Introduction to Recording and Editing Audio with Audacity

Taught by:

Developed by: Caroline Grand**,** Talia Brenner, Margarida Rodrigues, and Ana Abraham

HIST 5237: Issues and Methods of Public History

Angel David Nieves

Fall 2022

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Objectives

- Learn about and explore Audacity as an audio editing tool
- Learn how to:
  - Record audio
  - Clip audio
  - Add/move/delete tracks
  - Add sound effects and/or background music
  - Save and export projects
- Learn best practices for audio recording

https://bit.ly/fa22-nieves-audacity

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!
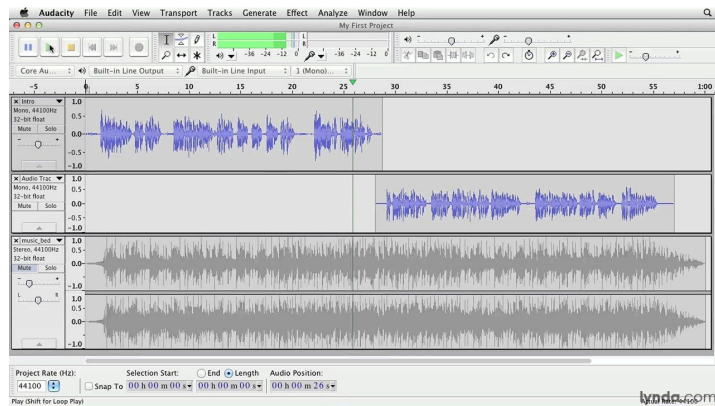
What is Audacity?

An open, easy-to-use, multi-track audio editor and one of the more popular free audio editors used for creating podcasts

An open source, multi-track audio recorder and editor.

Northeastern University
NULab for Texts, Maps, and Networks

Downloading Audacity

https://www.audacityteam.org/   --- Choose if you want it for Windows, Mac, or Linux

Audacity is free software and developed by volunteers.

⊞ **Audacity for Windows**	🍎 **Audacity for Mac OS X / macOS**	🐧 **Audacity for GNU/Linux**
Windows 10/8/7/Vista (XP support has officially been dropped)	Mac OS X/macOS 10.7 and later.	Source code

Dear friend! It appears that you hate Ads!

If you will consider a donation to FossHub, we will spend the money on buying more bandwidth and more servers to offer the best download speed. Thank you for any donation!

PAYPAL DONATE   CRYPTO DONATE

For PC users: download **Windows Installer**

For Mac users: download **MacOS.dmg**

DOWNLOAD	FILE	SIZE	VERSION	ANTIVIRUS
Audacity Windows Installer	Signature	26.6 MB	2.3.2	0 / 15
Audacity Windows Zip	Signature	13 MB	2.3.2	0 / 15
Audacity macOS DMG	Signature	36.2 MB	2.3.2	0 / 15
Audacity Linux Source	Signature	8.6 MB	2.3.2	0 / 15
Audacity Manual	Signature	20.2 MB	2.3.2	0 / 15
Audacity macOS 2.1.1-DMG (screen reader accessible)	Signature	38.6 MB	2.1.1	0 / 15

Northeastern University
NULab for Texts, Maps, and Networks

Getting Started: Tips for Recording Audio

- Know where your microphone is located and keep it clear of papers/other objects
- Use headphones/earbuds when recording and editing
  - Prevent the "echo effect"
- Take ambient noise into consideration
  - A/C units, refrigerators, traffic, pets, roommates, loud clothing, etc.
- Ideally, find a room with good sound absorption
  - **Yes:** carpet, cushions, bookshelves, clothes (bedrooms, closets)
  - **No:** larger spaces with hard, smooth surfaces (kitchens, bathrooms)
  - **Consider:** Does the room have an echo? Hard floors/countertops/stainless steel surfaces?

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Recording Audio Tips (cont'd)

- Record test audio and adjust mic volume if necessary
- Record a few seconds of silence at the start and end of each track
- Begin way in advance, and do several takes
  - Editing often takes much longer than the recording itself!
- Speak slowly, clearly, and conversationally
  - If you use too many "filler words" (um, like, so) you can always edit them out later. Pause between questions to make space for this type of editing.

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Recording Audio Tips (cont'd)

- Don't be afraid to stop and start over if you mess up! You'll save more time in the long run
  - Stop recording and start again at the top of the sentence to avoid jarring sound cuts in post-production
- After you finish recording, listen to the audio **with** and **without** headphones so that you can properly render the sound. Audio sounds different in an open spaces than it sounds inside your headphones.

Feel free to ask questions at any point during the presentation!

Audacity Basics

Northeastern University

NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Anatomy of Audacity

Main buttons (L-R): pause, play, stop, fast-forward/backward, record

Microphone, volume (the "input")

Recordings will appear here.
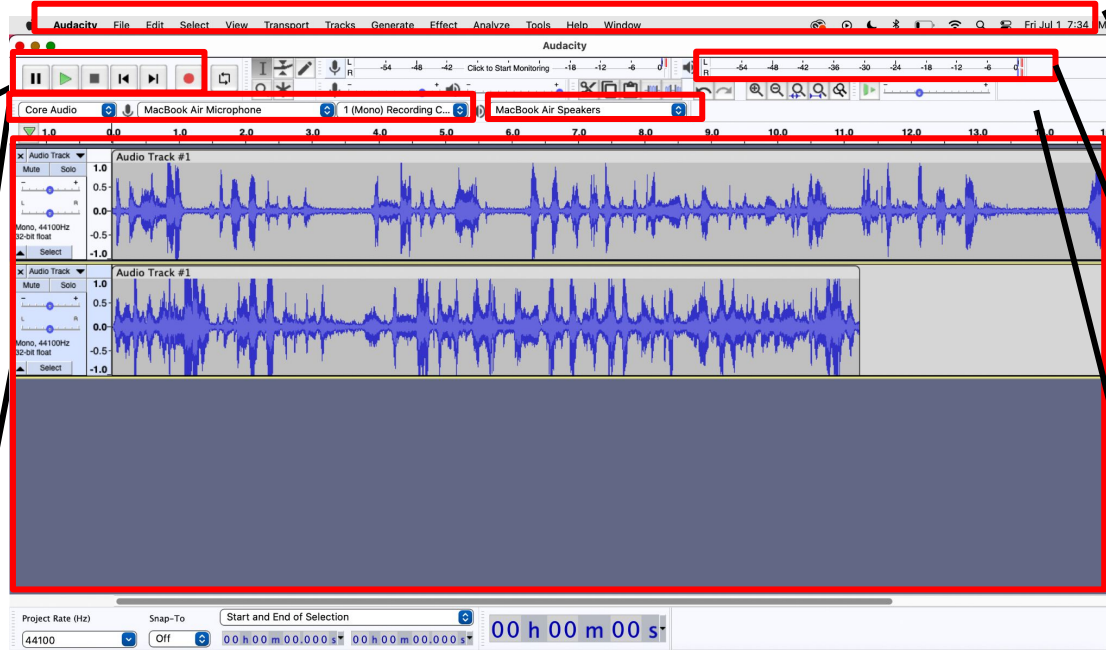
Editing, saving, effects, transporting or exporting the recording.

Monitor: shows the loudness of each track in real-time

Stereo adjustments (the "output")

Key Terms

- **Track:** a single audio channel or stream.
  - **Multi-track**: an audio recording or chanel with more than one track or recording of sound.
- **Clipping**: splitting audio into separate sections—that is, making "clips"
- **Waveform:** the curve within a track showing the duration and volume of individual sounds
- **Mixing**: the process of audio production, or mixing tracks of recordings, music, and other desired media.
- **MP3 File:** the most generally used audio file format. Others include .wav, .mp4.

Feel free to ask questions at any point during the presentation!

File Formats

- **Lossless Audio File Formats:** better than or equal to CD-quality
  - **WAV:** uncompressed file, meaning huge file size. The best for audio-editing in Audacity.
  - **AIFF**: Apple's alternative to WAV. Uncompressed, not widely used
  - **FLAC:** compressed file, takes up less space than WAV. Not supported by Apple.
- **MP3/MP4:** compressed audio file, ensures small file size. Best for exporting and distributing from Audacity.
- **Ogg Vorbis**: Open-source alternative to MP3. Used in Spotify streaming

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Recording

Make sure your **microphone** is working by checking to see that it's selected in the microphone section of the screen. Each computer will have different microphones, so check your sound settings for your model.

Microphone Array (Conexant Smar

To **record**, click the button with the **red circle.**
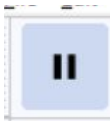
Hit the **pause** button to pause a recording.
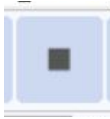
Hit the **stop** button to stop recording.

Use **Re-play** to verify that the recording is the quality/ volume that you want.

Feel free to ask questions at any point during the presentation!

Checking volume

Keep an eye on the **monitor** when recording and playing back your audio—try to keep it in the **green** (literally).
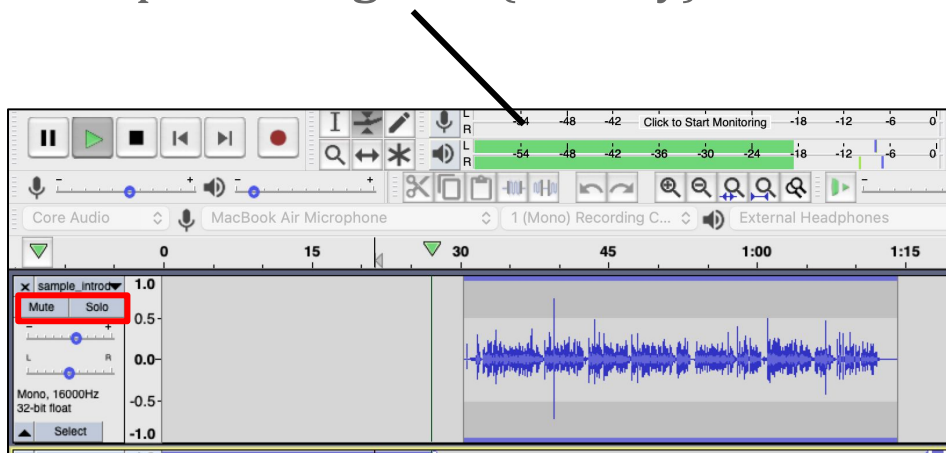
If your volume is too loud, the monitor levels will turn yellow and red. Tracks that are too loud will have a blown-out effect when played back.

If one of your tracks is louder or softer than the others, you can adjust the volume on each track.

Tip: to hear one track without the others, you can **mute** the other tracks or click **"solo"**

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Changing the file format

- If you are importing an audio file into Audacity you may need to convert it first.
- Audacity does not read every type of audio file (e.g.: WMA files)
- There are many ways to convert files using paid programs. Here is a free tool:

Online Audio Converter

1. Go to
   https://online-audio-converter.com/
2. Add WMA files using "Open files"
3. Select the output audio format (WAV)
4. Hit "Convert" to initiate the process.
5. Download converted or compressed audio and import it to audacity

Northeastern University
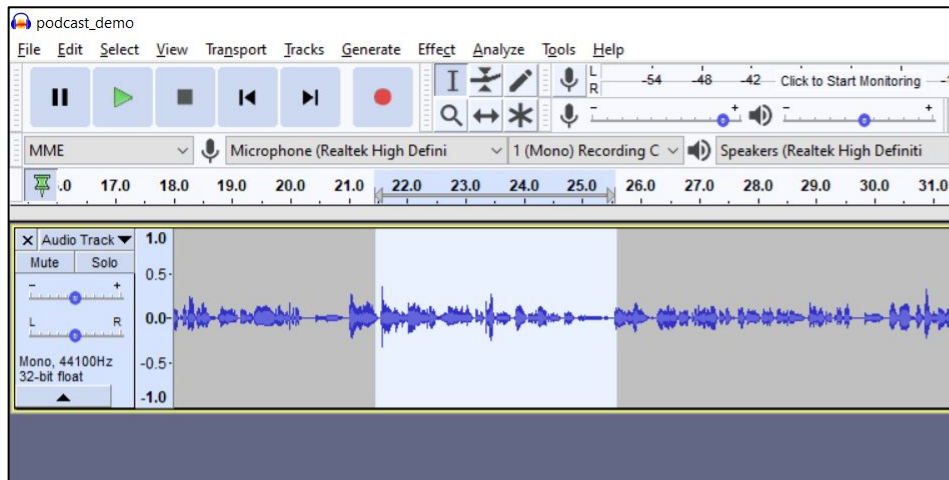*NULab for Texts, Maps, and Networks*

Editing Audio in Audacity

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Removing Parts of Tracks

Once you have recorded audio in Audacity, you can easily edit it. Here is how to remove sections using the **Selection Tool (F1)**:

Use your cursor to click and drag to select the portion your wish to remove.

Then, hit backspace or delete on your keyboard.

Tip: you can zoom in and out with the **Zoom Tool (F4)** to better see what you're trying to delete.

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Splitting Tracks

To split a track in Audacity, follow these steps to make shorter clips:
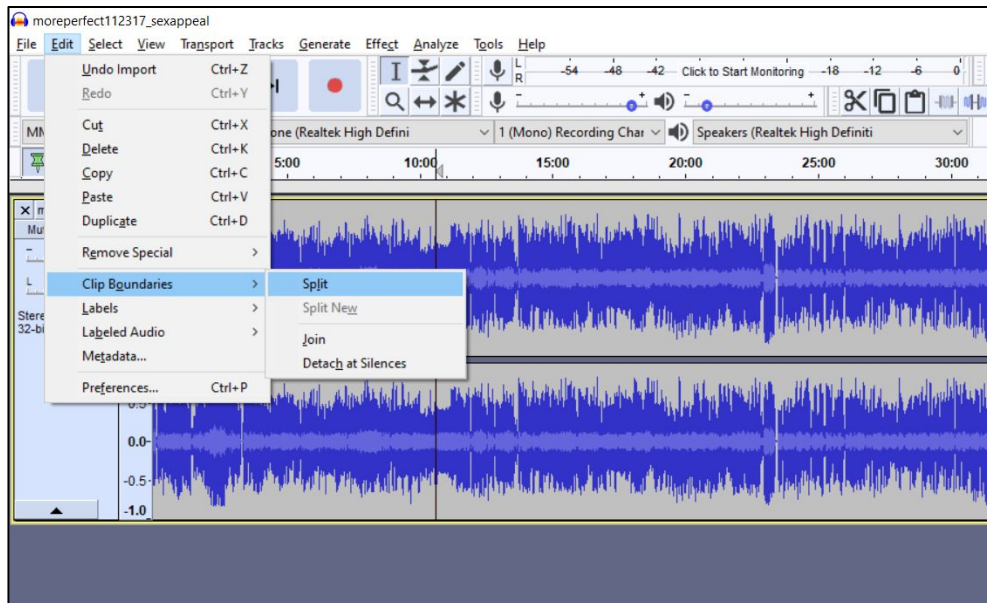

- With the **Selection Tool (F1)**, place your cursor over the section where you want to split your track.

- Navigate to the **Edit** section, click under "**Clip Boundaries**" and select "**Split**."

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Adding Tracks

To create additional tracks in Audacity for a **new recording**, hit the record button and it will start a new track. Another option is:
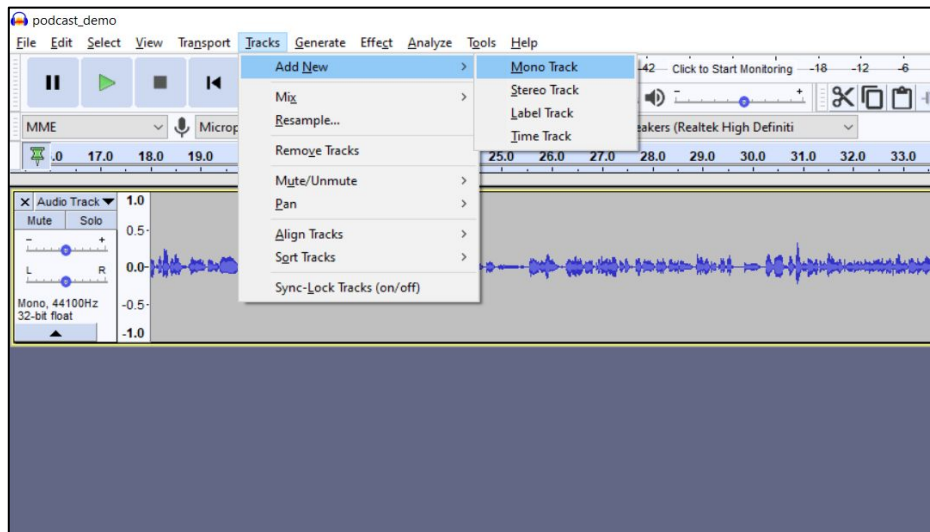
Navigate to the "Tracks" menu option and select "Add New." This will open a list of options. Select the "Mono Track"
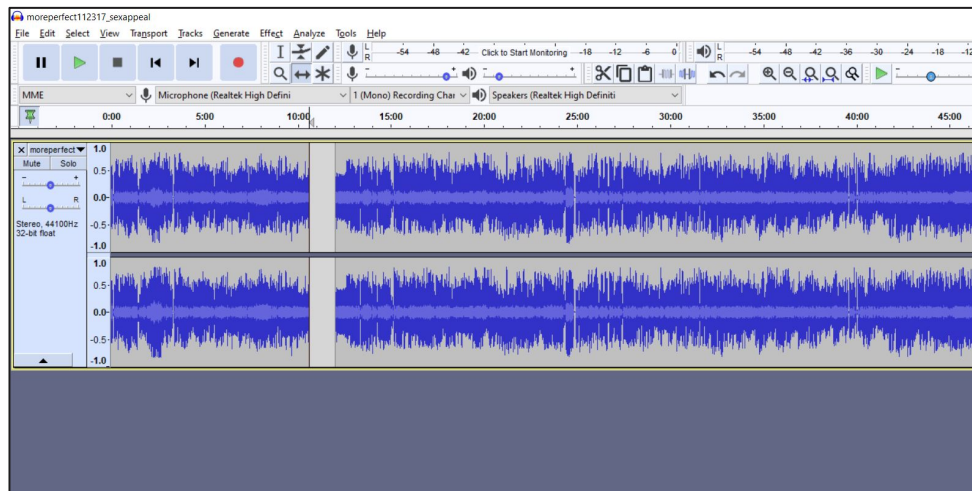
Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Moving Tracks

To move entire tracks or audio around in Audacity, you can click and drag them by hovering your mouse over the top of the clip.

Once you have selected the clip, click whatever clip or track you want to move and drag it into position.

Northeastern University
NULab for Texts, Maps, and Networks

Saving, Exporting, and Sharing

Feel free to ask questions at any point during the presentation!

Saving

Audacity does not auto-save! Save your recording, early and often!

Try and save after each major edit/input of a recording, just to be safe.

File > Save Project > Save Project As> "Name of your project"

And once your project is saved...

File > Save Project > Save Project > [saves the updates to your file]

Feel free to ask questions at any point during the presentation!

Exporting and Sharing

Finished with your recording?

Make sure you **export your project as an <u>MP3</u>** before you send or share it! This will ensure that other people are able to listen to it; anyone who does not have Audacity downloaded will not be able to open your project file otherwise.

File > Export > Export as MP3
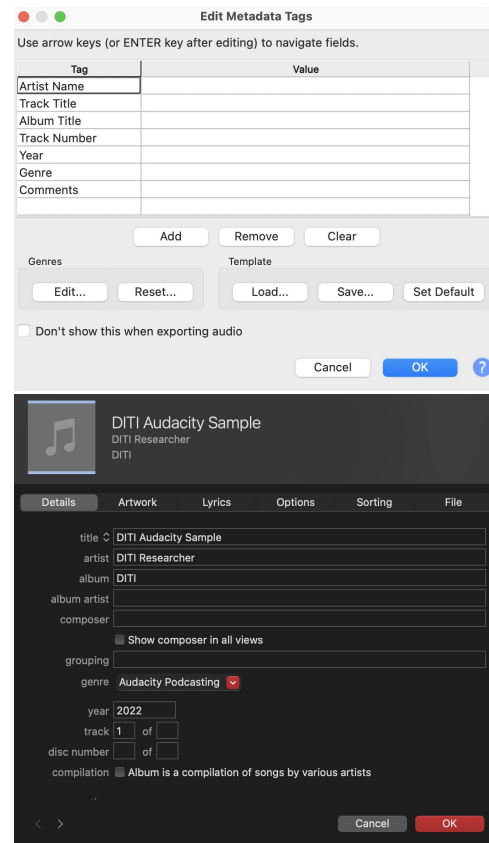   Select "best quality"

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Exporting Metadata Tagging

When you export your file, Audacity will prompt you to add metadata tags to identify it.

In order to add artwork, you should import your file to an Apple Music library, right click on it and click "Get info." You will see the metadata tags you entered in Audacity, and will be able to upload artwork for your podcast.

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Best Practices: Copyright, Fair Use, and Attribution

Feel free to ask questions at any point during the presentation!

Public Domain and Creative Commons

- If you are planning to use, adapt, or republish audio materials created by others, be sure not to violate **copyright.**
- Best practice is to use material that is public domain or under a Creative Commons license:
    - **Public Domain**: Material that belongs to or is available to the public and is not subject to copyright. It can be used, republished, or adapted without obtaining permission. See list of public domain resources [here](#)
    - **Creative Commons**: non-profit organization that provides and regulates copyright licenses that allow for a) original creators to get deserved credit while b) allowing others to copy, remix, or reuse their content in ways they have allowed. See more about different type of licenses [here](#)

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Fair Use

Types of Media	Use /Adaptation	Publication /Distribution

Fair use is an exemption for certain types of use of **copyright material**.

Fair use considers how **material under copyright** is used or adapted following four factors:
- Purpose and Character
- Nature of Work
- Amount
- Market Effect

Exceptions largely favor the use of material for commentary and critique and for educational settings.

Fair use also considers how material under copyright is being **published** or **distributed**:

Restricted or public access: is it being published for a restricted community (a classroom) or published for everyone?

Commercial or **Not-for-profit**: fair use favors not-for-profit use as it doesn't signify financial gain.

Feel free to ask questions at any point during the presentation!

Audio File Credits

Always credit any audio files you use! Look for a Creative Commons license and follow the publisher's requests for how they want you to cite their work. Here are some example attributions:

- "Footsteps, Dry Leaves, F.wav" by InspectorJ (www.jshaw.co.uk) of Freesound.org
- "Wholesome" Kevin MacLeod (incompetech.com)
  Licensed under Creative Commons: By Attribution 4.0 License
  http://creativecommons.org/licenses/by/4.0/

See also Karina Longworth's **extensive attribution list**, under "show notes".

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Thank you!

If you have any questions, contact us at:

Benjamin Grey
DITI Fellow
NULab of Texts, Maps, and Networks
grey.be@northeastern.edu

Ana Abraham
DITI Fellow
NULab of Texts, Maps, and Networks
abraham.an@northeastern.edu

Slides and handouts available at:

https://bit.ly/fa22-nieves-audacity

Office Hours sign-up: **https://calendly.com/diti-nu/**

Feel free to ask questions at any point during the presentation!