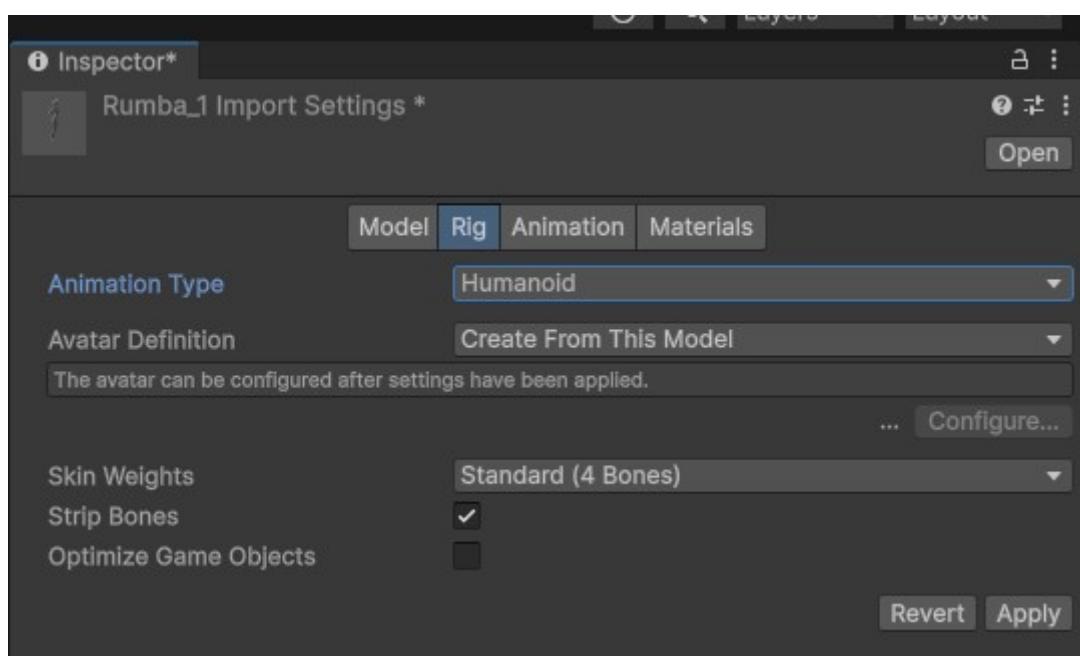


Detailed dancer settings.

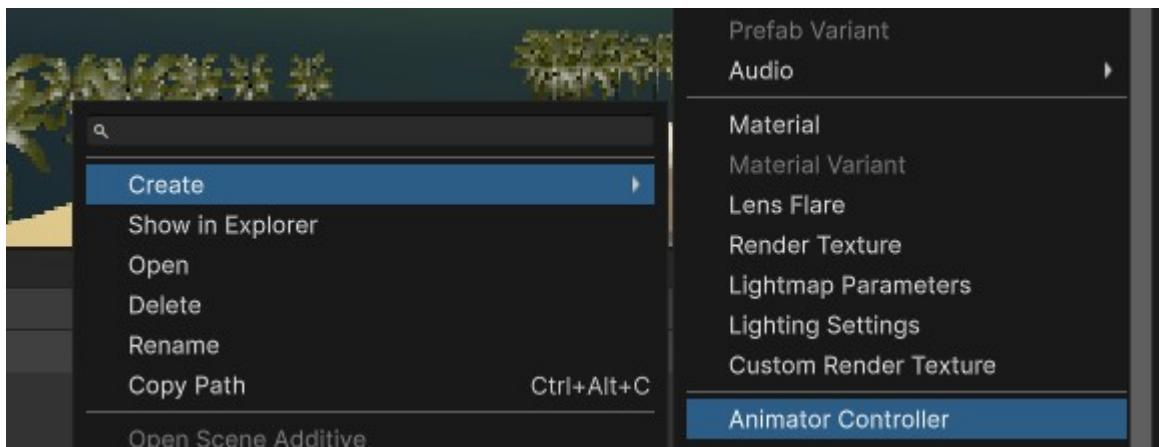
a)



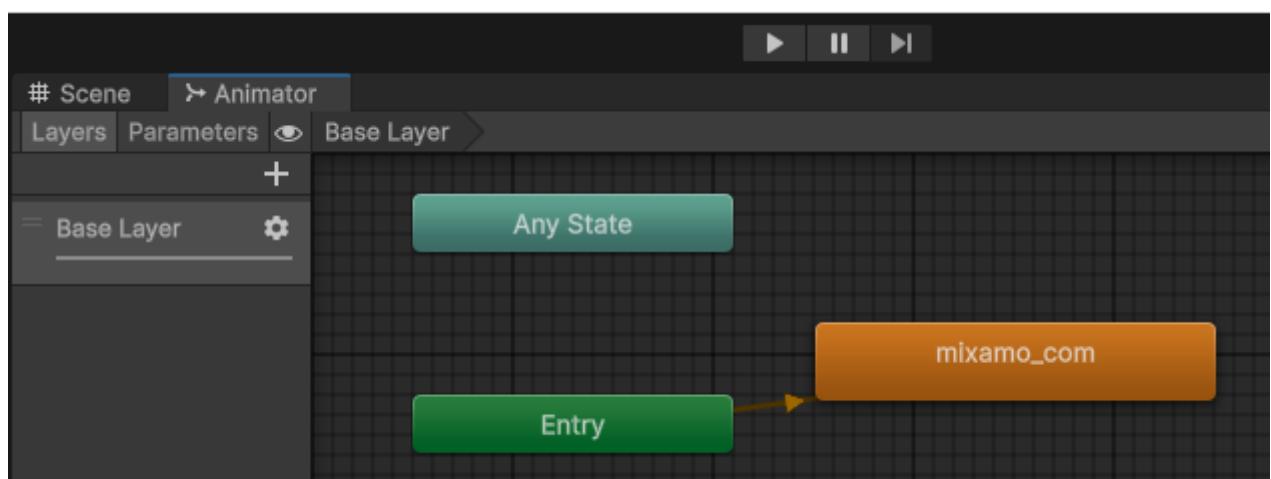
b)



Then create animation controller



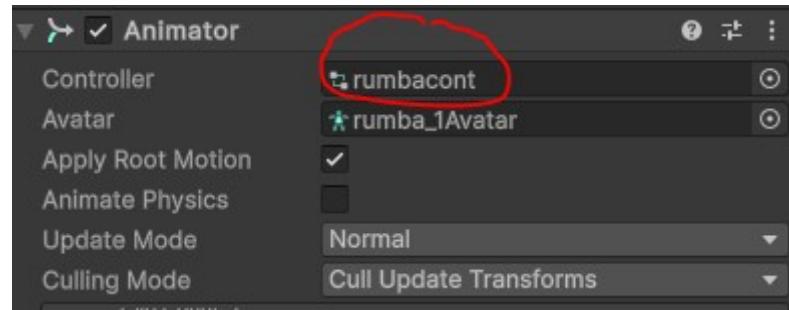
Add dancer's animation there



Add dancer to project



Add animator controller



Here dancer is moved on the cylinder (stage).

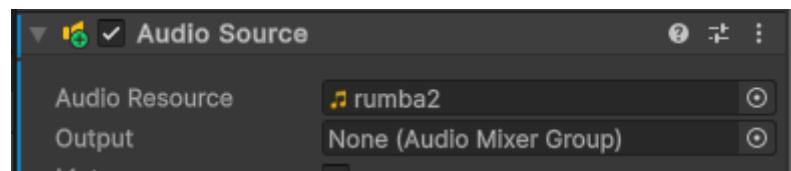


Add now sound. Add audiosource to dancer and import there some rumba clip.

Example here



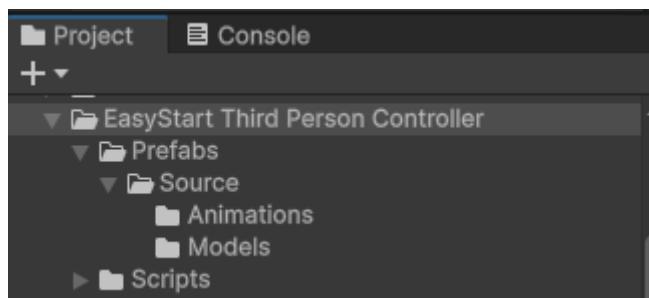
And added to dancer:



Testing: uuuuhhhh!!!

Add spectator

We add there third person





Now player can walk nearer dancer!!

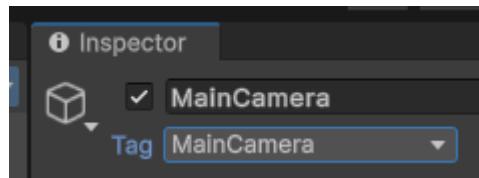
But we add an own **camera to player** - so we see same things than the player.

Disable project's own camera.

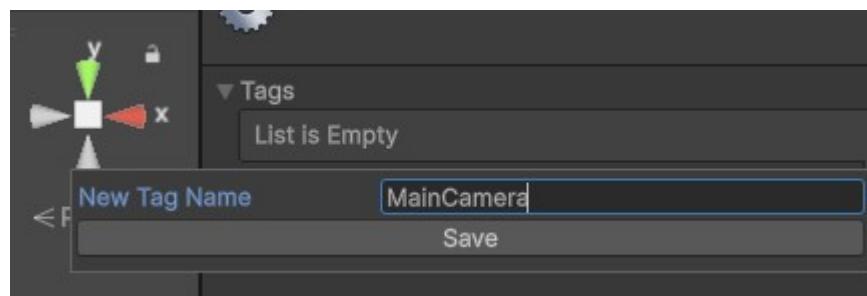
Add player a camera object.

Adjust it to show a suitable view.

Rename camera to "MainCamera" and add it also a tag called "MainCamera".



And



Try!

Yeah!!



Unity 3D recourses & assets & helping tools



Problem 1: too high place

There is a high place: how to get there?

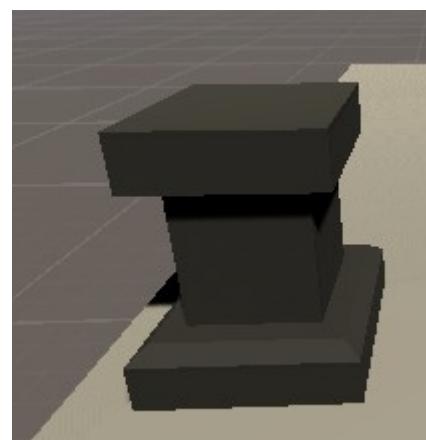
Solution 1: Build stairs

Player has to build stairs by using blocks.

Blocks have to have suitable values: player has to be able to push blocks one by one.
Blocks can not be too light either.



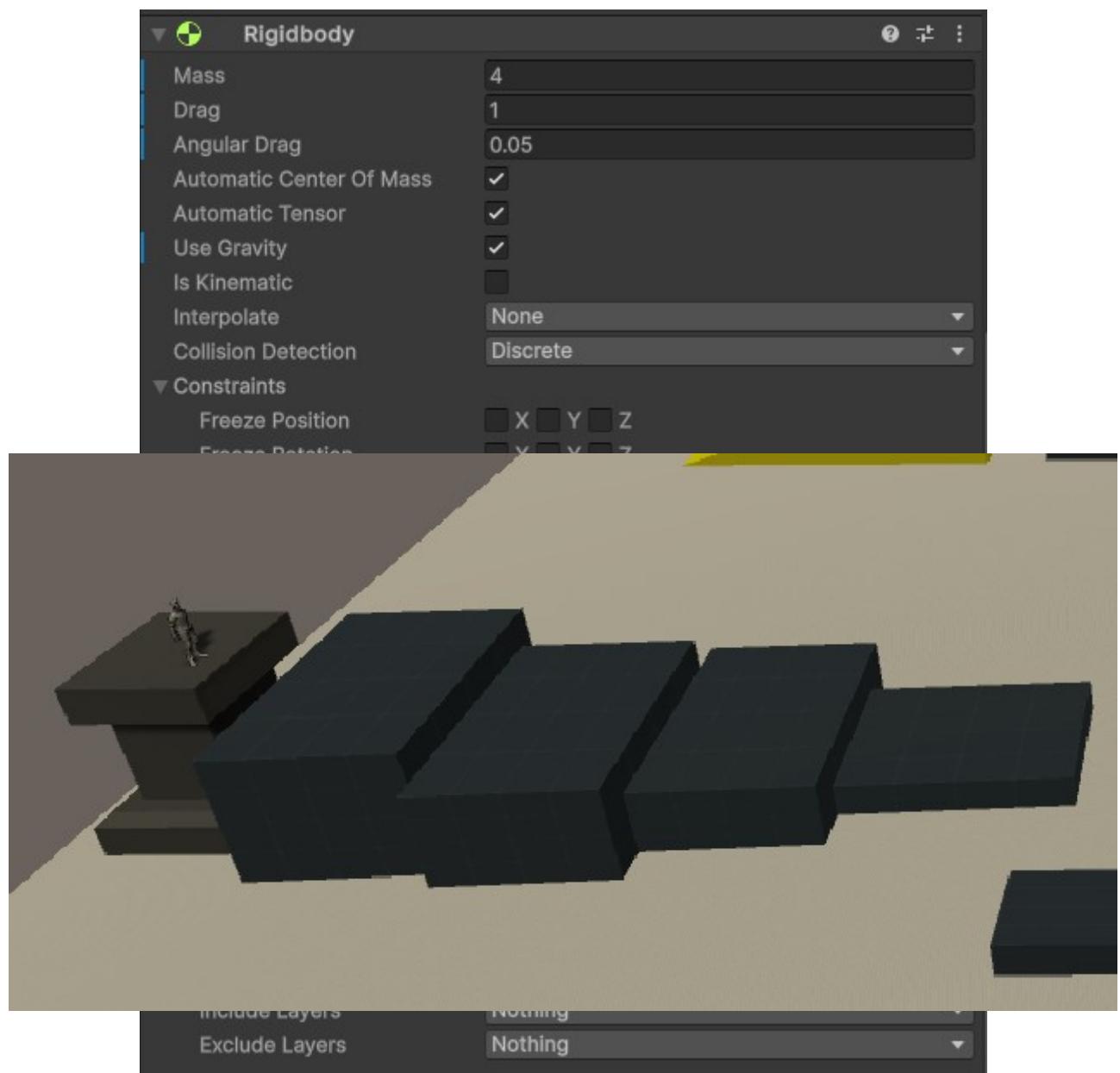
And you have to go here:



Block settings



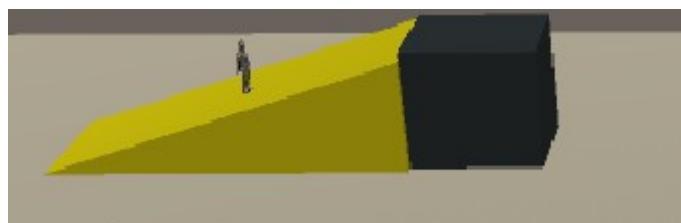
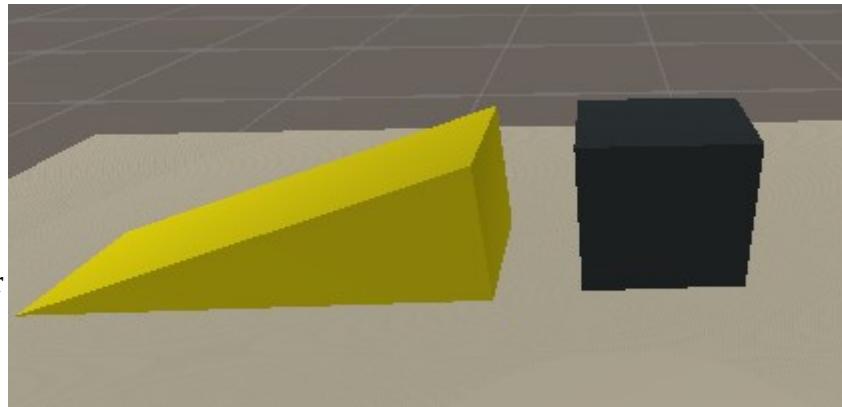
Thirdplayer settings



Solution 2: ramps

Use some kind of ramp to walk up

Push
constructions
nearer each other
and walk up.

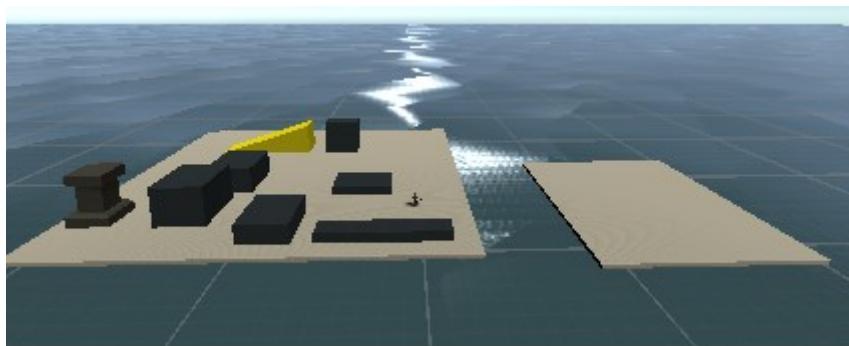


And finally:



Problem 2: gap between places

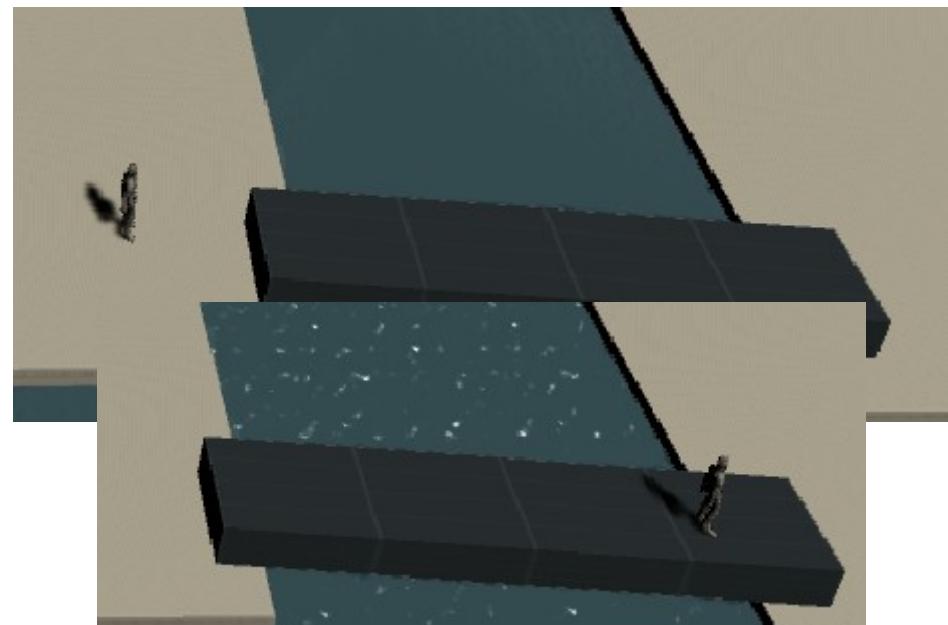
How to go to other place when there is no way from place A to place B?



Solution 1:use a block as a bridge



And



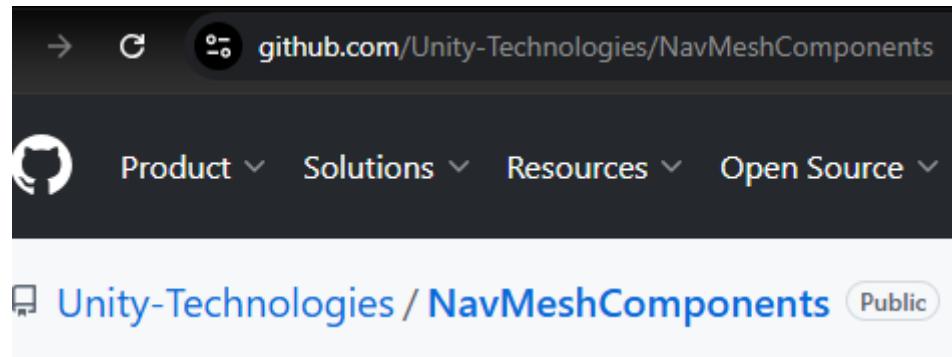
And finally



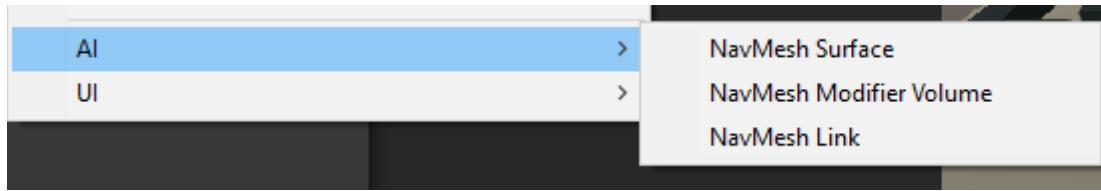
How to add follower

Follower after you: how to add

First you have have components: install them

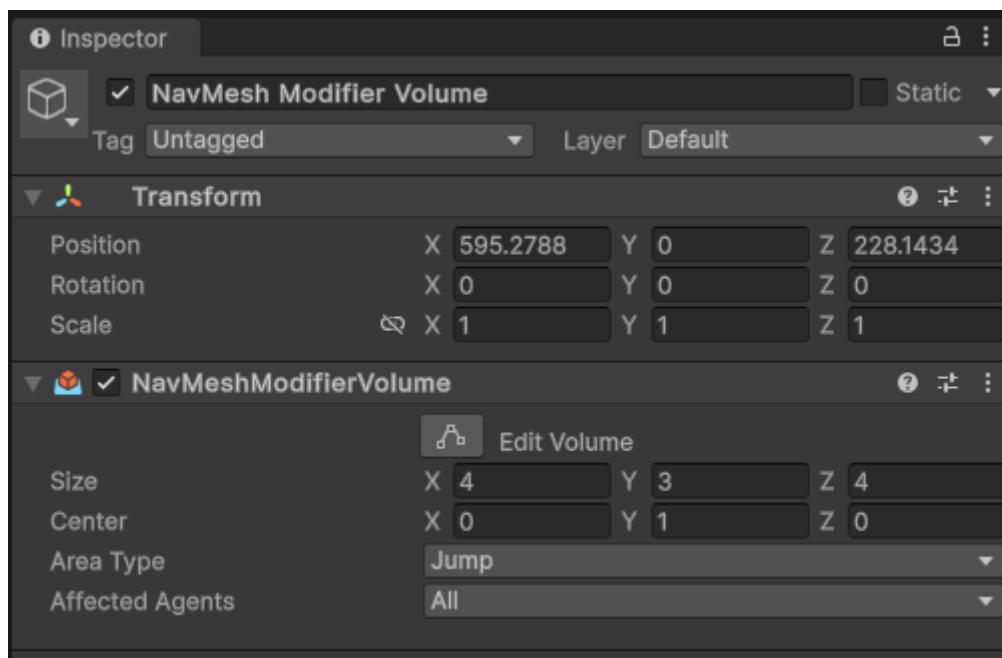


GameObject's submenu AI:"

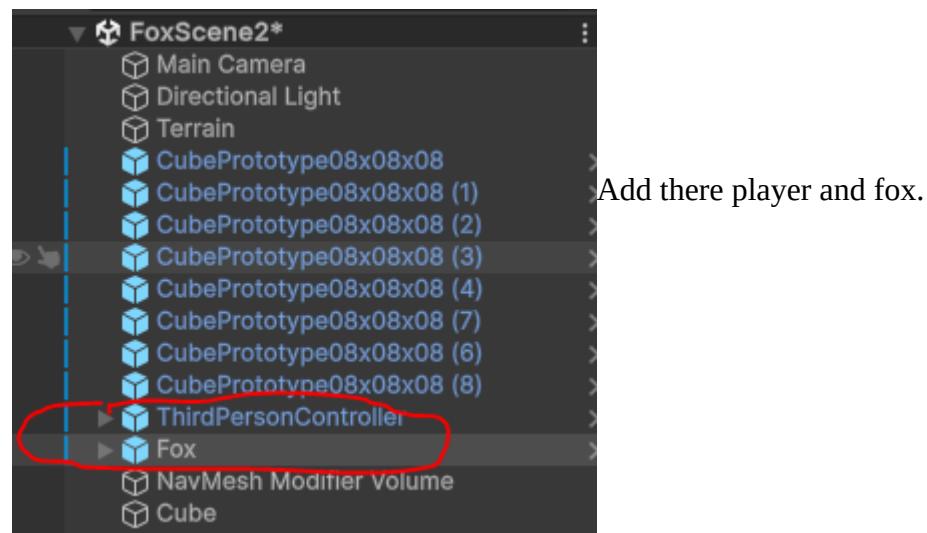
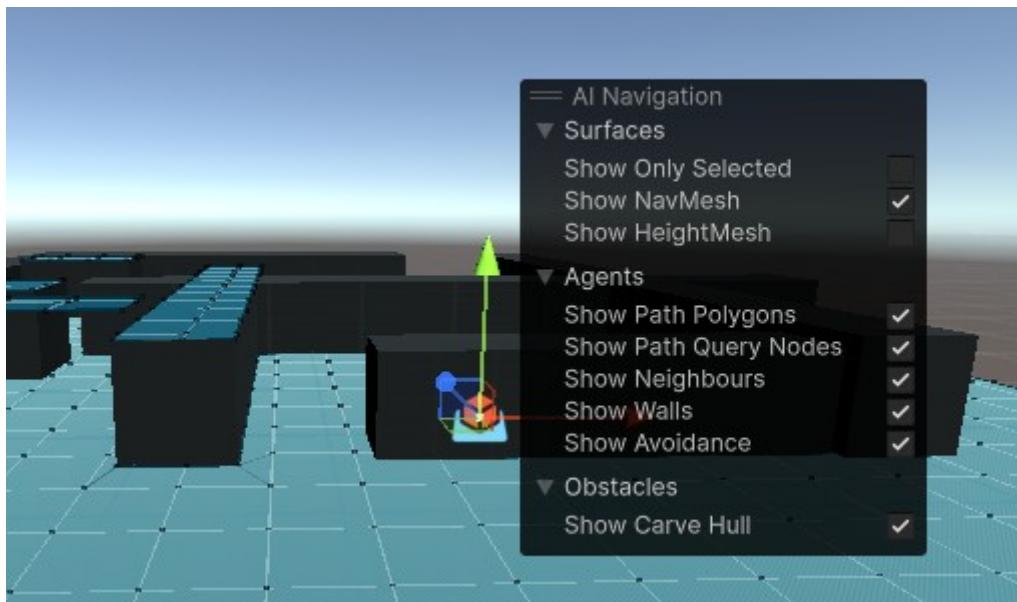


Add NavMesh Modifier Volume to project





Define surfaces





Fox
settings:

▼ Nav Mesh Agent

Agent Type	Humanoid
Base Offset	0
Steering	
Speed	1
Angular Speed	120
Acceleration	8
Stopping Distance	2
Auto Braking	<input checked="" type="checkbox"/>
Obstacle Avoidance	
Radius	2
Height	3
Quality	High Quality
Priority	50
Path Finding	
Auto Traverse Off Mesh Link	<input checked="" type="checkbox"/>
Auto Repath	<input checked="" type="checkbox"/>
Area Mask	Everything

▼ Box Collider

Edit Collider	
Is Trigger	<input type="checkbox"/>
Provides Contacts	<input type="checkbox"/>
Material	None (Physic Material)
Center	X 0 Y 0 Z 0
Size	X 2 Y 2 Z 2

► Layer Overrides

Fox code

▼ Fox_follower (Script)

Script	fox_follower
Target	ThirdPersonController

```

public class fox_follower : MonoBehaviour
{
    Animator animator;
    AudioSource aus;

    AudioClip a, b;
    void Start()
    {
        animator = GetComponent<Animator>();
    }

    public static float foxspeed = 1.0f;
    public GameObject target;

    void Update()
    {
        if (this.GetComponent<NavMeshAgent>().speed != 0.0f)
        {

this.GetComponent<NavMeshAgent>().SetDestination(this.target.GetComponent<Transform>()
.position);

            float x1, x2, y1, y2, z1, z2;

            x1 = this.transform.position.x;
            y1 = this.transform.position.y;
            z1 = this.transform.position.z;

            x2 = this.target.GetComponent<Transform>().position.x;
            y2 = this.target.GetComponent<Transform>().position.y;
            z2 = this.target.GetComponent<Transform>().position.z;

            float dist = Mathf.Sqrt((x1 - x2) * (x1 - x2) + (y1 - y2) * (y1 - y2) + (z1
- z2) * (z1 - z2));

            if (dist <= 1.5)
            {
                animator.SetInteger("state", 0);
            }

            if (dist > 1.5)
            {
                animator.SetInteger("state", 1);
            }
        }
    }
}

```

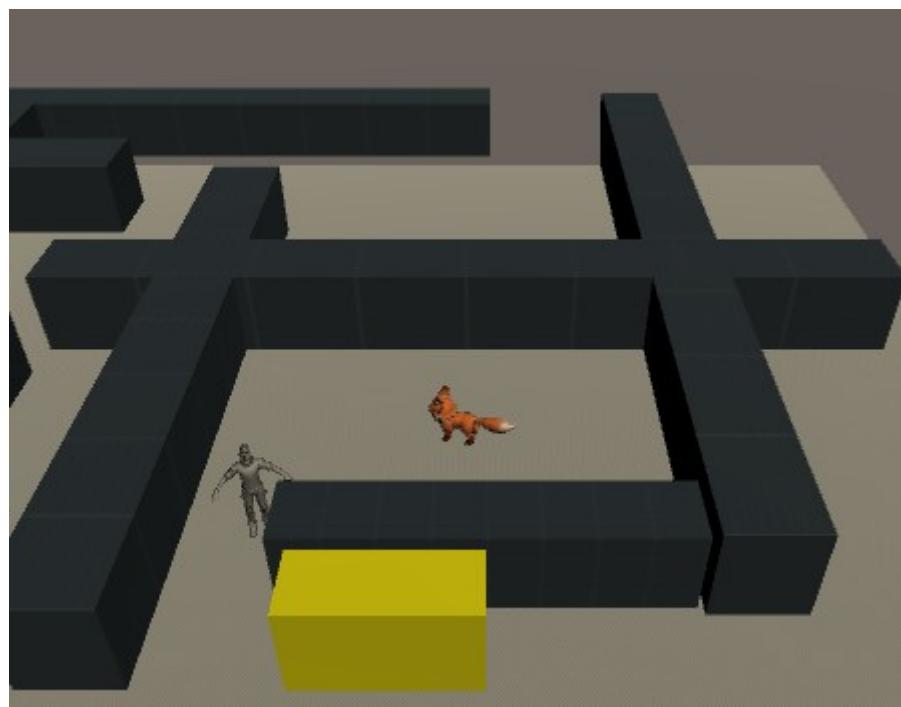
Catch follower

Mazelike platform has been created using blocks...

Now the idea is to set a trap to fox!!

Let fox follow you and when it is time shut some door behind the fox :)

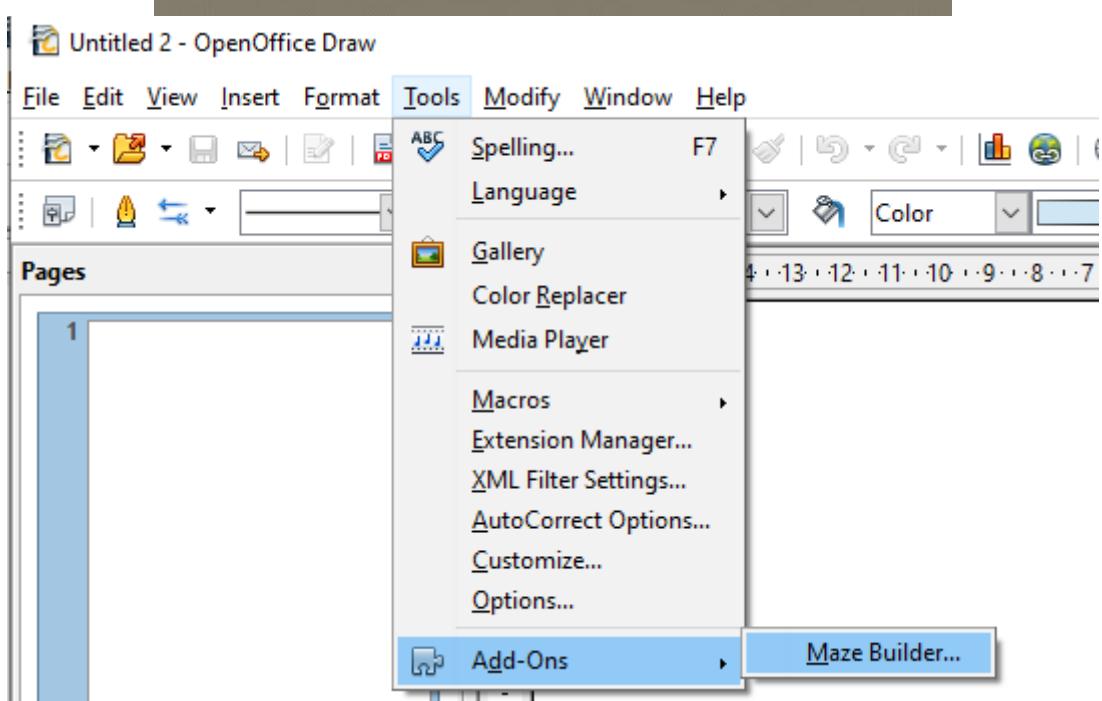
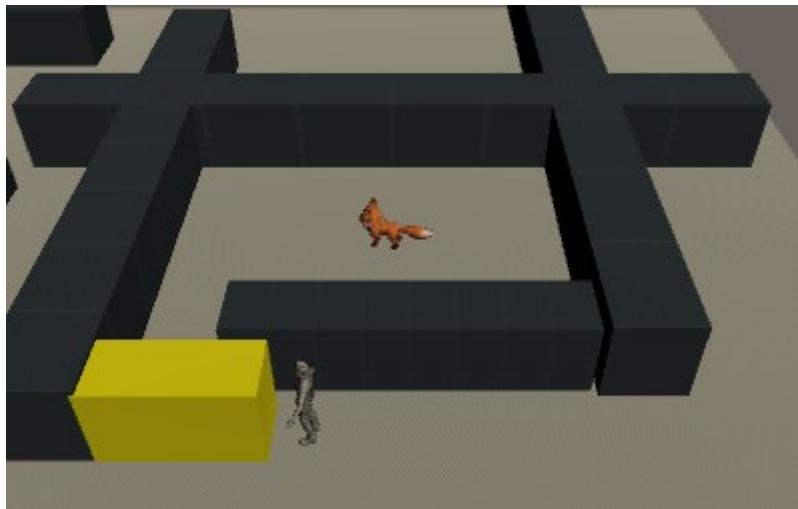
Example here



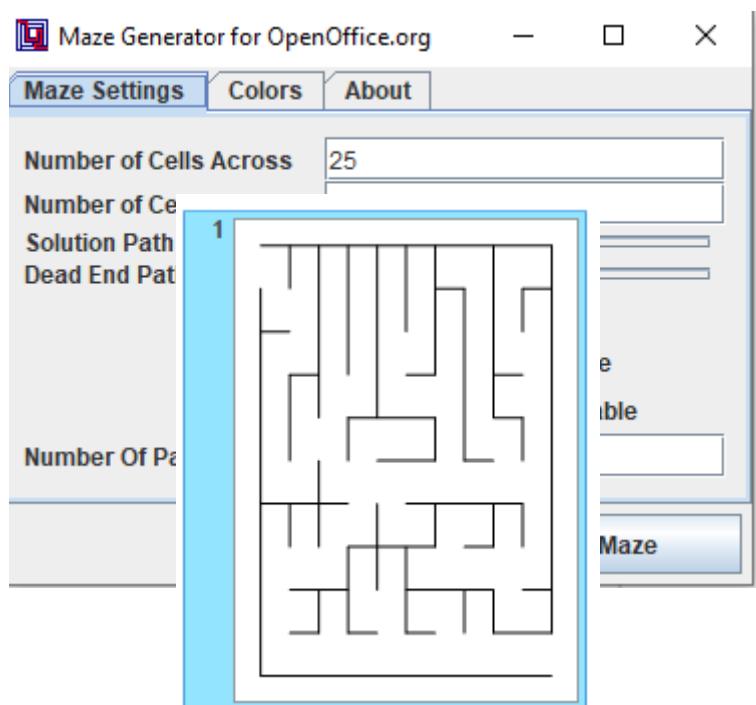
Fox is inside - now door has the closed!

Labyrinth

To build a maze you can use AI tools or just e.g. OpenOffice Draw with an extension



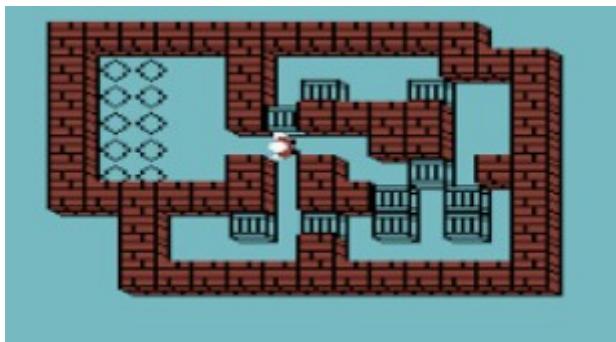
Example



Now you have to build "real" walls using those lines...

Puzzle (sokoban style)

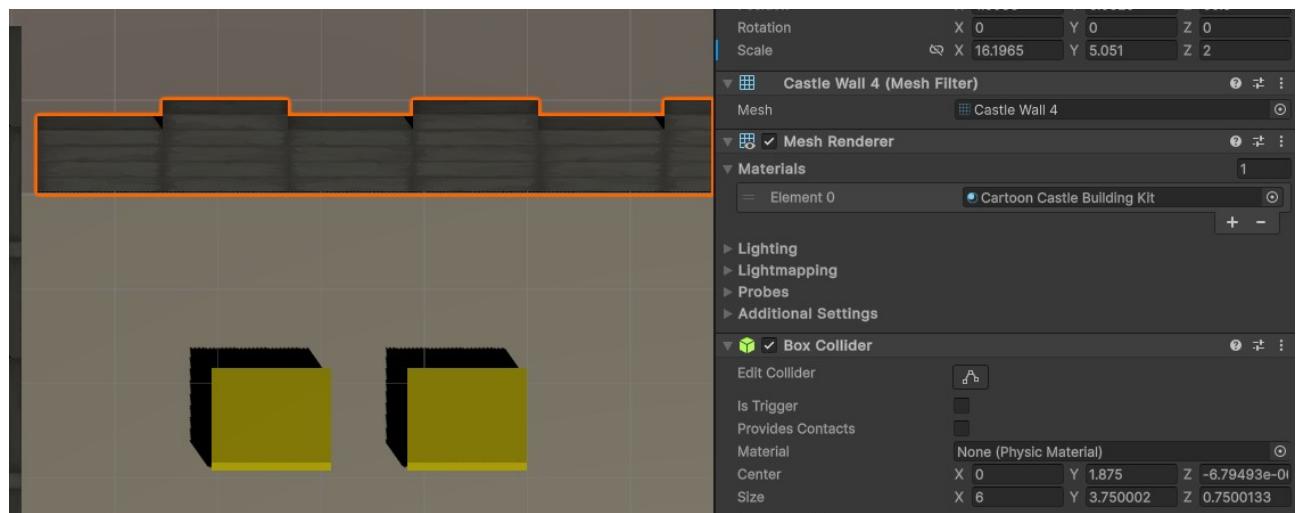
Remember good old dos-time sokoban



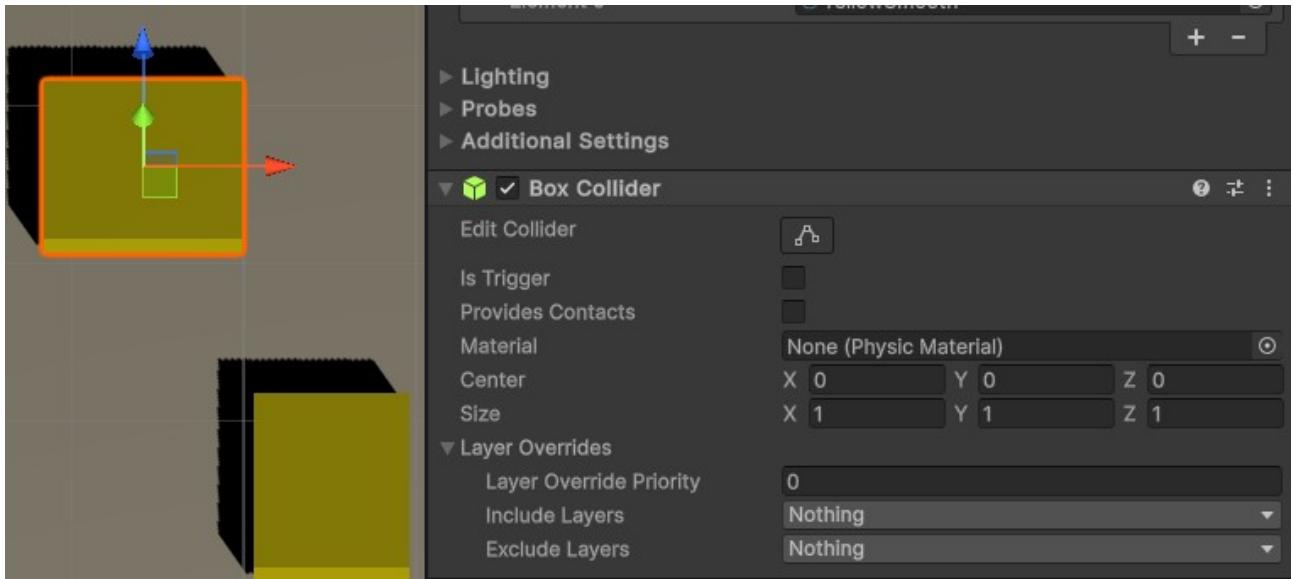
Example here

Add blocks to make the plan.

Main walls



With cubes you can create inside walls and hindres:

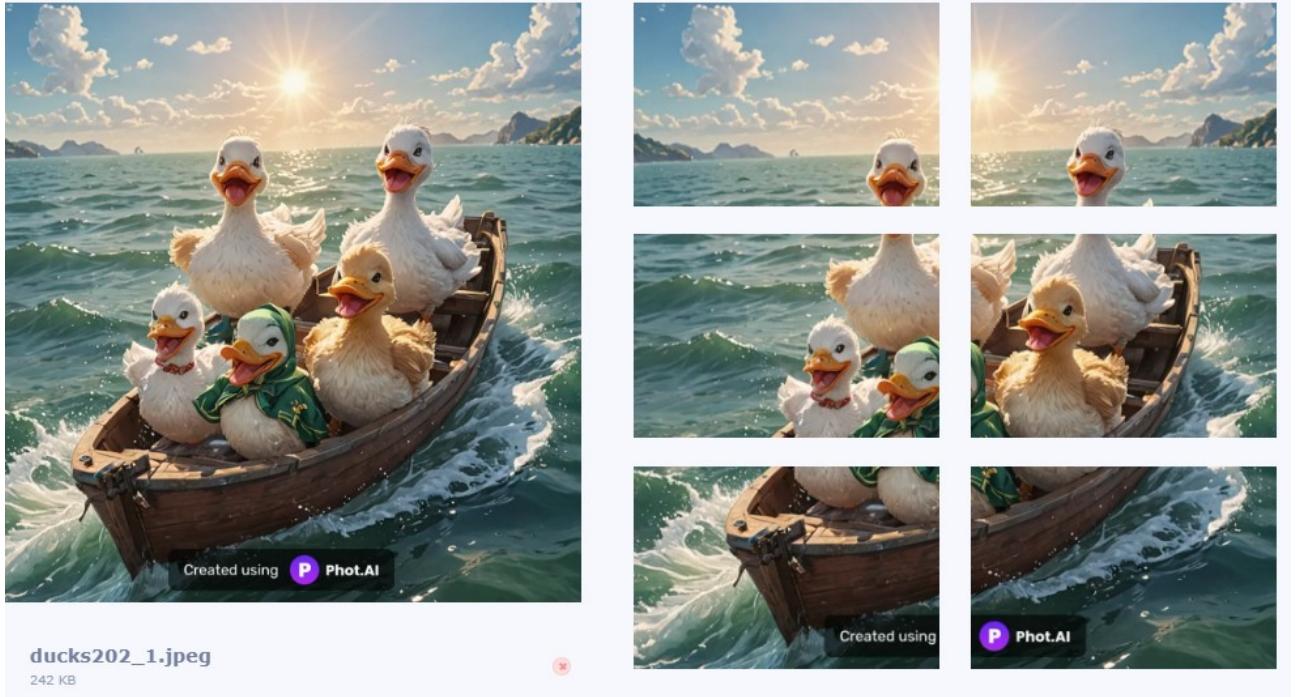


Then puzzlepieces

Use cubes - make them flat and add picture pieces to them.

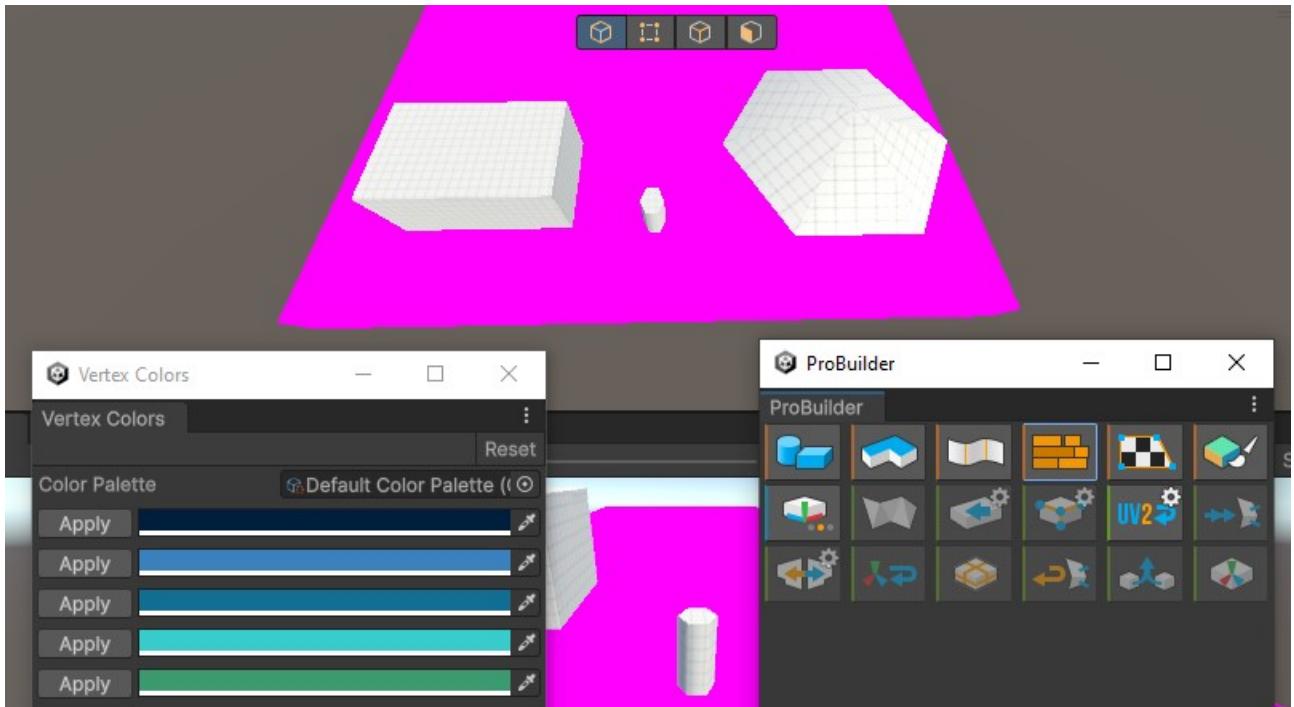
You can use some image splitter to split an image and then import piecez to your project.

AI generated an image:



Now you can move puzzlepieces to their places... At the same time you have take care that you are always behind the puzzlepiece to be able to push it. And you have to have space enough behind the piece to be able to go there.

You can create at the same time sokoban-like storage game and puzzle!

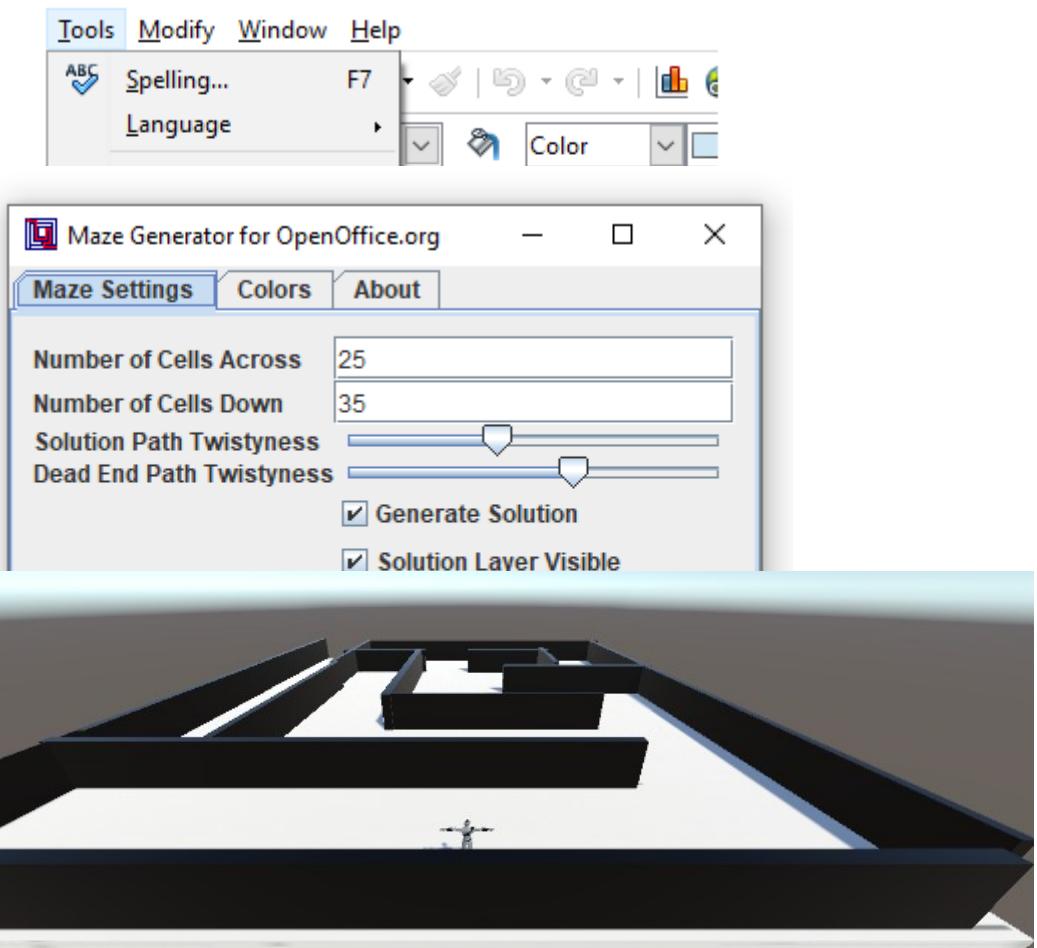


Create a quick real maze!

First: we can make model with OpenOffice Draw Extension...

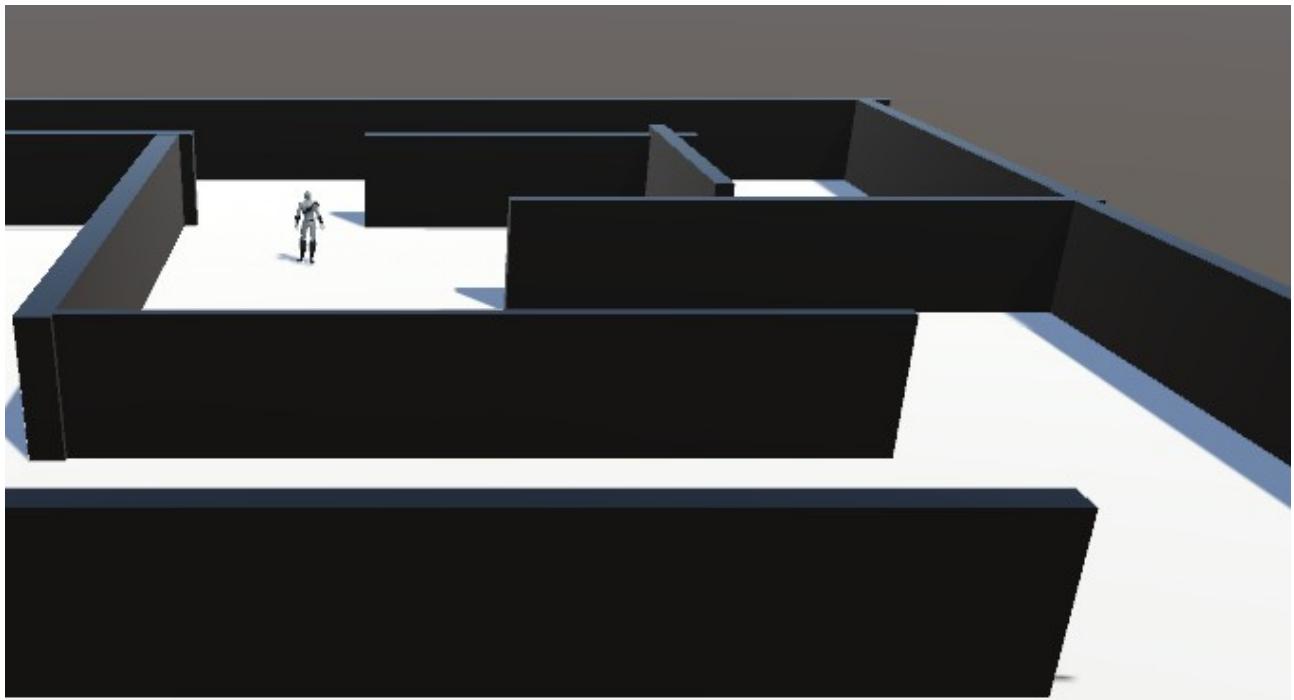
Here is a very simple one

And



We take the image to Unity and create walls for example with cubes:

Then we add third person character player there...



Try it!!

Use free assets

They normally have some free assets packets using donations and some of them have prices...

Read information about licenses and follow them... if you use those free assets in commercial versions...

I am now marketing some sites.

Quaternions



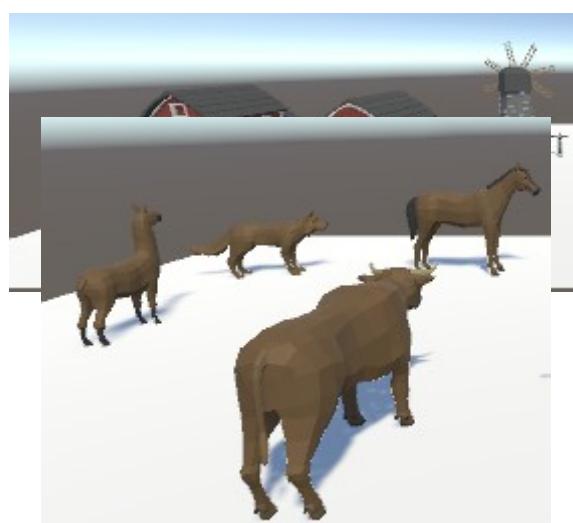
I have tried some packages it was easy to download via Google drive...

Then you can import to your project and try...

Example

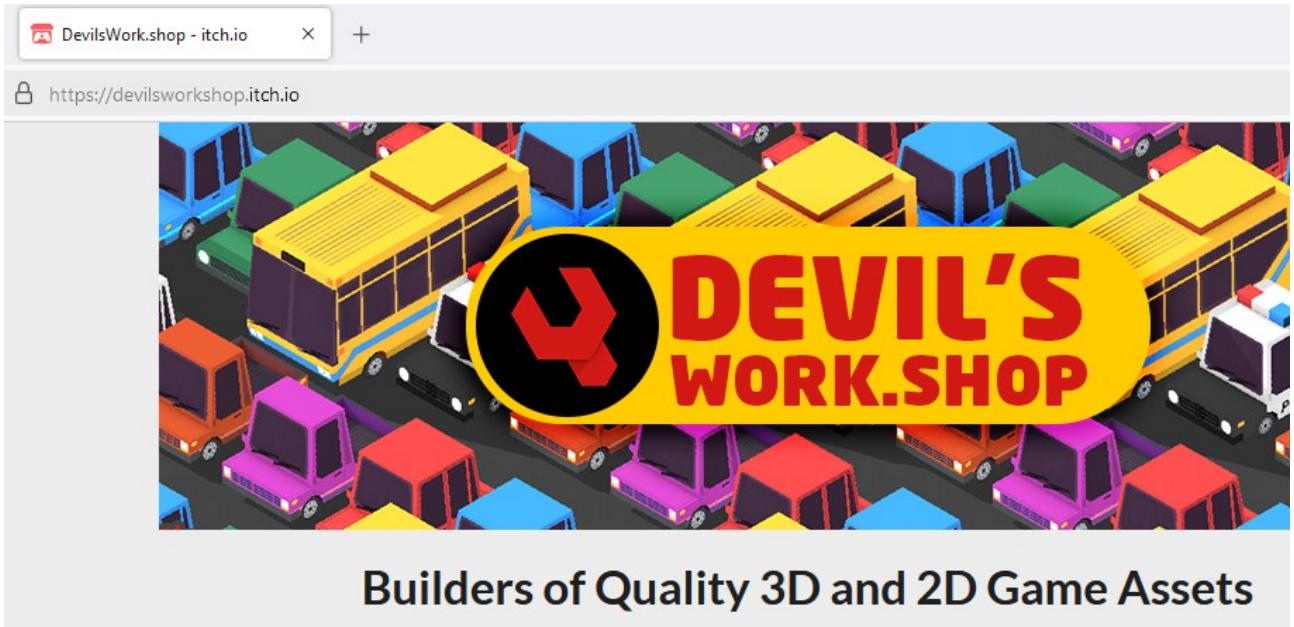
Farm buildings

Animals

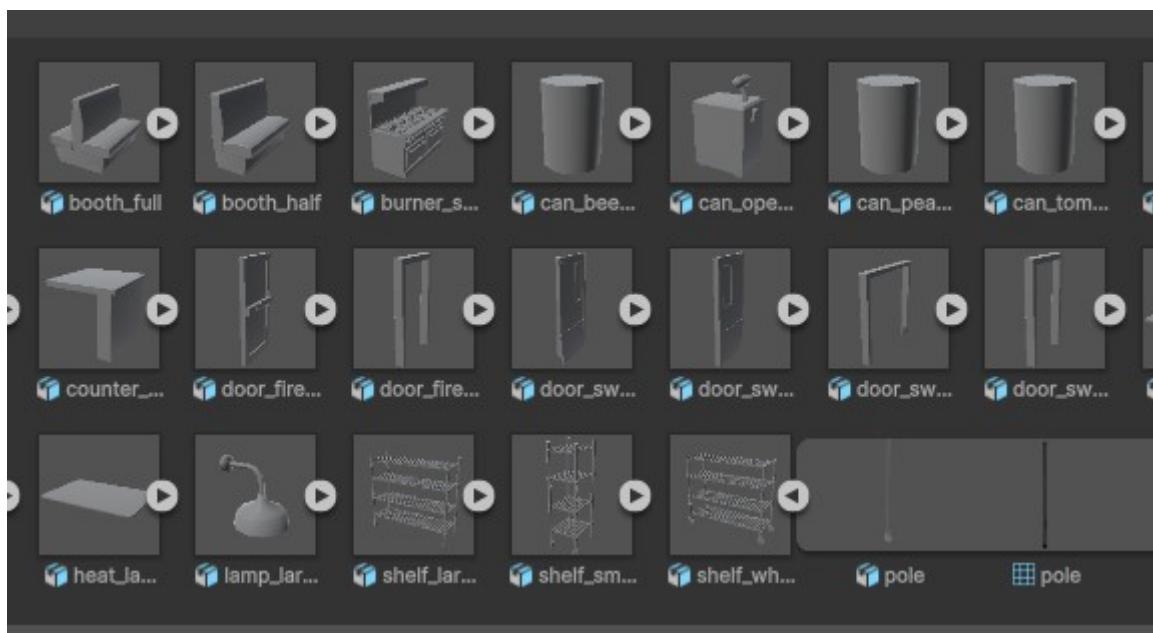


I recommend that site!

Devils Workshop

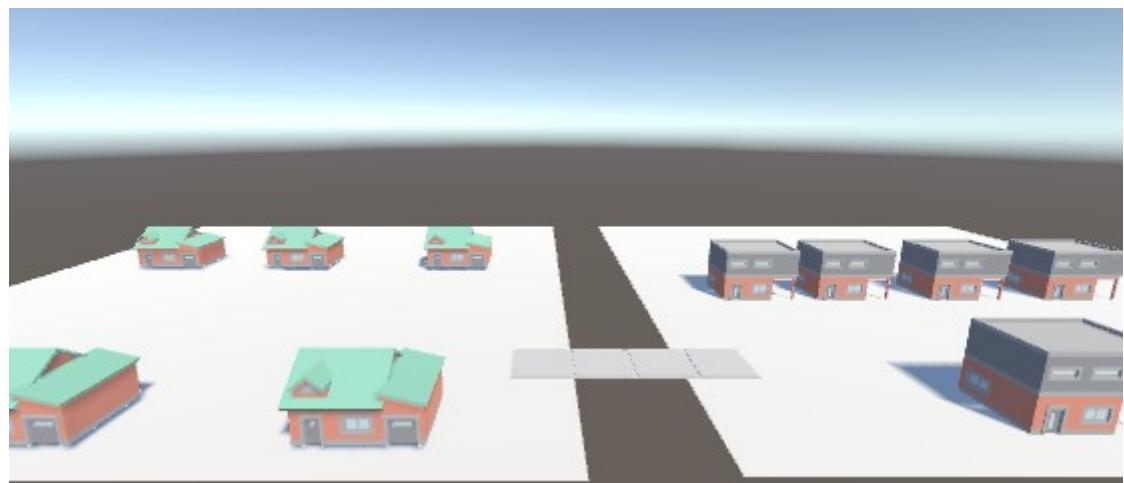
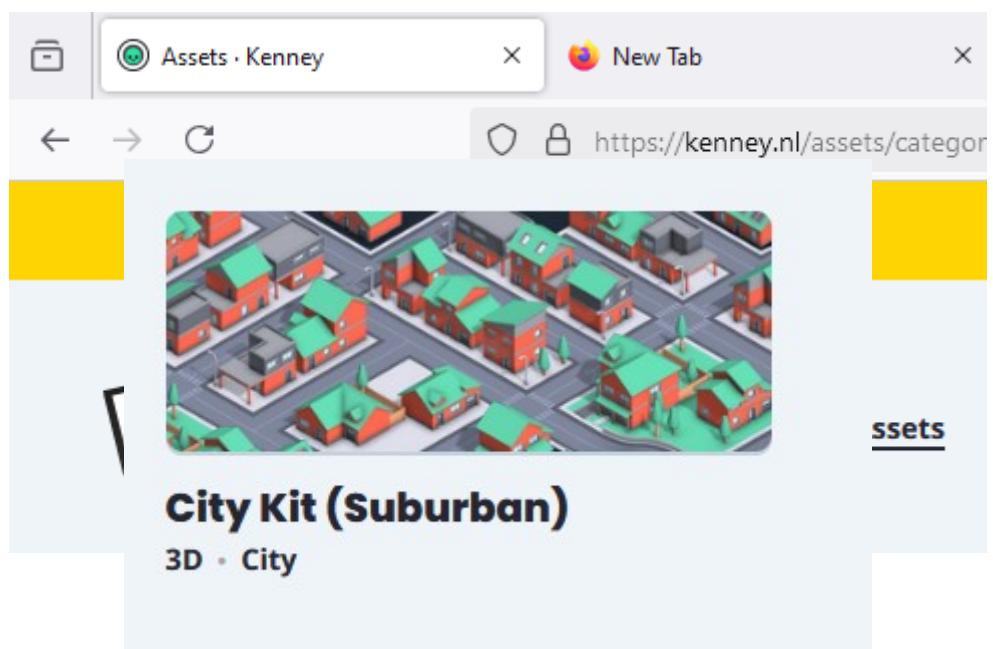


Some examples

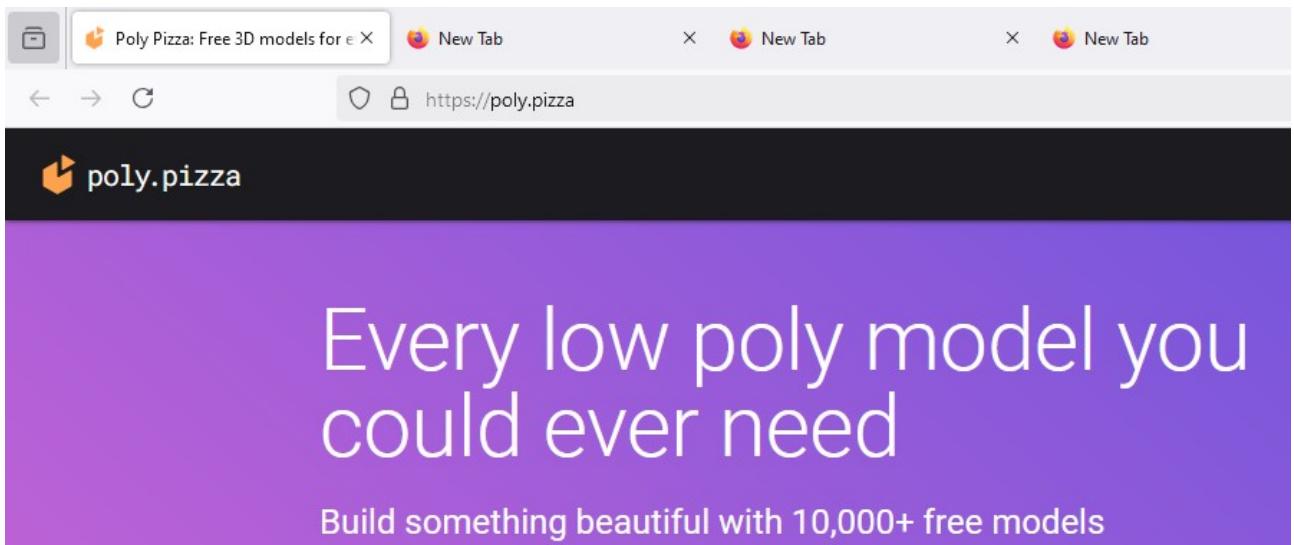


Kenney

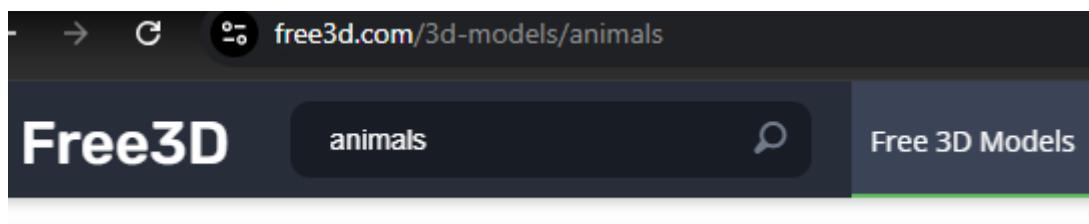
and



PolyPizza



Free3D



Example



thefree3dmodels.co

Owl

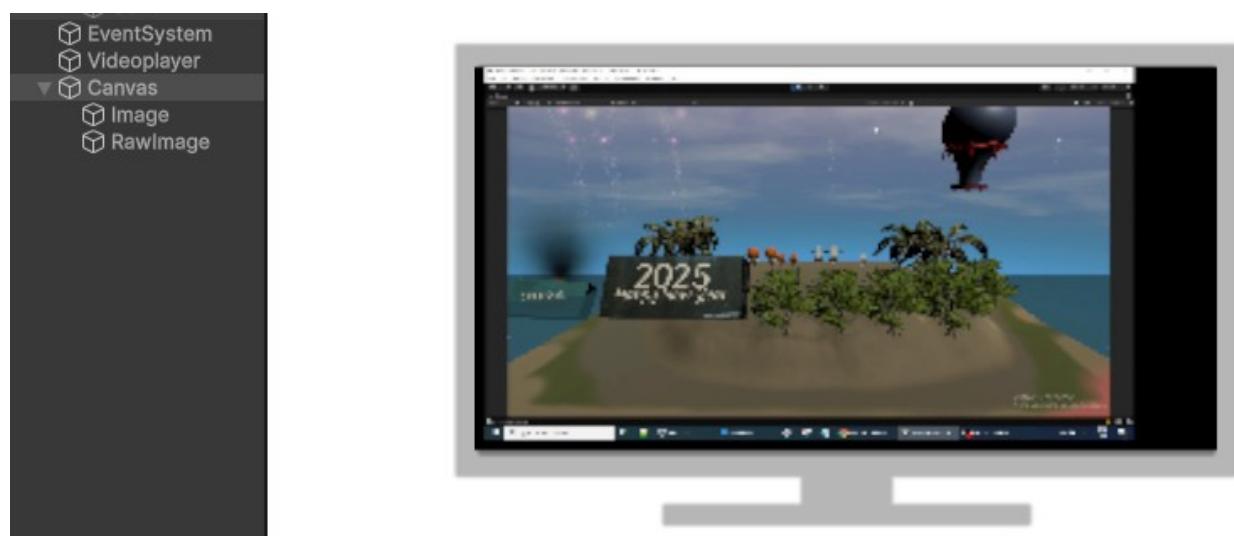
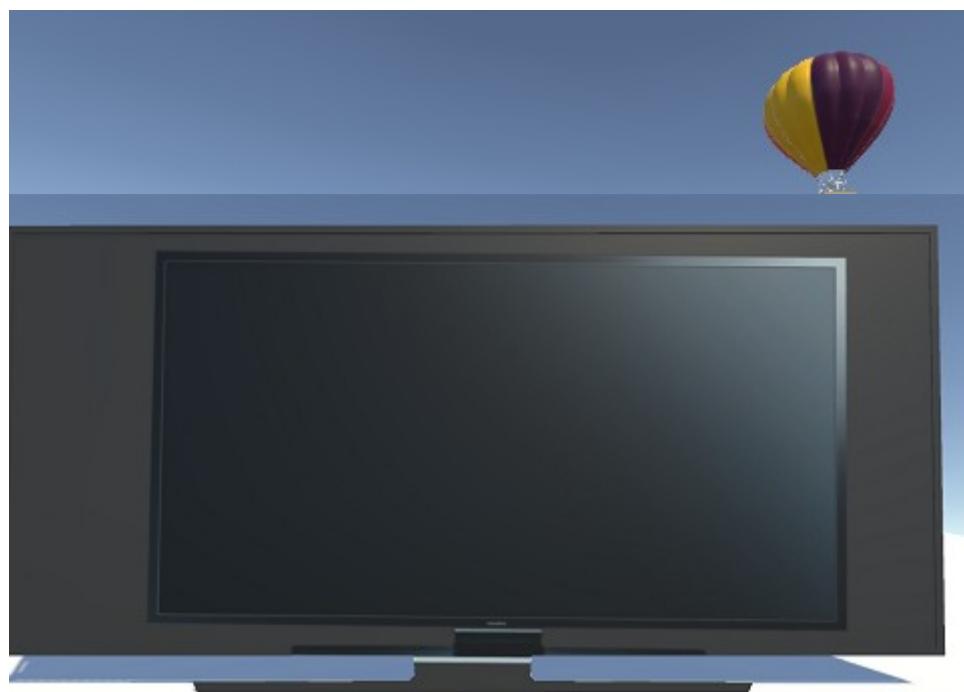
.3ds .obj .max .lwo .mtl .sldprt

FREE

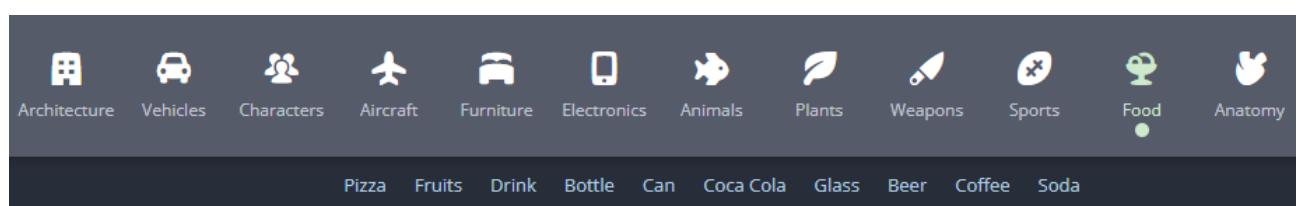
28,606

**filetypes is good
to see**

More examples



And: a good collection!



Finally

Unity's own Assets

Just an example

CATEGORIES

Filters

Price (1) Rating Unity Version

< All Categories

< 3D

< Vehicles

Land (167)

Results 1-96 of 167

3D

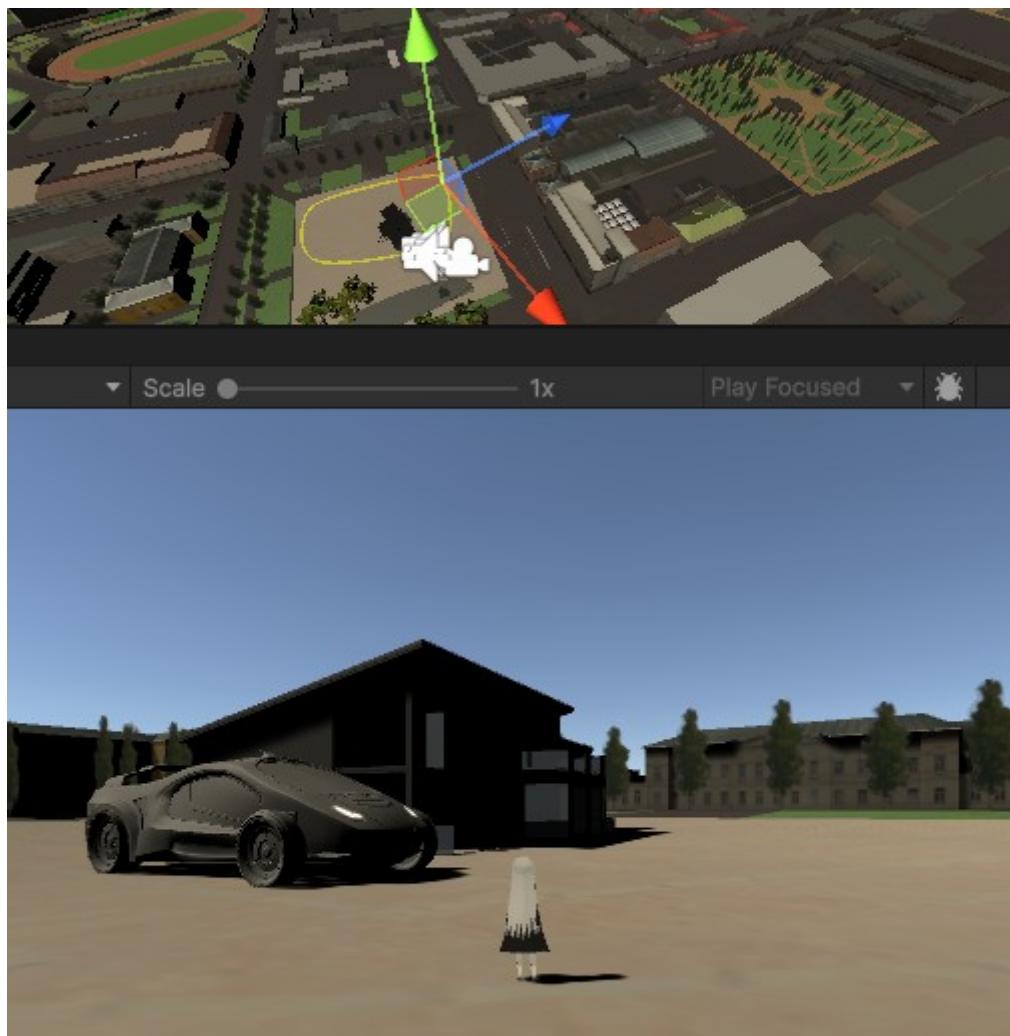
CarScene1

- Main Camera
- Directional Light
- Mikkeli_keskusta
- FPSController
- bus1
- bus3
- Broadleaf/Desktop
- Broadleaf/Desktop (1)
- Broadleaf/Desktop (2)
- Broadleaf/Desktop (3)
- Broadleaf/Desktop (4)
- Broadleaf/Desktop (5)
- Broadleaf/Desktop (6)
- Broadleaf/Desktop (7)
- Broadleaf/Desktop (8)
- Broadleaf/Desktop (9)
- WindZone
- ThirdPersonController
- mixamo1
- AITHirdPersonController
- Fox
- messutalo
- Car
- CarWaypointBased
- Route
- Waypoint 000
- Waypoint 001
- Waypoint 002
- Waypoint 003
- Waypoint 004
- Waypoint 005
- Waypoint 006

Realistic Mobile Car #26 (Demo)

Many free objects in this demo

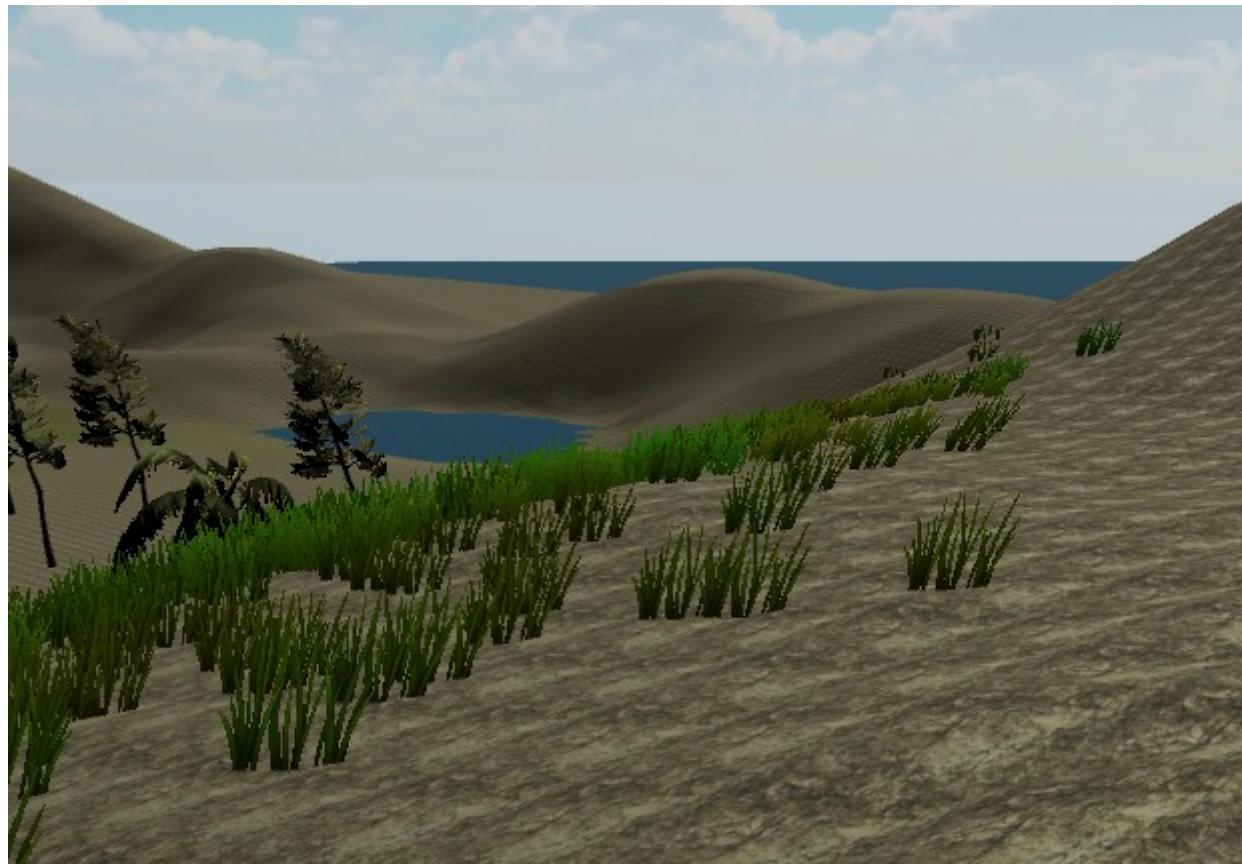
There is a route that a car uses:



Car routes can be drawn graphically: her white line show the route



Here is another example that uses many "free" Unity assets!!

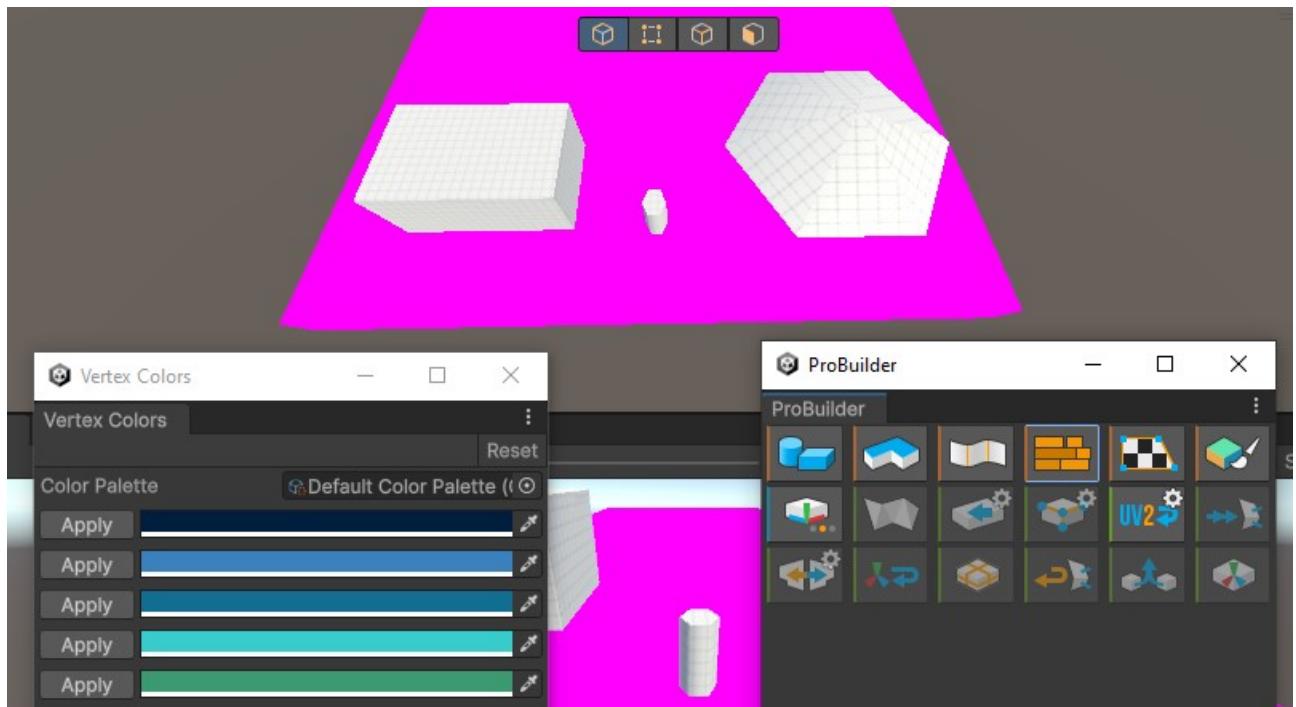


And here is an island with manu assets:



ProBuilder tool

And for modelling Unity's own 3D modelling tool: install ProBuilder



Feedback is welcome!
Thank You!