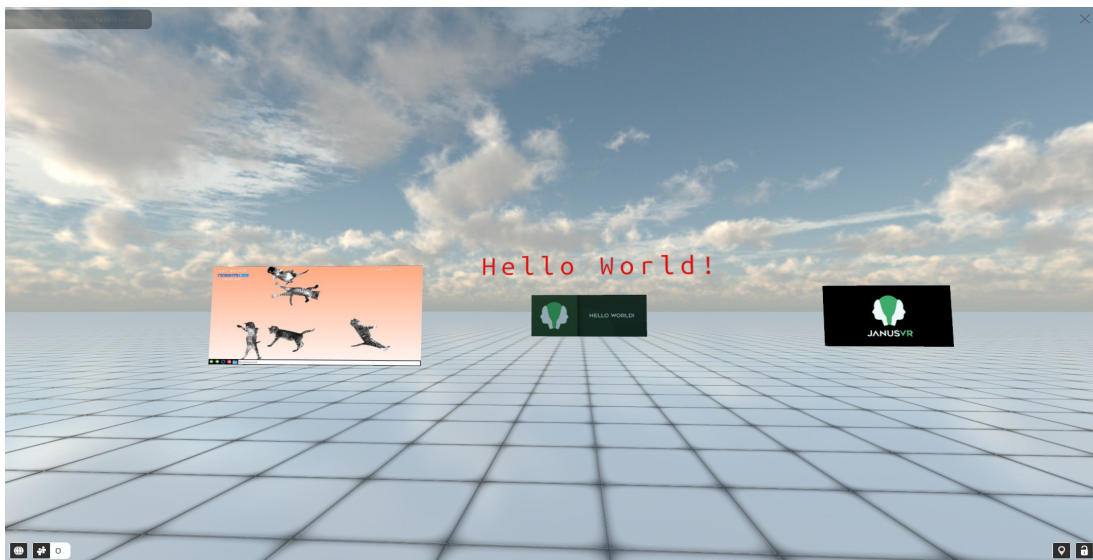




Introduction to JanusVR Lesson 5

HOW TO ADD A VIDEO TO A ROOM



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This instructional guide is designed to teach some of the fundamental skills needed to create virtual reality spaces using JanusVR.

This fifth lesson will continue on with the room made in previous lessons, and explains how to add a video.

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1. Defining the Asset name and location

In this example we have added a 'Video' as the 'Asset', set the 'id' attribute for our 'Video' as 'vid', and the 'src' as the URL attribute for a video.

```
<html>
<head>
<title>Hello World!</title>
</head>
<body>
<FireBoxRoom>
<Assets>
<AssetImage id="hello_world" src="http://i.imgur.com/yLxgtkE.png" />
<AssetWebSurface id="cats" src="http://cat-bounce.com/" width="1280"
height="720" />
<AssetVideo id="vid"
src="http://www.janusvr.com.s3.amazonaws.com/janus_vid.mp4" />
</Assets>
<Room use_local_asset="room_plane" >
<Text pos="0 2 4" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1" col="red" scale="2 2
2" >Hello World!</Text>
<Image id="hello_world" pos="0 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1"
/>
<Object id="plane" pos="7 1.5 0" xdir="0 0 1" ydir="0 1 0" zdir="-1 0 0"
scale="4 2 1" collision_id="plane" lighting="false" websurface_id="cats" />
</Room>
</FireBoxRoom>
</body>
</html>
```

2. Adding the Video to the Room

To add video to a space in JanusVR we add the attribute <Video> to the <Room> section. Inside of the <Video> attribute we define the features of the video (size, lighting, orientation etc.), and the id of the video to be displayed.

In the example below, the 'id' of the video is 'vid'

The video is 8 metres forward, 5 metres to the right and 1.5 metre above the ground. The orientation of the video is rotated 180 on the y-axis, and lighting is set to false to make the scene bright white.

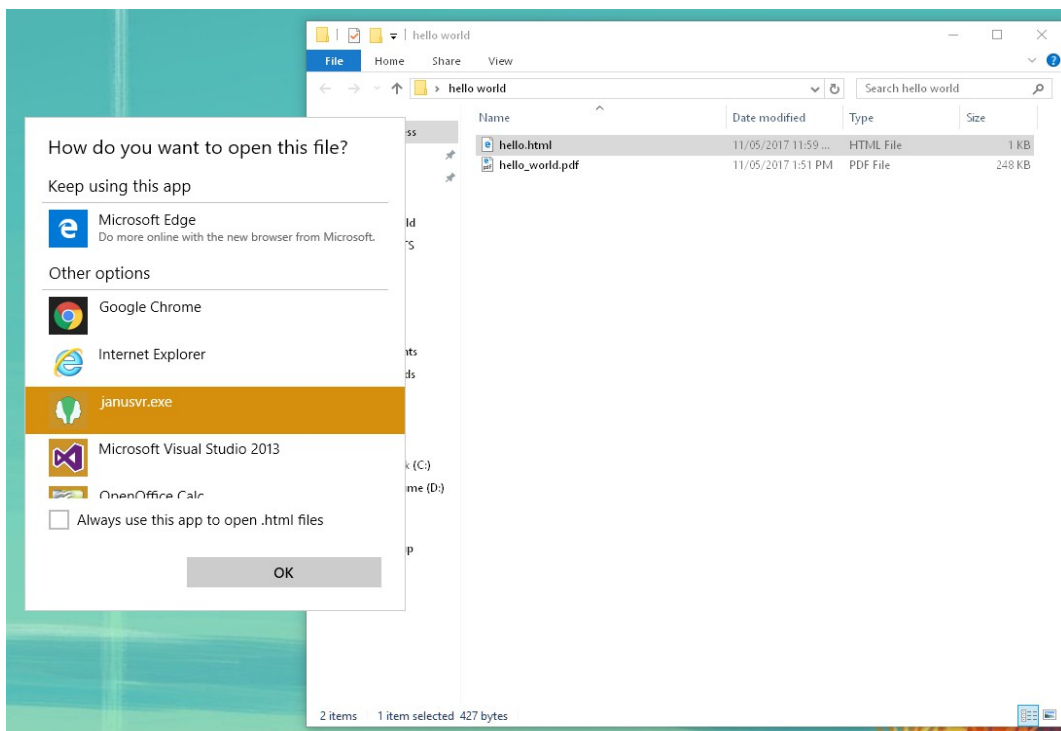
```
<html>
<head>
<title>Hello World!</title>
</head>
<body>
<FireBoxRoom>
<Assets>
<AssetImage id="hello_world" src="http://i.imgur.com/yLxgtkE.png" />
<AssetWebSurface id="cats" src="http://cat-bounce.com/" width="1280"
height="720" />
<AssetVideo id="vid"
src="http://www.janusvr.com.s3.amazonaws.com/janus_vid.mp4" />
</Assets>
<Room use_local_asset="room_plane" >
<Text pos="0 2 4" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1" col="red" scale="2 2
2" >Hello World!</Text>
<Image id="hello_world" pos="0 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0
-1" />
<Object id="plane" pos="5 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1"
scale="4 2 1" collision_id="plane" lighting="false" websurface_id="cats" />
<Video id="vid" pos="-5 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1"
scale="1 1 1" lighting="false" />
</Room>
</FireBoxRoom>
</body>
</html>
```

3. Viewing your Room

Save the file on your local drive as a .html.

There are 2 ways to see the room you have just made:

- i. Right click on the file and select 'open with' (Windows), select 'Choose another app' – scroll down and find JanusVR.
- ii. Start JanusVR and press 'Tab' – type or copy/paste the local file path for the .html file (c:\helloworld\hello.html for example). To paste a link in JanusVR desktop mode press 'Tab', click on input box and press Control-V



You now know how to display a website on a primitive, the next section has some exercises to help you get more familiar with displaying a websurface.

At the end of this document is a list of all the options for loading websurfaces, and a table showing all the different types of 'Primitives'. Have fun!

Exercises:

Change the src="" to see different websites displayed on the screen.

Swap:

```
<AssetVideo id="vid"  
src="http://www.janusvr.com.s3.amazonaws.com/janus_vid.mp4" />
```

To:

```
<AssetVideo id="vid" src="https://www.youtube.com/embed/vFYg-DULvio" />
```

Or:

```
<AssetVideo id="vid" src="http://www.thevrbar.com/video2.mp4" />
```

Make the video auto play by adding the auto_play="true" attribute

To:

```
<Video id="vid" pos="-5 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1" scale="1 1 1"  
lighting="false" />
```

Add:

```
<Video id="vid" pos="-5 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1" scale="1 1 1"  
lighting="false" auto_play="true" />
```

Display the video on a 'Primitive', make a video on a cube!

Swap:

```
<Video id="vid" pos="-5 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1" scale="1 1 1"  
collision_id="plane" lighting="false" />
```

To:

```
<Object id="pyramid" pos="-5 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1"  
scale="1 1 1" collision_id="plane" lighting="false" video_id="vid" />
```

Or:

```
<Object id="cube" pos="-5 1.5 8" xdir="-1 0 0" ydir="0 1 0" zdir="0 0 -1" scale="1 1  
1" collision_id="plane" lighting="false" video_id="vid" />
```

Defining Video as an Asset:

- **id** - id of the AssetVideo
- **src** - location of the video file
- **loop** (default "false") - normally the video plays only one time, but when this attribute is set to true, the video will play indefinitely until the player leaves the room
- **auto_play** (default "false") - when set to true, video will play immediately when the room is entered. If set to false (the default), the user must click on the Video (or any Object!) to play it.
- **tex_compress** (default "false") - if true, uses hardware-supported texture compression on the video texture (GL_COMPRESSED_RGBA).
- **sbs3d** (default "false") - when set to true, video is treated as an SBS (side-by-side) format video. By default, the left eye will see the content on the left and the right eye the content on the right in each frame of video. Set reverse3d to true if you want to flip this.
- **ou3d** (default "false") - when set to true, video is treated as an UO (under-over) format video. By default, the left eye will see the content on the top and the right eye the content on the bottom in each frame of video. Set reverse3d to true if you want to flip this.
- **reverse3d** (default "false") - flips which half of each frame is shown to each eye, when either sbs3d or ou3d are set to true.

Supported formats are dependent upon the multimedia capabilities of the underlying platform (e.g. DirectShow on Windows, gstreamer on Linux). (

<http://www.janusvr.com/guide/markuplanguage/index.html#assetvideo>

Displaying a Video in a Room:

A Video plays a specific AssetVideo. The video can be controlled by left clicking on it (stop and play). You can specify whether the video should loop once playing, and whether the video should start playing automatically when the room is entered. Multiple Video's can be associated with one AssetVideo without any extra performance penalty (useful if you want the same video to appear at multiple locations in the room). The video will appear in the room as a rectangle, and the ratio of the height and width dimensions will match that of the video itself, preserving aspect ratio. All videos in a room are stopped automatically when the user leaves the room.

- **id** - set to the id of an AssetVideo
- **thumb_id** (default "") - set to the id of an AssetImage, to show an image/thumbnaill for this video while it is not playing (the AssetImage can even animate)
- **pos** (default "0 0 0") - specify the position (anchor point is centered horizontally and vertically)
- **fwd** (default "0 0 1") - specify the orientation (or use xdir, ydir, zdir, defaults "1 0 0", "0 1 0", "0 0 1")
- **col** (default "#ffffff") - Allows the user to change the colour of the associated element.
- **scale** (default "1 1 1") - scale the video along each of its x (horizontal), y (vertical) and z (forward) axes
- **locked** (default "false") - if "true", prevents modification of attributes
- **lighting** (default "true") - if "true", uses the default shading which includes diffuse and specular components
- **draw_layer** (default 0) - allows the user to manually sort the depth order of an object. For instance, an object of depth 0 will draw above an object of depth 1. Priority may be negative. Each priority group is also sorted based on distance.

<http://www.janusvr.com/guide/markuplanguage/index.html#video>