



# Spiffing Up Your Online Presentations For Cheap or Free

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[BaronLlwyd.org](http://BaronLlwyd.org)

[LearnFiore.org](http://LearnFiore.org)

[LloydTech.org](http://LloydTech.org)

# Getting this presentation

- These slides can be downloaded from <http://baronllwyd.org/summer2021>
- Web article version: <http://lloydtech.org/spiff-online>
- Previous run on YouTube: <https://youtu.be/epE1dKTwkU>

# Outline

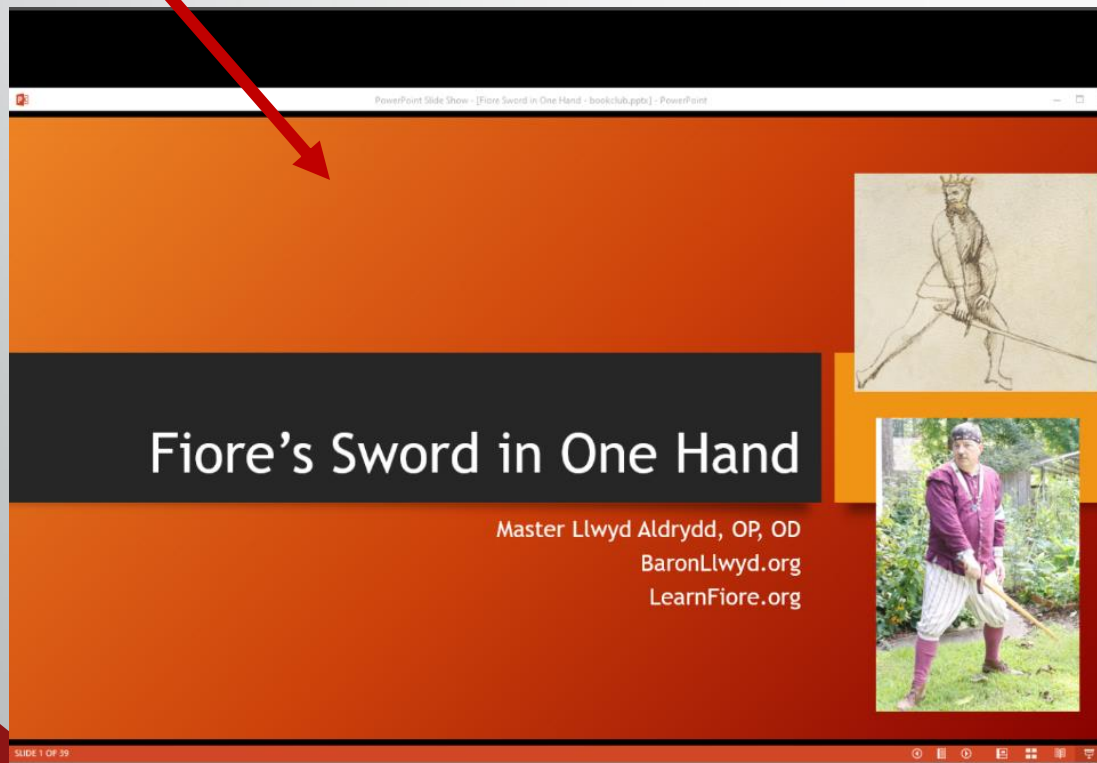
- Introduction
- Collecting Sources
- The Free Video Mixer, OBS
- Sharing your Output
- Test it!
- Optional Bells and Whistles
- Collected Links

# Introduction

- In the Covid-19 era even the SCA has moved onto Zoom, Meet, Webex, Teams, or Discord
- Being able to switch quickly between the camera on the speaker, close up camera on a book or detailed work, and presentation slides can improve your talk.
- Combining multiple sources into one can make the presentation more dynamic as you watch the speaker, a picture of the example, and a demonstration of the technique all at the same time.

# For Example

PowerPoint Presentation



Webcam



Source Document



# Collecting Sources

- Look around and see what cameras you can find
  - Webcams – built into laptop or external USB
  - Cellphones
  - Digital photo cameras

# Cheap USB Webcams



My main presenting camera

Cost \$11 on Amazon

<https://amzn.to/3qoWM9O>



Wider angle camera

Used for demonstrations where  
more width is needed

About \$25 on Amazon

<https://amzn.to/3oMSNDR>

# Using Cellphones

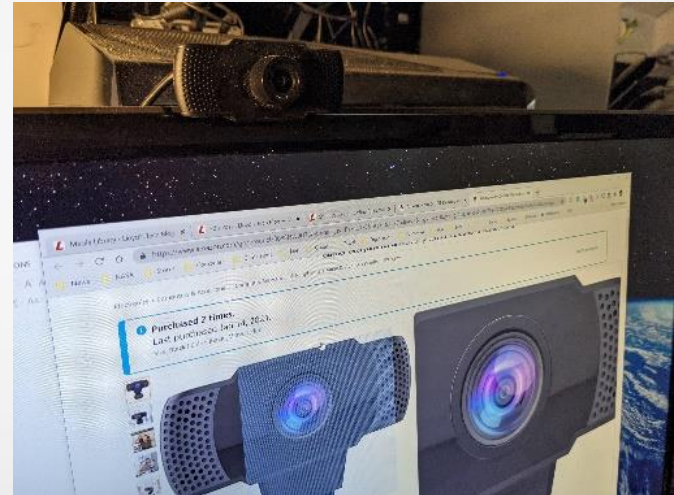
- Most smartphones have excellent main cameras
- Even retired cellphones can still do a great job
- We repurposed a 2016 Pixel XL with battery issues
- Search your app store for webcam software
  - We use “ivCam” which is available for both Android and iOS phones at <https://www.ezesoft.com/ivcam/>
  - The ivCam computer program only works with Windows.
- The webcam app will make your cellphone look like a USB webcam
- The cellphone microphone can cause feedback. Do not enable it in the software unless this will be your main sound source.



# Other Possibilities

- GoPro style cameras
- Some Digital SLRs
- Other video capable camera
- Connecting to your PC will require research into appropriate cables and software

# Mounting your camera



- Most webcams are designed to be placed on top of your monitor
- Other flat surfaces work
- Some cameras have tripod screw mount options

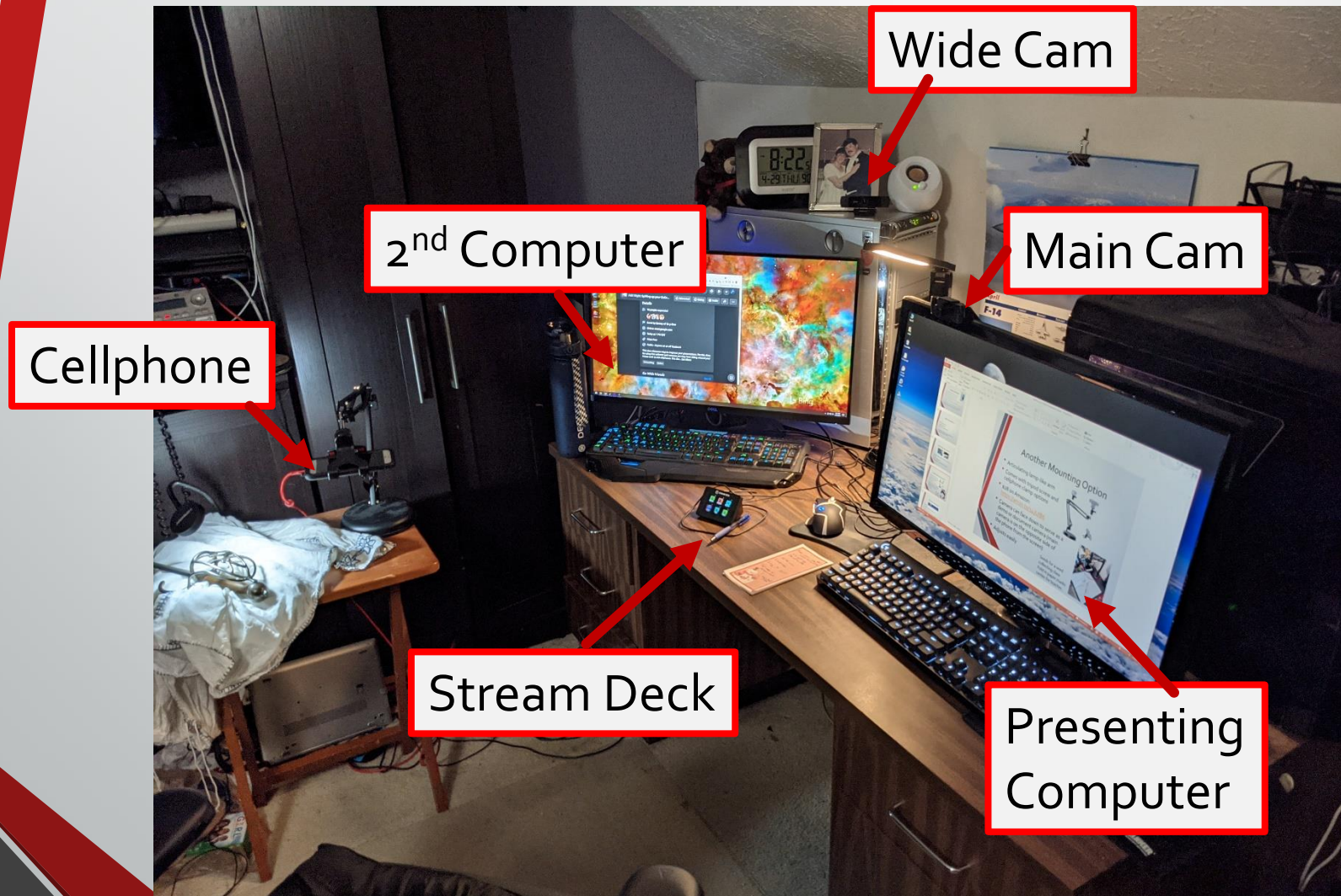
# Another Mounting Option

- Articulating lamp-like arm
- Comes with tripod screw and cellphone clamp options
- \$28 on Amazon:  
<https://amzn.to/343UIB6>
- Camera can face down to serve as a demo or document camera (main camera is on the opposite side of the phone from the screen)
- Adjusts easily



Seeds for a seed  
collecting class  
Fold in paper marks  
center for teacher.

# My Setup



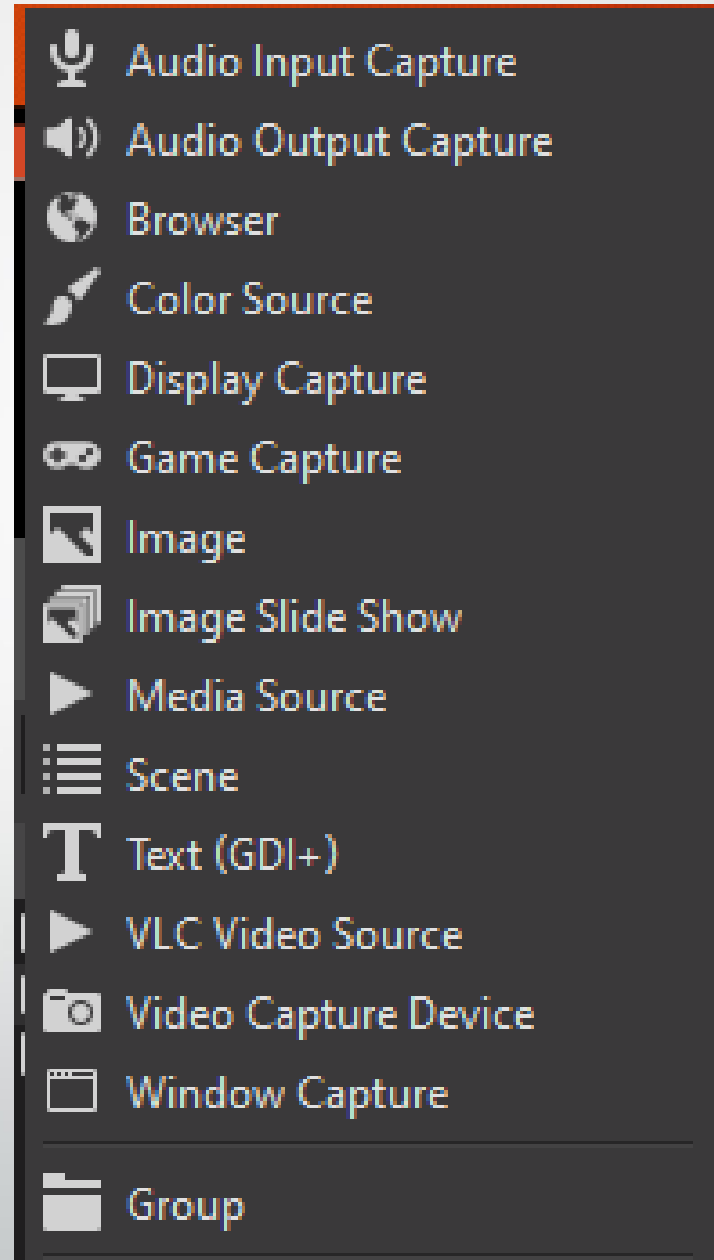
# The Free Video Mixer



- OBS Studio
- Available for Windows, Mac, and Linux
- <https://obsproject.com/>
- Streamlabs OBS is a similar spinoff program with additional features for streaming to Twitch or YouTube

# What does it do?

- Mixes and switches between a huge variety of inputs

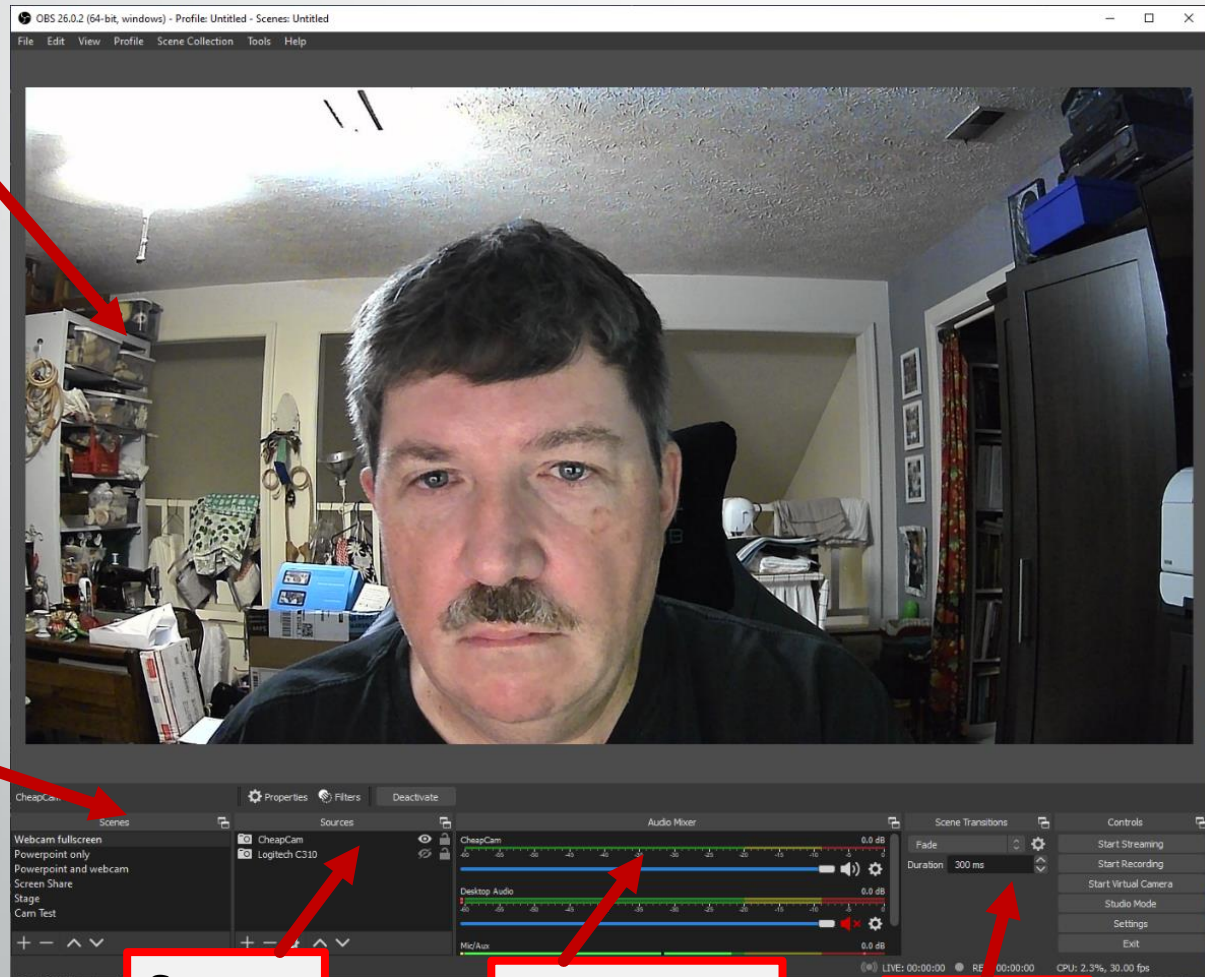


Types of supported inputs

# First Look at OBS

Current Output

Scenes



Sources

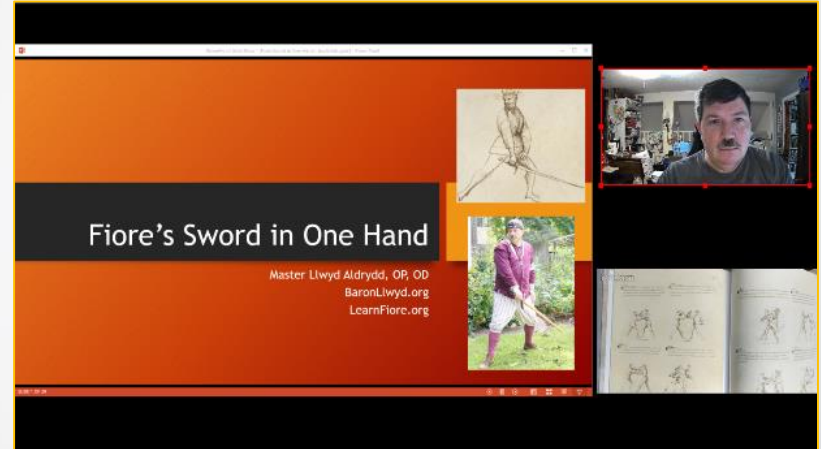
Sound Mixer

Settings

# OBS Nomenclature

- *Source*: A video and/or audio source.
  - Camera, computer window, video file, slideshow, etc.
- *Scene*: A combination of one or more sources

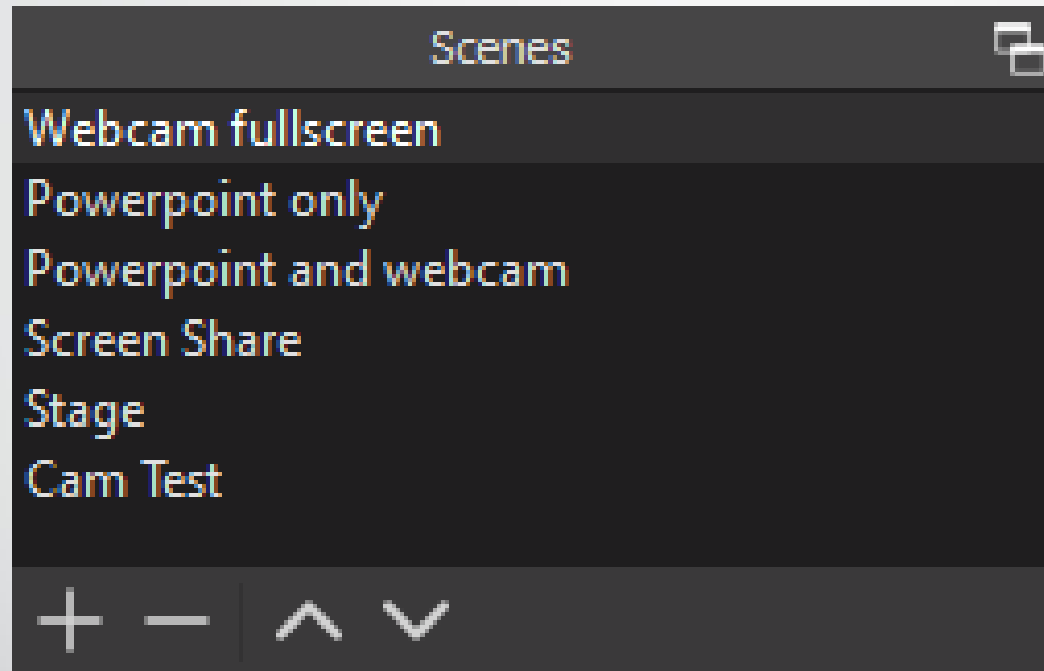
# Scene Examples



Any number of sources can be combined, sized, and overlapped as desired

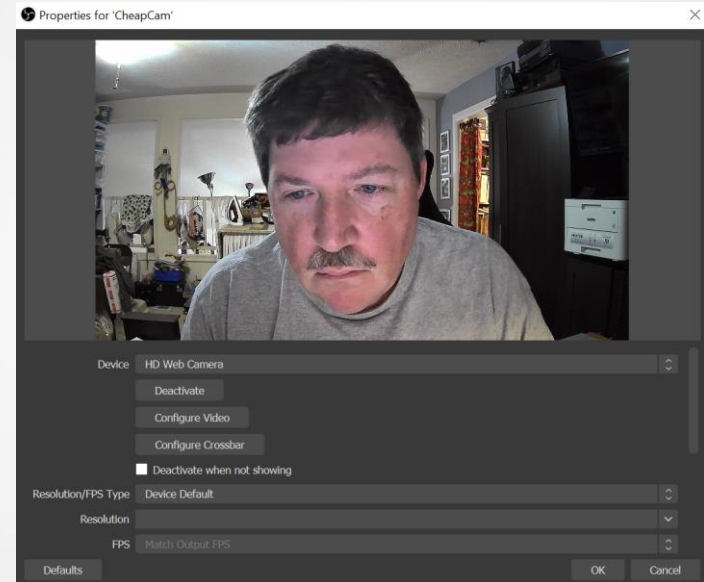
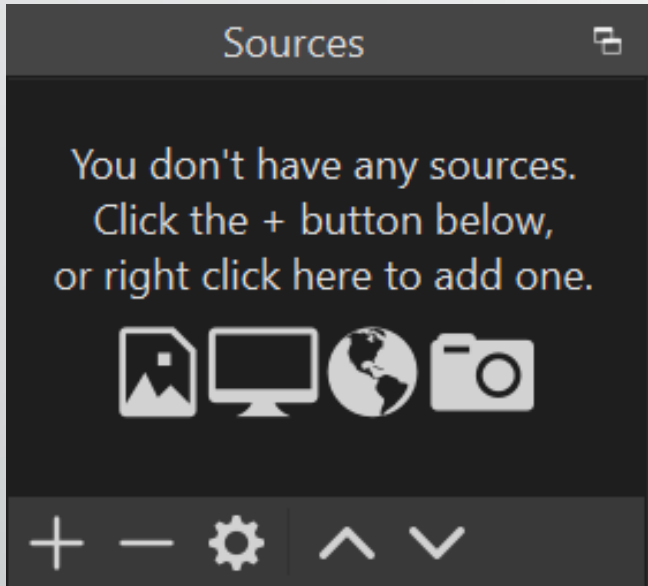


# How to: Your First Scene



- Click the plus button at the bottom of the scene window
- Give your new scene a name – you can rename at will later
- Eventually assign a useful, descriptive, name

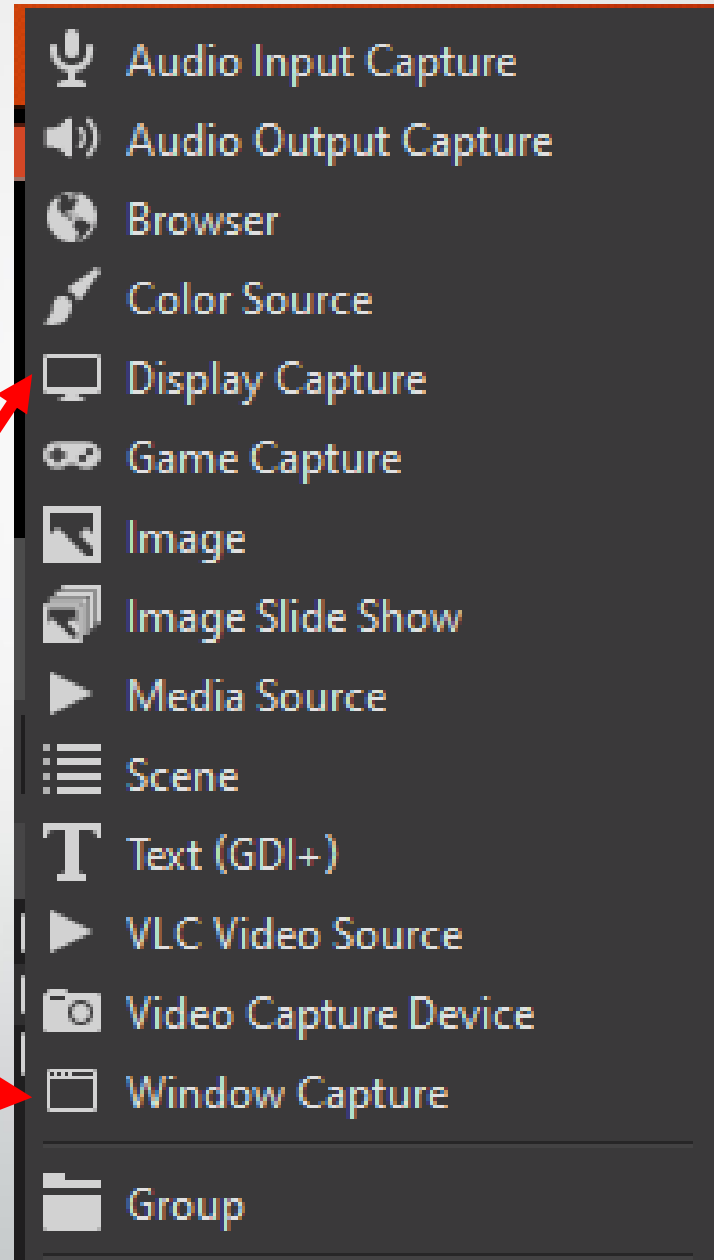
# Add Sources to your New Scene



- Click the plus button to add a source to the scene
- For your webcam(s) select "Video Capture Device"
- Give it a name and configure it to point at the desired camera
- Repeat as desired

# Adding windows and monitors

- To add an entire computer screen choose “Display Capture” as your source type
- To add just a window choose “Window Capture”



# Powerpoint Sharing Tip: Presenting in a Window

PowerPoint interface showing the **SLIDE SHOW** tab and the **Set Up Show** dialog box.

The **SLIDE SHOW** tab is selected, and the **Set Up Slide Show** button is circled. The **Set Up Show** dialog box is open, showing the **Show type** section with the following options:

- ☐ Presented by a speaker (full screen)
- ☒ **Browsed by an individual (window)**
- ☐ Browsed at a kiosk (full screen)

The **Show slides** section shows **All** slides selected. The **Show options** section includes checkboxes for:

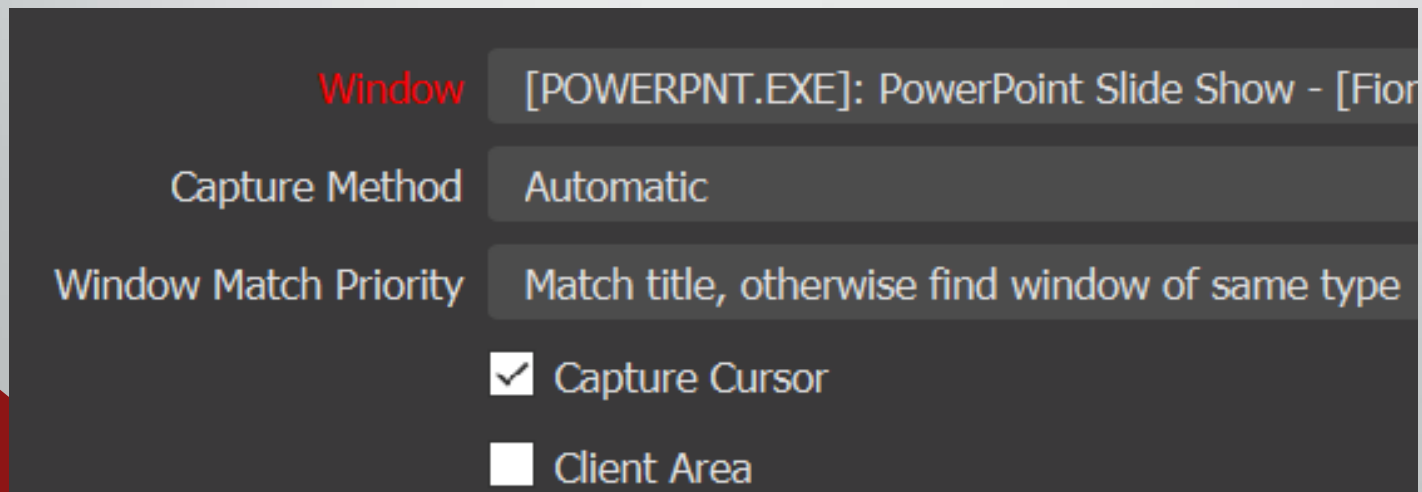
- ☐ Loop continuously until 'Esc'
- ☐ Show without narration
- ☐ Show without animation
- ☐ Disable hardware graphics acceleration

The **Pen color** and **Laser pointer color** are set to red. The **Advance slides** section shows **Using timings, if present** selected. The **Multiple monitors** section shows **Slide show monitor** set to **Automatic** and **Resolution** set to **Use Current Resolution**.

The **OK** button is highlighted.

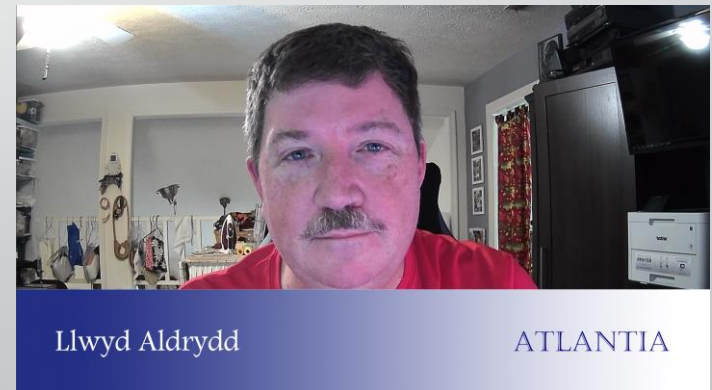
# Powerpoint Sharing: OBS Setup

- After saving the change from the previous slide, hitting F5 or the projector icon will start the presentation in a window rather than a full screen
- Within OBS, choose “Window Capture” and choose the Powerpoint window
- Resize and position within OBS as desired



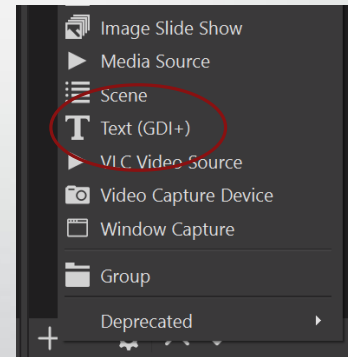
# Chyron/Lower Thirds/Overlays

- Create an image that is mostly transparent in paint program of your choice
- Add text either in the art program or in OBS
- Add that image (and text) as a source
- Toggle source on/off as desired
- Watch video “safe area”



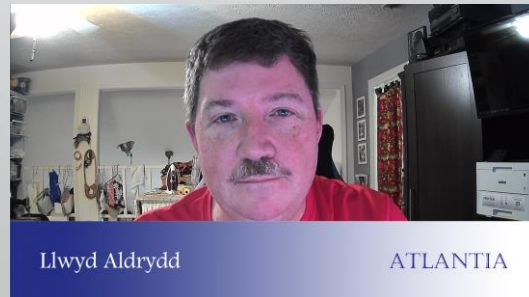
# Doing the text in OBS

- Create a background for your text
- Created a Text source in OBS
  - Select font, size, color
- Group Text and background
- Can add a transition swipe by having duplicate scenes with the group on and off

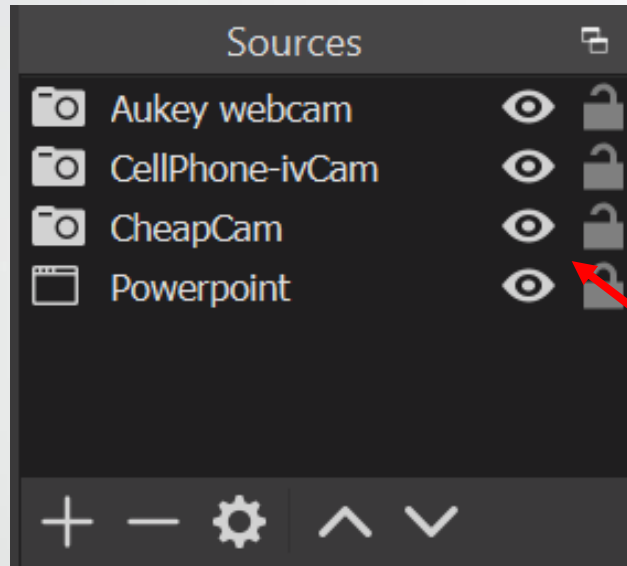


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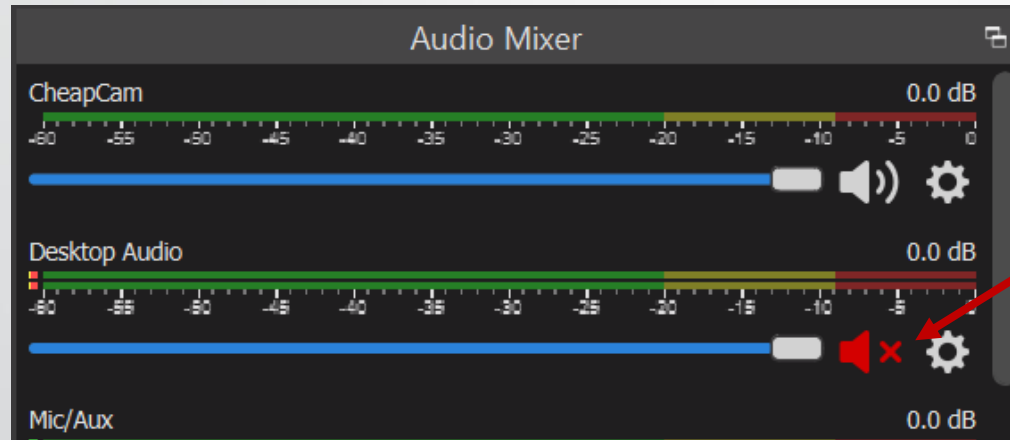


# Arrange and size your sources



- Once you have several sources in a scene, the eye icon can turn them on and off
- The up/down arrows at the bottom sort the order they appear – your background image should be last/bottom.
- Each source can be moved and resized with the mouse

# A Quick Audio Tip



Click the speaker to  
mute that source

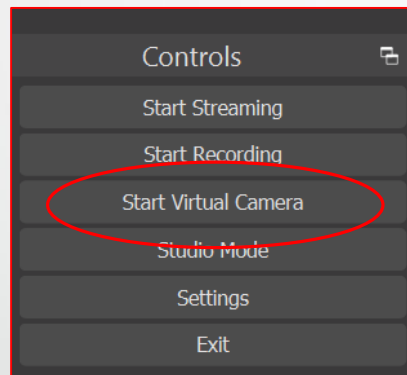
- Use the mixer if you want to use audio from different sources
- Each source in a scene will get added to the audio mixer window
- Different levels can be set for each source
- To start with, **mute all but your main camera**

# Scene Setup Continued

- Set up a scene for each desired video source by itself
- Set up a few combined scenes and carefully size and position each source to not interfere with the others
- Set up a scene to share your full screen so you can pull up any other arbitrary source quickly.
- Switch the current scene by clicking on the scene name in the scene window.

# Using OBS with a Virtual Meeting

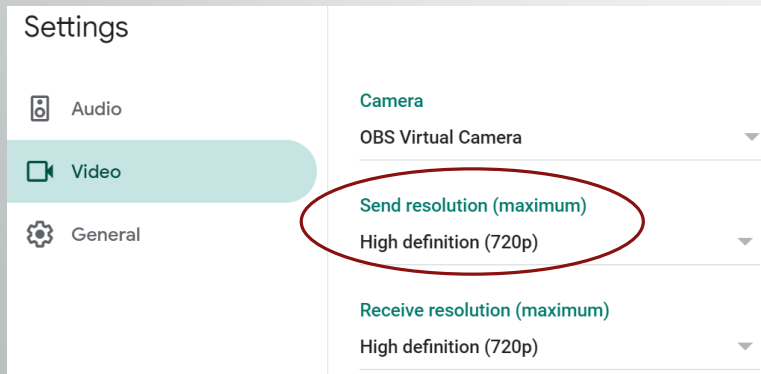
- Virtual Camera functionality is built into OBS. Click the “Start Virtual Camera” in the Controls block on the lower right.



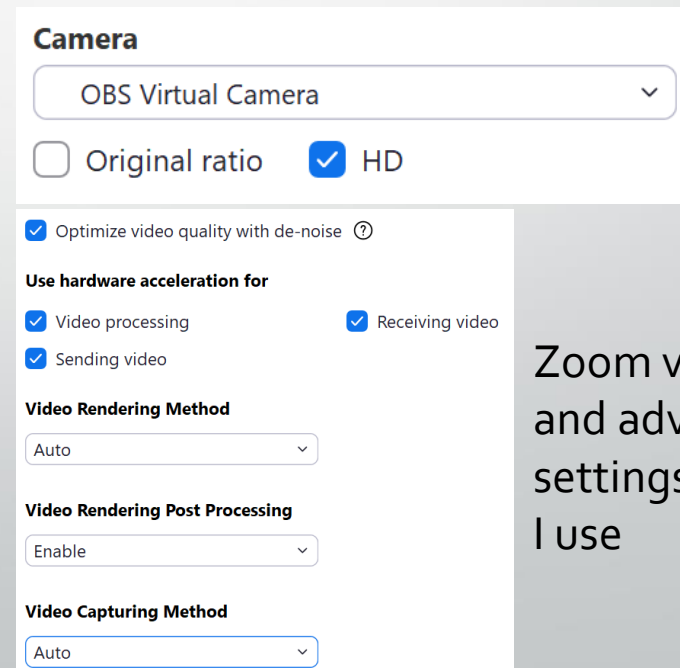
- Tell your meeting software to use the virtual OBS camera as your “webcam”
- You don’t need to share your screen in the meeting software, OBS will do that function instead.
- **WARNING:** Meeting settings that replace or blur your background will mess up the images you are sharing!

# High Resolution Settings

- Some meeting programs default to low resolution images for what they think is your webcam image.



Google Meet Video Settings  
"auto" resolution is not what you want  
Choose high definition

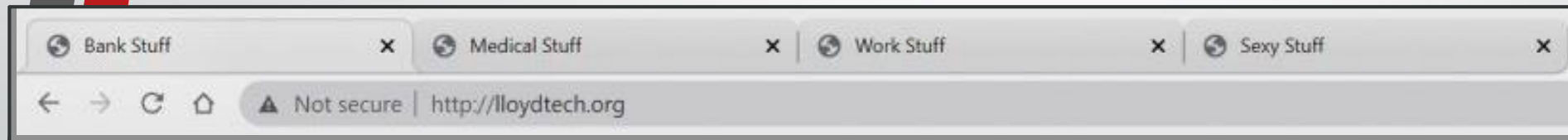


Zoom video  
and advanced  
settings that  
I use

# Test, Test, Test

- Before teaching using your cool new setup, try it.
- Set up a test meeting using the target meeting software
- Connect to that meeting with both your presentation computer and a different “student” device (ask a friend if you only have one machine)
- Practice switching sources, check for sound feedback, lighting, or other issues
- Fix problems.

# Important Safety Tip



- Check your computer windows, icons, browser windows, and camera background to verify that you are only sharing what you want to.
- Close any financial, family, medical, proprietary, or other embarrassing windows before sharing what is on your screen.

# Before Presenting

- Log in a few minutes early to check that you have everything connected and running right.
- Recheck your open windows, VPN settings, volume
- If you have a friend with a separate computer to admit students, watch the chat, and otherwise run things while you teach, that can help.
- Almost as good is to log in to the meeting on a second computer to be able to do those functions without having to exit your presentation.

# Optional, less cheap, Bells and Whistles

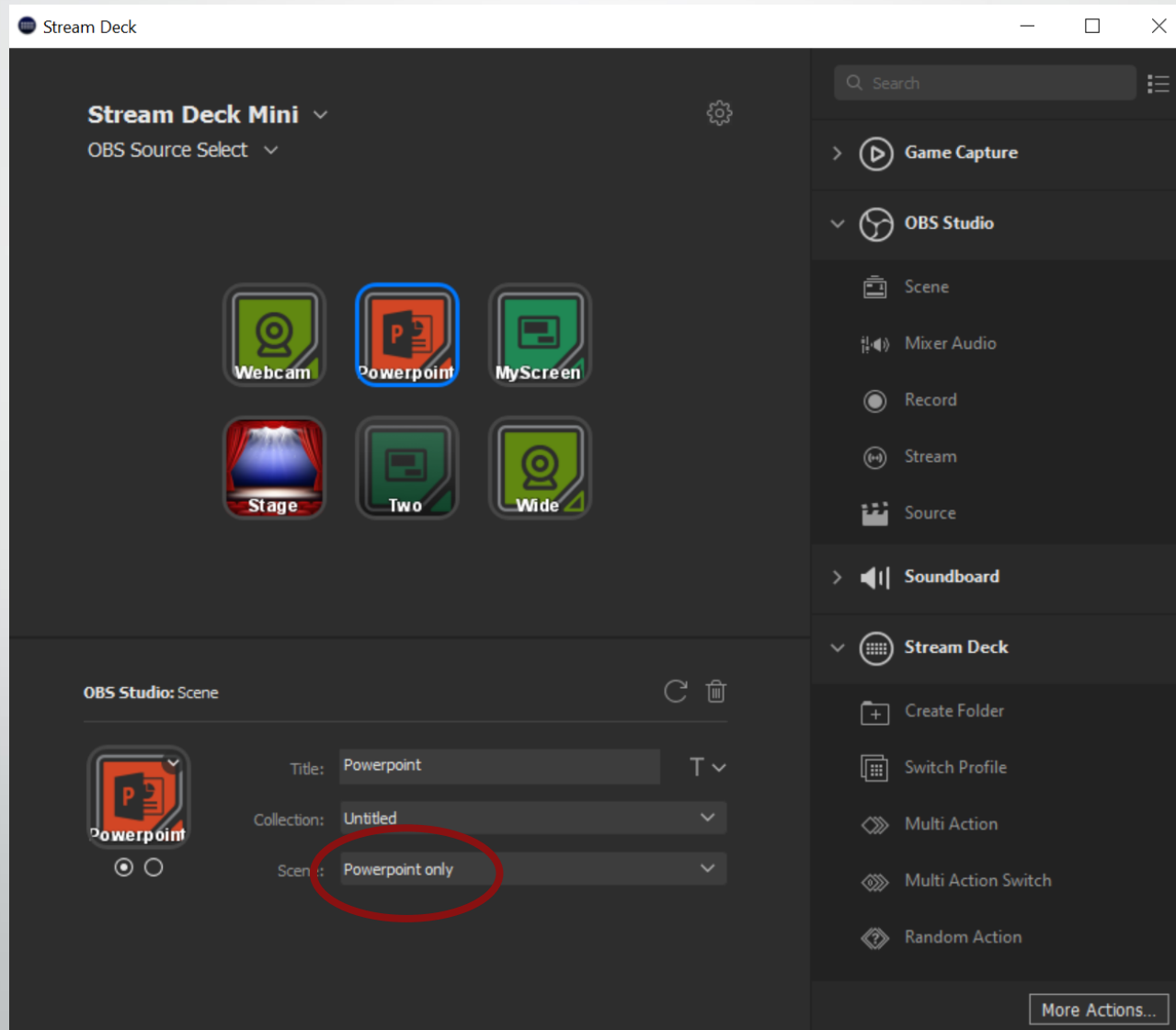
- Elgato Stream Deck connects trivially to OBS and makes scene/source switching quick and easy without having the OBS control screen on top
- LCD image on each button is customizable
- <https://amzn.to/3538bDd>
- 6 buttons "Mini" = \$100
- 15 buttons = \$150
- 32 buttons "XL" = \$250



# OBS with Stream Deck Mini



Easy to map a button to an OBS scene. Custom art can be downloaded or created.



# Explore More

- OBS Discussion Forums: <https://obsproject.com/forum/>
- YouTube videos on OBS and/or Stream Deck

# Collected Links

Note: Amazon links are affiliate links

- Slides: <http://baronllwyd.org/summer2021>
- Webcams
  - Cheap: <https://amzn.to/3qoWM9O>
  - Wide: <https://amzn.to/3oMSNDR>
- Camera arm mount: <https://amzn.to/343UIB6>
- ivCam software: <https://www.e2esoft.com/ivcam/>
- OBS Software: <https://obsproject.com/>
- Stream Deck buttons: <https://amzn.to/3538bDd>