

# Creative Projects in Music Technology for Middle and High School Teachers

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## PERFORMANCE

### Volca Modular + Pocket Operator + NTS-1 + Korg Monotron + Volca Mix

- Improvisation using (relatively) inexpensive analog and digital synthesizers.
- “Dawless” = no computer needed.

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## PROJECTS

### Name Project

- Compose an autobiographical\* piece using a recording of you speaking your own name.  
\*Make a piece that “reflects your personality”. This encourages students to “conceptualize” the music as they create it. It gives them a purpose and encourages introspection.
- Discover the complexity of vocal sounds
- Edit the recording into short fragments: use fades, change gain, etc.
- Organize fragments based on frequency: high, middle, low
- Limit procedures to trim, speed, fades, gain, cut, copy, paste

### Found Sound

- Learn about audio recording (mics, sound sources, ambience, signal-to-noise, etc.) by gathering “everyday” sounds with handheld recorders.
- Edit the sounds using Audacity, GarageBand, etc.
- Combine sounds to create music.
- Can be a “collage”, a beat, both, etc.
- Make beats and loops
- Perform live by triggering events
- Sound gathering stage is just as important as the final result.

### Ambient

- Can be beat-driven, or not
- Sparse, slow activity
- Use a simple formula: loops of various lengths which overlap at different times
- Evoke sense of space and distance - foreground, middleground, background

### Soundscape (credit given to Will Kuhn and Ethan Hein, see “BOOKS” below)

- Start with a drone. 60-120 seconds.
- Find an image that could trigger a mood or evoke and feeling. The image is for “inspiration”.
- Add heavily-effected piano chords/riffs in a chosen key/mode (M, m, dorian, etc.)

- Add more tracks to achieve the “mood” or emotional response from the photo.
- MIDI Remix** (partial credit given to Barbara Freedman, see “BOOKS” below)
- Download MIDI file from the internet (there are plenty of free and easily available MIDI files)
  - Import into DAW
  - Customize sounds, change the arrangement, etc.
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## BOOKS

- ***Electronic Music School - A Contemporary Approach To Teaching Musical Creativity***  
by Will Kuhn and Ethan Hein (Oxford University Press)
    - Chapter 6 - “Designing Creative Music Projects”
  - ***Action-Based Approaches in Popular Music Education***  
edited by Steve Holley, Kat Reinhert, and Zack Moir (McLemore Ave Music & Fflat Books)
    - Chapter 15 - “Designing a Music Production Curriculum - Five Project Examples” by Ryan Van Bibber
  - ***Teaching Music Through Composition - A Curriculum Using Technology***  
by Barbara Freedman (Oxford University Press)
    - Part II, Unit 11 - “MIDI Remix”
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## SOFTWARE

### Audacity

- Free
- Multi-channel audio editing
- NOT a DAW (no midi and no “snap-to-grid”)

### Reaper

- \$60 license for educators (up to version 7.99)
- Reaper Mania youtube channel
- [reaper.fm](http://reaper.fm)
- [reaper.stash.fm](http://reaper.stash.fm) - download samples and project files
- [whyreaper.com](http://whyreaper.com) - Site created by Reaper advocate and music professor Jeff Kaiser.
  - Cross-platform
  - Inexpensive (it is always fully-functional, whether you’ve paid or not)
  - Comparable to Logic, ProTools, Ableton, etc.

### BandLab

- Totally free
- Collaboration
- Secure
- Classrooms
- Assignments and Grading functionality

### SoundTrap

- \$250 per year for 50 seats. 30-day free trial.
- Collaboration
- Secure
- Runs on Chromebook
- <https://www.youtube.com/c/SoundtrapforEducation>

**Ableton Live Lite**

- Bundled with various hardware (audio interfaces, midi controllers, etc.) from multiple manufacturers. Lite version of Ableton Live.

**PreSonus Studio One Artist**

- Bundled with PreSonus hardware (see below). Lite version of Studio One.

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**HARDWARE****Teenage Engineering**

- \$79 - PO-12 Rhythm Drum Machine
- \$49 - PO-24 Office Noise Sequencer

**Korg**

- \$200 - Volca Modular - modular analog synthesizer w/ sequencer
- \$120 - NTS-1 - digital synthesizer w/ effects
- \$69 - Monotron Series - small analog synthesizers w/ ribbon control

**PreSonus**

- \$150 - AudioBox 96 Studio bundle - Interface, DAW, Condenser Mic, Headphones, Cables

**Focusrite**

- \$280 - Scarlett 2i2 Studio bundle - Interface, Ableton Live, Condenser Mic, Hdphns, Cables

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**WEBSITES**

- “aQWERTYon” - <https://apps.musedlab.org/aqwertyon/theory/C-4-major>
- Midnight Music - <https://midnightmusic.com.au/middle-high-music-tech-ideas/>
- Chrome Music Lab - <https://musiclab.chromeexperiments.com/>

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**OHIO VALLEY ELECTRONIC MUSIC WORKSHOP****Summer Musical Experience for Middle and High School students**

- Stifel Fine Arts Center in Wheeling, WV
- June 6-17, 2022
- Two Weeks, Mon-Fri, 9a-3p
- Compose, Improvise, Rehearse, and Perform electronic music in a fun a safe environment
- For students entering grades 8-12

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**BIOGRAPHY**

Dr. Matthew Harder is a professor of music at West Liberty University. Since 2005, he has operated the WLU Recording Studio, led the WLU Electronic Music Ensemble, and taught classes ranging from music technology to music history. He has presented on Music Technology many times over the years all across the country. Dr. Harder’s acoustic and electroacoustic compositions have also been performed nationwide. Find out more at [matthewharder.com](http://matthewharder.com).