

Mozilla Hubs UU demo 20210713

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in real life: Minnaert 011

in hubs: <https://hubs.mozilla.com/za2W5Wf/uu/>

Mozilla is a shared VR space where images, video and 3D objects can be shown. Scenery for the spaces can be created in the webbased program Spoke. In this webbased program and in hubs gITF objects can be imported as well. The demo uses International Art Gallery scenery with the space set for max. 24 people.

If you need help during the demo, please ask. Others might have similar issues.

server architecture

server: reticulum, elixir/phoenix based hubs server - self hosting possible
<https://hubs.mozilla.com/docs/system-overview.html>

client architecture

client: hubs, nodejs client with physics simulation - it can be customized
The hubs client runs in a recent javascript capable graphical browser, either on a mobile device, a laptop or desktop or a VR device

oculus quest headset

There are three straps, the main strap above and on the sides, you can adjust according to the shape of your head.

You can slip the rubber band behind the base of your skull.

On the headset the power button is located on the right. The volume buttons are located on the bottom right.

oculus quest browser

The oculus quest is an android device with arm processor and gpu, facebook build a VR interface on top of Android where you can access settings, the internet, your apps or the store. Compiled apps (for example build in Unreal Engine) can also be sideloaded through usb and javascript apps can run in VR mode in a browser.

Mozilla Hubs is a javascript app which loads from a reticulum server.

movement

You can look around you. The headset has built camera's, with detection of the room 6DOF so in theory you could move around the room, but as you would bump into each other the movement is restricted in a vertical 1 meter wide cylinder, so stay in your place, either seated or standing. To center the virtual space press and hold the O button on the Right controller for a few seconds.

On the Oculus Quest 1 there's a built-in browser, the hubs url is bookmarked.

To go to the browser briefly tap the O button with the thumb on the Right controller, the universal menu opens.

Point and click the middle option, a 3x3 raster icon, with the laser pointer and trigger button, you can use the index finger

Choose the Browser icon.

In the browser there are 3 vertical dots in the upper right, select it with the laser pointer and the trigger button

Select bookmarks, select UU demo Hubs and enter the room.

To move in Hubs you can look at a spot on the floor and laser point and click with a trigger button, either with the Left or Right controller

To rotate the view 90 degrees left or right you can use the Right joystick with your thumb

sound

There is echo cancellation build in, but as we are in the same room it can be annoying to hear voices twice. Unless I ask I leave it up to you, the microphone and speakers are on by default.

You can mute your microphone in Hubs by looking up in VR and point and click the microphone icon.

You can turn off the speakers by using the physical minus/plus volume buttons on the right bottom of the headset.

Hubs works with a standard browser (firefox, chrome, safari or edge) works as well

Use arrow keys for forward and backward

Use Q and E for left and right rotation

Social alternatives

There are more involved alternatives for the Quest

* BigScreen (optimized for shared video or 3d video viewing)

* VRChat (optimized for avatars)

* AltspaceVR

* NeosVR (a paid app, VRChat done better, can be selfhosted if paid for)

* Facebook Horizon (in beta, only available in the US)

For SteamVR there are multiuser and multiplayer applications that can be used for social gatherings. The environments usually look more realistic. For example The Forest, Half-Life: Alyx and RobloxVR.