Teaching Using OBS Studio in Zoom

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Advantages
- Allows the instructor and material to be on the screen at the same time, maintaining the visual connection with the students
- Allows the ability to zoom in on the desktop with different scenes to highlight different places on the screen
- Allows for multiple cameras, so the instructor can highlight musical instruments, artistic techniques, or written documents.
- Free and complexity can be as deep as the instructor chooses to apply
- Can easily record the lecture directly in OBS with a single button

Disadvantages
- Requires time to setup
- Requires as second monitor, as well as an additional amount of computer processing overhead, although it is minimal

Necessary Tools
- Second Monitor: for monitoring OBS, PowerPoint/Keynote, Zoom, other software that needs to be open, but not viewed in Zoom.
- Zoom: NEWEST Version. Some versions from May and June disabled virtual cameras. They have since been re-enabled in Zoom 5.2+
- OBS Studio https://obsproject.com (free)
- Virtual Camera Plugin for OBS
    - Mac: https://github.com/johnboiles/obs-mac-virtualcam/releases (free)
    - PC: https://obsproject.com/forum/resources/obs-virtualcam.949/ (free)

Optional Software
- Move Transition for OBS. Plugin that allows sources in OBS move between scenes, rather than fade. https://obsproject.com/forum/resources/move-transition.913/
- Webcam software for iPhone, for second camera
    - EpocCAM HD ($7.99). There is a free version, but it is buggy and not HD
    - EpocCAM utility for Mac or Windows. https://www.kinoni.com

Setting Up the OBS Studio Software

Overview
Each scene in OBS Studio can depict multiple sources on screen. Use each scene for different sets of displays during the class. This can include a webcam & desktop, webcam and PowerPoint/Keynote window, multiple cameras, or any combination

For a basic screencast with a display and webcam

Adding the Main Monitor to OBS
• Click + under Sources in OBS
• Select Display Capture
• It will say "Create New", click OK. You can choose to name it, if you want, or rename it later.
• Click and drag to resize it, if necessary, for example selecting a 4K monitor to be displayed at standard 1080HD.

Adding the webcam to OBS
• Click the + under Sources in OBS
• Select Video Capture Device
• It will say "Create New". Again, you can rename it now or later or never. Click OK.
• It will bring up a window labelled "Properties for 'Video Capture Device'"
• Under Device, select the webcam you are wanting to use. Choose the Preset resolution that you want.
• Click OK.
• You can now click and re-size the webcam in the OBS display.

Optional: Cropping the webcam
• Right-click on the Webcam in the Sources in OBS Studio
• Under the Effect Filters, click the + and choose "Crop/Pad", then select OK.
• With this selected under Effect Filters, you can adjust the Left, Top, Right, Bottom cropping by pixels.
• You can utilize the Chroma Key filter if you use a Green Screen, as well.

TRANSMITTING OBS Studio TO ZOOM

• **In OBS Studio, go to the Tools dropdown menu and select, "Start Virtual Camera". UNLESS THIS IS DONE, IT WILL NOT APPEAR IN ZOOM**.
• Go to Video tab of the settings in Zoom and select "OBS Virtual Camera"
• Now, everything that appears in OBS will be sent as your camera output in Zoom.

Adding OBS Scenes with different zoomed in Settings
• Make sure to label your Scenes in OBS Studio. You can do this by right-clicking and selecting Rename. Label your starting scene how you wish.
• Right-click on the Scene in OBS and select Duplicate
• In this duplicated scene, you can re-arrange and resize the desktop and webcam, appropriately.
• You can do this multiple times with different settings, even adding different sources, such as an iPhone camera, or a presentation window from Keynote or PowerPoint.
• To use these scenes during a class, just select the Scene in OBS and it will automatically apply the Scene transition, if you have the Move selected under Scene Transitions, it will just move the objects, rather than fade them.

Using PowerPoint or Keynote with OBS Studio in Zoom

PowerPoint
- Start with a new blank Scene in OBS
- Open the PowerPoint presentation you wish to use.
- In the PowerPoint document, select the "Slide Show" menu.
- Click on "Set Up Slide Show". Under "Show type" select "Browsed by an individual (window)" and click OK.
- Play the slide show
- With the presentation window open, in OBS, under Sources, click the + and choose "Window Capture"
- It will be selected as "Create New" Feel free to name or rename later. Click OK.
- This will bring up the "Properties" selection for the "Window Capture"
- Select the window that PowerPoint opened up.
- Re-size and arrange in the OBS scene as you see fit. PowerPoint does not hide the Menu bar like Keynote, so you will need to drag and arrange it in OBS so that upper menu bar is above the visible scene in OBS
- Note: You may need to reselect the PowerPoint window when opening a different PowerPoint slide show. This can easily be done by right-clicking the "Window Capture" under Sources in OBS, selecting Properties and then selecting the new Slide Show window from the drop-down menu.

Keynote
- Start with a new blank Scene in OBS.
- Open Keynote and the presentation you wish to use.
- In Keynote go to the Play dropdown menu and select "Play Slideshow in Window"
- With the presentation window open, in OBS, under Sources, click the + and choose "Window Capture"
- It will be selected as "Create New" Feel free to name or rename later. Click OK.
- This will bring up the "Properties" selection for the "Window Capture"
- Select the window that Keynote opened up.
- Re-size and arrange in the OBS scene as you see fit.
- Note: You may need to reselect the Keynote window when opening a different Keynote presentation. This can easily be done by right-clicking the "Window Capture" under Sources in OBS, selecting Properties and then selecting the new Slide Show window from the drop-down menu.