



Virtual Reality (VR)

USER MANUAL v.1.0

A step-by-step guide to installing a virtual reality system on a Windows PC





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Installing and setting up the "Mixed Reality Portal"

After connecting the VR headset to the computer via USB 3.0 and HDMI, a screen will appear prompting the user to install an application called "Mixed Reality Portal", which manages Microsoft's virtual environment.



Clicking "Get the app" (*) redirects the user to the Microsoft Store, where the "Mixed Reality Portal" application can be installed.

rosoft Store		-		;
Home Gaming Enter	ainment Productivity Deals	,∕⊂ Search	8	
You own thi	app.	Install		
C.	Microsoft Corporation • Entertainment Let Share Discover Windows Mixed Reality and dive into more than 3,000 games and VR experiences from Steam ®VR and Microsoft Store. Get extraordinary access to live sports and entertainment and connect with others in the ultimate high-octane VR gaming More			
	Overview System Requirements Reviews Related			
Available on				
PC				
Description				
Discover Windows Mixed Re Steam ® VR and Microsoft St	ality and dive into more than 3,000 games and VR experiences from re. Get extraordinary access to live sports and entertainment and connect			

(*) Note: If the window prompting the user to install "Mixed Reality Portal" and the "Get the app" button do not appear upon connecting the device to the computer, the user must go to the Microsoft Store directly, search for the application and install it.



Once installed, open the application and the following screen will appear where the user must set up Windows Mixed Reality



After accepting the terms and conditions, the first thing that will take place is a system check, to ensure the system is compatible with Microsoft's virtual reality environment. To do this, the user's computer hardware will be analysed.



In the best of circumstances, the machine will be fully compatible with the technology (*"Good to go"*). This occurs when all of the test points pass the test without any problems or warnings.

¢	Your PC is	Good to go ready to run mixed reality games and experiences.	– – ×
	Graphics card	NVIDIA GeForce GTX 1060 6GB	\oslash
	Graphics driver	27.21.14.5671 (WDDM 2.7)	\oslash
the second se	СРИ	Intel(R) Core(TM) i7-9700K CPU @ 3.60GHz	\odot
	RAM	16 GB	\odot
the second se	Disk space	85 GB	\oslash
	USB	3.0+	\oslash
The second second	Bluetooth (for controllers)	4.0	\odot
Set up simulation (for developers)	Your PC looks good, but also need to make	keep in mind that performance may vary depending on your exact setup. sure your PC has the right ports for the headset you choose. <u>Learn more</u>	You'l Next

In cases where the computer is not 100% compatible with the technology (*"Supports some features"*), the system will work, but the user may experience bugs as the hardware does not meet all the requirements.

\			— — ×
	Supports some	features	
	Your PC can run some mixed r	eality experiences.	
Graphi	cs card NVIDIA GeForce GTX 10	60 6GB	
Graphi	cs driver 27.21.14.5671 (WDDM 2.	7) 🥝	
CPU	Intel(R) Core(TM) i7-970	0K CPU @ 3.60GHz 🛛 🛇	
RAM	16 GB	\odot	
Disk sp	ace 85 GB	\odot	
USB	3.0+	\odot	
Blueton (for co	oth http://www.none	0	
	Depending on your headse adapter to use motion cont	t, you may need a Bluetooth roliers. <u>Learn more</u>	
	Learn more about cor	npatibility	
Set up simulation (for developers)			Next



Finally, there is the possibility that the computer is incompatible with the technology (*"Can't run mixed reality"*), and, therefore, will not be able to run any virtual reality applications.

		- 0
	Can't run mixed reality	
This PC doesn't m	eet the minimum requirements needed to run Windows Mixe	d Reality.
Graphics card	This PC's graphics card might work with Windows Mixed Reality, but it hasn't been tested yet. <u>Learn more</u>	0
Graphics driver	10.0.18362.1 (WDDM 1.0) This PC's graphics driver might not work well with Windows Mixed Reality. <u>Learn more</u>	\otimes
СРИ	Intel(R) Core(TM) i7-7700HQ CPU @ 2.80GHz This PC's processor might not work well with Windows Mixed Reality. Learn more	0
RAM	8 GB	\odot
Disk space	94 GB	\oslash
USB	1.0 Learn more about compatibility	8
		Next

Once the hardware compatibility check has been completed, the user can proceed to set up the virtual reality environment space.





The user should select the type of setup according to the position of the device. To follow this example, click the option "Set me up for seated and standing", which allows the user to stay in one place, either seated or standing.



To use this setup the user should point the headset towards the screen and click on the "Center" button so that the angle of the device can be calibrated correctly. If this process is not done correctly, the user may see the virtual environment in a different angle to that at which the headset is worn. For example, having the headset resting on a table at 0° and seeing the virtual reality environment inclined 90° to the right. If this problem occurs, the way to fix it is by performing a headset recalibration from the "Settings" menu in the mixed reality portal.

Once the internal tools required by the system have been installed and set up, the welcome screen appears and the user can begin using the portal.





2 Setting up controllers

When launching the portal for the first time, there is no bluetooth remote or controller linked to the application to be able to start interacting with the environment.



In order to set up a controller, go to options in the lower left corner and select "Set up controllers".





Depending on the type of virtual reality headset, the user will be asked to download an application from the Microsoft Store or a different store in order to set up and link controllers. In this case, since it is a Samsung HMD Odyssey+, the user is prompted to install the following application.

soft Store		- 0
Home Gaming Entertainme	nt Productivity Deals	P Search R
You own this app.		Install
ξ _{ζγ} ε	Samsung HMD Odyssey+ Setup Samsung Electronics Co. Ltd. • Utilities & tools ⊯ Share Samsung HMD Odyssey+ Setup PEGI 3 PEGI 3	Requires Windows Mixed Reality ▲ hardware. See System Requirements.
	Overview System Requirements Reviews Related	
Available on	Overview System Requirements Reviews Related Capabilities	
Available on	Overview System Requirements Reviews Related Capabilities Mixed reality	
Available on (P HoloLens)	Overview System Requirements Reviews Related Capabilities Mixed reality	

In this application, the user is shown, step by step, how to pair the controllers with the mixed reality portal.

← Samsung HMD Odyssey+ Setup	– 🗆 X
Let's connect	
Vour controllers are already set up. If you want to pair a different controller, select an existing one from the list below to remove it first.	
Left controller : Connected C Unpair Controller Bluetooth pairing	
Right controller : Connected C Unpair Controller	
SAMSUNG	Next



Once the controllers are linked, click "Next". A screen will appear with an image which briefly outlines the features of the controllers and how they interact with the mixed reality portal.



Once the pairing process has been succesfully completed, the controllers can be used for viewing and interacting with the mixed reality portal.





Installing BIMserver.center Virtual Reality

Once the entire setup process has been completed and the mixed reality portal is ready for use, the user can then proceed to install the BIMserver.center virtual reality project visualisation tool.



To access the Windows menu, press the button on the controller bearing the Windows symbol. Once the menu is visible, click on the "All" button using the rear trigger on the controller and the user will be able to see all installed applications in the portal.





Using the rear trigger and the various options on the menu, the user can browse the menu until they locate the "Microsoft Store", where the application can be installed.







Using the search bar, find the "BIMserver.center Virtual Reality" application.

Clicking on the application will display its description, where the user can "Get" and "Install" the application and start the process.





Once finished, the user will have the application installed in the portal and will be able to open it by clicking the "Launch" button.



The BIMserver.center Virtual Reality application will also appear in the Windows menu as a shortcut to launch the application.







The BIMserver.center Virtual Reality Application

Having installed the application, we are now going to show a little bit about how it works. Upon launching the tool the first thing the user will see is a login panel for the platform, to be able to access all the information of their projects stored on BIMserver.center

BIMserver.center	8
e-mail	
info@bimserver.center	
Password •	
•••••••••••••••••••••••••••••••••••••••	
Access now	



After logging in, a screen appears with a button in the upper left corner that takes the user to a list of all their projects.



In the project list, the user can browse all their projects stored on the platform and select the one they would like to examine in this new virtual reality environment that the platform has to offer.







After selecting and loading the project, the user will be able to view all the layers in the project, with the ability to toggle visualisation of not only the layers, but they can also view the set of the model's animations (if there are any).





Once the user has selected the visible layers, a help panel is always accessible from the lower left side, where a brief explanation of how to interact with the visible model in virtual reality is provided in a direct and concise manner.

5 Known errors

"I get an error asking me to check the display cable even though I have the USB cable in a USB 3.0 port and the HDMI cable plugged in."

+	- 🗆 ×
Check your display cable	
Make sure your headset's display cable is plugged in correctly.	
Error code: 1-4	
Learn more	
Send feedback about this error	

If what you are seeing is a screen with the following error message, the system is trying to indicate that you have the USB cable properly connected to a USB 3.0 port, but the HDMI cable is plugged into a HDMI port without a direct connection to the computer's graphics card, meaning the system will not work properly. In order to fix this problem, simply try removing the HDMI cable from its current port and plugging it into one which has this direct connection to the computer's graphics card.