

Speech Analyzer

Test Version 3.1.0.101

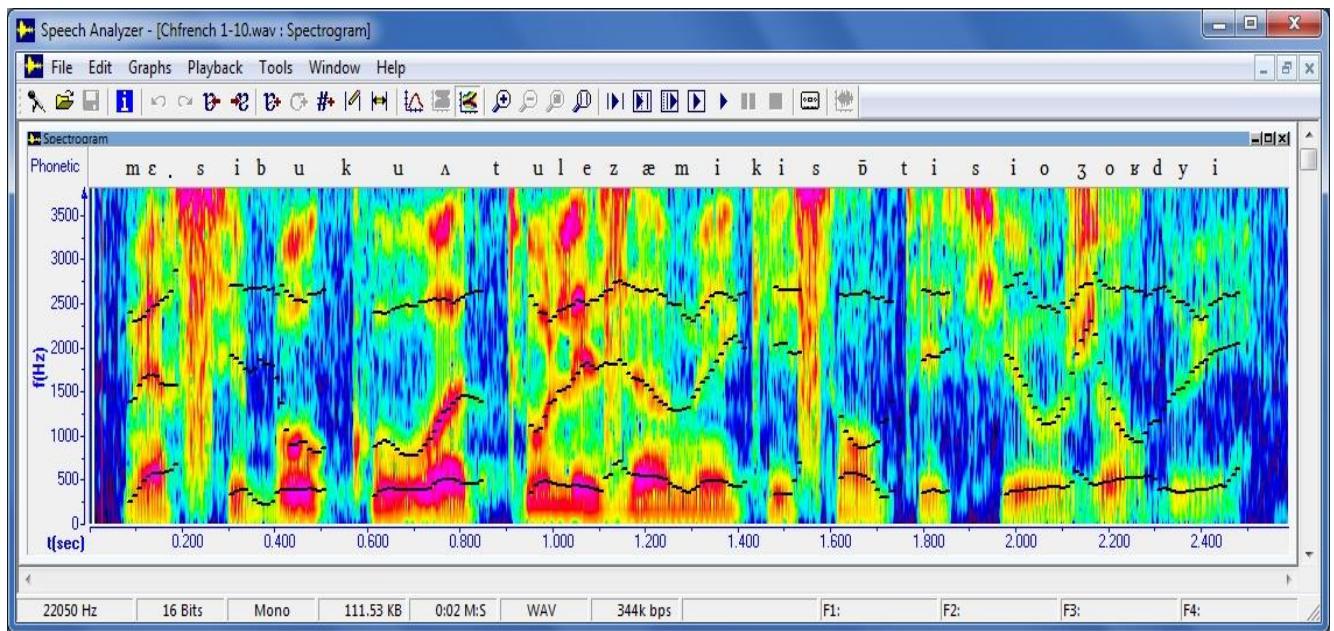


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Introduction

The complete documentation for Speech Analyzer can be found in the main menu under Help. This document should be used as an addition to that information.

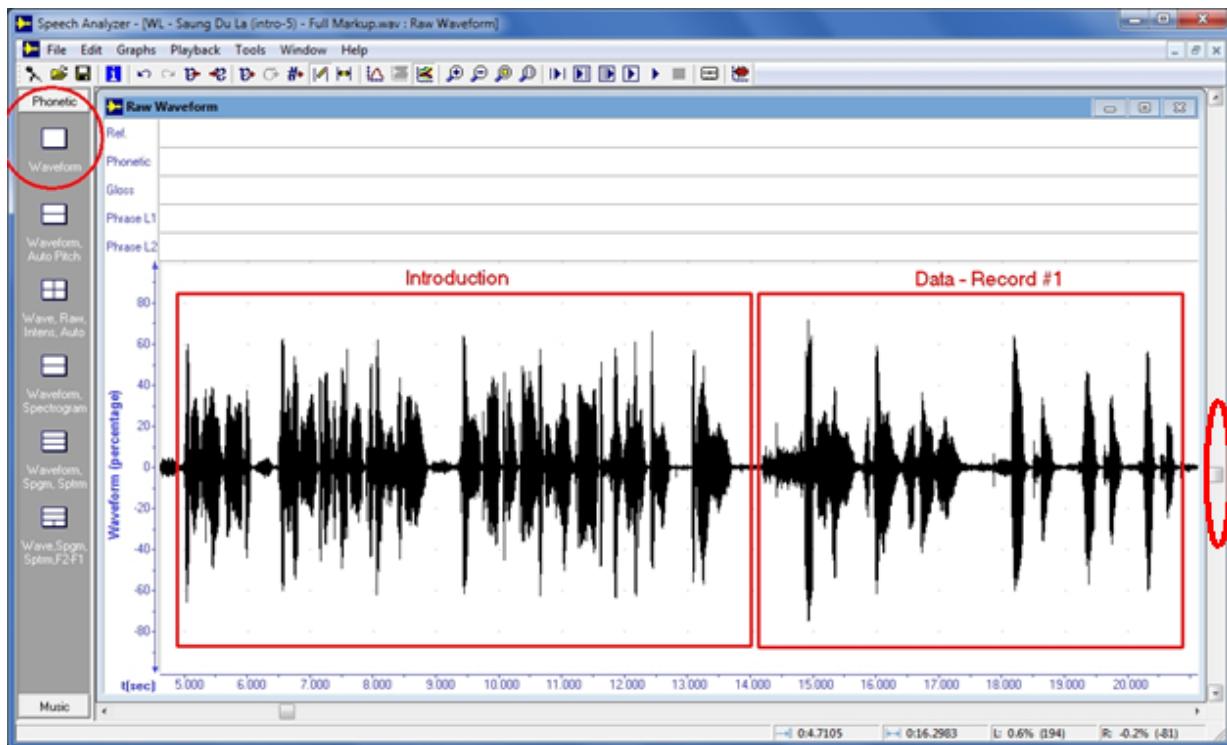
The original motivation for this series of Test versions of Speech Analyzer was prompted by a need to add specific features for handling Wordlists. This included handling recording made by students in our SIL training program and those done by linguist and surveyors doing field work here. Two specific areas were focused on: Entering Transcription Data, and Exporting data for use in FieldWorks.

Specifically changes were made to make it easier to mark-up an audio recording to indicate the location of the Reference, Phonetic, and Gloss Segments, the production of the target words by the Language Resource Person (LRP), and the complete utterance of both the linguist and LRP by only pressing the keys Alt+Z. Secondly the Export function now has a FieldWorks specific option that only requires the user to select their FieldWorks Project name in a drop-down list and then SA will copy all of the individual Wave files to the appropriate AudioVisual directory and generate an SFM file for Importing Speech Analyzer transcription data into the Lexicon in Fieldworks.

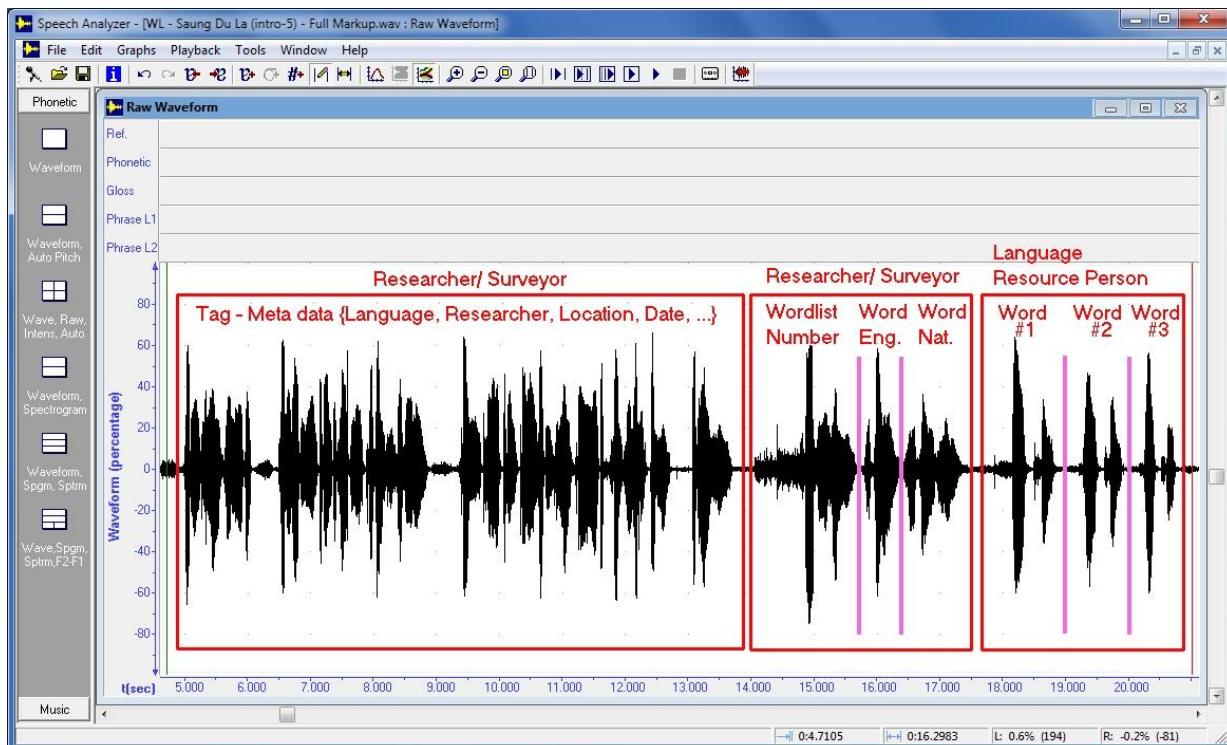
Several other features have been added including support for doing Waveform editing of Stereo files, accurately handling 96 KHz 24-bit recordings, and an AutoSave feature in case of power failure or a crash. Several bugs have also been fixed. A complete list of all of the changes that have been made since October 2011 appears at the end of this document. The bulk of this document show how to use the new Wordlist feature.

Adding Markup to a Wordlist

Open a digital recording (Wav file) using Speech Analyzer, then press the Waveform button in the Task Bar. Then Zoom-in moving the Vertical scroll bar or the mouse scroll wheel to more clearly see several words.

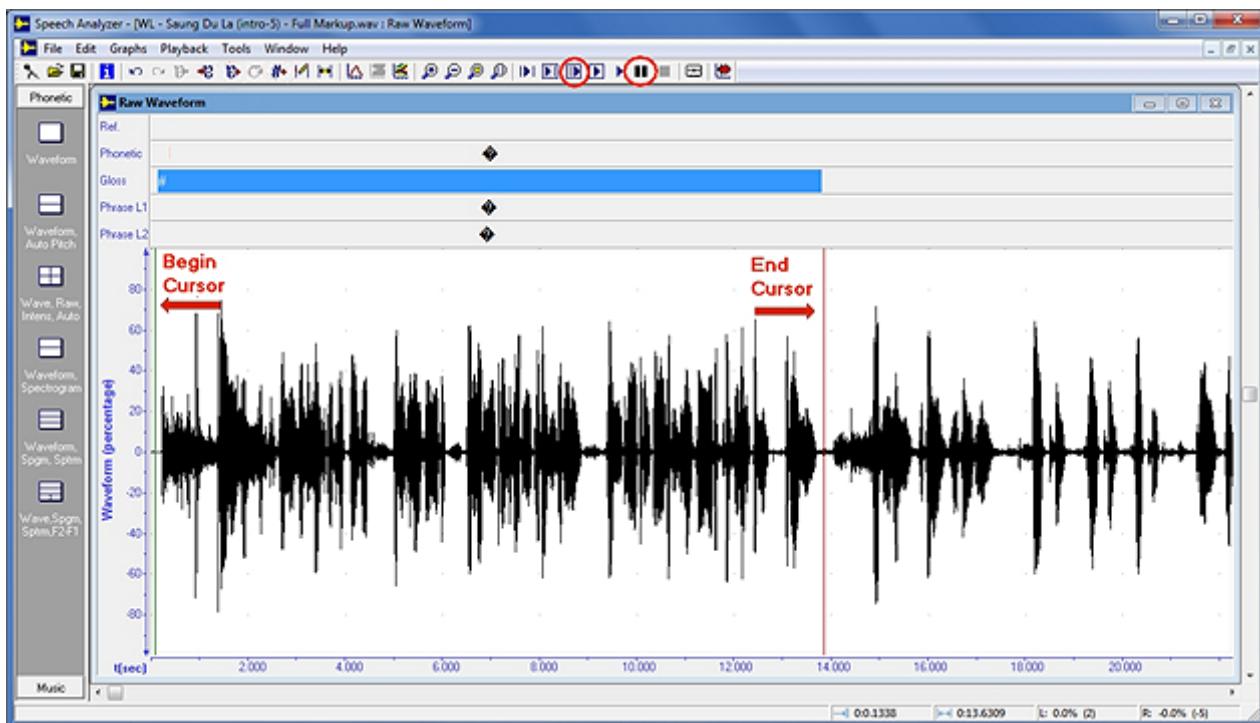


The first task is to locate the Meta Data at the beginning of the file, if there is any. The first word in the Wordlist should be next. It will typically have two sub-parts; the Researcher's introduction of the Word on the Wordlist, and the production of the requested Word by the Language Resource Person (LRP).

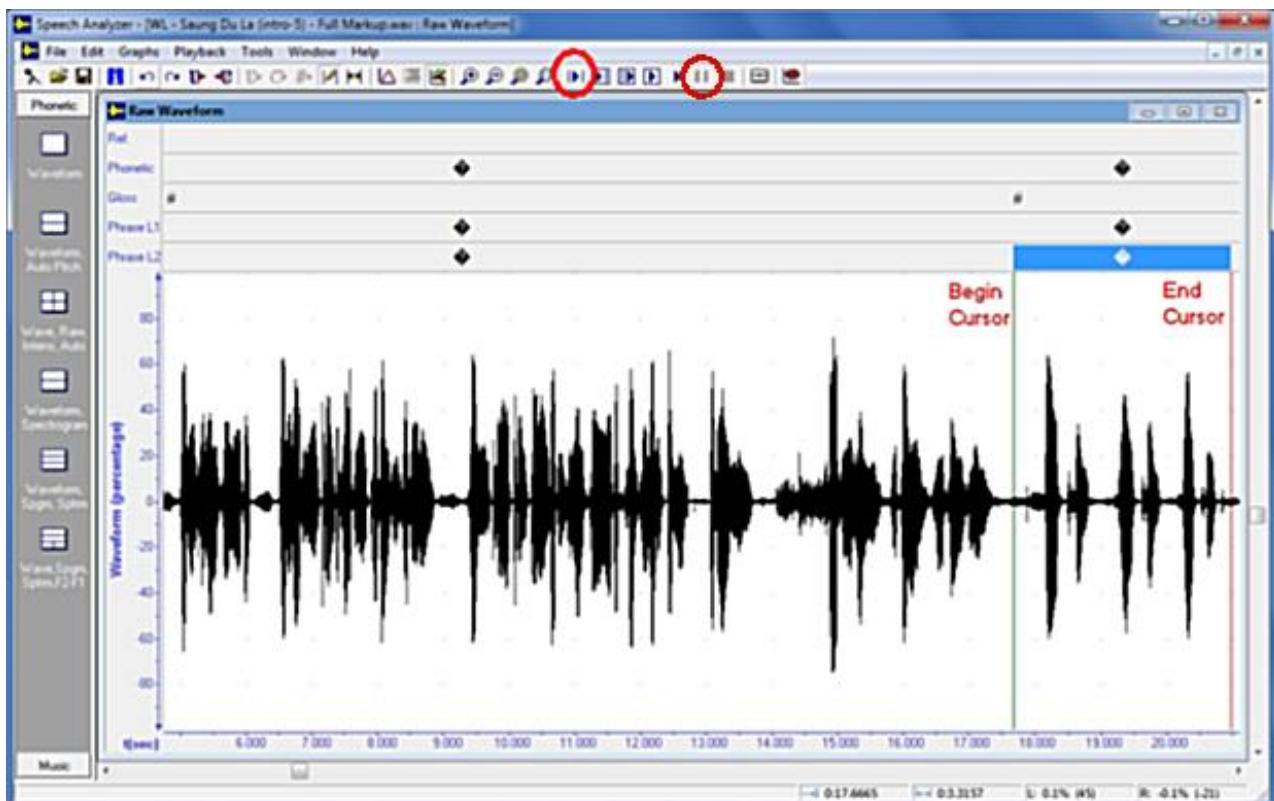


Both the Begin and End cursors will initially be at the far left edge screen at the beginning of the recording.

Press the “Play End Cursor -> Right” icon and “Pause” icon to locate the Meta Data. Do a left-mouse click at the end of the Meta Data. This will force the End cursor there, then move the mouse to the far left to the beginning of the Meta Data and do a left-click to place the Begin cursor at the beginning. When the cursors are accurately placed, then press the Alt+Z keys to mark this Meta Data.

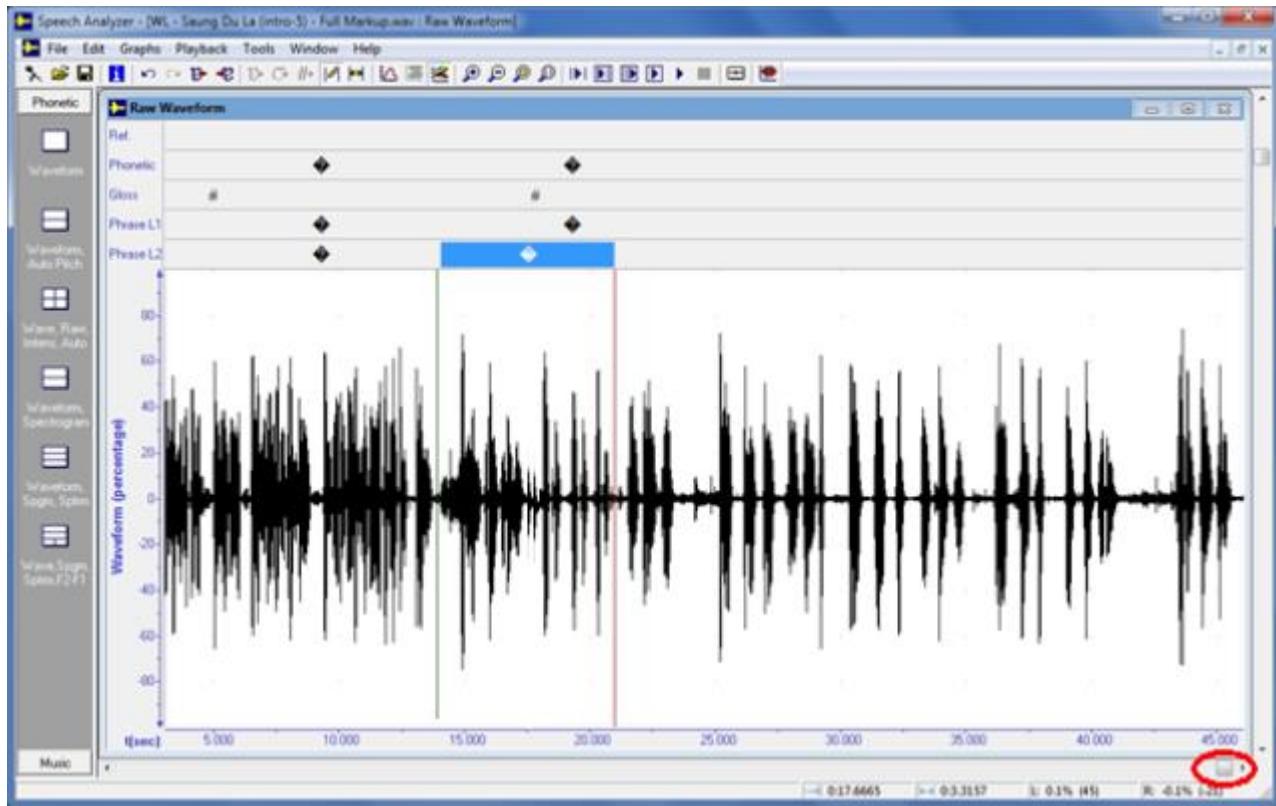


Press the “Play End Cursor -> Right” icon and “Pause” icon to locate the first Record in the Wordlist. Then do a mouse click just beyond the end of the 3 LRP Words which will force the End Cursor just to the right of the 3 LRP Words, then move the mouse pointer to the beginning of the 3 LRP Words and do a left-mouse click to place the Begin cursor there.



With a single press of Alt+Z, this will mark the area between the cursors as a single Phonetic segment, mark a Word segment, and it's Reference field, a Phrase Level 1 segment for the 3 LRP Words and Phrase Level 2 segment to mark the Researcher/ Surveyors introduction of this Word which typically consists of the Wordlist Number, the Word in English, then the Word in the National Language.

Press the “Play End Cursor -> Right” icon to continue to listening to the audio.



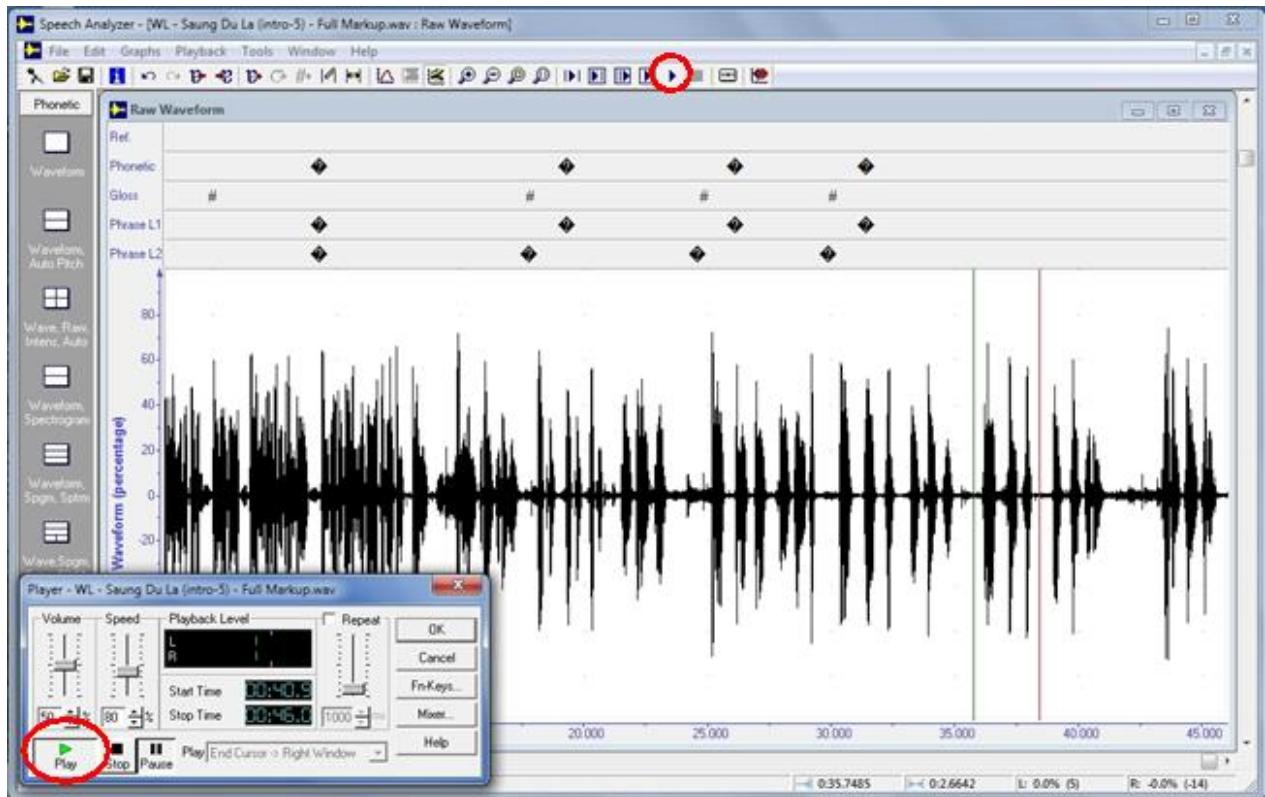
The recording will automatically scroll to the left as the playback continues. The SpaceBar can be pressed to quickly Pause the Playback. Another way to slow down is to use the Speed control. From the main menu select Playback/ Player ... or click on the Player icon. Set to the Speed to 80% and Play to “End Cursor -> Right Window.



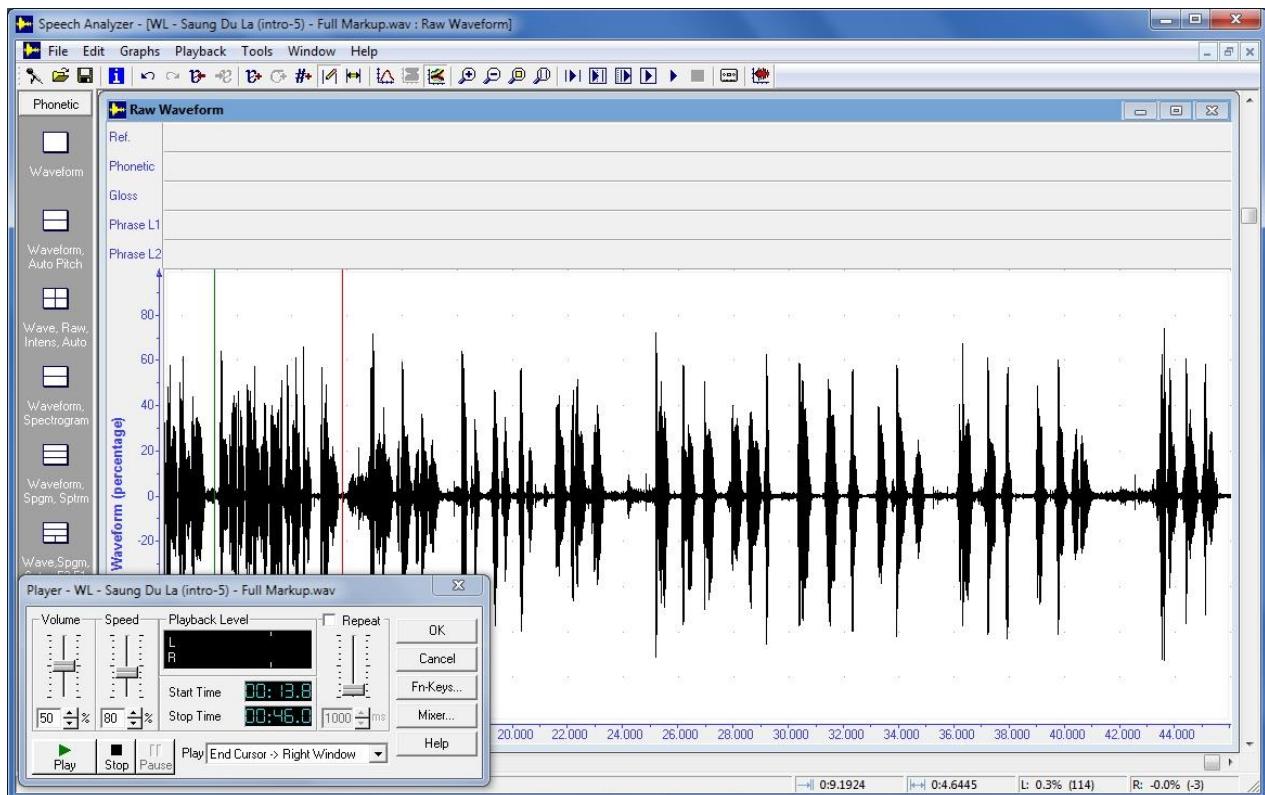
When the next set of three Words are spoken by the LRP, then press Pause.

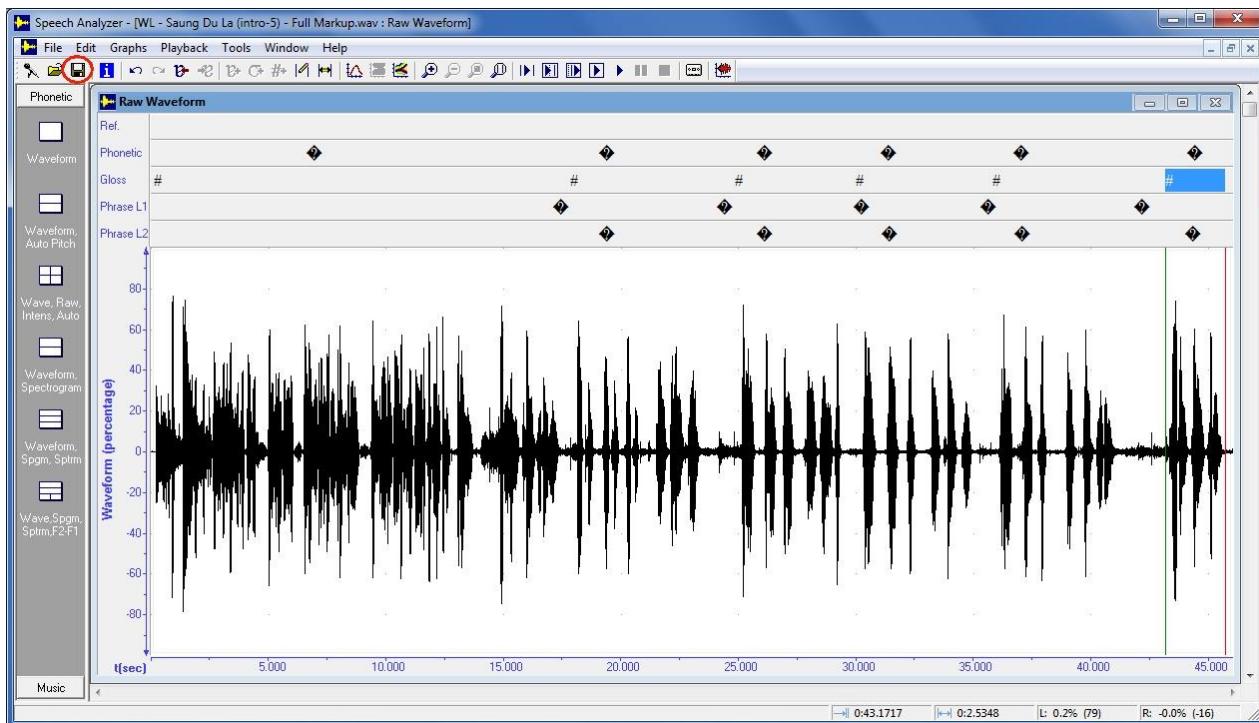
Do not close the Player dialog box, but Left-mouse click on the Waveform just beyond the end of the THIRD Word spoken by the LRP (this will force the End cursor to that location). Then Left-mouse click just left of the beginning of the FIRST LRP Word. Now the three Words are ready to be marked up, so press Alt+Z.

Then press Play on the Player, and locate the next set of 3 LRP Words, and mark them.



Continue to listen, placing the End cursor at the right edge of the LRP Words and the Begin cursor just before the first LRP Word. Then press Alt-Z.





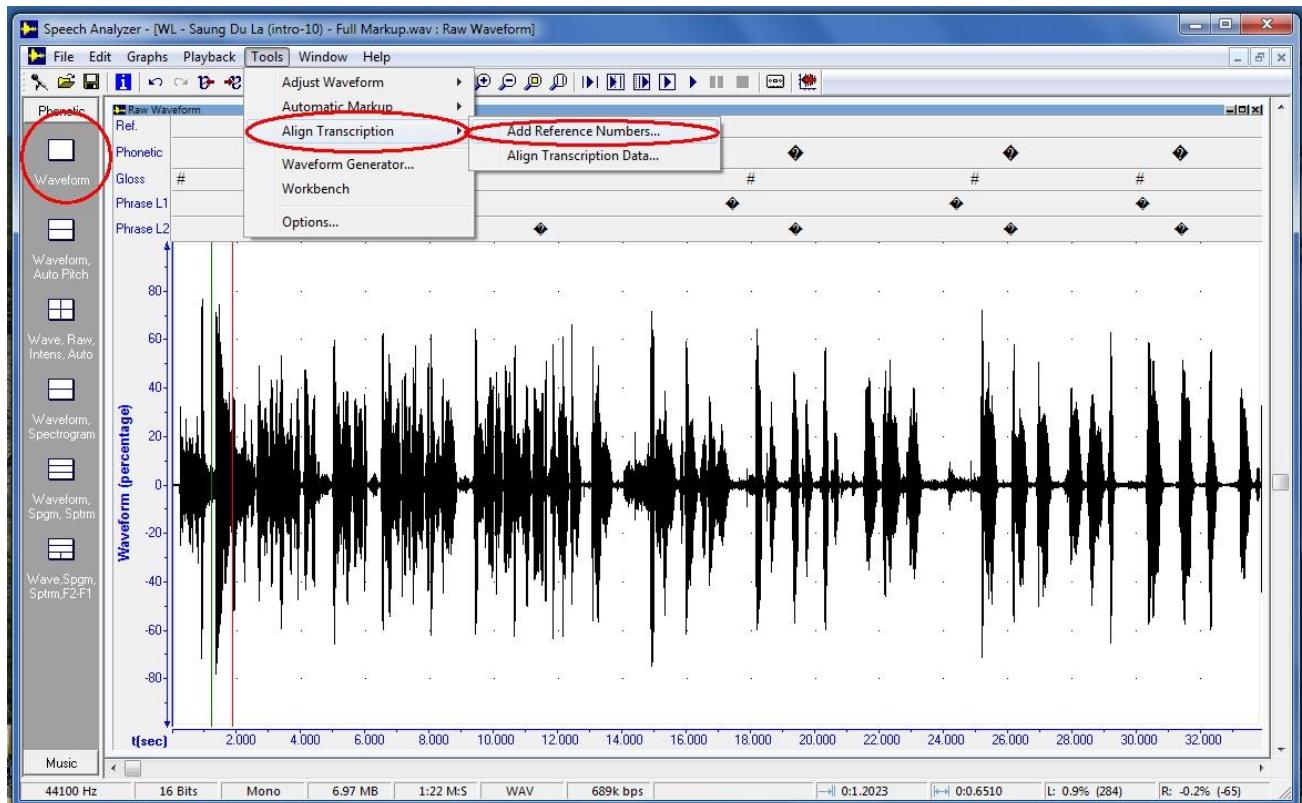
Note that Alt+Z is also marking Phrase Level 1, which are 3 Words spoken by the LRP, and Phrase Level 2 which is the entire Record associated with that Wordlist item. The entire recording should be marked up before adding any transcription data.

Phrase Level 1 will be used when adding Transcription data. Phrase Level 2 will be used in FieldWorks.

Save your work by selecting “File/ Save” or pressing the “Save” icon. If the program crashes, restart the program and it will find the temp file with will allow you to continue where you left off. This Auto-Save feature save the Transcription data every 60 seconds.

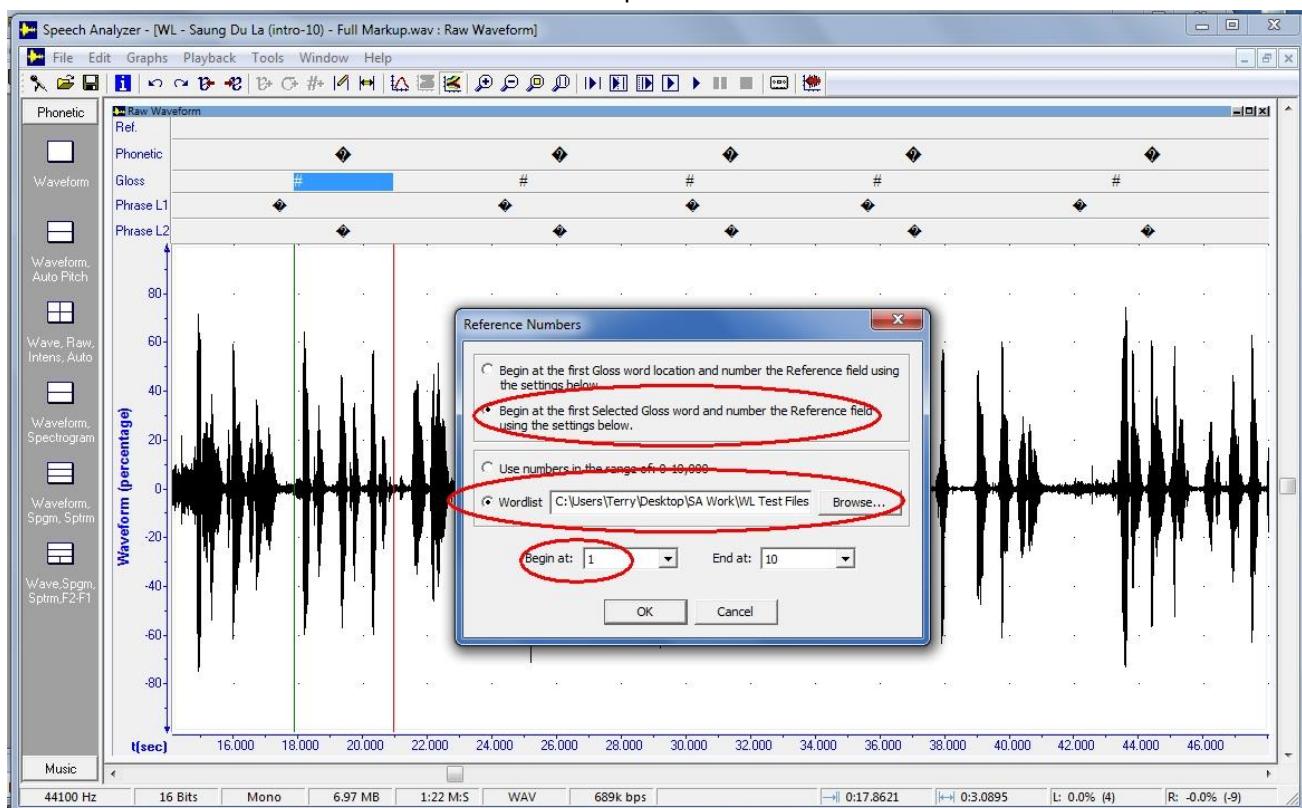
Adding Transcription Data

Using a Wordlist recording that has already been marked-up, open the file and press the Waveform button and then select the first Word were the Reference Number will be placed, then select Tools/ Align Transcription/ Add Reference Numbers.



Next select the second item which begins “Begin at the first Selected Gloss word...”

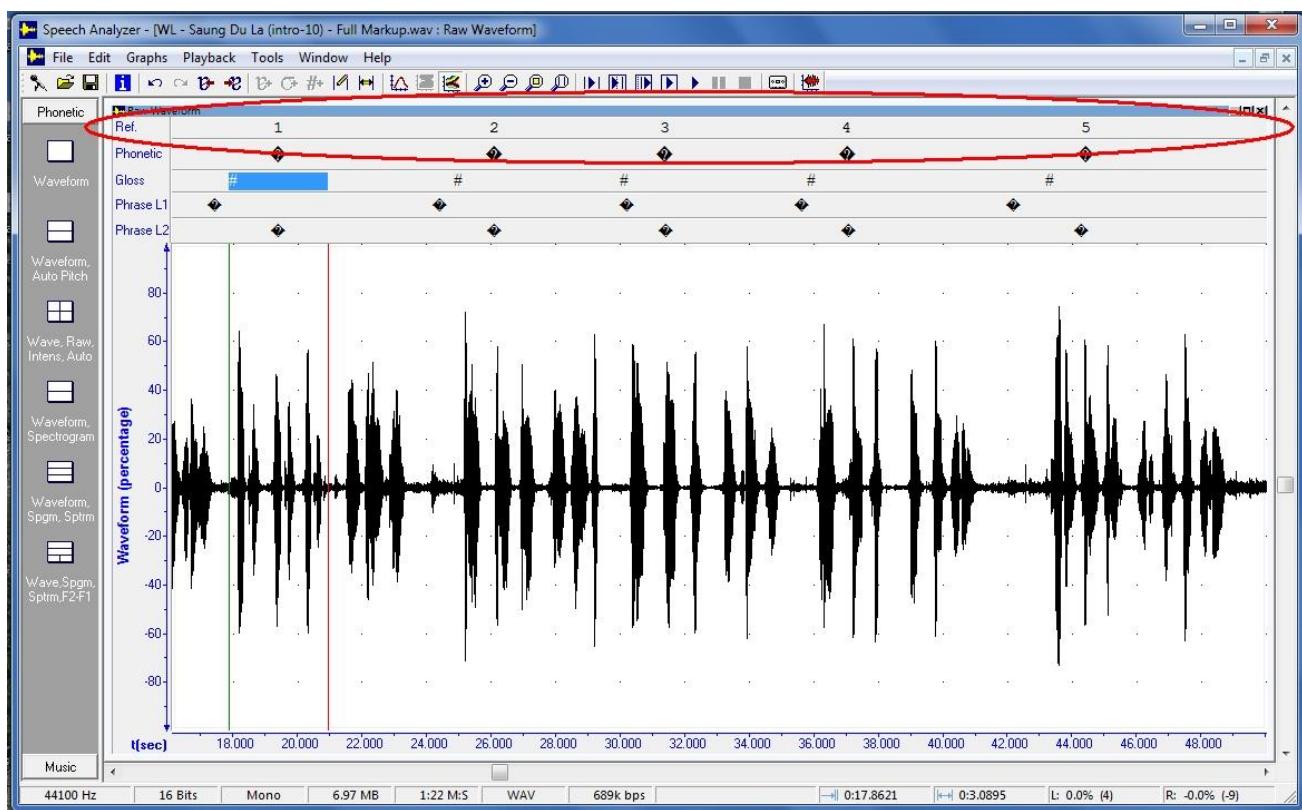
Then select the option to get Reference Numbers from a Wordlist and Browse to a text based Wordlist file. Then select the first Reference Number that will be placed in the Reference field above the selected Word.



The Wordlist should be created using Notepad program. It should be a text file with at least 2 columns of tab delimited data and a header using SFM markers. The column below the \ref marker is for the Reference Number, and the column below the \gl marker is Word Gloss in English. This file should be saved in UTF-8 format in Notepad.

```
\ref    \gl
1      sky
2      sun
3      moon
4      star
5      cloud
6      mist
7      rain
8      rainbow
9      lightning
10     thunder
```

Next press the OK button, and verify that the Record Numbers are correctly placed.



Note: Users have the option to also import other data fields including their preliminary Phonetic transcription (\ph) and the Orthography (\or) if one already exists.

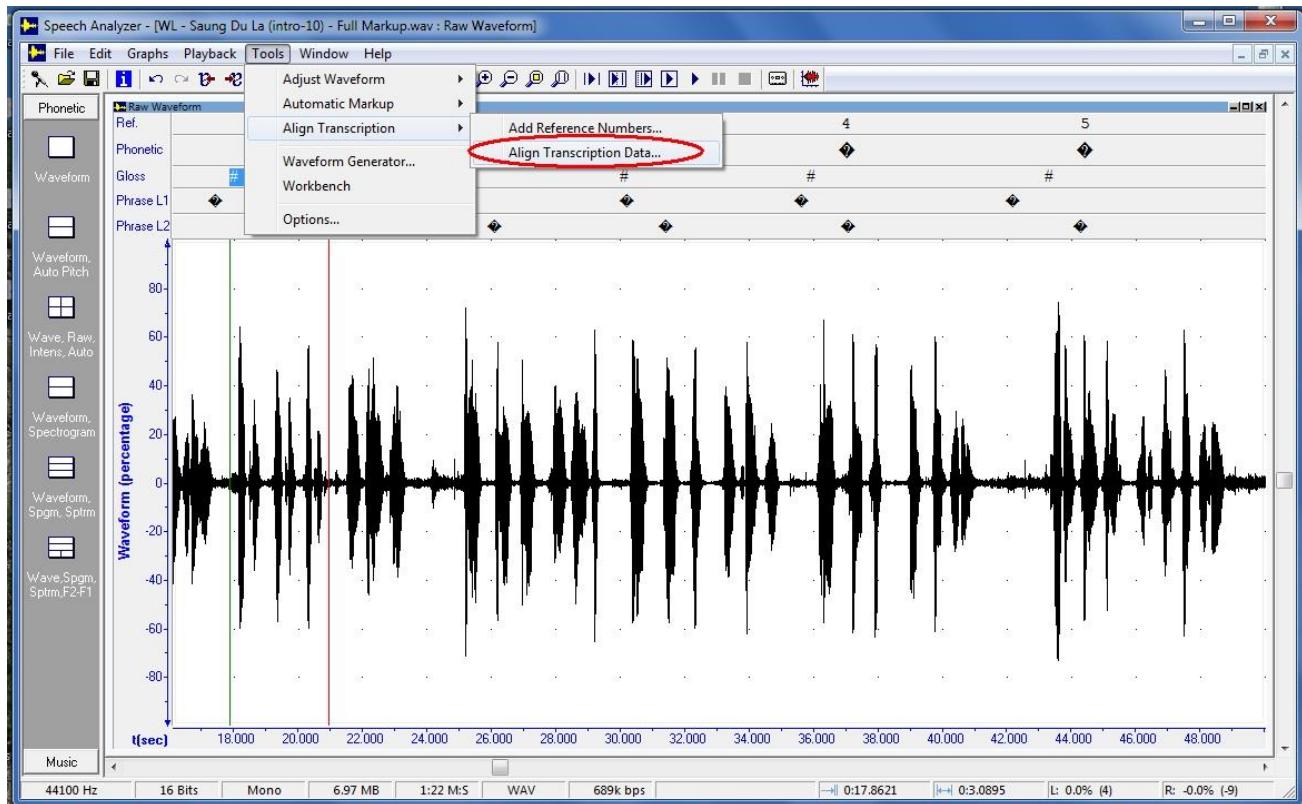
If this data happens to be in an Excel spreadsheet, or MS Word, copy and paste that data into Notepad which will automatically tab delimit the data. Then add the SFM markers in a header area above the data.

\ref	\ph	\or	\gl
1	tʰó:ŋ fá:	ທ້ອງຝາ	sky
2	duaŋ ?a:tʰít	ດວງອາທິຕົ່ງ	sun
3	duaŋ t̪can	ດວງຈັນທົງ	moon
4	duaŋ da:w	ດວງດາວ	star
5	mê:k	ເມີກ	cloud

At this stage of Transcription editing, only the Reference Numbers will be shown.

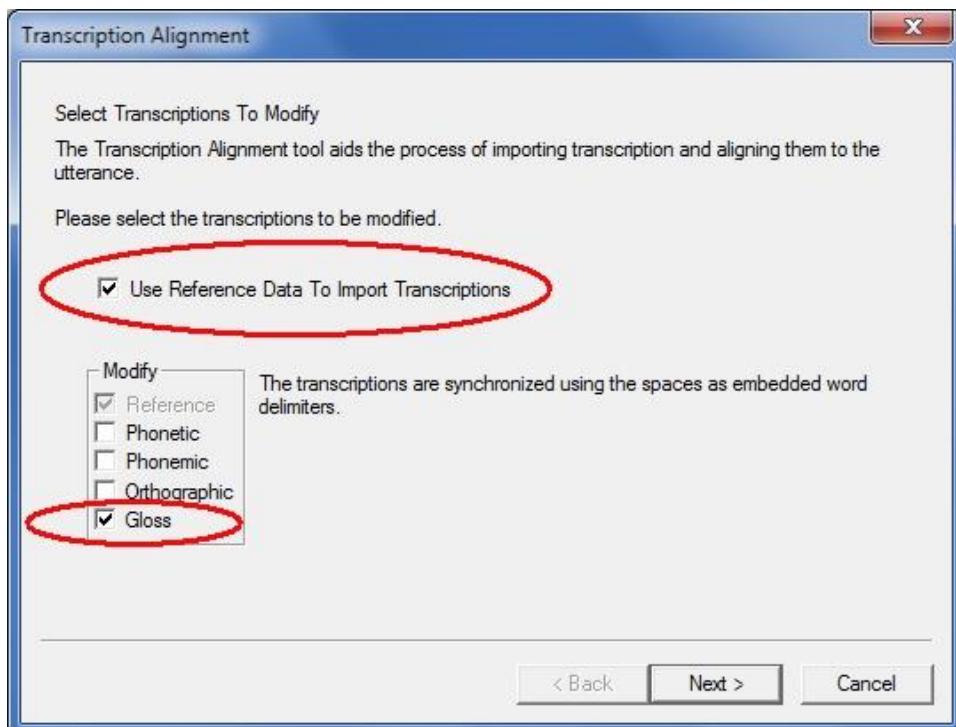
It is common for words to be out of order, or for whole pages to have been skipped when making the recording. Confirm that all Reference Numbers are correctly positioned.

Then select Tools/ Align Transcription/ Align Transcription Data.



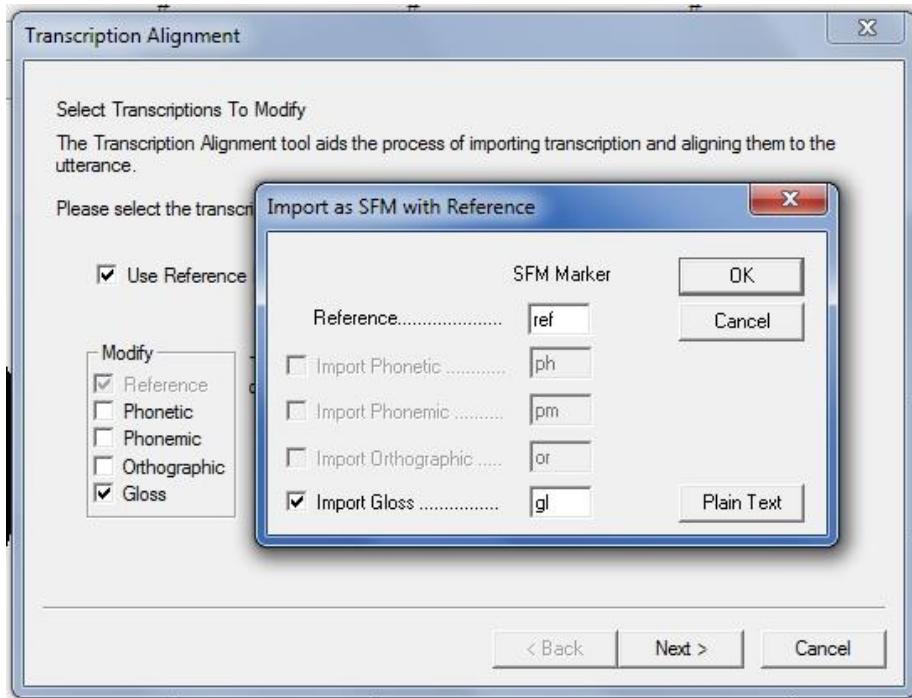
Select the item “Use Reference Data to Import Transcriptions” and also select “Gloss”.

Note: select “Phonetic” or “Orthographic” if those columns have data.



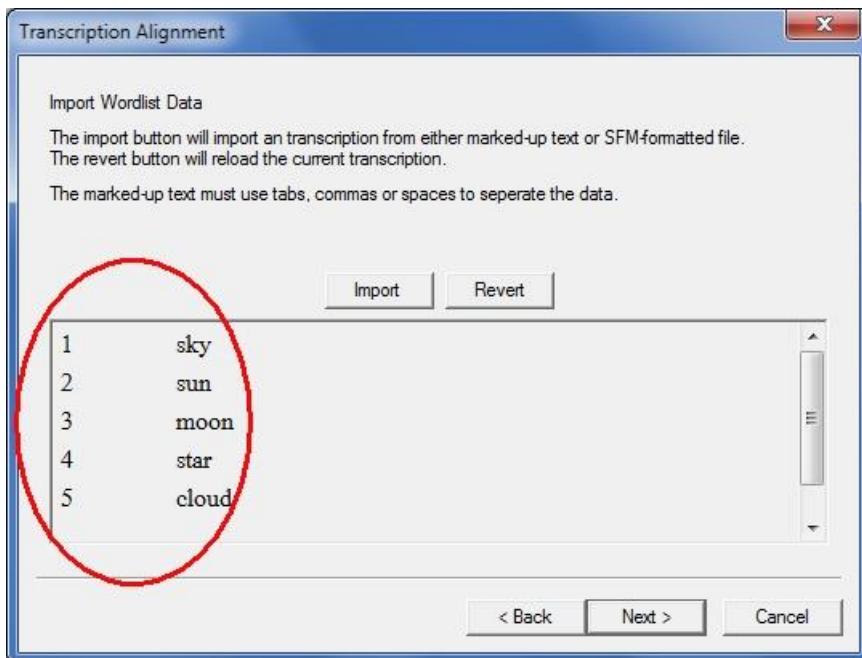
Press the Next button, and ...

a small dialog box shows up confirming the SFM Markers that you want to use:



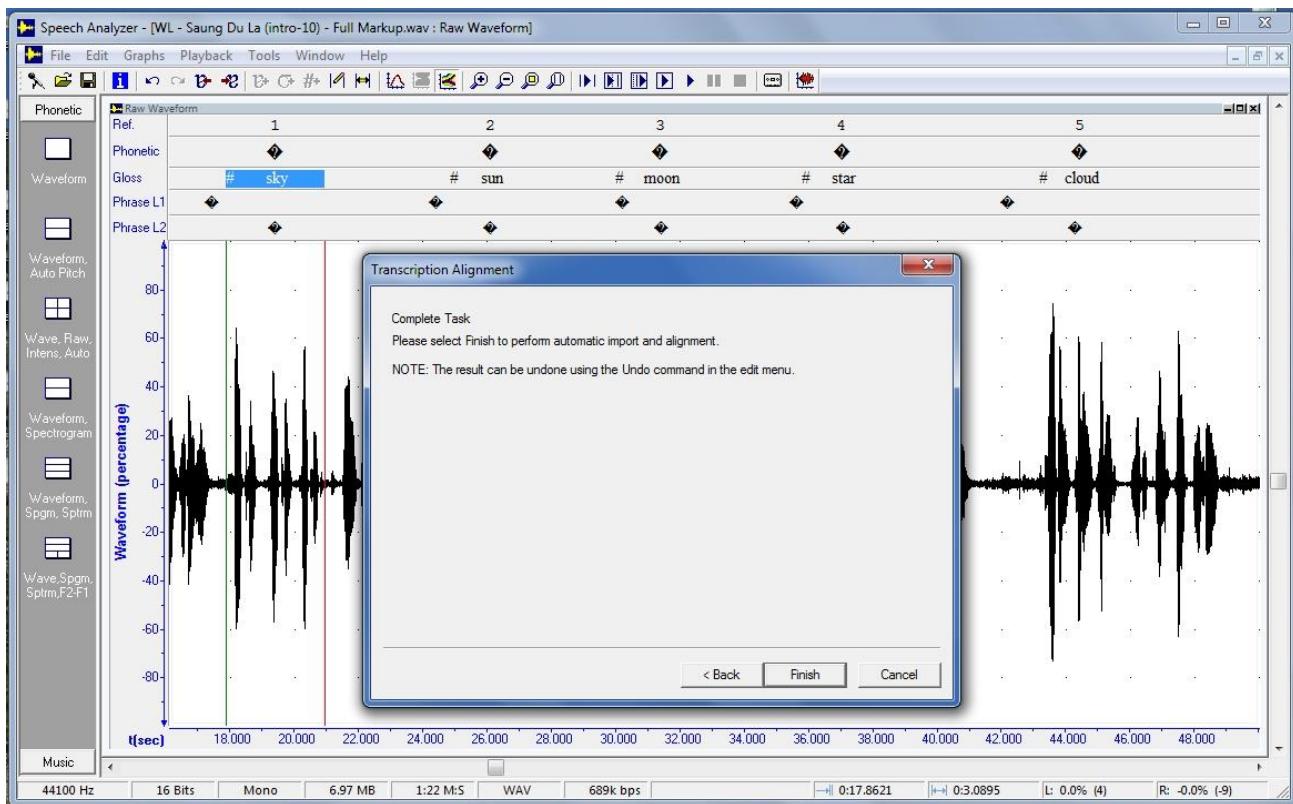
Click OK and Confirm that the Reference Number and Gloss data is correct.

Then press the Next button.



Now confirm the results are correct, or use the Back key to revise the Import options.

Then press the Next button.



If things look in the Transcription fields, then press the Finish button. If not press the Back button.

The reason for the two step process of “Add Reference Numbers”, and then “Add Transcription Data” is that it is common in actual field recordings that some Words are skipped, for example there is no village word for that specific item, or a set of Words are spoken accidentally so then there are two examples of that Word, or maybe it was not the Word you wanted, or sometime an entire page of Words is accidentally skipped. Thus it's necessary for the User to correctly enter the Reference Numbers so that the Words will be aligned correctly in the recording. However it is not necessary to keep Reference Numbers in a strict sequential order since the “Add Transcription Data” process matches its data to the correct number. Thus the Wordlist numbers can be in random order or one number can occur multiple times. The correct Gloss will be assigned to the correct number.

Note: Although SA considers the Reference Number to be like text, that is a “string” of numbers and letters, Fieldworks does not allow Reference Numbers to have letters.

Thus all Reference Numbers must be converted by hand to numbers which do not have letters.

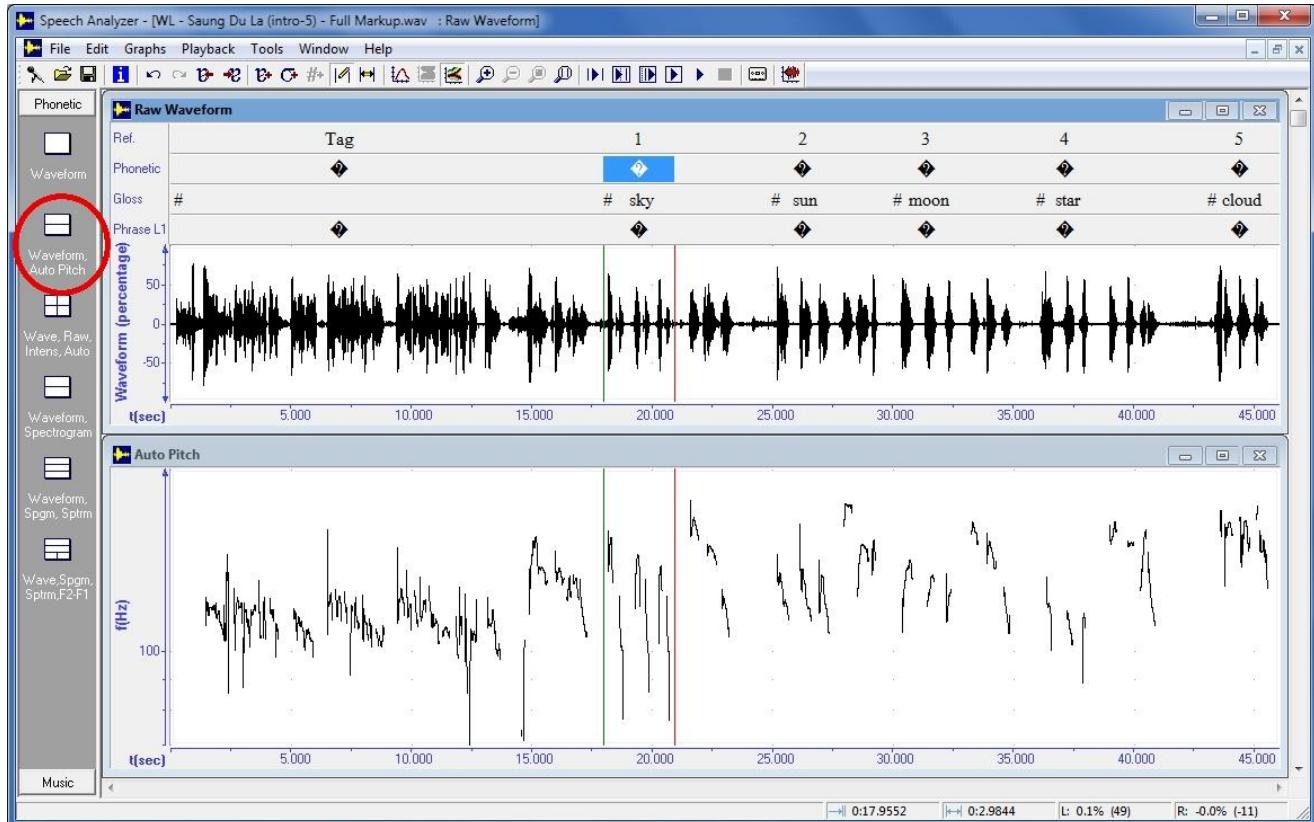
For example change “a” to “.1” and “b” to “.2”:

Wordlist format	FieldWorks format
402a when (past)	402.1 when (past)
402b when (future)	402.2 when (future)

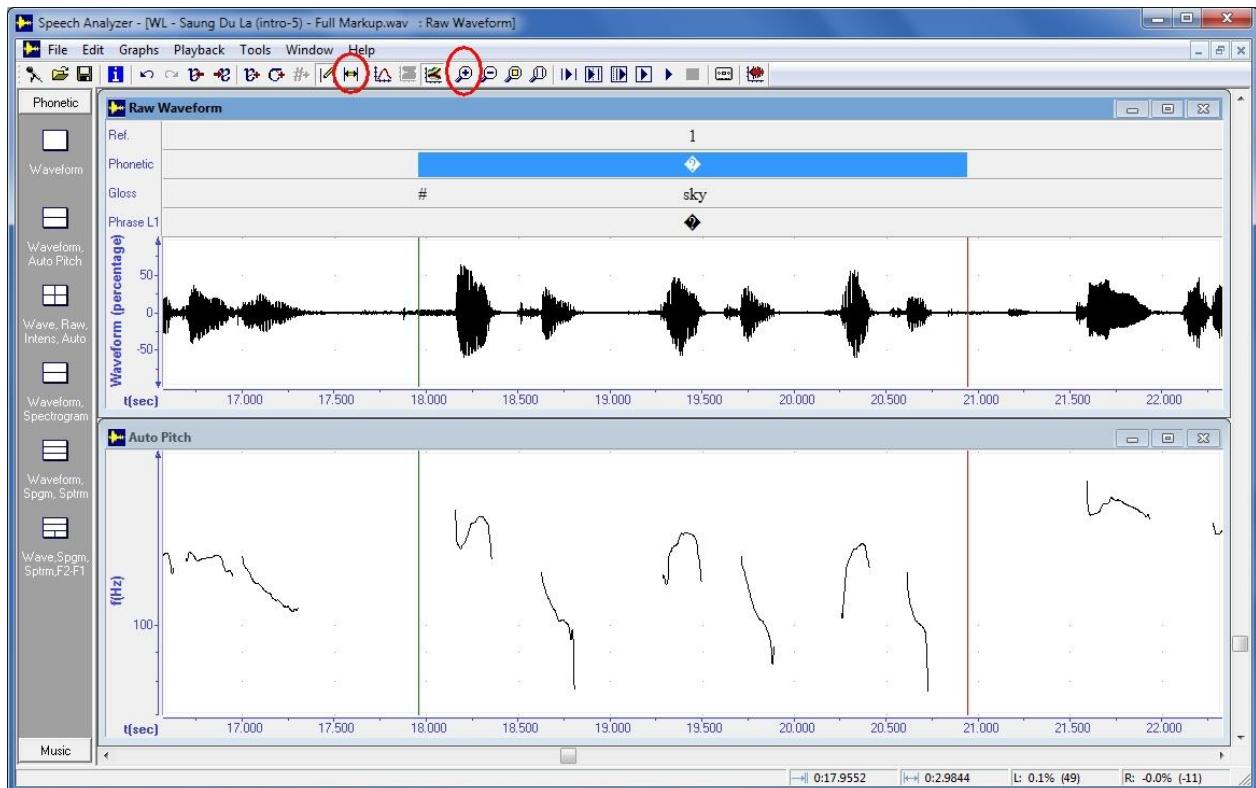
Entering Phonetic Data

Press the “Waveform, Auto Pitch” button. Then select the Phonetic transcription field of the first Word.

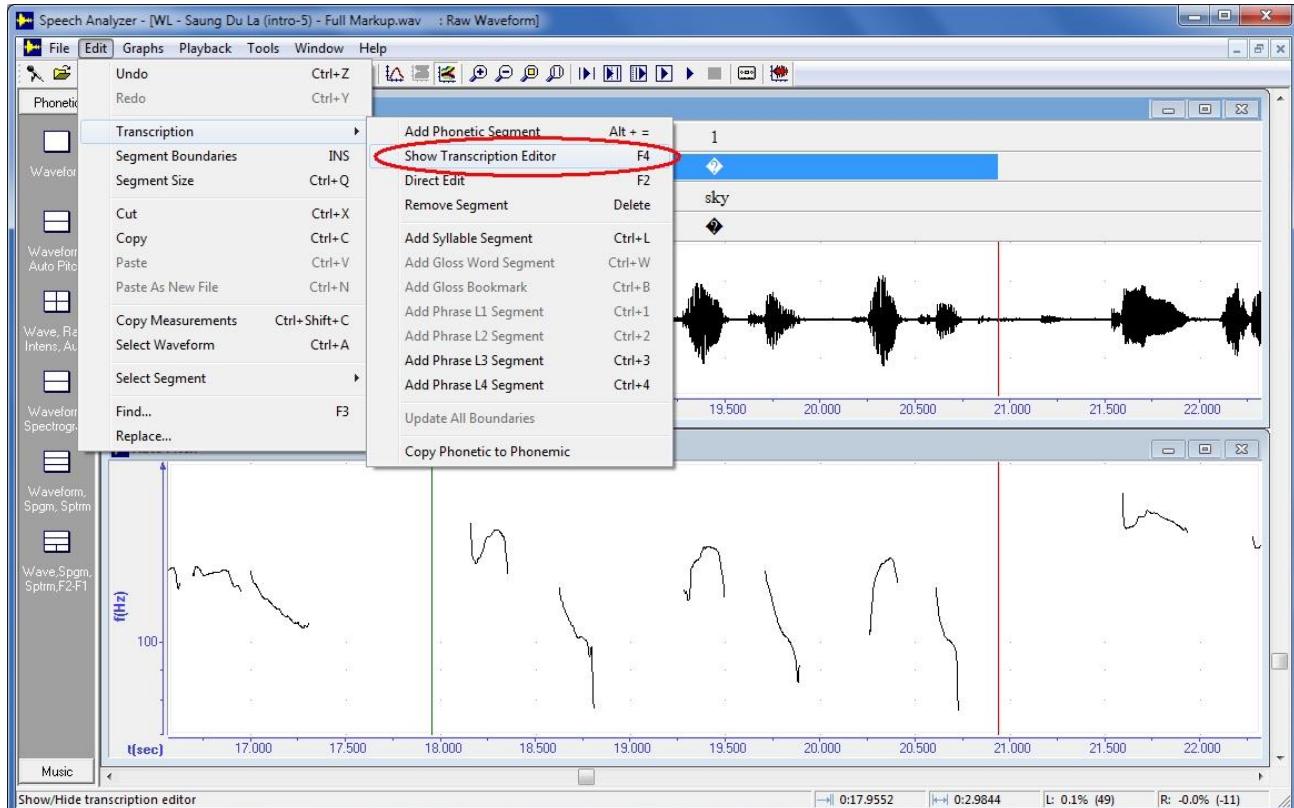
Note: If the Add Transcription Data also included Phonetic data, the following steps are still needed so that the best one of the three LRP’s utterances can be associated with the Phonetic transcription.



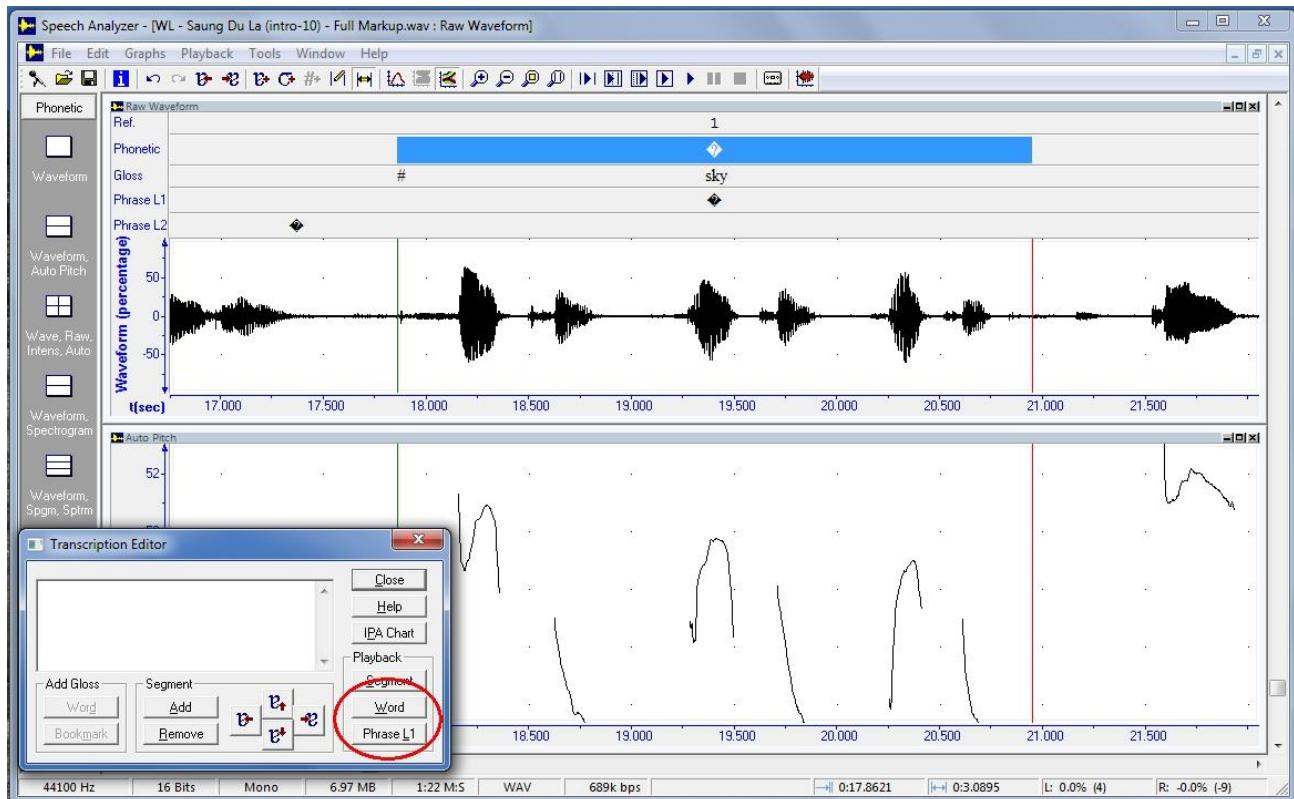
Next press the “Zoom Step In” icon three times, or so and then press the “Edit Segment Size” icon.



Then select Edit/ Transcription/ Show Transcription Editor, or just press the F4 button on the keyboard.



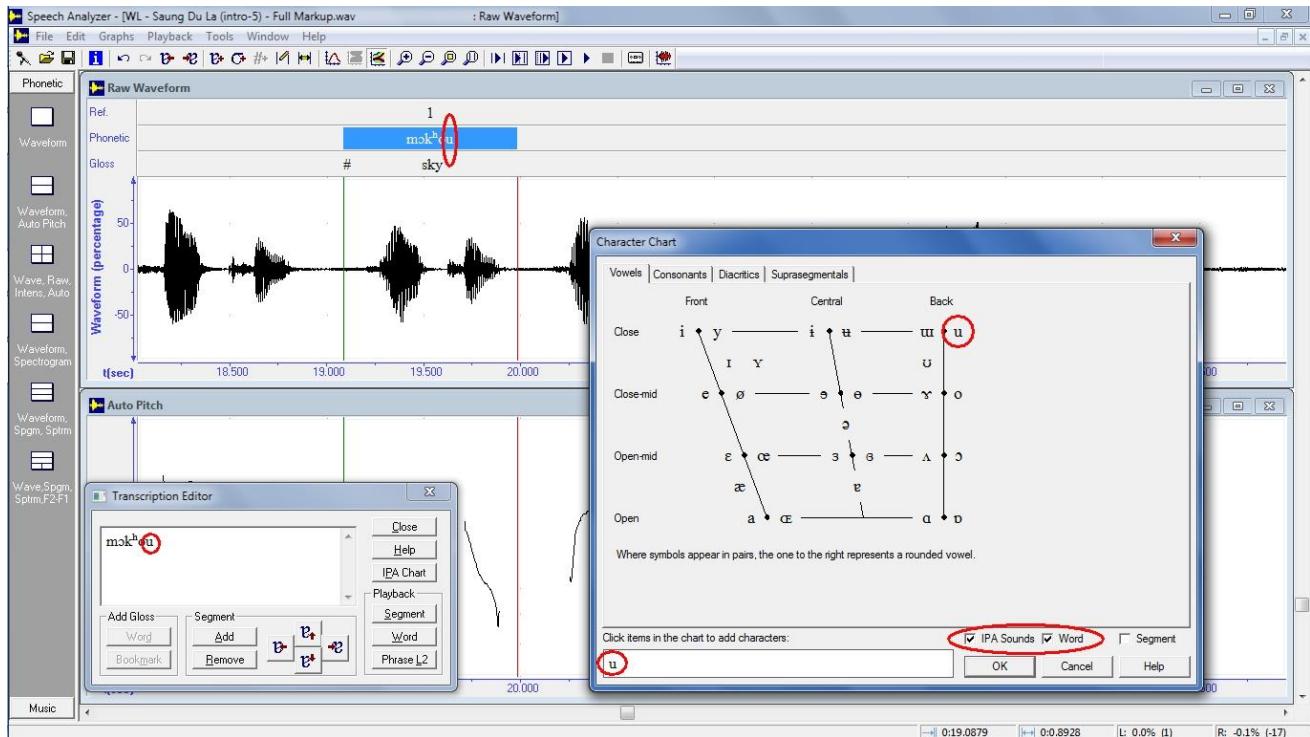
First press the “Word” button and then the “Phrase Level 1” button to hear the audio.



Note: In the beginning, the Word and Phrase playback are the same.

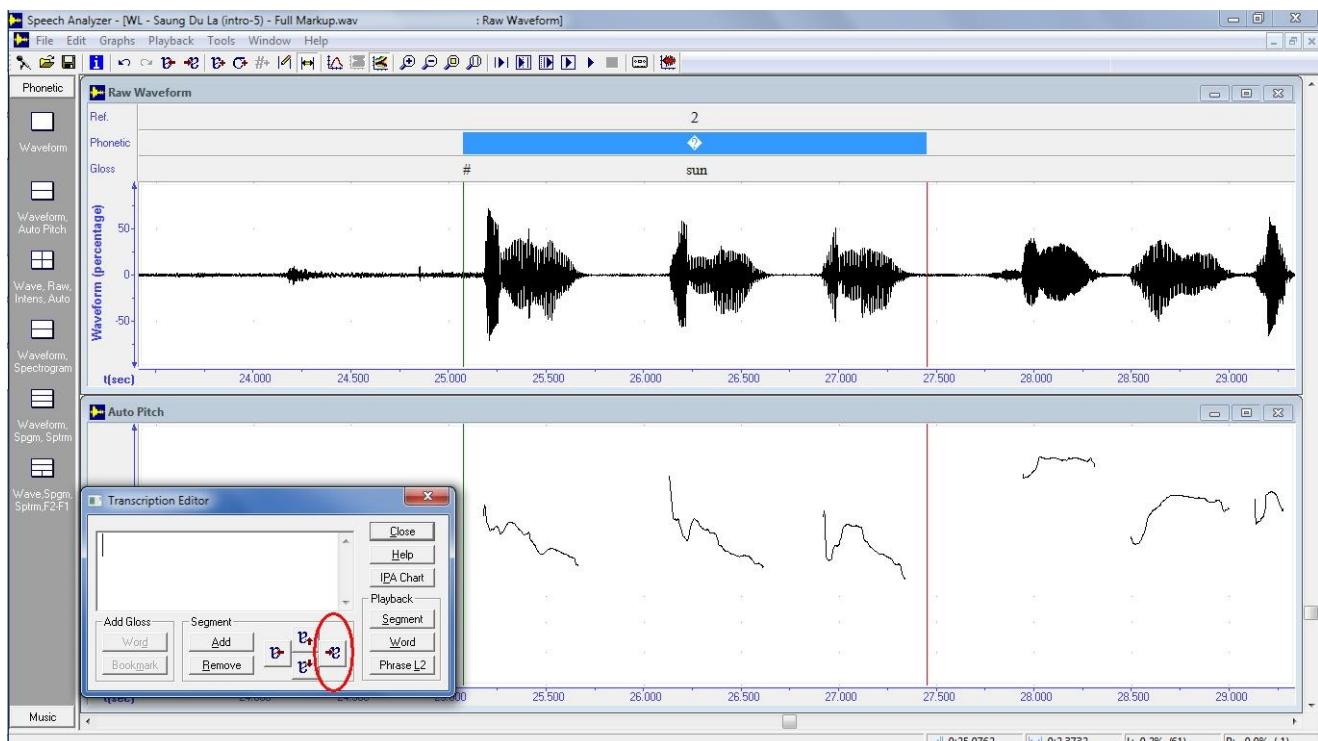
Now decide which one of the three words sounds better than the other two. Then move the Begin and End cursors so that this one Word is between the cursors. Again press the Word button to hear that single selection and the Phrase L1 button to hear all 3 Words. **Note:** Do not close the Transcription Editor.

Next enter the IPA characters in the Transcription Editor which represent the sounds in this Word. Pressing the “IPA Chart” button, will display the symbols of the IPA. Moving the mouse pointer over an IPA symbol will playback the sound of that symbol, if “Word” is also selected then the Word will also be played back. Clicking on a symbol will enter it into the Transcription Editor. This is useful for entering unfamiliar symbols.



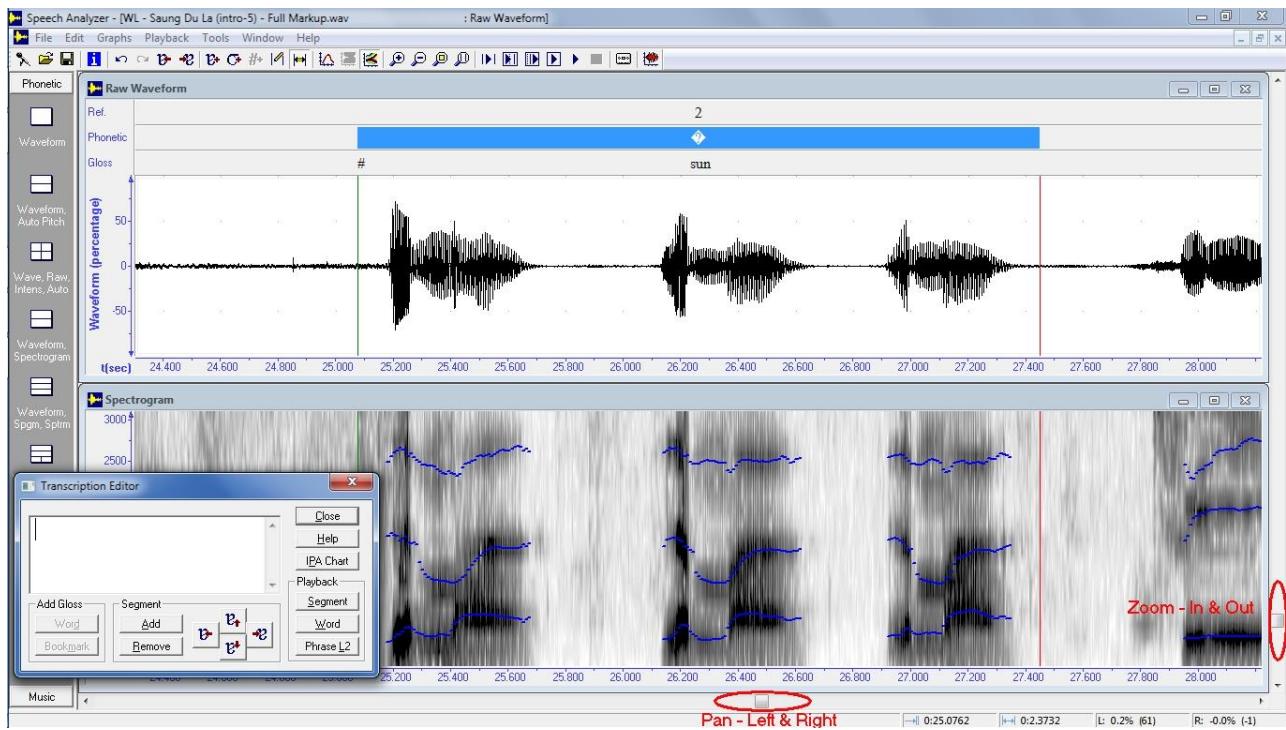
Note: The IPA sounds are available only if the SIL program “IPA Help” is installed on the computer.

When this Phonetic transcription is correct, then press the “Next Segment” button in the Transcription Editor to move to the next set of three LPR words.

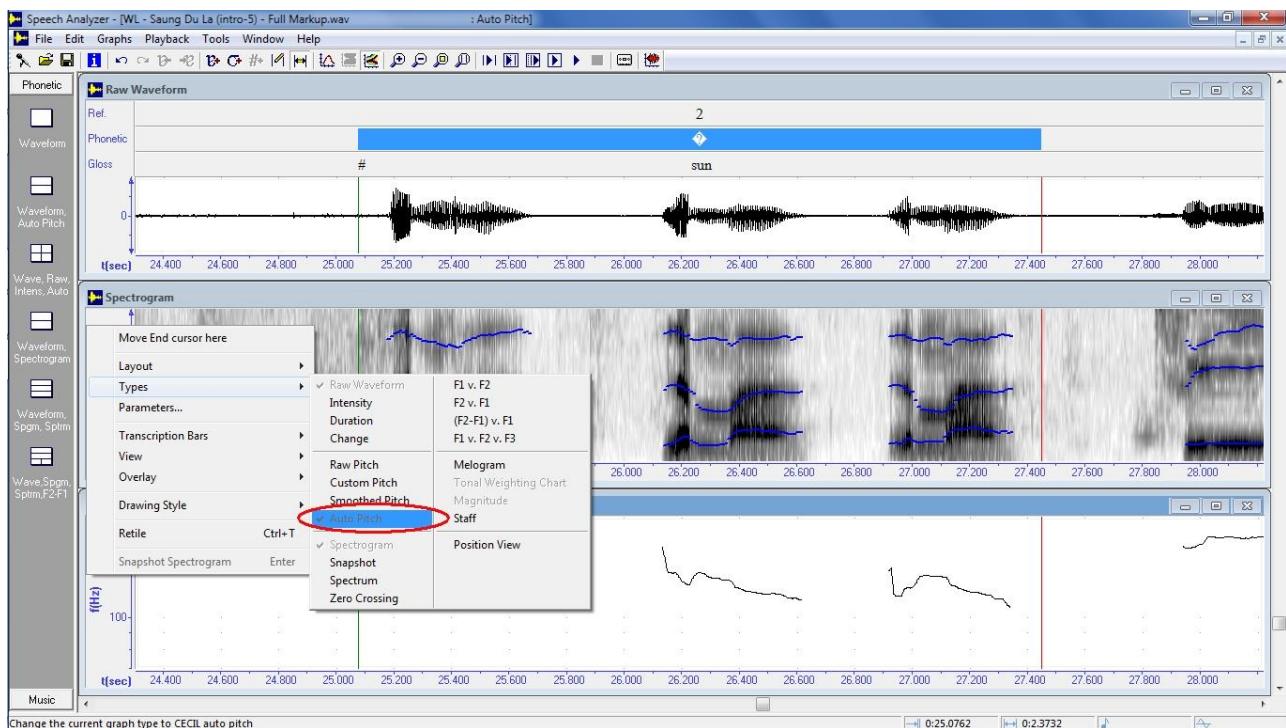


For Advanced Users Only:

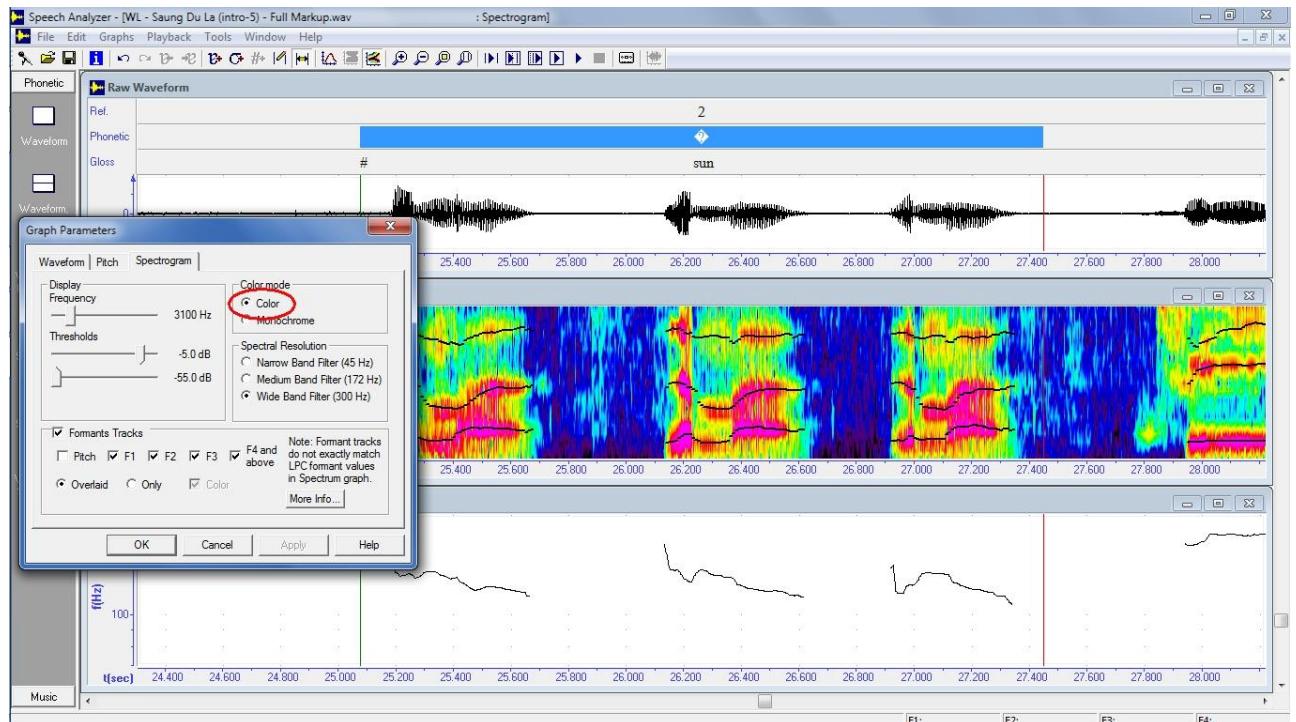
A spectrogram can also be shown by selecting the “Waveform, Spectrogram” button on the Task Bar. Using the Pan scroll bar and Zoom scroll bar can be helpful in positioning the Waveform.



If the next button “Waveform, Spectrogram, Spectrum” is selected in the Task Bar, then doing a right mouse click in the Spectrum graph and selecting Types/ Auto Pitch, will result in this view.

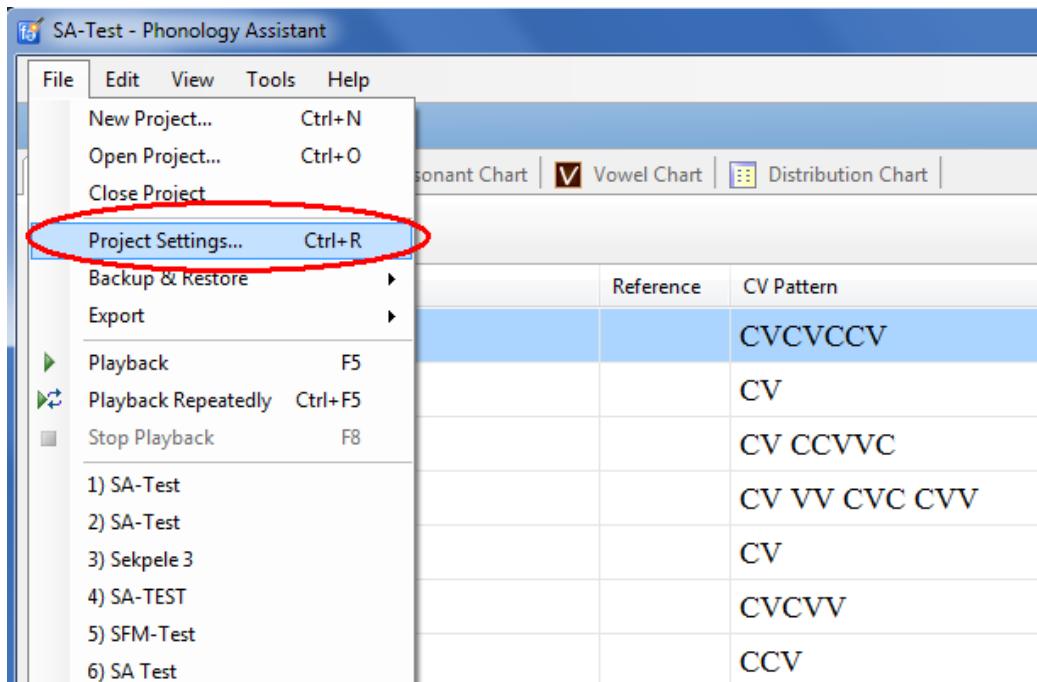


Sometimes adding color to the Spectrogram will make it easier to see the energy in the Formants tracks. Either select Graph/ Parameters, or do a Right-mouse click in the Spectrogram and select Parameters.

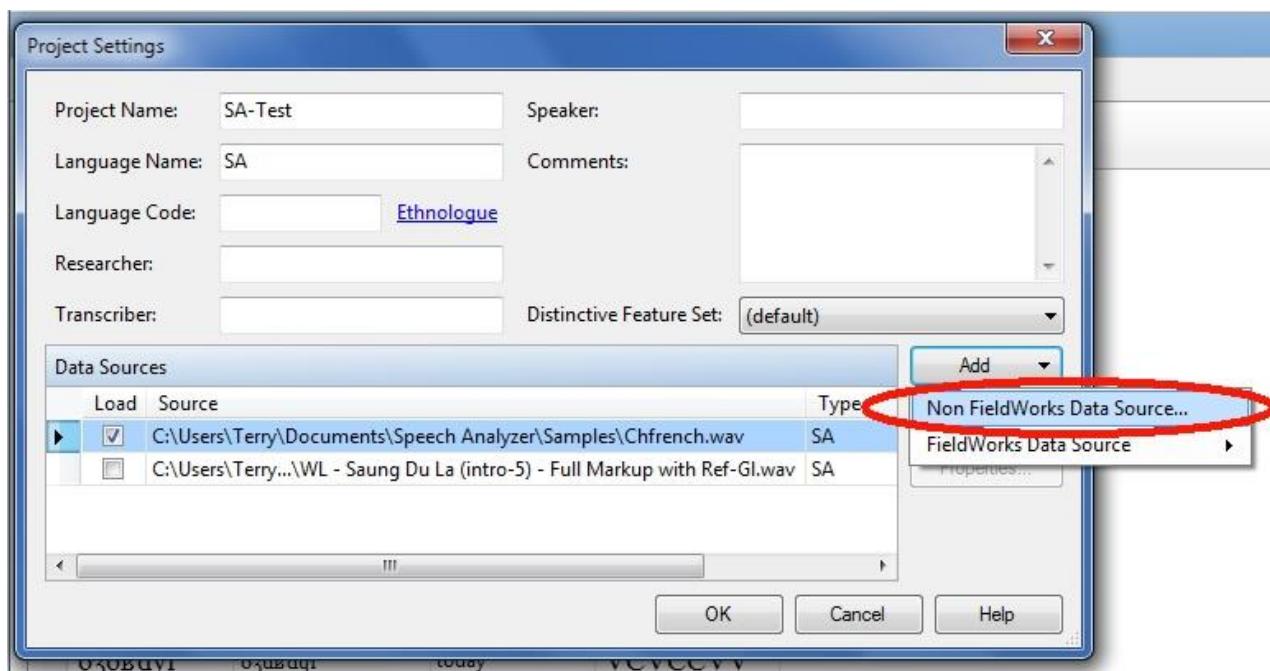


Using Phonology Assistant

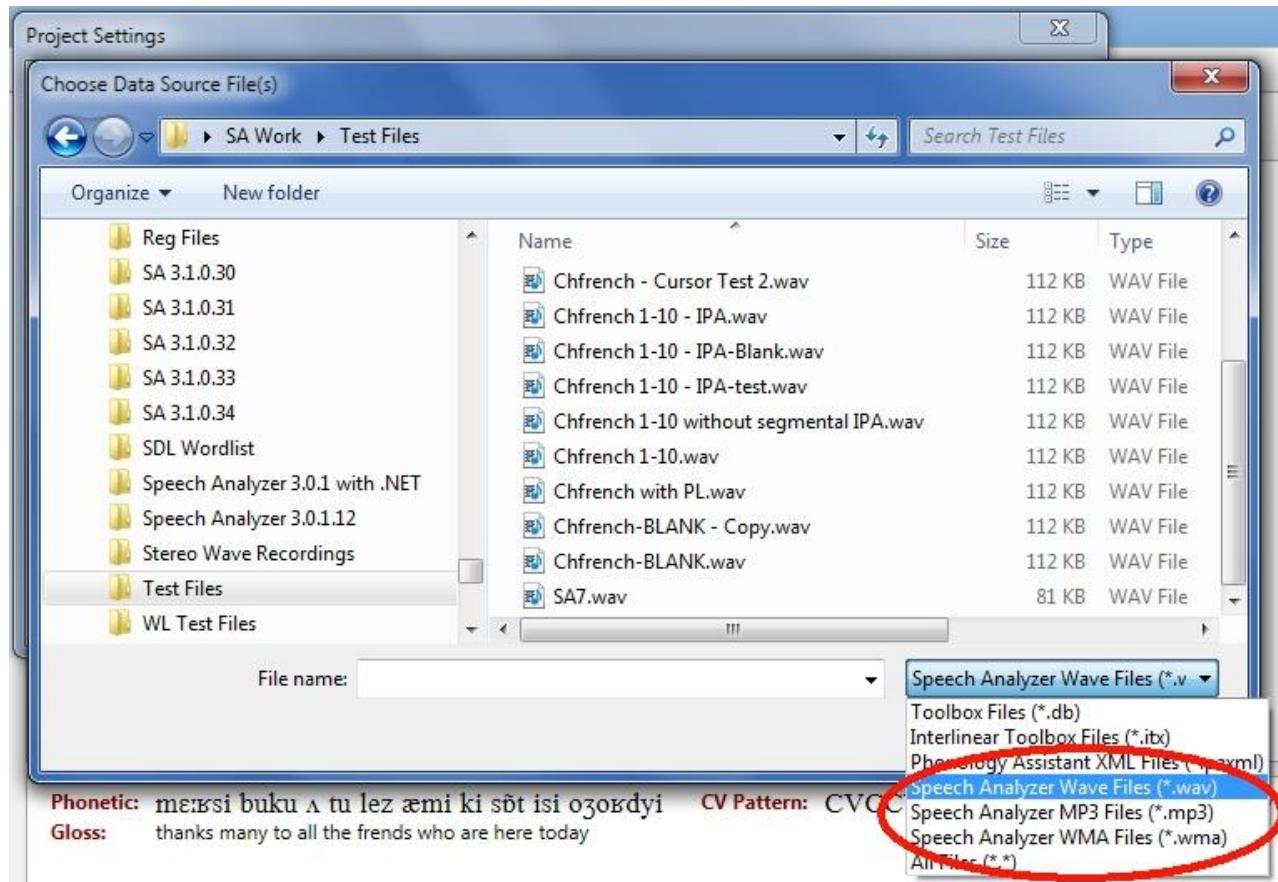
Close the Speech Analyzer program and then run the Phonology Assistant program.
Then select File/ Project Settings



Select Add/ Non FieldWorks Data Source:



Select Speech Analyzer Wav File or files that you want to use for Phonological analysis.



Click the OK button.

Phonology Assistant will then open the SA XML data file that is associated with respective .wav file.

The screenshot shows the Phonology Assistant interface with the 'Data Corpus' tab selected. The main area is a table with columns 'Phonetic', 'Gloss', and 'CV Pattern'. The rows contain the following data:

Phonetic	Gloss	CV Pattern
buku	many	CVCV
me:ksi	thanks	CVCCV
tu	all	CV
sõt	are	CVC
lez	the	CVC
ki	who	CV
isi	here	VCV
æmi	frends	VCV
oʒoʒdyi	today	VCVCCVV
Λ	to	V

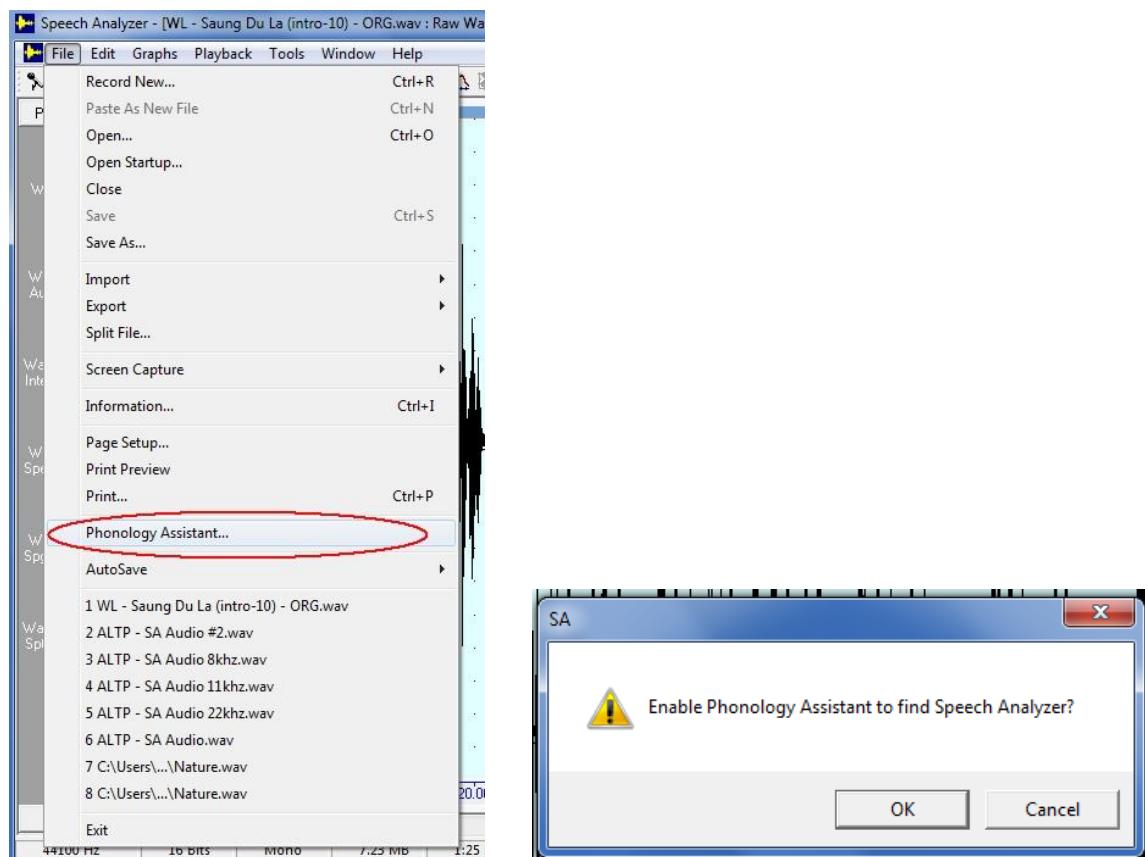
A right mouse click on the Phonetic word allows editing of the Phonetic data in Speech Analyzer.

The screenshot shows a table titled "Data Corpus" with columns: Phonetic, Phonemic, Gloss, and CV Pattern. A context menu is open over the entry for "buku". The menu items are: Playback (F5), Stop Playback (F8), and Edit Source Record (Shift+F2). The "Edit Source Record" option is highlighted with a red oval.

Phonetic	Phonemic	Gloss	CV Pattern
buku	boku	many	CVCV
mə:s			CVCCV
tə			CV
sət	sət	are	CVC
lez	lez	the	CVC
ki	ki	who	CV
isi	isi	here	VCV
æmi	ami	frends	VCV
օզօբդի	օզաբդի	today	VCVCCVV
Λ	ə	to	V

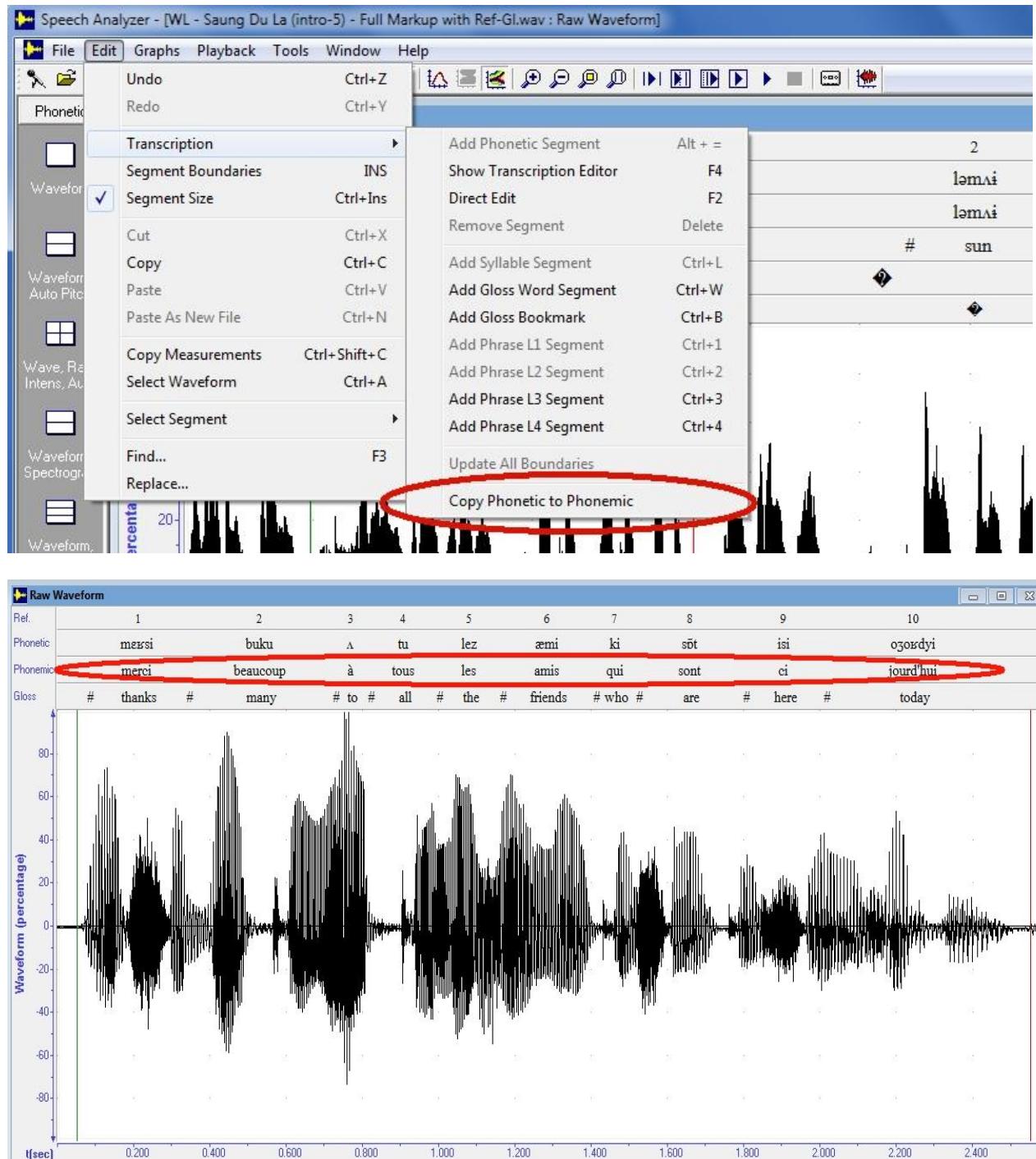
In some cases Phonology Assistant will put up an error dialog box saying it cannot find Speech Analyzer.

If this happens, close Phonology Assistant, and run Speech Analyzer, Open any file and select the main menu item File\ Phonology Assistant... then click OK in the dialog box.



If an Error dialog box is shown, then Speech Nanlyzer needs to be run in Administrator mode. That is do a right mouse click on the program icon or the shortcut icon and select "Run as Administrator".

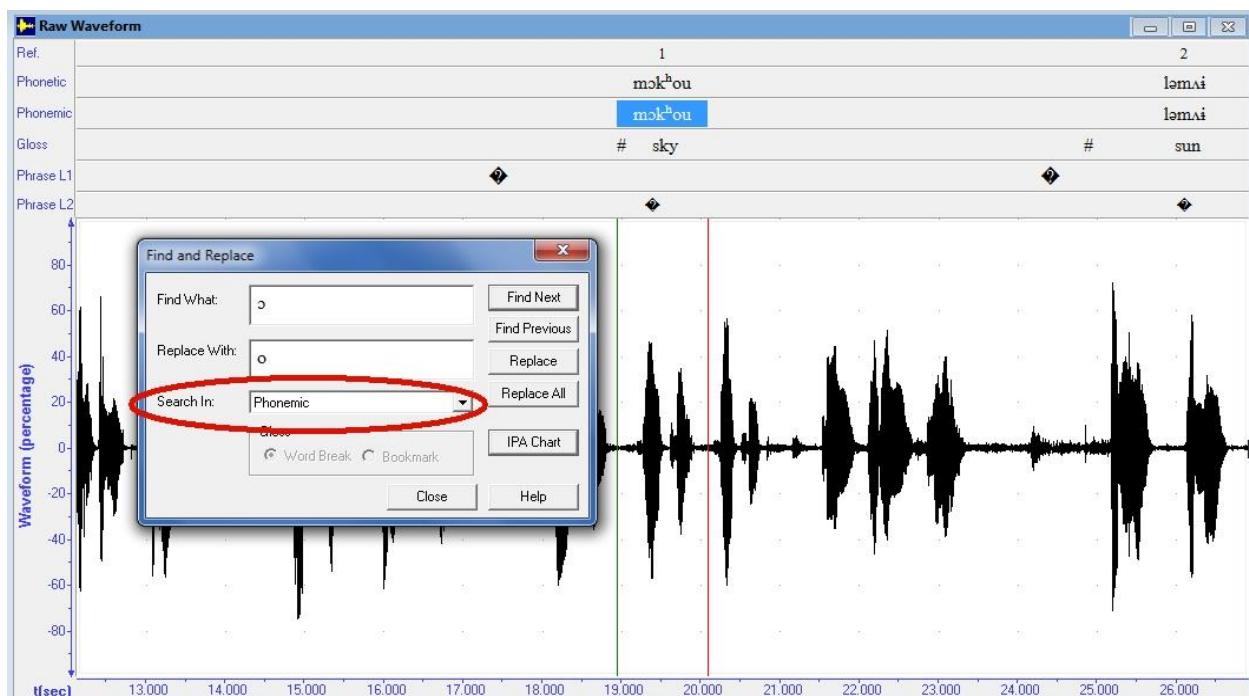
When Phonemic analysis is completed, then use "Copy Phonetic to Phonemic" in Speech Analyzer to begin work on the Phonemic transcription field.



This will result in the Phonemic field being shown in Phonology Assistant.

Phonetic	Phonemic	Gloss	CV Pattern
mɔkʰou	mɔkʰou	sky	CVCVV
sʰa	sʰa	star	CV
la	la	moon	CV
ləməɪ	ləməɪ	sun	CVCVV
ʃiou	ʃiou	cloud	CVVV

The Phonemic transcription can be revised in Speech Analyzer based on the analysis that was done in Phonology Assistant.

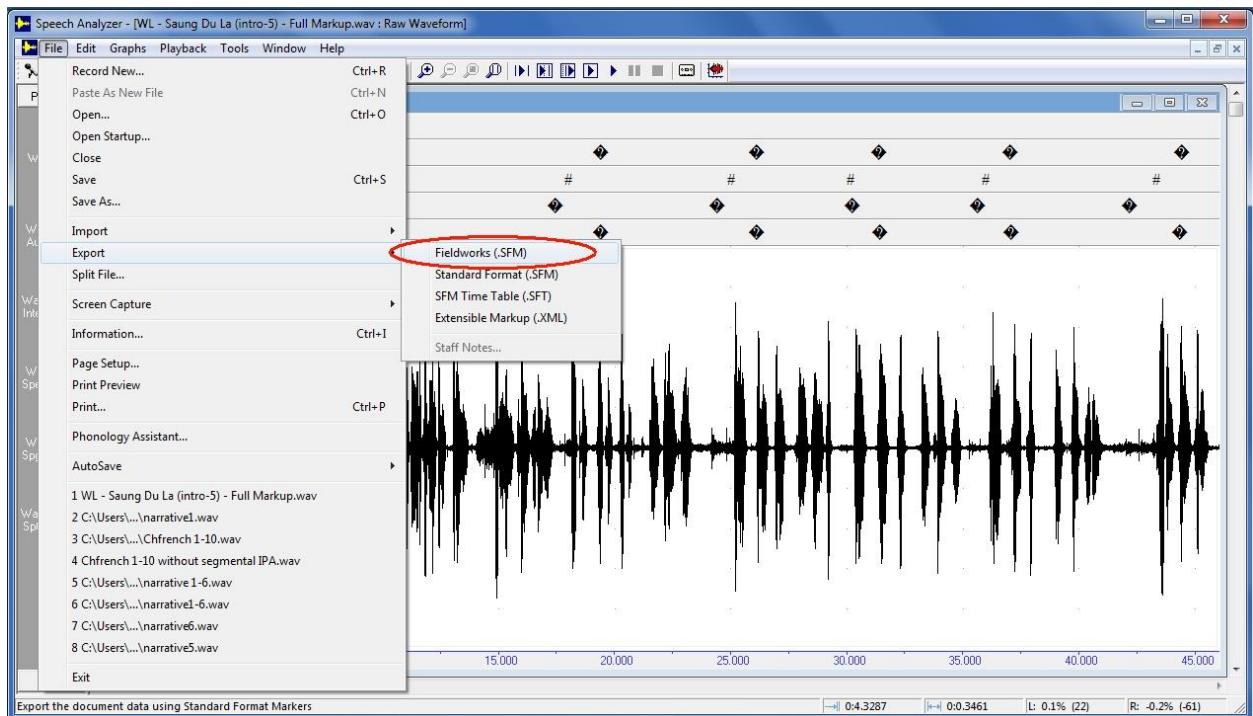


When Phonemic analysis is finished, then close the Phonology Assistant program.

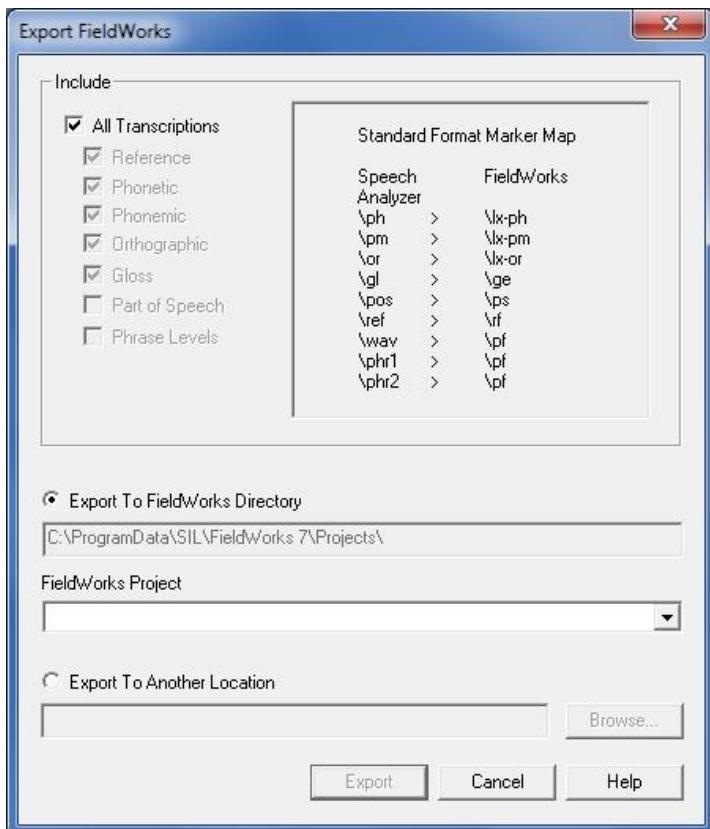
Exporting Data to FieldWorks

Open the recording in Speech Analyzer and then select the “File/ Export/ FieldWorks (SFM)” feature which is designed to help users move their transcription data and audio recordings into the Lexicon of the SIL FieldWorks program.

Note: The User will need to first setup their FieldWorks project and set the appropriate Writing Systems for their lexical analysis work.



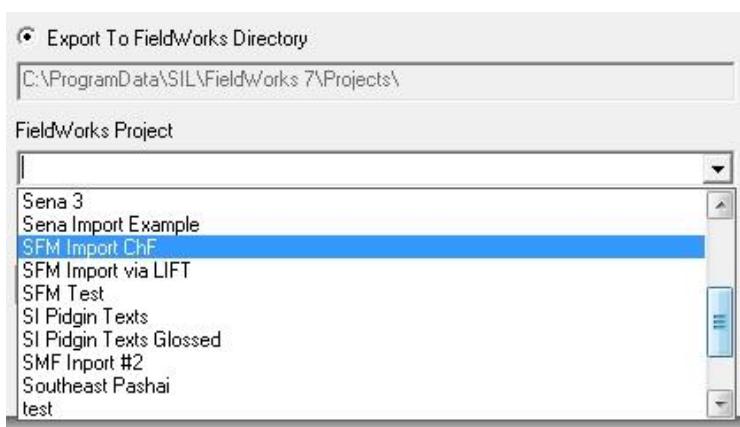
In Speech Analyzer the following dialog box shows the internal SFM markers that Speech Analyzer assigns to the transcription data, and the equivalent SFM markers that are used inside FieldWorks.



Speech Analyzer will use the Fieldworks specific SFM markers during the export process. The user can Export “All Transcription” or change the selection based on their needs.

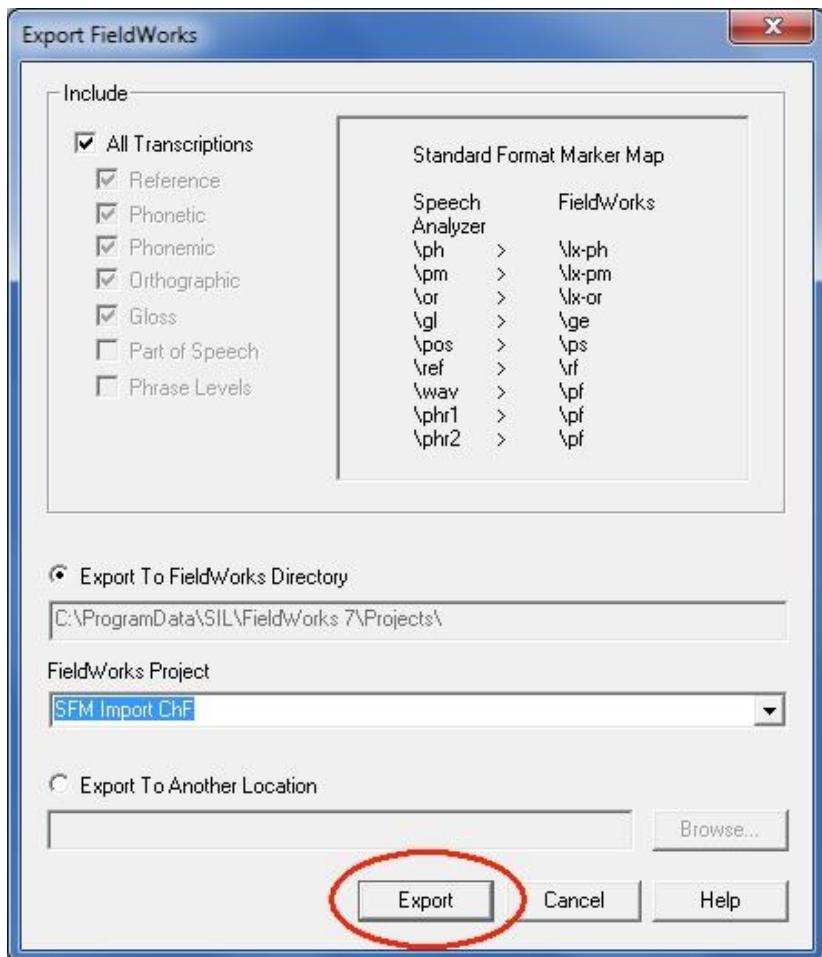
The location of the installed FieldWorks program is automatically located by Speech Analyzer and shown in the “Export to FieldWorks Directory”.

Then the FieldWorks Project drop-down locates current FieldWorks Projects on the computer and allows the user to select the specific Project that will be used for the Export process from Speech Analyzer.

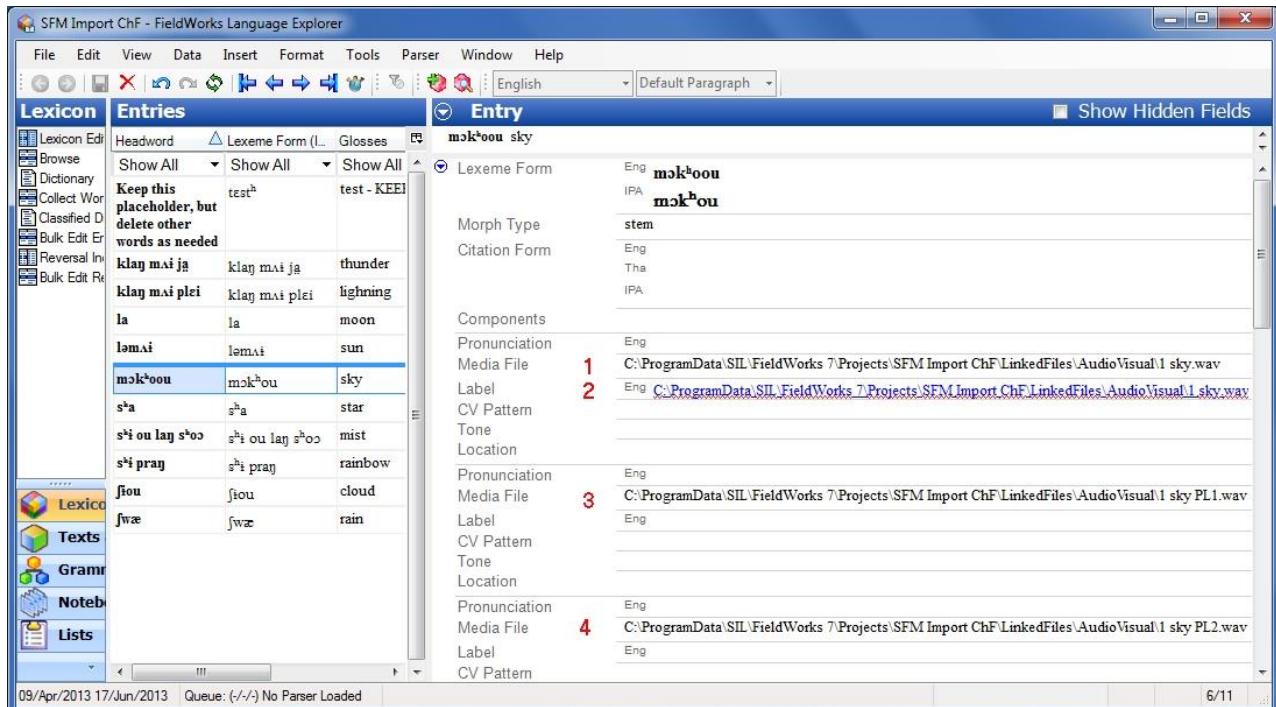


When the user presses the “Export” button, then each Word in the Wordlist is saved as single small .wav file along with its transcription data. If Phrase 1 and Phrase Level 2 are marked for Export, then they are saved as separate .wav files. All of these audio files are put in the AudioVideo folder of the users selected FieldWorks Project.

Then a single SFM file is put in the FieldWorks Project folder so it can Imported in to the Lexicon.



Here is an example of the results of an Import into FieldWorks using the first 5 words in a Wordlist.



I've added the **red numbers 1-4** in the FieldWorks screen shot to explain the following:

- 1: selecting this field will show an arrow that when pressed will playback the audio of this lexical item.
- 2: selecting this hyperlink field will run Speech Analyzer and show the item and the original transcription.
- 3: selecting this field will show an arrow that when pressed will playback only what the LPR said, thus allowing the user to know what the original choices were for this word.
- 4: selecting this field will show an arrow that when pressed will playback the entire event of what both the Researcher said that what the LPR said, thus documenting the entire event within the Lexicon.

History of Speech Tools Development

1984	PHASE – PHonetic Analysis and Speech Emulation – CP/M OS – 1 st design of hardware and software
1986	PHASE – IBM DOS - IBM PC hardware and C software version developed
1988	PHASE – Audio circuitry and software redesign work begins in England
1989	PHASE – British audio circuitry and CECIL software work transferred back to JAARS
1990 April	Audio circuitry redesigned at JAARS; called BlueBox. Used parallel printer port for I/O
1990 May	Computerized Extraction of Components of Inflection of Linguistics (CECIL) software
1991 July	Acoustic Speech Analysis Project (ASAP) started - the work on a CECIL replacement begins
1995 Nov	ASAP Blue book (Draft) - Speech Analysis, Speech Recognition and Speech Synthesis
1997 Dec	IPA Help 1.0 phonetics training program released
1998 June	Speech Analyzer 1.0 waveform analysis program released - replaces BlueBox and CECIL
1999 June	Speech Manager 1.0 database program released
2000 May	Speech Manager 1.5 database program released
2001 May	Speech Analyzer 1.5 released
2001 Jane	Speech Analyzer 2.0 (32-bit version) completed
2002 Apr	Speech Analyzer 2.5 released
2002 Apr	IPA Help 2.0 completed
2002 May	Speech Manager 2.0 completed
2002 June	Speech Tools 2.0 package for Word and Deed CD
2002 Oct	Speech Manager 2.0 renamed to Phonology Assistant 2.0
2003 July	Phonology Assistant 2.1 (a complete redesign of Speech Manager begins)
2005 May	Phonology Assistant 2.2 released (at last a good working version)
2005 June	Speech Analyzer 2.7 released (final release for Win XP)
2006 Nov	Speech Analyzer 3.0 released
2007 Dec	Speech Analyzer 3.0.1 released (bug fix)
2008 June	IPA Help 2.1 released
2008 July	Phonology Assistant 3.0.1 released
2011 Oct	Speech Analyzer 3.0.1.1 MSEA Test version
2012 July	Speech Analyzer 3.1.0 released
2012 Sept	Speech Analyzer 3.1.0.1 MSEA Test version
2013 July	Speech Analyzer 3.1.0.60 Test version
2014 April	Phonology Assistant 3.4.6 released
2014 Oct	Speech Analyzer 3.1.0.101 Test version

New Features and Bug Fixes in Speech Analyzer

Summary of New Features

- Added an Export option for the LIFT format for Fieldworks
- Added Gloss National transcription field
- Added Show Transcription Boundaries - Use the new |B| button on the toolbar to show/ hide them.
- Added feature to Auto-Scroll the waveform to keep the Playback Cursor in view.
- Added support for opening an ELAN file.
- Added Alt-X feature to Markup a recording that is a Story.
- Added feature to save stereo files as mono using 'SaveAs'.
- Added support for converting UTF16 (BE&LE) transcription data to UTF-8.
- Added the feature of pressing the "Space Bar" to pause the audio playback of a file.
- Added new Help menu item called "What's New ?".
- Added new Export SFM formats of Columnar, and Multi-Record.
- Added feature to copy Phonetic Transcription to Phonemic.
- Added feature to Insert Silence beginning at the Start cursor.
- Enabled Mouse Wheel to zoom audio Waveform.
- Added Select Waveform menu item.
- Enabled Keyboard editing of transcription boundaries using Ctrl+Alt and Shift+Alt and the arrow keys.
- Added support for opening Stereo files.
- Added an AutoSave feature that save the Transcription data once each minute.
- Add Alt+Z sequence to add ref, phonetic, gloss, PL1 and PL2 segments
- Added an Export option for FieldWorks putting .wav files in AudioVisual folder and data in an SFM file.
- Only one copy of SA can now be run at one time.
- Added a Split-File feature that automatically saves multiple sections of the recording.
- Added an Add Reference Numbers feature to quickly label an existing Markup.
- Added an Align Transcription feature that read a Wordlist file and aligns that data with a the Markup.
- Revised Auto Locate Phonetic Segments, Auto Locate Words, and Auto Locate Phrases.

Details of work done in Speech Analyzer

SA - 3.1.0.101 10/20/2014

- 1) Fixed two bugs related to refreshing annotations.
- 2) Fixed 'gloss national' bugs in 'export SFM'

SA - 3.1.0.100 10/14/2014

- 1) Removed POS data type.
- 2) Added Gloss Nat. transcription field.
- 3) Upgraded all C# dlls to use .NET 3.5

SA - 3.1.0.99 10/2/2014

- 1) Fixed bug in SFM export - column and multi-record mode - where adjoining segments that ended and started on the same data sample cause concatenation of the data.
- 2) For SFM Export dialog - added 'Select Export Type...' to dropdown box list.
- 3) Fixed Add-Ref bug. There were several bugs existing in this feature (eg. Insert text wasn't save, Inserting at end causes text to wrap. Inserting text with existing text injected errors in the new and old references numbers.
At this time, adding reference numbers will overwrite existing numbers.
- 4) Enabled split file support for stereo files.

SA - 3.1.0.98 9/24/2014

- 1) Fixed 'Show Boundaries' bug. Annotation windows that were hidden were not being updated with change-in-state of 'show-boundaries' flag.
- 2) Ref Bug#1 - Fixed problem where Reference fields were not added when new gloss segments were added. NOTE: Reference segments are not automatically added if the entire reference annotation line is empty.
- 3) Ref Bug#2 - Fixed problem where selecting graphs with mouse was not deselecting high-lighted reference fields.

SA - 3.1.0.97 9/15/2014

- 1) Fixed missing-gloss bug. When blank gloss field is saved to an SAXML file, it is not recreated when the file is reopened in SA.

SA - 3.1.0.96 9/10/2014

- 1) Added FLEX-Lift export feature.
- 2) Fixed gloss selection bug. Software was allowing gloss field to be edited before it was tagged as a word or bookmark.

SA - 3.1.0.95 7/27/2014

- 1) Updated 'show boundaries' toolbar bitmap and tooltip text.

SA - 3.1.0.94 7/27/2014

- 1) Tweaked "Insert Silence" feature to place stop cursor at beginning of wave data following the silence section.
- 2) Converted popup menu for displaying/hiding transcription bars into a popup dialog.
- 3) Modified operation of "graphs/view/segment boundaries" so that 'this graph', 'no graphs' and 'waveform only' follow what is displayed.

- 4) Added 'view boundaries' to transcription popup menu and moved location of 'show transcription editor'.
- 5) sorted 'file/export' menu to alphabetical order.

SA - 3.1.0.93 7/24/2014

- 1) Added capability to draw transcription boundaries

SA - 3.1.0.92 7/15/2014

- 1) Fixed bug that prevents user from exporting FW-SFM files if 'other' destination directory is selected.
- 2) Changed enabling and disabling of playback toolbar buttons so that the button that initiated the playback
is the only one enabled during a 'pause' of the record.
- 3) Enabled auto-scrolling for all playback modes except 'playback window'

SA - 3.1.0.91 4/8/2014

- 1) Install fixes for help files.

SA - 3.1.0.90 4/7/2014

- 1) Added Training and Samples subdirectories to install.
- 2) Updated text on first page of ELAN import dialog sequence.

SA - 3.1.0.90 4/05/2014

- 1) Included Help files in the Build.

SA - 3.1.0.89 3/31/2014

- 1) Added rudimentary ELAN support.

SA - 3.1.0.88 3/16/2014

- 1) After using Alt-Z or Alt-X, the software now automatically selects the PL1 segment that was just created.
- 2) Updated the player and the tool bar icons to show the new 'Play End Cursor->File End' feature added in 3.1.0.87
- 3) Fixed a GPF that was occurring with the new large word lists. The error occurred because the CObjectIStream class used a buffer with a fix size of 32,000 bytes, regardless of the incoming file size.
- 4) The 'Locate Word' feature now automatically clears the Ref, Phonemic, Tone and Ortho segments before processing
- 5) Import file now allows .Txt files as a default file type.
- 6) Fixed a 'Locate Words' bug that was causing a crash in some files. The crash is caused with the detected word to be created has a duration that is the exact same size of the segment being created, causing the segment end to be at the same location as the next segment start. This causes the next segment calculation to fail. The issue was resolved by 'pushing' the next segment ahead, if it's start overlaps the previous segments stop location.

SA - 3.1.0.87 3/6/2014

- 1) Added feature to automatic scroll wave form during playback - specifically when playing between the end cursor and the end of the file.
- 2) Modified menu wording.
- 3) Converted SA_ENU.dll to a 'resource only' DLL.

SA - 3.1.0.86 2/24/2014

- 1) Added Alt-X feature to be used for quickly marking up stories in a wave file.

SA - 3.1.0.85 2/19/2014

- 1) Added capability to save stereo files as mono audio files via the 'SaveAs' dialog box. The user has the option to select the left or right channel for saving.

SA - 3.1.0.84 1/20/2014

- 1) Fixed segment rendering problem that occurs when stereo audio files are used. The bug was introduced in 3.1.083.
- 2) Implemented partial change for stereo-to-mono conversion. The 'SaveAs' dialog has been modified. The conversion checks are in place, but the conversion function has been disabled.
- 3) Refactored the code that references the SaParm structure into a class. The code was modified to reduce the usage of the structure as much as possible.

SA - 3.1.0.83 1/8/2014

- 1) Added code to check for segments that are beyond the end of the audio data when the segments are loaded on a file-open. A message is displayed if bad segments are found. The bad segments are ignored.

SA - 3.1.0.82 1/7/2014

- 1) Fixed bug that was preventing automatic loading of transcription data after the user clicks 'next' on the first dialog of the Align-Transcription-Data feature.
- 2) Modified code to better support importing of SFM tags that aren't lower case.

SA - 3.1.0.81 1/6/2014

- 1) Added support for UTF16 (BE&LE) that are encountered during the import process. UTF32 files are disallowed. UTF16 files will cause a warning message to be displayed but the contents will be converted and imported.
- 2) Removed dependency on sfSettings.DLL. The code has been imported in the main SA project.
- 3) Updated application copyright dates.
- 4) Fixed build problem. C# projects (speechtoolsutils.dll, yeti.mmedia.dll, yeti.wmfsdk.dll and st_audio.dll) were not getting harvested. The binaries in the install were outdated from 9/2013.

SA - 3.1.0.80 11/27/2013 (Stereo Branch)

- 1) Added menu item for 'Auto Save' feature
- 2) Added checks, messages and conversion functions for UTF16 BE&LE files. The transcription alignment feature still does not support UTF16 files properly, but most other import functions now provide checks and conversions for UTF16. The code will not currently properly identify UTF-32. If the Unicode BOM is not provided at the beginning of the file, and the data contains characters > 0x7f, the file will be treated as UTF-8 without warning.
- 3) Fixed the crash that prevents the display of the Duration graph type.
- 4) Fixed 'SaveAs' menu item problem. SaveAs was disabled for stereo files for no apparent reason.

SA - 3.1.0.79 11/17/2013 (Stereo Branch)

- 1) Fixed find/replace bug that occurs when user changes 'find' value on initial selection. The subsequent search will fail to select a value if the 'find' value is a partial match within the currently selected string.
- 2) Fixed bug which prevented SA from finding the current FieldWorks project directory during an export. The code now recursively searches both the 32 and 64-bit registry hives for the 'ProjectsDir' value. FieldWorks names its registry keys according to version. The new code enumerates over this key. If SA is unable to find the key, it will attempt to use either the "ProgramData" default FW path on MS Vista and

above, or the "Application Data" path for XP. If that fails, a warning will be posted and the user will be allowed to select an alternate path.

3) Fixed a bug that prevented the 'Import SFM' feature from importing reference numbers in a SFM file.

SA - 3.1.0.78 11/03/2013 (Stereo Branch)

1) Fixes for interface with IPA Help.

1a) Modified the message:

'No resources found, exiting.'

to read

'Speech Analyzer was unable to locate or use SA_ENU.DLL or SA_LOC.DLL.\nIt will now exit.'

1c) There was a buffer length problem that was preventing the code from correctly parsing parameters received in the batch file. This resulted in the wrong graph types being displayed.

1d) NOTE!!!! IPA Help needs to be run with 'Windows XP SP3' compatibility mode under Windows 7 and later. If it is not,

a message will be displayed when Speech Analyzer is unable to locate the batch file.

The message is:

The file:

'C:\Program Files (x86)\Speech Tools\IPA-Help\IPA-Help.lst'

was specified on the command line, but it does not exist.

If you are using IPA Help on Windows 7 or later, please use the compatibility mode for Windows XP.
Speech Analyzer will now exit.

Without the compatibility mode set, the file will be put in:

C:\Users\yournamegoeshere\AppData\Local\VirtualStore\Program Files (x86)\Speech Tools\IPA-Help\ipa-help.lst by IPA Help.

SA - 3.1.0.77 10/28/2013 (Stereo Branch)

- 1) Fixed find/replace bug that occurs when phonetic/phonemic/orthographic segments contain more than one character.
- 2) Fixed cut/paste bug that occurs when pasting in phonetic/phonemic/orthographic segments that contain more than one character per segment.
- 3) Fixed screen capture bug that occurred because bmp2png.exe was missing from install, and because the input file path to bmp2png.exe was not valid.
- 4) Added 'space' accelerator to 'pause' menu item.

SA - 3.1.0.76 10/21/2013 (Stereo Branch)

- 1) Modified text on 'Insert Silence' dialog
- 2) Added 'What's New' menu item to Help menu.
- 3) Rearranged Tools menu.
- 4) Added ellipsis to menu items that needed them.
- 5) Renamed 'Select Waveform' menu items.
- 6) Changed 'Find...' key sequence to Ctrl-F (from F3)
- 7) Corrected text on startup menu.
- 8) Added 'Layout' and 'Types' to 'Graphs' main menu.
- 9) Removed extra space in export-sfm data files.

SA - 3.1.0.75 - 10/9/2013 (stereo branch)

- 1) Added capability to export columnar data in the Export SFM dialog box.

SA - 3.1.0.74 - 9/29/2013 (stereo branch)

- 1) Updated install application to include Microsoft VC++ 2008 Redistributables.
- 2) Fixed install application so that the C# dlls are registered at install time.

SA - 3.1.0.73 - 9/19/2013 (stereo branch)

- 1) Renamed links for help documents from *.doc to *.pdf.
- 2) Corrected scrolling problem in Find dialog box feature. The code was not properly setting the position parameter in the windows message, so all scrolling updates were effectively disabled.

SA - 3.1.0.72 - 9/17/2013 (stereo branch)

- 1) Update waveform selection feature so that the start/stop cursors are hidden during selection and redrawn when left mouse button is released. The start and stop cursors are placed at the edges of the highlight region when the selection is completed.
- 2) Modified code to avoid GPF when transcription data is imported but fields are missing.
- 3) Fixed crash that occurs during a PasteAsNew when more than one Phrase Level transcription is copied (more than one for one level).
- 4) Modified text on InsertSilence dialog box.

SA - 3.1.0.71 - 9/12/2013 (stereo branch)

- 1) Fixed GPF that occurs during transcription alignment if a field is selected that does not exist in the data. The software will now insert a '?' for fields that are missing in the data.
- 2) Fixed copy/paste alignment issues. There were several problems.
 - a) The software wasn't calculating the end of the source file correctly, causing an overflow in the math of the length of the data to be copied. In some cases, no data was copied, yet the system still updated the length of the new file to what the length should be. This caused display problems.
 - b) The software wasn't handling the offset and duration for stereo files correctly when adjusting the annotation segments.
 - c) The system wasn't calculating the new position of the stop cursor after the paste operation for a stereo file.
 - d) When adjusting the annotations, the software was improperly modifying the old-last segment if the new segment was pasted to the right and outside of it's boundary.

SA - 3.1.0.70 - 9/9/2013 (stereo branch)

- 1) Corrected menu/resource problem which was preventing InsertSilence feature from operating correctly.
- 2) Added code to disable ALT+Z when it overlaps an existing phonetic, PL1 or PL2 segment.
- 3) Corrected code that prevented ALT+Z from executing when the new PL2 segment to be added is just touching an existing PL2 segment.

SA - 3.1.0.69 - 9/8/2013 (stereo branch)

- 1) Modified Tools/Options dialog so that the audio portion is available when no view has been displayed yet.
- 2) Modified OnEditAddAutoPhraseL2 to handle cases where the start/cursors are located between two other PL2 segments, or before or after all other segments.

SA - 3.1.0.68 - 9/4/2013 (stereo branch)

- 1) Fixed transcription mis-alignment bug. For stereo files only, this bug occurred when the data was written to the .saxml file. The gloss, reference and POS transcriptions were not written with the correct offset and length. This also caused improper segment indexing when trying to determine the segment number of the

transcription.Gloss, reference and POS transcription lengths are written in the 'MarkDuration' field of the .saxml.

SA - 3.1.0.67 - 9/3/2013 (stereo branch)

- 1) Fixed transcription mis-alignment bug. Caused by SpeechToolUtils.dll because it wasn't able to read a Broadcast Wave Format meta tag.
- 2) Fixed reference numbering problem that occurs when importing reference numbers start at a gloss position beyond the first gloss. Because the reference indexes were empty at the start of the operation, the synchronization between the reference segments and gloss segments was broke. Added code to insert empty reference segments for the skipped positions if one doesn't exist already.

SA - 3.1.0.66 - 9/2/2013 (stereo branch)

- 1) Fixed buffer overrun bug in CObjectIStream
- 2) Fixed resource collision problem (autosave off)

SA - 3.1.0.65 - 8/21/2013 (stereo branch)

- 1) Added stop buttons for 'Play' and 'Original' buttons on record-overlay dialog box.
- 2) Fixed problem with gaps in playback of recording when using record-overlay dialog box.

SA - 3.1.0.64 - 8/14/2013 (stereo branch)

- 1) Added instruction to copy Sa.exe to SaServer.exe during installation compile.
- 2) Fixed state bug where recording and playing can occur at the same time when using 'between cursors'. The state machine now blocks until playback is completed.
- 3) Added the word 'transcription' to the 'Edit/Transcription/Copy Phonetic to Phonemic' menu item.
- 4) Added 'Insert Silence' feature
- 5) Made the record-overlay feature dialog modeless.
- 6) Added stop button to record-overlay feature dialog.

SA - 3.1.0.62 - 7/22/2013 (stereo branch)

- 1) Fixed problems with positioning and truncating of overlay data that occurs when using auto recorder.
- 2) Added 'Entire File' menu choice for SaServer
- 3) Renamed 'Edit/Segment Boundaries' menu items to 'Edit/Edit Segment Boundaries'
- 4) Renamed 'Edit/Segment Size' menu items to 'Edit/Edit Segment Size'
- 5) Lowered frequency limit for female voice for formant charts.

SA - 3.1.0.61 - 7/16/2013 (stereo branch)

- 1) Reversed mouse wheel/zoom operation.
- 2) Disabled action associated with 'Select Waveform' menu item.
- 3) Modified AutoRecorder so that when 'between cursors' is selected, the recorder limits the record time to the length of the start/stop cursor size.

SA - 3.1.0.60 (stereo branch)

- 1) Updated 'formant tracks' options so that Pitch/F1-F4 checkboxes are tracked 'through' the changing of the 'show formant tracks' checkbox
- 2) Added Stop button to Transcription Editor dialog box.
- 3) Added shortcut to 'Select Waveform' menu item
- 4) Added seven new fields to the status bar. The file information now displayed is extension, bitrate, length (time), size (KB/MB/GB), frequency, sample size and stereo/mono.
- 5) Tied mouse wheel movements to 'zoom'

6) Updated 'Record Overlay' dialog so that it now can reference the start stop cursors for playback and recording.

SA - 3.1.0.59 (stereo branch)

1) For Formant chart,

(a) modified application so that the title and 'nearest vowel' labels are no longer resized when graph is resized.

(b) fixed bug which was causing 'nearest vowel' to move horizontally when graph was resized vertically.

(c) modified rendering so that 'nearest vowel' label and vowel are drawn on same baseline.

2) For 'Graph Parameters'/Spectrogram dialog box,

(a) modified application so that F4 is not enabled by default on initial program start.

SA - 3.1.0.58 (stereo branch)

1) Adjusted F1 & F2 ranges for male voice.

Old Range:

F1 200-800

F2 800-2600

F3 1690-3010

New Range:

F1 200-1000

F2 500-2500

F3 1690-3010

SA - 3.1.0.57 - 5/8/2013 (stereo branch)

1) Fixed bug that was prevent opening of .WMA files (VARIANT_BOOL was not properly converted to c++ bool).

2) Fixed cut/'paste as new' bug that occurred when editing stereo files.

SA - 3.1.0.56 - 5/6/2013 (stereo branch)

1) Fixed self-test feature. Some tests may still exhibit problems.

2) Fixed workbench bug. Code was not buffering/reading wave data correctly when IIR filter was used.

SA - 3.1.0.55 - 4/22/2013 (stereo branch)

1) Added DDX routine to check splitfile prefix and suffix for invalid characters.

2) Fixed bug in split file code that was filter filename at wrong time.

3) Modified autosave code to disable autosave when .wav files are readonly and transcription has not been modified.

4) Fixed find/replace bug where find/replace was skipping first entry if stop/start markers on not set on a word when the search is started.

5) Added code to cleanup ~#!tstWrite!#~ test file.

6) Removed some debug code that was writing files to c:\working when the formant tracker is invoked (spectrogram).

7) Fixed a bug in SpeechToolUtils that makes it look like a transcription file is saved when the following steps are performed. The file is not actually saved.

a) mark transcription file as 'readonly' in windows

b) open SA

c) modify transcription

d) perform 'save'

- e) observe warning dialog. press OK.
 - f) reselect identical folder in which error occurred. press OK.
 - g) observe warning dialog. press OK.
 - h) press 'cancel' in folder dialog.
 - i) applications returns without indicating success or failure.
- 8) Modified code in SpeechToolUtils that updates (removes old SA chunks) from a wave file. It now only updates the file if it is not 'readonly'

SA - 3.1.0.54 - 4/18/2013 (stereo branch)

- 1) Fixed find/replace bugs for all transcription types.
- 2) Fixed bug in transcription editor where arrow buttons were not always updated correctly when user reaches end of transcription line. There are still outstanding issues related to the phrase-n transcription lines.

SA - 3.1.0.53 - 4/17/2013 (stereo branch)

- 1) Fixed bug that occurs during 'save as' on newly recorded file. A space was appearing at the end of the default filename in the 'save as' dialog box.
- 2) Added pause button to toolbars
- 3) Modified playback cursor so that it flashes when paused.
- 4) Disabled four playback buttons when player is paused.

SA - 3.1.0.52 - 4/15/2013 (stereo branch)

- 1) Implemented capability to move start/stop cursors in edit-segment and edit-boundaries mode using CTRL-ALT and SHIFT-ALT sequences with LEFT and RIGHT arrows.

SA - 3.1.0.50 - 4/10/2013 (stereo branch)

- 1) Fixed Spectrogram display problem.

Known Problems:

- 1) Doing a cut/paste as new/undo corrupts the original graph.
- 2) At 96khz, the Spectrum graph isn't able to display a graph when compared to selecting the same region in a 22khz wave file.
- 3) At 96khz, the F1vF2 graph isn't able to display a graph when compared to selecting the same region in a 22khz wave file.

SA - 3.1.0.49 - 4/4/2013 (stereo branch)

- 1) Fixed problem in autopitch graph where graph was double the length from what it should be.
- 2) Fixed crash in spectrogram graph when 96khz file is opened - Code was truncating data value.
- 3) Fixed crash in autopitch graph when 96khz file was opened - same as #2.

Known Problems:

- 1) Doing a cut/paste as new/undo corrupts the original graph.
- 2) The spectrogram graph is corrupted when processing 96khz files.
- 3) The Formant graphs don't work.

SA - 3.1.0.48 - 4/2/2013 (stereo branch)

- 1) Merged trunk with stereo branch

SA - 3.1.0.47 - 3/29/2013

- 1) Doubled performance of transcription writes.
- 2) Added code to disable autosaves during playback.

SA - 3.1.0.46 - 3/29/2013

- 1) Modified autosave to save a .info file which provides the original source directory to be used for file restoration.
- 2) Modified autosave so that the user is prompted on startup concerning autosave files. They will be queried for each autosave file as to whether or not to recover the file, and in the case of recordings, they will be asked to supply a directory to save the file into.
- 3) Modified autosave to avoid saving .wav files if the file size hasn't changed.
- 4) Modified autosave to stop deleting autosave files when the user performs a 'save' or 'saveas' operation in SA.

SA - 3.1.0.45 - 3/28/2013

- 1) Fixed GPF in SFM import feature that occurs if any of the transcription fields (or/pm/ph/gl) are missing.
- 2) Merged SFM tabular support into the AutoRef/TAT code.

SA - 3.1.0.44 - 3/27/2013

- 1) Fixed AutoSave feature so retrieved files are renamed so that they are deleted when the application is closed.
- 2) Added SFM tabular support to File/Import/SFM menu item.

SA - 3.1.0.43 - 3/25/2013

- 1) Implemented AutoSave feature.

SA - 3.1.0.42 - 3/22/2013

- 1) Fixed bugs in 'Find' feature where a single character could not be found in any CTextSegment derived segment. Class was doing whole word search only. Modified function to search for substrings within annotation strings.
- 2) Fixed bug with 'Alt-Z' feature that prevents the repeat execution of the feature if the cursors have not been moved, or if either cursor is located within another phonetic segment.
- 3) Modified 'Save' function so that if the original file doesn't exist (ex: user retrieved file from removable drive, drive has been removed before 'Save' menu item was executed).
- 4) Fixed bug where VK_MENU key (ALT) was being used to enable 'edit boundaries' feature.

SA - 3.1.0.41 - 3/18/2013

- 1) Added Ctrl+Q accelerator for 'Add Phonetic Segment' command. Left in 'Alt+='
- 2) Remapped Ctrl+Q (segment size) to Ctrl+E
- 3) Fixed menu enable/disable problem for Ctrl+C (copy) menu item.
- 4) Added Alt+2 control sequence to automatically add PL2 segment.
- 5) Relabeled and retargeted 'Phrase L2' button on Transcription Editor to 'Phrase L1'
- 6) Add Alt+Z control sequence to automatically add phonetic, gloss, PL1 and PL2 segments
- 7) Fixed moving playback cursor problem that occurs after pause button is placed on player dialog.

SA - 3.1.0.40 - 3/14/2013

- 1) Fixed bug on spectrogram that was limiting calculation for formant tracks to 4.
- 2) Reordered buttons on all four (xml/table/sfm/fw) export dialogs
- 3) Changed default font size for ref,pl1,pl2,pl3 & pl4 transcriptions lines from 10pt to 12pt
- 4) Fixed bug in SFM and XML exports where a space was not inserted between phrase transcriptions.

--Code refactoring changes--

- 1) Reformatted code base using AStyle.
- 2) Removed activex and chrchart project subdirectories

SA - 3.1.0.39 - 3/13/2013

- 1) Changed SFM tag text in FW Export dialog
- 2) Added result dialog that is displayed after FW export operation.
- 3) Fixed copy/paste bug

SA - 3.1.0.38 - 3/6/2013

- 1) Fixed bugs on XML/SFM and FW export dialogs.
- 2) Removed PL1 and PL2 SFM output from FW export data.
- 3) Fixed bug in code that associates phrase segments with gloss segments during export of FW data.

SA - 3.1.0.37 - 3/5/2013

- 1) FieldWorks export feature - added code to export phrase files.
- 2) FieldWorks export feature - modified the way the checkbox interact with the 'all annotations' checkbox.
- 3) FieldWorks export feature - reordered gloss and reference marks in SFM output file.
- 4) FieldWorks export feature - removed double backslash in filename generator.
- 5) Recompiled C# code with hopefully now correct version of SILEncConverters.
- 6) Updated install to include sil website reference.

SA - 3.1.0.36 - 3/4/2013

- All changes are associated with 'FieldWorks Export' feature..
- 1) Implemented backend support for FieldWorks exporting
 - 2) Added code to disable 'Export' button if data is incomplete in dialog.
 - 3) Added SFM mapping table
 - 4) Removed SFMExport 'includes' checkboxes that are no longer used.
 - 5) Removed Multi-record and Interlinear checkboxes.
 - 6) Removed Browse button associated with FieldWorks base project directory.
 - 7) Removed initial selection of project in FieldWorks project list.
 - 8) Changed title on dialog

SA - 3.1.0.35 - 2/25/2013

- All changes apply to SFM multi-record exporting only.
- 1) Sorted record output according to email chain..
 - 2) Phrase transcriptions are now written with their associated 'parent' transcriptions.
 - 3) '#' was removed from gloss transcription

SA - 3.1.0.34 - 2/21/2013

- 1) A fix for the notorious 'missing end cursor' bug.

SA - 3.1.0.33 - 2/19/2013

- 1) Implemented multirecord support working for SFM.
- 2) Changed 'edit segment size' to use CTRL-Q
- 3) Resized edit fields in TAT
- 4) Fixed problem that was preventing user from adding a word when no words exist.

SA - 3.1.0.32 - 2/15/2013

- 1) Fixed bug that was allowing word to be added beyond last segment.

2) Add 'tag' prefix to reference numbers when using 'auto ref'

SA - 3.1.0.31 - 2/12/2013

- 1) Fixed Tools menu bug.
- 2) Implemented feature to write registry entries for PA
- 3) Fixed memory overwrite bug caused by improper use of scanf.

SA - 3.1.0.30 - 2/11/2013

- 1) Prototype for FW .SFM export feature.
- 2) Reordered Tools menu.
- 3) Fix for #1 error on Find/Replace problems. String resource was missing.
- 4) Fix for #2 error on Find/Replace bugs - disabled highlight.

SA - 3.1.0.29 - 2/11/2013

- 1) Modified Transcription Editor dialog so that long strings of cause the edit field to scroll vertically. A scroll bar is now available.
- 2) Fixed '0' segment problem. Code was carrying Unicode BOM in string, causing string compare to fail.
- 3) Fixed problems are related to replacing existing segment strings. Code now longer does 'DeleteContents' before apply TAT changes.
- 4) Fixed problem where extra 'undo' was being applied in TAT dialog.

SA - 3.1.0.28 - 2/4/2013

- 1) Added 'singleton' feature to SA. The feature is disabled if SA is launched with Batch mode or as a server.
- 2) Added capability to play Phrase List 2 from the transcription editor.
- 3) Fixed undo bugs in TAT.

SA - 3.1.0.27 - 1/23/2013

- 1) Added 'Preview' functionality to Transcription Alignment dialog box. No text changes yet.

SA - 3.1.0.26 - 1/22/2013

- 1) Fix for AutoRef where code was validating 'end' value before it had been loaded from control.
- 2) Modified validation of auto ref 'begin' and 'end' parameters.

NOTE:The following rules are used:

'begin' - must be ≥ 0 and ≤ 10000 .

'end' - must be \geq begin and ≤ 10000 .

The code internally limits the actual iterations to the number of gloss segments on the screen, so if the 'end' number is beyond the actual gloss count, the logic will terminate at the correct point - the last gloss word.

3) Modified the way defaults are stored for the autoref dialog. They are now stored in the registry.

4) Widened the TAT dialog box.

5) Fixed bugs in TAT that occur when a user tries to reimport the same or a different file on the second page (when using reference numbers). The edit field would always be blank because the internal data structure was in an uninitialized state to the second import, cause errors.

Also, if the user imports another file, and it successfully loads, it will be set as the default.

SA - 3.1.0.25 - 1/20/2013

- 1) Fix for bug where TAT was incorrectly inserting text into segment list

- 2) Fixed bug where TAT removes all gloss fields when no ref fields exist.(added error message)
- 3) Fixed bug where AutoRef corrupts reference fields when inserting a field after one or more empty fields.

SA - 3.1.0.24 - 1/18/2013

- 1) Split lines in TAT import error message.
- 2) Fixed toolbar alignment problem.
- 3) Modified how errors are propagated in AutoRef import operation. Fixes problem where errors are returned correctly.

SA - 3.1.0.23 - 1/15/2013

- 1) Changed name of 'Reference Data' dialog to 'Reference Numbers' and modified menu item.
- 2) SplitFile - added error message when reference field is empty.
- 3) Modified dialog that informs user they are about to overwrite data so that they can either quit, retry or continue.
- 4) Fixed bug that wasn't calculate reference and gloss segments lengths correctly, which was causing spurious error messages.
- 5) Changed default transcription data folder name from xxx-gloss to xxx-data
- 6) Changed 'Phrase' to 'Phrase Text' in drop list for Phrase filename prefix.
- 7) Moved location of 'Split File' menu item so that it isn't near 'Save'
- 8) Added 'Redo' to toolbar
- 9) Fixed 'phrase level 2' bug (see #4)
- 10) Added error message for 'Auto Reference Numbering'.

SA - 3.1.0.22 - 1/13/2013

- 1) Updates for 'Split File' feature. Added controls to allow user to control whether data is overwritten or not. Changed dialog layout.
- 2) Fixed CTRL-left click bug.

SA - 3.1.0.21 - 1/7/2013

- 1) Modified 'Split File' dialog box.
- 2) Implemented basic functionality for the Split File feature.

SA - 3.1.0.20 - 12/20/2012

- 1) Completed 'edit segment size' feature.
- 2) Removed popup-dialog with missing text. (resource problem)
- 3) Adjusted 'edit segment size' icon.

SA - 3.1.0.19 - 12/18/2012

- 1) Fix for transcription display bug. Text was not being inserted correctly into transcription segment object with the correct index value.
- 2) Added phrase level shortcut keys.
- 3) Fixed bug where application prompts user to see if they wish to automatically snap segment boundaries. The message was removed and the operation is always performed.
- 4) Added toolbar button and menu item for 'edit segment size'.
- 5) Updated IPA Chart dialog to prompt user and disable controls if IPA Help is not installed.

SA - 3.1.0.18 - 12/14/2012

- 1) Modifications to Auto Ref dialog box to implement 4 radio buttons and allow importing of word list file.

2) Modifications to Automatic Transcription dialog to allow importing of wordlists. Added 'Use Reference Data...' checkbox on first page controls dialog sequence and processing.

SA - 3.1.0.17 - 11/23/2012

- 1) Removed saxml. Tmp file left over during split file operations.
- 2) Fixed wrong error message when that occurs when split files with gloss/ref naming convention.
- 3) Modified TAT feature so that '#' marks are maintained when numbering is encountered. If no '#' marks are found on import data, TAT uses spaces to delimit. The code also no longer injects '.'s when numbers are found.
- 4) Named various enumeration and struct structures throughout code.
- 5) Updated error message text that is displayed when empty segments are found during the split file export feature.
- 6) Reordered 'Automaric Markup' popup menu.

SA - 3.0.1.16b - 11/18/2012

Simplified auto transcription alignment.

Phonetic, Phonemic and Orthographic transcriptions use the space delimiter as the word break both for building the displayed input string and for processing the transcriptions

Gloss uses the space delimiter as a word break, but also supports incoming '#' characters or single digit number as breaks.

SA - 3.0.1.16 - 11/16/2012

Addressing the following emails:

- 11/03/12 - Re Split File Work
- 10/31/12 - Transcription Alignment Bug
- 10/31/12 - Transcription Alignment Selection
- 11/13/12 - Formant Chart Range
- 11/12/12 - SA bug in F2-F1 Data Set dialog
- 11/02/12 - Formant Chart Properties
- 11/11/12 - Re sa with auto-transcription fix
- 11/05/12 - The Locate Options
- 11/15/12 - re sa with auto transcription fix

- 1) Modifications to auto transcription alignment. Phonetic and Phonemic alignment are now generated as one character per segment.
- 2) Format Chart ranges and been changed for men and women to 1000 from (800/900)
- 3) Disable 'Next' button when nothing is checked on first dialog in auto transcription alignment feature.
- 4) Disabled edits in F1-F2 combo box in F2-F1 data set dialog
- 5) Enabled edits of default formant tables
- 6) Removed redundant checks on 'Locate Word/Phrases' features that occur when data already exists

SA - 3.0.1.15 - skipped

SA - 3.0.1.14 - 11/04/2012

- 1) Fix for bug preventing retention of last field in reference transcription bar.
- 2) Added 'Gloss' checkbox to 'Transcription Alignment' dialog box.
- 3) Added 'Ref' selection in dropdown box in 'Split File' dialog box.
- 4) Enabled 'Browse' button for 'Folder Name' field in 'Split File' dialog box.
- 5) Changed titles in 'Split File' dialog box.
- 6) Added processing for 'Ref' selection in 'Split File' dialog box.

- 7) The 'Gloss Transcription' bug seems to be resolved now with the fix in #1
- 8) Fixed 'file save' bug in 'auto reference numbering' feature/dialog box.
- 9) Modified 'auto reference numbering' feature to overwrite existing data.
- 10) Fixed size and position of static text field in 'Transcription Alignment' dialog box.
- 11) Fixed capitalization errors in 'Transcription Alignment' dialog box.
- 12) Removed use of 'wizard' from 'Transcription Alignment' dialog box.

SA 3.0.1.13 - 10/30/2012

- 1) Added Automatic Reference Data numbering feature. Dialog is located in Tools->Automatic Markup->Reference Data.

SA 3.0.1.12- 9/6/2012

- 1) Added dialogs to allow users to select which channel should be imported when opening multi-channel wave files.
- 2) Added 'Audio' tab to 'Tools/Options' dialog. Audio tab allows users to select whether or not 'advanced audio' dialogs (see #1) should be presented during conversion of non-standard wave files.
- 3) Added code to prevent automatic reopening of converted temporary files. All non-standard wave and non-wave files are opened as temporary files.
- 4) Fixed out-of-memory exception in SpeechToolsUtils.dll that occurs when opening 'broadcast wave extension' file formats.

SA 3.0.1.11- 5/3/2012

- 1) Split 'Auto Parse' dialog into 'Auto Parse Phrase' and 'Auto Parse Word' dialog boxes.
- 2) Updated sa3.psa format to store settings for the two new dialog boxes. New parameter for phrase break parameter is "\phrase_break_ms". Word break default is stored in "\break_ms" property, as before.
- 3) Fixed bug in CSegment class that was indexing beyond the end of the segment offset and durations tables.
- 4) Contains all bug fixes for Speech Analyzer release 3.1.

SA 3.0.1.10 - 12/8/2011

- 1) Made 'Auto Parse' and 'Auto Segment' dialogs modeless.
- 2) Added 'Gloss' convention to split file dialog box.
- 3) Modified file directory structuring and naming when saving split files.

SA 3.0.1.9 - 11/30/2011

- 1) For Spectrograph parameters dialog - making F4 checkbox perform as 'F4 and above'
- 2) Made 'Auto Parse' and 'Auto Segment' property pages full fledged dialog boxes.
- 3) Renamed buttons for Auto Parse and Auto Segment dialog boxes
- 4) Added text to 'Auto Parse' dialog box
- 5) Fixed bug regarding loading of defaults for 'Auto Parse' dialog box.
- 6) Fixed 'copy phonetic to phonemic' bug.

7) Added 'cursor selection' feature.

SA 3.0.1.8 - 11/28/2011

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- 1) Added deselection process to 'move stop cursor here' feature.
 - 2) Renaming 'Split ...' to 'Split File ...'
 - 3) Fixed minicap text height issue.
 - 4) Fixed minicap rendering issues when minimized.
 - 5) Added 'copy phonetic to phonemic' feature

SA 3.0.1.7 - 11/16/2011

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- 1) Fixed 'move cursor here' bug.
 - 2) Implemented 'File Split' feature.Splits a audio file and transcription data based on user selected parameters.
 - 3) Renamed some of the 'experimental' features.

SA 3.0.1.6 - 11/8/2011

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- 1) Fixed more CRT_SECURE warnings.
 - 2) Modified way AutoParse and AutoSegment work.Selecting either menu item now displays 'parameters' dialog box. The Apply button actually works now, as well as Cancel and OK.Using the Cancel button issues a 'undo' message to reset the graphs to their original state.
 - 3) Unhid 'experimental features' menu item

SA 3.0.1.5 - 11/1/2011

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- 1) Quick hack for mini-cap problem. Code was not drawing background fill correctly, exposing default title bar.
 - 2) Fixed more CRT_SECURE warnings.
 - 3) FEATURE: When a top level checkbox is unchecked, the subitems are also unchecked for the Export SFM and Export XML dialog boxes.
 - 4) Cleaned up project files.
 - 5) Reformatted code.
 - 6) Fix for Vista compatibility issue in FileOpen/FileSaveAs dialog boxes.

SA 3.0.1.4 - 10/31/2011

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- 1) 'MoveStopCursorHere' feature added to graph popup menu. This feature allows the user to locate the stop cursor by using the right-click/popup menu on a graph instead of a key-press and a left mouse click.
 - 2) Cleanup of CRT_SECURE warnings.
 - 3) Workaround for 'SaveAs' dialog box.Presently the SaveAs dialog box was crashing when launched by the user because of a Vista/XP compatibility issue. The offending code was disabled. The code is now using the

WINVER=0x501 define to allow WinXP compatibility. The problem will be fixed more completely in a later release.

4) Made project (.vcproj) files more consistent.

SA 3.0.1.3 - 10/24/2011

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- 1) Converting _stprintf to swprintf_s to remove compiler warnings.
 - 2) Fix for horizontal scrolling bug. White lines were being displayed when horizontally scrolling zoomed-in window. Disabled scrolling code - forced repaint of window.
 - 3) Fix for GPF caused by stack overwrite when creating temporary file name. CreateAuxTempFile was using 'sizeof' function on wide character string. Probably introduced during Unicode conversion.

To duplicate:

Run SA

Open ChFrench

Right click in the Auto Pitch graph

Select Types/ Change

SA 3.0.1.2 - 10/20/2011

1) Fix for F1 Formant issue. A ULONGLONG value should have been an int.

This was causing data corruption when converted to a double.

2) Fixed F2-F1 graph exception

3) Fixed TaskBar bug - icons not showing.

Disabled musicxml load during opening of document.

4) Fix for gcvt bug

Code was casting char buffer into widechar buffer and corrupt output of gcvt call.

5) Fix for Semitone2Name exception.

6) Merged VS2005 changes to MSEA branch.

Made minimal changes required to get project to compile in VS2008.

The End