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**Connecting the Optron Mini to FL Studio as a MIDI instrument Part 1**

**Category:** Technology, arts

**Overview:** Students will get introduced to the Optron Mini, as well as go through step-by-step instructions on how to connect the Optron mini to FL Studio as a midi instrument. Students will get experience hands on with using multiple programs in conjunction in order to achieve a specific goal.

**Suggested time:** 50 minutes

**Materials Needed:**

* Computer
* Optron Mini
* FL Studio trial software
* Max 8 software
* Optron software
* LoopMIDI software

**Activity:** play some simple music with synthesizers in FL Studio on the Optron Mini

* Watch introduction video on the Optron Mini
  + <https://media.oregonstate.edu/media/t/1_h569c7y2>
* Download FL Studio trial
  + <https://www.image-line.com/fl-studio-download/>
* Download Max 8
  + <https://cycling74.com/downloads>
* Download Optron software
  + [https:+//github.com/udellc/OptronMax](https://github.com/udellc/OptronMax)

1. Click green “code” box

2. Click download zip

3. Navigate file explorer to: This PC > Documents > Max 8 > Packages

4. Open downloaded zip folder

5. Open “OptronMax-main” folder

6. Move folder named “Optron” from zip folder to packages folder from previous step

* Download LoopMIDI software
  + <https://www.tobias-erichsen.de/software/loopmidi.html>
* Watch tutorial on how to connect everything together
  + <https://media.oregonstate.edu/media/t/1_l7ngsh1q>
* Now return to Max 8 and open the Optron Mini tab. Set number of frets to 3 (This will give you 2 digital frets and an open string for 3 notes total)

Graphical user interface, application

Description automatically generated

* Next, go to FL Studio
* Click on channel rack

Graphical user interface, application

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* Add a channel

A screenshot of a computer

Description automatically generated with low confidence

* Choose plugin called “Sakura”. (Try other plugins if you would like. Sakura is just an easy one for this activity).

A picture containing text, indoor

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* Now try playing “Mary Had a Little Lamb” by using the colors from the Optron as reference to the following color-coded sheet music. Read left to right, one table at a time.

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* Good Job!
* Here is a video of me playing this song:
  + <https://media.oregonstate.edu/media/t/1_43soifof>
* Once you get the hang of it, try this next one.
* For the next song, go back to the Optron Mini window and change the number of digital frets to 6.

Graphical user interface, application

Description automatically generated with medium confidence

* Try and see if you can tell what song this is after playing it:

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* Here is a video of me playing the song:
  + <https://media.oregonstate.edu/media/t/1_vn4njcax>
* \*The song name will be found at the bottom of the last page
* **Question: what happens when you change the number of digital frets? Try setting it to 20. Try 50. What are your findings?**

**Outcome goals:**

* **Basic imputing of values into a digital system, and evaluating the results**
* **Basic understanding of FL Studio**
* **General understanding of how to play Optron Mini**
* **Model how computer hardware and software work together as a system to accomplish tasks**
* **Generate musical ideas**
* **Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea.**

Works Cited:

Sheet music- <http://www.tubescore.net/2012/04/las-mananitas-sheet-music-for-violin.html>

Outcome goals- https://www.k12.wa.us/student-success/resources-subject-area/computer-science/computer-science-k-12-learning-standards

Twinkle Twinkle Little Star