Thank you for choosing Measure Lines.

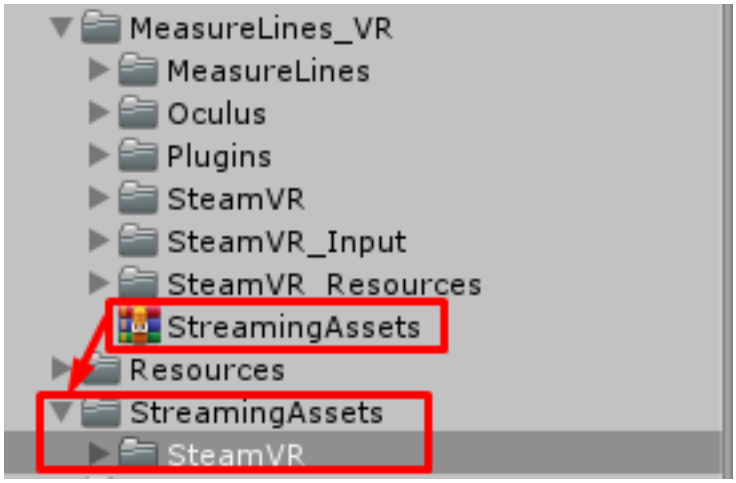
It's a plugin for dynamic measure distance between object.
Lines are base on mesh, draw as usual object.
It use raycast to find out what's distance between objects.
I hope you enjoy the plugin and wish it can help you with your game.
If you have any question, you can email me: unicoea@gmail.com

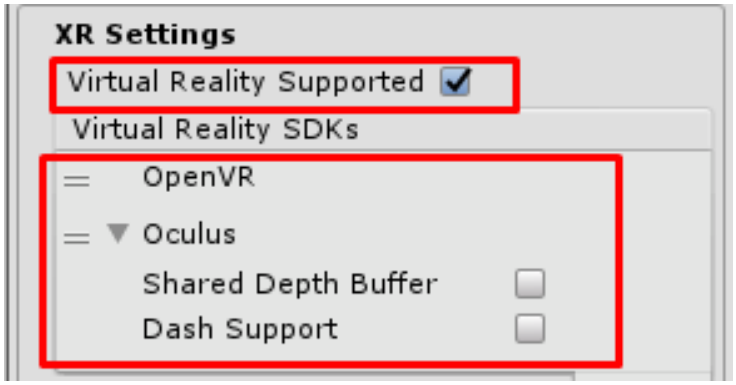
Important Note:
The package is contain SteamVR + Oculus +Photon Plugins for user who can run in VR immediately, For those users who already have a project, please select just Measurelines folder to import into project.

Part 1: For VR Singleplayer

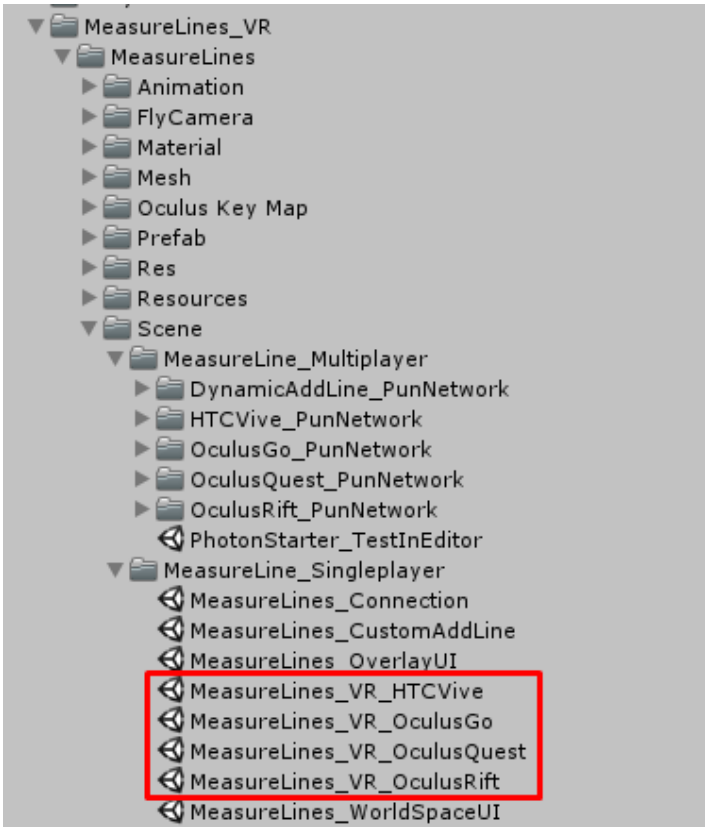
1. For who want to create a new VR project:

Import measurelines plugin into a new project.
Extract "StreamingAssets.zip" to Streaming Assets folder and put it as a child of "Asset" folder. It contain the config for steamvr if you use HTC Vive.(For oculus user it not needed)
Please check the VR is enabled.



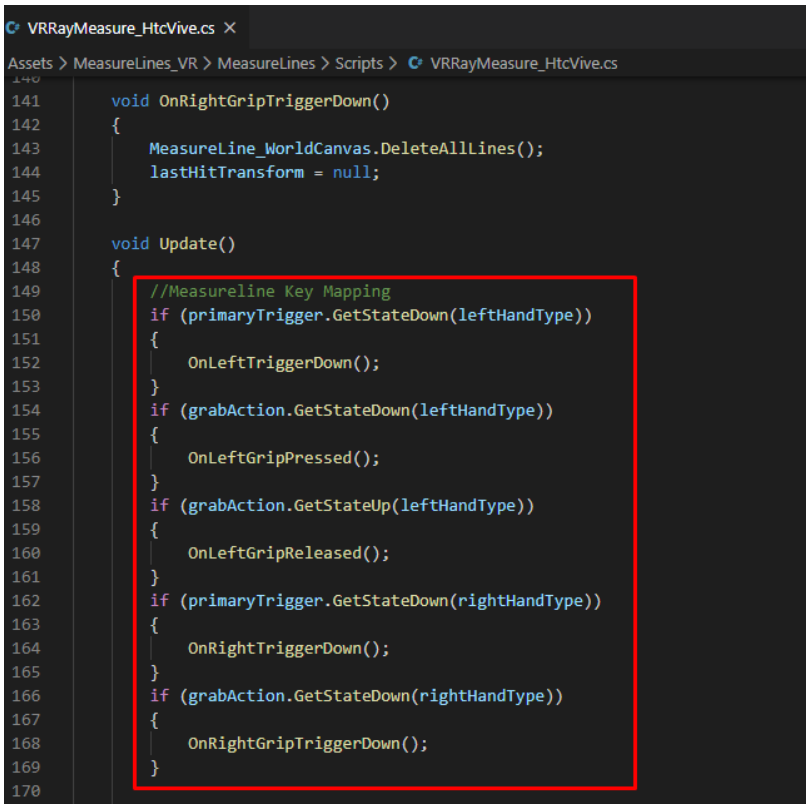


Then you can open scene for your VR device.



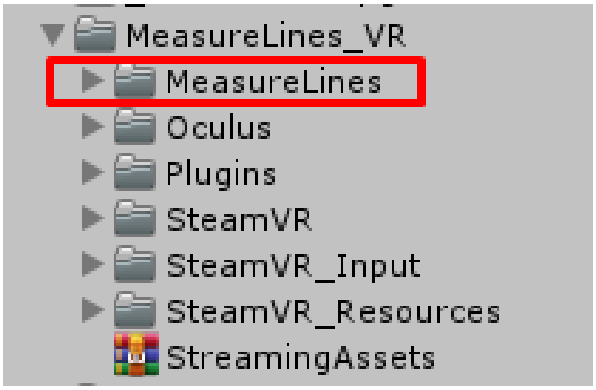
The key mapping is in scripts. You can modify them if you want.

For example, you can use LeftPrimaryTrigger of HTC Vive click to one point then the other point to make a new measure line. Hold leftGrip to draw Horizontally or vertically lines. RightPrimaryTrigger to switch the draw mode. Click RightGrip to clear all lines.

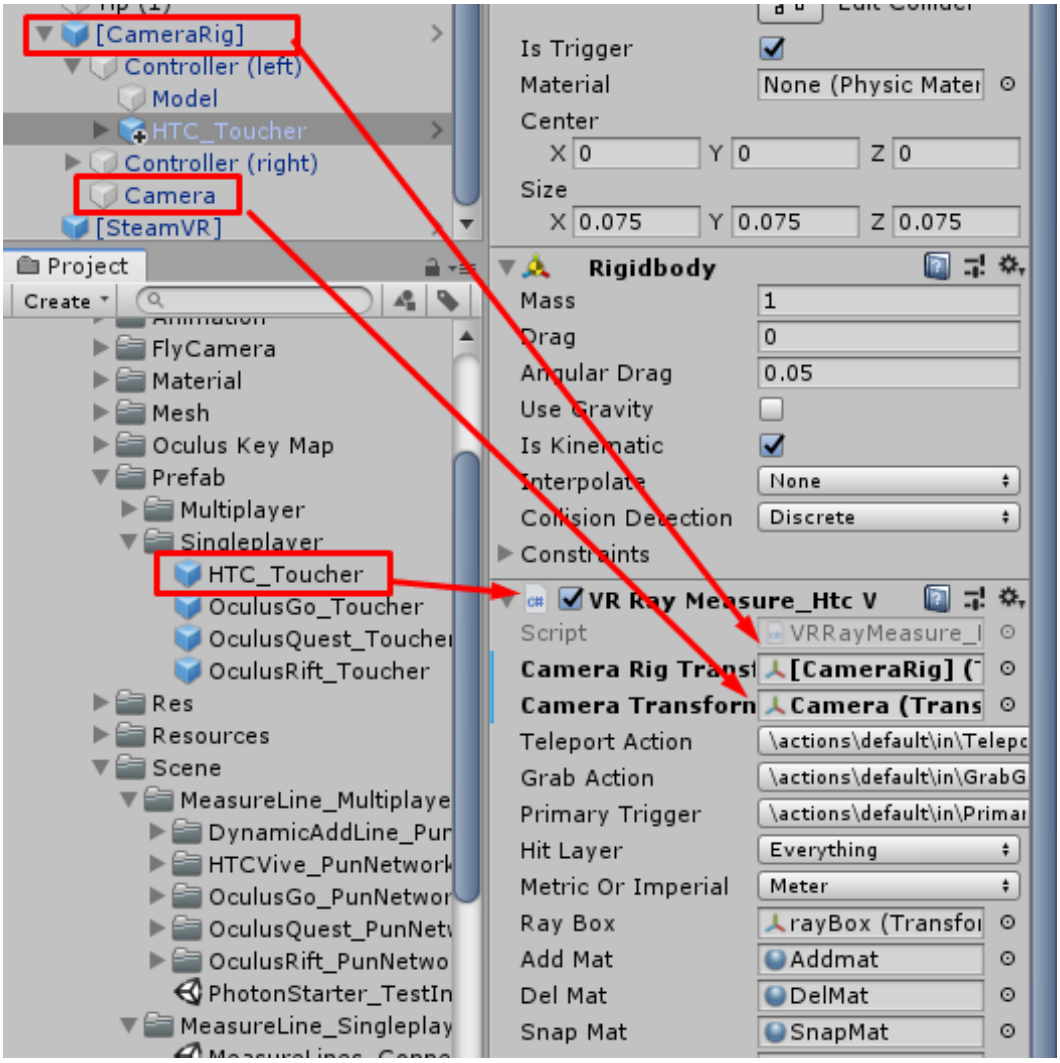


2. For those who already has a complex VR project:

You just need import the MeasureLines folder into your existing project.

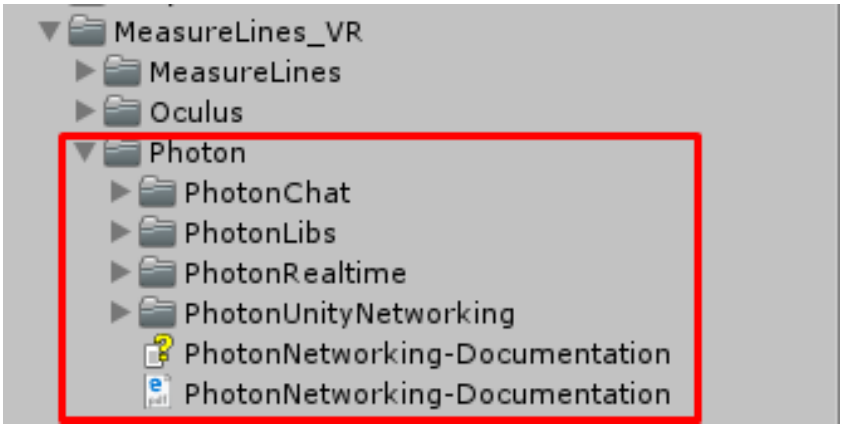


If you are integrade into exist project, please drag the toucher prefab to one of the Controller. Then it will work, if you need to use a raw teleport function, please assign Camera Rig Transform and Camera Transform from scene.



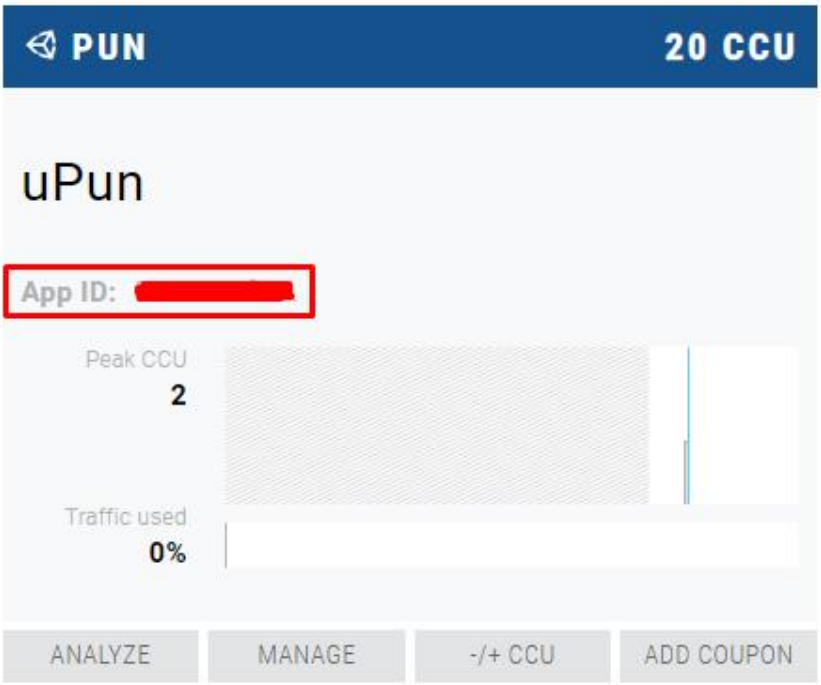
Part 2: For VR Multiplayer

From Measurelines_v1.4.8, It has include a version of photon pun2 for multiplayer.

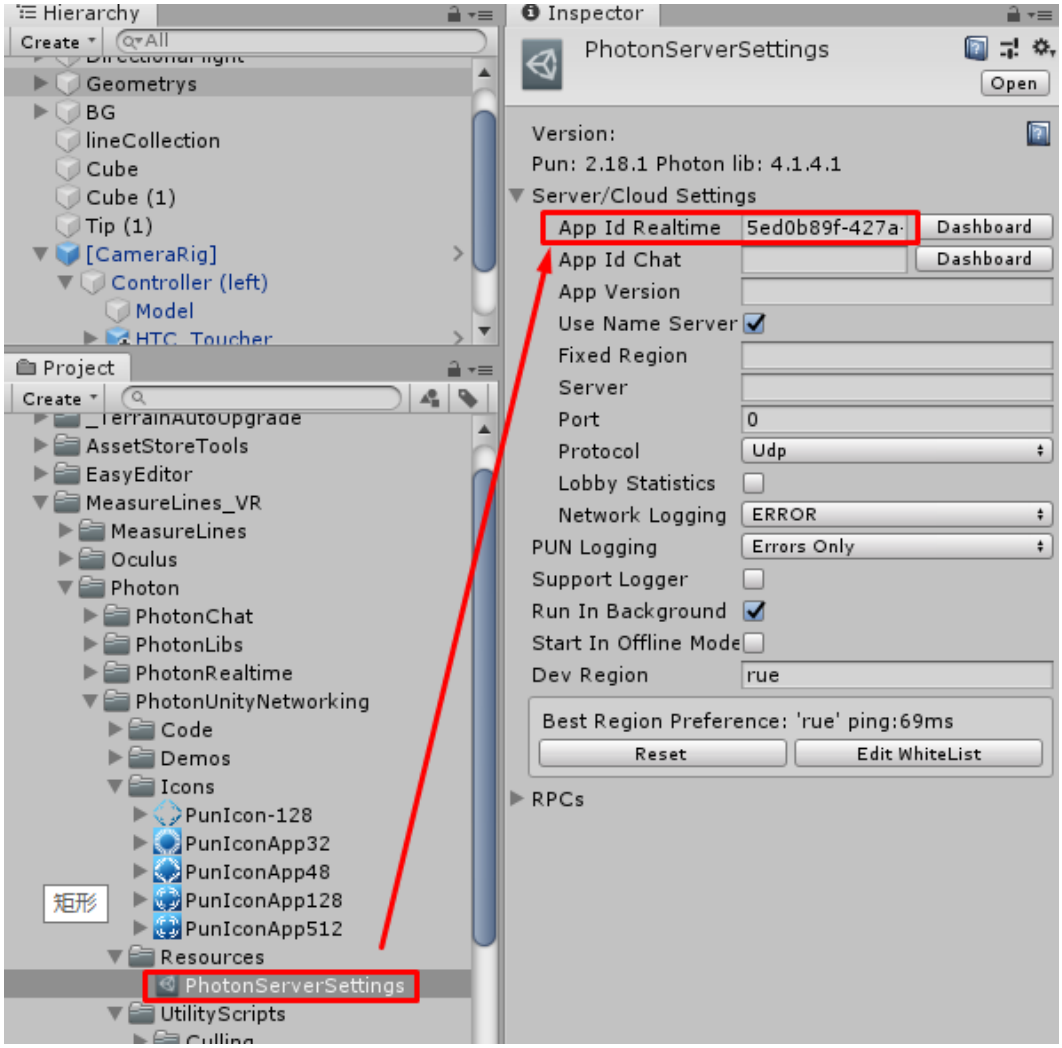


First, you need to you to photon developer website and register a developer account and create a new project, then find the AppID

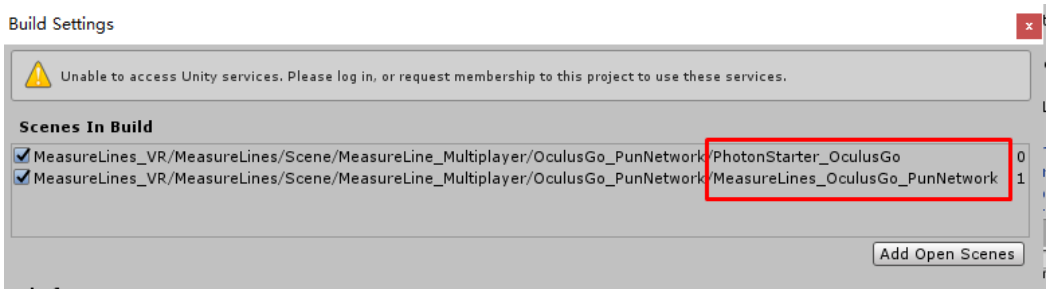
https://dashboard.photonengine.com/Account/SignIn?ReturnUrl=%2fen-US%2fpubliccloud



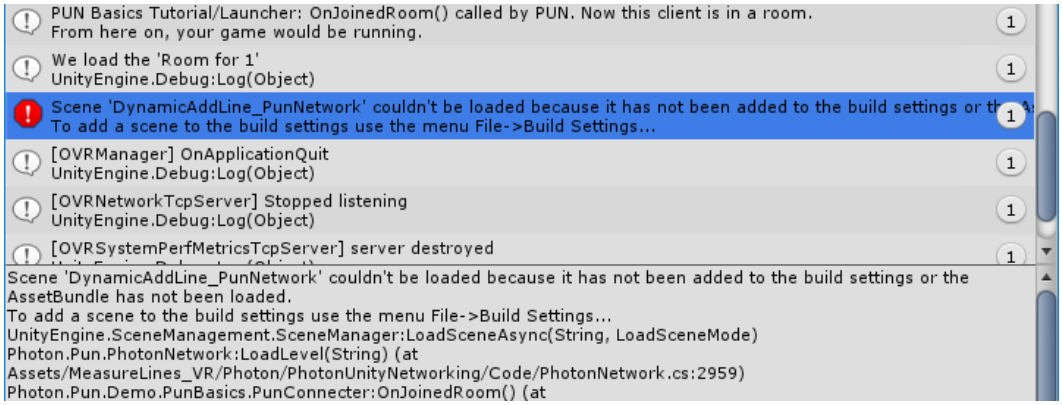
Copy and paste the AppID into your PhotonServerSettings



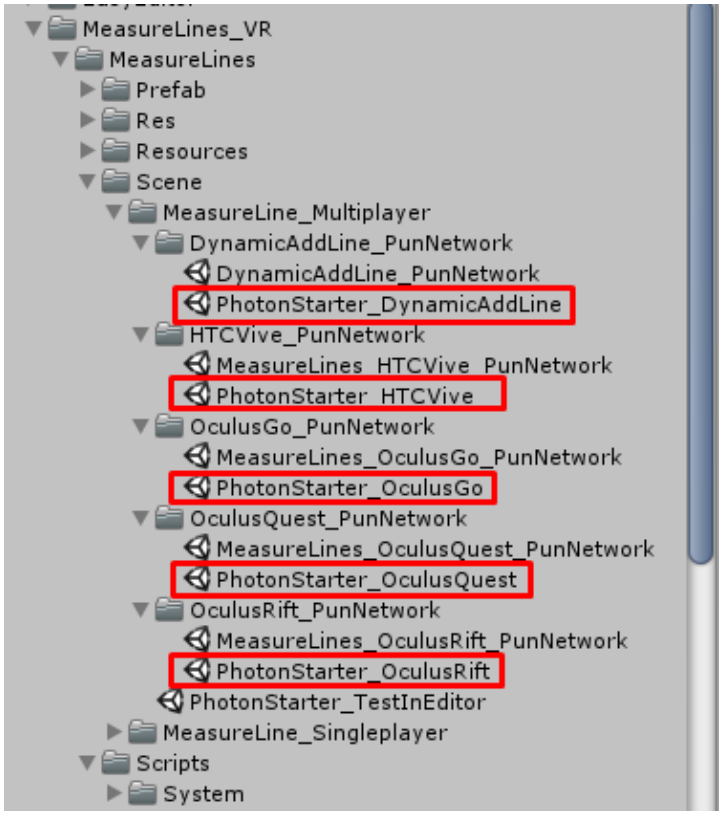
Add multiplayer scene you want to play in Build Setting.



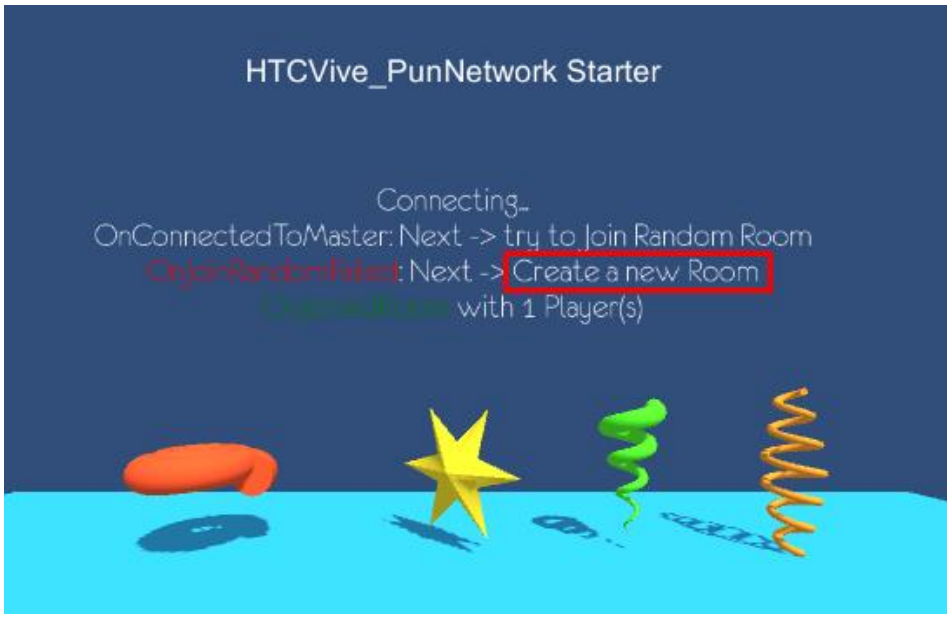
Or you will meet this error



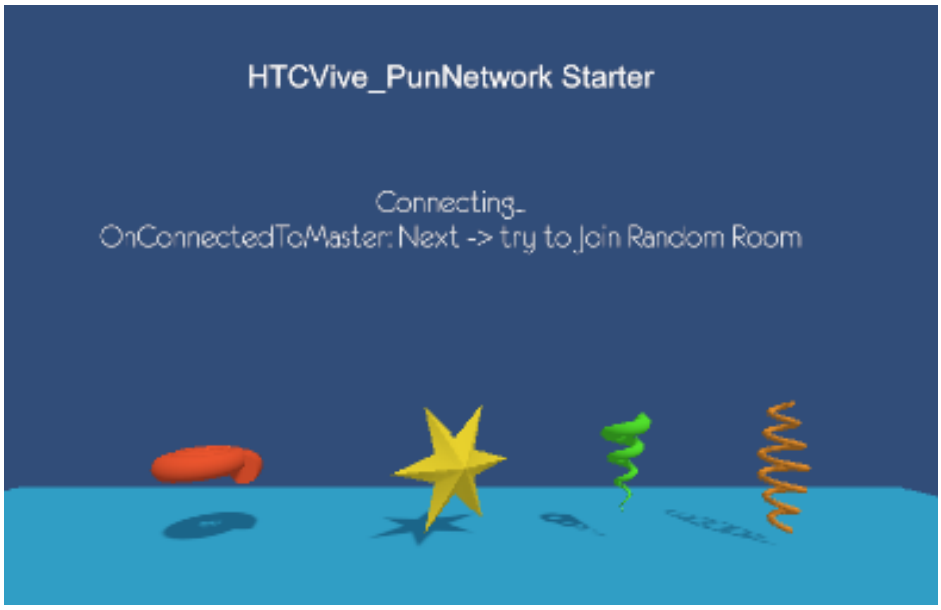
Then you can open corresponding Starter for multiplayer.



For example, you can open PhotonStart_HTCVive and press play, then if you see below “Create a new Room” mean you are the host.

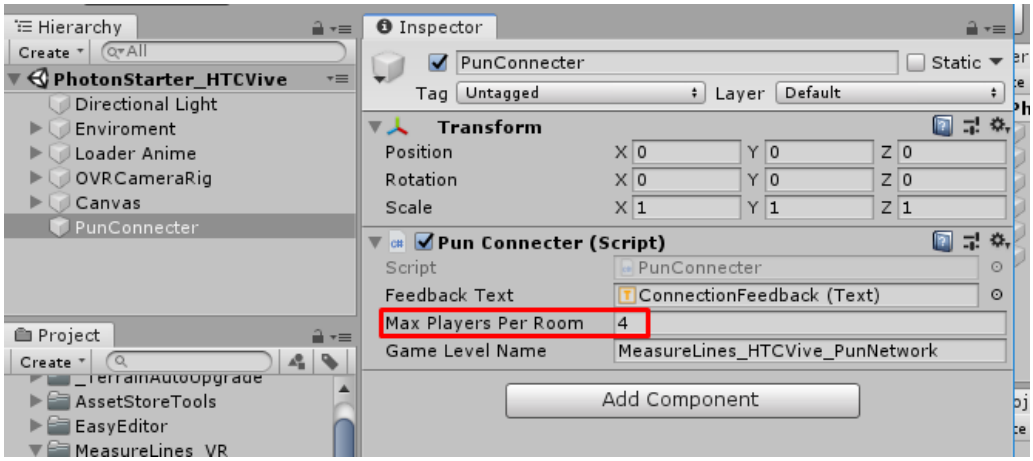


When the host is setup, the second user will show as below, Join Random Room



Now you can draw measureline with your friends.

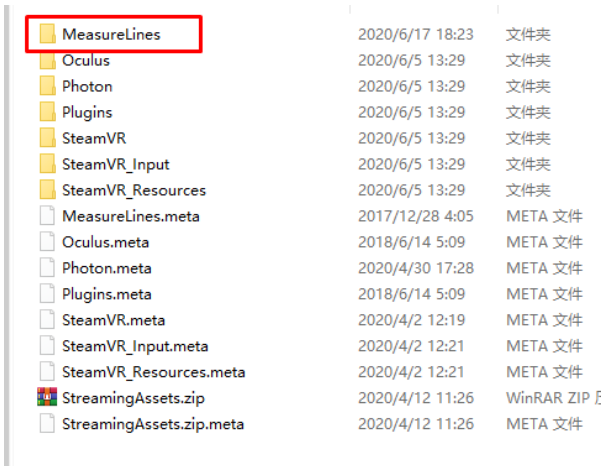
The default max player is set to 4, you can modify it or use your own custom start scene.



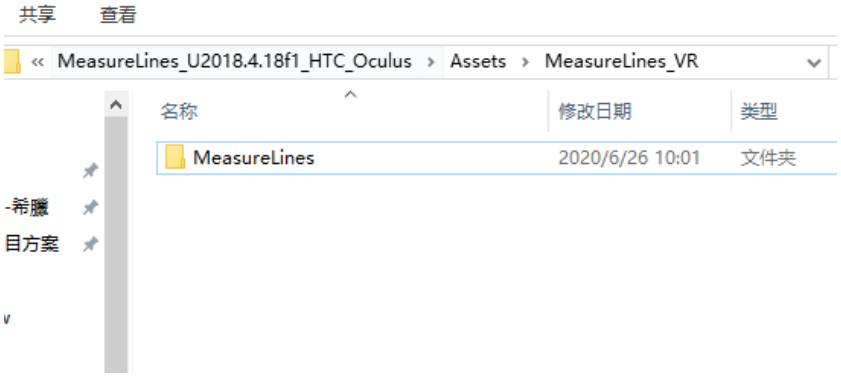
Part 3: For Non-VR mode

It need some modify for Non-VR mode.

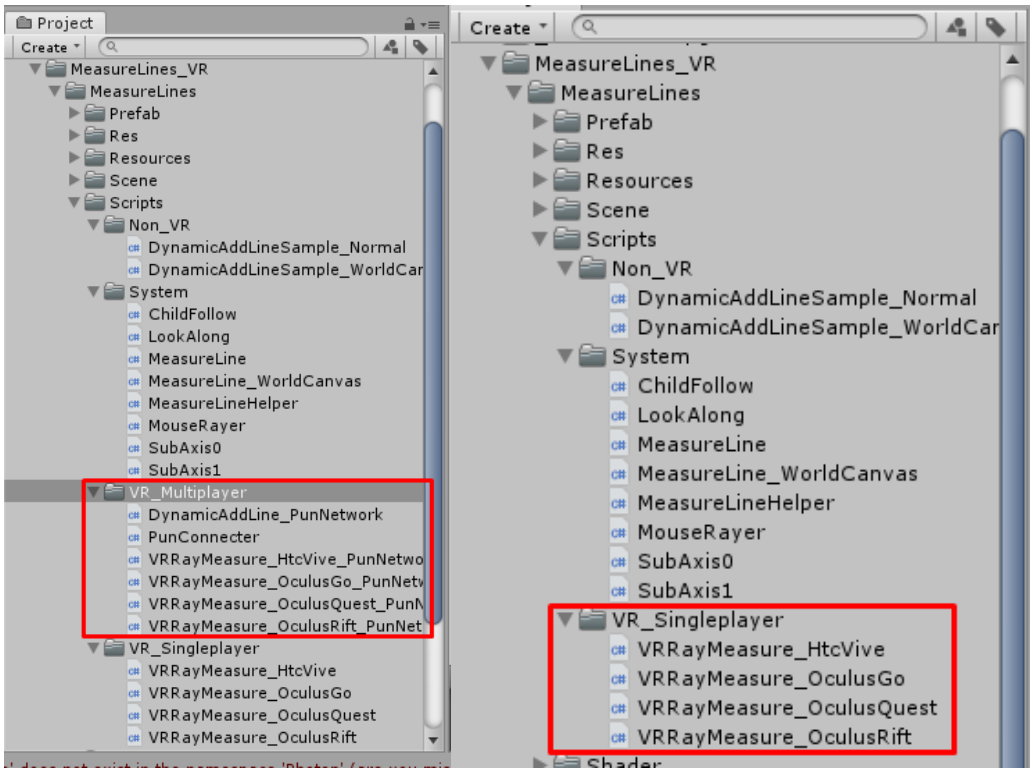
At First, please just import MeasureLine folder without others.



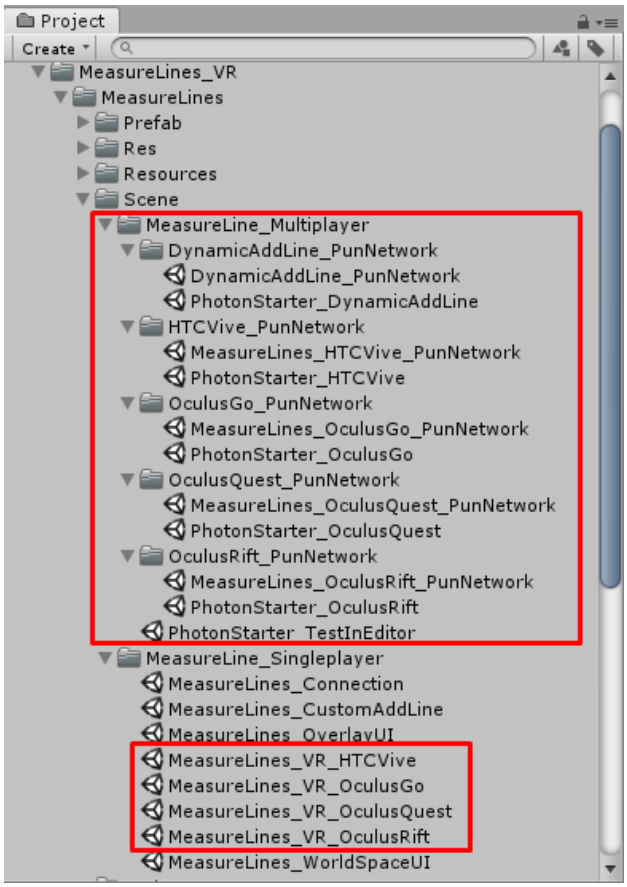
If you already import all folder from package, you need to close your project, then delete other folders, then open the project again.



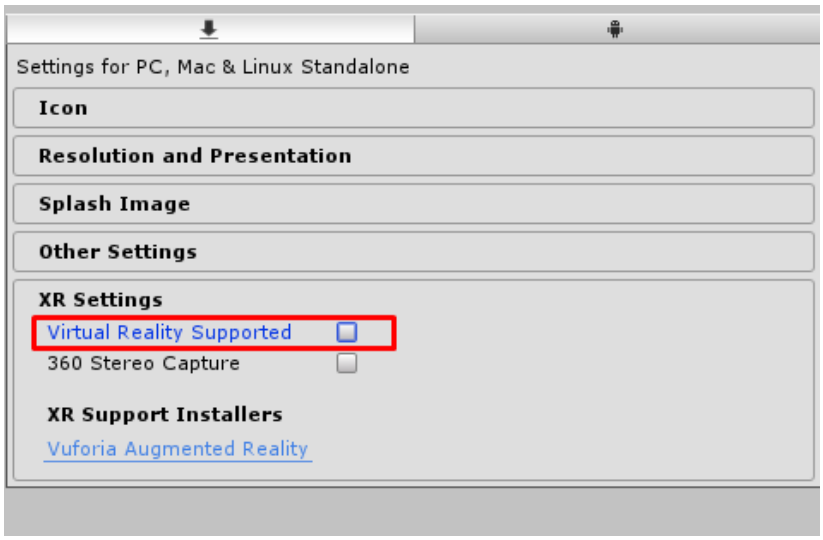
After that, you need to remove the scripts in folder VR_Multiplayer and VR_Singleplayer:



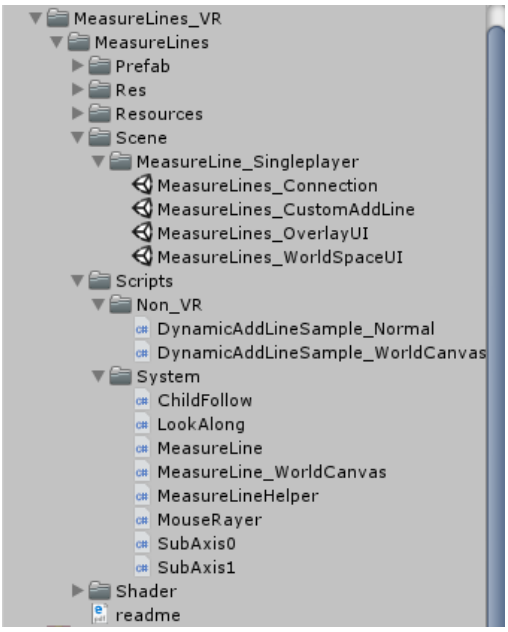
Continue to remove the VR scene



Then Disable Virtual Reality Supported in PlayerSetting -> XR Setting



At last, your folder should look like this:

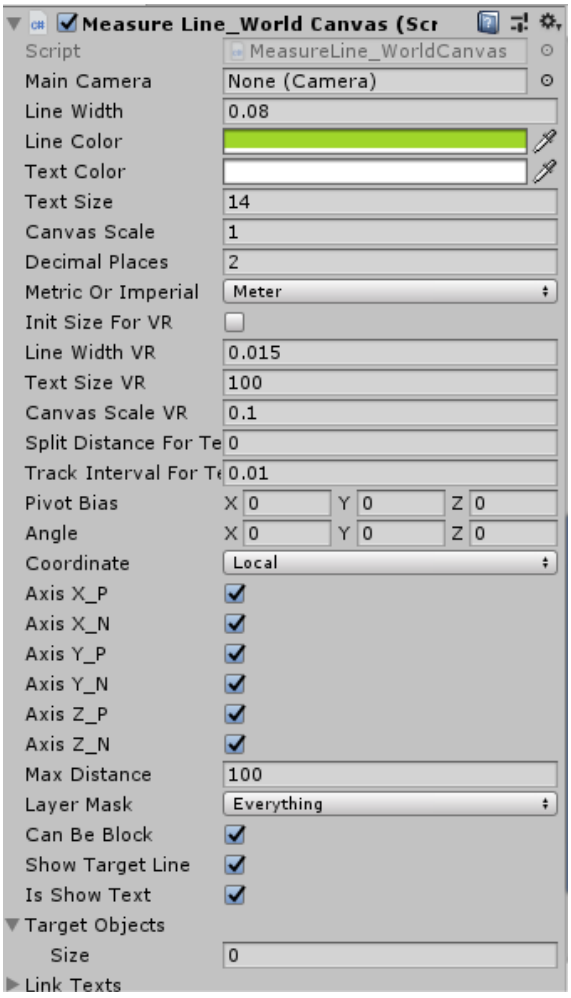


It is done.Please open the remain scene and run.

And please use MeasureLine_WorldCanvas.cs instead of MeasureLine.cs (will be Expired in future).

Details:

Below is description of scripts:



I will introduce the parameters of it:

“Line Width” : The line’s width show in game window.

“Line Color” : The line’s color.

“Text Color” : The distance text’s color.

“Pivot Bias” : The bias of line’s center,it’s the pivot of GameObject by default, but when you have a complex mesh, the pivot may need to adjust.

“Angle” : The angle you can modify to all lines, you can use custom direction instead of normal Up/Down/Right/Left/Forward/Back.

“Coordinate” : Local or World, it will affect “Angle” only. The lines and pivot center will rotate with object when it’s Local.

“AxisX_P” : Enable to show AxisX_Positive lines, Disable to Hide them.

“AxisX_N” : Enable to show AxisX_Negative lines, Disable to Hide them.

“AxisY_P” : Enable to show AxisY_Positive lines, Disable to Hide them.

“AxisY_N” : Enable to show AxisY_Negative lines, Disable to Hide them.

“AxisZ_P” : Enable to show AxisZ_Positive lines, Disable to Hide them.

“AxisZ_N” : Enable to show AxisZ_Negative lines, Disable to Hide them.

“Distance” : Lines will be show only when distance below this value.

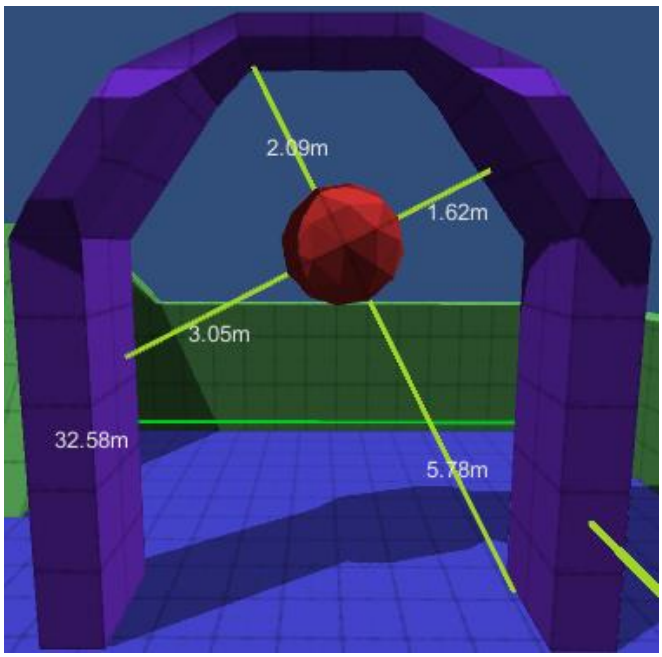
“LayerMask” : Sometimes we need to ignore some objects to measure the distance.

“Show Target lines” : Whether show lines between this object to targets or not.

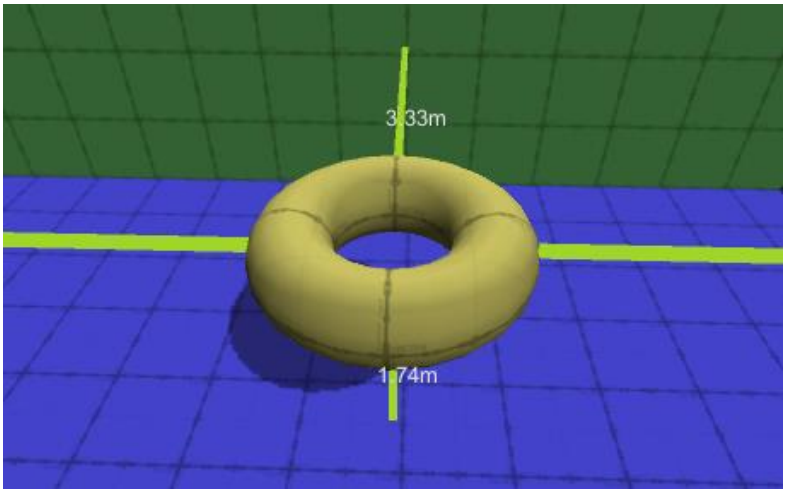
“Can Be Block” : Can the line between this object to targets be block by collider.

“Target Objects” : Distance can be measure by set target objects(Support change in runtime).

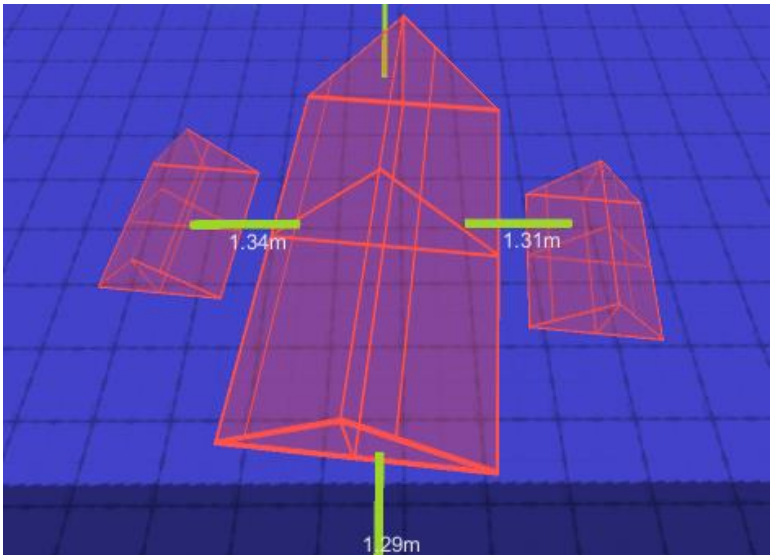
Let’s explain the Demo Scene:



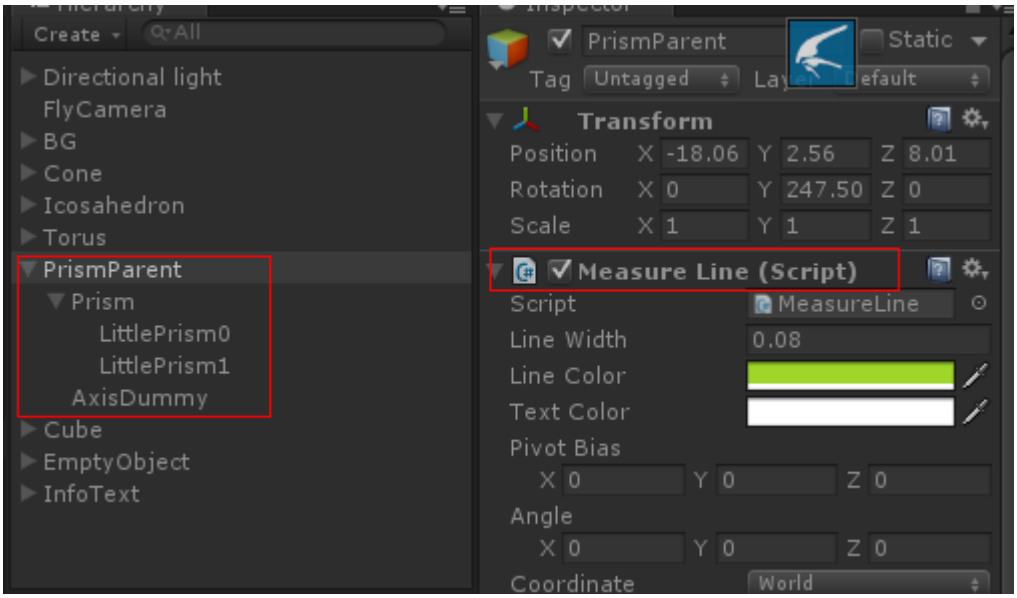
This Icosahedron show how to use local coordinate. When in local coordinate mode, the line will rotate and move with the object.



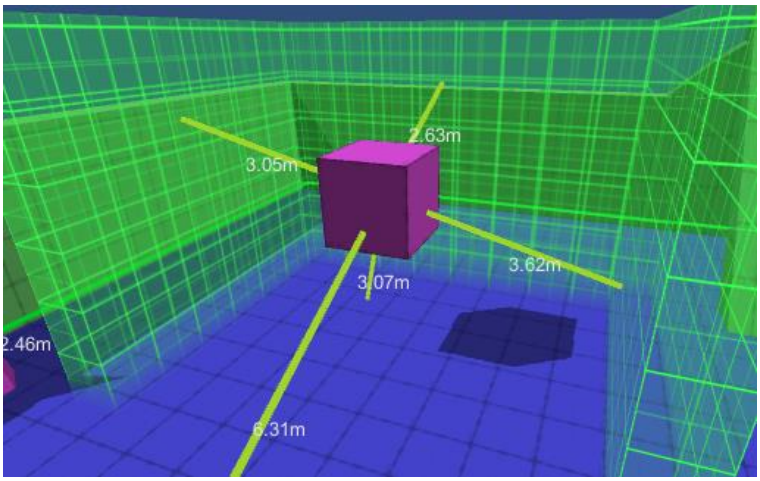
This Torus show the line will auto adapt the change of object's scale.



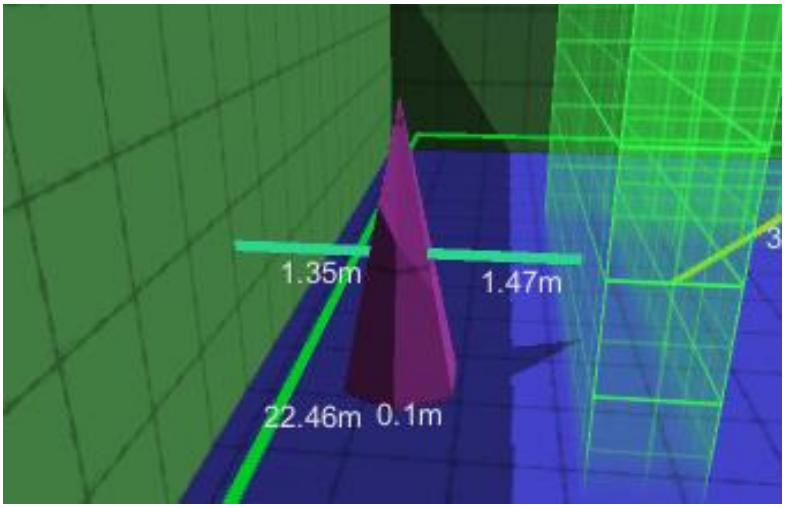
Two little prisms is the childs of Big Prism,and the MeasureLine.cs is attach to parent of them. And it use world coordinate mode,so the lines will not rotate with object, but still will move with it.



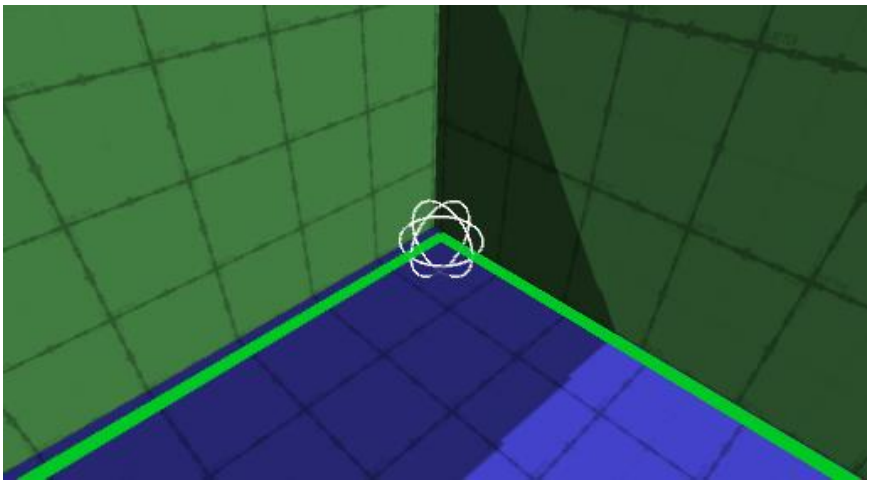
You can use a empty object to be the parent, and all child's collider can combine.



This one show how the "Angle" work,This cube is not rotate and you can adjust rotation of Lines through Angle parms.You can use "Pivot Bias" to move the center of line as well.

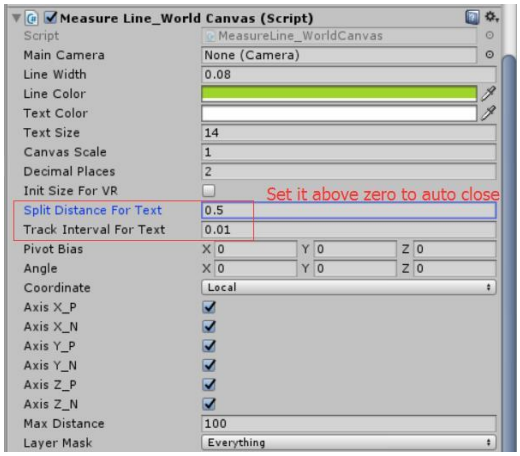


This little one show how to use "Distance", it's distance is set to 5,so the lines will only appear when get very close to other objects.



This one show Use it on an empty object, and disable some lines.

Text Auto Close To Camera:



If a measureLine is too long, the text will be so far and user can't see the text, so there are a new feature for this: Text can keep themself close to MainCamera automaticly.

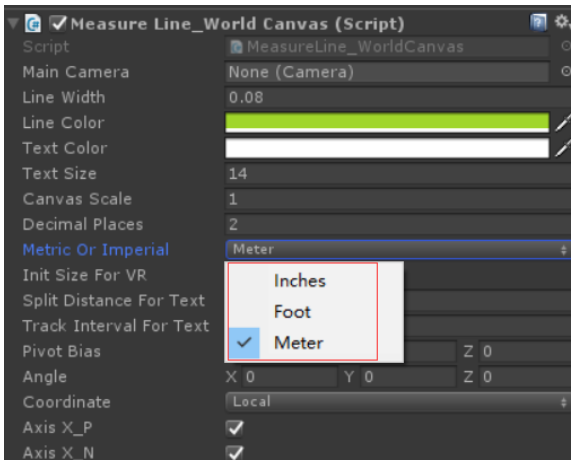
Set Parameter: "**splitDistanceForText**" and "**trackIntervalForText**":

"splitDistanceForText" is what distance to use to divide of a line(for prepare position for find closest one). It is suggest to **above 0.1f.**

"trackIntervalForText" is interval time when a uiText is update it's position for close you. It is suggest to **above 0.01f.**

The default "splitDistanceForText" is zero, so it will not try to close user automaticly. So set it when you need it.

About Meter / Foot/Inches:



API for custom draw:

You can use below api to draw or delete line:

1. MeasureLine_WorldCanvas.cs

static public void AddLine(Transform obj1, Transform obj2, bool InitSizeForVR, bool canBeBlock, bool onSurface)

static public void DeleteLine(Transform obj1, Transform obj2, bool onSurface)

static public void DeleteLine(Transform obj, bool onSurface)

static public void DrawLine(Transform newTarget, bool InitSizeForVR, bool canBeBlock, bool onSurface , bool threeAxis)

static public void EndDrawLine()

static public void DeleteAllLines()

2. MesureLine.cs (will be Expired in future)

static public void AddLine(Transform obj1, Transform obj2, bool canBeBlock, bool onSurface)

static public void DeleteLine(Transform obj1, Transform obj2, bool onSurface)

static public void DeleteLine(Transform obj, bool onSurface)

static public void DrawLine(Transform newTarget, bool canBeBlock, bool onSurface, bool threeAxis)

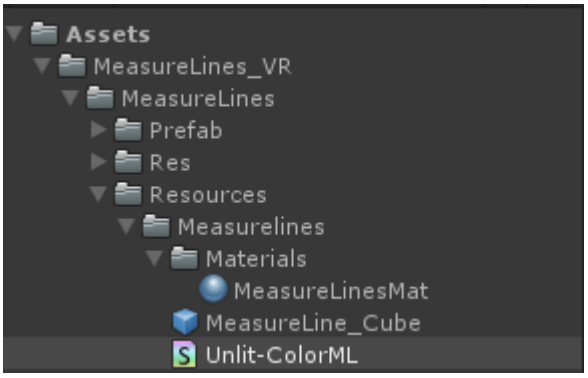
static public void EndDrawLine()

static public void DeleteAllLines()

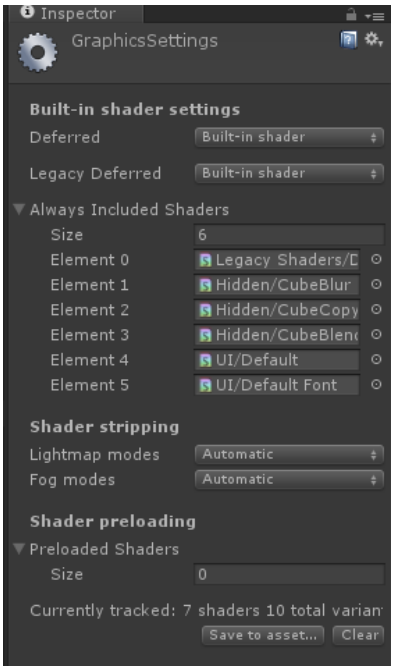
From v1.5.0, the line's material and model exposed to be modified as you wish.

```
mat = Resources.Load("Measurelines/Materials/MeasureLinesMat", typeof(Material)) as Material;
//mat = new Material (Shader.Find ("Unlit/ColorML"));
mat.color = lineColor;

line_R = (Instantiate(Resources.Load("Measurelines/MeasureLine_Cube", typeof(GameObject))) as
```



The measure lines use a Unlit shader, if you meet display problems, you can open Graphics Setting(Edit->Project Setting->Graphics) to ensure the shader is included.



That’s all, wish you have a good time.

If you have any problems or want to share your opinions, you can email me:

unicoea@gmail.com

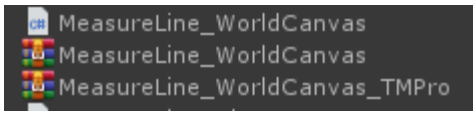
Version:

V1.5.1 ChangeLog

-Add edge detection mode.

V1.5.0 ChangeLog

-Add a new version of measureline_worldcanvas which support TMPro.



-Add some static parameter for change in runtime.

MeasureLine_WorldCanvas.StaticLineColor = Color.white;

MeasureLine_WorldCanvas.StaticTextColor = Color.white

MeasureLine_WorldCanvas.verticalOrHorizontal = true;

-Expose line material and model for user customize advanced effects.

V1.4.9 ChangeLog

-Add a new magicwand mode for drawline.

-metricOrImperial and font size can be adjust in VRRayMeasure now.

V1.4.8 ChangeLog

-Add Multiplayer Mode.

-Add metric to imperial to VR script.

V1.4.7 ChangeLog

-Add support for Oculus Go.

-Remove the VRKT, use new steamVR instead.

V1.4.6 ChangeLog

-Add support for Oculus VR.

-Add a new sample scene for connection between objects.

-Add “Km” to measurement.

-Fix some bug.

V1.4.5 ChangeLog

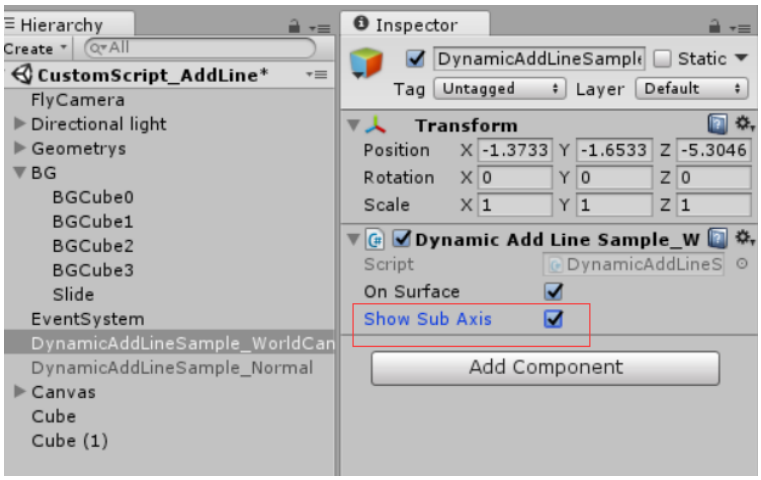
-Add Vertex Snap Ability(Switch Ray to green to activate it).

V1.4.4 ChangeLog

-Add ability to draw verticalOrHorizontal lines in VR mode by simple way.(hold right grip key).

V1.4.3 ChangeLog(hide in script for some reason, not all user need this):

-Add a new parameter to DrawLine() function: bool threeAxis, sometime user need to display not only one line of two object, but also need to know the XYZ projection of a distance.



-Modified sample script, more perfect.

V1.4.2 ChangeLog:

-More convenient sample script.

-Add Delete All Lines Function.

V1.4 ChangeLog:

-Now VR-Ready. Support HTC Vive and Oculus VR.

-Optimized code for display a lot of texts.

-Change sample script for convenient use.(Draw line one by one when user click continuously)

V1.3d ChangeLog:

-Add support to drawline on the same object!

-Fix some bug on delete surface line.

V1.3c ChangeLog:

-Add Support Metric Or Imperial.

-Support “OnSurface” Measure Lines.

V1.3b ChangeLog:

-Add Support for Add MeasureLine with Custom Script. It can be use to add line, delete line between objects.

V1.3 ChangeLog:

-Add Support for VR (new MeasureLine_WorldCanvas.cs)

-Text can keep themself close to MainCamera automaticly.

-Upgrate OnGUI() to UGUI for origin MeasureLine.cs

V1.2d ChangeLog:

-Fix compatible with Unity5.4.3 and up(line display issue)

V1.2c ChangeLog:

-Add an editor customize interface support for target objects.

V1.2b ChangeLog:

- Now can measure distance from an object to others.
- Add support to modify target objects in runtime.
- Add support to Enable/Disable MeasureLine in runtime.
- Disable display text when lines behind main camera.
- Fixed some other Bugs.

V1.2a ChangeLog:

-Can enable/disable to all six axis now.

V1.2 ChangeLog:

- Line width/Color, Text Color.
- Pivot Bias/ Angle/Coordinate adjustment.
- distance and layermask selector.

V1.1 ChangeLog:

- show and hide lines by Axis.
-Fix line’s length bug.

V1.0 Changelog:

-Init complete the six direction mesh line.