SimLab VR Viewer for Creators

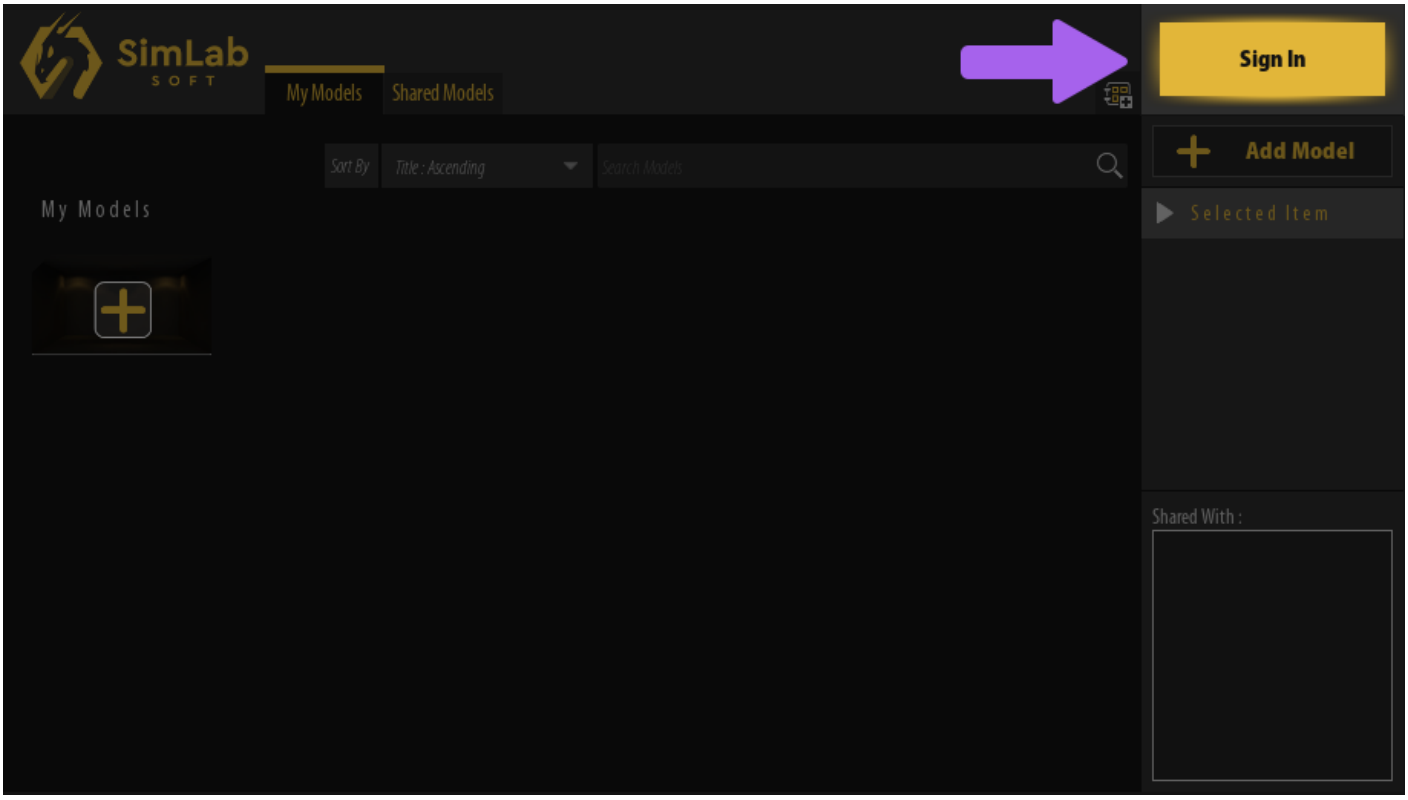
- Signing Up
- Adding and Uploading VR Experiences
- Managing VR Experiences through Catalogs
- Running VR Experiences
- VR Experience Navigation and Interactions
- VR Menu
- VR Viewer Settings
- Accessing files on Quest, Android, Pico, and iOS without a network connection
- Contacts and Sharing
- Plan and Subscription
- Mixed Reality Collaboration Support

Signing Up

To upload and share VR experiences and to pair wireless VR and mobile devices, a user needs to sign up to **SimLab Cloud** servers.

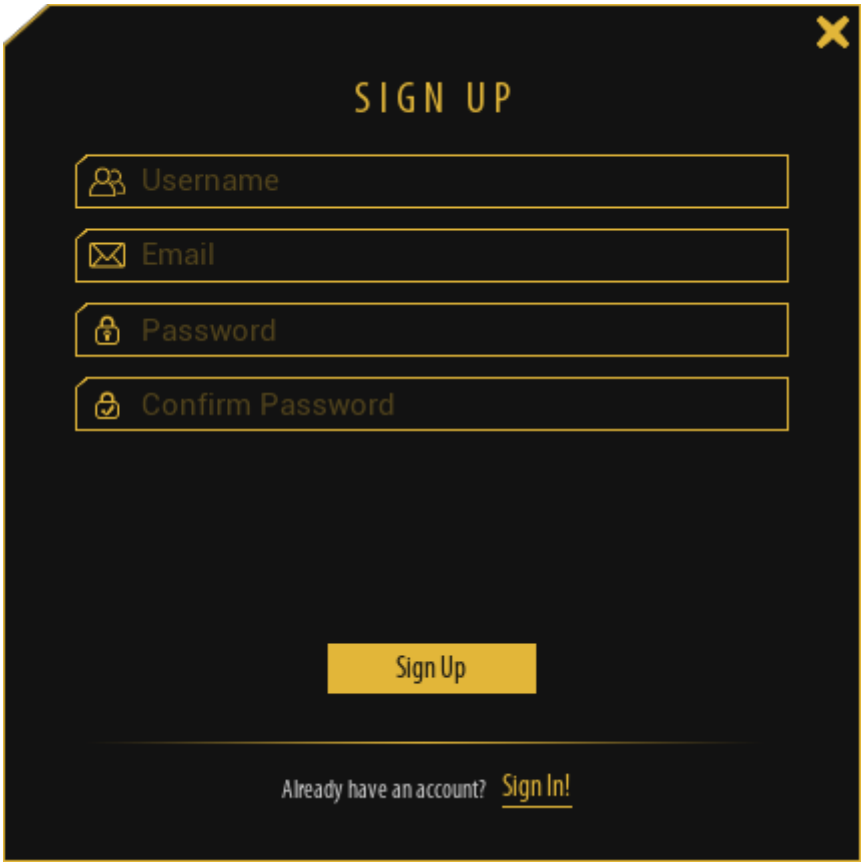
In addition to VR related benefits, signing up grants the user access to SimLab 3D Models, and Materials library as well as SimLab Academy, and other useful features.

To Sign up run **SimLab VR Viewer** and from the top right corner, click **Sign in**.

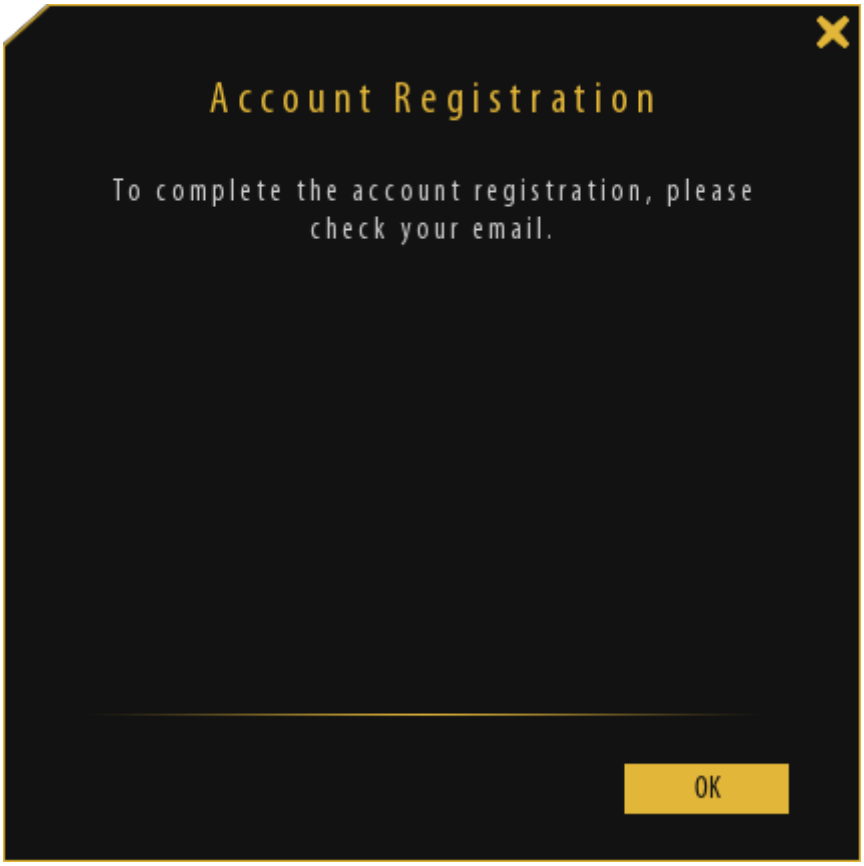




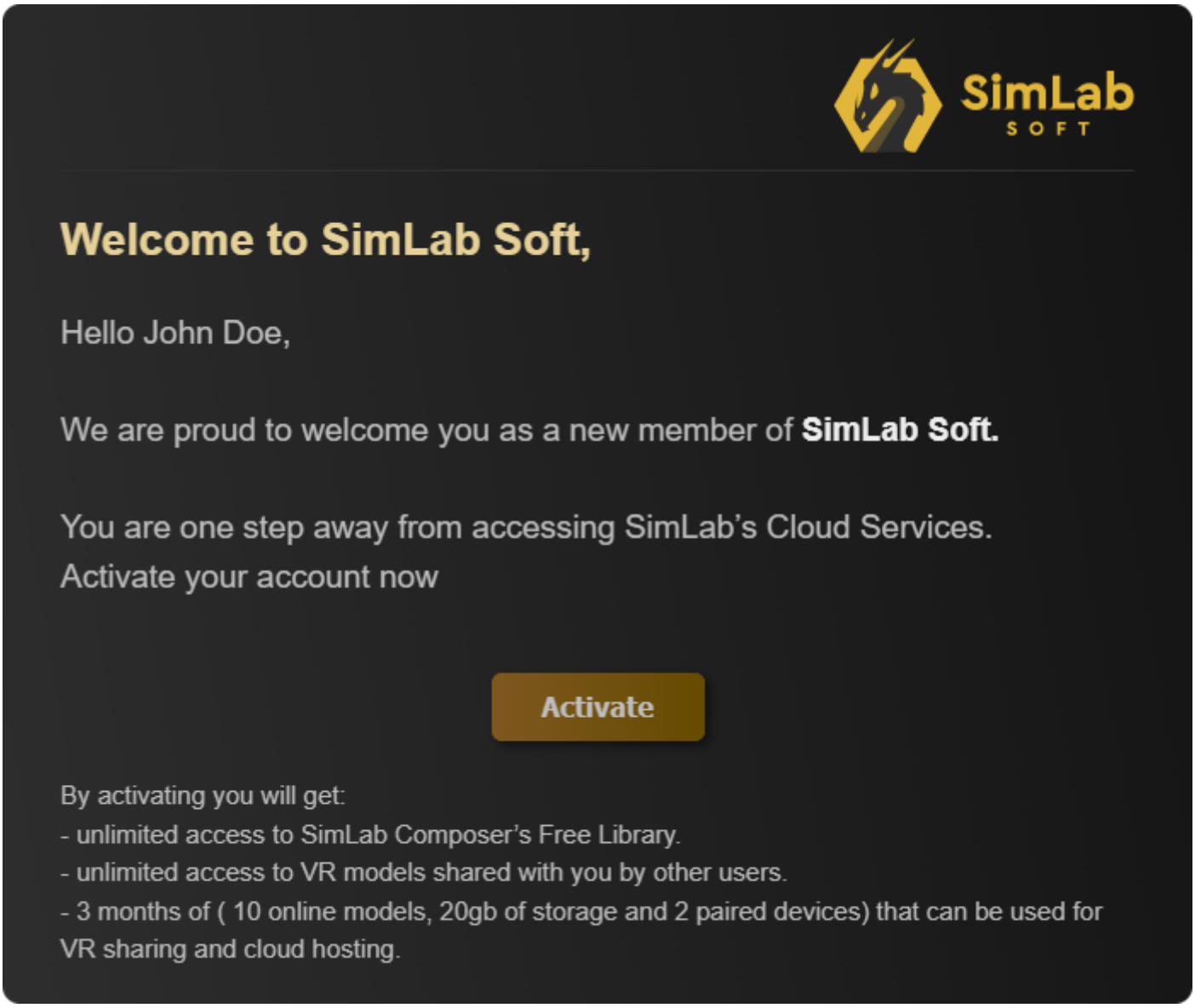
From the Sign In dialog, click **Sign Up**.



In the Sign Up dialog, fill in the **Username** which will be displayed to other users. Fill in an active email address, and a secure password made of at least 8 characters including a number, then click **Sign Up**.



If the Sign Up is successful a message will appear to check email address used, to confirm the registration process.



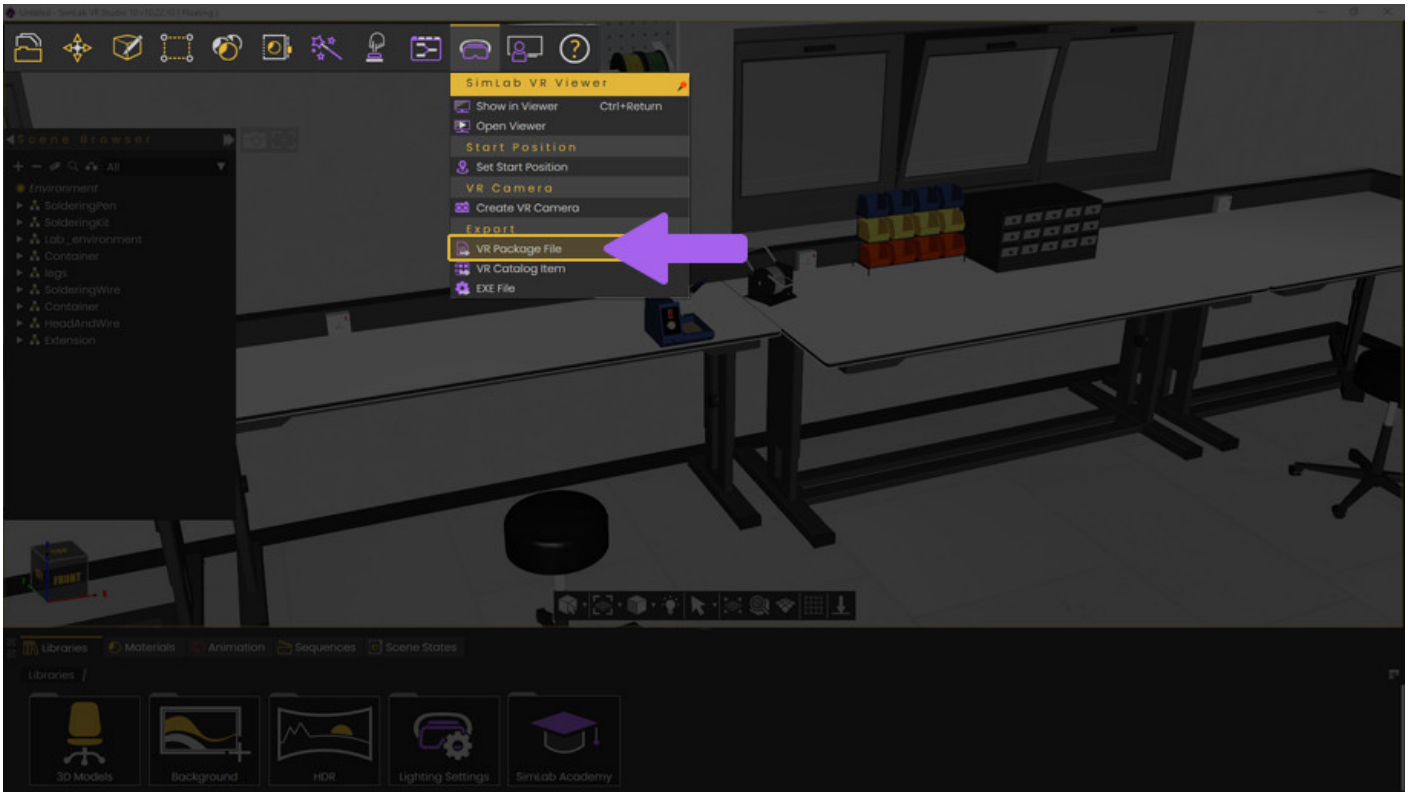
Click the **Activate** button in the email sent, to finish the signing up process.

Adding and Uploading VR Experiences

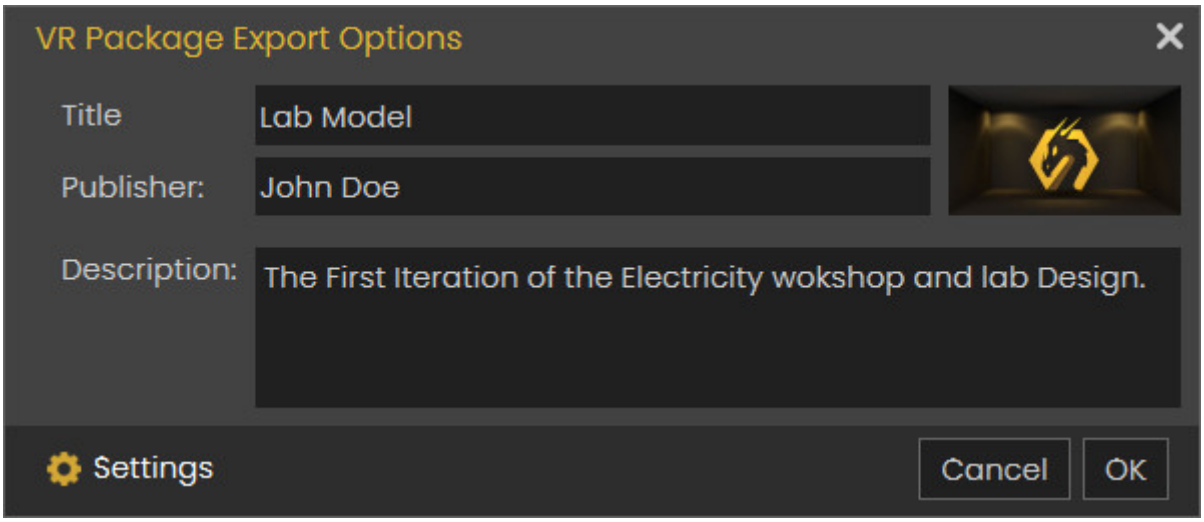
Uploading VR Experiences to **SimLab Cloud** account makes them available for sharing with others, and for viewing on wireless devices such as standalone VR headsets, and mobile devices through pairing.

Exporting the VR Experience as a VRPackage

To upload a VR Experience you need to first **Export it from SimLab VR Studio** as a VRPackage file.



Once you click on Export VRPackage File, select the directory where you want to export the VRpackage, then type in a name for the package and click Save to display the VR Package Export Options.

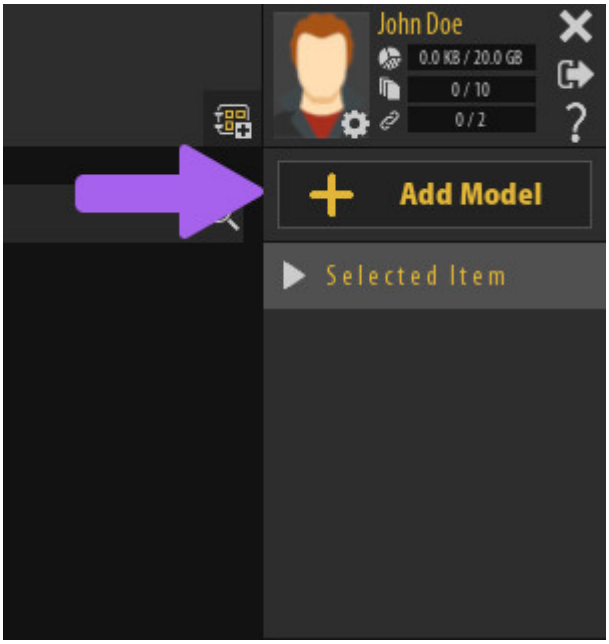


In this dialog, fill in a title for the package, a publisher's name and a description, additionally, you may add a thumbnail image to the VR package.

Click "OK" to Finish the VRPackage creation process.

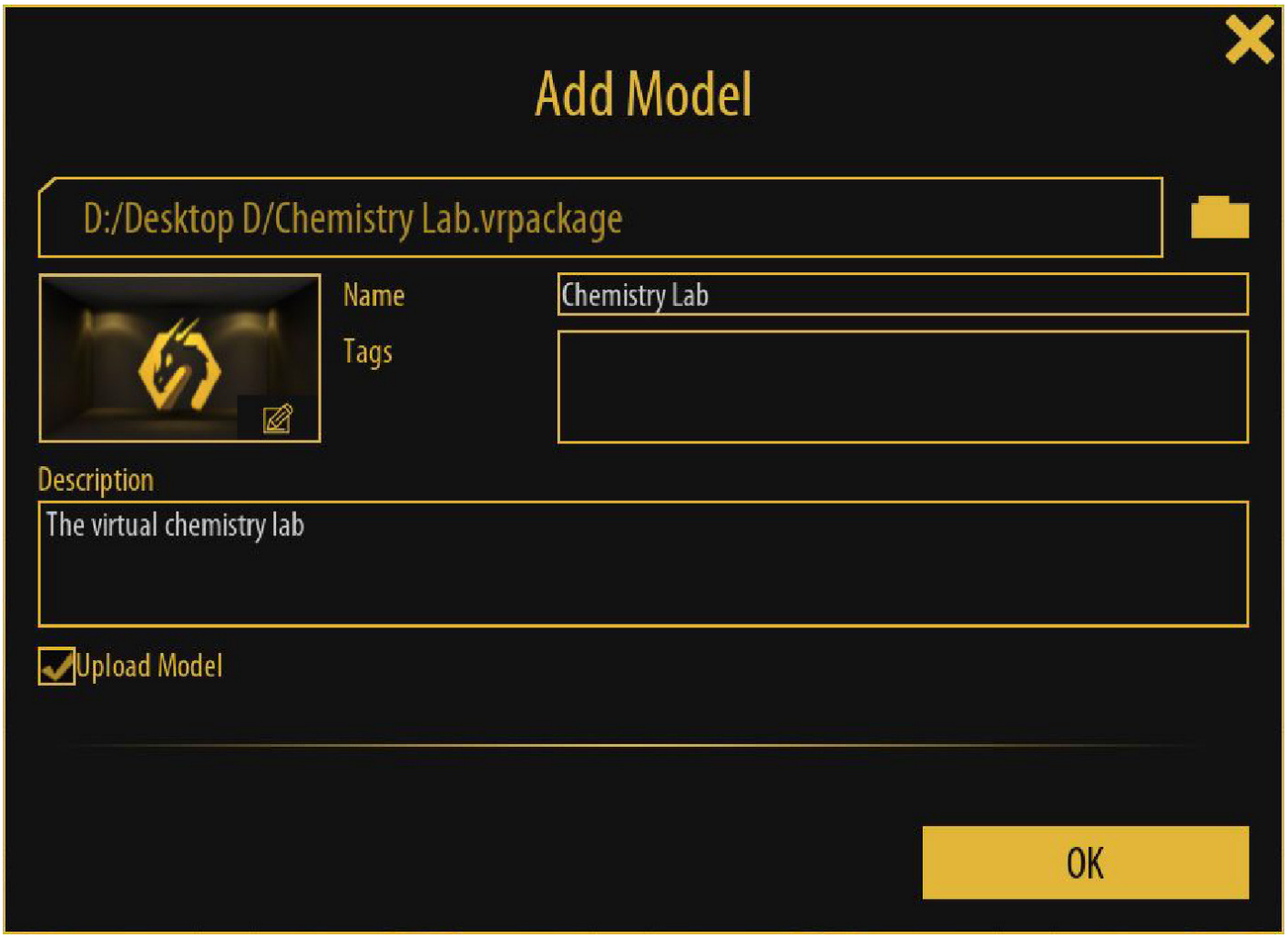
Note: If the **Start Position** was not already added to the scene, it will be automatically created at this stage, and upon confirming its location, the VRpackage will be created.

Adding VR Packages to SimLab VR Viewer



Run the SimLab VR Viewer and sign in to your account, then from the top right corner click on **"Add Model".**

In the File Browser window, navigate towards the VR package you have created then select it and **click Open.**



In the "Add A Model" Dialogue, you can modify the Name (title), the description and the thumbnail image that came with the VRpackage file from SimLab VR Studio, you can also Add tags for the VR Experience, which are helpful when trying to find the VR Experience through the search box in SimLab VR Viewer.

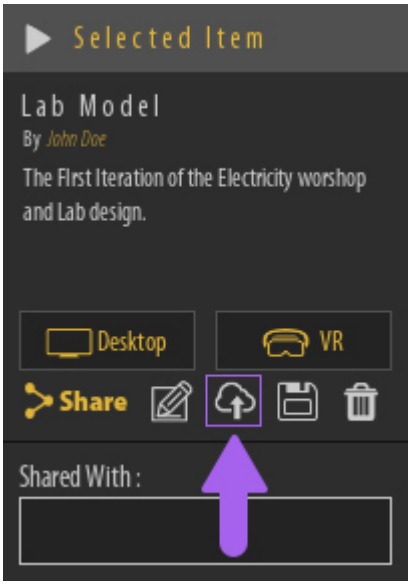
Under the Description box you will find the option **"Upload Model"** which will upload the VR Experience on the Simlab Cloud Servers in addition to adding it locally on the SimLab VR VIewer.

Uploading the VR Experience to the cloud servers will allow you to **Access it anywhere**, **share it with others** and **run it on wireless devices**.

Click OK to start uploading the VR Package and add it to the SimLab VR Viewer.



Once the upload is complete, you will get a notification, after which, you can now Run the VR Experience and share it with others through SimLab VR VIewer.

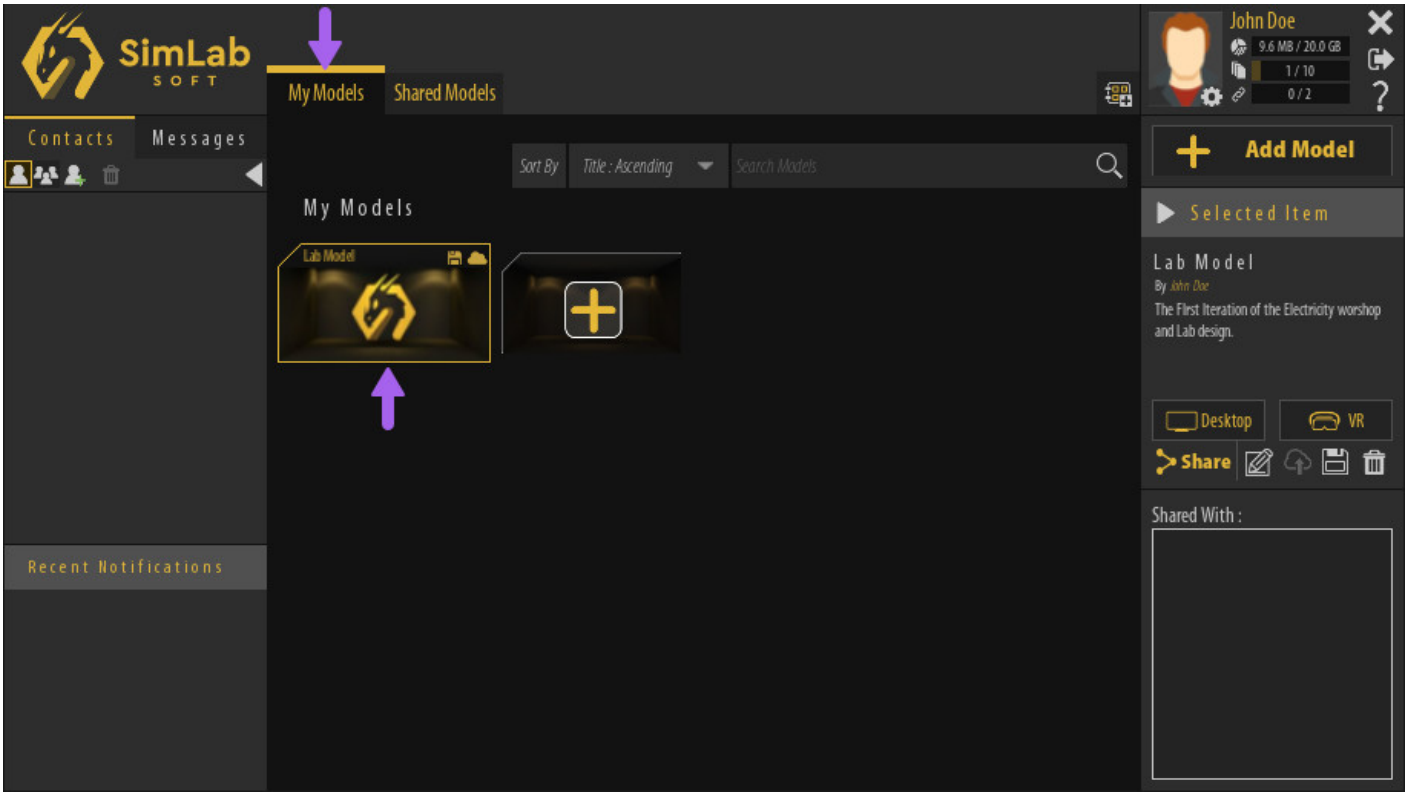


Note : In case you have chosen **Not to Upload** the VR Experience while adding it to SimLab VR Viewer, you can still upload it later by selecting the VR Experience and clicking on the **Upload Icon** in the Selected Item panel to the right.

Managing VR Experiences through Catalogs

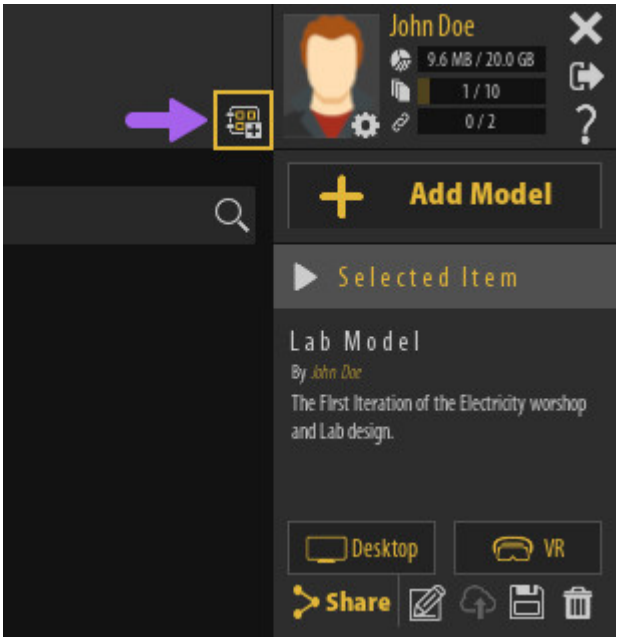
Accessing and Managing VR Experiences

Once you have added the VR Experience to SimLab VR Viewer, you will find it in the "My Models" Tab which is the default location where uploaded VR Experiences will be displayed.



Creating a Catalog

For better management of VR Experiences, you can add Catalogs, which in principle are similar to folders where you can contain multiple VR Experiences inside it.

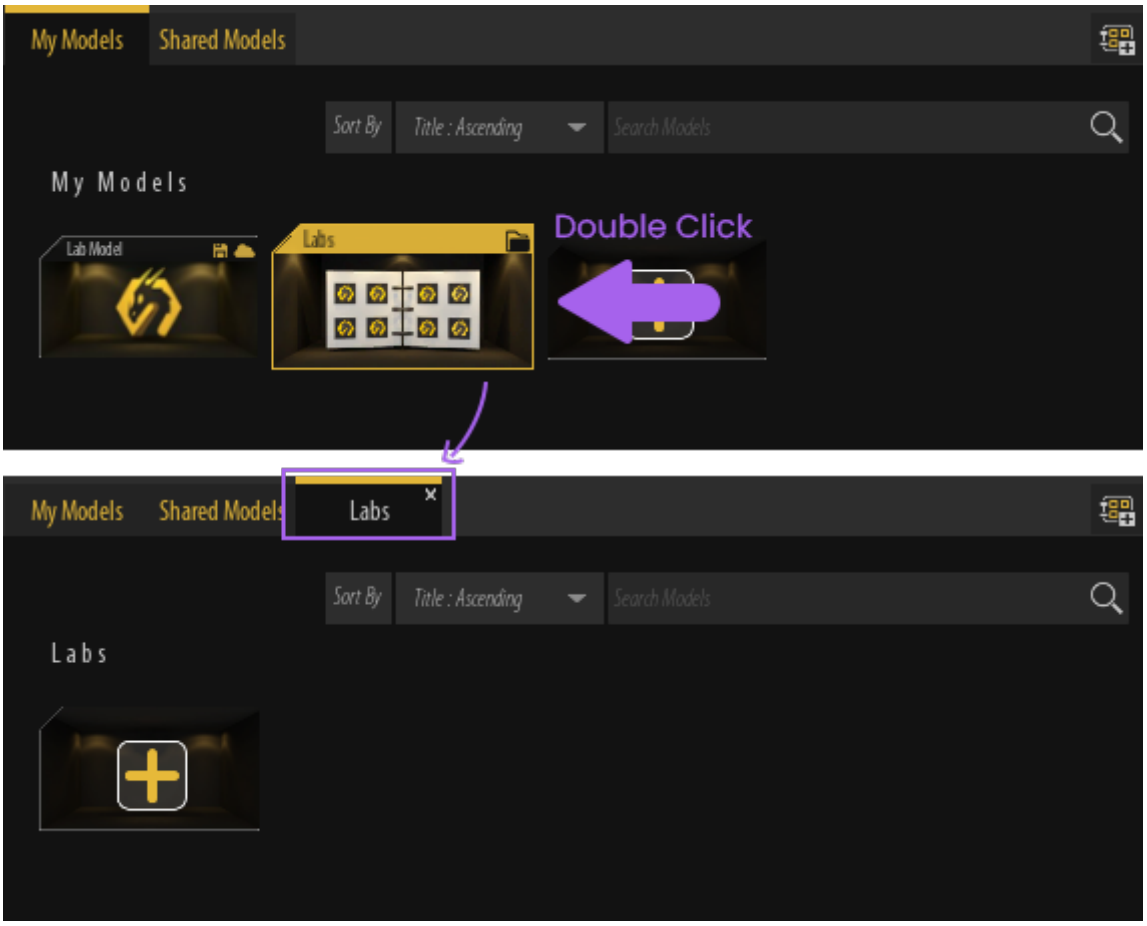


To create a new Catalog, Click on the **Catalog Icon** at the top right corner of SimLab VR Viewer.



In the Add Catalog Dialog, you can specify the **name** of the Catalog, the **Publisher's name**, a **Description**, and implement **Tags** to find it easily using the search box.

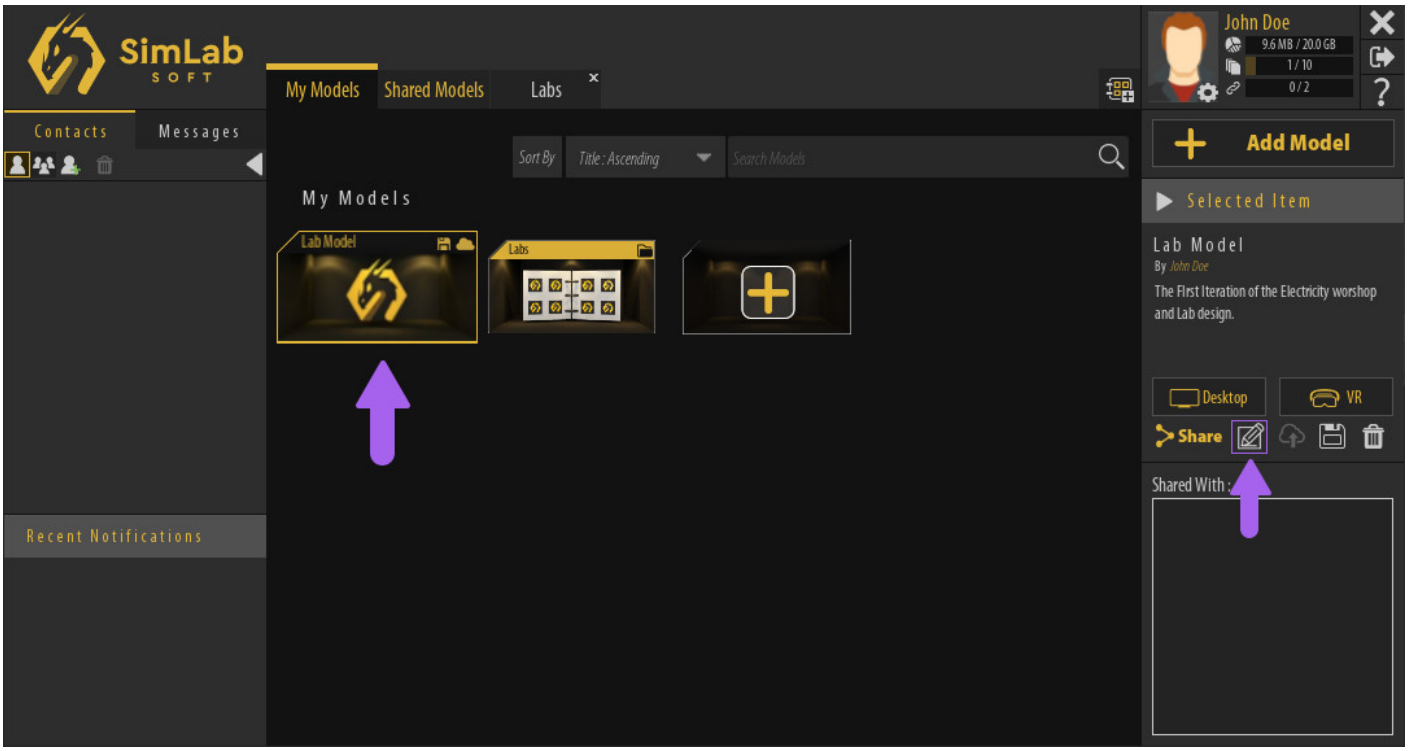
Click "Ok" to create the Catalog and add it to **"My Models"** Tab.



Once the Catalog Has been Created in "My Models" tab, you can Double Click it to View its content in a New Tab.

Moving VR Experiences to Catalogs

To Move a VR Experience to a Catalog, select the VR Experience and from the Selected Item Panel to the right, Click on the **Edit Icon**.


SimLab
SOFT
Contacts
Messages
Recent Notifications
My Models
Shared Models
Labs
Sort By
Title : Ascending
Search Models
My Models
Lab Model
Labs
John Doe
9.6 MB / 20.0 GB
1 / 10
0 / 2
Add Model
Selected Item
Lab Model
By John Doe
The First Iteration of the Electricity worshop and Lab design.
Desktop
VR
Share
Shared With :


EDIT MODEL
Name:
Lab Model
Tags:
Description:
The First Iteration of the Electricity worshop and Lab design.
Add To Catalog
Show Catalogs
Make This Model Public
Ok

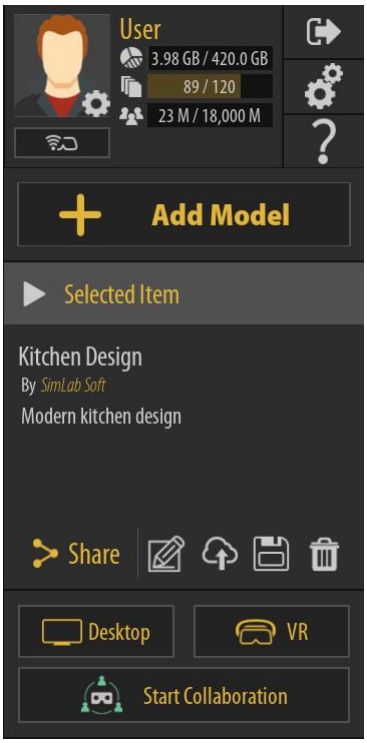
From the Edit Model Dialog, Click on **"Add to Catalog"**.



Select the Catalog where you want to Move the VR Experience and Click OK to Move it there.

Note : When toggling on the "**Home Page**" option, the VR Experience will still have a thumbnail in the homepage in addition to a thumbnail in the selected Catalog.

Running VR Experiences



Once a VR Experience has been selected, its name and description along with the name of the person who shared it with you will be displayed in the **Selected Item Panel** to the right, additionally, you will find 2 buttons to run the Experience in **Desktop Mode** or **VR Mode**.

Desktop Mode

If you are using a **Windows** or **macOS** computer and you do not have a VR headset, you can Run VR Experiences in Desktop Mode where you will be using the mouse and keyboard to navigate the scene and interact with objects.

VR Mode

With VR Mode you can run the VR experience using PC VR headsets which are VR headsets that are attached with a cable to a computer.

Supported VR devices are :

HTC Vive / **HTC Vive Pro**

Meta Quest 2 / **Meta Quest 3** /**Oculus Rift** / **Oculus Rift S**



Pico Neo 3 / **Pico Neo 4**

Windows Mixed Reality

HP Reverb

Pairing Wireless Devices

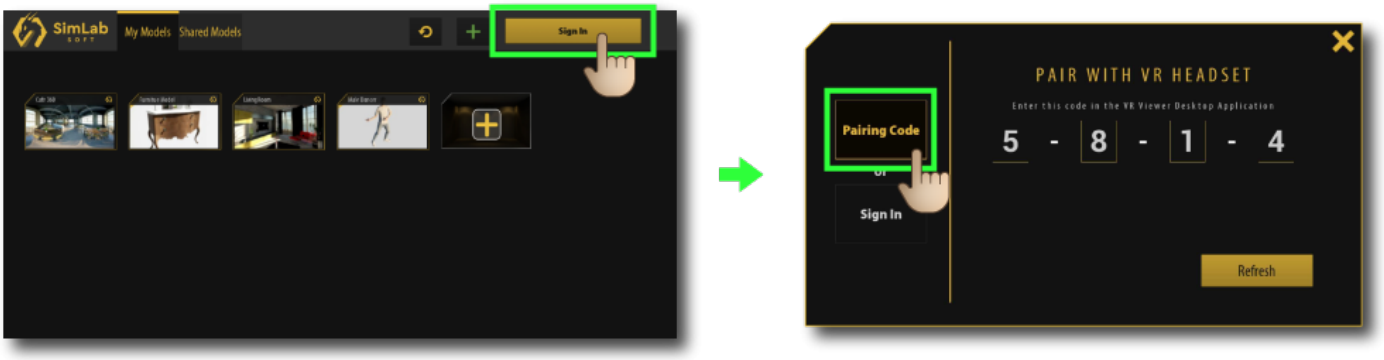
If you are using a standalone VR Headset such as Oculus Go and Oculus Quest in wireless mode or a mobile device, you can use pairing to login to your account and gain access your uploaded models.

Before you pair your wireless device you need to first install the SimLab VR Viewer on those devices, **click here** to download the VR Viewer for wireless devices.

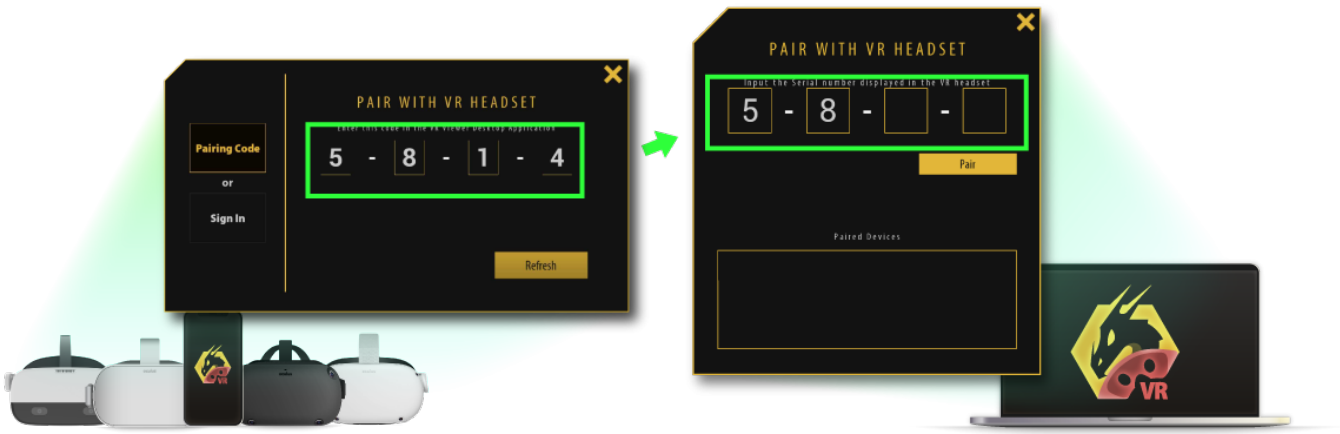
Once you have installed SimLab VR Viewer on wireless devices, follow these steps :
1. Run the VR Viewer on you computer first and from the top right corner click the **Pairing button**.



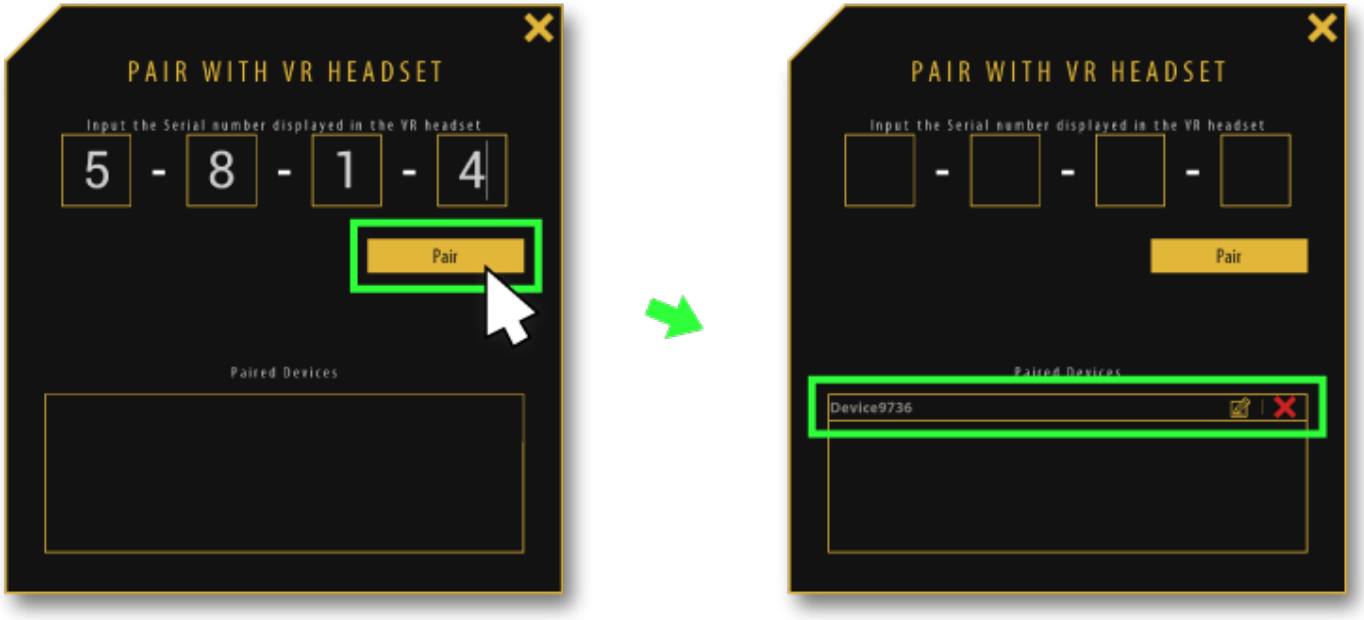
2. Run SimLab VR Viewer on the wireless device and click on **Sign in** at the top Right corner



3. Insert the pairing code that shows on your device into your PC.



4. Click **pair**, then the device should appear on the pairing devices list, you can rename it or delete it from this list as well.



5. **click the Refresh button** on your device, then all of the shared models will be displayed.



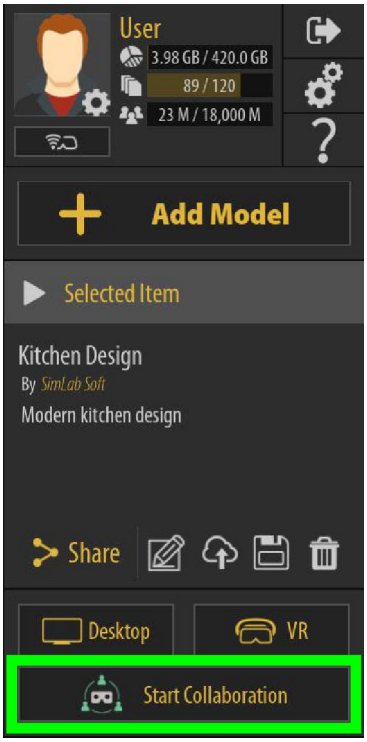
6. Select the desired model to run it on the wireless device.

Collaboration Mode:

There is a complete page made for collaboration through **this link**, but we will give a brief explanation here.

Whether you want to run the experience in desktop mode or VR mode, you can start a collaboration lobby if you want to invite others to join you in the same run.

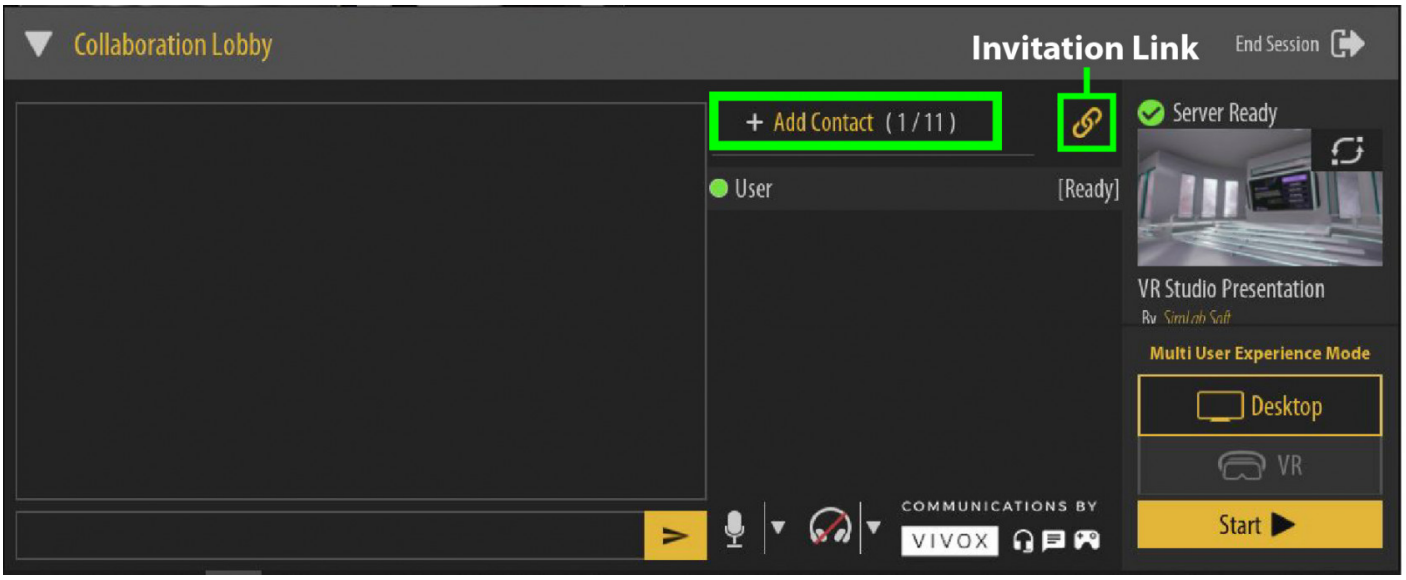
To start a collaboration lobby press the **Start Collaboration** button highlighted in the image below



This will create a lobby from which you can do a variety of actions, the most important one being **inviting others,** which can be done in two ways:

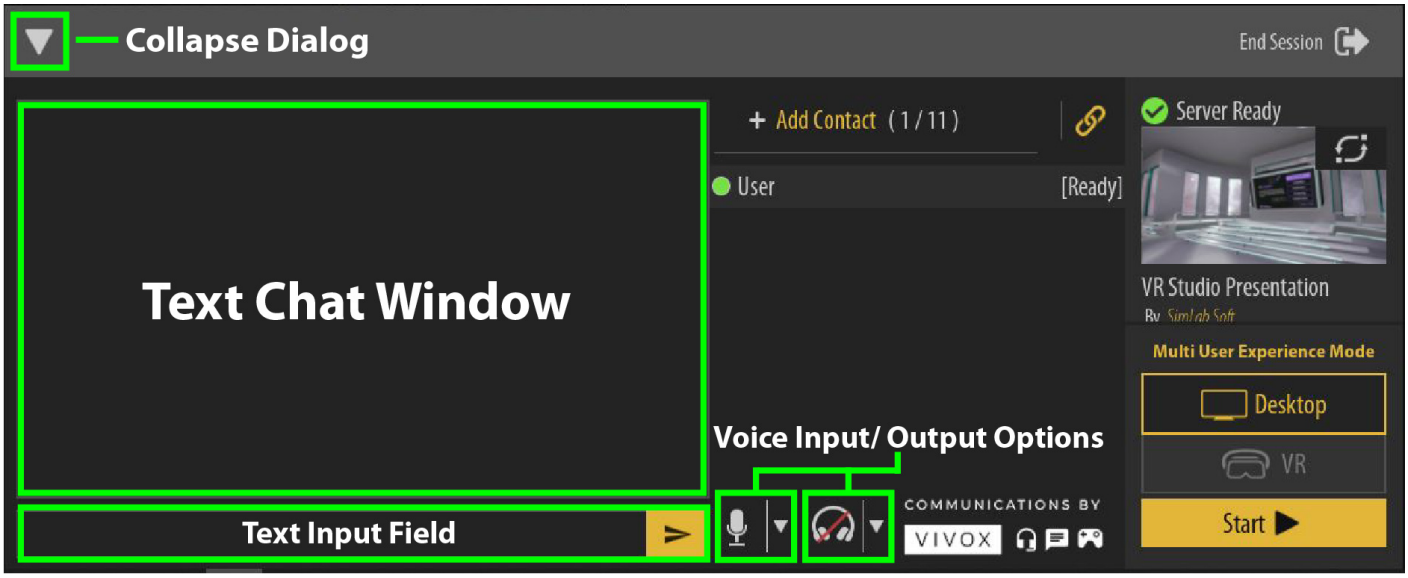
1- You can invite others by adding contacts you have in your **Contacts** list (refer to **this page** to learn about contacts), the button to add contacts is highlighted in the image below

2- The second method is sending an **Invitation Link,** which you can send to other users to directly join you through, this is highlighted and labeled in the image below



Picking the platform in which you want to start the collaboration run with is also done from inside this dialog, using the **Desktop** and **VR** buttons seen in the image, and once loading the scene is over and everyone is in the lobby and are also done with loading, you can click the **Start** button to run the scene.

Other important options and elements in this dialog are highlighted and labeled in the image below



VR Experience Navigation and Interactions

Desktop Mode

If you are running the VR Experience in Desktop Mode, you are going to be using the mouse and keyboard to navigate the scene and interact with objects.

https://www.youtube.com/embed/-WULJiBZbSU?t=137

Watch This tutorial to learn about Desktop navigation

Movement

Move around : W A S D keys or the **Arrows** on the keyboard.

Sprint : Hold Shift on the keyboard while moving.

Look around: Move the mouse.

Jump : Spacebar.

Trigger objects

To trigger an object in the scene, hold the left click and aim towards an object then release to trigger it.

Grabbing and Grabbable Sequences

To grab objects freely or to use Grabbable Sequences, aim at an object then right click to reveal the grabbing hand, then hold left click to grab an object.

VR Mode

If you are running the VR Experience in VR Mode, you are going to be using the Controllers to navigate and interact with objects.

https://www.youtube.com/embed/zQyhcFHOuTM?t=45

Watch This tutorial to learn about VR navigation

Movement

Move around :

- Physically moving around will move you in VR.
- Use the Arrows or W A S D on the Keyboard (when VR is connected to PC).

Look around :

- Move your head physically to look around you in VR.
- Move the joystick or the track pad left and right.
- Move the Mouse (when VR is connected to PC).

Teleporting : Hold the joystick or the trackpad on your controller then aim towards a location on the ground then release to teleport there.

Flying : When flying is enabled, push the joystick or the trackpad on the left controller and aim the joystick in the direction you want to fly.

Trigger objects

To trigger an object in the scene, hold the trigger button on the controller and aim towards an object then release to trigger it.

Grabbing and Grabbable Sequences

To grab objects freely or to use Grabbable Sequences, touch the virtual controller in VR to the target object and while it intersects the object hold the trigger button on the controller.

VR Menu

During the VR Experience you can display the VR menu to perform a variety of tasks, and whether you are in Desktop Mode or VR Mode, the functions within the menu are the same, but they are arranged differently to suit the platform you are using.

Accessing the VR Menu

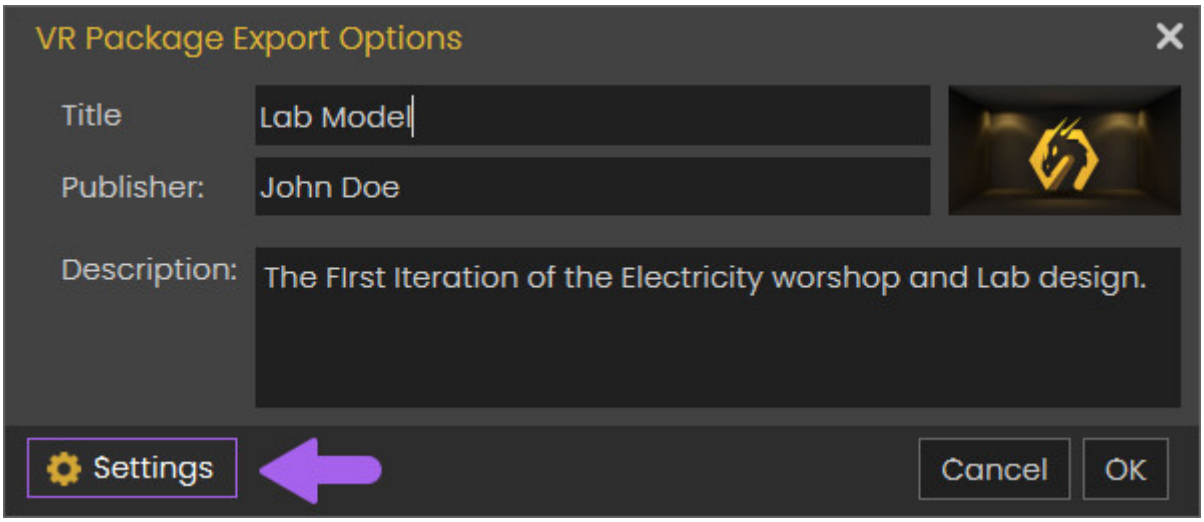
To display the **VR Menu** in **Desktop mode:** Press the middle mouse button or the mouse wheel.

To display the **VR Menu** in **VR mode:** Press the menu button on the VR controller.

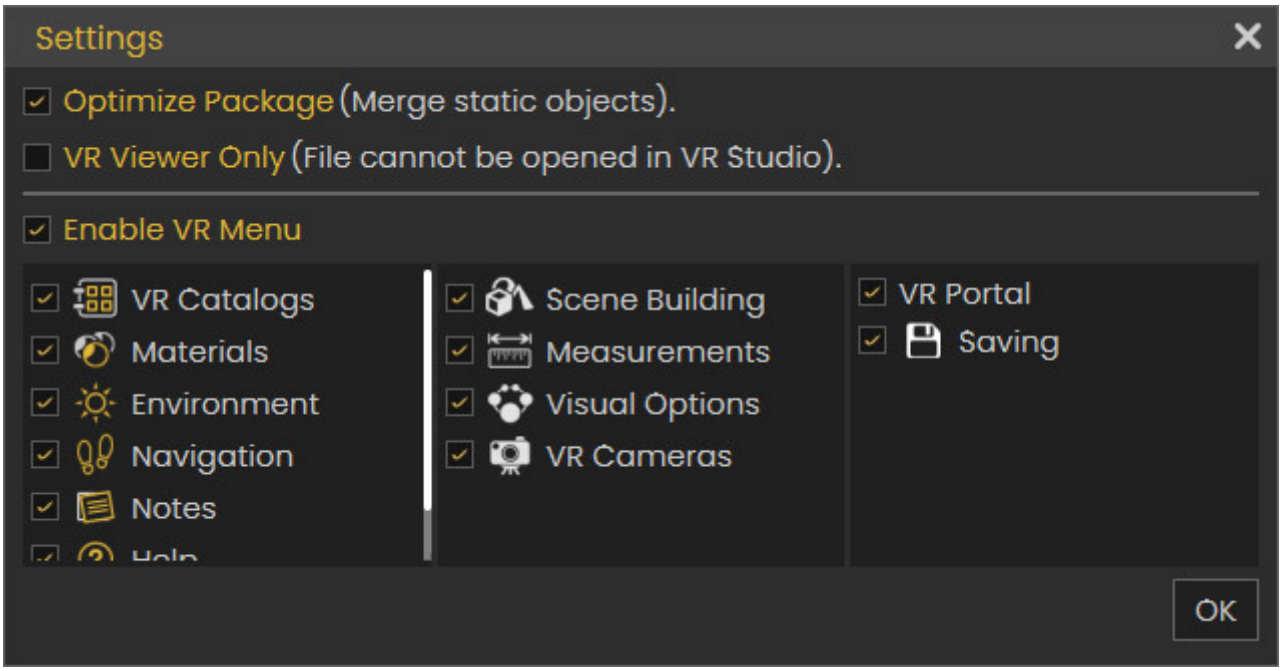


VR Menu in **Desktop Mode** (Left) appears to the left of the screen, while in **VR Mode** (Right) it appears in front of the user.

You can specify which menu items to display when exporting the VR Package from SimLab VR Studio, by clicking on settings in the **VR Package Export Options** dialog.



From the **Settings** dialog you can choose whether to disable the whole menu or parts of it by toggling each component on or off.

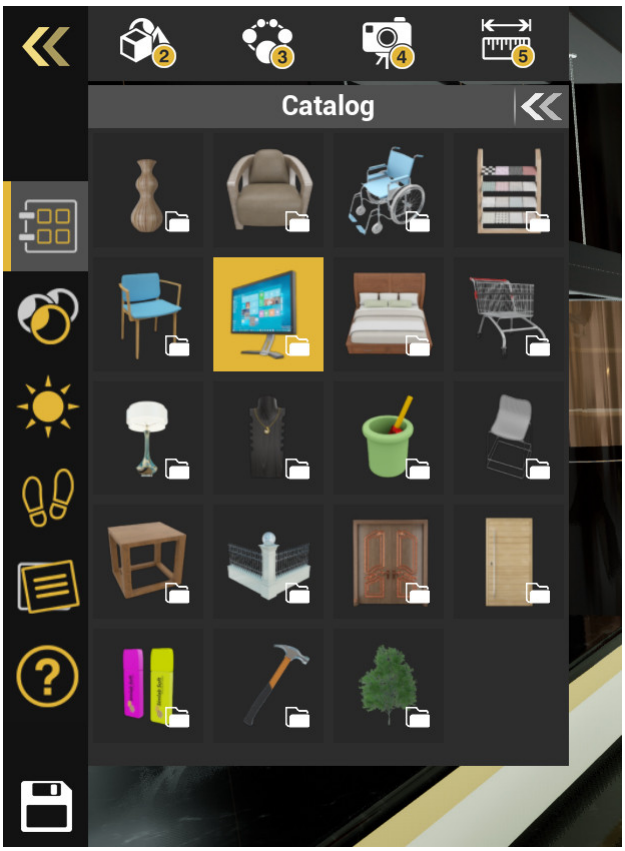


In addition to controlling the VR Menu from the settings dialog, you can toggle on the **"Optimize Package"** Option which would merge all static objects in the scene that share the same material into one object, resulting in a reduced file size and a smoother viewing experience.

You can also toggle on the **"VR Viewer Only"** mode, which would prevent the file from being opened in SimLab VR Studio or Composer as a security measure.

VR Menu Functions

Catalogs



Catalogs when implemented in a VR Experience, will include 3D models that can be imported to the VR Experience.

Upon selecting one of the models, it will begin downloading, and while it does so, you can position the model anywhere in the scene.

Materials

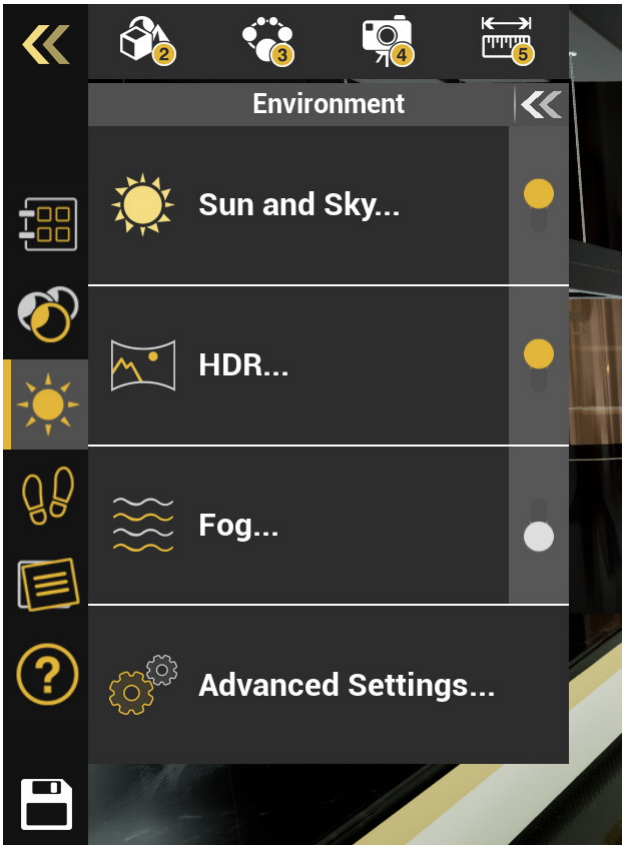


After accessing the material panel, select an object in the scene to display its material, after which, you will be able to modify it.

Each material type available (Plastic, Metal, Glass, Emitter and Water) will have different attributes that you can modify to alter the appearance of the object.

From the **Captured Materials** panel, you can store materials that are used by objects in the scene as a palette and then apply the stored materials to other objects in the VR Experience.

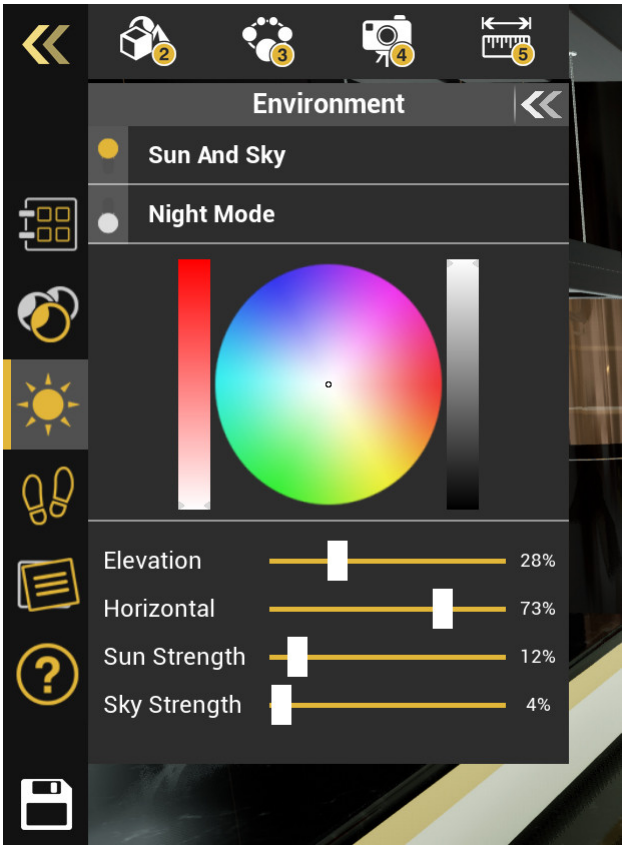
Environment



From the **Environment** panel you can access the settings for:

- Sun and Sky
- HDR Image
- Fog
- Advanced Settings

You can also toggle each of these systems on and off by pressing the switch to the right of each system.

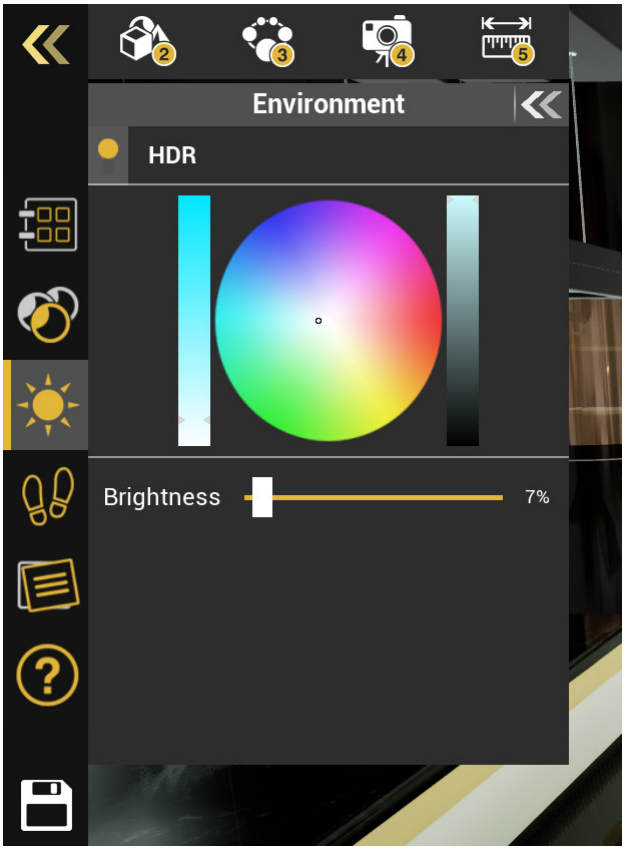


From the **Sun and Sky** sub-menu, you can toggle the system on or off, as well as enable night mode which would mimic a night lighting environment.

You can also control the sun and sky color hue by using the color wheel and the sliders next to it.

To control the sun's position in the sky, adjust the **Elevation** and the **Horizontal** sliders. Changing the sun's position will affect the sun disc's location in the sky, as well as the direction of the light emitted by the sun.

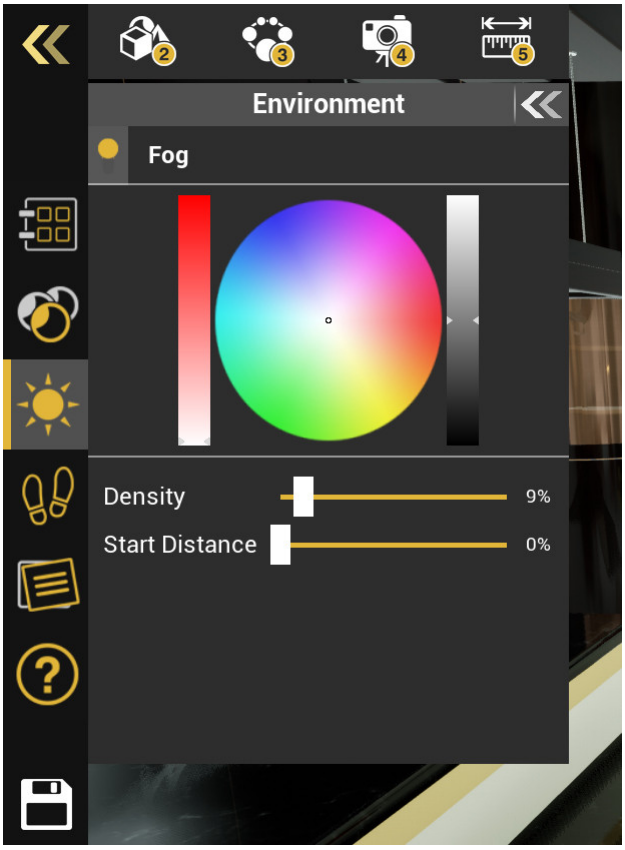
The **Sun Strength** controls the strength of the direct light rays coming from the sun, while the **Sky Strength** will affect the over all ambient light emitted from the sky.



HDR images use Bitmap images to light the scene, and it can work together with the Sun and Sky system or independently from it.

In the HDR sub-menu, you can adjust the color hue of an HDR image when available in a VR Experience.
In case this option is greyed out, it means that the VR Experience does not have an HDR image.

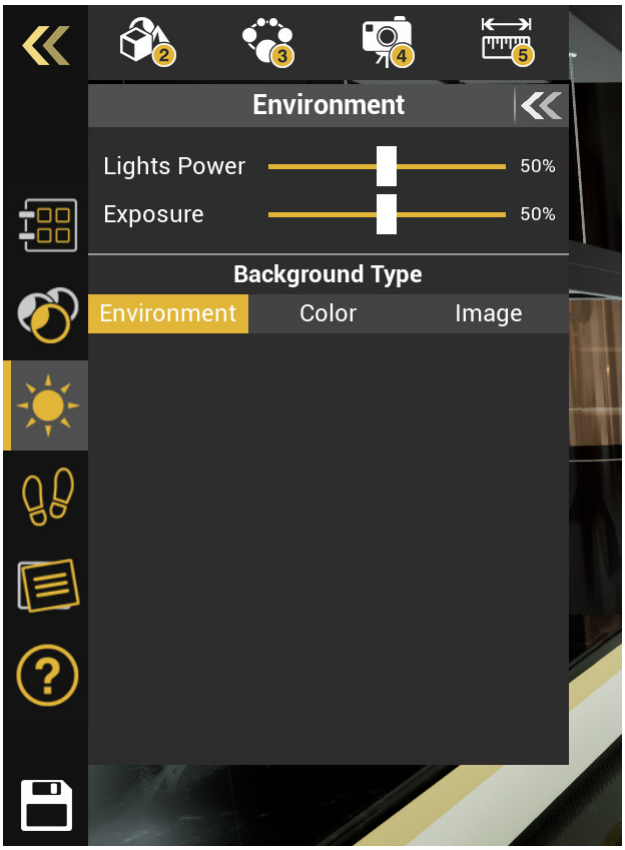
In addition to color, you can also adjust the brightness of an HDR image.



Fog is a volumetric environment effect that can make the natural phenomena of fog or haze in the scene.

From this menu you can adjust the color and brightness of the fog, as well as the density.

You can also adjust the starting distance of the fog which controls how close to the user the fog is, and when set to 0, the fog starts where the user is standing in the VR Experience.

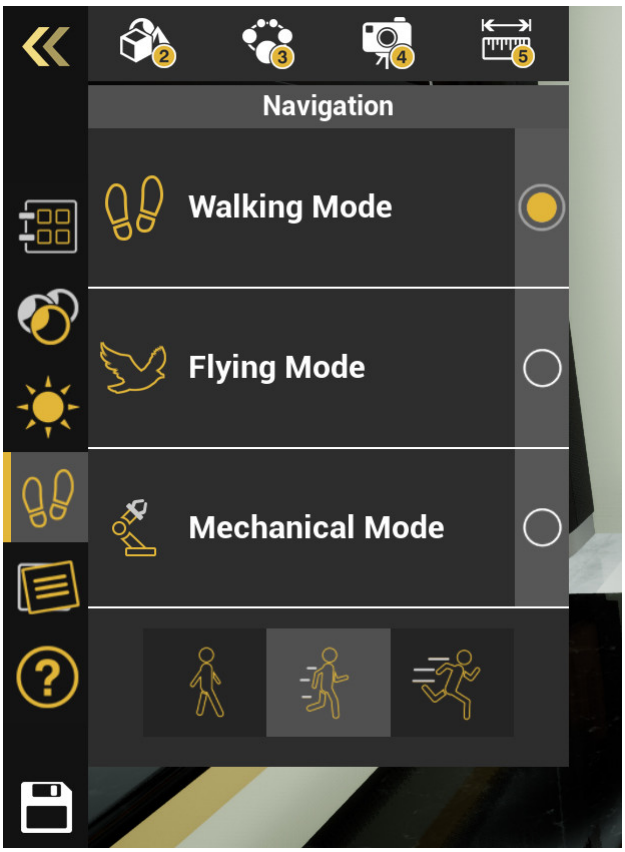


The **Advanced Settings** menu of the Environment settings will enable you to change the Lights Power in the VR Experience, which controls the strength of all artificial lights such as Spotlights, Area lights, IES lights and Point lights and it will *not* affect the Sun and Sky nor the HDR lighting.

Exposure, simply put, controls the overall brightness of the VR Experience, with higher values more brightness will be introduced to the scene, while with lower values, the scene would appear darker.

The **Background Type** determines what backdrop to display in a VR Experience. having it set to environment will either display the Sun and Sky or HDR image, while when set to color, a single solid color will be displayed, and with the Image option, a 2d Image will be displayed.

Navigation

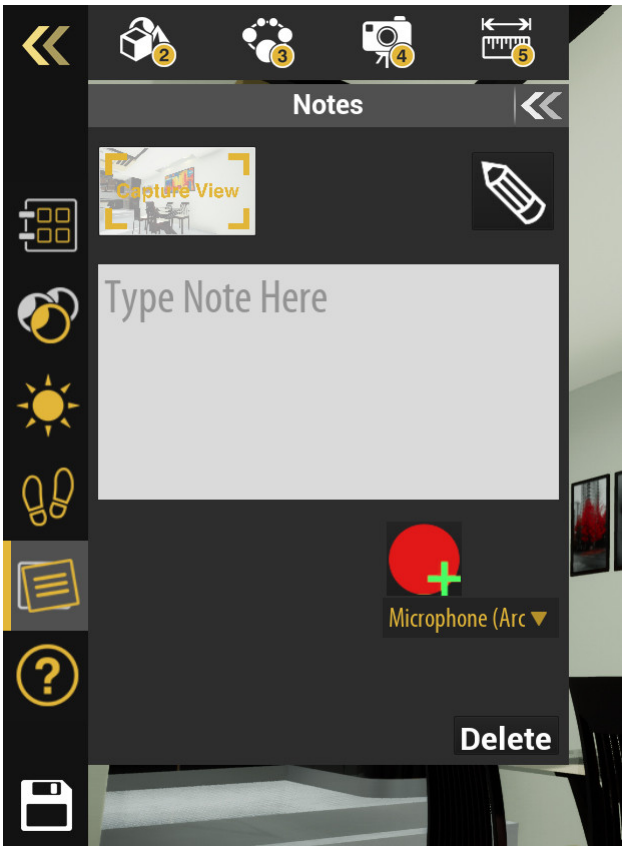


The Navigation menu is only available in Desktop mode and from there you switch between the following Navigation Modes:

- **Walking Mode:** In this mode the user will travel on flat surfaces as if he was walking and will collide with objects in the scene.
- **Flying Mode:** With flying mode, the user can elevate upwards without the effect of gravity, and collision bypassed if the VR Experience creator set it to be so.
- **Mechanical Mode:** In mechanical mode, the user can rotate around an object and zoom in an out of it by double clicking that object to focus on it.

The three buttons at the bottom of the panel control the walking speed of the user.

Notes



From the **Notes** menu, you can create multiple notes each tied to a different location in the VR Experience.

Using the Pencil icon, you can draw on objects in 3D space to mark them. The lines you draw are exclusive to the selected note and will not appear unless that note is accessed.

In the text field, the user can type his note in writing.

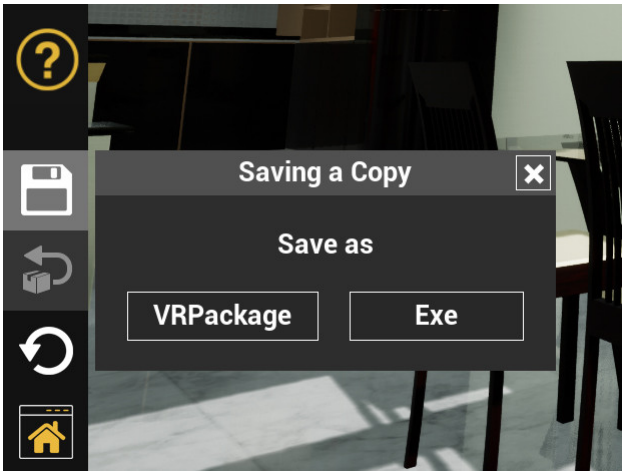
Using the record button, the user can add a voice note through the microphone, and from the combo box beneath the button, he can choose the recording device.

Help



From the **Help** Menu, you can access multiple VR Experiences that aim to teach the user the basics of utilizing the SimLab VR Viewer.

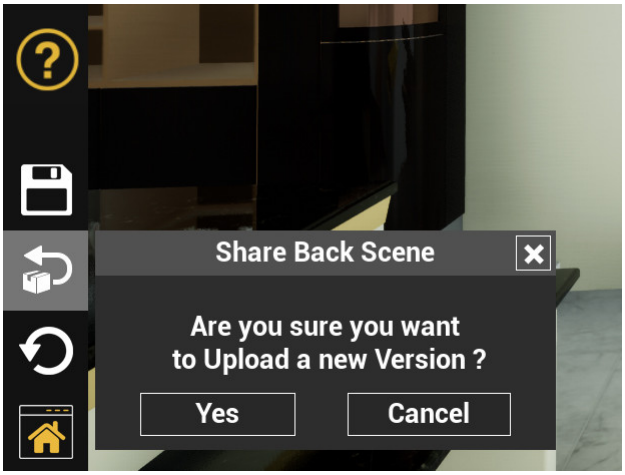
Save



When the **Save** option is enabled by the VR Experience creator, you will be able to save the VR Experience along with any modification made as either a "VRPackage" which is the native format for the VR Viewer files, or an "Exe" file.
The saved files can later be opened or shared with others either via SimLab VR Viewer or through traditional file communication mediums.



ShareBack



When the **ShareBack** option is enabled, the user can click the ShareBack button to send the VR Experience back to the user that shared it with him along with all the modifications and notes added to the VR Experience.



Reload

Clicking **Reload** will restart the VR Experience, erasing any modifications or progress made through the experience.



Home

Pressing the **Home** Button will send the user back to the homepage of SimLab VR Viewer, where he can browse different VR Experiences.

Scene Building Mode



When entering the scene building mode, any grabbable objects in the scene become interactive objects where you can :

Move the objects: Aim at the object and hold left click or the controller trigger in VR to move the object around in the scene.

Scale the Object: Using the left mouse button in Desktop Mode or the trigger button in VR Mode, drag the green spheres around the object to scale it up and down.

Rotate the Object: Using the left mouse button in Desktop Mode or the trigger button in VR Mode, drag the blue arrows surrounding the object to rotate it in the respective direction.

Hide/Show the Object: Click on the visibility button to hide or show the object in the scene.

Replace the Object: Click on the replace button then select a second object in the scene to replace the first object with the second object.

Reset the Object: Resets the scale of the object to its default size.

Copy the Object: Creates a replica of the object which later you can modify while maintaining the attributes of the original object.

Delete the Object: Removes the object from the VR Experience permanently.

(Lists) Visualize Scene Options



If there are any lists implemented in the VR Experience, accessing this mode will display all the lists pins, which when triggered, will reveal options for the target model.

Lists can include:

- Different materials of an object.
- Different attributes for an object (Position, Scale and Rotation).
- Different animation sequences.
- Multiple object replacement options.



Large Scene Navigation Mode



This mode can only be accessed if there are **Teleportation Cameras** in the scene, once the mode is activated, the objects in the VR Experience will become semi-transparent with a green hue and glowing spheres will appear.

Upon hovering over the spheres, a view of where the sphere will teleport you to, will be displayed, and once you click the sphere, you will teleport to its location.

Measurements Mode



In the **Measurements** mode, the user is able to measure distances between points on objects in 3D space.

In VR Mode, hold the trigger on the right hand controller and drag the controller to take a distance between the points, and use the trigger on the left hand controller to erase the created measurement when needed.

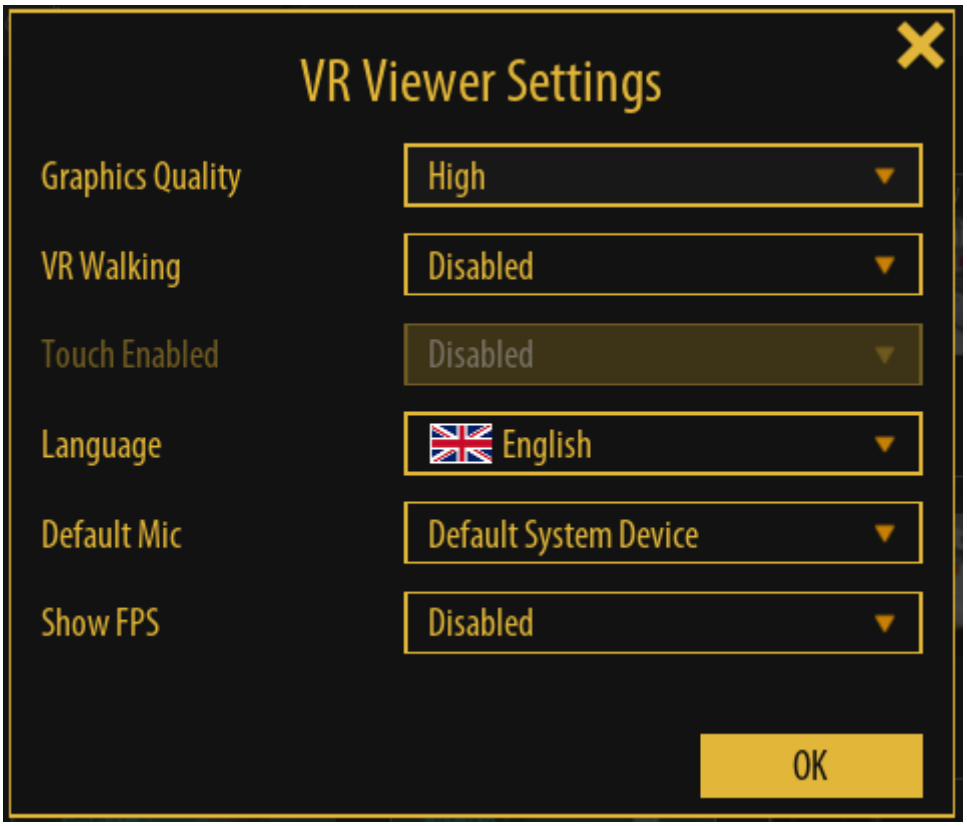
In Desktop Mode, hold the left click and drag the mouse to take a distance between the points, and use the right click to erase the measurement when needed.

VR Viewer Settings

Graphics Quality

Users can control the rendering quality from the viewer settings.

Running a PC with good video card on desktop the user can switch to **Ultra** rendering, which takes advantage of the new lumen rendering in unreal 5.



VR Walking

Enable/disable walking with controllers in VR.

Touch Enabled

Enable touch screen (if using a PC connected to a touch screen)

Language

Select the interface language (Users in different countries asked for that).

Default Mic

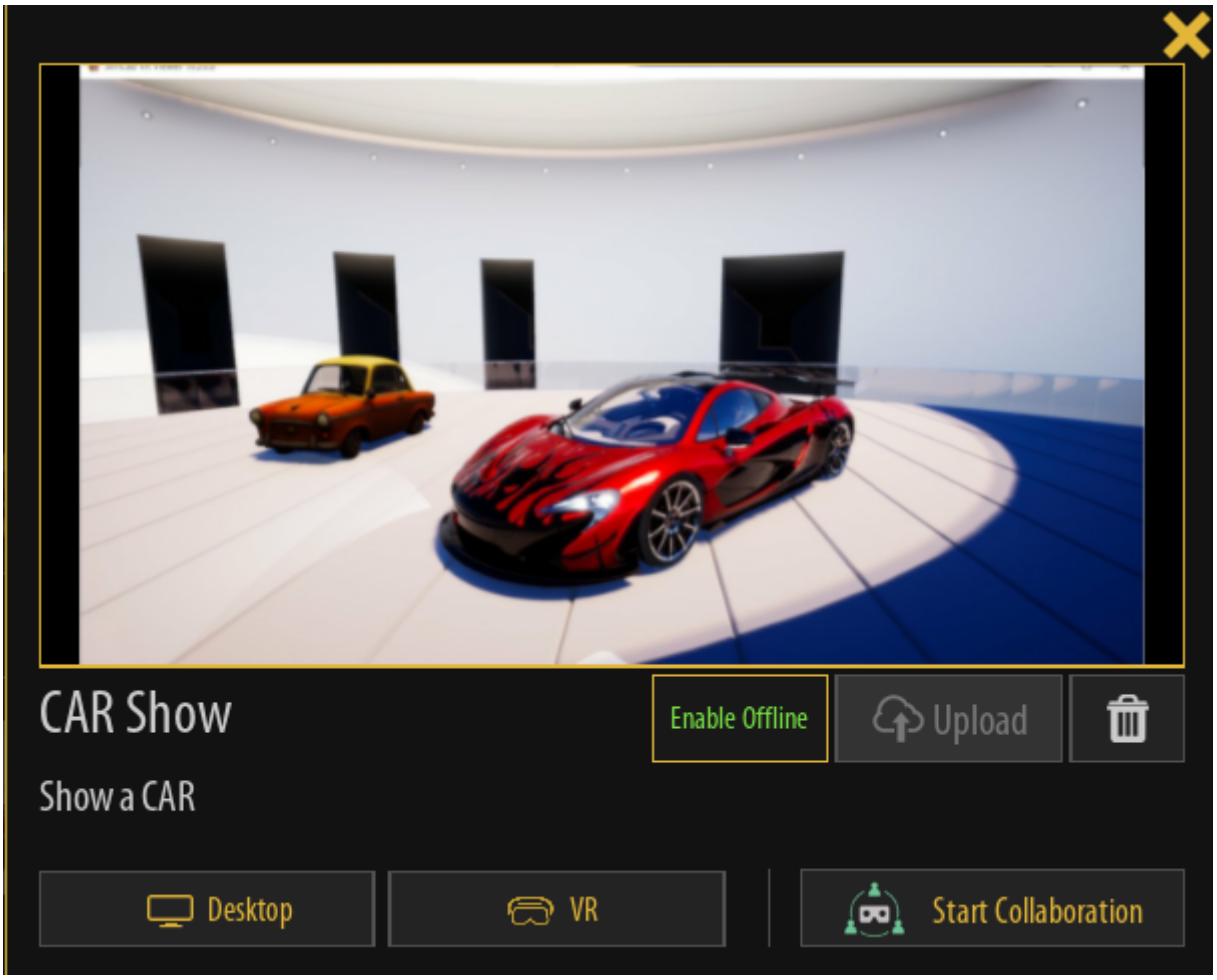
Select the default Mic for notes, and voice commands

Show FPS

If the user finds experience to be slow for providing great FPS for VR, the value can be lowered in settings to get a smooth VR Experience.

Accessing files on Quest, Android, Pico, and iOS without a network connection

To show models on Quest to users in trade shows where they do not have fast and reliable internet connections, we implemented the solution in the following way:
1- Upload your model(s) to the cloud, this can be done from Composer, VR Studio, or the VR Viewer while you are logged into your account
2- Log in to your account on Quest, now you will be able to see your models including the ones you just uploaded.
3- Select the model you want to enable access to even offline and click on the green button Enable Offline as shown in the following image

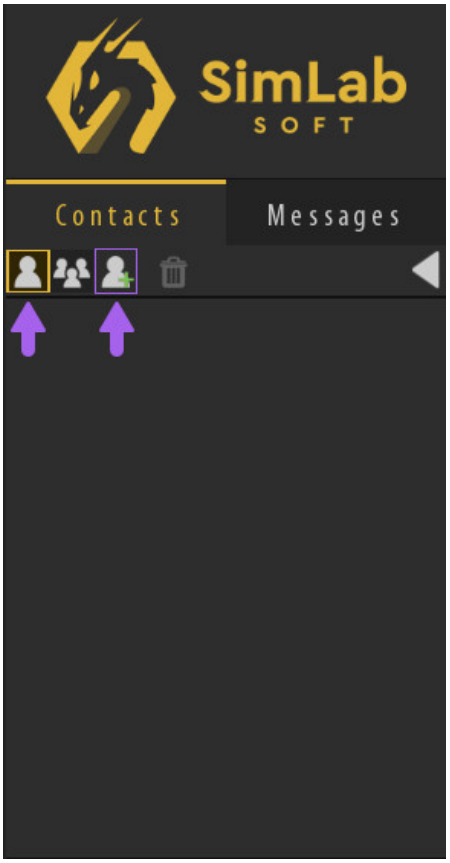


Next time when you start the viewer, models will show even without logging in or having an internet connection, you will be able to run models offline.

Contacts and Sharing

To Share VR Experiences with others through SimLab VR Viewer you need to first add them as contacts.

Adding Contacts

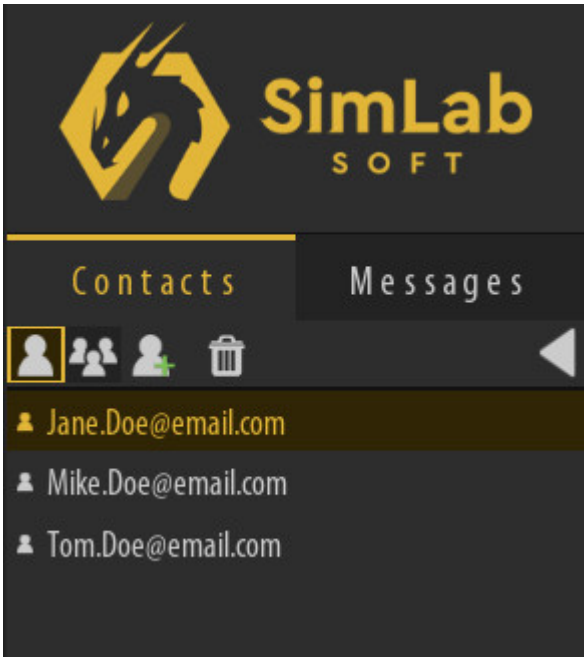


To Add Contacts, in the Contacts panel to the left make sure that the **Contacts List** is toggled on, then click on the **"Add Contact"** Icon.



In the "Add Contact" dialogue, type the email address of the user you want to add as a contact to your list, then click on the Add button.

Note : You can add multiple contacts at the same time by separating their email addresses with a **"comma"** in the email field.



Added contacts will be displayed in the "Contacts" list as email addresses if they do not have an active SimLab Account.

Once they activate their account, their names will be displayed instead of email addresses.

Note : An email will automatically be sent to the contacts you add, inviting them to activate their SimLab cloud account in case they do not have an existing account.

Creating Groups

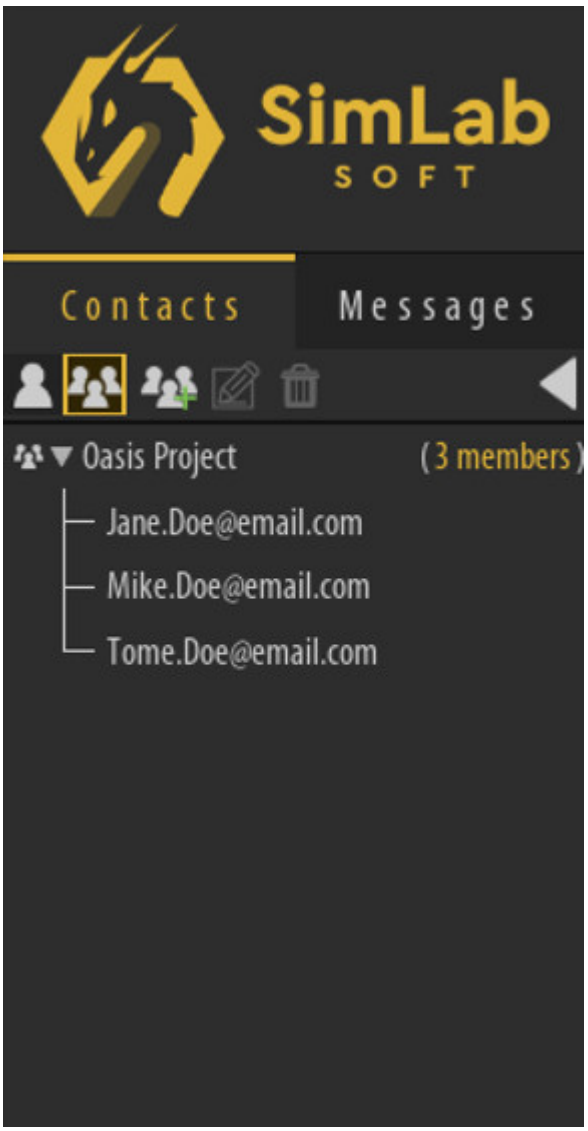
To manage contacts more efficiently, you can assign them to groups in order to easily share VR Experiences with them.



To create a **Group**, in the **Contacts** panel to the left make sure that the **Groups List** is toggled on, then click on the **"Add Group"** Icon.



In the **Add Group** dialogue, type in a name for the group then select the contacts that wish to add to that group.


SimLab
SOFT
Contacts
Messages
Oasis Project
(3 members)
Jane.Doe@email.com
Mike.Doe@email.com
Tome.Doe@email.com

Once the group is created, you will find it when toggling the Groups list view in the contacts panel.



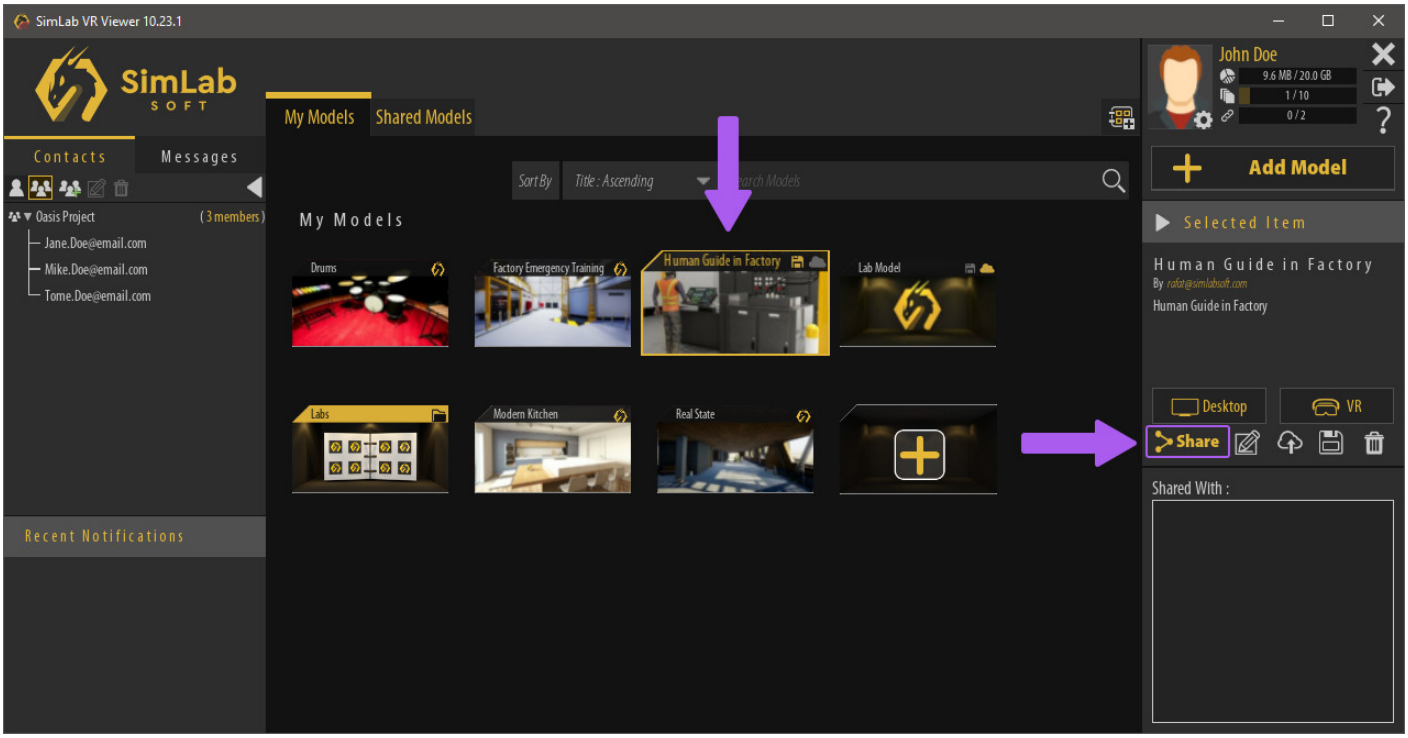
Adding Multiple Users to a Group

After creating a group you will be able to add multiple contacts to that group, to do so, toggle on the **Contacts List** then click on the **Add Contacts** icon.

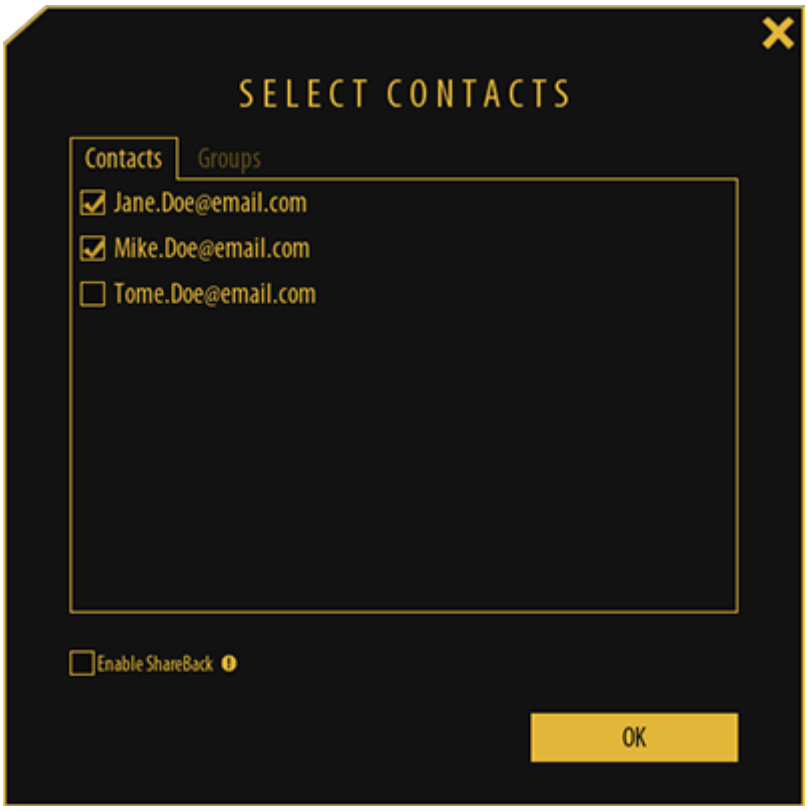
In the **Add Contacts** dialogue, enable the **"Add to Group"** option and select the desired group, and in the email field, type or paste the email addresses separated by a "**Comma**", then click **Add**.

Sharing VR Experiences

Now that you have learned how to add contacts and groups, you can now Share VR Experiences with other users.



To Share a VR Experience, select it, then from the "Selected Item" Panel to the right, Click **Share**.

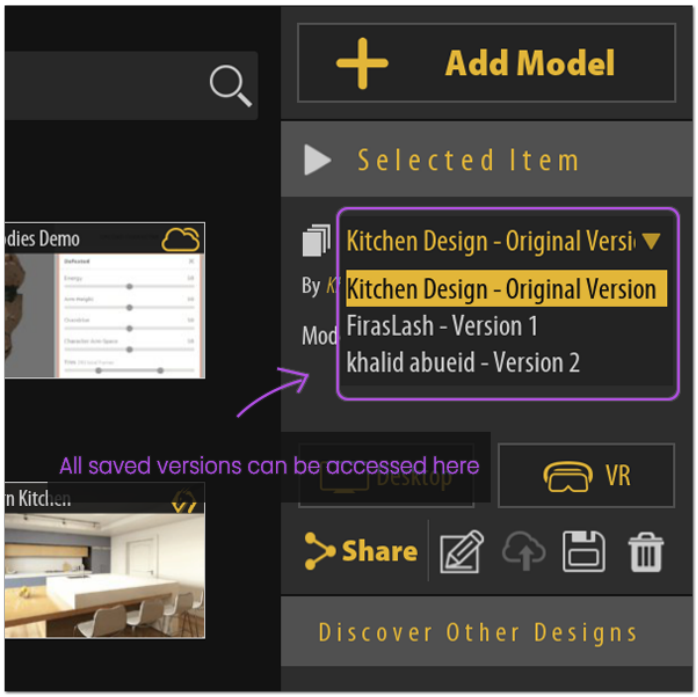


From The Share Dialog, you can either select to share the VR experience with users from the contacts list, or share it with groups by switching to the groups and selecting a group.

Click **OK** to Share the VR Experience.

ShareBack

The ShareBack option, when enabled, allows the user that you shared the VR experience with to send back the VR experience to you with any modifications or notes that have implemented to the VR Experience.



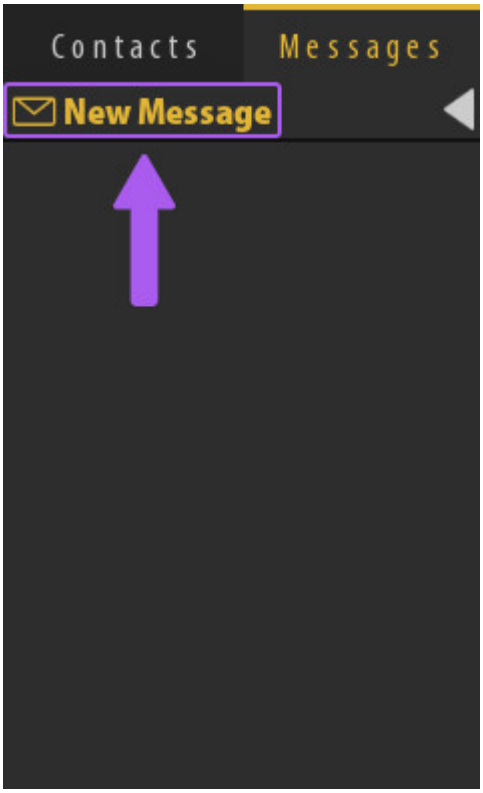
The Shared back VR Experience will appear to you as an additional version of the VR Experience and it wont affect the original Shared VR Experience.

https://www.youtube.com/embed/A3ToDyr6O7w?ab_channel=SimLabSoft

Watch This Video To learn more About Sharing and using ShareBack.

Messages

SimLab VR Viewer allows you to send and receive messages from contacts through the **Messages** Tab in the panel to the left.



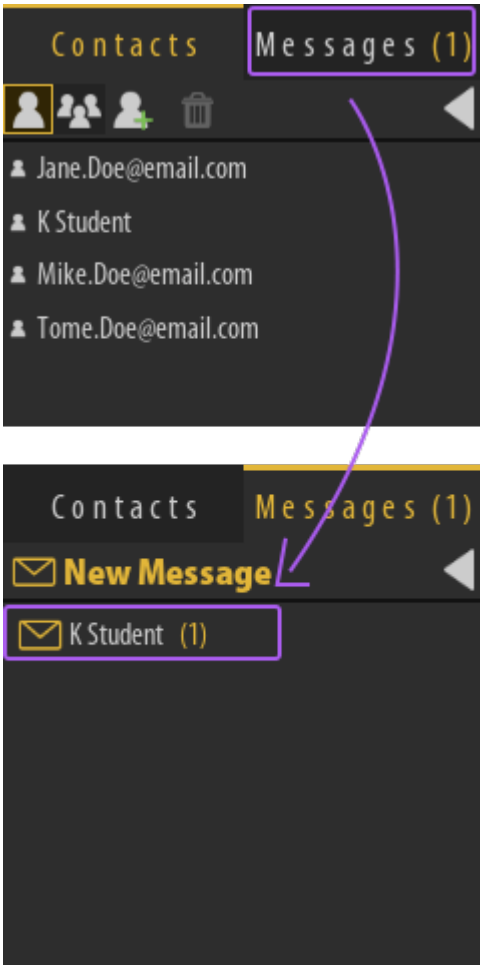
To send a message, Switch to the messages Tab and Click on **"New Message".**



From **Select Contacts** dialog, select the contacts you wish to send a message to, and click "OK".



Once you have selected a contact, you can now message him by typing in the text field at the bottom then click "**Send**" or by pressing "**Enter**" on the keyboard.



When you receive a message a notifications with the number of received messages will appear next to the **Messages** tab title.

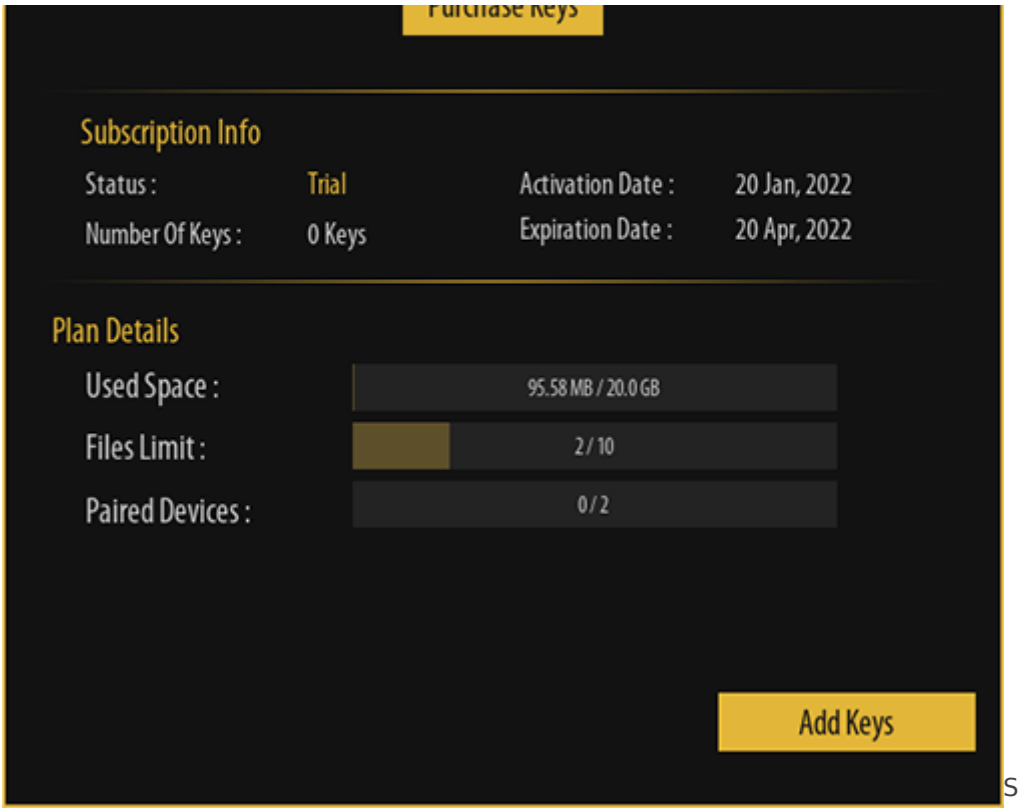
Switch to the messages tab and you will find the active messaging sessions with the number of messages next to it, click it to view the received messages

Plan and Subscription

While Logged-in in SimLab VR Viewer, at the top right corner next to the avatar, you will find 3 counters for: **Size Limit, Files Count,** and **Number of Paired Devices**.



Click The Size limit or the Files Count icons to display your SimLab Cloud Sharing Plan Details.



SimLab Cloud Sharing Plan

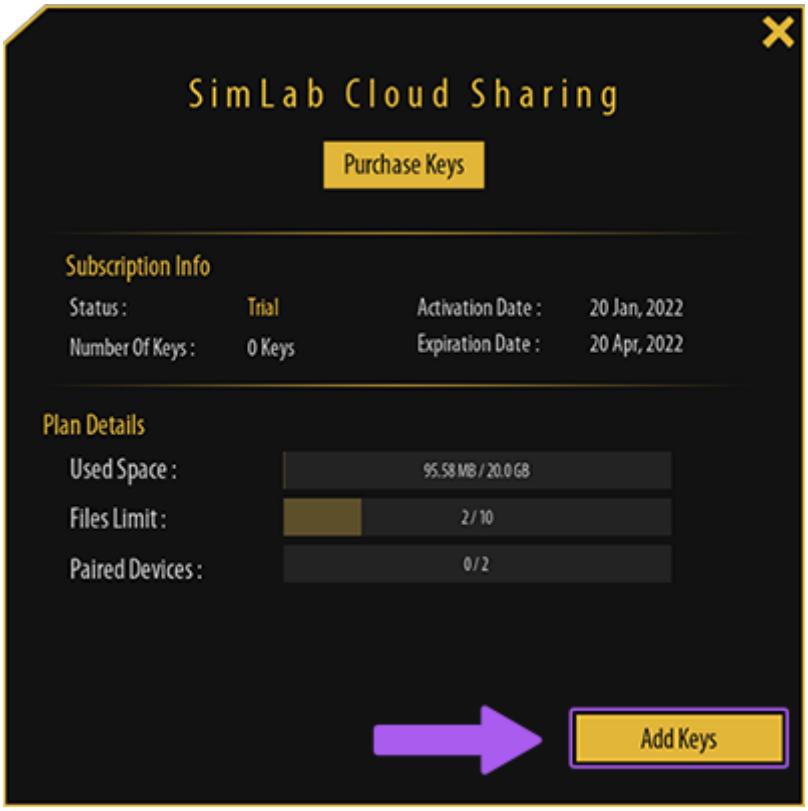
Details Dialog

Upon signing up and activating your SimLab account for the first time you will get 3 months of Fully functioning Trial subscription with :

- **10 online models** that you can upload and share
- **20 GB of storage** of total uploaded file size
- **2 Paired devices** that can be paired at the same time.

If you need to extend the 3 months period, or increase the number of online models, storage and the number of paired devices you need to upgrade the plan by purchasing keys and adding them to your account.

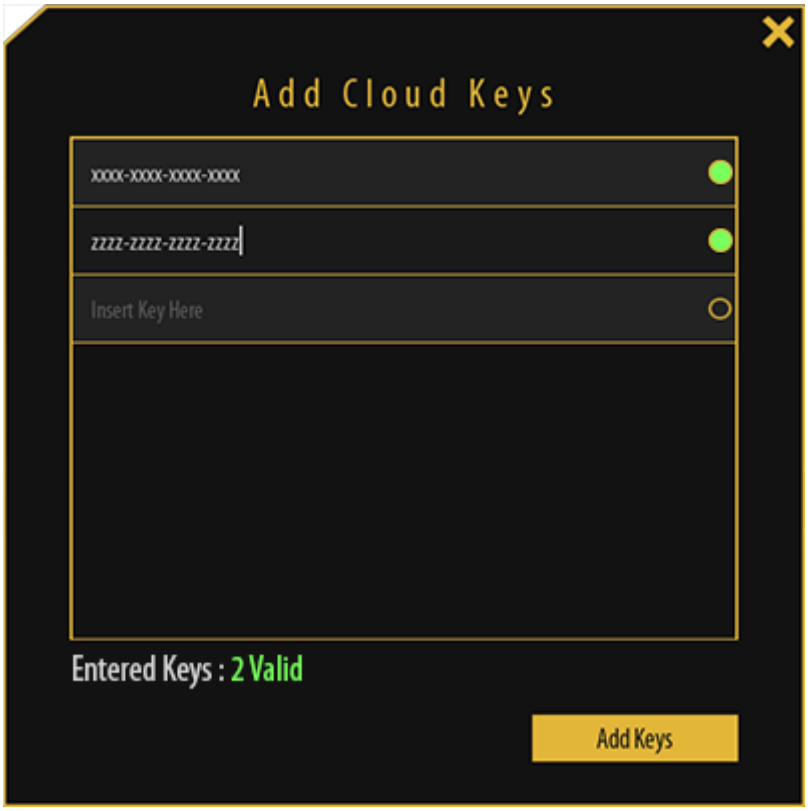
To purchase keys, click on **Purchase keys** button from the SimLab Cloud Sharing Dialog, or Click here.



Once you have purchased the Keys, Click on the **Add Keys** button from the SimLab Cloud Sharing Dialog.



Enter the Key or the multiple Keys you have purchased in the fields then click **Add Keys**.



Once you click **Add Keys**, the Plan will be upgraded right away and you will get a green indicator next to the added key denoting the success of the keys addition to your plan.

Mixed Reality Collaboration Support

When users are not physically in the same location, the process is straightforward. Simply select Mixed Reality (MR), enable Avatars, and initiate VR Collaboration. Each user will then be able to view the models they are working on, observe Avatars representing other collaborators, and seamlessly engage in collaboration.

However, if users are physically present in the same location and wish to collaborate, a few additional steps are required. They should choose MR, and deactivate Avatars (as they can see other users). They need to synchronize their physical locations with the MR positions.

For full understanding of the process, refer to the following video.

https://www.youtube.com/embed/YbBf8Ot0E4M