

Introduction to Recording and Editing Audio with Audacity

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ENGW1114

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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
- Learn about community engagement

Slides and handouts available at:

https://bit.ly/sp24-avery_miller-engw1114-audacity



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](#))



Environmental Considerations

- If you 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 sound too loud or garbled 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.



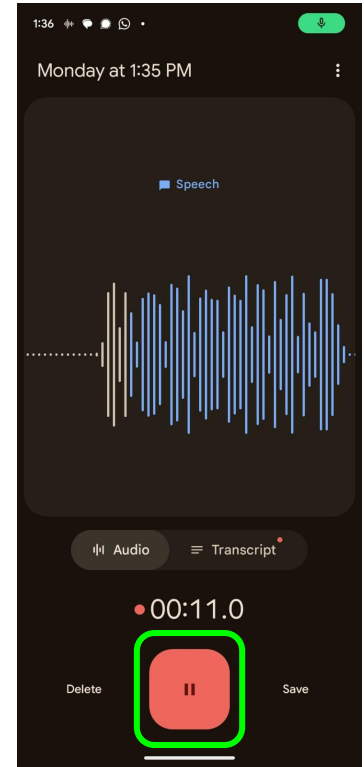
Recording From a Phone

- Smartphones have become a very common way to record interview audio. Even professional journalists now primarily use their smartphones.
- Depending on the phone you have, the app you use will be different—any app that can record audio will work. These free apps are a good starting place:
 - Recorder (Google LLC) for Pixel phones
 - Voice Memos (Apple) for iPhones
 - Samsung Voice Recorder (Samsung) for Galaxy



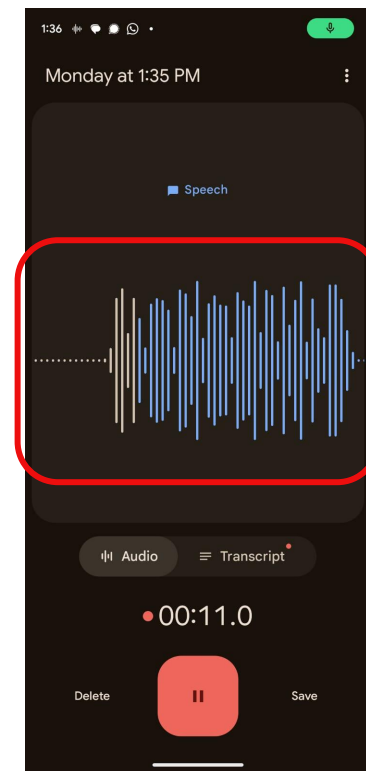
Using the App

- These apps universally use a big, red button to start recording. This slide shows Google's Recorder app, but all of these buttons will be very similar regardless of the app you are using.
- If you want to take a short break in your recording you can hit **pause** (highlighted in green). This will stop the recording until you hit record again, but it won't end the recording as a whole.
 - To get to the pause button in Apple Voice Memos, swipe up on the recording while it's running.
- Finally, when you're done recording remember to hit **save** or **stop** (often represented by a square) depending on your app. This will end the recording altogether and let you send it to your computer.



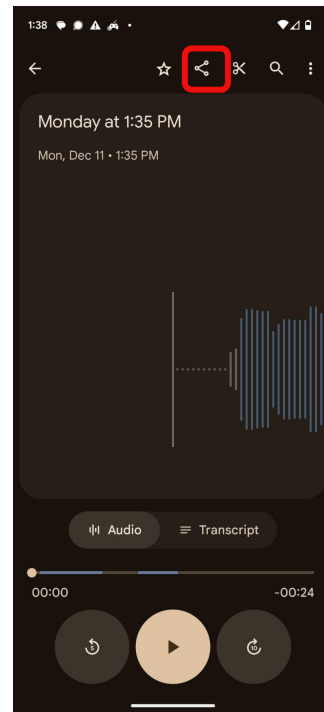
Monitoring Your Recording

- While you are recording, they will show a **waveform** (highlighted in red), which shows the current audio input:
 - **Make sure to check your waveform intermittently as you record** (especially at the beginning)
 - **If you aren't seeing any wave form or it is very small**, the phone is likely **not picking up your audio**
 - The peaks and troughs of the wave show when it is picking up more and less audio. This should generally match the louder and quieter parts of your interview recording, though don't worry if it doesn't seem to be completely precise.



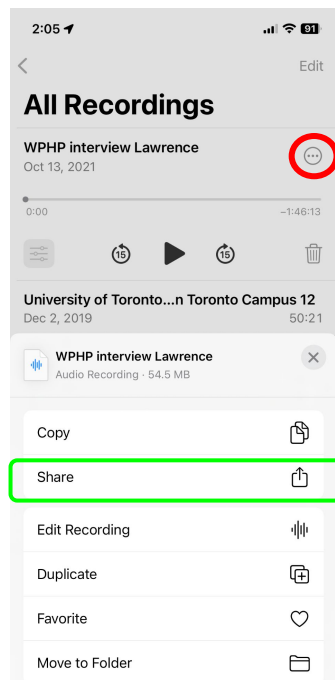
Getting the Audio From Your Android

- The easiest way to get the file from your phone to your computer will be to use the **share** function. Look for a symbol like that highlighted on the right.
 - From the share menu, you will be able to send the file to yourself in various forms, such as email.
 - Sometimes the file size may exceed the limit for email, which is where Google Drive can work better
- As soon as you have files on your computer, you can move on to audio editing!



Getting Audio From Your iPhone

- To get audio out of Voice Memos, click the three dots (highlighted in red) and select “share” (highlighted in green).
- You’ll need to pick a method that works for you:
 - Airdrop and iCloud work.
 - If you download the app for Drive or Dropbox (or similar), you can send the file to those.
 - It will probably be too big a file to email to yourself.



Making Podcasts: Audacity

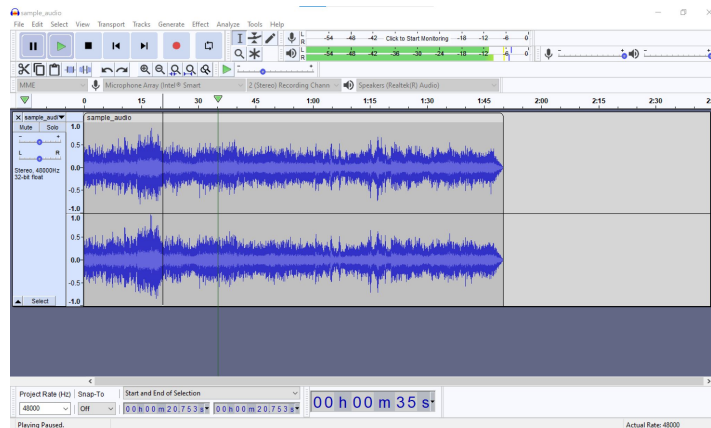


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What is Audacity?

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.)



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Downloading Audacity

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

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

Audacity is free software and developed by volunteers.

 **Audacity for Windows**

Windows 10/8/7/Vista (XP support has officially been dropped)

 **Audacity for Mac OS X / macOS**

Mac OS X/macOS 10.7 and later.

 **Audacity for GNU/Linux**

Source code

For PC users: download **Windows Installer**

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



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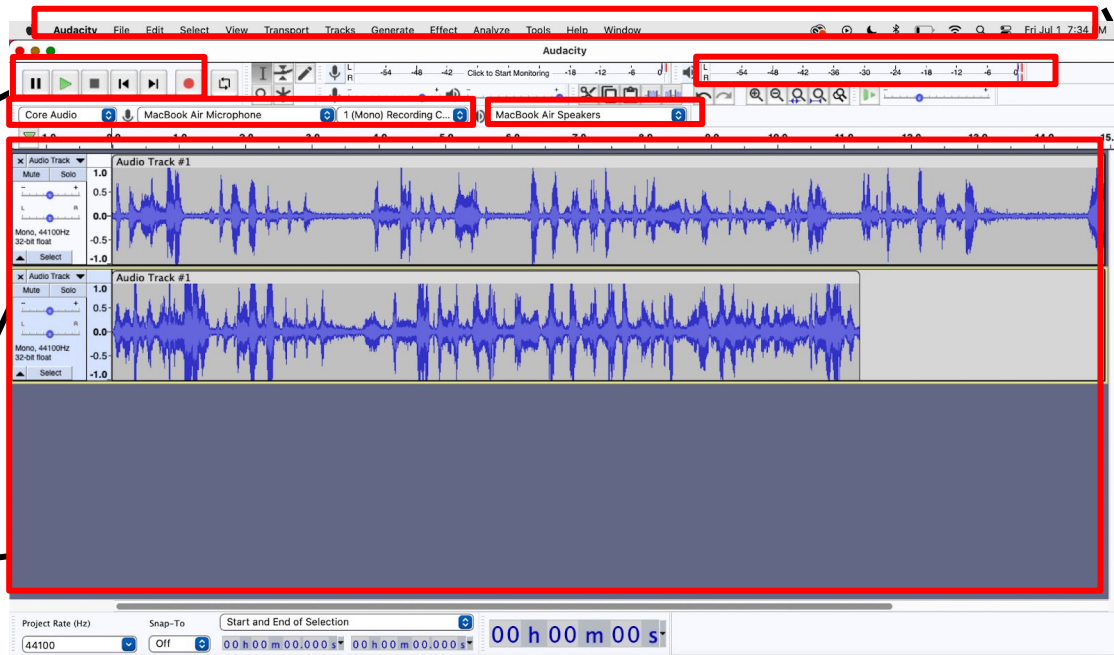
DOWNLOAD	FILE	SIZE	VERSION	ANTIVIRUS
Audacity Windows Installer	Signature	26.6 MB	2.3.2	0 / 15
Audacity Windows Zip	Signature	13 MB	2.3.2	0 / 15
Audacity macOS DMG	Signature	36.2 MB	2.3.2	0 / 15
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Audacity Manual	Signature	20.2 MB	2.3.2	0 / 15
Audacity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

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

Key Terms

- **Track:** a single audio channel or stream.
 - **Multi-track:** an audio recording or channel 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



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

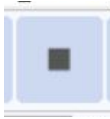
Make sure your **microphone** is working by checking to see that it's selected in the microphone section of the screen. Each computer will have different microphones, so check your sound settings for your model.



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



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



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

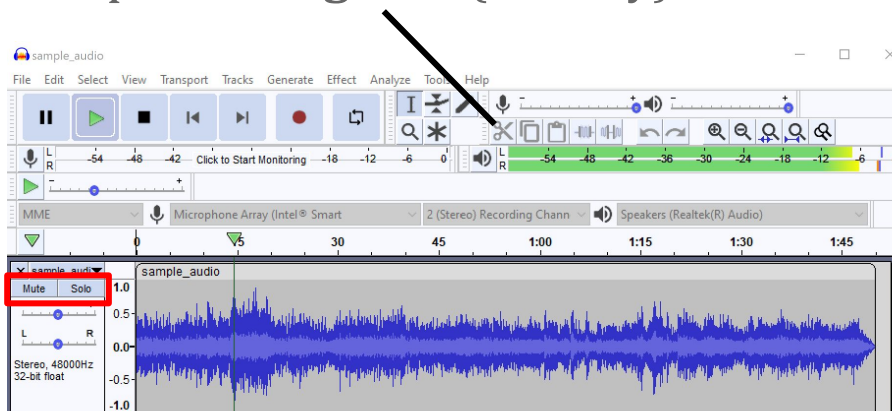


Use **Re-play** to verify that the recording is the quality/ volume that you want.



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.

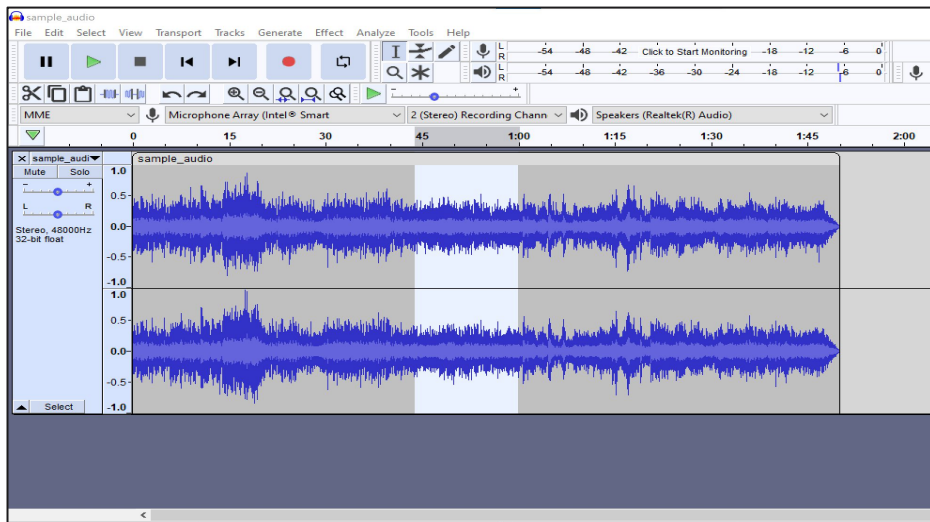
If one of your tracks is louder or softer than the others, you can adjust the volume on each track.

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






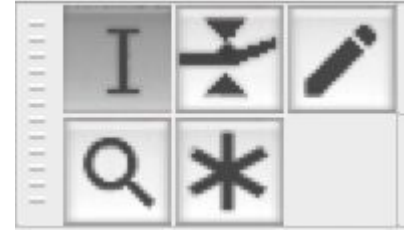
The Audacity Toolbar

- **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.



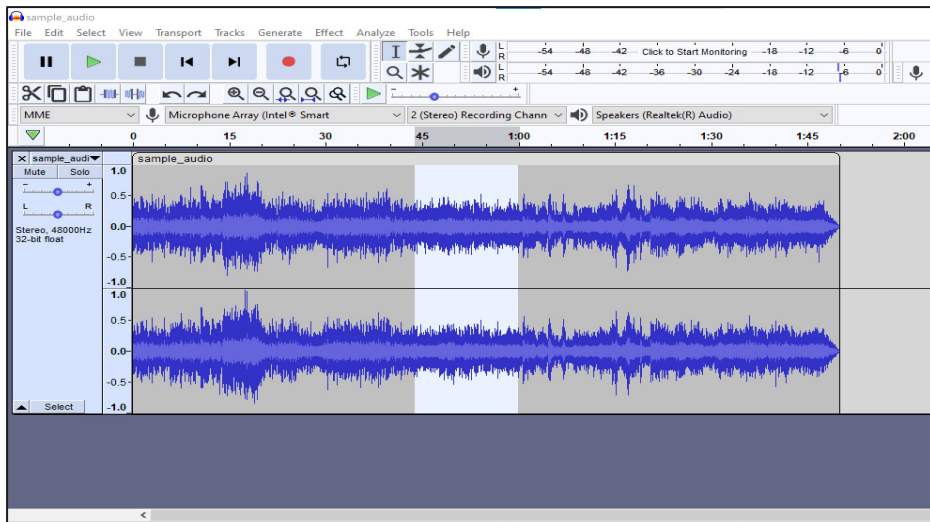
The Audacity Toolbar (Cont'd.)

-  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 you wish to remove.

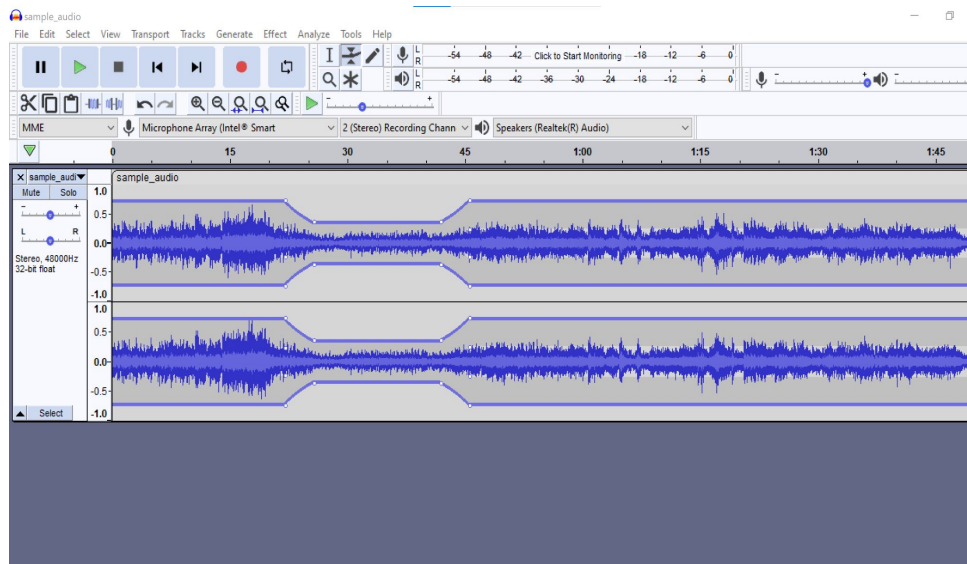
Then, hit backspace or delete on your keyboard.

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.

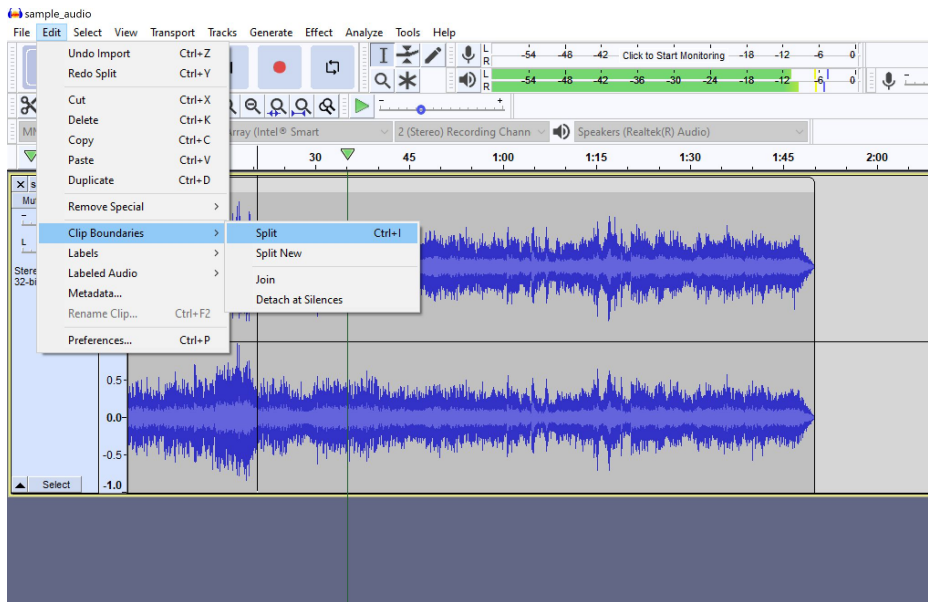
Drag and move the nodes to up and down and side to side to change the volume and how gradual the volume fade is.

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:



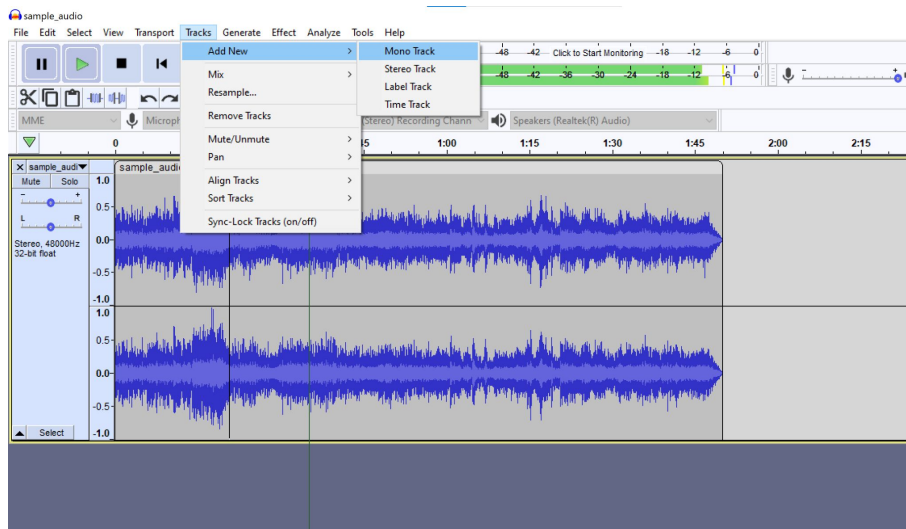
With the **Selection Tool (F1)**, place your cursor over the section where you want to split your track.

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
- **Add a new track** to your project



Saving, Exporting, and Sharing



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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]



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”



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Exporting Metadata Tags

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.

The top screenshot shows the 'Edit Metadata Tags' dialog box. It has a table with 'Tag' and 'Value' columns. The tags listed are Artist Name, Track Title, Album Title, Track Number, Year, Genre, and Comments. Below the table are buttons for 'Add', 'Remove', and 'Clear'. There are also buttons for 'Edit...', 'Reset...', 'Load...', 'Save...', and 'Set Default'. A checkbox 'Don't show this when exporting audio' is at the bottom left, and 'Cancel' and 'OK' buttons are at the bottom right.

The bottom screenshot shows the 'DITI Audacity Sample' metadata window. It has a dark theme and a sidebar with tabs for 'Details', 'Artwork', 'Lyrics', 'Options', 'Sorting', and 'File'. The 'Details' tab is selected, showing fields for title, artist, album, album artist, composer, grouping, genre, year, track, disc number, and compilation. The genre is set to 'Audacity Podcasting' with a red checkmark. The year is '2022', track is '1', and disc number is '1'. The compilation checkbox is checked, and the text 'Album is a compilation of songs by various artists' is displayed. 'Cancel' and 'OK' buttons are at the bottom right.



File Storage in Audacity



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General Tips for File Storage

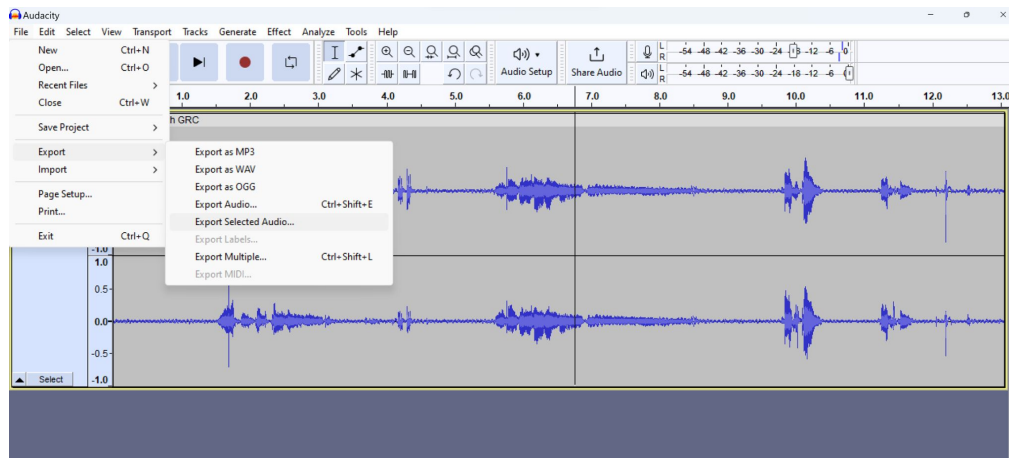
1. Create a particular place to keep audio files so you know where they live. Don't leave files in your Downloads folder!
2. Think about the information that will be helpful to have in your file names; consider sorting and what information will quickly enable you to understand what audio is contained in each file.
3. Be consistent in your file naming practices and make sure all files have unique names.
4. Avoid giving “temporary” names to files in case you are interrupted when working.
5. Create an “Archive” directory to keep old audio you imported that you will no longer need.

More information in [Handout: File Storage in Audacity](#), including converting voice memos and saving audacity.



Exporting Clips

- The best format to export audio in Audacity is through an MP3 file, which will ensure compatibility.
- You can export clips of audio as an MP3 to save them for later.

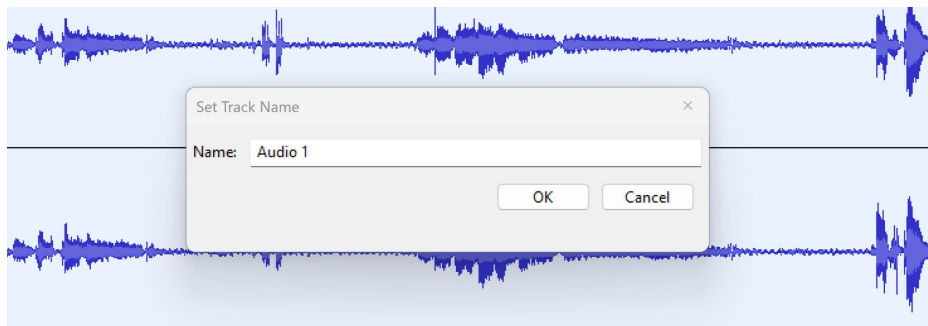


- Using the selection tool, highlight the stretch of audio you want to export, or if it is in a split clip, select the clip at the top bar.
- Go to File > Export > Export Selected Audio. Save the file with an informative name in the correct folder, and ensure that file format is selected as MP3.
- Fill out all corresponding metadata in the box that appears, including date and title of the track.



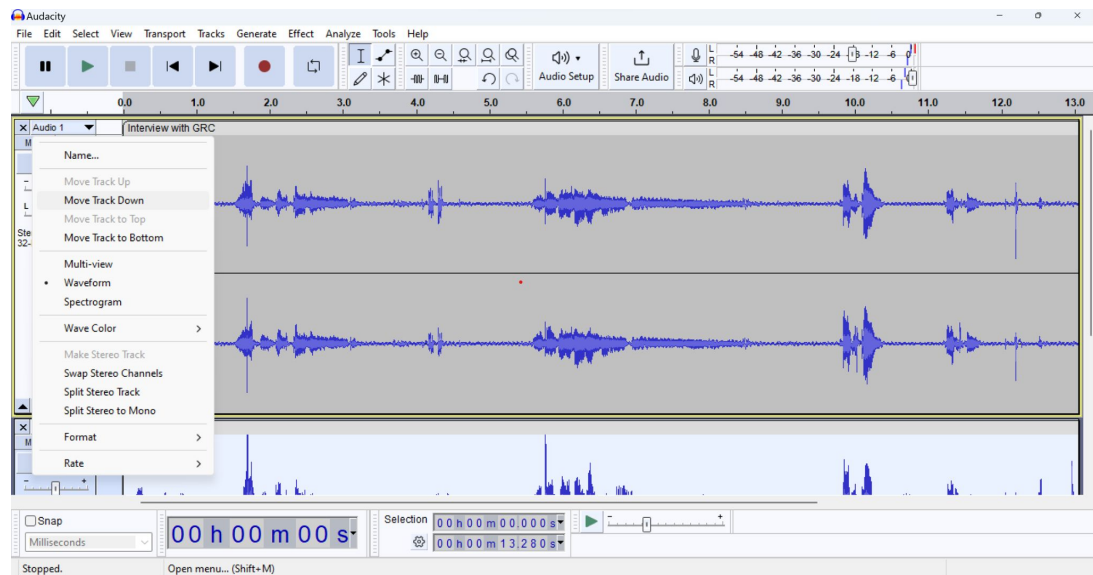
Naming Clips and Tracks

- All clips and tracks in Audacity should have a separate name within the program. The names Audacity gives to clips can be confusing, so ensure all clips and tracks are all labeled uniquely with clear names.
 - To rename a track, click the down arrow at the top of the track, then select Name, and a box will appear allowing you to change the name.
 - To rename a clip, select the clip at the top with the gray bar, then go to Edit > Rename Clip, which will allow you to edit the clip in the gray bar.



Moving Tracks

To organize the space within Audacity more effectively, you may need to move tracks up and down.



- To move a track, click on the down arrow at the top of the track, then select Move Track Up, to move the track one spot closer to the top, or Move Track Down, to move the track closer to the bottom.
- To move a track all the way to the top, select Move Track to Top. To move a track all the way to the bottom, select Move Track to Bottom.



Podcast Anatomy



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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 and Sara Morrell

Digital Integration Teaching Initiative

Research Fellows

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/sp24-avery_miller-engw1114-audacity

