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Presentation Mode

- Overview
- Common Configurations
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Overview

Both of Samsung's XR applications, Samsung XR mobile (https://play.google.com/store/apps/details?id=com.samsung.android.video360) and Samsung XR for Gear VR, can be configured for Presentation Mode. With Presentation Mode, the video viewing actions of one device can be "mirrored" on another device. For example, what one person is viewing within Samsung XR for Gear VR, can be seen on one or more devices running Samsung XR mobile. Likewise, Samsung XR mobile can control what is being viewed by one or more devices running Samsung XR for Gear VR.

With Presentation Mode, there is typically a single device configured for Presenter Mode, and one or more devices configured for Receiver Mode. The actions of the device in Presenter Mode are transmitted to the device(s) in Receiver Mode over WiFi. Both the Presenter and Receiver(s) must be on the same WiFi network.

Only the video viewing actions are transmitted to the Receiver Mode devices, and not a screen image or the video itself. As a result, Presentation Mode works at a very fast rate with very little data traffic over the WiFi network. Adding additional Receiver Mode devices does not increase this data traffic, but it is not guaranteed that all receivers will receive every transmitted action, and it is possible that some actions can be missed. If multiple Presenters exist in the same Wi-Fi network, Receivers will act upon the last Presenter to transmit the viewing action. However, isolated groups of Presenter-Receiver(s) can be configured to be present on the same Wi-Fi network if devices belonging to each group are configured to use a specific UDP Port (See "UDP Port Number" documentation below). A device configured for Presenter Mode transmits the the video viewing actions of the user:

- Starting playback of a video
- Stopping playback of a video
- Pausing play
- Resuming play
- Skipping to next video
- Skipping to previous video
- Seeking to a playback position in a video

A device in Presenter Mode also transmits "head tracking" information as well. With Samsung XR for Gear VR, this is the direction the user is currently looking. With Samsung XR mobile, this is the current view being displayed. However, only the Samsung XR mobile application configured for Receiver Mode will utilize this information to automatically change the view for a video. This limitation exists because having the video view inside Gear VR change from external actions would most certainly induce motion sickness.

Except for the limitation with head tracking data mentioned above, a device configured for Receiver Mode receives the Presenter actions and automatically performs the same operations as the presenter.

All videos will play full screen, as opposed to the 2 stereo warped spheres typically seen when directly mirroring VR screen buffers to other devices.

Common Configurations

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Common Presentation Mode configurations are described below.

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Gear VR to Mobile Mirroring

With this configuration a device running Samsung XR for Gear VR is configured for **Presenter Mode**, and one or more devices running Samsung XR mobile are configured for **Receiver Mode**. The receivers will continuously show the same view that the Gear VR user is seeing. The Receiver Mode devices (phone or tablet) can have their display mirrored to a larger device such as a TV. This is a great configuration for demoing at XR installations, shows, conferences, and for retail experiences.

Mobile to Gear VR Mirroring

With this configuration a device running Samsung XR mobile is configured for **Presenter Synced playback**, and one or more devices running Samsung XR for Gear VR are configured for **Receiver Mode**. The actions performed by the Presenter, except for view changes, are mirrored by the Receiver(s).

Mobile to Mobile Mirroring

With this configuration a device running Samsung XR mobile is configured for **Presenter Synched playback**. One or more devices running Samsung XR mobile are configured for **Receiver Mode**. The actions performed by the Presenter, including view changes, are mirrored by the Receiver(s).

Gear VR to Gear VR Mirroring

With this configuration a device running Samsung XR for Gear VR is configured for **Presenter Mode**, and one or more devices running Samsung XR for Gear VR are configured for **Receiver Mode**. The actions performed by the Presenter, excluding head movements, are mirrored by the Receiver(s).

Synchronized Gear VR Playback

Many Gear VRs running Samsung XR can be synchronized to playback one or more videos in unison without mirroring. This feature is being used to synchronized video playback for events, theaters, meetings, amusement park rides, etc. In this configuration a device running Samsung XR mobile is configured for **Presenter Mode – Remote control**, and one or more devices running Samsung XR for Gear VR are configured for to be controlled using these manual commands. See our Synchronizing Help (/portal/content/gear_vr_synchronization) page for the technical details regarding this configuration.

Mirroring Specifics

If a Presenter plays a video that has been downloaded for offline play, each Receiver must also have the video downloaded for offline play in order for mirroring to work properly.

If a Presenter plays a video that is stored locally on the device, such as a Gallery Video, each Receiver must have that same video in the exact same location on its own device in order for mirroring to work properly.

Before a Presenter plays a video that is located on a DLNA Media Server (Samsung XR mobile only), it should be verified that each Receiver has DLNA Support enabled, and that the Media Server with the video is in the list of Media Servers under the Media Servers channel. Note that the performance of the machine hosting the Media Server, as well as WLAN networks conditions, may make it difficult to stream a video to multiple devices simultaneously.

Configuring Devices for Presentation Mode

This section discusses how to configure Samsung XR mobile and Samsung XR for Gear VR for Presentation Mode.

Samsung XR Mobile

Launch Samsung XR mobile and select the 3 vertical dots in the upper right corner of the application. Select **Settings** followed by **Presentation Mode**. Select either **Receiver Mode** or **Synched playback**. The third option **Remote control** is used for Gear VR synchronized playback. See our Synchronizing Help (/portal/content/gear_vr_synchronization) page for details regarding this third option.

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Samsung XR for Gear VR

Launch Samsung XR for Gear VR and select the **Settings** icon towards the top of the main view. Swipe to the **Presentation Mode** panel and select **Receiver Mode** or **Presentation Mode**. Only one option can be enabled at a time.

Technical Information

The following information is provided for developers interested in the implementation details for Presentation Mode.

Mirroring UDP Command Formats

The Presentation Mode actions are transmitted using the User Datagram Protocol (UDP.) The following JSON format commands are generated by a device configured for **Presenter Mode** or **Presenter Synced playback**. (Please see our

Synchronizing Help (/portal/content/gear_vr_synchronization) page for the command formats used with **Presenter Remote control**.) We may add to these commands over time, but the information in the current command set will remain unchanged. Your own application may utilize these commands.

The following command is generated anytime a video starts playing. See the FAQ - Gear VR App (/portal/content/faq_tech_gear_vr) page for information about the audio_type and video_type codes that appear in this command.

```
{"cmd":"load", "data":{"url":"https://360samsungvr.com/cdn/Dcblxr5RstI/master_list.m3u8","position":0,"audio_type":"stere
o","video_type":"_mono360","title":"Ground Zero Reborn: Lower<br/> Manhattan, 15 years after 9/11","timestamp":"09/14/2016 1
0:47:45"}}
```

The following command is generated anytime Pause is selected. The data portion is a Samsung XR Service video id.

```
{"cmd":"pause", "data":"Dcblxr5RstI"}
```

The following command is generated anytime video playback is resumed. The data portion is a Samsung XR Service video id.

```
{"cmd":"play", "data":"Dcblxr5RstI"}
```

The following command is generated when video playback is stopped. The data portion is a Samsung XR Service video id.

```
{"cmd":"stop", "data":"Dcblxr5RstI"}
```

Note: For non Samsung XR Service video, the data portion is the URI of the video. For instance {"cmd":"stop", "data":"/storage/emulated/0/Download/my_video.mp4"} The following command is generated when the user seeks to a position in a video. The data portion is a time position in the video in milliseconds.

```
{"cmd":"seekto", "data":35456}
```

The following command is generated to report the current viewing position. These commands are generated at close to 60 times a second.

```
{"cmd":"headpos", "data":"rx=21.75736ry=288.1837rz=352.5051"}
```

Note: headpos is deprecated and replaced with headpos2

The following command is generated to report the current viewing position in quaternions. These commands are generated close to 60 times a second. {"cmd":"headpos2", "data":{"qw":"0.9982886","qx":"0.02916876","qy":"-0.0442368","qz":"-0.0247435","tx":"0","ty":"0","tz":"0"}}

UDP Port Number

The default UDP port used by both applications for Presentation Mode is port 5000. The port number used by both applications can be changed using a command placed in the Samsung XR for Gear VR user.cfg file. For example, the following string placed in the user.cfg file would change the UDP port used to 4500.

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```
udp-port:6000
```

Either application needs to be restarted in order for the port number change to take effect.

See the FAQ - Gear VR App (/portal/content/faq_tech_gear_vr) page for general information about the user.cfg file and where it is located on a device.

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(https://www.microsoft.com/store/apps/9N7J19GTLQDG)

(https://www.oculus.com/experiences/gear-vr/837075486363650/)

(https://www.oculus.com/experiences/go/837075486363650/)

(https://www.oculus.com/experiences/rift/1885027758194398/)

(https://www.oculus.com/experiences/quest/2346574095401736/)

ALSO ON MOBILE

(http://apps.samsung.com/appquery/appDetail.as?appId=com.samsung.android.video360)

(https://play.google.com/store/apps/details?id=com.samsung.android.video360)

SUPPORT (PORTAL/CONTENT/EOS_FAQ)

FAQ (HTTPS://HELP.CONTENT.SAMSUNG.COM/CSWEB/AUTH/GOSUPPORT.DO?
SERVICECD=SAMSUNGVR&CHNLCD=WEB&TARGETURL=/FAQ/SEARCHFAQ.DO&_COMMON_LANG=EN)