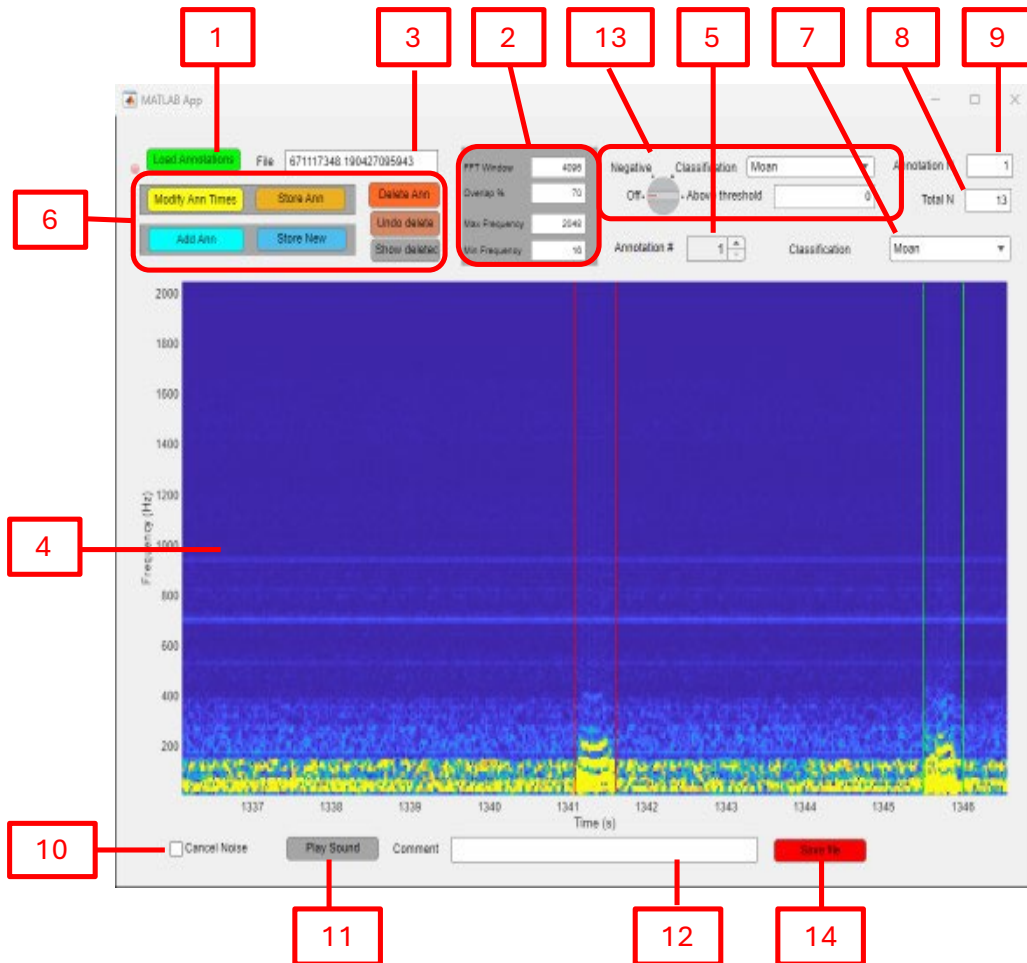


Call verification GUI tool

Verifying and modifying annotations across multiple sound files can be very time consuming due to the logistics of finding- and loading the right sound files and matching them with the relevant annotations. The purpose of this graphical user-interface is to allow rapid and efficient review and refinement of spreadsheet annotations against the raw acoustic data.



1. Load annotation file 2. Set FFT and display settings. 3. Active sound file name. 4. Spectrogram displaying active call annotation (red) and neighboring annotations (green) 5. Annotation number with buttons for navigating between all relevant annotations determined by turn knob (13) 6. Tools for modifying annotations; Modifying start- and end times, adding new annotations, or deleting annotations. 7. Classification for active call. 8. Total number of annotations selected by using turn knob (13) 9. Annotation number relative to all annotations regardless of select annotation type. 10. Noise filter for removal of constant noise. Subtracts the median value for each horizontal line in the spectrogram. 11. Playback of the active annotation. Hotkey "s" to play and "q" for quitting playback. 12. Comment associated with active annotation in the annotation file. 13. Selecting relevant annotation types. 14. Saving current annotations as a spreadsheet.

Requirements.

Annotation file must contain filenames in first column (with or without the -wav extension), start time for call annotations in second column. End time in third column. All times must be in the mm:ss.SS or hh:mm:ss.SS format (hours, minutes, seconds, and milliseconds) and formatted as "general" in Excel. Fourth Column must contain the call type. These four columns are mandatory for the GUI to work. Columns five and six are for eventual quality or path information. Text in column 7 is displayed in (12) in the GUI. Last three columns are optional.

Quickstart

1. Make sure that everything you need (annotations excel file, GUI, and wav files) are in the same folder.
2. Run the GUI, either in MATLAB (VerifyAnnotationsVXX), or install the app (CallVerificationGUI_VXX).
3. Click “load annotations (1).” A dialog box opens for selecting annotation file (e.g., Annotations.xlsx). Another dialog box opens for selecting directory with all the wav files (all sound files must be in one folder)
4. Use the Display settings panel (2) to set FFT window, overlap, maximum- and minimum frequencies. These settings are for the display only. It will not affect the data.
5. The name of the sound file with the first annotation will be displayed in (3) and a spectrogram displaying said annotation will appear (4)
6. Step through the annotations, either using (5) or hotkey (sometimes it takes a couple of seconds to load a new wav file)
 - a. Spectrogram x-axis shows actual seconds within the file to ease navigation between calls
 - b. Red marking is the active annotation, green marking is another call in the spectrogram
7. Use zoom tool at upper right corner of spectrogram (tools are appearing on mouse-over) as needed, then detoggle before modifying anything (e.g. annotation times) using panel (6)
 - a. To change the timing of an annotation, click “Modify Ann Times.” Draw a line from the call’s start to end, then select “Store Ann” to save it. Vertical lines turn yellow if they’re modified, and show the updated times
 - b. If there is a call that has not been annotated, click “Add Ann.” Select the classification, then click “Store New”
 - c. If there is something annotated that’s not a real call, select “Delete Ann.” To undo this, select “Undo delete”
 - d. To check which call has been deleted press “Show deleted”
8. To change a call’s classification, adjust the dropdown (7) and then click “Store Ann in panel (6).” The classification box will highlight red if it’s been changed
9. Total number of selected annotations is marked in (8)
10. Annotation number of all annotations is displayed in (9)
11. To apply a horizontal median filter to the spectrogram to remove constant frequency-fixed noise mark box (10). This only affects the spectrogram, not the sound files.
12. Play Sound (11) will play what’s showing in the spectrogram.
13. If there is any comment associated with active annotation (column 7 in the annotation spreadsheet) it will be shown in (12)
14. Apply filter (13) to look at only negative duration calls, only a certain classification, or only calls above a certain duration threshold. In these cases, set the classification or duration **first**, then toggle to “classification” or “above threshold”
15. Click “Save file” (14) to modify the annotation spreadsheet file. Make sure to save with a new file name. By default, the GUI will suggest the original file name with an “mod” at the end.

Hot keys:

“x” – move to next annotation

“z” – move to previous annotation

“s” – play sound

“d” – stop playback of sound