

## SYSTEM REQUIREMENTS

### HARDWARE

Recommended computer hardware

Graphics: nvidia GTX 1070 or GTX 1070 Ti

Processor: Current generation i7 or i5

Memory: 16GB or more

Hard drive: SSD

### Example PC configurations

Desktop: Acer Predator G3-710 (SKU (DG.E08EQ.060)

Laptop: Asus ROG Strix GL502VS 15,6" (SKU GL502VS-GZ227T/R / GL502VS-GZ227T)

### Internet Connections and OS

Reliable Internet connection (all participants): Cable or 4G/LTE preferred.

OS: Windows 10 (version 1703 or later)

OS: macOS High Sierra 10.13

### Recommended VR and Audio gear:

HTC Vive with a) HTC Vive Deluxe Audio strap or b) Good quality closed headphones without microphone

Oculus Rift (gear includes audio devices)

Windows Mixed Reality with headset with microphone

### VR Device Instruction Videos

HTC Vive: <https://vimeo.com/264976652/d91e7b90b0>

Oculus Rift: <https://vimeo.com/264976758/ddcfc75d85>

Windows Mixed Reality: <https://vimeo.com/264976703/8db3880574>

## IT POLICY AND FIREWALL CONFIGURATION

The client application communicates using HTTPS with the following servers that must be whitelisted:

app.glue.work

glue.eu.auth0.com

limu.fake.fi

rink.hockeyapp.net

For the real-time session network traffic, the client application requires permissions for both incoming and outgoing TCP and UDP traffic.

The outgoing ports used by the client application are assigned by the user's operating system and are not statically assigned.

**NOTE!** If you require precise IP and port information at the server end, please contact support so we can statically allocate server resources for you.

## SETUP AND INSTALLATION

### INSTALLING STEAM AND STEAMVR MANUALLY – QUICK GUIDE

(Note: This is mainly for Oculus and Windows Mixed Reality users. If you have an HTC Vive headset and you have followed its setup instructions, you probably have Steam and SteamVR already installed)

- Go to [www.steampowered.com](http://www.steampowered.com) and download/install the Steam client
- Start the Steam client and sign up for a Steam account. **NOTE:** *same account is not preferred to be used on several devices due to possible overlapping use*
- Log in to Steam, go to the store and search for SteamVR and install it. Check the checkboxes for creating desktop and start menu shortcuts so you can easily start SteamVR using those.
- If you're using a Windows Mixed Reality headset you will also need to install the Windows Mixed Reality for SteamVR-application from the store.

### CREATING GLUE ACCOUNT

Glue requires personal login info to allow access to the workspace which contains all the accessible 3D environments (scenes).

**NOTE!** At the moment Glue accounts need to be manually tied to the used workspace. Once you have created an account, inform the email address to your Glue contact. Before that you cannot access your workspace!

- On your web browser, navigate to <https://app.glue.work/> and press **Login**.



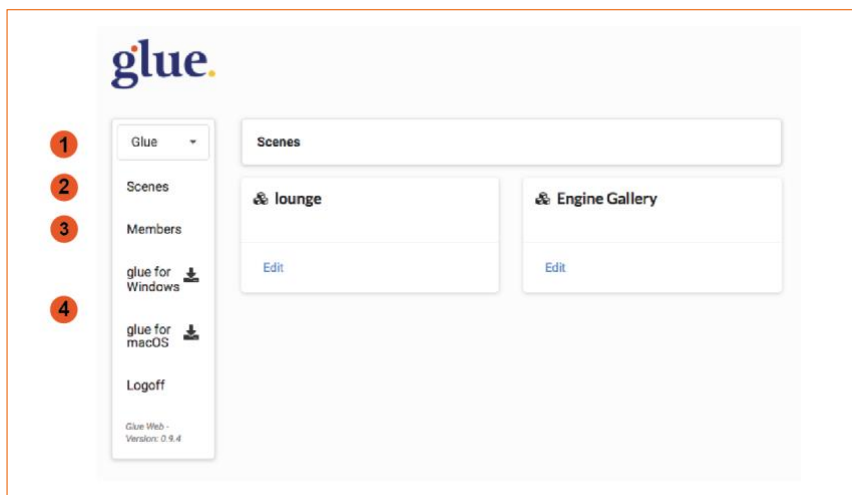
- If this is your first time using the system, use the **Sign Up** -tab to create an account. You will get a confirmation e-mail. Remember to Inform this email address to your Glue contact.



- **Log In** using your Google account or username and password

## WEB PORTAL

Glue web portal allows you to manage workspaces, scenes member accesses and download latest clients. Regular users cannot add users. Administrator instructions can be found from X.X



1. Workspace
2. Scenes in workspace
3. Glue accounts assigned to workspace
4. Client downloads

## WORKSPACE

Glue Workspace is the place you share with other members and it includes the scenes where you can collaborate and get things done. If you have more than one workspace available, use the drop-down list or type the workspace name in the text field to select one.

## SCENES

Here you can find the selection of scenes linked to your workspace. It is also the default view when entering the Glue web portal. Admins can reset the scenes from here.

## MEMBERS

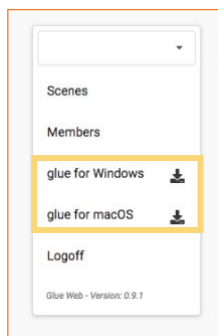
Users that you want to have access to your workspace and scenes can be found from here. They can access the scenes available in your workspace. If you need to restrict the member access to specific scenes, you need additional workspace and assign these users and specific scene to this workspace. For example, you want to have marketing and sales teams their own Lounge scenes. Purchase two workspaces, one for sales, and the other for marketing. Assign the members to their team space and add lounge scene to both workspaces.

## GLUE FOR WINDOWS / MACOS

Download the latest glue client for your operating system from here.

Application download

- Download the latest Glue client for your preferred operating system. Glue will launch automatically after installation

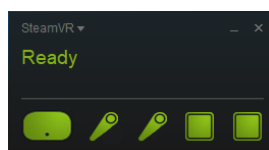


## USING GLUE

### LAUNCH STEAM VR

For use the software in VR, SteamVR application is required to be launched first. Make sure you have SteamVR installed and set up correctly. **More info:**

[https://support.steampowered.com/kb\\_article.php?ref=2001-UXCM-4439](https://support.steampowered.com/kb_article.php?ref=2001-UXCM-4439)



For more convenient use, pin the SteamVR application to the taskbar or create a desktop shortcut.

**NOTE!** SteamVR needs to be running and the headset indicator needs to be green before starting the Glue application. Otherwise the system will not detect the headset microphone on startup and audio issues will follow. Desktop or mobile use does not require SteamVR.

## STARTING GLUE WITH A WINDOWS MIXED REALITY HEADSET

When you plug in the WMR headset the Mixed Reality Portal should start automatically. If this doesn't happen, you can start Mixed Reality Portal manually.

- Start SteamVR when Mixed Reality Portal is running. The WMR headset and controllers should show up in the SteamVR status window.
- When Mixed Reality Portal and SteamVR are both running you can then start the Glue application.

**NOTE!** We are not affiliated with Valve Corporation or Microsoft. If you have technical issues with Steam/SteamVR or Mixed Reality Portal or the hardware you're using, you should contact the system provider.

## GLUE APPLICATION

Launch Glue from the application icon. After successful login, return to the Glue application window



1. Workspace list – Select workspace you want to use (if more than one)
2. Select Avatar look and name – To stand out from the other users, choose an avatar to your liking using the arrows and enter your name in the text field
3. Desktop screen size and user login – Select the desktop resolution, microphone/camera available, user login
4. Scenes available in active workspace – Select the scene to enter

Depending on the scene level of details and size, loading times may take some time. For more convenient use and shorter loading times, it is recommended to download the scene to cache before first time use. click the **Cloud icon** to download the scene, letter **"R"** is displayed above the icon when scene is cached. To empty the scene from cache, click the **Trash** icon.

## DESKTOP MODE









Glue scene launches in desktop mode by default. This allows you to move and communicate in the same scene as other users but without the need of VR hardware.



- Press **ESC** to enable movement
- Use **keyboard arrow** or **W-A-S-D** keys to move and **mouse** to view around
- Press **spacebar** to enable/disable vertical mode (fly mode)

## DESKTOP MENU

In Desktop mode, **Menu** is visible on the left side of the screen. You can toggle menu visibility by pressing **ESC**. Use your mouse to select features.

	VR toggle	Switch between VR and desktop
	Mute Mic	Mute your microphone
	Note	Write notes in 3D space using your keyboard
	Return to lobby	Return to the main lobby. In desktop mode you can switch to different scene from here.
	Settings	Change screen resolution based on your computer setup
	Personal Space Protection	This allows you to set a perimeter size which hides the other avatars (users) when they are inside the set size.
	Import image	Import image from the local drive.
	Spectator camera	Set up spectator camera that automatically changes the view towards the sound of source (activity). Excellent for external view from large screen for audience outside the VR experience.

## VR MODE

We recommend using glue in VR mode as it creates the best 3D and spatial immersion. To enter VR mode, select **VR toggle**. This activates the view in VR headset.

**NOTE!** For using Glue in VR mode, the Steam VR application needs to be running before launching Glue.

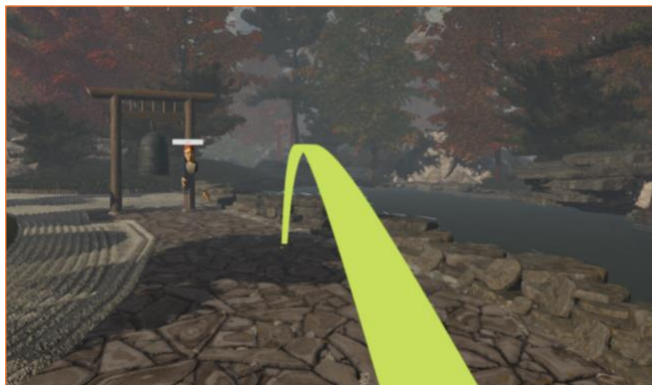
## TELEPORT

If using room scale VR device, you can walk around in Glue inside VR game area which is presented as a device dependent chaperon. Because the size of the physical game area is limited there is a teleport tool in Glue which allows you to move in scenes of basically unlimited size.

The teleport is assigned by default to the **thumbpad** button on the controller and is available without selecting the tool. When the teleport tool is specifically selected from the menu, it is used with the **trigger** similarly to other tools.

To use the Teleport:

- Press and keep pressed the **thumbpad**



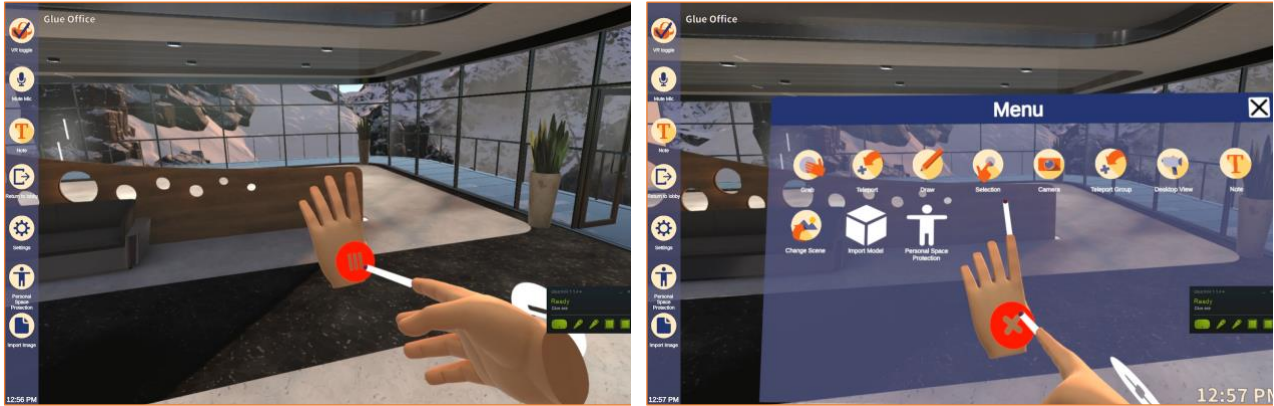
- Point to the wanted location and release the button.
- Green line: Teleport location is possible
- Red line: Teleport location not possible

If you are using VR hand controllers, you can access a selection of features. These might vary depending of the software version or customization.

## USING TOOLS

If the user has VR hand controllers in use, there is a menu to access selection of tools. These might vary depending of the software version or customization for specific organization.

Open menu



- With 2 controllers active there is one menu access button on the back of both hands.
- With 1 controller active the menu button is floating in low center of view.
- Point at the **menu symbol** (highlighted red)
- Squeeze the **trigger** on the controller.

Selecting tools








1. Use the controller to point a tool that you like to use and squeeze the **trigger** to select the tool.

2. Close the Menu by pointing the **“X”** on the upper right corner of Menu window or back of your avatar hand and squeeze the **trigger**.



## VR MENU

In VR mode, use the controller trigger to select and use the tools.

	Teleport	Move around the virtual space
	Draw	Draw in 3D space
	Note	Write notes in 3D space using your keyboard
	Change Scene	Return to the main lobby. In desktop mode you can switch to different scene from here.
	Grab	Pick up and move objects in virtual space
No image	Personal Space Protection	This allows you to set a perimeter size which hides the other avatars (users) when they are inside the set size.
No image	Import model	Import FBX model to the scene. Model needs to be prepared accordingly and stored on Glue server before the session start.
	Record view	Set up spectator camera that automatically changes the view towards the sound of source (activity). Excellent for external view from large screen for audience outside the VR experience.
	Selection	Select objects to scale or delete
	Camera	Take a screenshot in the virtual space through a view finder. Screenshots are currently stored to: <i>Appdata/LocalLow/Glue/Glue</i>

## WORKSPACE ADMIN

Glue users, scenes and assets are grouped under *Workspaces*. When you start using Glue, you have provided at least one e-mail address for Workspace Admin status.

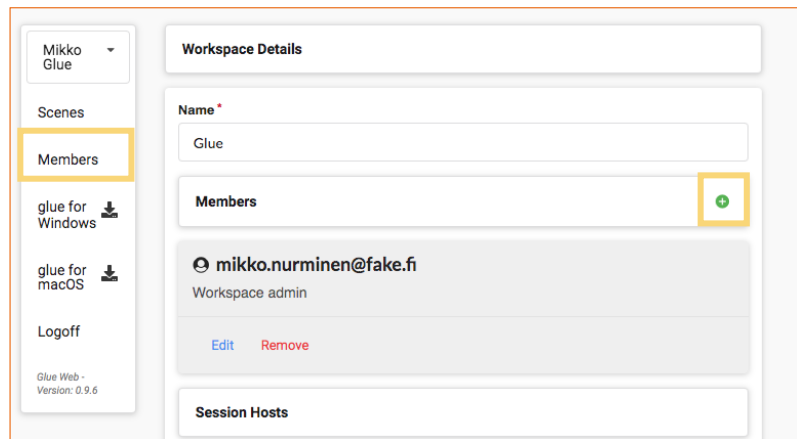
The workspace administrator can add and remove scenes and members within their workspace.

All members of the workspace have access to all the scenes in their workspace. Users can belong to multiple workspaces, even using the same e-mail address.

## ADDING NEW MEMBERS TO A WORKSPACE

Use web browser to access the Glue app site: <https://app.glue.work/> and log in using your username and password.

- From the left navigation panel, select **Members**. This opens the members admin page that allows you to add and remove members.
- Select **plus** icon to open **Add new member to workspace** window



- Add the member e-mail address and user type. Workspace Admins can add and remove members and scenes, regular users have read-only access.

**Add new member to workspace**

**Member email**

Select type of member to add:

Restricted user (read-only access, limited functionality)

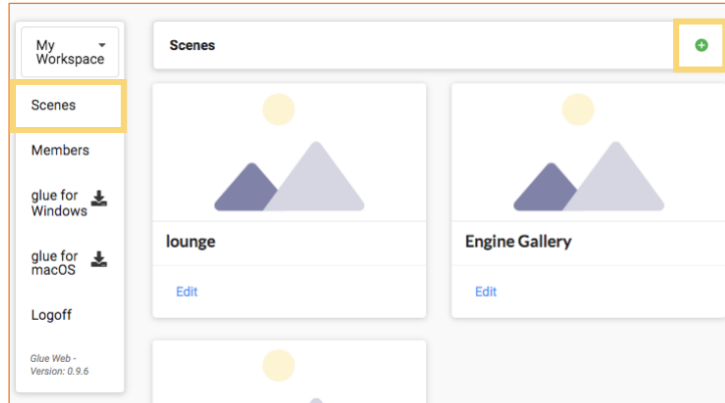
Regular user (read-only access to workspace data)

Workspace admin (can add or remove workspace members)

**NOTE!** Members need to use the exact email address specified here to create their glue account in order to access the workspace.

## ADDING EXISTING SCENES TO A WORKSPACE

- From the left navigation panel, select **Scenes**. This opens the scenes admin page that allows you to add and remove existing scenes.
- Select **plus** icon to open **Create a new Scene Window**



- Enter the **Scene Name**. This is the name visible in the scene selection, for example: My sky lounge
- From the **Scene Asset** drop-down list, select the environment
- **Only** check the override button if you have a custom server hosting configuration set up by the Glue system administrators. Contact Glue support for more info.
- Click the **Create** button.

**Create a New Scene**

**Scene Name \***

**Scene Asset \***

**Override default session host**

**Session Host \***

**Active workspace:**  
My Workspace

## EDITING SCENE INFO

Under the Scenes pages you can select a scene and edit some basic parameters. In your workspace scene listing, select **Edit** on the scene you plan to modify.

- You can change the scene name by editing the name field and pressing **save** at the bottom of the page.
- You can **reset** the scene. Remember that this removes permanently all drawings, notes or imported 3D models, clearing the scene back to the base environment 3D model.
- Selecting **delete** will remove the scene along with all user-created content within it. It will **not** remove the environment 3D model from the service, just this one scene instance.

- You can choose **thumbnail image** for the scene

The screenshot shows a 'Scene Info' form with the following fields and values:

- Scene Name: lounge
- Scene Asset Name: Lounge
- Choose Thumbnail Image to Upload: Choose file | No file chosen
- Scene Thumbnail URL: (empty)
- Orchestrator Name: ubuntu-4gb-hel1-1

A red notification banner indicates: 'PNGs and JPEGs supported up to 4.5 megabytes.'

At the bottom of the form are three buttons: 'save' (green), 'reset scene' (blue), and 'delete' (red).

NOTE! Some visible fields are for glue support troubleshooting and debugging purposes and therefore are read-only

## TROUBLESHOOTING

### GENERAL

- Switch off computer and all VR devices
- Restart computer and all VR devices
- Re-install / update SteamVR
- Glue support: [support@glue.work](mailto:support@glue.work)

### CAN'T HEAR AUDIO (VR)

Start **SteamVR** before starting the Glue application

Check SteamVR audio settings

- Audio and microphone are set to "Do not change device"

Check Windows sound settings

- Playback > HTC Vive set as default
- Recording > HTC Vive set as default microphone

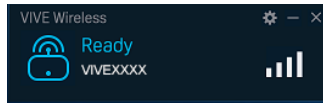
### SCENE MOVES OR FLICKERS

- Make sure that there are not big reflective surfaces around the VR play area (mirrors, windows, large shiny metal surfaces, etc.)
- Make sure that base stations are not moving and have not moved since play area setup
- Redo VR play area setup according your device instructions. Make sure the user is staying inside the play area and in view of the base stations

### VR DEVICE / HTC VIVE WIRELESS

If you use HTC Vive wireless device, you need to use VIVE Wireless software to allow the headset to work and connect to SteamVR

- **Start Vive Wireless** software from the desktop icon before or after starting SteamVR.



More info: <https://www.vive.com/eu/setup/wireless/>