



# User's Guide for FRC

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# Overview

HyperMock brings the power of virtual reality (VR) to your CAD based collaborative design process. HyperMock enables users to unlock the value of their CAD assets by converting them into interactive virtual objects securely stored in the cloud or offline. These virtual objects can enrich training, help close sales, energize marketing and accelerate service ticket resolution. Supported across VR and AR devices, HyperMock enables everyone in your organization to enjoy up to the minute CAD information and knowledge to train employees, educate users, market to prospects, service customer issues and close sales deals. Whether you are designing a healthcare facility or a mechanical product, you can turn CAD designs into game objects and positively impact business.

## System Requirements

Microsoft Windows 10 64-bit  
An internet connection

Recommended specs for VR:

[SteamVR](#): Required to run HTC Vive


Processor: Intel Core i5-4590/AMD FX 8350 equivalent or better

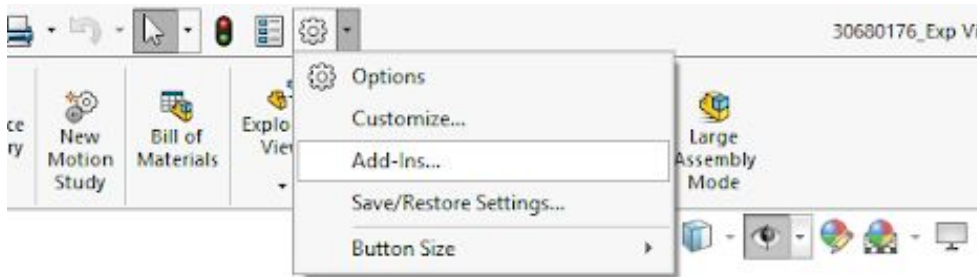
Video card: NVIDIA GeForce GTX 1060, AMD Radeon RX 480 equivalent or better

RAM: 4 GB RAM or more

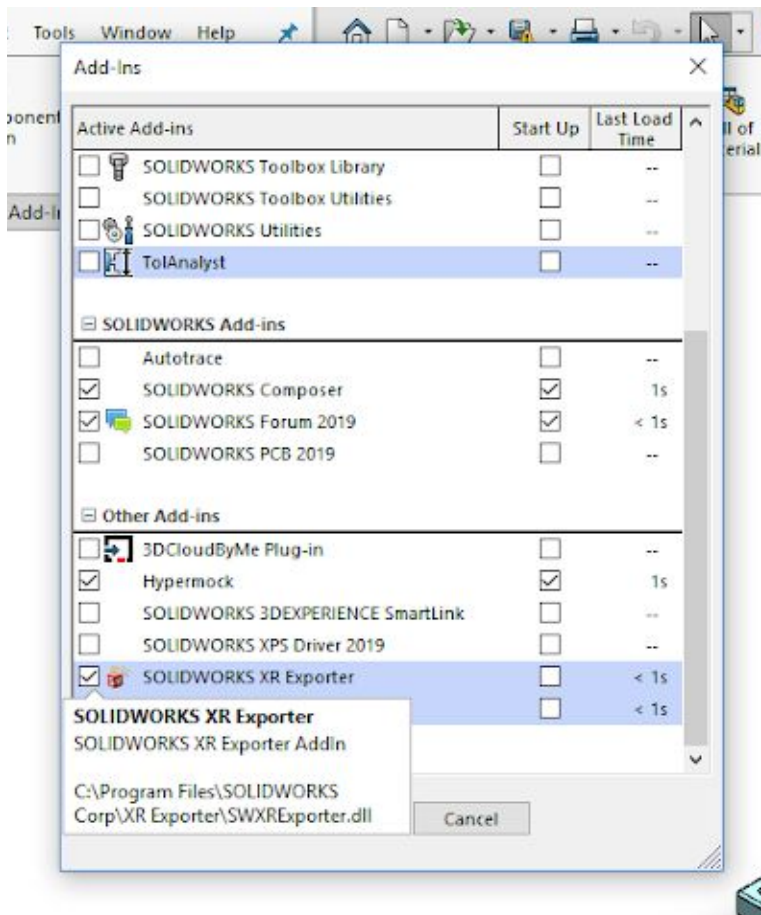
# How To's

## How to Export Model from SolidWorks

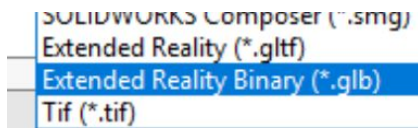
1. Click on the Gear  icon in the top toolbar and select Add-Ins...



2. Make sure SOLIDWORKS XR Exporter is checked








3. Save the model and set “Save as type” to Extended Reality Binary (\*.glb)

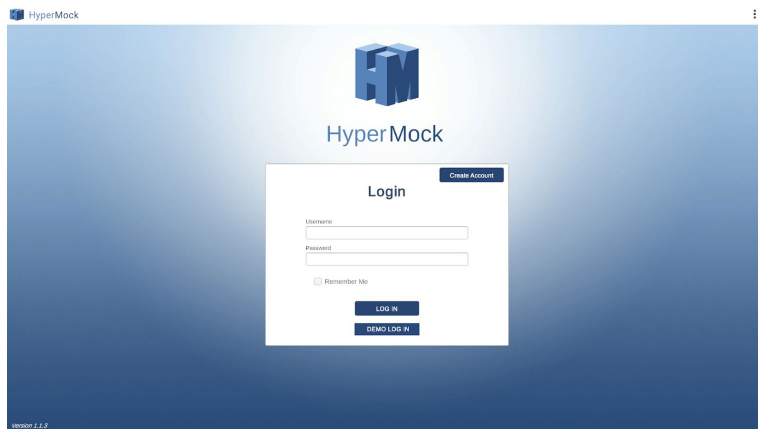


## How to Create Your HyperMock Credentials

1. Launch “HypermockDesktop.exe”

	HypermockDesktop_Data	8/23/2019 2:30 PM	File folder	
	MonoBleedingEdge	8/23/2019 2:30 PM	File folder	
	HypermockDesktop.exe	8/23/2019 12:23 PM	Application	636 KB
	UnityCrashHandler64.exe	7/19/2019 1:56 AM	Application	1,606 KB
	UnityPlayer.dll	7/19/2019 1:56 AM	Application extens...	23,717 KB

2. Press the Create Account button



3. Enter a name, username, and password then hit the Create button

Create Account

X

Name

Enter a name...

Username

Enter a unique username...

Password

Enter a password...






Confirm Password

Confirm the password...

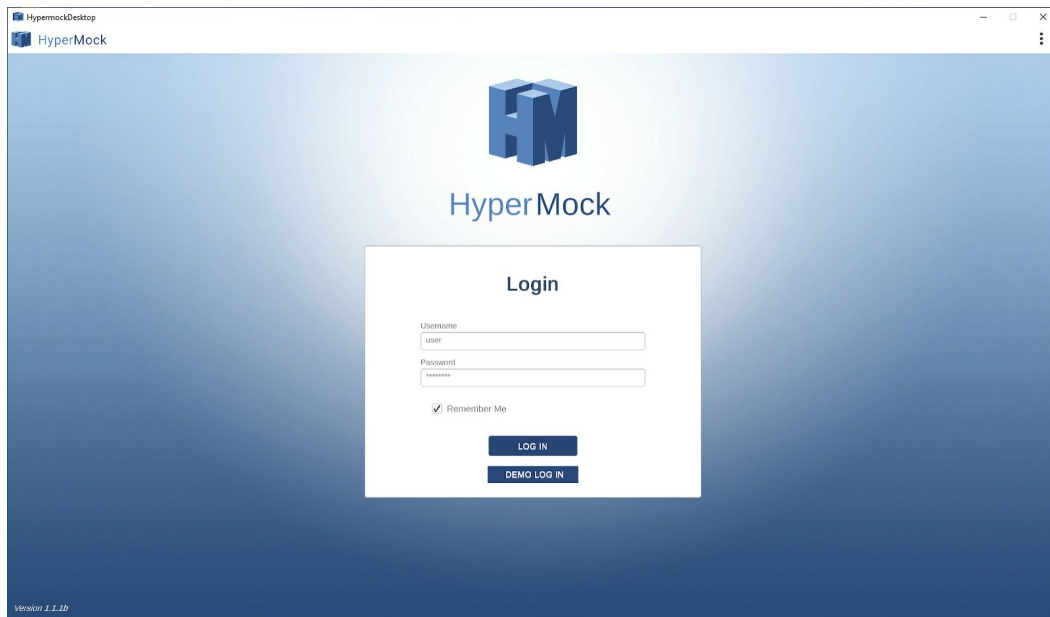
Create

## How to Import Model as Virtual Object (VO) into HyperMock Desktop

1. Launch "HypermockDesktop.exe"

	HypermockDesktop_Data	8/23/2019 2:30 PM	File folder	
	MonoBleedingEdge	8/23/2019 2:30 PM	File folder	
	HypermockDesktop.exe	8/23/2019 12:23 PM	Application	636 KB
	UnityCrashHandler64.exe	7/19/2019 1:56 AM	Application	1,606 KB
	UnityPlayer.dll	7/19/2019 1:56 AM	Application extens...	23,717 KB


2. Log in with your credentials

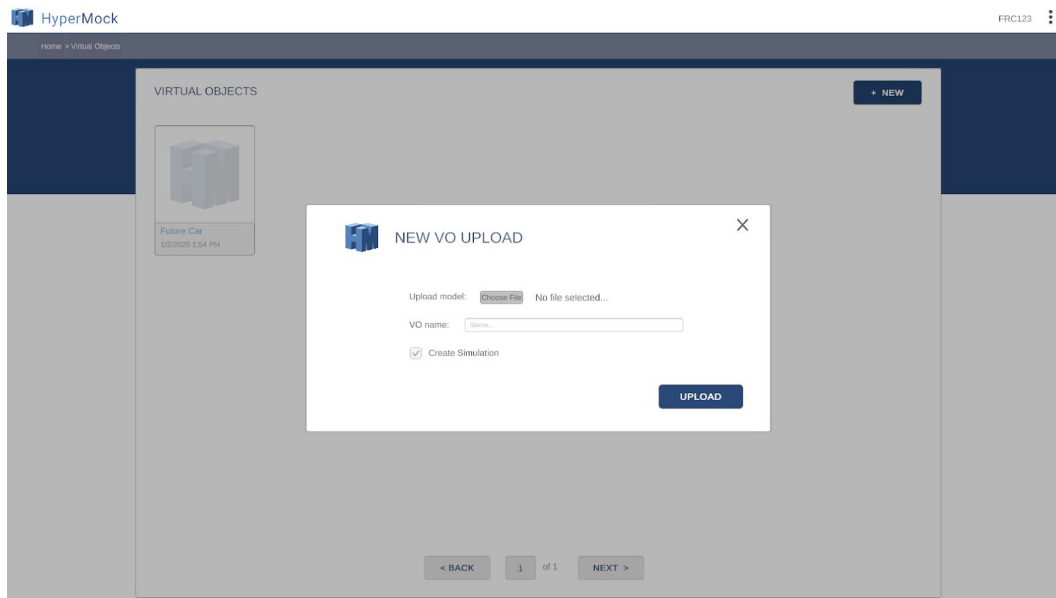


### 3. Select VIRTUAL OBJECTS

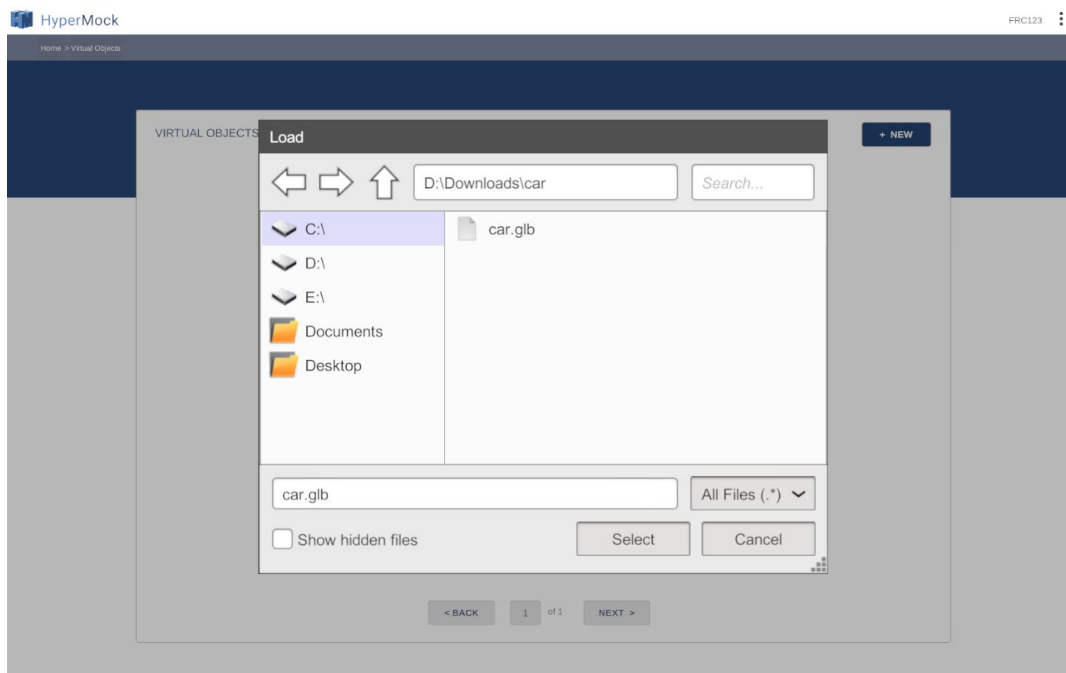


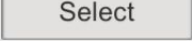
4. Click the  ( + NEW ) button


5. Click the  ( Choose file ) button to open up your folders



6. Select your model with the .glb extension



7. Click the  ( Select ) button
8. Type in a name for your VO

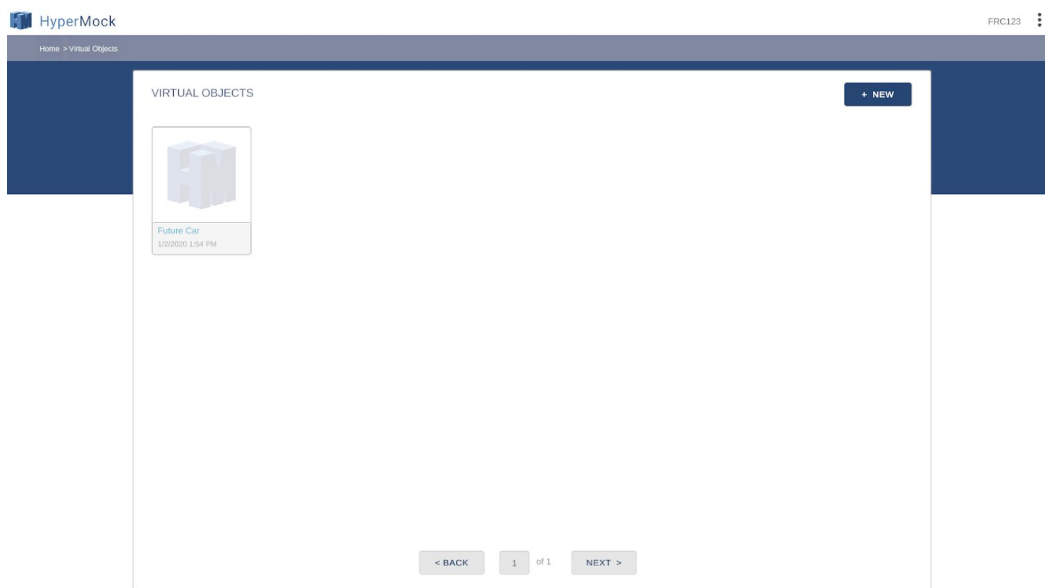


The image shows a 'NEW VO UPLOAD' dialog box with a blue 'H' logo in the top left and a close button 'X' in the top right. The form contains the following fields and controls:

- Upload model:** A 'Choose File' button followed by the text 'D:\Downloads\car\car.glb'.
- VO name:** A text input field containing 'Future Car'.
- Create Simulation:** A checked checkbox followed by the text 'Create Simulation'.
- UPLOAD:** A large blue button at the bottom right.

9. Click the  ( UPLOAD ) button

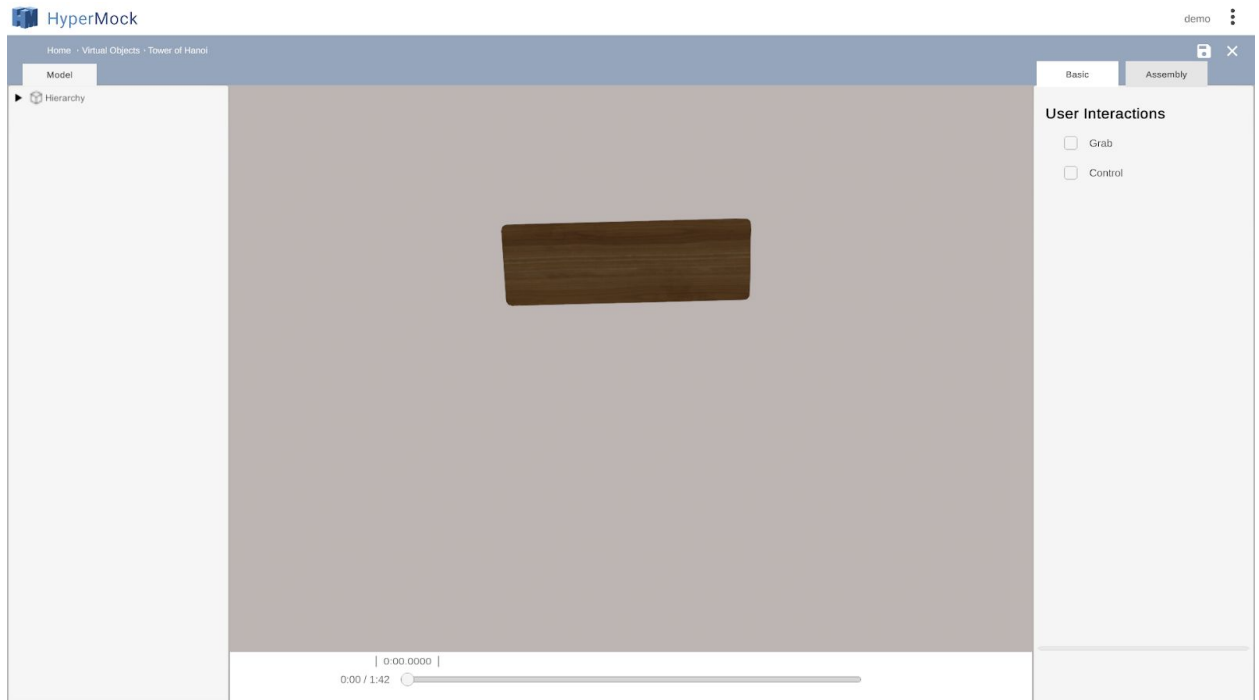
10. Your new VO will be added to the VIRTUAL OBJECTS manager page.



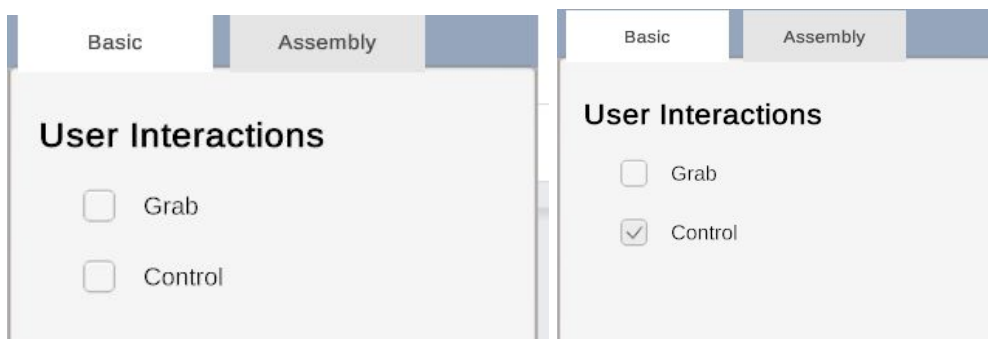
## How to Setup Your Uploaded VO to be Controllable

1. On the VIRTUAL OBJECTS manager page highlight over your desired VO and click the edit button (the pencil) to go into its properties.

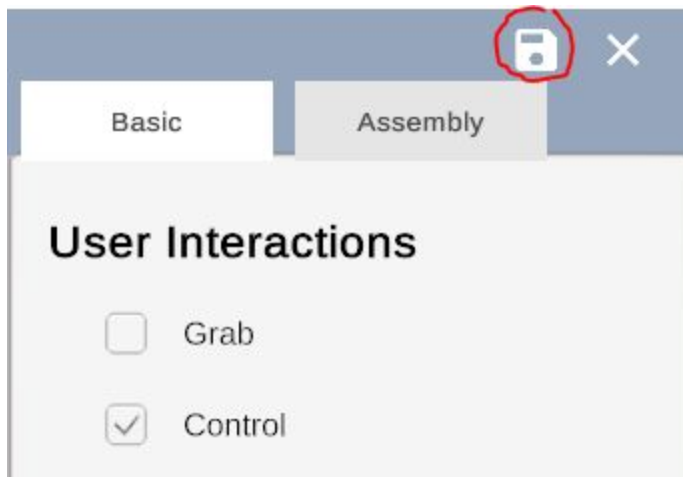




2. Select the Control box on the Basic User Interactions tab



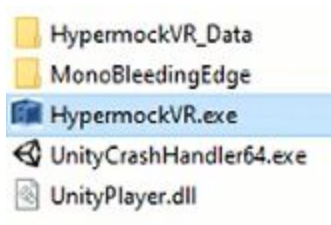
3. Then hit the Save button in the upper right hand corner to save your changes to the VO Properties



## How to View Your Simulation in VR

A detailed explanation of controls and interface functions are described in the section [VR Experience User Interface](#).

1. Launch “HypermockVR.exe”



2. Select a Simulation from the list.



3. Click on the Start button

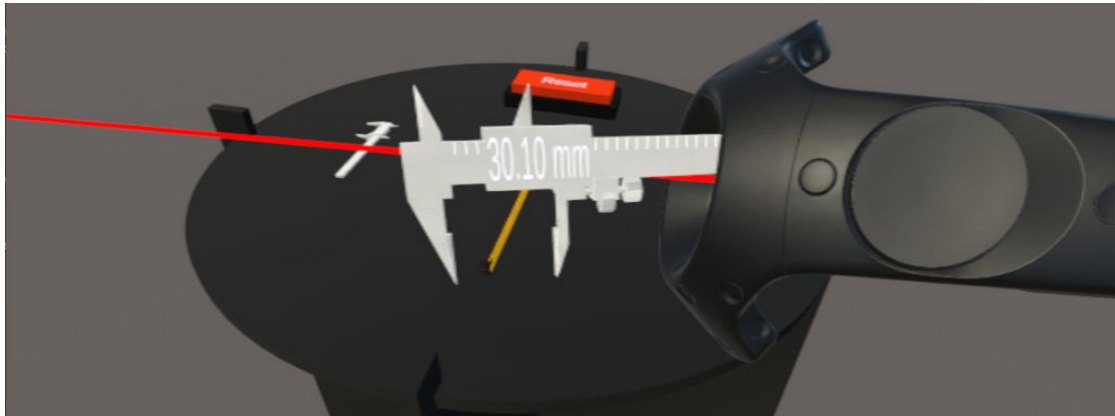
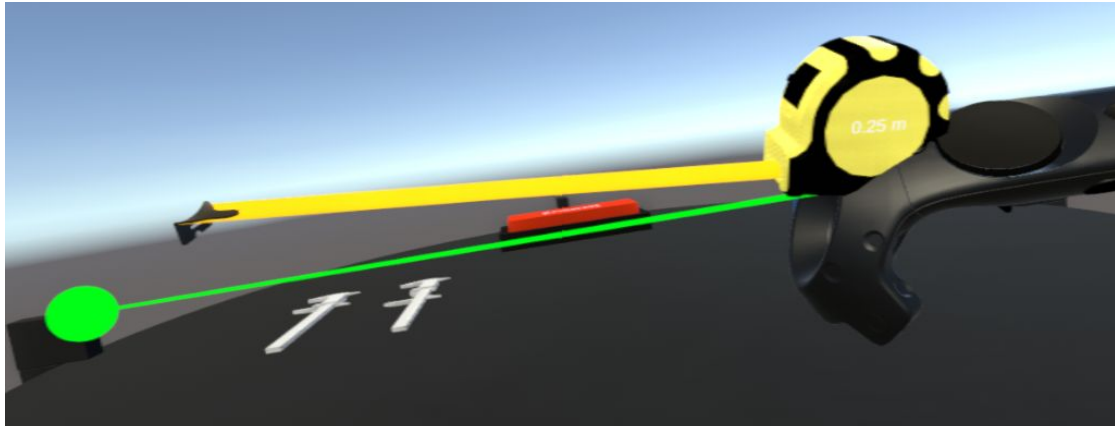


## How to Use the Measurement Tools

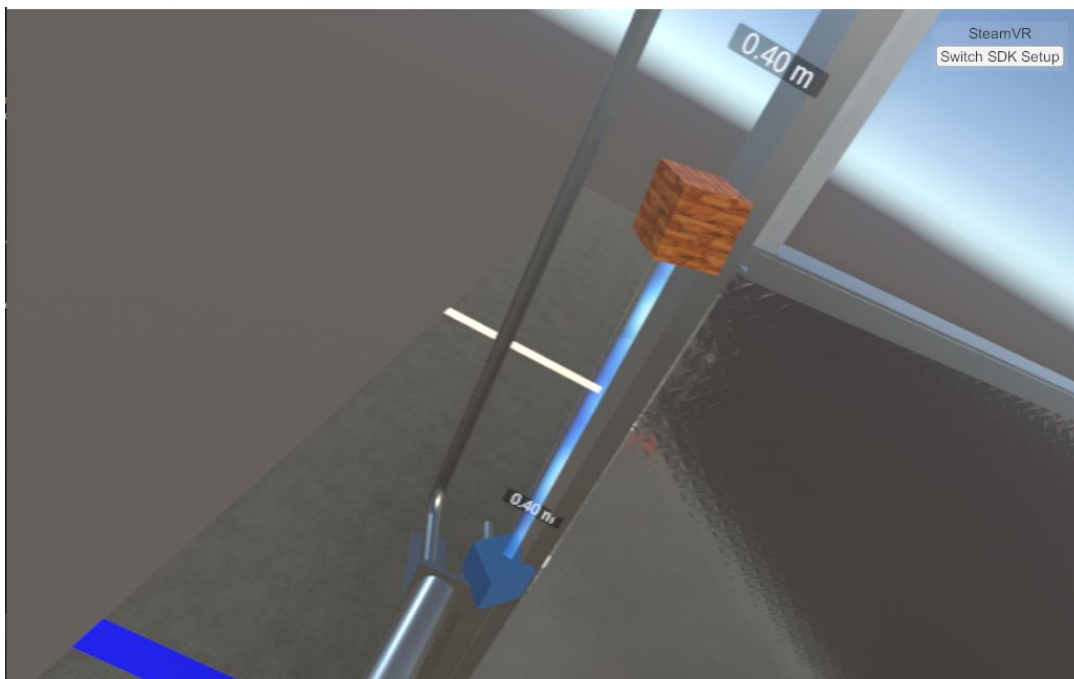
1. Find the VR Measurement tools in the FRC Space. They should be located off to the side on a Tools table arranged as shown in the photo below. If you lose track of any of the measurement devices you can press the red “Reset” button on the table and they will return to the table in the default arrangement. The following tools are available:
  - Caliper (inches)
  - Caliper (millimeters)
  - Retractable ruler (inches and centimeters)
  - Measurement cubes (meters)



2. To extend the ruler and caliper pick them up and touch the touchpad of your controller (with Vive) or press up on the control stick (if Oculus) while the measuring device is held. The devices will adjust their values in real time while they extend or retract. They will change their values at a faster rate the further you touch on the pad/press with the control stick.

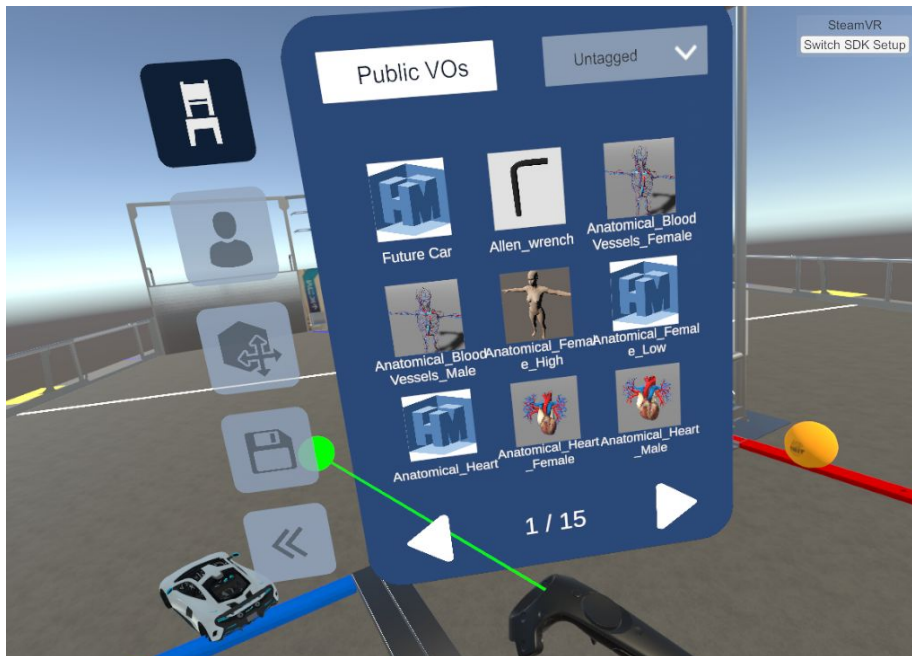


3. To use measurement cubes simply pick them up and drop them somewhere in space. The measurement of the beam connecting the centers of the two cubes will be displayed.



## How to Control Your Uploaded VO in the FRC Space

1. To move your robot through the Virtual FRC Space, first, follow “How to Setup Your Uploaded VO to be Controllable” steps.
2. Select the FRC2020 simulation and click the Edit button. This will then load the space and give you access to the VO list.
3. Spawn your VO by clicking on the icon. It will spawn at your feet. You can click on your VO to drag and position it in the arena space.

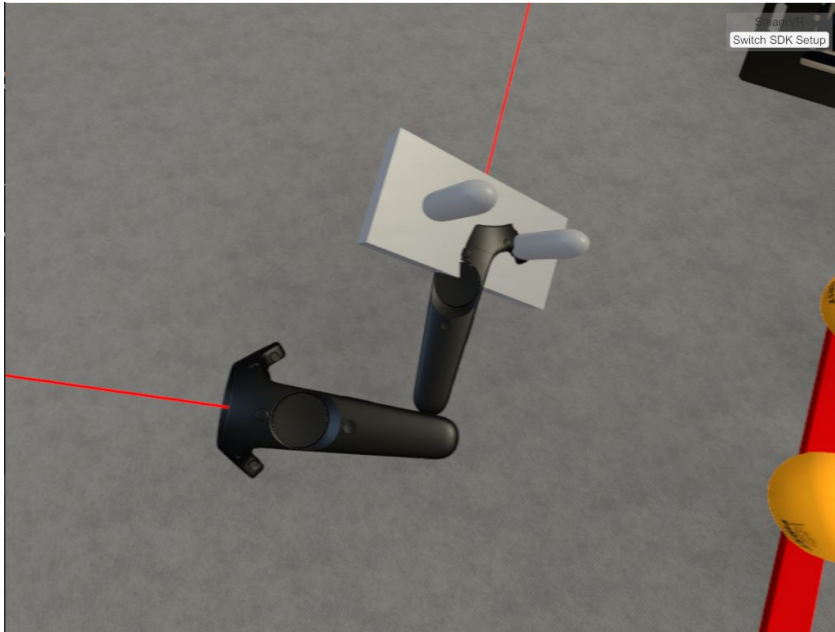


4. After positioning your controllable VO into the space, go to the Save Icon on the left and hit the button in the menu to Save your changes. Return to the main menu afterwards.



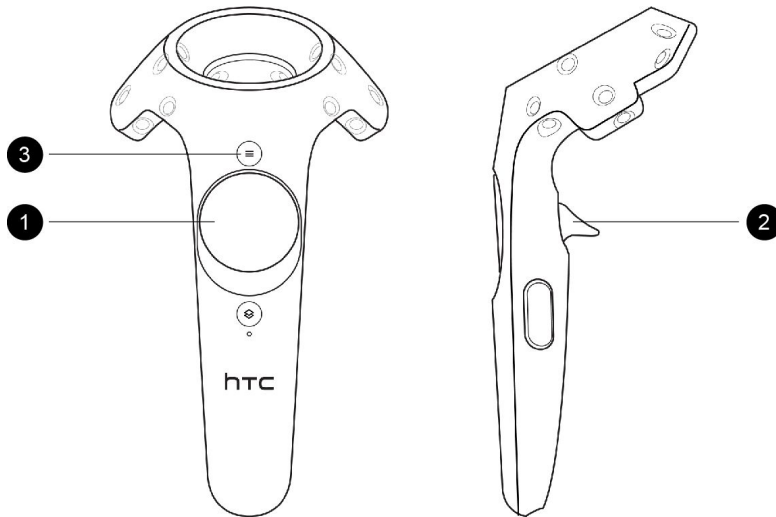
5. Launch the FRC 2020 space as normal. You should see your VO, as well as a grey controller object on the Tools table. To operate your VO, pick up the controller. The controller will only appear if you set your model as controllable when editing your VO.

6. Touch the pad on the right controller to rotate the the VO.
7. Touch the pad on the left controller to move forward or backwards.



# VR Experience User Interface

## VR Controls



### 1. Teleport button

Hold down the button, aim at the ground, and release to teleport to the location

### 2. Trigger

Point the green selection laser at a target (e.g. a button), and pull the trigger to use it

### 3. Menu button

Select this button to exit the simulation or to enter Height Adjuster mode