Sustainability, Energy and Environment Community
UNIVERSITY OF COLORADO **BOULDER**

SEEC VIDEO WALL

Overview

The video wall is made up of nine 55-inch 1080p (aka Full HD, 1920x1080) displays arranged in a 3x3 format. The resulting screen (aka canvas) is 165-inches in 16:9 format (aspect ratio approximately 1.78:1). The canvas is 5760 pixels wide by 3240 pixels high, this equates to a native 6K UHD resolution.

Content is configured and delivered to the video wall using the Matrox MuraControl application. A single layout can be displayed at a time. Layouts contain windows and windows contain sources. The software treats the video wall as a single screen, just like the screen for your computer. Windows can be positioned anywhere, they can overlap, and they can be cropped.

For the curious, you can read about MuraControl here:
http://www.matrox.com/graphics/en/products/video-wall/muracontrol/windows/

And download the user guide here:
http://www.matrox.com/graphics/media/pdf/products/display_wall/mura/en_Matrox_MuraControl_windows_user_guide.pdf

Administration

The video wall is administered and programmed by SEEC staff. The wall is meant to be a resource for all SEEC partners in supporting and fulfilling SEEC vision and objectives. Having a conference? The video wall can be used to present scheduling information and associated content. This is just one example many other uses are possible.

Please contact either Emina, Erin or Troy if you have content you would like to display, suggestions for content, event use or any other video wall related inquiries.

SEEC staff cannot create your content. We can advise on best practices, but we only create and managed the layouts. <u>All requests are subject to approval and feasibility.</u>

Content Types (aka Sources)

- Image
- Video (minimum 1080p resolution required)
- PowerPoint (not recommended at this time)
- Web page (not recommended at this time)
- HDMI
- Source touring

Image Sources

Keep in mind the resolution of the video wall (5760 x 3240 pixels) when creating images. If the resolution is too low, the image will appear very small or if enlarged, it will appear blurry. The following image file types are supported:

- .bmp
- .png (**recommended**)

Video Sources

Videos are played through the VLC media player (version 2.2.8). The following video file types are supported:

- .avi
- .mkv (Matroska)
- .mp4 (**recommended**)
- .mov (QuickTime)

Although the native resolution of the wall is 6K, the maximum source resolution for video content is 4K (aka 4K UHD, 2160p, 3840x2160). The minimum resolution for video content is 1080p (aka Full HD, 1920x1080), anything less will appear too blurry if enlarged beyond the size of a single display.

PowerPoint Sources

Not recommended at this time, display results are inconsistent.

PowerPoint files are displayed through Microsoft PowerPoint Viewer. Keep in mind the resolution of the video wall (5760 x 3240 pixels) when creating presentations. If the resolution is too low, the image will appear very small or if enlarged, it will appear blurry. If using the entire canvas, you should set the page size of your presentation to 40 inches wide by 22.5 inches high.

Web Page Sources

Not recommended at this time, display results are inconsistent.

Simply enter a URL and the web page is displayed in the selected window. The entire web browser is displayed, so if using this source type, you will need to crop and/or position the window to hide the browser controls, etc.

HDMI Sources

The video wall controller has an HDMI video capture card with four inputs. The maximum supported resolution is 4K UHD. Two sources are present: the NOAA SOS Explorer (SOSx) global data display system and a Google Chromecast Ultra media player.

NOAA SOSx (https://sos.noaa.gov/SOS_Explorer/) – this source is always present and can be seen on the small touchscreen below the video wall. Custom data tours can be created.

Google Chromecast Ultra – this input allows for an easy way to integrate YouTube video as a content source. Other content casting options might be useful as well.

Other – not present, but may be possible to capture: any device that outputs video via HDMI (max 4K UHD resolution), video camera, Blu-ray player, etc.

Source Touring

Source Touring = a source of sources. This content type enables you to quickly and efficiently cycle through multiple sources. Sources are selected and the order set in which you want to view the sources. A time interval in seconds is set to determine how fast you want to cycle through the sources. For example, interval set to 120 will display each selected source for 2 minutes.

Text and Image Overlays

One image and/or one single line of text can be positioned over the content window. Ideally, images should be transparent PNGs, but any PNG or BMP file is usable. The image overlay can be positioned anywhere in the content window via specified (x,y) position. Text overlay can only be placed in pre-positioned locations: top left, top center, top right, middle left, middle center, middle right, bottom left, bottom center, and bottom right.

Scheduling

Layouts can be swapped out at a fixed interval of time, for example, every 10 minutes. Source touring also works this way, but instead of swapping a layout, the source is swapped in a window (which is contained in a layout). Scheduling is very useful for static content such as images, single slide PowerPoints, some HDMI sources, and web pages. It does not work so well with videos which usually have varying lengths. It is best to stitch multiple videos into a single video (see below for instructions).

Video Captioning

There a many different ways of accomplishing this, but a simple and reliable way is to create a companion caption file in the SubRip Text (.srt) format, https://en.wikipedia.org/wiki/SubRip. VLC will automatically read the caption file if it has the same name as the video file.

Combining Videos

If you want to play multiple videos one after another, it is best to combine them into a single video file. You can use the free software, Avidemux (http://avidemux.sourceforge.net/) to stitch videos together. Use the following settings:
- Video Output: Mpeg4 AVC (x264)
- Audio Output: AAC (FDK)
- Output Format: MP4v2 Muxer