This document will help you with the setup of the project. This is focused in building for Oculus (Quest), but it should also work for other VR, as this project uses XR Interaction Toolkit.

I am using Unity 2019.4.4f1 and the 3D template (non URP, but it should also work for URP/HRP, you just need to convert the materials).

After downloading and importing this asset, you will notice a lot of errors. Don't panic! That's because we still have a couple of things to import.

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Clear Collapse Clear on Play Clear on Build Error Pause Editor			Q 0 A 0 () 68
[15:40:43] Assets\VR Classroom\Scripts\XRGrabbablePunOffso	et.cs(77,10): error CS0246: The type or namespace name 'PunR	PC' could not be found (are you missing a using direction	ve or an assembly ^ 1
15:40:43] Assets\VR Classroom\Scripts\Whiteboard.cs(126,6):	error CS0246: The type or namespace name 'PunRPCAttribute'	could not be found (are you missing a using directive o	r an assembly rafe
(15:40:43] Assets\VR Classroom\Scripts\Whiteboard.cs(126,6):	error CS0246: The type or namespace name 'PunRPC' could no	ot be found (are you missing a using directive or an asso	embly referenc ²)
[15:40:43] Assets\VR Classroom\Scripts\PlatformManager.cs(1	12,6): error CS0246: The type or namespace name 'PunRPCAttr	ibute' could not be found (are you missing a using direc	tive or an assemb
[15:40:43] Assets\VR Classroom\Scripts\PlatformManager.cs(1	12,6): error CS0246: The type or namespace name 'PunRPC' co	uld not be found (are you missing a using directive or a	n assembly refere

A) Setup for Quest: Let's begin!



3. Open player s

3. Open player sett	ings	Platform □ PC, Mac □ PC, Mac □ Android ■ Univers IVOS tvOS Pra PS4 IOS IOS ☑ Xbox Or ☑ WebGL	s	Android Texture Compression ETC2 fallback Export Project Symlink Sources Build App Bundle (Google Play Create symbols.zip Run Device Development Build Autoconnect Profiler Deep Profiling Script Debugging Script Sonly Build Compression Method	Ad Don't overric 32-bit Default devi Patch LZ4 Leam about L uild
4. Fill your great company name.	Audio Editor Graphics Input Manager Physics 2D Player Preset Manager Quality Script Execution Order Tags and Layers TextMesh Pro	Player Company Name Product Name Version Default Icon		GoodName VRxARTest 0.1	None (Texture 2D) Select None (Texture 2D)
 5.Go to "Other Settings", and select Linear space. Also select Vulkan and take it out of the list with the "-" sign, so only OpenGLES3 is left. 6. Finally, in the Minimum API Level, chose 7.0/ lv 24. 	bn Order ers Minimum Target A Scripting Api Comp C++ Com Use incre Mute Oth Target A ARMv ARM6 Split APK	esolution and Presenta plash Image ther Settings dering r Space* Graphics API oblics APIs ulkan openGLES3 //ersion Code n API Level PI Level ration g Backend patibility Level* mpiler Configuration emental GC ner Audio Sources* rchitectures 7 64 Ks by target architecture	tion G. O.1 1 Android 4.4 'I Android 4.4 'I Android 4.4 V Android 5.0 'I Android 5.1 'I Android 5.1 'I Android 5.1 'I Android 7.0 'I Android 7.1 'I Android 8.0 'V Android 8.1 'I Android 8.0 'V Android 8.1 'I Android 9.0 'I Android 9.0 'I Android 9.0 'I	amma Gamma Linear Linear KitKat' (API level 19) / 'KitKat' (API level 19) / 'KitKat' (API level 20) Lollipop' (API level 21) Lollipop' (API level 22) Marshmallow' (API level 22) Marshmallow' (API level 22) Nougat' (API level 22) Oreo' (API level 25) Oreo' (API level 26) Oreo' (API level 28)	+

B) Let's Import stuff! (and get rid of errors)

 Go to the Asset Store tab, search for "Pun 2" and import the free version.



2. After that, import Photon Voice 2 (free).



photon voice

×

🚭 unity Asset Store

3. Go again to the project settings tab (File>Build Settings>Player Settings) go to XR Plugin management and Install XR Plugin management, yes, click that button!



FREE

4. Go to Window>Package Manager.

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:	Asse	t Store	Ctrl+9	
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 In the package manager, check "Show preview packages" under Advanced.

Ad	vanced -	
	Reset Packages to defaults	
~	Show dependencies	
	Show preview packages	
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6. And now Search for "XR interaction" and install the XR Interaction Toolkit with the "install" button at the lower right corner.

J



7. Finally import the "Animation Rigging" package, that will handle the avatar IK.



At this moment you should not have errors in the project. Cool!

C) Setting up Photon

Photon is a free (until certain big limit) networking solution for Unity, and in my personal taste, the best one around.

1. Go to <u>www.photonengine.com</u> and create an account if you don't have already.

2.	Click on CREATE NEW APP	Your Photon Cloud Applic			
		Show			in Status
		All Apps	~		Active
		CREATE A NEW	/ APP		I
3.	Set the type to PUN				
		Photon Typ	e *		
4	Put a name to your ann	Photon PUN			
4.	and hit Create.	Name *			
		Your Greate	APP Name		

5. Find your app in the list and double click on the App ID and copy it, we need to fill this ID in Unity.

& PUN		20 CCU
Your Gr	eate APP Name	
App ID: 0a9bf	d24-785b-4072-80ed-aceec34c.	
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6. Go back to unity and search for	
PhotonServer	Animator
and click on it.	Search: All In Packages In Assets 'Assets' Asset Store: 270
	PhotonServerSett

7. Paste your app id in these three places and save your project.

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		PhotonServerSettings		0 ‡ \$
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	<u></u>	Version:		1
	× Z	Pun: 2.20.1 Photon lib: 4.1.4.4		
		▼ Server/Cloud Settings		
•		App Id Realtime	0a9bfd24-785b-4072-80ed-aceec3403bcd	Dashboard
		App ld Chat	0a9bfd24-785b-4072-80ed-aceec3403bcd	Dashboard
		App Version	0a9bfd24-785b-4072-80ed-aceec3403bcd	
		Use Name Server	\checkmark	
		Fixed Region		
		Server		

Photon's Setup Ready!!

D) Setting the scenes and XR Settings: we are almost there!

1. Search for the 2 scenes included in the package going to VRCrossAR>Scenes and drag them to the build settings in the correspondent order.

It should look like this:

Build Settings		x
Scenes In Build		
VR Classroom/Scenes/Lobby		0
VR Classroom/Scenes/Classroom		1
		Add Open Scenes
Platform		
PC, Mac & Linux Standalone	ii Android	
🚎 Android 😽	Texture Compression	Don't override 👻

2. Open the Classroom scene, and you should see something like this:



3. Now go to project settings again (Edit>Project Settings) and in the XR Plugin Management check your desired platform, in my case, Oculus (in android tab for quest).

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y a	Audio Burst AOT Settings Editor	XR Plug-in Ma	nagement		
	Graphics		P		
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ersp		Plug-in Providers			
		ARCore Coulus Unity Mock HMD			
	Time				
	VFX ▼ XR Plug- in Manageme Oculus		juration, tracking and migra	tion can be found below.	

We have everything needed in our project at this time, we should now do the Builds!

E) Teacher VR build (Oculus Quest)

1. Select the Manager Game Object in the scene, and in the dropdown select "Teacher".



2. In project settings>XR Plug in, make sure you have Oculus checked in the android tab.

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Ý.	Audio Burst AOT Settings Editor	XR Plug-in Management	
×>	Graphics	모 👘	
< Persn	Input Manager Physics	Initialize XR on Startup	
(reisp	Physics 2D Player	Plug-in Providers	
	Preset Manager Quality Script Execution Orde Tags and Lavers	ARCore Coulus Unity Mock HMD	
	TextMesh Pro		
	VFX	Information about configuration, tracking and migration can be found below	
	XR Plug-in Manageme Oculus	View Documentation	

3. Connect your Oculus Quest headset and Build! (If a Text mesh pro window appear, cancel the build and "Import TMPro essentials, then start building again).

Mesh data optimization - Resolving used channels

Red Beam - Legacy Shaders/Diffuse - Pass 0: Stripping Vertex programs



We are in VR!!

Cancel



D) Student Build (VR)

 Select the Manager Game Object in the scene, and in the dropdown select "StudentVR".



2. In project settings>XR Plug in, make sure you have Oculus checked in the android tab.

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	TextMesh Pro		
	l ime VEX		
	▼ XR Plug-in Managem	Information about configuration, tracking and migration can be found below.	
	Oculus		

3. Connect your Oculus Quest headset and Build! (If a Text mesh pro window appear, cancel the build and "Import TMPro essentials, then start building again).





We are in VR as a student, and we can hear the teacher giving his/her class!



D) Student Build (Phone)

 Select the Manager Game Object in the scene, and in the dropdown select "StudentPhone".



2 In project settings>XR Plug in, make sure you have Oculus **NOT** checked in the android tab.

y Audio Burst AOT Settings	XR Plug-in Management
x Z Graphics Input Manager Physics	Initialize XR on Startup
✓ Persp Physics 2D Player Preset Manager Quality Script Execution Ord Tags and Layers	Plug-in Providers ARCore Oculus Unity Mock HMD
▼ TextMesh Pro Settings Time VFX ▼ XR Plug-in Manager	Information about configuration, tracking and migration can be found below.

3. Connect your Android phone r and Build! (If the device is not detected, make sure you have developer mode enabled, and USB Debugging enabled).

Mesh data o	ptimization - Reso	lving used cha	nnels	
				Cancel
Red Beam - Lo	egacy Shaders/Diffu	se - Pass 0: Strip	ping Vertex pr	ograms

ile	Edit	Assets	GameObject	Compor	nei
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	Exit				

We can attend the class with our phones!



E) Last but not least, importing slides as teacher (Oculus Quest)

There's a "LoadSlides.cs" script attached to Manager game object in the scene, wich handles loading png files loaded in the device.

	▼ Observed Components (0)		Find
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	Script	LoadSlides	
а:	Quad	思TeacherScreen (Mesh Renderer)	\odot
¢\$20			
		Add Component	

1.You need to name the slides you want to load as "1.png", 2.png", 3.png" etc.

2. Then, connect your Oculus Quest, and drag them to the path:

This PC\Quest\Internal shared

storage\Android\data\com.YourCompany.VRClassroom\files





If you have any other questions/issues, don't hesitate to write to chiligamesco@gmail.com