

Storyboard

User Guide



Artefact



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About

Over the past year, we at Artefact have encountered multiple challenges in designing for VR. It is slow to create and test ideas within normal VR workflows, and it can be difficult to adjust and iterate while in VR. Simply said, today's tools aren't made to quickly prototype presence, variable point of view, interactivity, and pacing within VR.

These challenges are certainly not unique to us, but we decided to do something about it. This is why Artefact created Storyboard VR: a protovis tool that allows artists and designers to use their existing skills to quickly test ideas in VR.

Storyboard VR works in a similar way to traditional storyboard techniques by creating static frames that roughly block in a scene. Designers and developers can easily import assets from existing drawing tools and position them while inside VR to quickly test and iterate. And, just like traditional storyboarding, users can create multiple scenes to test the flow of the experience.

An incredibly lightweight app, Storyboard VR takes only a few minutes to get acquainted with.

Getting Started



System Requirements

Storyboard VR is designed to work with the two-controller system of the HTC Vive. Currently Storyboard VR is only supported on the HTC Vive. As such your system will need to meet the following requirements:

GPU: NVIDIA® GeForce® GTX 970, AMD Radeon™ R9 290 equivalent or better

CPU: Intel® Core™ i5-4590/AMD FX™ 8350 equivalent or better

RAM: 4 GB or more

Operating system: Windows® 7 SP1, Windows® 8.1 or later, Windows® 10

Video output: HDMI 1.4, DisplayPort 1.2 or newer

USB port: 1x USB 2.0 or better port

Increase Vive Resolution

Storyboard VR can look a little pixelated on the VIVE with default settings.

We recommend using super-sampling to make images and text to look more crisp even from far away.

Follow the instructions here to turn on super-sampling on Vive:

<http://www.roadtovr.com/how-to-improve-your-ht-vive-image-quality-with-supersampling-pixel-density-tweak/>



We recommend a factor of 2.

Left Controller

- 1

Create New

Click any of these content types to add an asset to the current frame.
- 2

Storyboard

This contains all the frames in your project. Point at a frame to bring up a context menu.
- 3

Left Menu Button = Undo

Undo any actions per frame with the left menu button. This is also a fast way to de-select.
- 4

Left Squeeze button = Previous

Quickly move between frames with the previous button.



Right Controller

- 1

Right Menu Button = Redo

If you undo something, you can redo with the menu button.
- 2

Right Touchpad = Distance and Scroll

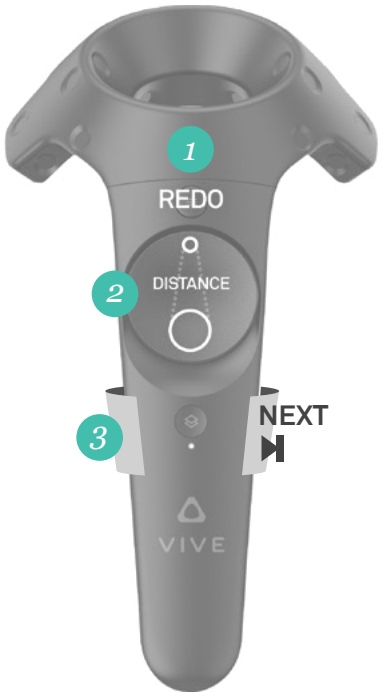
To scroll menus swipe down and
- 3

Right Squeeze Button = Next

Quickly move between frames with the next button.
- 4

Right Trigger Button = Select

Activate buttons and select objects with the trigger. If you have multiple objects on top of each other continuing to click will select each one in sequence.

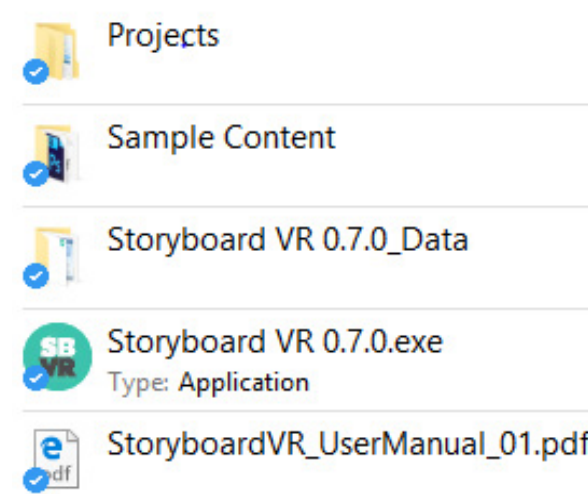


Managing Files

Go to your file directory.

Inside the directory there are five items:

- 1 Projects folder
- 2 Sample Content folder
- 3 StoryboardVR_Data folder
- 4 StoryboardVR executable
- 5 Storyboard VR User Manual



Inside the projects folder are the individual storyboard flow project folders. You will need to load projects via the keyboard. 1-9 will load the folders in the projects folder in alphabetical order. We recommend numbering your folders to keep track of them. Storyboard VR supports up to nine projects.

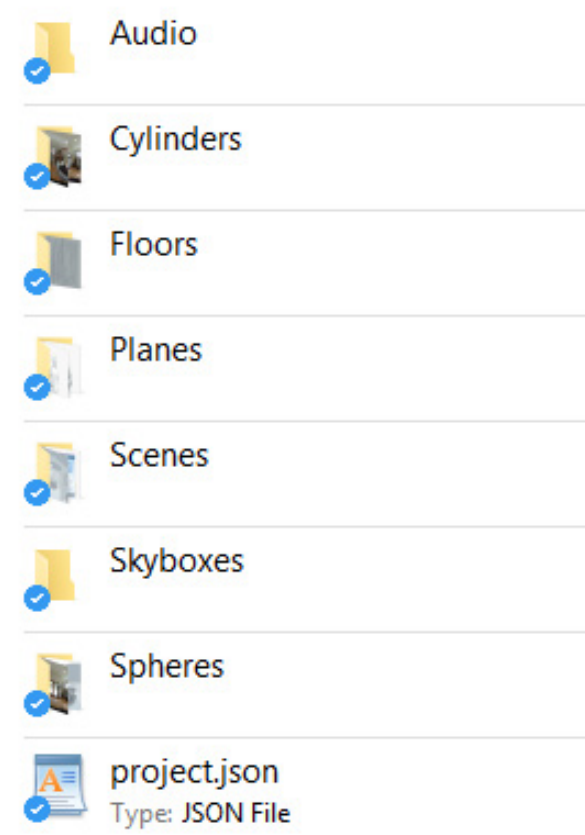
- 1 Sample Project - Storytelling
- 2 Sample Project - Education
- 3 Sample Project - Games
- 4 Sample Project - Education

Managing Files

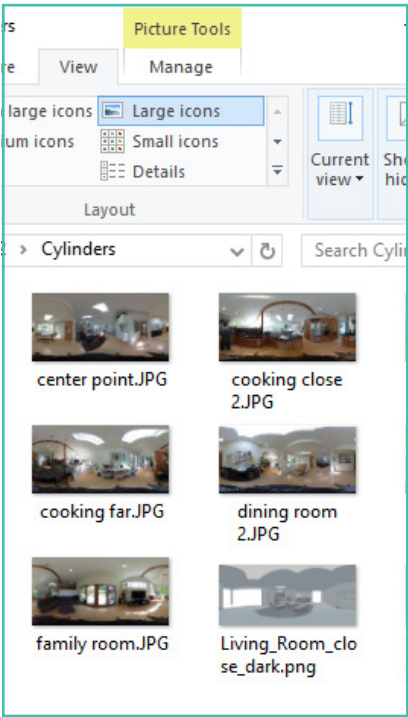
Each project folder contains six image folders to be used in your storyboard. They are categorized in the following folders:

- 1 *Audio**
- 2 *Cylinders*
- 3 *Floors*
- 4 *Planes*
- 5 *Scenes*
- 6 *Skyboxes**
- 7 *Spheres*

**Ignore these folders. They are part of the software build, but unsupported in the UI. Just pretend they aren't there :)*



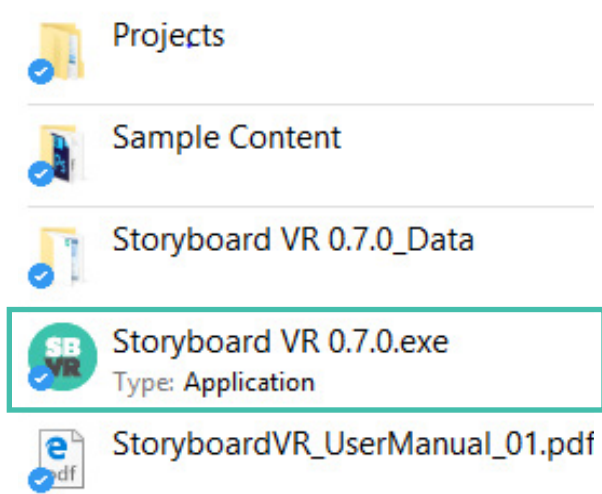
Folders pertain to specific geometric types within the system and images must correspond to the folder type. For example, images to be used as a cylinder map should be placed in the Cylinders folder. Then, within Storyboard VR, the image will be accessible only through the Cylinder menu item.



Loading Projects

Go back to the main file directory and locate the Storyboard VR executable. *Click to launch StoryboardVR.*

Once the application window launches, put on your VR headset and take the controllers.

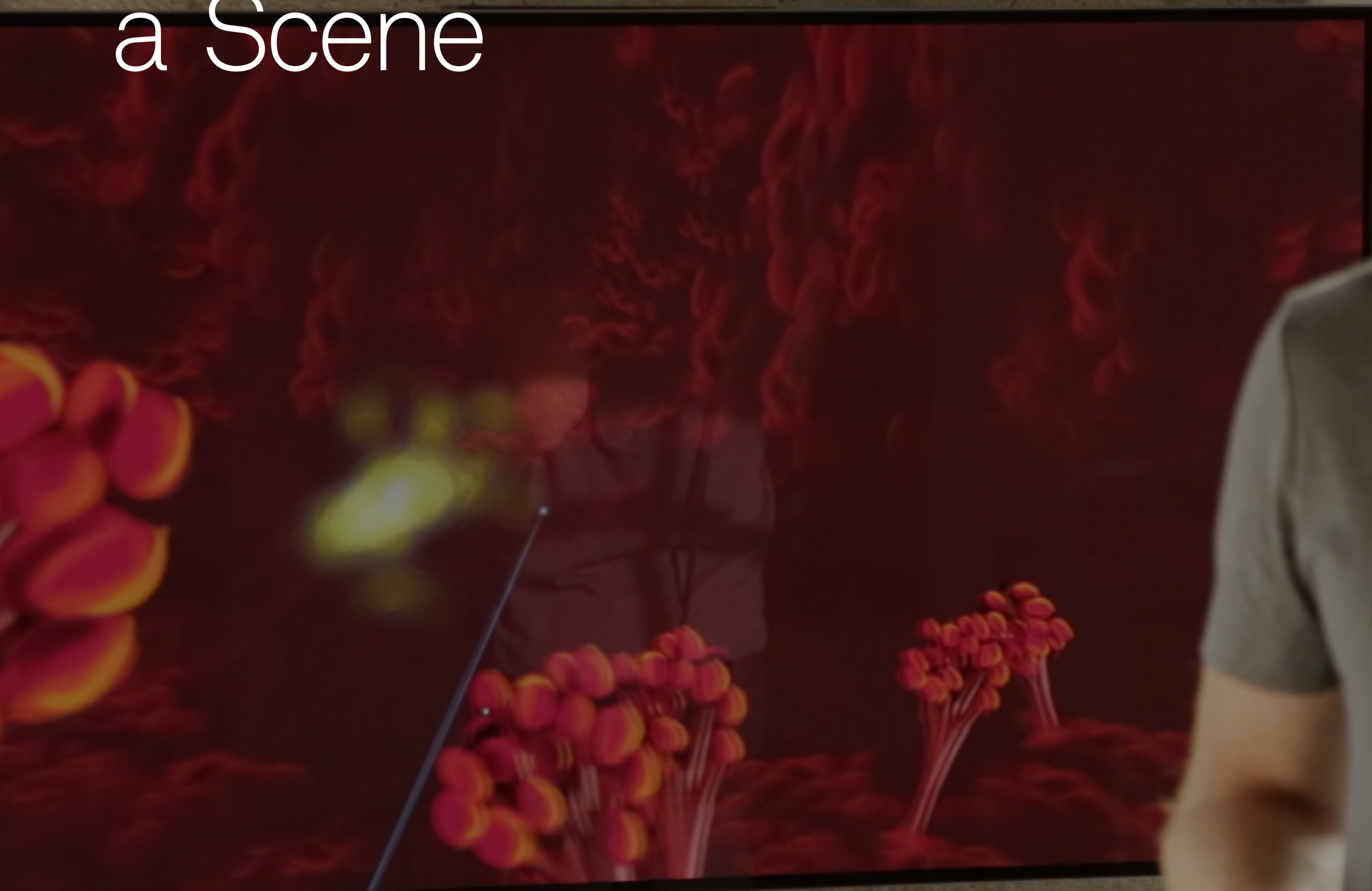


At application launch, a splash screen palette is attached to the left controller. *Click Load Project* by pointing at the button and pressing the right-hand controller trigger.

By default, Project 1 loads first. After the project has loaded, use your physical keyboard to *enter in the number of the desired project*. For example, if you want to load project 2, type “2” on your keyboard.



Building a Scene



Content types:

Storyboard VR currently supports the following object types: Planes, Spheres, Cylinders and Floors.

It does not support 3D objects or audio at this time. Layer planes on top of each other to achieve a 3D effect.

Content types

Planes

Most of your content should be brought in as planes.

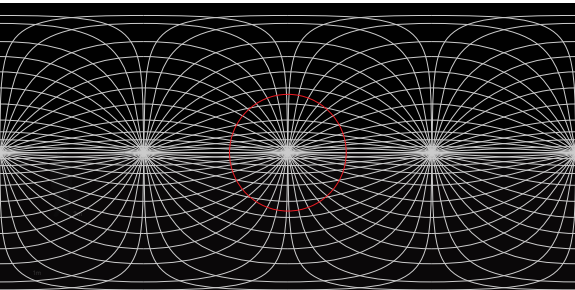
Planes can be any size and aspect ratio. We recommend saving any asset that you might want to move up and down or align to other objects as transparent pngs. Once you have your asset, *export it into the “Planes” folder within your Storyboard VR project*. It will then be accessible within the application.



Spheres

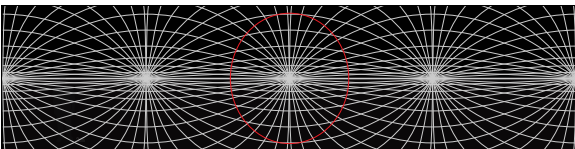
Use sphere maps to create immersive environments around you.

A sphere map is a 360 degree image format that is standard for creating in VR. There are a few ways to make a sphere map. You can use the Storyboard VR templates in Illustrator or Photoshop to create your sphere map, use photos from 360 degree cameras, or download existing sphere maps from the internet.



Cylinders

Cylinders are similar to sphere maps, but have less distortion. Use these when you are sketching objects in 360 environment and don't want to worry about distortion.





Floors


Floors will be placed into your scene at the bottom of the Vive play space. They don't support transparency at this point and are a square 1:1 aspect ratio.




Included with Storyboard VR are templates to help you create content.

 Photoshop Cylinder Template.psd

 Photoshop Sphere Template.psd

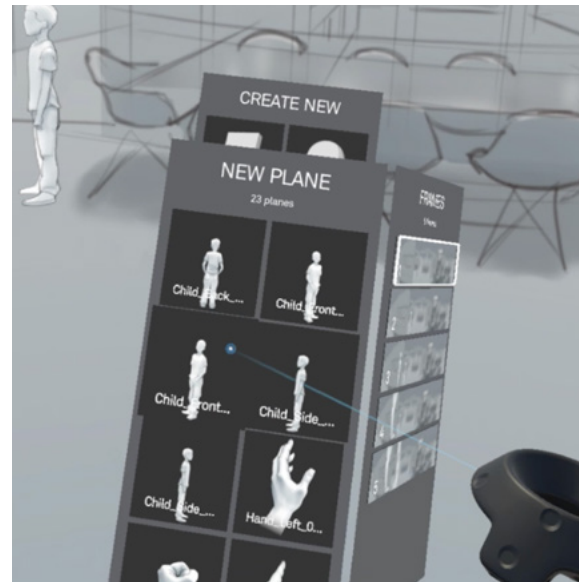
 Templates.ai

 Templates.pdf

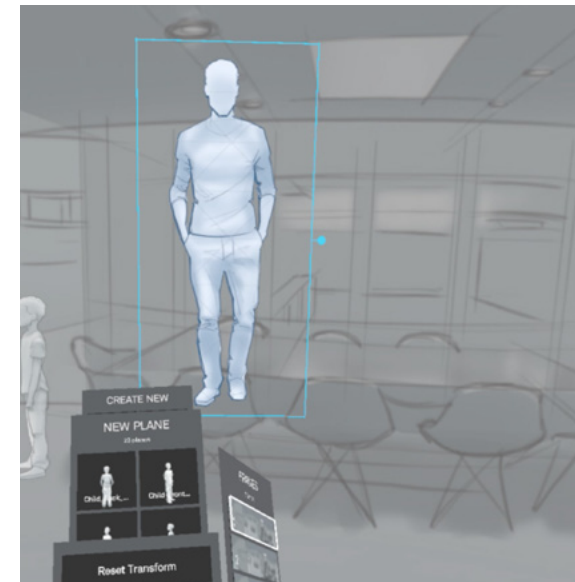
Planes



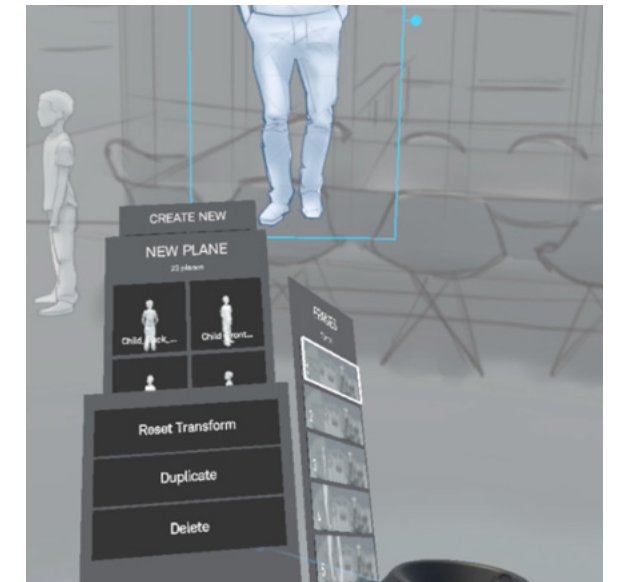
To build a scene, *point the right hand controller at the geometric object you want to place into the scene and click the trigger.*



When the geometric object is selected, a new menu appears on top of the Create New menu with a listing of all the images within that folder. The earlier Create New menu drops back behind the new menu.

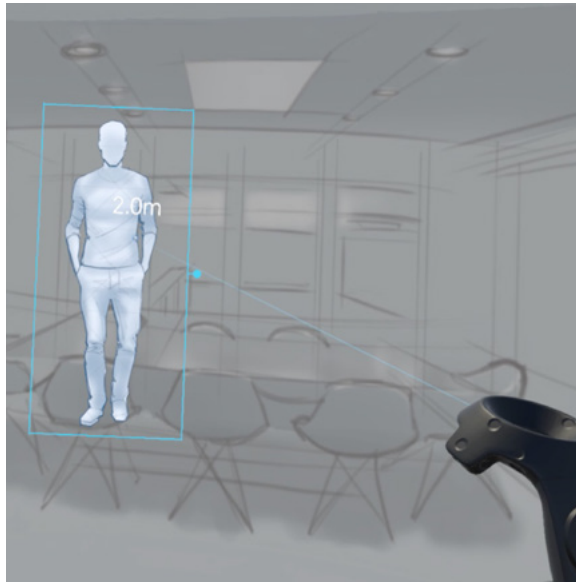


Point the right hand controller at the desired image and click the trigger. The object will appear in the scene with the mapped image. When a plane is first placed into a scene it has a blue frame with a handle on the right side. This indicates that the object is in edit mode and can be manipulated.

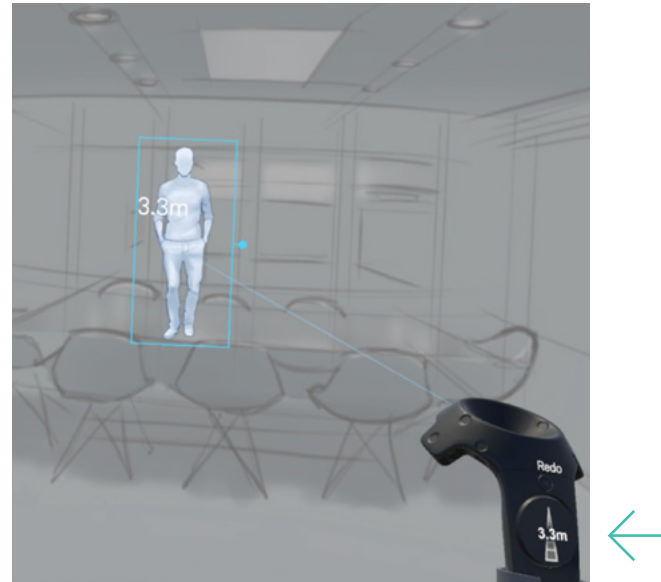


When an object is selected a context menu is shown. *Click the buttons in the context menu to duplicate, delete, or reset the object.*

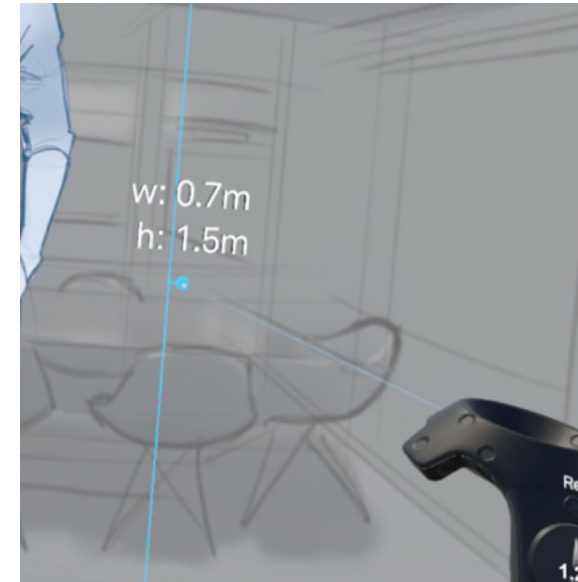
Planes



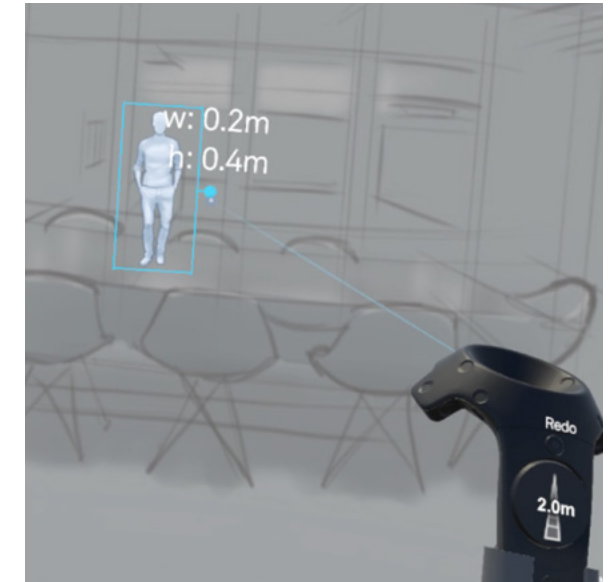
Move the plane *by pointing the cursor at the plane, clicking the trigger, and dragging it* around the space.



Push or pull the plane in space by *sliding up or down on the thumbpad*.

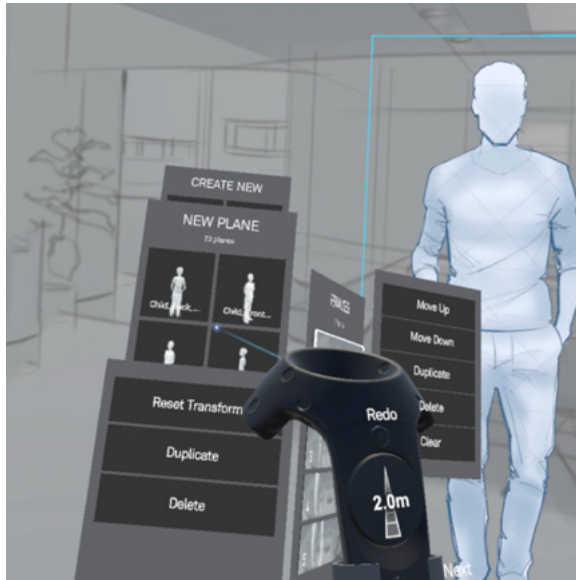


Scale the plane by *clicking on the blue handle of the frame and dragging left or right*. The width and height measurements will update with the drag.



Both scale and Z-depth affect plane size and position. Large planes may appear small if pushed away just as small planes may appear large if brought close. For best results, keep the planes as close to real world size as possible and place them in space to achieve the desired appearance and parallax.

Planes



To go back, *click on either the New Plane or the Create New menus.*



The frame around the plane disappears and the image now appears full color indicating that edit mode is now turned off.

Spheres & Cylinders



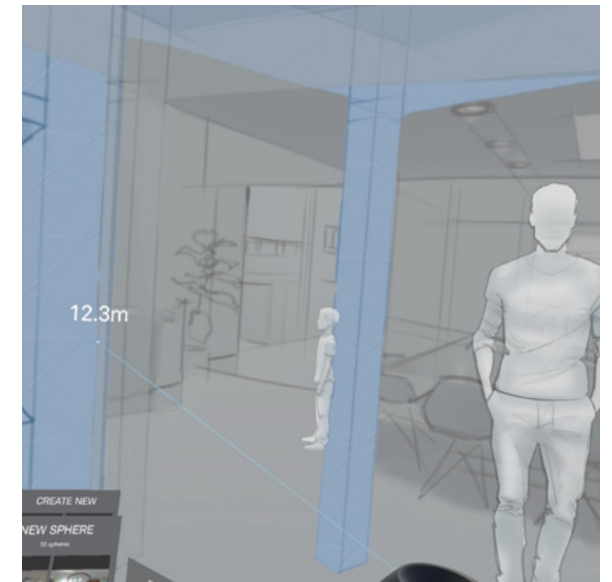
Adding spheres and cylinders are just like adding planes. *Point the right hand controller at the geometric object you want to place into the scene and click the trigger.*



Next, a new menu appears on top of the Create New menu with a listing of all the images within that folder. The earlier Create New menu drops back behind the new menu.



When an sphere or cylinder is first placed into a scene it has a blue tint with a light wireframe over it. This indicates that the object is in edit mode and can be manipulated.



Rotate the sphere or cylinder by *clicking and dragging left or right.*

Spheres & Cylinders



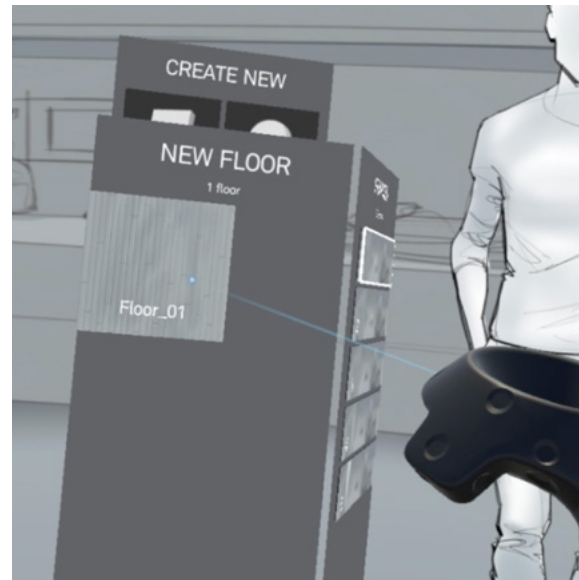
Slide up or down on the thumbpad to scale and adjust distance of the sphere or cylinder. Spheres and cylinders are always centered within the scene and cannot move in Z-space. The distance between the user and the geometry edge depends on its scale: the larger the sphere or cylinder, the farther away it appears, and vice versa.

To go back, *click on either the New Cylinder or the Create New menus.*

Floors



Adding floors are similar to the other geometric objects within Storyboard VR. *Select Floor* from the Create New menu.



Select the image for your new floor.



The floor appears in blue with wireframe overlay on top of the existing world geometry. Floors, like spheres and cylinders, are always centered in the scene and cannot move.



To scale the floor, *slide up or down on the right controller thumbpad*. The floor size appears alongside the pointer and updates with the floor scale.

To exit edit mode, click on either the New Floor or the Create New menus on the left controller.

Managing Storyboard Flow



Overview



Storyboard VR works in a similar way to traditional storyboard techniques by creating static frames that roughly block in a scene. Scene frames are accessed via the Frames directory by rotating the left hand controller. The frames directory shows a thumbnail of each frame within the flow.



Scroll through the frames by *sliding up or down on the thumbpad*. Frames can be added by either *duplicating* an existing frame, or by *pressing the right-hand controller squeeze button* when the last frame is selected.

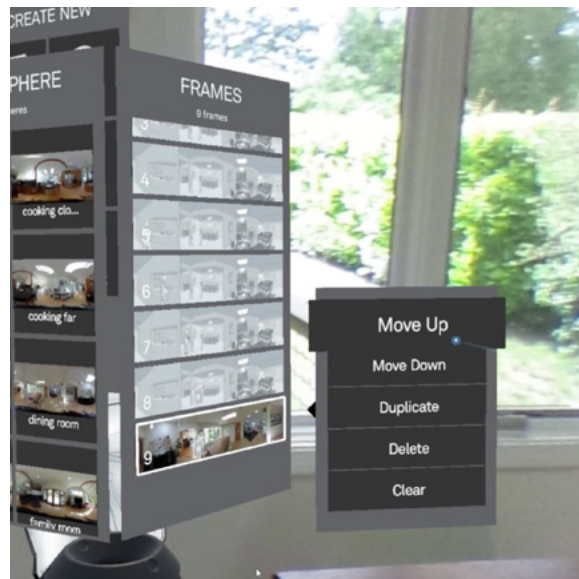


The new frame will appear after the previously selected frame.

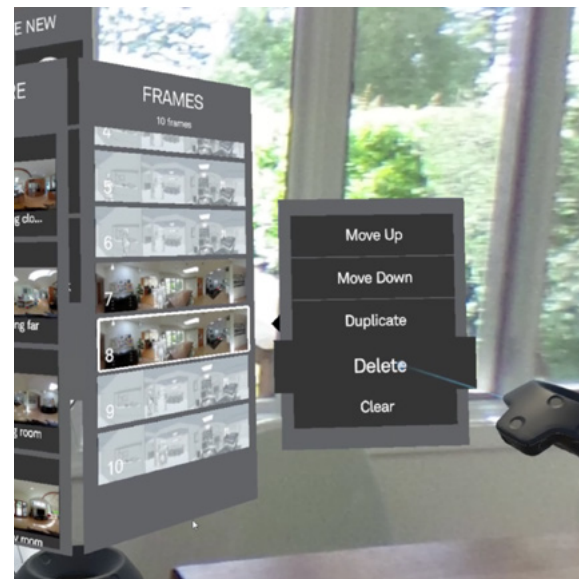


When a change is made to the frame, the thumbnail does not update until a different frame is selected.

Rearrange

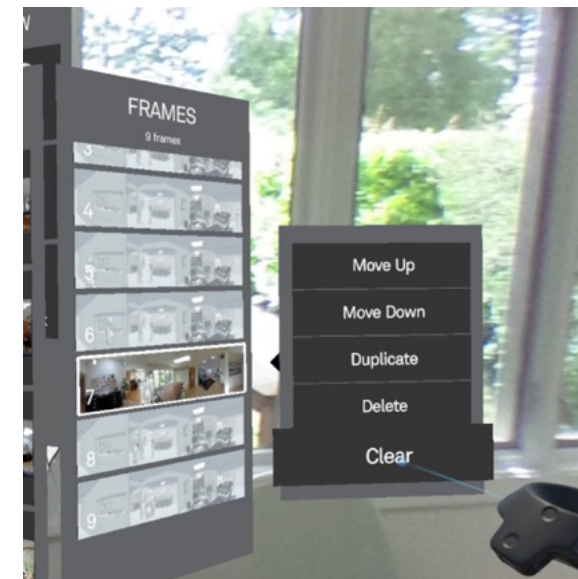


Frames can be rearranged by hovering over the desired frame and clicking Move Up or Move Down in the pop-up menu. Each click of the button will move the frame one position in the stack.

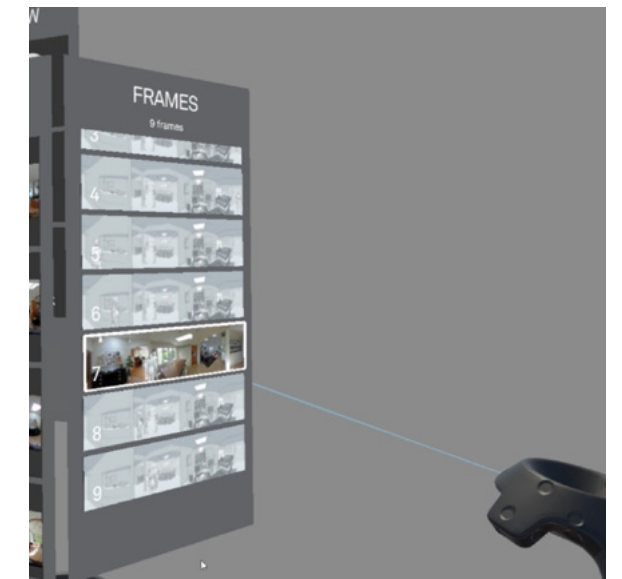


Frames can also be deleted by hovering over the unwanted frame and selecting Delete from the pop-up menu.

Clear



Empty a frame by pressing Clear on the pop-up menu.



Clear removes all objects within the scene. This cannot be undone.

Tips, Tricks & Support

Saving



Don't worry about saving. Storyboard VR auto-saves your project every time you make a change.

Undo & Redo



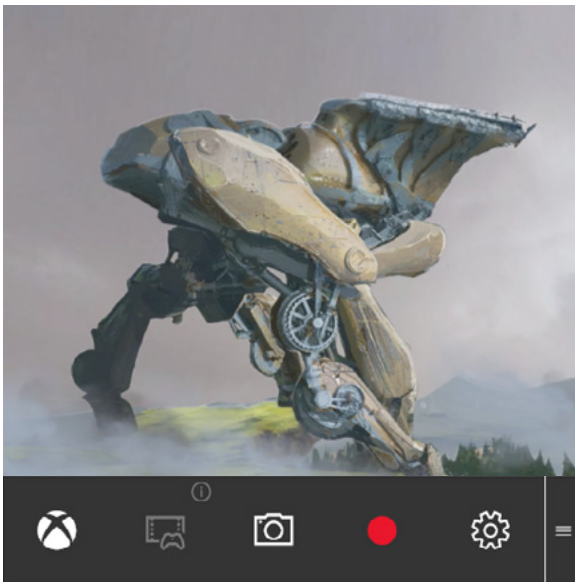
Don't worry about trying crazy ideas. You can always undo with the undo and redo buttons. For a given frame, *use the left menu button to undo* as far back as you want. Redo works this way as well. However, when you move to a new frame the undo stack starts over, so make sure you undo or redo what you like before switching frames.

Next and Previous



Use the squeeze buttons on the left and right controllers to go forward and back. This is a handy (and secretive) way trick someone into believing you have created interactivity in your storyboard. If you have a button in your storyboard you can point at it, *squeeze the next button*, and go to the next frame where your button has been activated.

Sharing Your Project



You can any screen capture tool to take photos and videos of your Storyboard VR creations while it is running. We recommend pressing "Windows + G" to record your creations while you walk through your creation as it also supports voice-over. For real time feedback, we have had good experiences screen sharing our projects via Skype or Google Hangouts.

Support

We have done our best to create a stable application that supports designers and content creators in a wide range of scenarios in their every day experimentation with VR. However, while Storyboard VR is free and open to use as you wish, it is an unsupported alpha application.



Artefact is a technology design and innovation consultancy. We use human centered design to solve complex problems and create timeless experiences that help our partners have a positive impact on their customers, businesses and society. Headquartered in Seattle, Artefact has a team of designers, technologists and developers who share a passion for innovation and excellence.

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