Christopher Bill's Multitrack Editing 101

Hi folks! If you haven't checked out the initial document floating around, definitely start with that! It's my guide to remote music education.

Here, I'll get you started on the right path if you're looking to have your students record parts of an ensemble piece for you to put together virtually. Don't be deterred! You can do this, but you're about to take on the roles of an arranger, producer, audio engineer, video editor, as well as dealing with logistics and troubleshooting for students. I definitely encourage you to give it a shot, it's not rocket science, but it will take quite a bit of putzing around on YouTube tutorials and if you're trying to do a video aspect, a decent computer. **If you're unsure about learning all of this stuff, I recommend starting with a short audio-only multitrack.** I also just updated the original list to include SoundTrap by SoundCloud. It's super powerful for remote sessions, with a 30-day trial and then $249/year for 50 students. I haven't used it for one of these, but don't overlook it!

Before I dig in, if you really want to do something like this but don't think you can pull it off, I'm here for you if you have a budget and want help with any of the following steps. You can contact my assistant Ford at contact@classicaltrombone.com. You can also schedule a consulting session.

Here are examples of the videos I create with this method:
Shenandoah - Virtual Ensemble (non-professionals, all recording remotely)
Song for Japan - Virtual Ensemble
Bonehemian Rhapsody - Professionals, I recorded/filmed
Daft Punk - Harder Better Faster
Circles - High school group, I recorded/filmed

Workflow

- Design the project start-to-finish
    - Choose the piece/arrange the piece
    - Decide how it's going to go. Soloists? Small break-out ensembles? Decide it all up front and try not to change it unless covering up an issue later.
    - Create play-along tracks for folks to record to. A click track or metronome is not enough. More on this later. To simplify the editing later, it's a good idea to have four pickup bars to the piece, and have the students clap big, loud, on camera, and in time on the down beat of the second bar.
    - Create a detailed document for students that walks them through literally every second of the project.
    - Create a list of everybody submitting, their contact info, and the part they'll play. You'll reference it and check it off after every step.

- Create a spot for them to upload their files. I use Google Drive.

- Send out materials
  - The guidelines document ([here's a great example](#)!)
  - Sheet music
  - Play-along tracks
  - Part assignments
  - To simplify video editing significantly, you can include a picture of how each student should be framed in the videos in the guidelines document (as well as any dress code or background if you have anything you'd like done with that).
  - Check off your list and make sure you've sent it to everyone.

- Now we wait…
  - Be there to answer questions (musically and technically)
  - As the audio/video recordings come in, download them and start organizing. Create a labeling system or folder system and keep it consistent. Every time you label the files, they should have the name and part.
  - Check off your list and make sure you've received everyone's files.

- Audio Editing
  - Consolidate file formats. I convert everything to .wav
  - Import them to your DAW of choice
  - Edit! (More on this later)
  - Check off your list to make sure you didn't miss somebody.
  - Mix/Master/Finalize audio

- Video Editing
  - Consolidate file formats. I convert everything to MP4/H264
  - Import them to your video editor of choice
  - Edit! (More on this later)
  - Check off your list to make sure you didn't miss somebody
  - Render/Proof your final product

- Marketing (if just sharing internally, not super necessary)
  - Photoshop a simple, eye catching thumbnail
  - Write up a short, hopefully one or two sentence description
  - Create a list of links you want to plug (your institution, composer credit, etc)

- ○ One final time, use your list to copy in the folks who played to credit them in the description

Software, Techniques, & Tips

- I'm sure most of you know, but Finale, Sibelius, or Dorico are the industry standards for notation software. Noteflight and Musescore are free options.

- The play-along track *can* just be a metronome, but it's nearly impossible for even a professional musician to know where their individual part sits within the chords, let alone a student. The next-best option is to have them record with a drone and metronome, but best case is to have them play along with the notation software audio and click track. *Alternatively if it's a piece that already exists, you can have them just play along with a recording of it that you like*

- You can export an audio clip from your notation software, but I recommend exporting the MIDI (so you can add tempo alterations) and then creating the piece by importing the MIDI to a DAW
  a. I use Ableton Live, but other industry standards are Logic and Pro Tools. Free options are GarageBand and Audacity.

- Within the DAW, create the piece exactly how you want it to sound, and add a metronome track with a couple bars lead in. You can change the tempo as you go to incorporate tempo changes and rubatos, and make sure you play with that enough to make it sound natural.

- For the student list for checking and double checking, I use Google Sheets or Excel and have rows for each step of the process so I can cross them off after each step.

- The guidelines document should include...
  - ○ Recording best practices (most won't have a nice mic and camera, so have them try out a few different setups to make sure they don't distort at the loudest parts and that there isn't too much background noise).
  - ○ Deadlines
  - ○ What you want them to wear
  - ○ What kind of background for the video
  - ○ Any musical notes
  - ○ A link to the folder where they'll upload their final audio & video files, as well as strict instructions for how you want them labelled. This will be very helpful later

on… something like "Christopher Bill - Trombone 3 - Audio" (Again, some will have separate mics, some will just have a video with audio from the camera.)
- ○ Most importantly, tell them to wear headphones at least three times!!!
- ○ It might make your life easier later if you also ask them to clap or stomp right on beat one of the second bar of lead-in so you can line it all up.

- Host files for folks to download on something like Google Drive, MediaFire, WeTransfer, DropBox

- Converting files. I use Aimersoft Video Converter, but there are many alternatives, some free. Create two folders, one for video and one for audio and copy all of the files so you have two versions of each. Go through and make sure you have every person accounted for in each. The video folder should all be videos, but the audio folder will have some audio and some video, depending on if the student had an external audio recorder or not. In your file converter, convert all the files in the audio folder to .wav, and all the files in the video folder to MP4 (H264), and make sure you know where they're being exported to. This step is crucial because it lowers the stresses on your computer during the editing process.

- Audio editing, again, I use Ableton, but any DAW will do. Reiterating from before, Pro Tools/Logic/Ableton for industry standard, GarageBand/Audacity for free options.

- Line up your audio and go to work!
  - ○ Your job is to make it sound natural. Find the start of each phrase and line them up. If somebody plays a wrong note, you can delete it, find a right one to replace it with somewhere else in the piece, or leave it. You now have creative freedom over how you want it to sound. Too perfect is sterile, too raw is, well, not fun to listen to.
  - ○ Panning. Recreate the ensemble. Pan the instruments around the room as if you're standing in front of them.
  - ○ Compression. Compression lowers the loudest parts of a track. For something with a lot of parts, it will allow you to make the entire piece louder and bring out important parts as they move around the ensemble.
  - ○ EQ. Generally, you'll want to roll off the lowest (mostly inaudible) frequencies. This clears up room for the bass instruments. For a good quality recording, you'll likely want to raise the highest frequencies, but for a phone microphone or something worse, you might actually have to cut them off as well. If there's a problematic noise in the recordings, you can isolate the frequencies with an EQ and maybe not fix bad recordings, but make them fit within the ensemble.
  - ○ Reverb. There are built-in reverb plugins for every DAW, so try them out. Less is more with this, and unless you spring for a paid option, it gets very obviously fake very fast. Play around with the settings until you find something subtle but nice.

- ○ Mixing. Automate the compression makeup and the volume of the tracks to bring out important sections and blend background parts. Hopefully your musicians played their dynamics, but no matter what you'll want to do this a bit.
  - ○ See if there's a good mastering plugin to throw on the full mix. I use Izotope's Ozone as a stand-alone mastering software, but for a one-off project the DAW's plugins might do the trick.

- ● Video Editing
  - ○ We basically do it all over again, but this time with the video and sync it to the audio we just made.
  - ○ I use Adobe Premiere. Other industry standards are Final Cut and DaVinci Resolve. iMovie/Windows Movie Maker or other free options could work, but they have very limited multi-video options, so you'd likely have to do a "one person on screen at a time" visual.
  - ○ Story-board your visual aspect. Go through with your audio and decide who will be on screen and when. How do all of those parts fit on a wide-screen video. It's math and ratios, math and ratios. You can be more creative with your shapes or very geometrical, or again, a one-person-on-screen option is great to give folks a little time in the spotlight. Decide what it's going to look like and then go!
  - ○ Drop all of your footage into your software and start lining it up with the audio
  - ○ Borders on videos make much cleaner edges than trying to make micro-adjustments and line up edges. I use a simple rectangle shape on top of my footage.
  - ○ If your computer isn't prepared for the task, you might have to pre-render your footage or even fully render it with some of your videos, consolidating it down for your computer and then continuing on top of that.
  - ○ Basic color correction and lighting (something like curves is good)
  - ○ Any titles and credits you want before/after the video

- ● Marketing
  - ○ You can take a screenshot of the final video and photoshop the piece title on top as a basic option, just make sure the words pop. Otherwise, get more creative with it and make sure it's not too busy.

Any single one of these bullet points could be an entire page of what to do and best practices, so this should act as a reference list and get you over to the YouTube tutorials on how to actually accomplish each. I never took a class on any of this, I just did it by reading forums and watching videos, so you can too.

Finally, again, if you find yourself in too deep or want my help with either consulting or actually doing any of this for your groups, please reach out to my assistant at contact@classicaltrombone.com and we can talk about the scope/budget of your project. If you

use Ableton or Premiere I can even set up your sessions and get you started or troubleshoot issues you run into, just let me know!

I hope this was helpful and as always, if you want to support this kind of stuff, I'm over on Patreon at www.patreon.com/classicaltrombone.