Introduction to Recording and Editing Audio with Audacity

Taught by: Hunter Moskowitz and Sara Morrell

ENGW1111

Prof. Emily-Avery Miller

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Northeastern University
NULab for Texts, Maps, and Networks

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

Objectives

- Learn best practices for audio recording
- Learn about and explore Audacity as a podcast editing tool
- Learn how to:
  - Record audio
  - Clip audio
  - Add/move/delete tracks
  - Try hands-on activity on learning audacity
  - Save and export projects
- Understand podcast anatomy
- Discussion

Slides and handouts available at: https://bit.ly/FA23averymiller

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Podcasting Experiences

- What podcasts or other spoken-word audio you listen to (and/or have produced)
  - What do you appreciate in a “good” podcast?
- Are there some specific things you’re especially interested in learning how to do?

Best Practices for Podcasting

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General Best Practices

- **Test your mic** and technology before you start.
  - Record some test audio and play it back before you begin.
- **Have a plan** for the conversation and communicate clearly with community participants
  - As you record, mark out spaces you may want to cut into segments
- **Don't panic** over filler words (e.g., um, uh, yeah, like). Edit these out later.
- **Prepare phonetic pronunciations** for names, long numbers, and complicated terminology. You can ask a community partner for clarification on pronunciation if needed.
- Include **transcripts for accessibility** (use software like Otter AI).
- Use **open access media/music** (Free Music Archive)

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Fair Use

- **Public Domain:** Material that belongs to or is available to the public and is not subject to copyright.
    - All materials that are in the public domain are not protected by intellectual property law, and anyone can use, republish, or adapt these works without needing to obtain permission
- **Creative Commons Licenses:** a) original creators to get the credit they deserve while b) allowing others to copy, remix, or reuse their content in ways they have allowed
    - Different types of licenses allow different types of behavior, consult our handout for more information. All require attribution.

Environmental Considerations

- If will be recording a space with poor environmental conditions, a couple things to bear in mind:
  - Noise will interrupt recording, try to stay as far away as possible of sources of noise such as other conversations, air conditioners, or fans; **if you can find a quiet place, use it!**
  - You may consider **a second recording device**, such as a phone which can record audio near your community participant to capture this sound. You can then import this as a second track into audacity.
  - However, being too close can make the audio too loud or garbled sound as you speak.
- Stay hydrated!
  - Keep a drink nearby (water, juice, etc.) to soothe participant's throats and keep it relaxed.

Recording Considerations for Interviews

- **Ease in to recording** with low-stakes conversation
  - Interviews are like playing catch. Start with questions that allow everyone to get comfortable. Be yourself!
- **Don't rush,** and keep the pace of the conversation slow and relaxed. While it is important to bear in mind the time of your community participants, a slower and higher quality recording is more important than low-quality.

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Making Podcasts: Audacity

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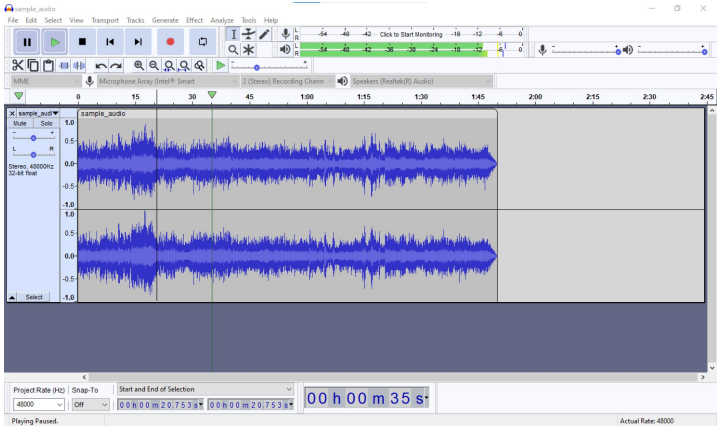
What is Audacity?

Audacity is a free, easy-to-use, **multi-track** audio editor and one of the more popular free audio editors used for creating podcasts.

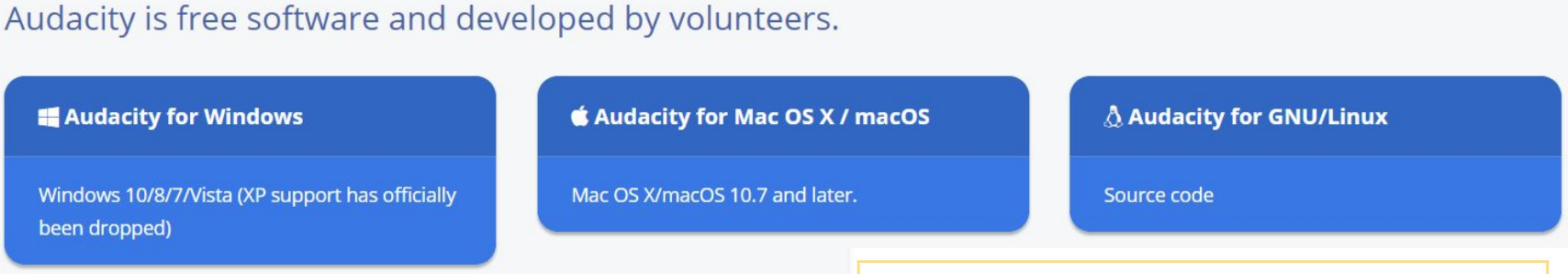


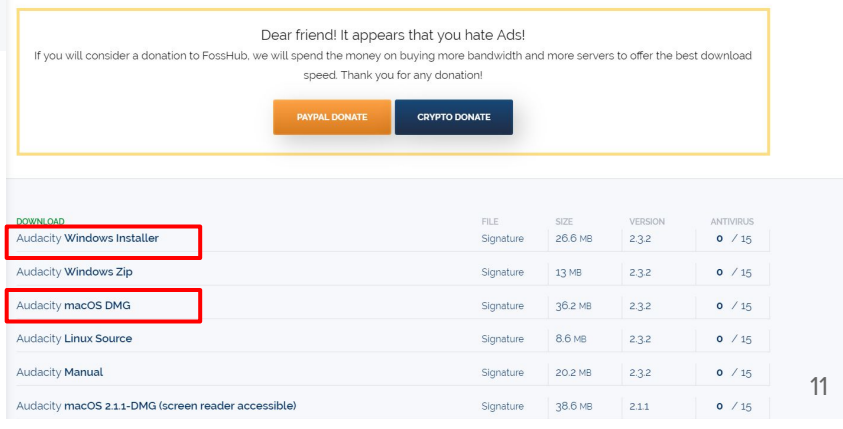
(**Multi-track**: the ability to have different layers of audio in one clip.)

Downloading Audacity

https://www.audacityteam.org/ --- Audacity is platform-agnostic!

Choose if you want it for Windows, Mac, or Linux.





For PC users: download **Windows Installer**

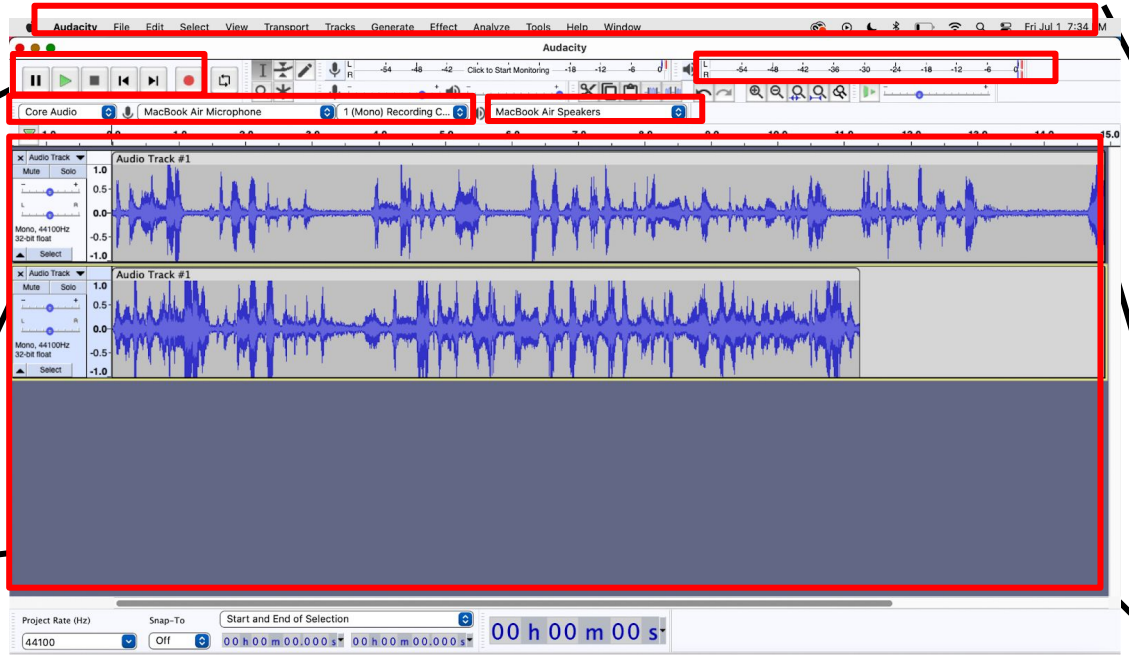
For Mac users: download **MacOS.dmg**

Anatomy of Audacity

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

Microphone, volume, input, and output

Recordings (audio tracks) will display in this window here.



Editing, saving, effects, transporting or exporting the recording.

Output Volume Level Monitor: shows the loudness of each track in real-time
Tip: try for -12 to -6db

Other Audacity tools

https://manual.audacityteam.org/

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 and .mp4.

Basics: Audacity & Recording Audio

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

Getting Started: Tips for Recording Audio

- Know where your microphone is located and keep it clear of papers/other objects
- Use headphones when recording and editing
  - After you finish editing, listen to the file without headphones to see where the audio is too loud/quiet when played in a space.
- Take ambient noise into consideration
  - A/C units, refrigerators, traffic, pets, roommates, loud clothing, etc.
- **Save frequently.** Audacity does not autosave.

Recording Audio cont'd.

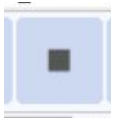
- Record test audio and adjust mic volume if necessary
- Record a few seconds of silence at the start and end of each track
- Begin way in advance, and allow extra time.
  - Editing often takes much longer than the recording itself!
- Speak slowly, clearly, and conversationally
  - If you use too many "filler words" (um, like, so) you can always edit them out later. Stop recording and start again at the top of the sentence to avoid jarring sound cuts in post-production

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.

To **record**, click the button with the **red circle.**

Hit the **pause** button to pause a recording.

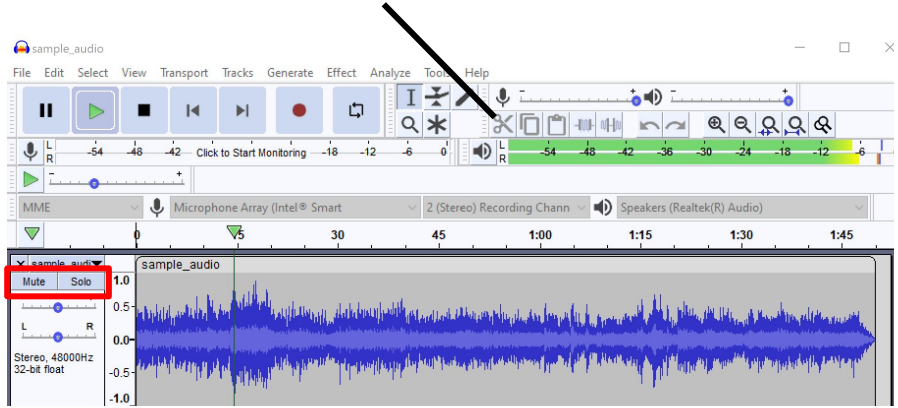


Hit the **stop** button to stop recording.

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

Checking volume

Keep an eye on the **monitor** when recording and playing back your audio—try to keep it in the **green** (literally).



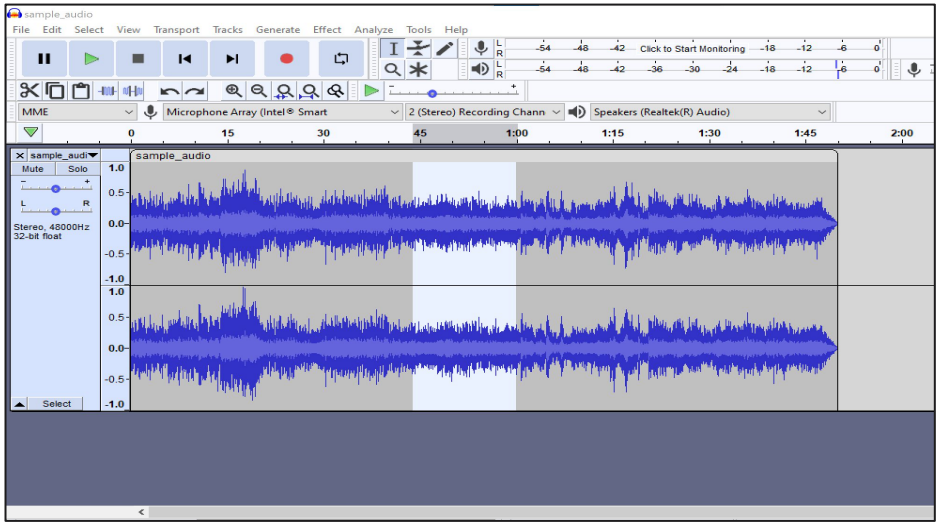
If your volume is too loud, the monitor levels will turn yellow and red. Tracks that are too loud will have a blown-out effect when played back.

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**"

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.

Basics: Audacity & Editing Audio

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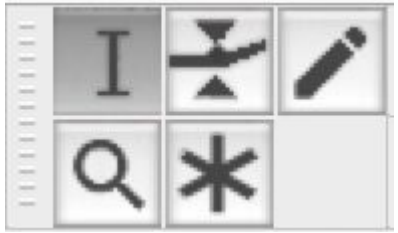
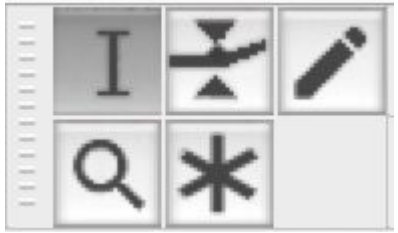
The Audacity Toolbar

- I The **selection tool** will be selected automatically when you open Audacity.
- ✱ The most useful tool is the **multitool**, which allows you to use all the functions of the other tools without switching to them.
    - The selection tool function is the default.
    - Hover over the waveform borders to use the envelope tool function.
    - Use your trackpad to zoom.
    - Zoom in and left click to use the draw tool function.



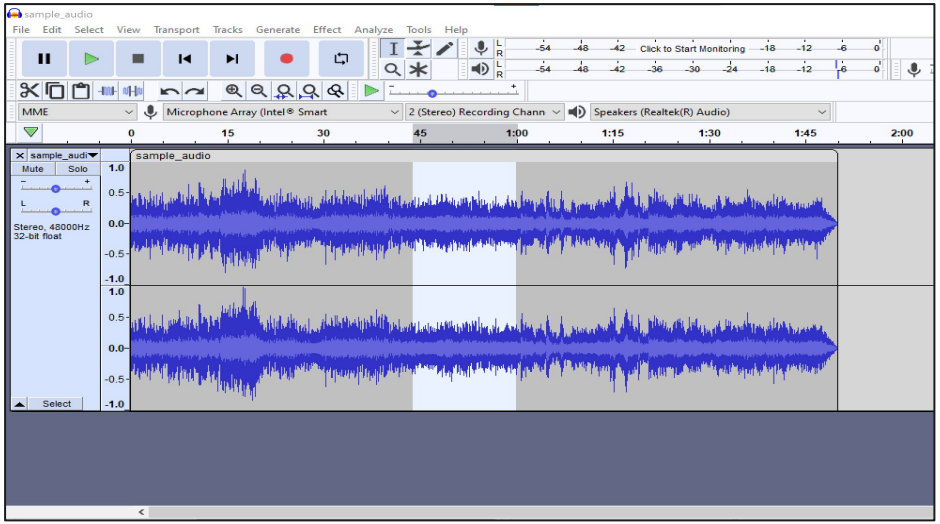
The Audacity Toolbar (Cont'd.)



- The **envelope tool** allows you to smooth changes in volume by using control points at the top and bottom of the waveform.
  - Clicking on the blue border will create control points, which you can then move around to adjust the waveform envelope.
- The **zoom tool** lets you zoom in and out of the waveform in order to make adjustments.
- The **draw tool** allows you to manually redraw the waveform to change the volume or correct background noise.
  - You can only use the draw tool if you've zoomed into the waveform.

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)**:



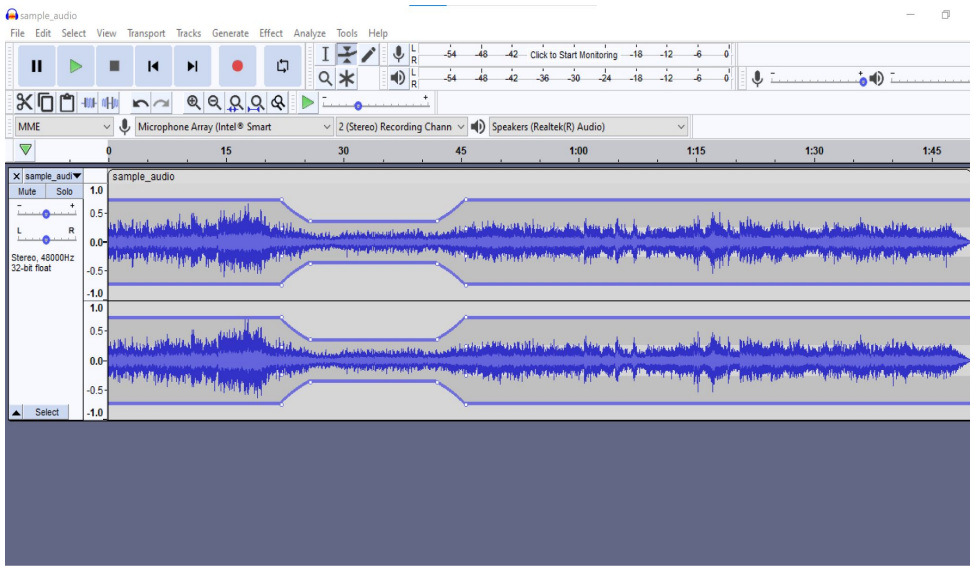
Click and drag with your cursor to select the portion your wish to remove.

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.

Fading In/Out

To fade music in and out on Audacity, use the **Envelope Tool (F2)**. Two yellow bars will show up on each track.



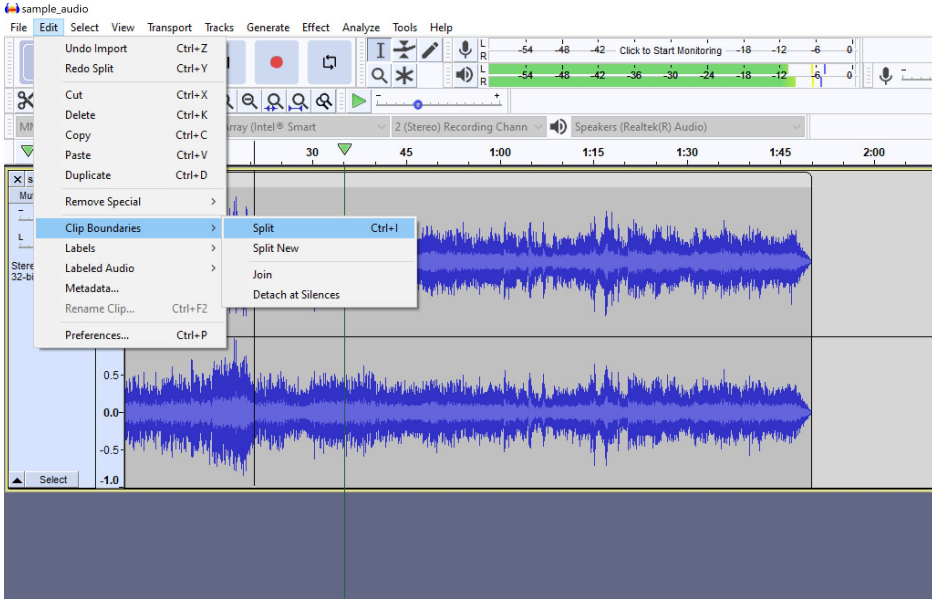
Click to add **control points** (little white dots) on the track you want to fade in.

Drag and move the nodes to up and down and side to side to change the volume and how gradual the volume fade is.

Add and adjust nodes at the end of the track to fade the music back in.

Splitting Tracks

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

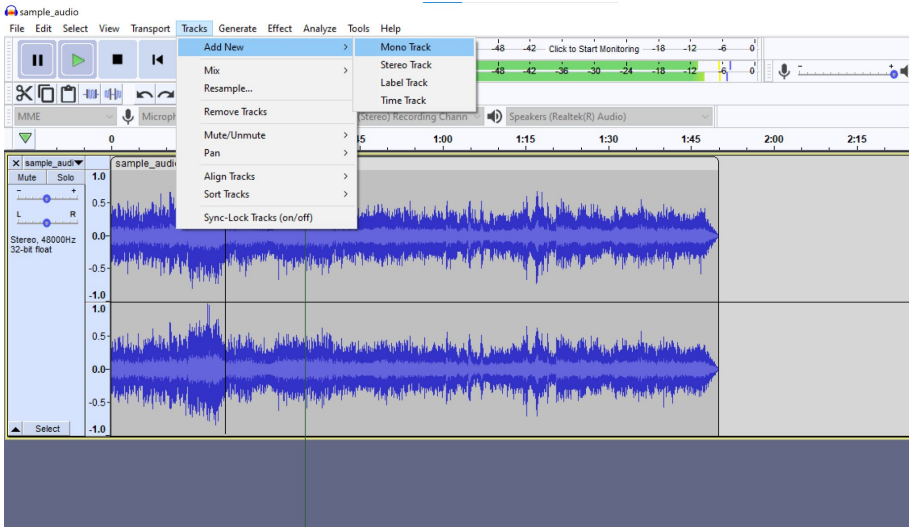


With the **Selection Tool (F1)**, place your cursor over the section where you want to split your track.

Navigate to the **Edit** section, click under "**Clip Boundaries**" and select "**Split**", or press **Ctrl+I**.

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” option. You can also add a new mono track by pressing **Ctrl+Shift+N**.

Your Turn!

Open Audacity and

- **Record** a conversation with one of your fellow students
- Choose a part to **fade in** or **fade out**
- **Clean up** parts of the track with pauses and delete an extraneous audio
- **Import music from the Free Music Archive** to your project, and mix it with your project

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.

Save in multiple places. Always have backup.

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

And once your project is saved...

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

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About File Formats

- **Lossless Audio File Formats:** better than or equal to CD-quality
  - **WAV:** uncompressed file, meaning huge file size. The best for editing raw audio files in Audacity.
  - **AIFF**: Apple's alternative to WAV. Uncompressed, not widely used
- ***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

**Note: The DITI typically recommends you save files as mp3 (sometimes mp4, if you use a PC).*

Exporting and Sharing

Finished with your recording?

Make sure you **export your project as an MP3** 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.

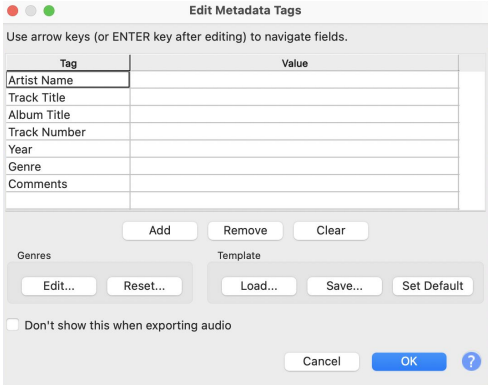
File > Export > Export as MP3

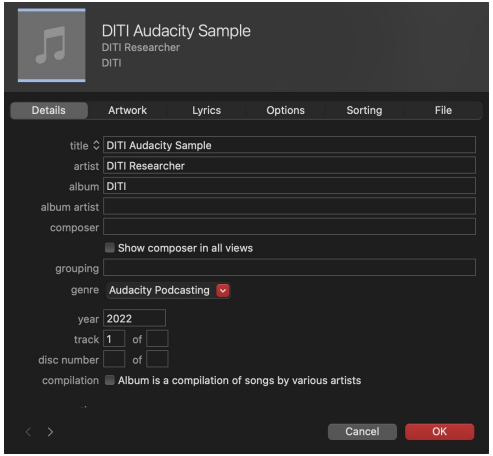
Select “best quality”

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.





Podcast Anatomy

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Discussion of Podcast Anatomy

- What are the hallmarks of a podcast? What types are there?
- What might be the uses/limits of different approaches?
-

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Podcasts

Podcasts typically begin with an **opening segment** of 10–30 seconds of music and audio wherein the creator identifies the **podcast title**, **host**, and **episode topic**—this creates a trademark/signature and indicates to the listener that the podcast is about to begin. **Be as creative as you want!**

Podcast Anatomy: Intro/Opening Segment

Intros/Opening segments are listeners' **first impressions** of a podcast. From the opening segment alone, listeners make assumptions about the podcast's **Audience, Genre, Style**, and overall **Structure.**

This means that within a short span of time, the podcast's opening segment must accomplish several goals like:

- Grabbing attention: several successful podcasts set the tone using **Media** (e.g., theme song music, sound effects, archival audio clips)
- Identifying an audience: Acknowledging/naming people who might be interested
- Establishing listener expectations: Explaining the goal and theme of the podcast

Podcast Anatomy: The Body

Your podcast should have an **argument** or **perspective**, not just a recitation of facts. Try to keep your **conversational,** think about this as a dialogue between you and a community member

Do your research and have your questions ready **before** you start recording; know how your conversation is laid out and how much time you have.

- Begin the conversation by getting comfortable with your community partner. Getting to know them before recording is important for establishing a good dialogue
- Prepare your community participant for the types of questions you may ask. Explain the process, their role within it, and ask what they are comfortable talking about.

Podcast Anatomy: The Outro

Podcasts typically end with a **closing segment** of 10–30 seconds of music and audio acknowledging the creator names the **creator(s)**, **institutional affiliation**, and **audio/production credits,** and **acknowledgments. Ask the community participant anything they might want in this as well.**

An outro script for your class might sound something like “This podcast was made by [student name]...opening music created by [artist name] . ... with special thanks to [name] for their contribution.” It may also include outro music.

As in your opening segment, you can use music and sound effects to make your closing segment dynamic and interesting.

Community Engagement

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Considering Position in Community Engagement

- All researchers need to think about their position relative to a community when engaging in a community project
  - Consider both the complex relationships between students and communities, and all aspect of one's own identity and how this impacts a project
  - Ask researchers to think about their own power, how it relates to another community, and how this will shape the community-engaged projects
- At their core, all community-engaged projects should be collaborative and center the needs of community participants

Questions about Community Engagement

- How should the principles behind community engagement be applied to a podcast or interview setting?
- What preparation do you need to do before an interview?
- What do you need to talk to with participants before recording? What types of questions will or should you ask?

Community Engagement as Teaching

- What ideas of community engagement can we take from this about teaching community partners?
- What assumptions can we make about our partners experiences with technology, interviewing, or the distribution of their recordings?

Best Practices for Community Engaged Work

- Make sure to fully describe the project, your role in the project, its goal and aims, and the plan for storage, editing, and distribution before starting any interview or collaborative
- If collaborating with someone whose experience you will rely on, be aware of context around their experience, and read relevant primary and secondary sources before conducting a project
- Ask questions that are opened ended and allow participants to tell their experience, and follow up to clarify or reflect

Additional Resources on Community Engagement

Here are some additional resources that might can be consulted for further information:

- Principles of Anti-Oppressive Community Engagement for University Educators and Researchers, a set of guidelines for participation in community engaged research
- Zotero Group on Ethical Engagement, a collection of scholarship on how to undertake research in communities

Thank you!

Hunter Moskowitz
Digital Integration Teaching Initiative
Research Fellow

We love feedback! Please fill our 2-minute survey: **bit.ly/diti-feedback**
Office Hours sign-up: **https://bit.ly/diti-meeting**

Contact us at: **nulab.info@gmail.com**

Slides and handouts available at**: https://bit.ly/FA23averymiller**

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