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Editing Audio With Audacity
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print version

An introduction to working with Audacity, a multi-track audio editor.

Introduction

Audacity is a multi-track audio editor that enables you to record sound or import existing sound files, edit them, mix them with other material, and output them in various formats. The main website for Audacity is:

http://audacity.sourceforge.net

Audacity has a clear and easy to use interface. This tutorial will take you through the standrad steps involved in working with it.

1. Creating a new piece

Open Audacity. When it has launched you should see something that looks like this:
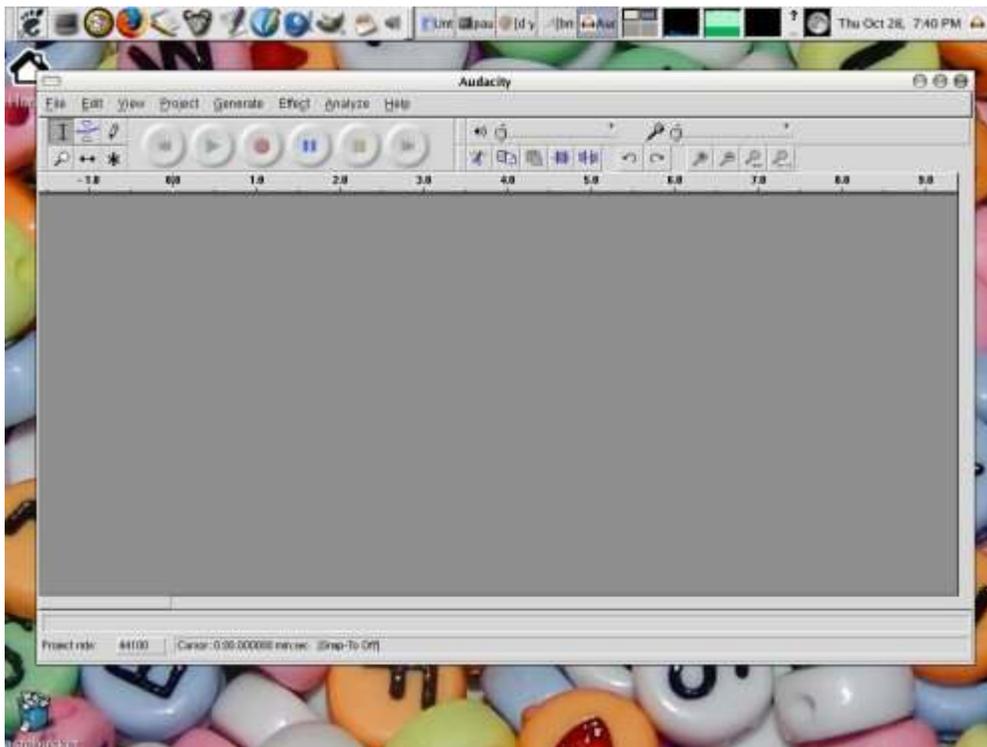
2.Importing and Recording Audio

The first thing you need to do is to get some sound in. You can do this in one of two ways: by recording some audio from an external source or by importing a piece of audio that has already been recorded.

To import audio go to the Project Menu and chose Import Audio, then select your file in the dialogue box. Audacity can handle many different types of audio including wav files (probably the best since they are uncompressed) mp3 and ogg files. To record audio make sure your sound source is plugged in then press the red record button. When you have finished recording press the stop button.
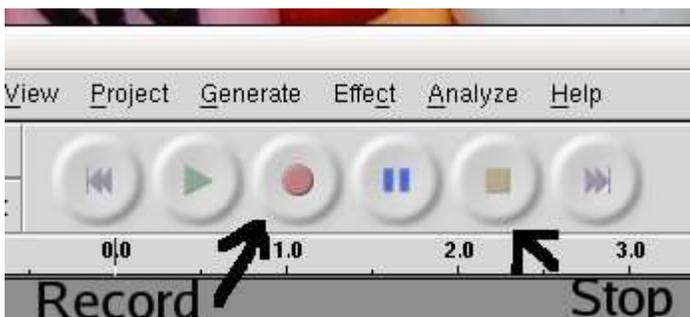
You may need to adjust the import volume:
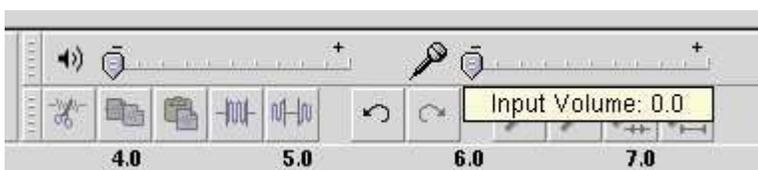
At the end of either process you should see a waveform on the screen. This is a visual depiction of the sound wave you hear. The higher the wave the louder the volume. You will soon find you can easily recognise sounds from their shape.
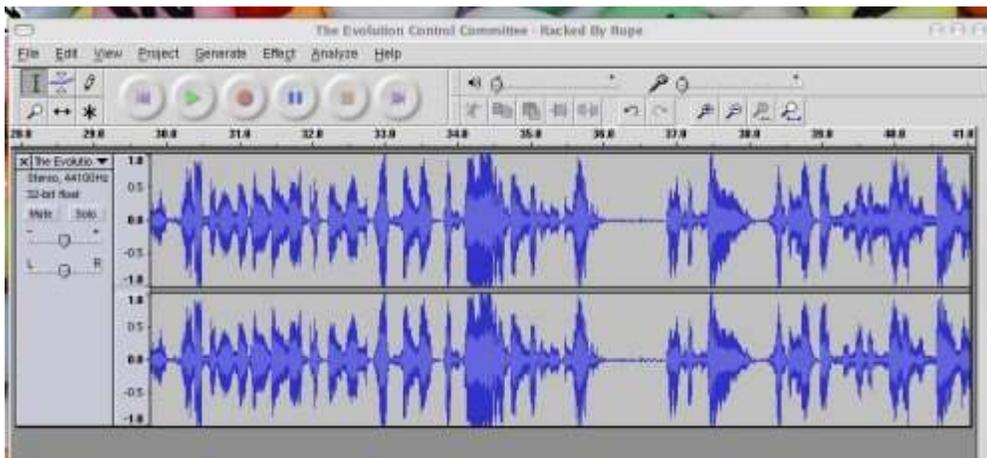
If you look closely you can see the waveform touch the top and bottom of the strip. This is generally a bad idea. When this happens something called 'clipping' occurs and the sound gets distorted. If this happens when you are recording try adjusting the recording levels, and the output levels from your audio source.

3.What's On the Screen?

Audcaity has a simple layout with all the main functions available on the one screen:
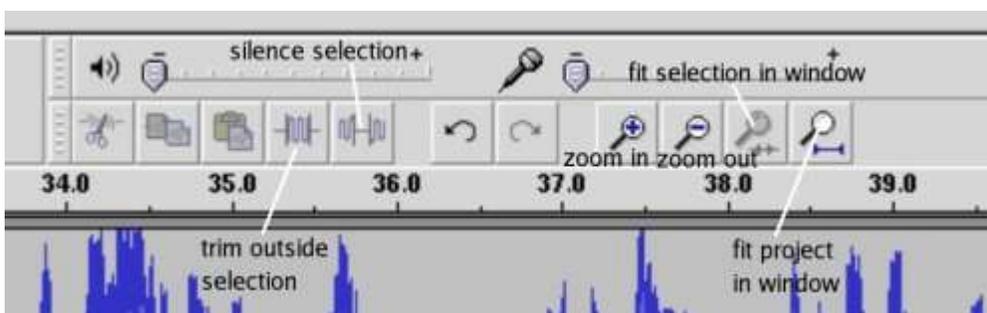
4.Basic Controls

The six basic tools for manipulating sound are found on the left hand side of the tool bar. They are the select tool for selecting sections of sound, the zoom tool for zooming in on an area of audio, the envelope tool for manipulating the volume of a sound sample. The draw tool for manipulating its amplitude, the time shift tool for moving samples relative to each other and the multi tool which does all of the above depending on the

key modifier you press.
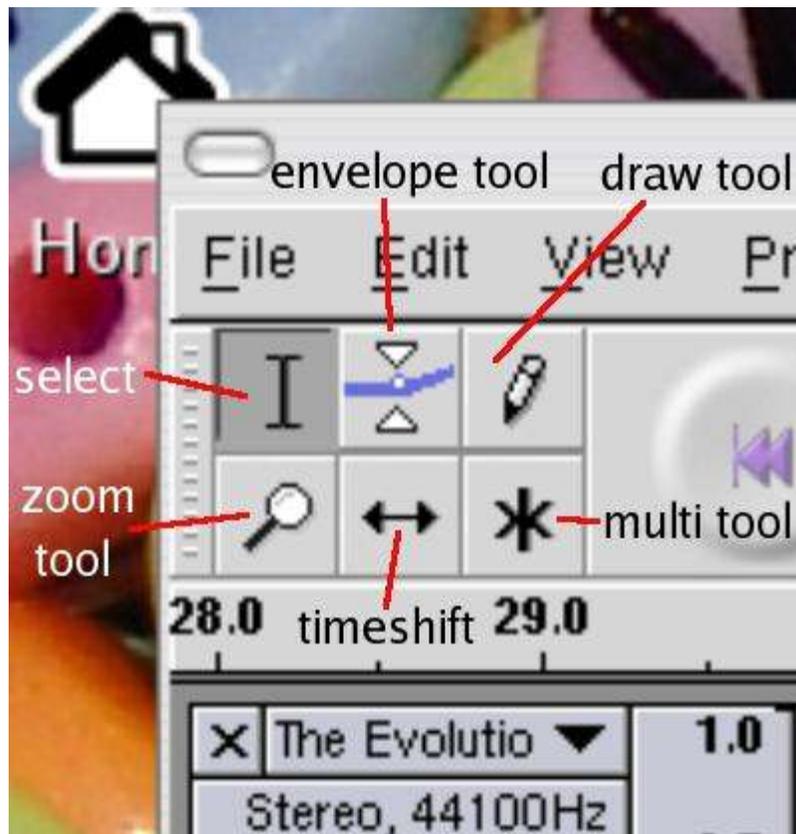
5.Selecting Audio

To select an area of sound left click where you want the sound to start, hold the left mouse button down and drag the cursor across . You can change the boundaries of an already selected area by moving the cursor over the edge of the sample. When it turns into an arrow head you can click and drag to resize the selected area.

6.Cut, Copy and Paste

Cut, copy and paste work much in the same way as they do in other programs. Use the select tool to highlight an area and then cut or copy it using the edit menu or crtl-x or ctrl-c shortcuts. Click once where you want to paste the selection and press ctrl-v or select paste form the edit menu. Audacity also provides buttons on the toolbar that do the same thing. You should note that you cannot paste beyond the edges of a track/sample, if you attempt to do so Audacity will insert it at the beginning or end accordingly. Using the Generate menu you can also insert silence, a tone, or white noise as well as a number of other things provided by plugins such as a click track.

7.Saving and Exporting

When you want to save a track you have a number of options. If you want to carry on working on it you should select save from the File menu and audacity will save it in its own format. You can also export your work as an ogg, mp3 or wav file so that it can be played in other programs or burnt to a CD etc. Audacity has the capacity to export the whole piece or just a selection. Under the project menu you can also find the Quick Mix tool – if you select some audio and use this it will mix it down to a stereo track.

8.Adding and Deleting Tracks

Using the project menu you can insert additional audio (mono) or stereo tracks. Audacity also has two additional sorts of tracks – a time track which inserts a time scale, and a label track which allows you to add text labels to your project to keep tabs on things. To delete a track click on the cross next to its name.

9.Moving and Aligning Tracks

Audacity window with multiple tracks showing
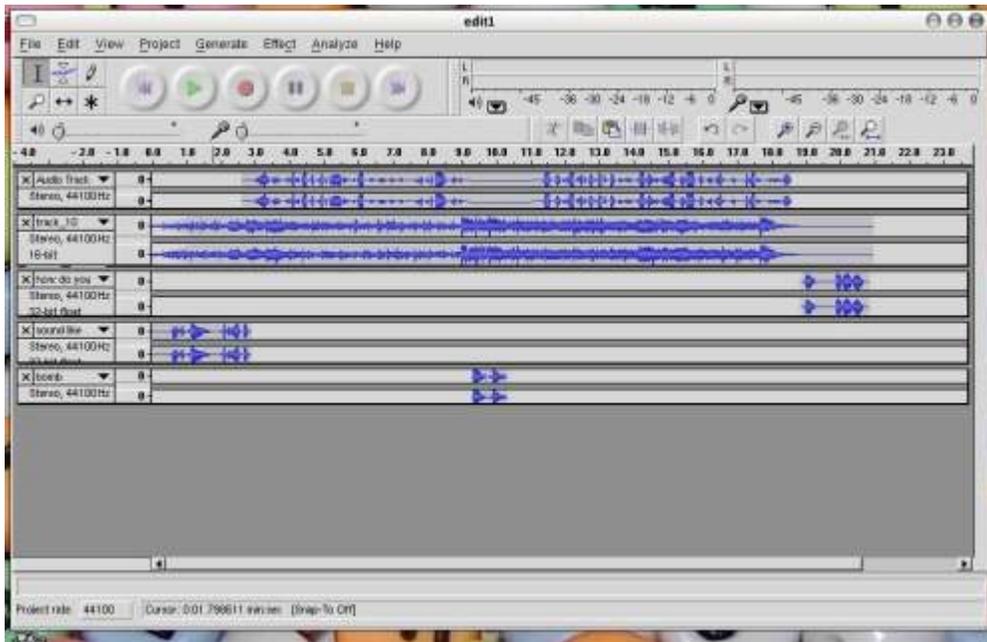
The time shift tool is used to move the samples in the different tracks relative to each other, so that, for example a vocal sample can be moved to the right place relative to a musical track. If you look at the picture above you see the different samples (represented by waveforms) in their tracks. Notice how they have been aligned to each other.

If you click on the bottom edge of a track you can stretch and compress it vertically. This does not affect the sound but makes it easier to see what you are doing when you are working on multiple tracks. If you click on the triangle next to a tracks name a menu will pop up that allows you to move a track up and down. There are also commands that allow you to (re)name a track and split a stereo track in two amongst other things.

10.The Envelope Tool

The envelope tool allows you to adjust the volume of a track in a special way. It does not change the volume of a whole track necessarily but can be used to adjust the volume of individual sections. It automatically transforms transitions into smooth curves. It is useful for creating smooth fade ins and outs and for 'mixing' two track together the way a DJ does by adjusting their volumes. If you select this tool thick blue lines appear at the edges of waveforms and the cursor changes to two triangles facing each other. Click once in a track and two white squares appear. Click again, somewhere else but this time hold the mouse button down and move the cursor up and down. You will see how Audacity draws smooth curves. If you move the cursor left or right the shape of the curve will change. If you want to fade in or our at the beginning or end of a track you only to put it one point. You can just move the cursor to the beginning or end and it will draw the curve accordingly.

The envelope tool in action. Here a smooth fade in has been drawn.
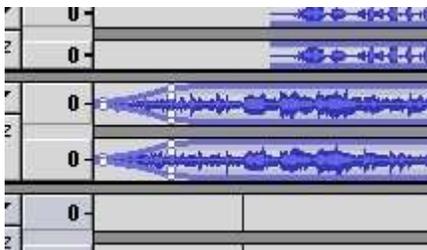
The Drawing tool allows you to adjust the amplitude of a sample, once you are zoomed in as far as you can go. This changes the nature of the sound itself. It is quite difficult and time consuming to do however.

11.Effects and Normalisation

Audacity has various effects under the Effects menu. Many of these are plugins and emulate the effects of things such as delays that you might find in a music recording studio. As these are plugins they will vary from machine to machine. Audacity uses a different plugin architecture on the different platforms it runs on (linux/unix, mac , windows). They are all common formats for plugins that can be used with different programs.

Audacity also comes with a number of built in effects. These allow you to change the volume of a track, vary its pitch and tempo independently of each other, add echo, reverse a sample etc. You will need to have some audio selected for them to work.

One of the most useful of these is Normalisation. This corrects a common problem that occurs when two sound sources have been recorded together and the volume of each is at a different level. This sometimes occurs when you are recording interviews: if one person speaks louder, or is closer to the microphone than the other problems can occur and the result can be difficult to listen to, Normalisation solves this by averaging out the volume and decreasing or increasing it to fit. It is also useful for correcting something that has been recorded at too high or low a level.

Online Resources

Audacity: http://audacity.sourceforge.net
Ardour: http://ardour.org
Agnula: http://www.agnula.org
Linux Audio: http://linuxaudio.org/en/index.html
Linux Sound: http://linux-sound.org
Ogg Vorbis: http://www.vorbis.com
Xiph: http://www.xiph.org
Icecast: http://www.icecast.org

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