



ELAN for APLS

Data Science for Linguists– Spring '24

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01

Background on APLS

Background on APLS

- Archive of Pittsburgh Language and Speech (APLS)
 - Database of time-aligned transcripts of audio files powered by LaBB-CAT
 - LaBB-CAT: open source software written by Robert Fromont and Jen Hay (NZILBB), made to store audio and visual recordings and their transcripts
 - Pittsburgh Speech and Society Project (PSSP)
 - Directed by Barbara Johnstone and Scott Kiesling
 - From 2003-2005
 - Sociolinguistic interviews with Pittsburgh residents from 4 different neighborhoods
 - Still under construction, but will become available to the public
 - ~24 hours uploaded out of ~48 hours

Potential Research with APLS

- Search features in APLS
 - View entire transcripts and download into many different formats (TextGrid, EAF, PDF, plain text, etc.)
 - Search for specific words, see them in context, and export as CSV/TextGrid
 - Can use regular expressions when searching (ex: .* for 0 or more of any character)
 - Can use many different projects/layers when searching (ex: lemma, morphology, phonology, syntax, etc.)
- Applications
 - Provides a large quantity of usable data for researchers looking for specific phonemes/morphemes/words used by Pittsburgh speakers

Potential Research with APLS

Lemma layer for word “go”

Transcript with multiple layers

CB10interview4.eaf - Barbara Johnstone			
48.	✓	you	go to
49.	✓	to	going to
50.	✓	thing	going on
51.	✓	she	went back
52.	✓	you	go on
53.	✓	you	go to
54.	✓	actually	go there
55.	✓	ever	go to
56.	✓	you	go to
57.	✓	you	go for
58.	✓	were	going to
59.	✓	you'd	go down
CB10interview5.eaf - Barbara Johnstone			
60.	✓	you	go down
61.	✓	about	going out
62.	✓	of	going out
63.	✓	that	going out
LV04interview1.eaf - Barbara Johnstone			
64.	✓	you	go good
65.	✓	I	went there
66.	✓	mostly	went to
67.	✓	wife	go on
68.	✓	just	go back
69.	✓	wife	go out
70.	✓	you	go ?

participants

name
Barbara Johnstone

CB01

projects

- alignment
- frequency
- imported
- lexicon
- manual annotations
- phonology
- syntax
- testing

layers - include empty layers

- pos (syntax) IPA (unicode) ASCII
- phonemes (phonology) IPA (unicode) ASCII
- morphology (lexicon) IPA (unicode) ASCII
- lemma (lexicon) IPA (unicode) ASCII
- syllables (phonology) IPA (unicode) ASCII
- unisyn phonemes (phonology) IPA (unicode) ASCII
- orthography
- word IPA (unicode) ASCII
- segment IPA (unicode) ASCII

transcript

Barbara Johnstone

[thumb]papers shuffling...



	V	PRON	ADV	N	CCON	
manipulate	some+one	now	i	want+to		
manipulate	someone	now	um	i	wanna	
manipjoleit	sAMwAn	nəʊ	ʌm	aɪ	wɒnə	
manipulate	someone	now	um	I	wanna	

Barbara Johnstone

	V	A	N	V	PREP	PRON	PREP	N	A	N	PREP	N	N	PRON	V	CCON	V	N	ADV	A	N	CCON	ADV	N	PREP	PRON	PRON	V	N
make	sure	i	have	start	with	some	of	a	little	bit	of	back+ground	inform+ation	this	be	going+to	be	a	very	in+formal	converse+ation	I+am	not	interest	in	how	you	talk	i
make	sure	i	have	start	with	some	of	a	little	bit	of	background	information	this	be	gonna	be	a	very	informal	conversation	I'm	not	interest	in	how	you	talk	i
meik	fʊə	aɪ	hæv	stɔ:t	wɪθ	sʌm	ʌv	eɪ	lɪt	bɪt	ʌv	bækgraʊnd	ɪnfəmeɪʃn	ðɪs	ɪz	gɒnə	bɪ:	eɪ	verɪ:	ɪnfɔ:rməl	kɒnvə:seɪʃn	aɪm	nɒt	ɪnrəst	ɪn	həʊ	ju:	tɔ:k	aɪ
make	sure	I	have	start	with	some	of	a	little	bit	of	background	information	this	is	gonna	be	a	very	informal	conversation	I'm	not	interest	in	how	you	talk	I



Recent Advances in Our Transcription

- The Beautiful Monster 
 - Combines ASR and STT to output a fully segmented and transcribed file!
 - ASR: an AI segmented file (courtesy of Alejandro Ciuba)
 - STT: Batchalign file (courtesy of Houjun Liu, a freshman at Stanford :0)
- ELAN File Checker 
 - Input a completed ELAN file and it checks for...
 - Valid tier names and attributes
 - Out-of-dictionary words
 - Overlaps
 - If all of those come up clean, it outputs an ELAN file with aligned segment boundaries



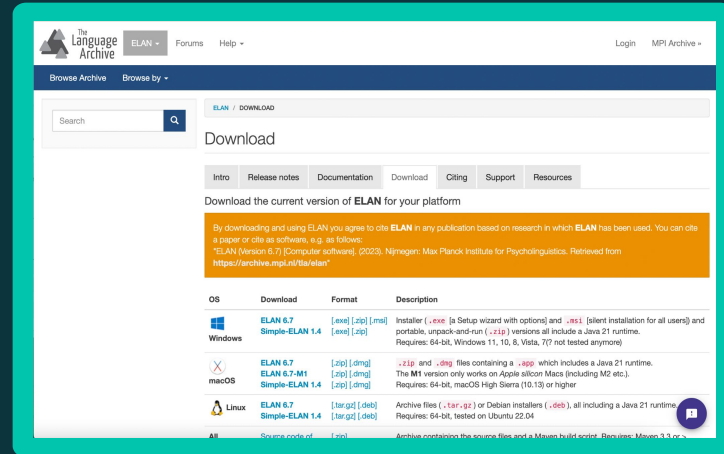
02

Download and First Steps

Download

Get ELAN for free on the internet:

<https://archive.mpi.nl/tla/elan/download>



The screenshot shows the 'Download' page for ELAN on The Language Archive website. The page includes a search bar, navigation tabs (Intro, Release notes, Documentation, Download, Citing, Support, Resources), and a table of download links for various operating systems. A prominent orange banner contains a disclaimer about citing ELAN in publications.

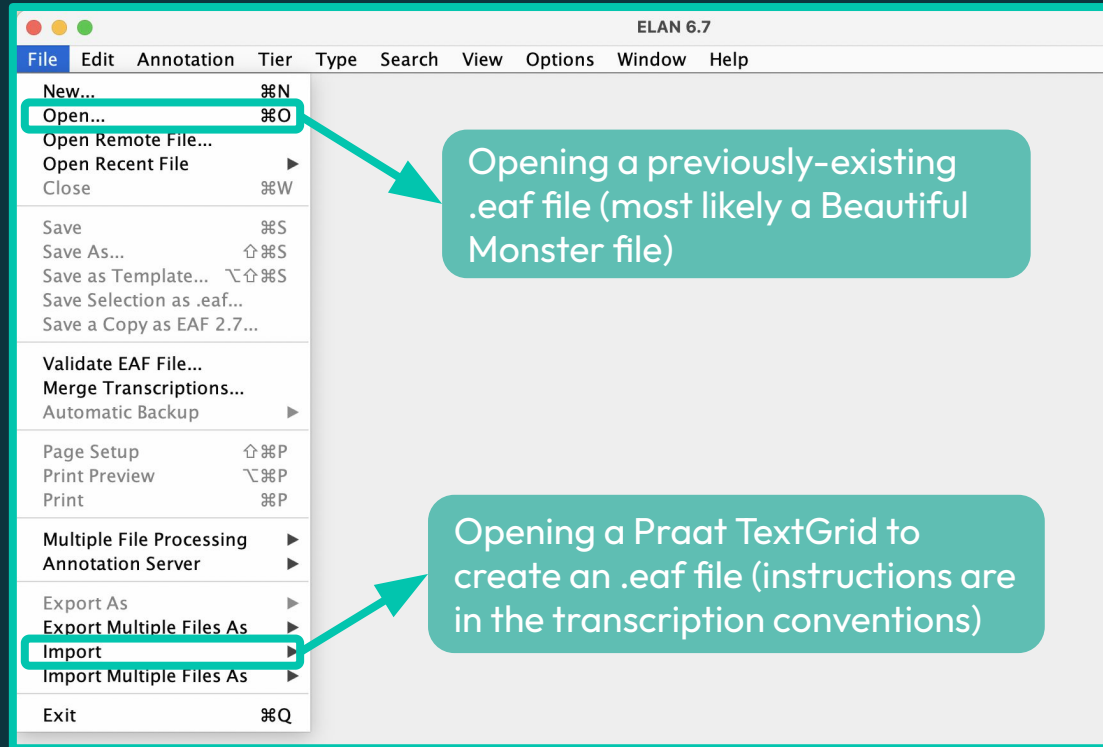
Download

Download the current version of **ELAN** for your platform

By downloading and using ELAN you agree to cite **ELAN** in any publication based on research in which **ELAN** has been used. You can cite a paper or cite as software, e.g. as follows:
"ELAN (Version 6.7) [Computer software]. (2023). Nijmegen: Max Planck Institute for Psycholinguistics. Retrieved from <https://archive.mpi.nl/tla/elan>"

OS	Download	Format	Description
Windows	ELAN 6.7	[.exe] [zip] [msi]	Installer (.exe) [a Setup wizard with options] and .msi (silent installation for all users) and portable, unpack-and-run (.zip) versions all include a Java 21 runtime. Requires: 64-bit, Windows 11, 10, 8, Vista, 7? not tested anymore)
	Simple-ELAN 1.4	[.exe] [zip]	
macOS	ELAN 6.7	[zip] [dmg]	.zip and .dmg files containing a .app which includes a Java 21 runtime. The M1 version only works on Apple silicon Macs (including M2 etc.). Requires: 64-bit, macOS High Sierra (10.13) or higher
	Simple-ELAN 1.4	[zip] [dmg]	
Linux	ELAN 6.7	[tar.gz] [deb]	Archive files (.tar.gz) or Debian installers (.deb), all including a Java 21 runtime. Requires: 64-bit, tested on Ubuntu 22.04
	Simple-ELAN 1.4	[tar.gz] [deb]	
All	Source code of	[zip]	Archive contains the source files and a Maven build script. Requires: Maven 3.3, etc.

First Steps



Add Audio

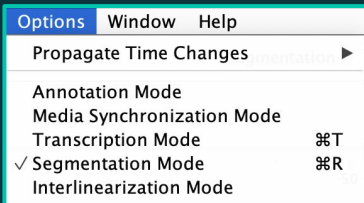
Edit	Annotation	Tier	Type	Search
Undo Set Author...				⌘Z
Redo				⌘Y
Copy Current Time				⇧⌘G
Edit Controlled Vocabularies...				⇧⌘C
Set Author...				
Document Properties...				
Linked Files...				⇧⌘L



03

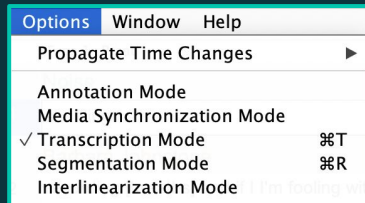
Modes of Transcription

3 Modes of Transcription



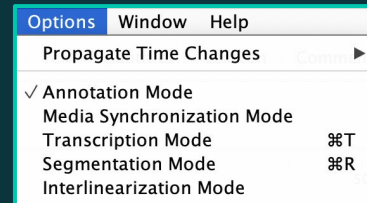
Segmentation

Used for creating and adjusting segments on all tiers



Transcription

Used for inputting transcriptions into segments



Annotation

Used for editing transcriptions directly on segments

We only really use these two

Segmentation Mode

Slider can slow down and speed up rate of speech

Play and pause button, among other things

The two channels: top is usually interviewer, bottom is usually interviewee

You can change current tier by double clicking the one you want to work with (or by using the up and down arrows)

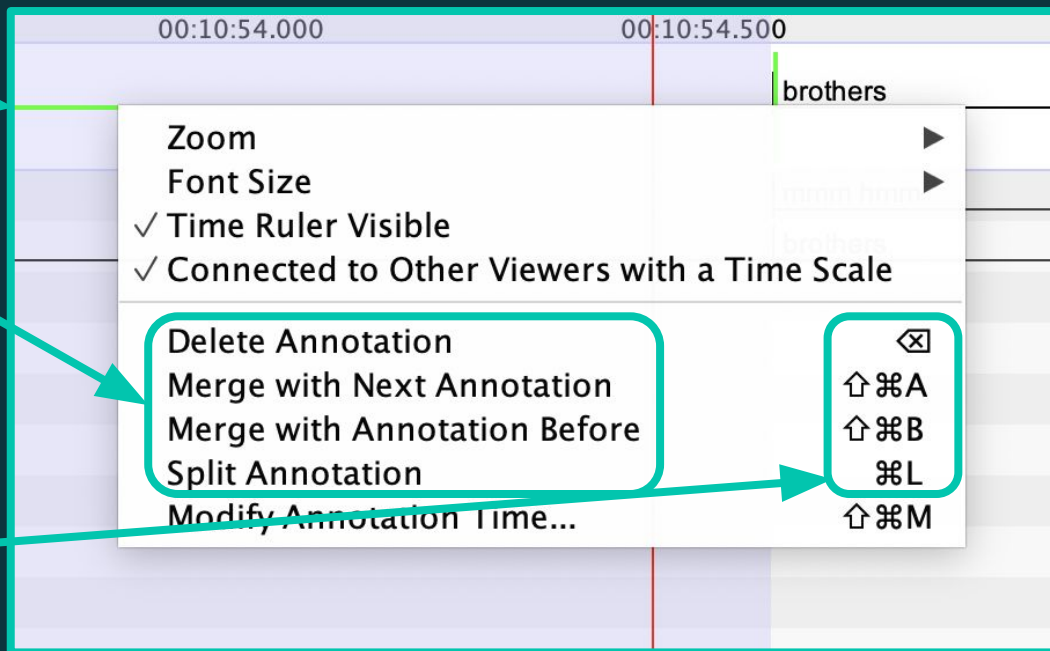
The screenshot shows the ELAN 6.7 Segmentation Mode interface. At the top, there is a menu bar with 'File', 'Edit', 'Annotation', 'Tier', 'Type', 'Search', 'View', 'Options', 'Window', and 'Help'. Below the menu bar, there are tabs for 'Segmentation' and 'Controls'. The main area contains a volume slider set to 100, a 'CB08interview1.wav' audio track with 'Mute' and 'Solo' buttons, and a rate slider set to 100. A playback control bar is visible, showing a play/pause button and a selection range of '00:00:00.000 - 00:00:00.000 0'. Below the playback bar, there are two channels of audio waveforms. The top channel is labeled 'CB08interv...' and the bottom channel is labeled 'Noise shuffling'. A list of tiers is shown at the bottom, with 'Noise shuffling' selected. The tiers are: 'Noise shuffling', 'CB08', 'Barbara Johnstone', 'Noise shuffling', 'Comment', and 'Redaction'. Red arrows point from the text on the left to specific features in the interface: the volume slider, the playback controls, the two audio channels, and the tier list.

Segmentation Mode

Right-click on the segment (it HAS to turn green)

These are the 4 you will use most often

Can also use hotkeys...but we have had issues with them in the past



Transcription Mode

The two channels

Slider can slow down and speed up rate of speech

Tier name

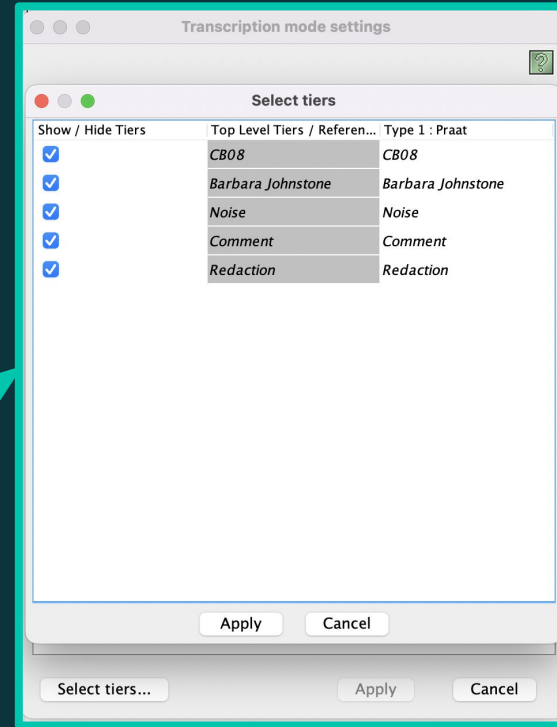
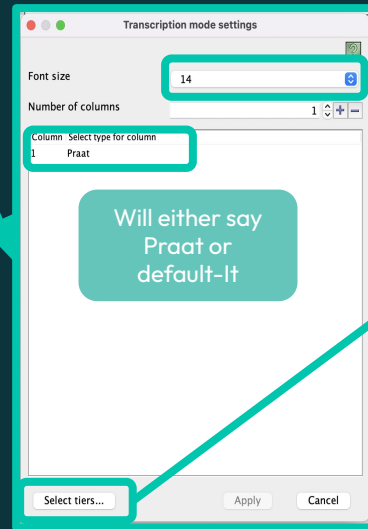
Transcription inside segment

The screenshot shows the ELAN 6.7 interface for a file named 'CB08interview1.eaf'. The top menu bar includes File, Edit, Annotation, Tier, Type, Search, View, Options, Window, and Help. The main window is divided into several sections:

- Playback Controls:** Located at the top left, it includes a time display (00:00:05.974), playback buttons (stop, play, next, previous), a 'Loop Mode' checkbox, and a 'Time Interval' of 00:00:00.000 - 00:00:05.974. Below this is a waveform showing two audio channels.
- Volume and Rate Sliders:** A 'Volume' slider is set to 100. A 'Rate' slider is also set to 100.
- Settings Panel:** A 'Settings' section contains several checkboxes: 'Automatic playback of media' (checked), 'Create missing annotations' (checked), 'Show tier names' (checked), 'Colors only on "No." column' (unchecked), 'Navigate across column' (checked), and 'Scroll current annotation to center' (unchecked). A 'Configure...' button is highlighted with a red box.
- Annotation List:** On the right, a table lists annotations. The first tier is 'Type 1 : Praat'. The second tier is 'Noise', with annotations 1 (shuffling) and 3 (shuffling). The third tier is 'Barbara Johnstone', with annotations 2 (recording [breaths] and if I'm fooling with this during the . during off just so I don't get these huge . big), 4 (sure), 5 (files these is a digital recorder and um - don't wanna overdo it . sc), 6 (um), 7 (okay), 8 (with the card [breath] um just for my records I'm talking to), 9 (REDACT), 10 (speaker's name), and 11 (is that . how you say).

Transcription Mode

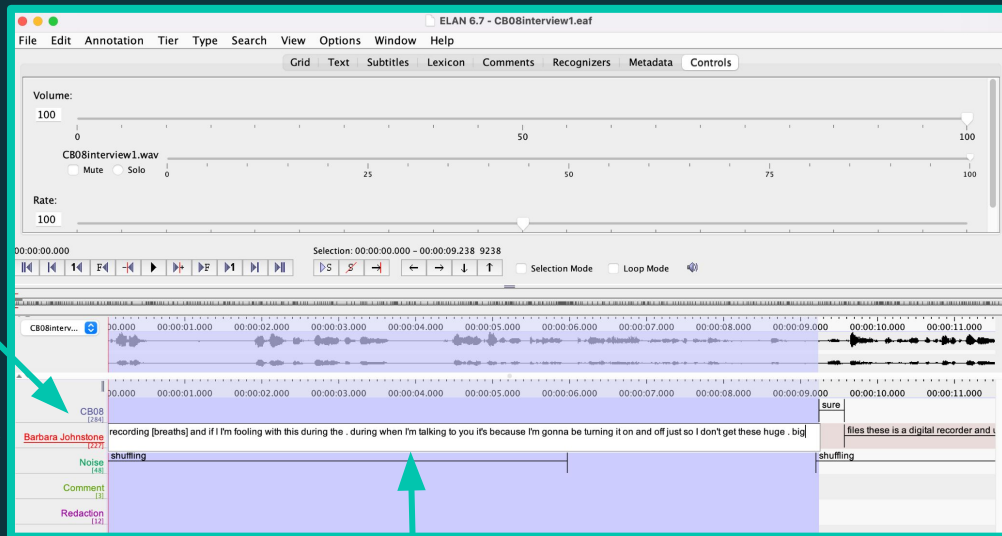
Configure...



Annotation Mode

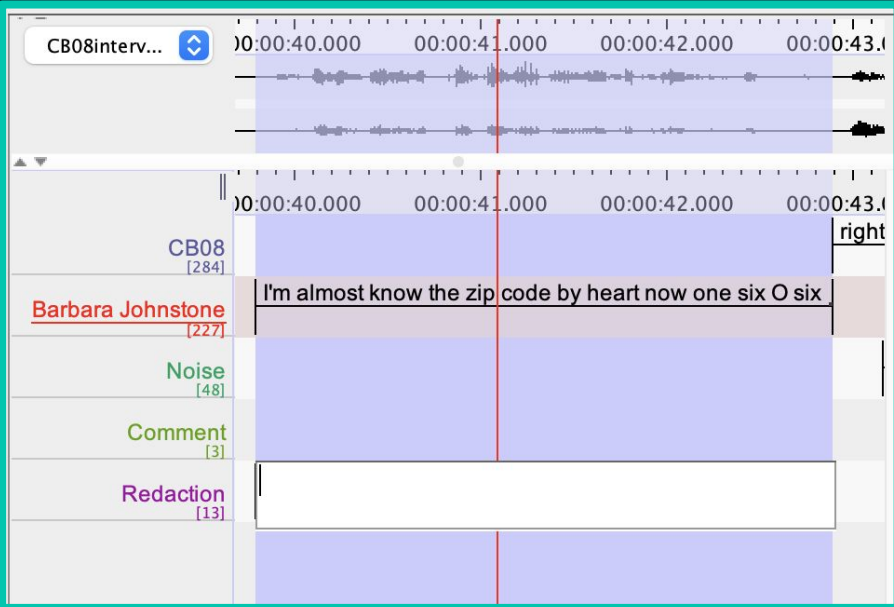
Shows number of segments on each tier

Double click the tier you want to work on



Can't adjust segments but can edit text inside the segments by double clicking them

Annotation Mode



The screenshot displays an audio annotation software interface. At the top, a timeline shows time markers from 00:00:40.000 to 00:00:43.000. Below the timeline, there are two audio waveforms. The main interface area shows a list of tiers on the left and a corresponding transcription on the right. The tiers are: CB08 [284], Barbara Johnstone [227], Noise [48], Comment [3], and Redaction [13]. The transcription text is: "I'm almost know the zip code by heart now one six O six". A red vertical line is positioned at 00:00:41.000. A purple highlight is visible on the transcription text, and a purple box is visible in the Redaction tier.

Copy segments onto other tiers:

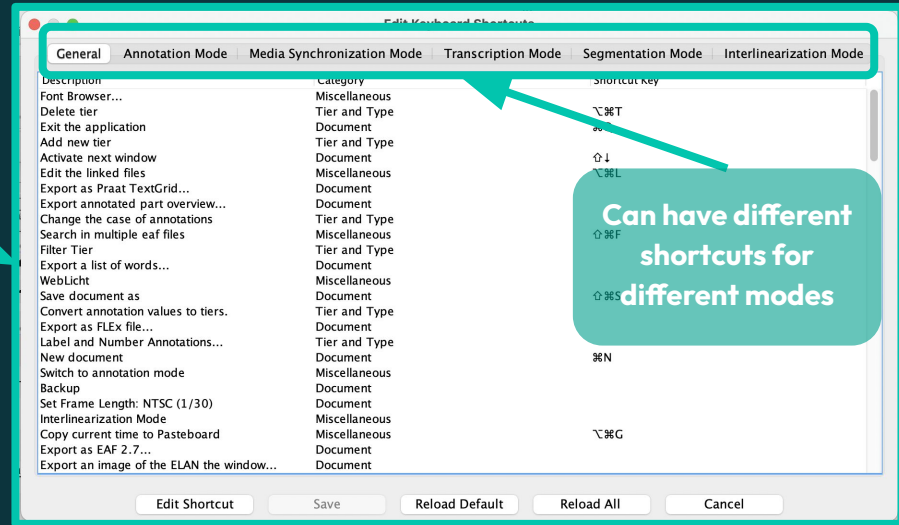
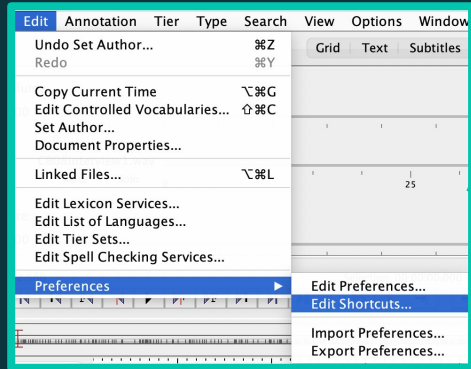
1. Choose the tier that currently has the segment
2. Click segment until it is highlighted in purple
3. Double click on the tier that you want the new segment on
4. *Optional* write in the transcription directly



04

Shortcuts and Hotkeys

Shortcuts



My Shortcuts: Segmentation

Description	Category	Shortcut Key
Set time 1 second back	Media Navigation	⌘←
Split annotation	Annotation Editing	⌘L
Go to next scrollview	Media Navigation	⌘PageDown
Merge with Next Annotation	Annotation Editing	⌘⌘A
Go to next pixel	Media Navigation	⌘⌘→
Go to next frame	Media Navigation	⌘→
Segmentation Key	Annotation Editing	A
Go to previous pixel	Media Navigation	⌘⌘←
Go to begin of media	Media Navigation	⌘B
Set next tier active	Tier and Type	↓
Switch to Bulldozer mode	Miscellaneous	
Go to time	Media Navigation	⌘G
Switch to shift mode	Miscellaneous	
Go to previous scrollview	Media Navigation	⌘PageUp
Zoom to default size (in the main viewer)	Miscellaneous	⌘0
Switch to normal propagation mode	Miscellaneous	
Go to end of media	Media Navigation	⌘E
Set previous tier active	Tier and Type	↑
Merge with Annotation Before	Annotation Editing	⌘⌘B
Move crosshair to left / right of selection	Selection	⌘ /
Play around selection	Media Navigation	⌘N
Play selection	Media Navigation	⌘M
Toggle the playback rate	Miscellaneous	⌘⌘R
Go to previous frame	Media Navigation	⌘←
Move crosshair to center of selection	Selection	⌘⌘ /
Play / pause step-and-repeat mode	Media Navigation	
Delete annotation	Annotation Editing	⌘X
Set time 1 second ahead	Media Navigation	⌘→
Play / Pause the media	Media Navigation	⌘⌘
Toggle the playback volume	Miscellaneous	⌘⌘R
Zoom out (in the main viewer)	Miscellaneous	⌘-
Play Around Selection...	Media Navigation	
Clear selection	Selection	⌘⌘C
Modify the annotation time by entering time val...	Annotation Editing	⌘⌘M
Zoom in (in the main viewer)	Miscellaneous	⌘I
Change rate and volume toggle value...	Media Navigation	

Segmentation Key A
Delete Annotation Delete
Zoom Out Command Zero
Zoom In Command I
Play/Pause Return

My Shortcuts: Transcription

Description	Category	Shortcut Key
Set time 1 second back	Media Navigation	⌘←
Edit in Annotation Mode	Miscellaneous	
Merge with Next Annotation	Annotation Editing	⌘⌘A
Go to next pixel	Media Navigation	⌘⌘→
Go to next frame	Media Navigation	⌘→
Go to previous pixel	Media Navigation	⌘⌘←
Cancel changes made to the annotation	Annotation Editing	⌘
Toggle Loop mode	Media Navigation	⌘L
Hide all tiers linked with this tier	Miscellaneous	
Zoom to default size (in the main viewer)	Miscellaneous	⌘0
Saves the current annotation and moves to the ...	Annotation Editing	↵
Moves right to the next cell and saves the curre...	Annotation Navigation	⌘→
Plays back the current annotation from the begi...	Media Navigation	⌘⌘H
Merge with Annotation Before	Annotation Editing	⌘⌘B
Move crosshair to left / right of selection	Selection	⌘/
Play around selection	Media Navigation	⌘⌘Space
Moves left to the next cell and saves the curre...	Annotation Navigation	⌘←
Play selection	Media Navigation	⌘Space
Go to previous frame	Media Navigation	⌘←
Move crosshair to center of selection	Selection	⌘⌘/
Make a tier editable / non-editable	Miscellaneous	
Delete annotation	Annotation Editing	⌘Delete
Set time 1 second ahead	Media Navigation	⌘→
Moves down to the next cell and saves the curr...	Annotation Navigation	⌘↓
Play / Pause the media	Media Navigation	⌘H
Moves up to the next cell and saves the curren ...	Annotation Navigation	⌘↑
Zoom out (in the main viewer)	Miscellaneous	⌘-
Clear selection	Selection	⌘⌘C
Zoom in (in the main viewer)	Miscellaneous	⌘=

Move to next segment
Play/Pause

Return
Tab

THE MOST IMPORTANT SHORTCUT:



Control/Command S





05

**General
Processes**

My Process

I fix the segments using
Segmentation Mode

I listen through the entire file
and segment on the Noise tier
using *Segmentation Mode*

Segmentation

Noises

I usually repeat these
two steps in 2-5
minute increments

Transcription

Rechecks

I input the transcription using
Transcription Mode

I use the ELAN File Checker to
clean up the file and find
out-of-dictionary words

The background is a dark teal color. It features several vertical columns of small teal squares. On the left side, there are two columns: one with 12 squares and another with 8 squares. On the right side, there are two columns: one with 12 squares and another with 18 squares. The text is centered in the middle of the page.

Thanks!
Questions?

Sources and Helpful Links

LaBB-CAT. (n.d.). SourceForge. Retrieved November 29, 2022, from <https://onzeminer.sourceforge.net/#:~:text=LaBB%2DCAT%20is%20a%20browser,automatically%20generated%20or%20manually%20added>

New Zealand Institute of Language, Brain and Behavior. (2003-2022). *LaBB-CAT* (20221013.1114). University of Canterbury, New Zealand. <https://labb-cat.linguistics.pitt.edu/labbcats/>

University of Pittsburgh. (n.d.). *Pittsburgh Speech & Society*. Research. <https://pittsburghspeech.pitt.edu/index.html>

ELAN:

<https://archive.mpi.nl/tla/elan/download>

Batchalign:

<https://github.com/talkbank/batchalign2>

PSSP:

<https://pittsburghspeech.pitt.edu/>

Alejandro Ciuba's Website:

<https://alejandrociuba.github.io/>

Houjun Liu's LinkedIn:

<https://www.linkedin.com/in/houjun-liu/>