Lesson 5.01: Earsketch Intro **Note:** Unit 5 involves a tool called EarSketch from Georgia Tech. EarSketch is a Digital Audio Workstation with an embedded scripting environment that supports Python or JavaScript. Using EarSketch, students can create songs by writing Python code. All of the Earsketch activities require you to use the EarSketch Editor instead of the IDE you have been using so far (_e.g._ Repl.it). ## Learning Objectives Students will be able to... * Define and identify: **Digital Audio Workstation (DAW)**, **sound tab**, `fitMedia()`, `setTempo()` * Demonstrate beats using the above functions * Demonstrate Looping through items in a list ## Materials/Preparation * [Do Now] * [Lab - Intro to EarSketch] ([printable lab document]) ([editable lab document]) * [EarSketch Editor] * Associated Reading in EarSketch * Read through the do now, lesson, and lab so that you are familiar with the requirements and can assist students ## Pacing Guide | **Duration** | **Description** | |----------:|:----------| | 5 Minutes | Do Now | | 15 Minutes | Lesson | | 30 Minutes | Lab | | 5 Minutes | Debrief | ## Instructor's Notes ### 1. Do Now * Display the Do Now on the board. * Students are introduced to EarSketch and the functions `setTempo()` and `fitMedia()`. ### 2. Lesson #### Activity Copy the following code from the reading above into the [EarSketch Editor]: ```python # script_name: Intro_Script # # author: The EarSketch Team # # description: This code adds one audio clip to the DAW # # # #Setup Section from earsketch import * init() setTempo(120) #Music Section fitMedia(TECHNO_SYNTHPLUCK_001, 1, 1, 9) #Finish Section finish() ``` * Have students write in their notebooks an answer to the following * What inputs does `fitMedia` take? Press the run button and describe what happened. ### In their Notebooks, ensure students have the following terms defined #### Digital Audio Workstation (DAW) * a piece of computer software for recording, editing, and playing digital audio files. * Audio files store information that the computer uses to play back music. * In the context of a DAW, these audio files are called clips. * The DAW allows you to edit and combine multiple clips on a musical timeline * Two popular DAWs used in the music industry are Pro Tools and Logic Pro. #### Sound Browser **Sounds Tab:** Here, you can browse and search a collection of short pre-made audio clips for you to use in your music. **Scripts Tab**: A list of your saved EarSketch projects. Each script is a separate music project. Click a project title to open it in a new tab (in the code editor panel). **API Tab**: A description of every EarSketch function. We will return to this in later lessons. **Code Editor:** A text editor with numbered lines. Type your code here, press "Run", and it will turn into music in the DAW. #### **Console:** `setTempo()`: comes with a default argument of 120, but let's change it to 100. This sets the tempo of our project to 100 beats per minute. As you can see, the name of a function tells you what it does. `fitMedia()`: to add sound to the DAW. fitMedia() requires four arguments: clip name; track number; starting measure; ending measure. In other words, you tell it the name of the audio clip you want to add to the DAW, which track to put it on, and which measures to put it between. For now, just type in `fitMedia()` without any arguments. ### 3. Lab * Practice updating songs by entering different arguments into the `fitMedia()` function. ### 4. Debrief * Talk about any of the phrases or issues the students had. * Take time to review the key terms and functions introduced today * Have students read the next part(s) of the guide in EarSketch documentation. ## Accommodation/Differentiation Students that are moving quickly can read additional documentation on the EarSketch website in order to move ahead and expand their skills and understanding. Some students may need reminders about certain music terminology (tempo, measure, beat, _etc._). ## Forum discussion [Lesson 5.01: Earsketch Intro (TEALS Discourse Account Required)](https://forums.tealsk12.org/c/2nd-semester-unit-5-earsketch/lesson-5-01-earsketch-intro) [Do Now]: do_now.md.html [Lab - Intro to EarSketch]: lab.md.html [EarSketch Editor]: http://earsketch.gatech.edu/earsketch2/ [printable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/5_unit/01_lesson/lab.pdf [editable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/5_unit/01_lesson/lab.docx