Lesson on Audio Editing

The lesson below is to help teachers and students gain a fundamental understanding of multitrack audio editing with Audacity. This lesson is intended to introduce teachers and students to the main features of Audacity to an extent that they can intuit more about the program on their own. It is designed so that there would be very little background knowledge required yet still employing a variety of important technological and language arts skills.   I have used it successfully to show teachers from kindergarten to graduate school how to use and teach multitrack audio recording. You can do this lesson on your own to learn multitrack audio recording or use it for your students. This will provide you with enough skill and knowledge to do a variety of projects with audio in your classroom.

These instructions and resources are very specific. As you and your students become more familiar with the software and procedures, you can develop different projects and allow the students more choices and flexibility in their work. You can copy this section entirely or modify it for your grade or subject. After this lesson, I have suggested projects for a variety of grades and topics. You will first need to download Audacity from http://www.audacity.sourceforge.net and install it.

Assignment

You are producing a radio show about the California Gold Rush. Part of the show is to bring to life the actual words of the people who lived and participated in it. You

base this particular segment on a letter from Lucius Fairchild, a young man from Madison, Wisconsin who left home at age 18 to strike it rich in California in 1849. The letter comes from Library of Congress's American Memories Project (http://memory.loc.gov/ammem/).

Audio Content

You will record the narration (the text of the letter below) and then mix in sound effects and music. You will record and edit each of the three tracks (narration, sound effects, music) separately and then mix them together.

February 12, 1850

To J. C. Fairchild and Family,

…I think we are in the poorest diggings in the country and we have made as much this winter as any store in Madison can make in a year. About four weeks ago the river rose very high and drove us on the highest part of the bar where we supposed there was no gold of any consequence, but to our surprise we found it the richest part so we all took our ground and went to work, since that it has not rained and we have all done well. Ed & I have taken out over *Twelve hundred dollars* or over 2 ounces a day which is good wages…

I remain Your affectionate Friend,

Son, & Brother

From *California As I Saw It: First-Person Narratives of California's Early Years, 1849-1900.* The California Letters of Lucius Fairchild. Library of Congress's American Memories Project retrieved January 4, 2006 from

http://memory.loc.gov/

For this tutorial, you will need an audio file of the song *My Darling Clementine*. I have come across over one hundred of them on the Internet in a three minute search. You can use the advanced features of the AltaVista (www.av.com) search engine to look for music or use Singing Fish (www.singingfish.com), a search engine dedicated to audio and video. Again, the easiest files to work with are mp3. You will also need the sound effects of mining. You can do this yourself, for example, by taking a few minutes and recording a hammer on a brick. For this project I have created both the song and mining sound effect for you to download at my Web site (http://web.njcu.edu/sites/faculty/cshamburg/Content/project_materials.asp). You can use these files for your noncommercial educational use.

Working with Audacity

Most of these steps can be done in any order, but for the purposes of initially learning Audacity, you should stick with these steps. **Your final product will be a narration of a primary source document accompanied by contemporary music and sound effects.** These components can form the basis of many engaging activities using audio editing. Open up Audacity and go to File/New to start a new project. You should have a blank screen like this.
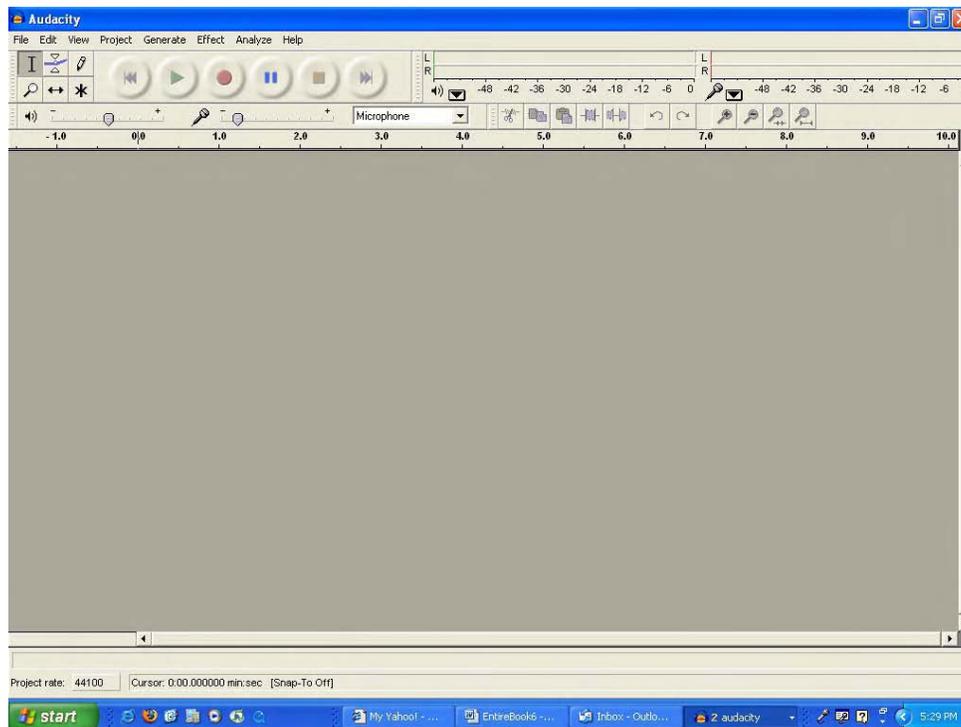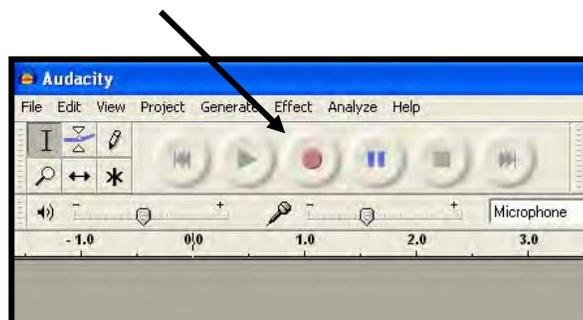

Recording Original Audio

We will first create the narration.

Click the record button and speak into the microphone. You will read the excerpt from

the letter.

You can rehearse if desired.

Text of Narration

February 12, 1850

To J. C. Fairchild and Family,
…I think we are in the poorest diggings in the country and we have made
as much this winter as any store in Madison can make in a year. About
four weeks ago the river rose very high and drove us on the highest part of
the bar where we supposed there was no gold of any consequence, but to
our surprise we found it the richest part so we all took our ground and
went to work, since that it has not rained and we have all done well. Ed &
I have taken out over *Twelve hundred dollars* or over 2 ounces a day
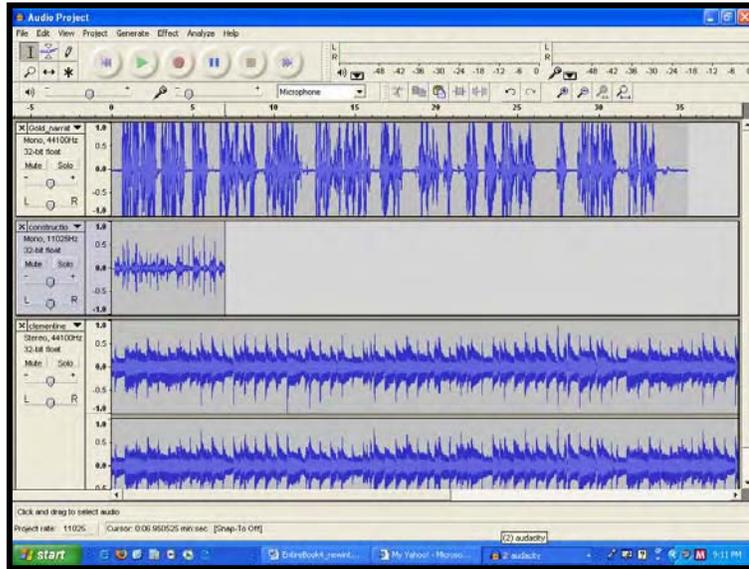which is good wages…

       I remain Your affectionate Friend,
       Son, & Brother

You should get something that looks like this (below). This is your first track. If you

have dead air before your narration (stage jitters or an eager trigger finger, don't worry.

You will be able to edit it out).

Importing Existing Audio

After you download the two audio files from my Web site to your hard drive, you will then import Clementine.mp3 and Mining.mp3 one at a time by going to Project/Import/Audio.
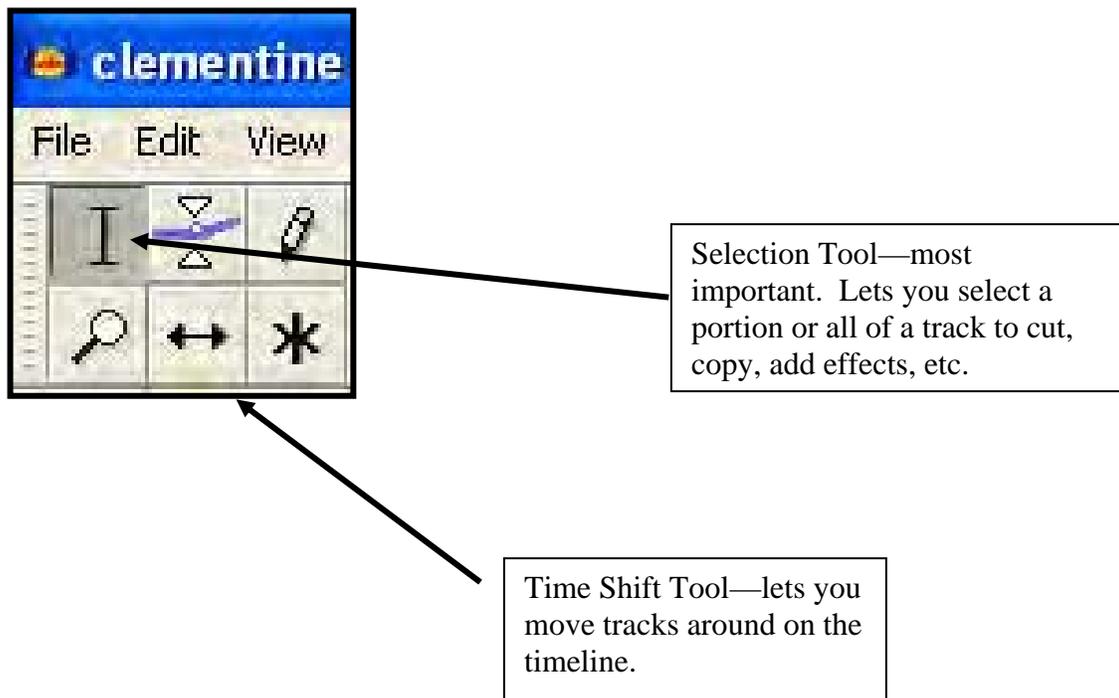

You can play a single track or combination of tracks by using the Mute and Solo buttons on each track's control panel. You can also move, rename, and do other actions to the tracks by clicking the top bar of the control panel.
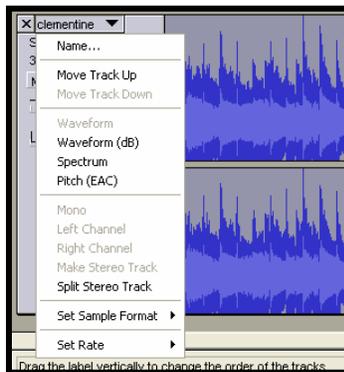
Manipulating the Different Tracks

       We will now manipulate the individual tracks. First, we will loop the mining

sound effect so that it repeatedly plays throughout the recording. Second, we will arrange

the music and sound effects so that they both start before the narration. Third, we will

make the music and narration louder before the narration and lower during the narration.

To do any editing your clip must be stopped, not paused.

You will work a lot with the Selection and Time Shift Tools.

Selection Tool—most important. Lets you select a portion or all of a track to cut, copy, add effects, etc.

Time Shift Tool—lets you move tracks around on the timeline.

Looping a Track

Looping a track involves replaying it over and over to seamlessly convey a continuous sound. To loop the mining track, select it using the selection tool, copy it, and then paste in on the track next to the original selection. Repeat until it goes about 10 seconds beyond the narration. The bottom of the toolbar has a timeline in seconds. You may have to go to View/Zoom Out to get a better view of all the tracks.
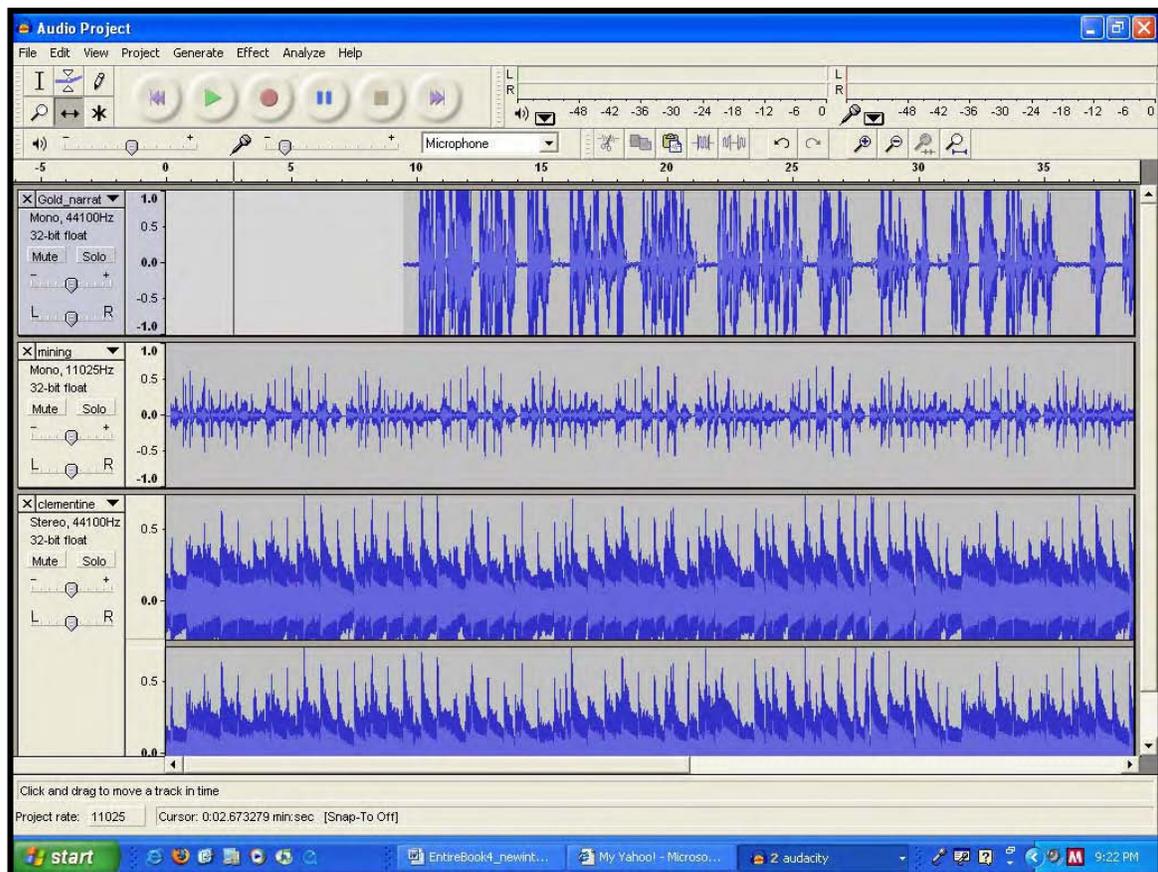

Above: Mining track highlighted
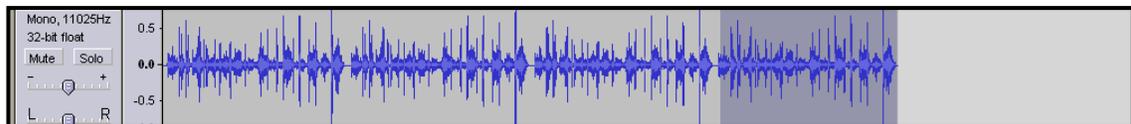
Above: Mining track pasted three times after original--the beginning of an audio loop.

Moving a Track

We will use the time shift tool to move the narration back 10 seconds. Make sure your recording is stopped. Hit the Time Shift Tool in the top right of your screen. Drag the narration back ten seconds.

Hit the play button on the top of the screen to hear your creation.

Lower the Volume of Selected Tracks

Finally, we are going to lower the volume on the mining sound effects and music when the narration is playing. We will lower the volume on the mining track first. Using the Select Tool, highlight the section of the mining track that is concurrent to the narration.

Then go to Effects, Amplify and lower the amplification by 2.5 decibels (-2.5 d.B). You will have to experiment with the exact levels based on the recording of your narration.
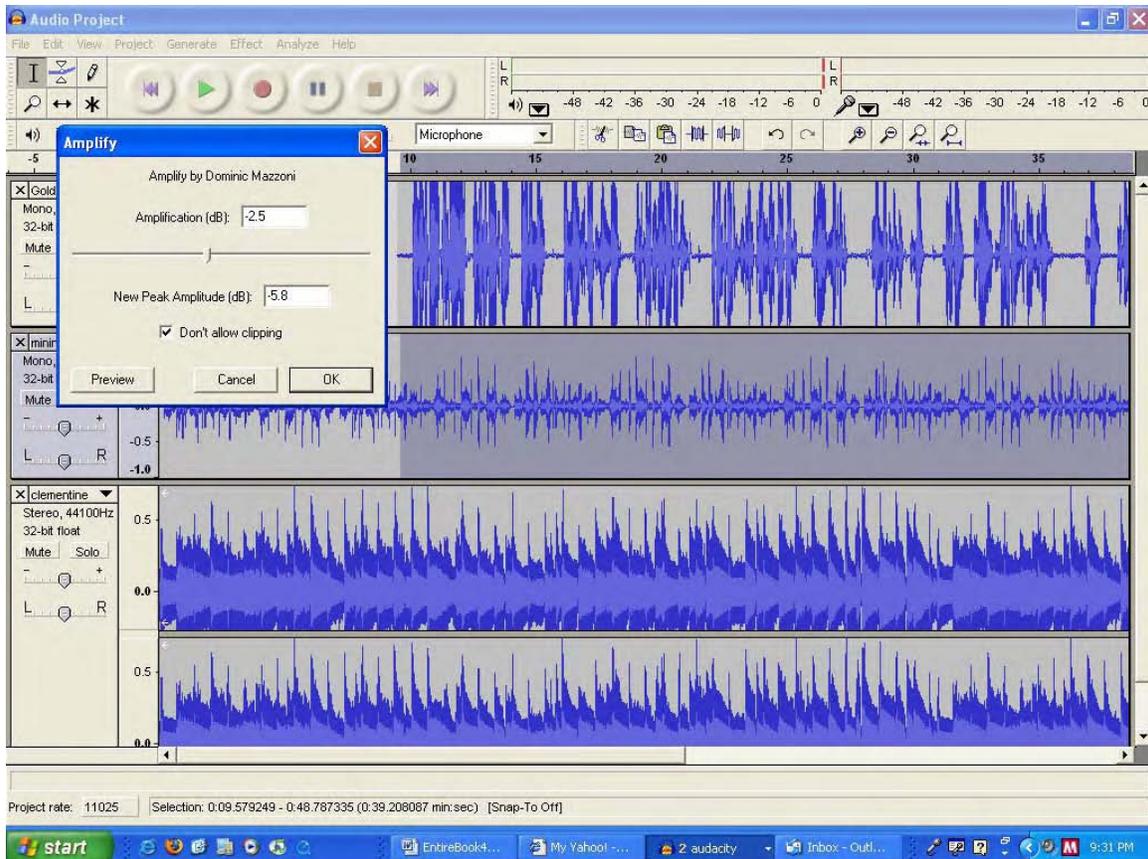
Repeat this with the Clementine track. Play the entire audio project. Make minor

adjustments to taste. Your final project should look something like this.
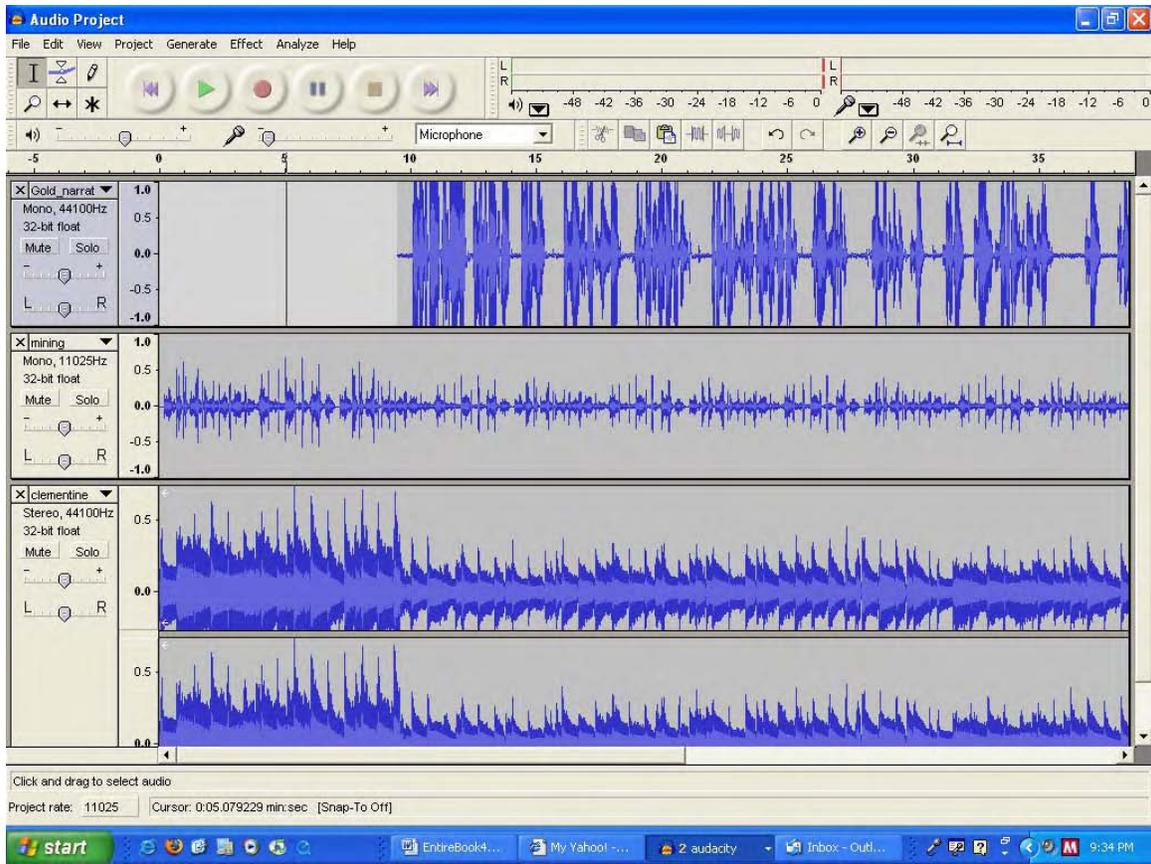
Finally, Export as an MP3 (File/Export as MP3), and you have the finished file.

Other Resources

Audacity Resources

Audacity Tutorials (http://audacity.sourceforge.net/help/tutorials)

Audacity Book (http://audacitybook.org/html/)

Audio Resources—Copyleft Related

Creative Commons (www.creativecommons.org)

Creative Commons Mixter (www.ccmixter.org)

Dance Industries (www.dance-industries.com)

Free Sounds (http://freesound.iua.upf.edu)

Garageband (www.garageband.com)

Magnatune (www.magnatune.com)

OpSound (www.opsound.org)

Audio Search Engines

Singing Fish (www.singingfish.com)

Find Sounds www.findsounds.com