# The Elumenati LLC 2612 S. Greeley St. #121

Milwaukee WI 53207 www.elumenati.com

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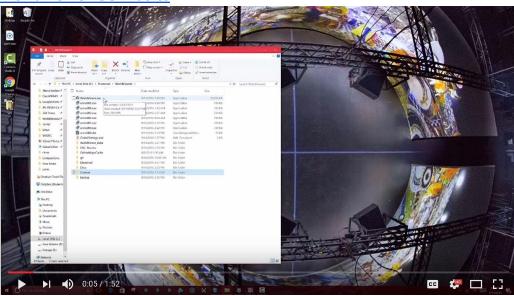
**Adding Image Overlays Adding Panoramas by Address** Fisheye Movies **Rotating Earth Overlay** 

**GUI Construction GUI-OSCbasics** GUI-FontAwesome Glyphs Use



# Worldviewer Use [copied, good]

#### **Worldviewer GUI Basics**



Launch WV by double clicking the WorldViewer executable file or program menu shortcut. On launch you will see the primary program or touchscreen interface window as well as a secondary window for the projection display.

The main WorldViewer menu is accessed by pressing the ESC menu. ESC brings up a menu that can expand or contract by clicking on the individual tabs.

The version number is found in the bottom menu for reference when contacting support.

Adjust the settings in the sub-menus, no save is necessary as this menu saves automatically.



An important tab to reference is the Joystick type to verify the controller you are using matches the type of gamepad or joystick you are using.

If using a touchscreen you may need to adjust the touchscreen sensitivity if the earth spins too quickly or spins backwards for instance.

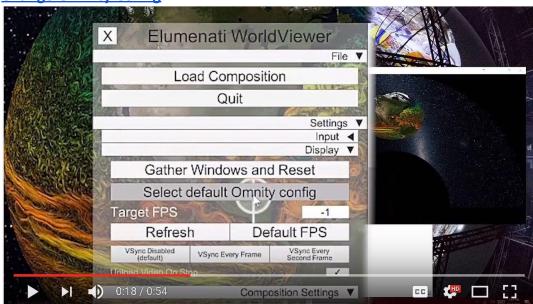
Select the appropriate Omnity configuration file for your display as provided with your system or if using a new display configuration.

**Set Default Composition** Select delault Omnity comig Target FPS Refresh Default FPS VSync Disabled (default) VSync Every Second Frame VSync Every Frame Unload Video On Stop Composition Settings ▼ Select Default Composition Throttle Panobubble Click After FlyOut Reset Youtube Quality **DEFAULT** Network ▼ UseWebOSC Port 81 M 0:12 / 0:28 cc 🦛 🖂 []

To set default composition to load upon WorldViewer startup, expand the ESC menu Composition Settings tab and use the Select Default Composition button to choose the desired .wv2 composition file.



**Change Omnity Config** 



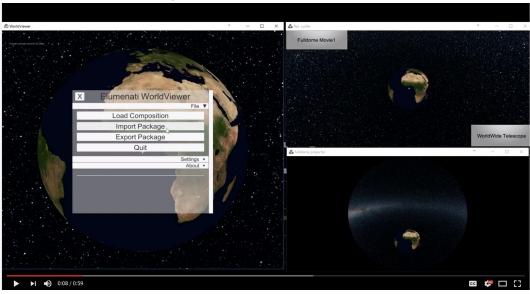
Worldviewer takes the pain out of displaying your content on a dome, panorama, flat screen, and a wide variety of other display configurations.

Start with the ESC menu. Navigate to Settings and Display. The "Select default Omnity config" button allows you to load your preferred display setting.

In this example, we are loading a flat screen setting in order to easily view the output of our content development modifications using a computer monitor. When you decide to switch your display back, just reverse these steps, and you'll be good to go.



### **WorldViewer Bundle Import**



WorldViewer users may load a shared bundle by choosing the ESC menu "Import Package" option. Browse to the location of the shared bundle file and select it.

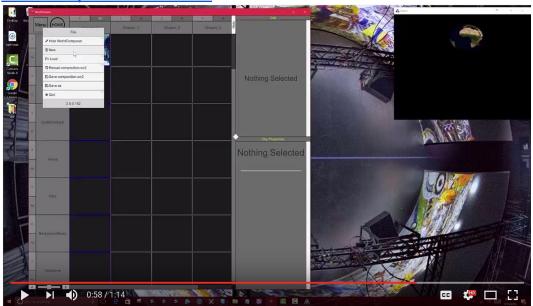
After bundle import is complete you may load the appropriate WorldViewer composition file associated with the bundle.

All bundles are imported into the main WorldViewer2/Content/Bundles directory with the composition file inside the folder named for the bundle. Choose "Load composition" from the WorldViewer ESC menu to select and use the imported bundle.



# WorldComposer UI

#### **WorldComposer Introduction**



Worldviewer is a beautiful tool for showing off content, but WorldComposer unleashes your capacity for telling your own story in your own way.

To get started, just hit TAB.

The grid on the left shows the chapters, in vertical columns. Tracks are the horizontal rows. Clips occupy the cells of tracks and chapters.

This view is very customizable. You can make more room for this grid by dragging the diamond-shaped handle that separates the grid from the cell properties windows to the right. You can also make the cells larger or smaller by adjusting the position of the handle in the upper left-hand corner.



You can re-scale or adjust the shape of the clip properties by adjusting the handle on the right side.

Create a new composition by clicking Menu and the "New" button. Save your composition using the Save button under the same Menu.

You've just started on your own WorldComposer journey.

# Chapter Popup New Chapter Duplicate Chapter I≣ Actions E Copy OSC land

**Add and Duplicate Chapters** 

Duplicating chapters is a convenient way of establishing smooth transitions between two sets of content.

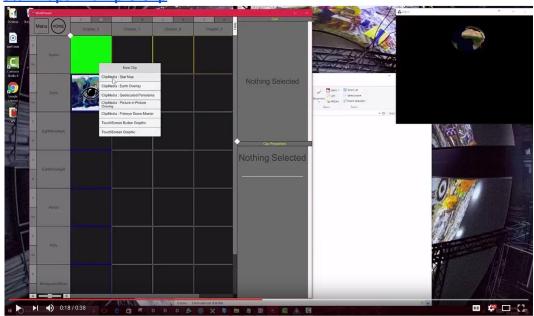
Right-click on the chapter you want to duplicate, and select "Duplicate Chapter."

With your contents copied, you can make small modifications but keep the remainder of your settings intact.



Here's how to remove one animation but keep the rest of the content in place. By duplicating chapters and modifying the copied version, you'll be able to quickly build out clean scene to scene transitions. Changing visual elements one at a time can help scaffold ideas into complex concepts.

#### **StarMaps Example Clip**



To set the stage for your first composition, load a background image.

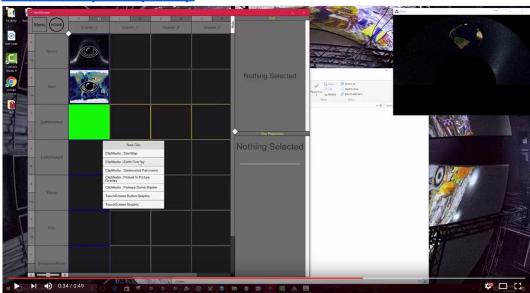
Right click the cell on the "Space" track and Chapter 1.

Under New Clip, select ClipMedia: StarMap then navigate to your local WorldViewer2 directory where you'll find a Content directory and Space subdirectory. The images here are starfields you can use to set behind your virtual Earth.

Once loaded, hit tab to hide WorldComposer and preview what you've just done.



#### **Earth Overlay Example Clip**

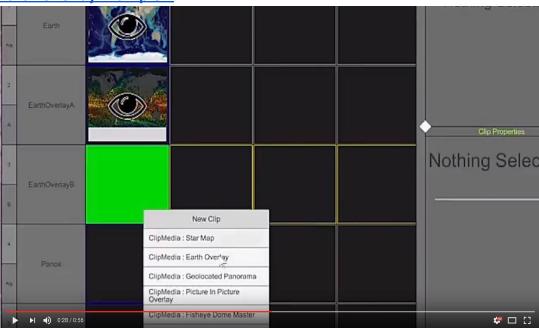


There are many visualizations of Earth systems available as movie files that are rendered on a flat, rectangular representation of Earth. Add these directly to Worldviewer and have a look what they look like on a sphere.

Right click on a cell in one of the Earth Overlay tracks under the chapter you are working on. Select Load New Clip then choose to load a new file. Navigate to your movie file, select it, and finally select the New Clip- Clipmedia: Earth Overlay option from the menu so that WorldComposer displays this movie on your virtual Earth. Hit TAB to preview your work. It's quick and easy to render Earth animations in Worldviewer!



# Earth Overlay Example 2



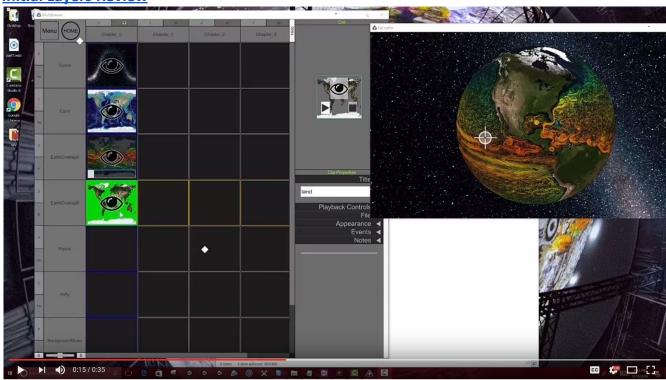
You'll frequently want to overlay multiple images or movies of Earth. Select a cell in the Earth OverlayB track. In the first example, we showed you how to load a movie clip by navigating from the cell you want to modify. Here's another way. Drag your content from Windows Explorer directly onto your cell to skip some of the navigation options within WorldComposer. Now select ClipMedia: Earth Overlay to make sure WorldComposer displays the image correctly.

This example image has an alpha channel over the ocean which means it is transparent exactly in the places where the ocean data are being animated. Using a layer with a transparent ocean allows us to compose a view of Earth with one visualization for the ocean and another one for the land.





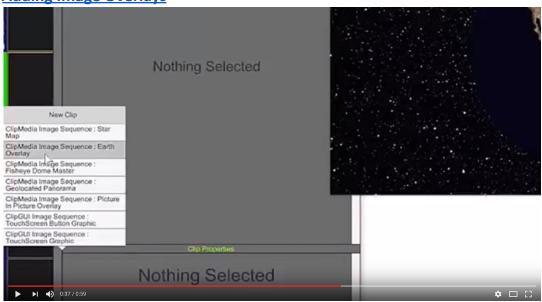




Now that you've composed a multi-layer chapter, you can adjust whether individual layers will be visible by default. After clicking on a cell or clip, the cell properties window will show a thumbnail of each cip within that cell and an eyeball centered at the top of each image. Toggling that eyeball will ensure this layer is invisible or visible by default. Notice you can adjust any clip in the same way.



**Adding Image Overlays** 



Many data visualizations are available as sequences of single images. Turn these into 3d representations on Earth as a sphere by loading them into one of the Earth Overlay tracks in WorldComposer.

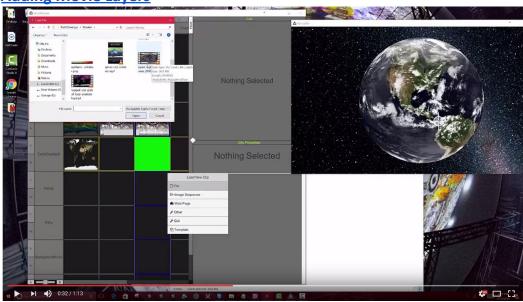
Right-click to load a New Clip, and select the Image Sequence option. Navigate to your image sequence. In this case, all of my images are flat maps that span +/- 90 degrees north to south and +/- 180 degrees east to west. WorldComposer refers to this type of image sequence as a standard Earth Overlay. No additional formatting or settings need to be set once I select ClipMedia Image Sequence: Earth Overlay.

Now we have a full global sequence of cloud images that will play whenever we start this chapter and play this clip. Pretty easy!





**Adding Movie Layers** 

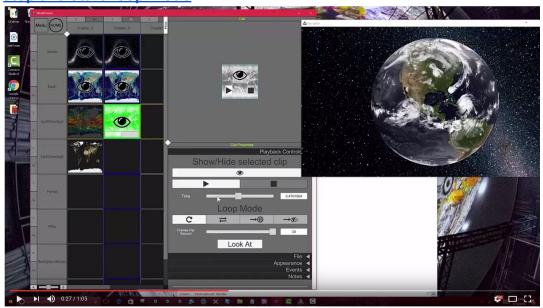


WorldComposer also allows use of movie files for earth overlay layers.

Layer ordering or clip removal may be desired to achieve an effective composite for your chapter.



#### **Stop and Start Loop Mode**



You can stop or start a movie or image sequence by clicking on the play or stop buttons in the cell properties window. The eyeball icon specifies whether or not this clip will be shown by default. Advanced controls are available under the Clip Properties. Find Playback Controls, and you'll see many advanced options.

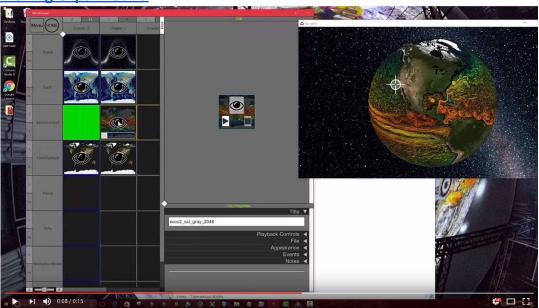
The loop mode ensures that the sequence will continue to play from start to end repeatedly.

The back-and-forth arrows indicate a ping-pong mode which will play clips from start to finish then from finish to start. The other two buttons indicate the clip will just pause when the loop ends or it will fade away and become invisible when complete.

Adjust the frame rate with the Frames Per Second Slider or by manually adjusting the number to the right. You can even show frames for multiple seconds, as in a slide show. Moving the slider all the way to the left allows you to adjust the seconds per frame rather than frames per second.



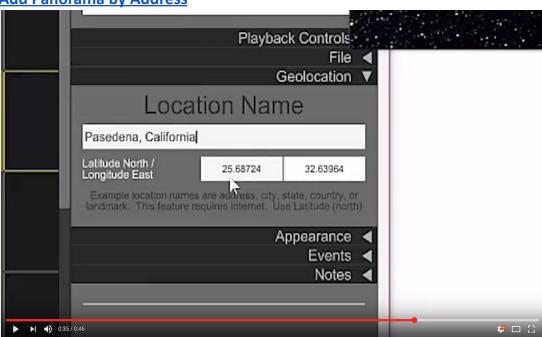
**Moving Clips Around** 



Clips can be easily moved between tracks or chapters simply by clicking and dragging them among cells within the WorldComposer menu.



**Add Panorama by Address** 



Panorama photographs have become widespread. Worldviewer offers native support for these 360-degree view images.

Within the "Panos" track, right-click on a cell where you want to load the image, and select Clipmedia: Geolocated Panorama.

The image will be placed to a location by default, but you can move the image using just the place name of interest. This image belongs in Pasadena, California. Our parser loads up a position automatically. Be sure your computer is connected to the internet in order to use this service.

Voila! The panorama has been placed right where you want it.



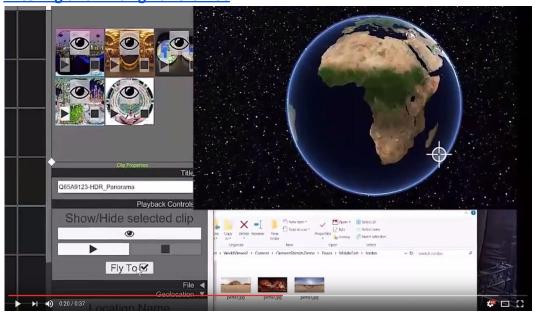
#### **Stacking Panoramas and Alternate Location Methods**



WorldComposer allows you to load multiple clips within a single cell. This is especially useful for providing access to panoramic photographs from different locations around the planet, all of which are available to your audience with the same viewing properties. For any panoramic photo, you can adjust the title of that image under Cell Properties- Title. To locate the image on Earth, you can enter the location name or type in latitude and longitude coordinates within the Geolocation menu of the clip properties.



#### **Entering and Exiting Panoramas**

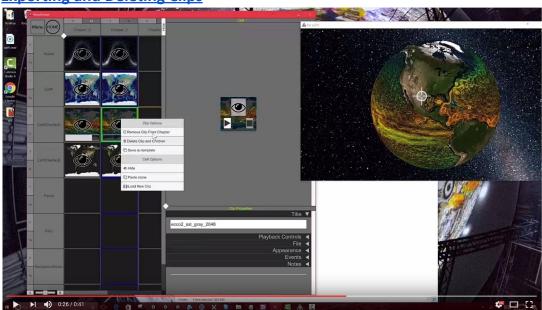


Clicking a panorama allows you to enter the panoramic photographic bubble. The space bar allows you to exit the bubble.

While you're editing your storyline, you may want to adjust these behaviors directly within WorldComposer. Under Clip Properties-Playback Controls, click on the Fly To radio button to fly into a pano bubble. To exit, click the Home button in the upper left corner of WorldComposer.



#### **Exporting and Deleting Clips**

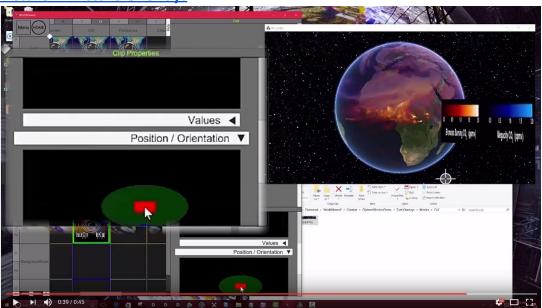


Moving clips around from cell to cell is a very important part of editing stories in WorldComposer, so we've made it extremely easy. Just select the clip you're interested in then right-click on a cell where you want it copied. By selecting Paste Link, that same clip, and all its properties, will be in both places.

Likewise, you can delete the clip and all its children to completely remove the entire composition. Removing a clip from just one chapter will eliminate just this instance but allow this clip to persist everywhere else.



#### **Picture in Picture Overlays**

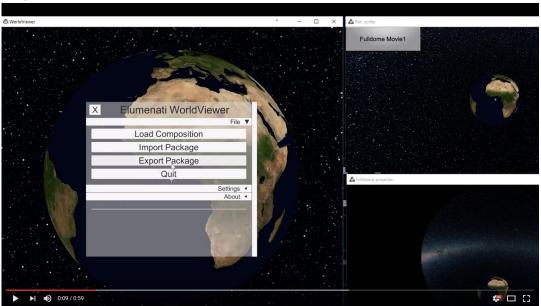


Many data visualizations have legends that provide essential information about what is being portrayed. If you have an image depicting a legend, drag the image onto the cell of interest and assign the Picture in Picture Overlay properties to this clip using the menu that pops up.

The default appearance may be distorted. Mouse over to the Clip Properties area of the screen, Under the Appearance tab, go the Area interface. Drag the corners of the thumbnail to rescale the size of the legend. The Position/Orientation menu allows you to adjust where the legend will appear on screen.



#### **Project Bundles Use**



Compositions may be shared using the bundle tool, accessible via the primary WorldViewer ESC

Choose "Export Package" and enter the desired name for the WorldViewer bundle file and press save. During the export procedure "Export Package" will be greyed out and WV will be inaccessible.

WorldViewer users may load a shared bundle by choosing the ESC menu "Import Package" option. Browse to the location of the shared bundle file and select it.

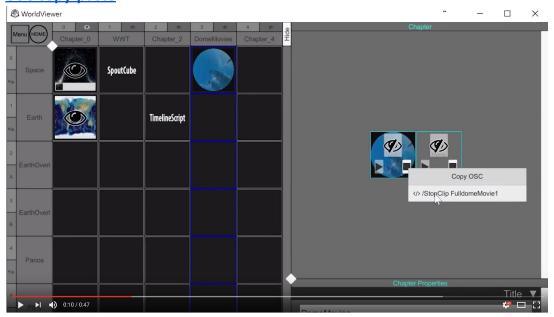
After bundle import is complete you may load the appropriate WorldViewer composition file associated with the bundle.

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#### OSC copy-paste



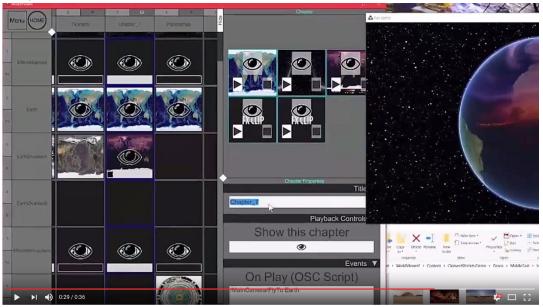
All WorldViewer functions operate via OSC commands. To allow ease of use of these commands all elements in the WorldComposer GUI can reveal the OSC by simply right clicking. Once revealed simply click the OSC text to copy to the clipboard. This function can then be pasted into an event field to initiate the function. For example a chapter change, or user created GUI button could send the OSC.

An example would be copying a chapter change OSC into a GUI button on press event field to change the chapter when the button is selected by an end user.





#### **Chapter Rename Reorder and Conclusion**



As you can see, it's very easy to compose chapters from a variety of clips.

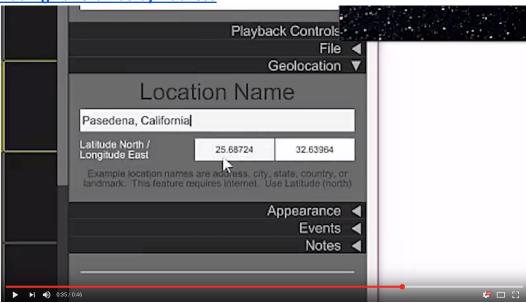
There are default names for each chapter, but you can type in your own names. Click on the chapter header to bring up Chapter Properties in the lower right hand corner. Overwrite the value in the Title field.

Congratulations, you've customized your first WorldComposer narrative! Keep at it-- there are a lot more features to discover and use to keep people focused on your message.



# **Clip Properties**

**Adding Panoramas by Address** 



Panorama photographs have become widespread. Worldviewer offers native support for these 360-degree view images.

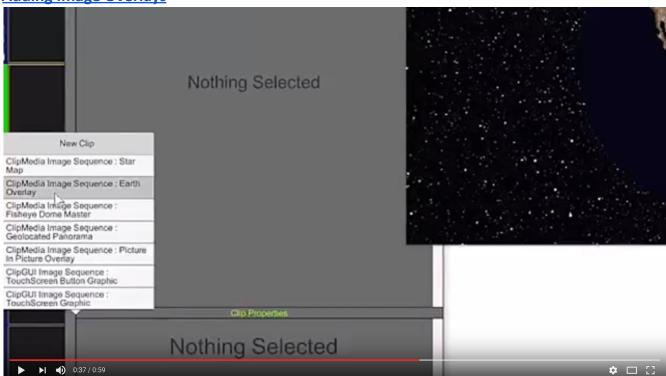
Within the "Panos" track, right-click on a cell where you want to load the image, and select Clipmedia: Geolocated Panorama.

The image will be placed to a location by default, but you can move the image using just the place name of interest. This image belongs in Pasadena, California. Our parser loads up a position automatically. Be sure your computer is connected to the internet in order to use this service.

Voila! The panorama has been placed right where you want it.



**Adding Image Overlays** 



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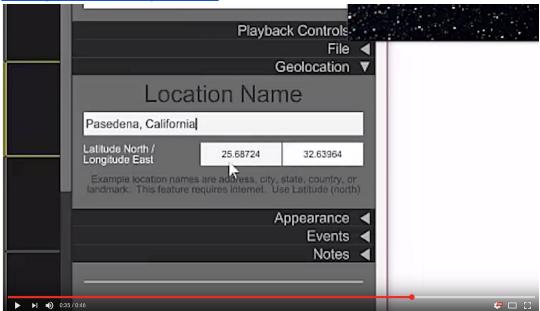
Right-click to load a New Clip, and select the Image Sequence option. Navigate to your image sequence. In this case, all of my images are flat maps that span +/- 90 degrees north to south and +/- 180 degrees east to west. WorldComposer refers to this type of image sequence as a standard Earth Overlay. No additional formatting or settings need to be set once I select ClipMedia Image Sequence: Earth Overlay.





Now we have a full global sequence of cloud images that will play whenever we start this chapter and play this clip. Pretty easy!

#### **Adding Panoramas by Address**



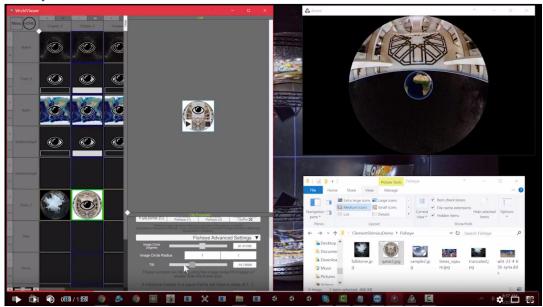
Panoramic images and videos can be placed on your virtual Earth, allowing people to quickly navigate to and explore immersive content. Drag a 360-degree panoramic image onto a blank cell within the Panos track. Assign this to a "Geolocated Panorama" clip type. This image happens to be from the Crossroads in Palmyra, Syria. Select the clip, and under the Geolocation menu, enter Palmyra, Syria. The panorama will be located on the virtual Earth using an online parser.

Once you've loaded a pano bubble, you can click the Fly To radio button under Playback Controls to toggle flying in or out. The Home button also moves the camera out of a pano bubble and back to a zoomed out view of Earth.

It's also possible to load 360-degree movies. When you fly to a movie clip, it will begin playing as soon as you click on "Fly to."



#### **Fisheye Movies**



The most common type of fisheye clip is a fulldome master. Drag and drop a fulldome clip into your composition, and select Fulldome Master.

Fisheyes can be tilted, shrunk, or enlarged based on your image or display system requirements.

You may frequently encounter truncated fisheyes. Select the clip, and select the truncated fisheye under the Fisheye Advanced Settings. Once WorldComposer has the correct settings, Worldviewer will display it correctly.

GoPro movies and images are not full 360-degree images, so WorldComposer has a special setting called Diagonal Fisheye (GoPro Style). The cropping and curvature can be further modified with advanced settings.





If you load a fisheye photo as a geolocated pano, it's important to adjust its settings so that it renders correctly. Under Appearance, Type, choose the Fisheye option. Advanced settings will be available at this point.

360-degree panoramas can exist side-by-side with fisheye photos.

Flying into geolocated panoramas, you may notice the pano bubble's horizon line is not parallel to the spring line of your dome. Use the tilt settings of the pano in order to align it with your dome's geometry.

#### **Rotating Earth Overlay**



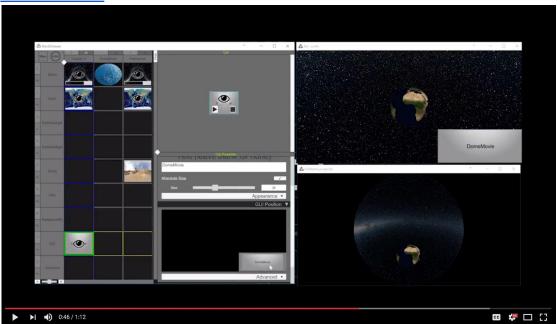
Not all equirectangular maps go from -180 to +180 longitude. Many go from 0 to 360. If you overlay two maps in Worldviewer that have different east and west longitude positions, you must rotate the images using the clip's Appearance-Values menu. By adjusting the Center X



coordinate, in this example, you'll be able to line up this clip with the other clips in your composition.

#### **GUI Construction**

#### **GUI-OSCbasics**



With WorldComposer, you can quickly create GUIs using either text or media elements.

Right-click on a cell to add media. In the dialog you may choose Touchscreen Button Text or Touchscreen Button Graphic for action buttons, or Touchscreen Text or Graphic for supporting layout elements.

Here's how to add a touch screen button to change a chapter. In the clip properties window the button name and visible text are defined in the GUI Properties field, as well as button size, position via the GUI Position field, and finally action is defined in the GUI Events field.



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In this example right clicking the desired chapter header reveals OSC commands to then copy into the On Click OSC command box under GUI Events.