Recording and Editing Digital Audio with Audacity

Introduction to Audacity

Audacity is a free audio recording and editing program that is extremely easy to use. It doesn't have all the features of programs such as Apple's Garageband and Adobe's Audition and Soundbooth, but it should meet the needs of most ACC faculty. You may download it at http://audacity.sourceforge.net/ . Be sure to download the latest stable version.

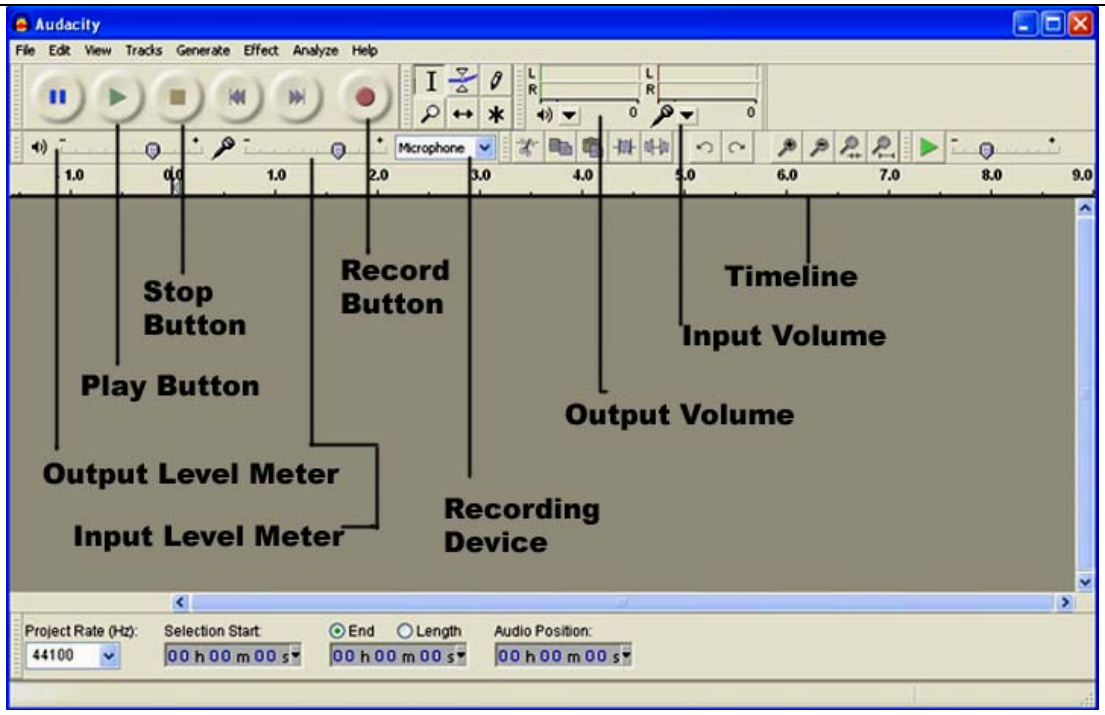
When you record and edit audio in Audacity you will export your audio file as an MP3 file before you put it on your website or link it to your Blackboard course. Uncompressed (WAV for PCs or AIFF for Macs) audio files are too large to download quickly. MP3 files are highly compressed , but they maintain most of the quality of the original file. You will need to download a free MP3 encoder called the LAME MP3 Encoder. You can download this program at: http://lame.sourceforge.net/index.php. When you install LAME be sure you place it in the same folder you downloaded Audacity to.

Recording and Editing Audio with Audacity

This tutorial assumes that you have already downloaded and installed Audacity and the LAME MP3 Encoder. It also assumes that you have plugged a microphone into your computer.

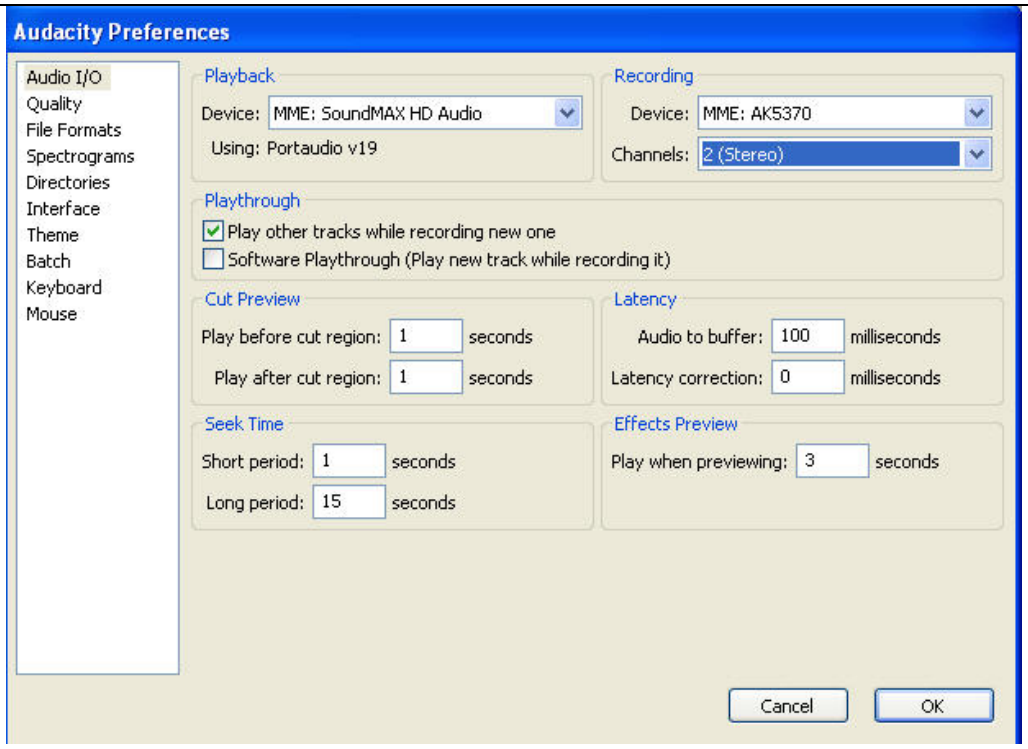
1. Open Audacity. Your screen should match the one shown in Figure 1.

Figure 1: Audacity Interface



2. Select **Edit > Preferences** from the menu to verify that Audacity is set up to record correctly. Click the **Audio I/O** tab. The **Playback** device should be your computer's sound card. If you followed the directions for setting up your computer to record audio in the first tutorial you should not have to change the device. The **Recording** device will be your microphone. My microphone is an AK 5370. Yours may be different. The settings on the other tabs should not have to be changed.

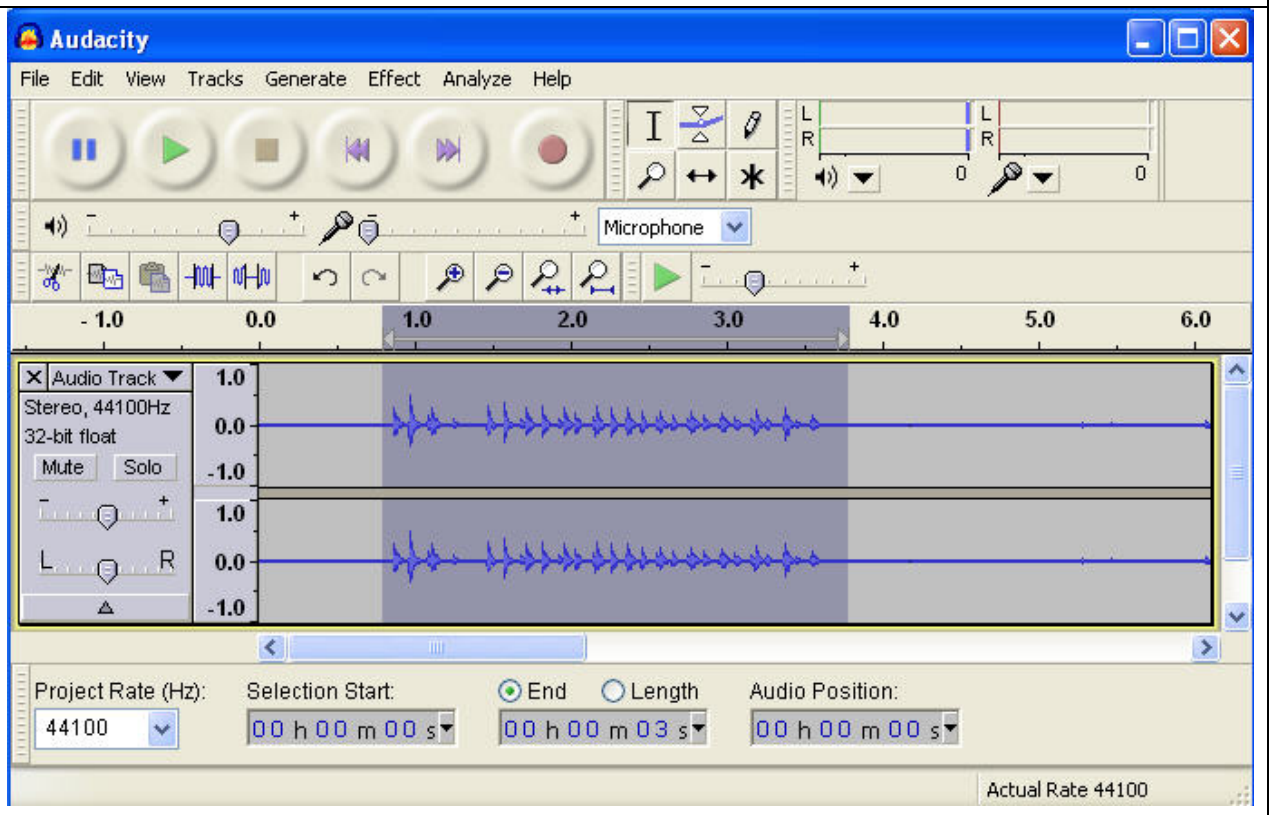
Figure 2: Audacity I/O Tab



3. Check the **input** and **output** level settings. The default setting is .7 decibels, which should be okay. It is always a good idea to make a test recording before you make a recording for a project. Turn on your microphone and move it to approximately 12-15 inches of your mouth. Recording distance will vary depending on the strength and tone of your speaking voice of course.

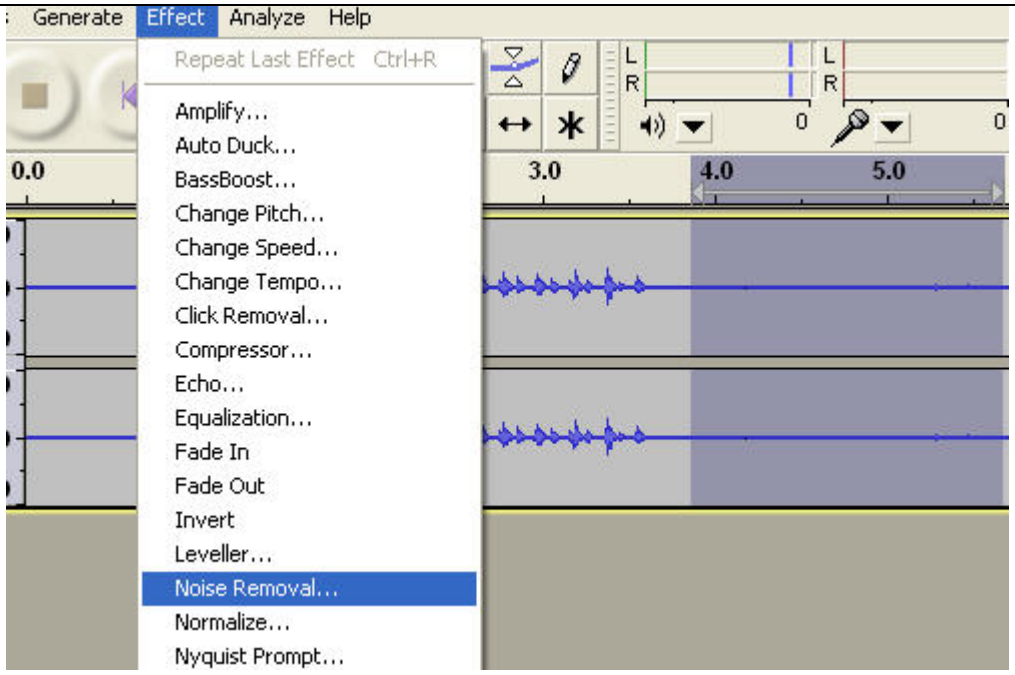
4. Click the red **Record** button, pause for a couple of seconds, and speak into the microphone. When you finish recording click the **Stop** button. Press the **Skip to Start** button to move to the beginning of the timeline. Press the **Play** button to listen to your recording. If you want to listen to only a portion of your recording, drag the cursor across the timeline to highlight part of the recording. Figure 3 shows some noise I deliberately recorded at the beginning of the recording. In some parts of the timeline the wav form is a flat line. This indicates that no sound was recorded at that point. (You can listen to this recording on the Web on the Digital Audio website at: http://irt.austincc.edu /audio/sampleuneditied.mp3).

Figure 3: Selecting Portion of Wave Form



5. Audacity features about 25 special effects that can be applied to sound recordings. To see the list of effects click the **Effect** option on the menu. More often than not you will only need to use two of these effects – **Noise Removal** and **Normalize**. Figure 4 shows some of these special effects.

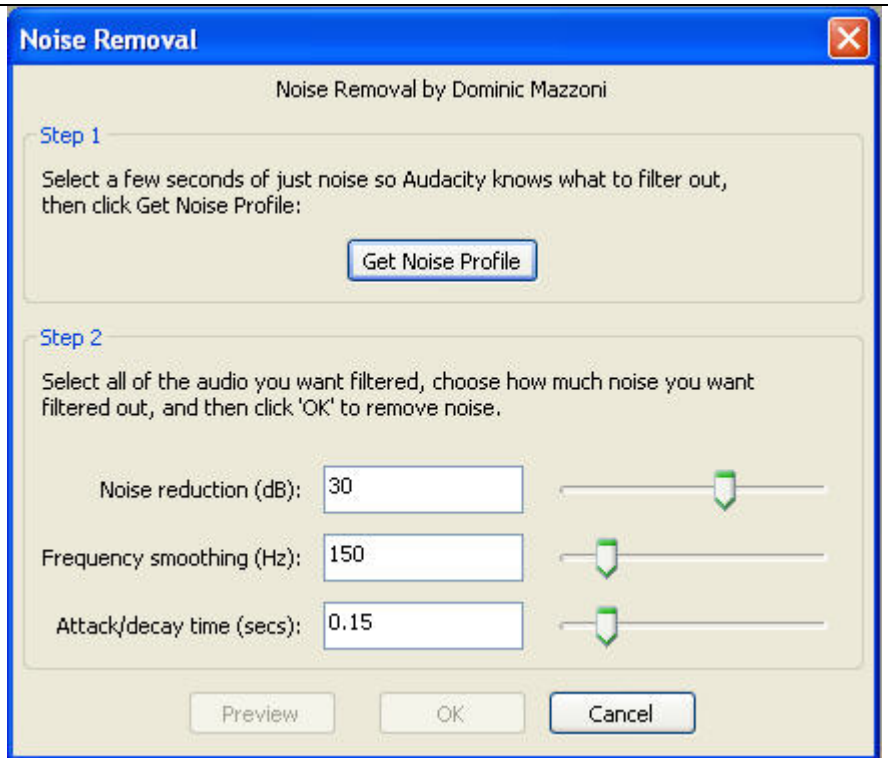
Figure 4: Audacity Special Effects



To remove noise from a recording, click **Effect > Noise Removal**. Before removing noise from an audio recording you must first select a sample of the noise so Audacity will know what sounds to remove. You probably will not need to change any of the default settings in the dialog box. After removing the noise, listen to your recording again. If all the noise was not removed select the noise that was not removed and repeat the process. This time you might need to adjust the noise removal slider. ***A word of caution: If you remove too much noise you might delete sounds you want to keep in your recording***. You can listen to the edited file on the Digital Audio website at:

http://irt/austincc.edu /audio/samplenoiseremoved.mp3.

Figure 5: Noise Removal

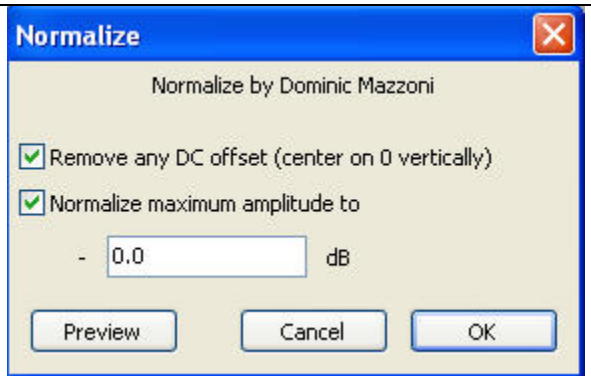


6. Drag the cursor across the silence at the beginning of the recording. Click the **Delete** key to remove it. Do the same with the silence at the end of the recording.

7. Listen to your recording again. Does it sound better?

8. The last thing we are going to do to our recording before exporting it as an MP3 file is to normalize it. When an audio file is normalized Audacity analyzes it to determine how much the sound level can be increased without distorting it. Then, it changes the sound to that level. Select your entire sound recording by choosing **Edit > Select > All** on the menu. Click **Effect > Normalize** on the menu. Do not change any of the default settings. Listen to the normalized file. Doesn't it sound good about the way it should sound now? Congratulations! That wasn't too tough was it?

Figure 6: Normalizing an Audio Recording



9. We have reached the last step in our sound recording and editing project. We are going to export, or save, our recording as an MP3 file that should be about one tenth of the size of our WAV file. On the menu select **File > Export**. In the **Export File** dialog box select the drive and folder you want to save the file in, type the name of the file, and click the **Save** button. The first time you export a file in MP3 format the program will ask you to locate the MP3 encoder. Navigate to the Audacity folder on the hard drive of your computer and select the **lame_enc.dll** file. Then, click the **Save** button. Hooray!! We're done. You can listen to the finished file at: http://irt.austincc.edu /audio/samplefinished.mp3.

Figure 7: Export File