

SOFTWARE FEATURES FOR TRANSCRIPTION-TRANSLATION AS A FORENSIC DISCIPLINE

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This paper presents a "wish list" for transcription-translation (TT) software, based largely on my own experience with Microsoft Word as a tool for generating a Bilingual Forensic Transcript (BFT). It is addressed to both transcriber-translators and software developers, in the hope that they might expand on it, and/or offer solutions towards its realization. The ideas listed here could lead to improvements and/or a plug-in for Microsoft Word and for Corel's WordPerfect, the software most commonly used by US legal professionals. They might also be used to build on existing court reporter or transcription software, such as the Stenograph line of products.

If high-powered software for TT is developed, it will have a major positive impact on the quality and cost-effectiveness of transcription-translation services in both the legal and investigative/intelligence settings. It would also facilitate collaboration between these professional communities. Given the increasing use of state-of-the-art technology in forensic disciplines today, advanced TT software and its dissemination with adequate training would appear to be a required step if transcriber-translators are to step in the direction of being considered as not only language professionals, but as forensic experts in their own right.

Suggestions For Transcription-Translation Software

1) The first suggestion is that of a "wizard" (i.e., a pop-up window which guides users through steps towards a result) to assist in helping to select the desired format for bilingual forensic transcripts. Features covered by the wizard could include:

- a) Built-in templates for different kinds of cover pages and transcript sheets, and a template for the certification statement. For transcript sheets, this would include templates for languages with different layout requirements, such as some of the major Asian and Middle Eastern languages. (Some of which might need to be printed in landscape format.)
- b) The wizard could also help in selecting options for automatic writing (or "smart typing"). With this feature, the software automatically finishes typing text after the first few strokes of a word or phrase are typed.
- c) Choices for line-spacing, such as switching and automatically adjusting text from double to single line spacing after a speaker is introduced. Again, with attention to different language requirements.
- d) Options for switching English-language columns to the left or right of the transcript page, to comply with client preferences or language needs.
- e) Making the left and right columns automatically adjustable on each page, to compensate for changes in the transcription and/or translation column's lengths. The software's automatic adjustment could keep columns as uniform in width as possible, while facilitating the addition of speakers, notation, and notes. Thus for example, it should be possible to cut and paste (or "drag and drop")

sections of text together with speaker and other notation and then have the software automatically adjust layouts after such operations. (This feature would complement the application of script notes and links, explained below.)

f) A built-in list of macros for common operator functions and notations, such as adding speakers, U/I, various operator comments, formats for prologues covering the recording content before the main body of the conversation, etc. The wizard could help in quickly editing this menu.

g) Special formatting and notation resources for work with audio-visual sources.

2) Additional software features could include:

h) Improved printing functions for transcript sheet header and footer information, and for assigning layouts on a per-page basis within one same document. Thus for example, currently MS Word header and footer information cannot be assigned in this way, which makes it necessary to print separate files for the three parts in a BFT. Moreover, these rigidly assigned headers and footers not only make it difficult to include different kinds of documents along with a BFT, but also often prove very difficult to print across different computers. In particular, problems arise when a BFT is emailed as an attachment, in which case recipients often encounter problems when printing on their computers.

i) As in the preceding heading, if tables are used for a transcript sheet's column layout they should not only carry over smoothly from page to page without affecting the overall layout of the document, but also do so without disturbing printing procedures. (Again, this is a problem with MS Word.)

j) Creating features for the layout of notes such that these notes could either, A) be included automatically as part of the bottom part of the cover page or as an attachment to it, or B) be treated in the same way that Final Draft screenwriting software handles "script notes." (See #3 below.)

k) Reference tools for: web, personal, and project-based glossaries; translation resources; language style manuals; possibly a TT style manual. (All of these features could, of course, be complemented by the script note and key word indexing and features described in # 5 and #7, below.)

l) Templates for expert witness reports, with all of the section headings corresponding to such a report. (1- See note on final page.)

also m) Tools for quickly accessing different versions of a BFT, to not only reflect different kinds of notes on it (see the "script note" discussion in #3 below), but to display succeeding draft revisions. This tool would be very helpful for expert witness to demonstrate the amount and number of revisions they have performed on a transcript—whether their own, or one which they are commenting on.

n) For electronic submissions, options for electronic signatures, receipts, and encryption. These features would enhance the level of security and confidentiality in submissions.

o) More complete options for keeping track of billable hours, similar to the time clock features which appear in legal research software. (Currently Word counts the total number of project hours for a given document, but there appears to be no actual

window to indicate when the time clock is on or off; consequently users cannot accurately add up the time they have worked after breaks in a given session—and as every transcriber-translator knows, breaks are always needed in this profession.)

3) With script note technology, users can click on lines or words and automatically pop-up windows appear with notes on the item clicked. These notes can then be printed separately (and color-coded) as endnotes, footnotes, in card format, or as interlineal or marginal comments. This feature could enable different versions for transcripts to be produced, for example a simple one without printed script notes for a jury; another with these notes for other parties in proceedings; and yet another version with information useful for technical, law enforcement, investigative, or other forensic professionals. Script note technology could also provide comments on the use of special notation.

Examples of the use of script notes are: A) A transcription has extensive ambiguities in its meanings due to irony and/or the use of code language, and these can be highlighted and explained to interested parties; and B) A forensic audio analyst could place notes on his or her findings related to given U/I (unintelligible) statements.

Script note technology can be complemented by -and complements- many of the features which we discuss below. One feature which is directly correlated with it is known in Final Draft screenwriting software as "script to schedule". This feature allows different types of drafts and information from notes on drafts to be printed directly into other kinds of documents which may need them. An example of how this might work for TT is when notes are transferred to summaries or complaints, as discussed in our next item, below.

4) Software can not only, as just described, "schedule" portions of text or notes from a BFT into other documents, but also generate links between summaries, complaints, and their corresponding source transcripts. Ideally this "text linkage" feature would work together with the synchronization featured explained in #5, below. Summaries or complaints used by attorneys, investigators, or law enforcement officials will often quote a word or phrase in the source BFT. Readers then have to struggle to find the page and line references for this source information. However, if BFT software included a section for summaries (or the capacity to link to them), it would be possible to click on the quoted word in the summary, so that the reader could then be automatically referred back to the page and line number corresponding to the source. Conversely, there could be a special and printable view mode for the transcript, which highlights for readers those portions of the transcript which are mentioned in summaries, or in a complaint. While in this special mode, users could click on the highlighted transcript words and jump to their location in such documents.

By greatly facilitating the linkage between transcripts and summaries, TT software could make a substantial contribution to accuracy in summaries, since it would be far easier for all parties concerned to verify accuracy and to note the context from which a quoted word or phrase originates. This technology is already in place for monolingual court reporter and legal software, such as that listed in the endnotes to this paper. Text linkage can also be complemented by the keyword search feature mentioned in heading #7 below, for greater effectiveness.

5) A simple feature which can help to improve the verification process and thus also accuracy in a transcript and in its related or linked documents is what I have called "timed pagination". This is the practice of putting time from the source recording at the bottom of each transcript page. Software could make it possible for transcribers to quickly mark this time through a macro as they work on each page. It could also make it possible for them to "time stamp" or place a "marker" (as these terms are known in film and video editing/screenwriting) a given word, i.e. click on it and mark its time, so that users can later quickly find it on an audio timeline. Again, as with script notes, this feature would be of great assistance to investigative/intelligence professionals, as well as to parties in legal proceedings.

6) In addition to timed pagination and time stamping, source recording information may be synchronized with transcript texts, so that it becomes possible to click on a page and jump directly to points in audio recordings; or vice-versa, to bring up a corresponding page as one scrolls through an audio-source timeline. This "synchronization" (as it's usually called) technology is already common in video transcription software. Obviously, this feature could greatly enhance the effectiveness of the use of script notes, described above. It would also be a required feature for effective work with forensic video analysis.

7) Besides synchronization, features useful for managing cases with numerous files include options for condensing text, keyword searching and indexing, and transcript indexing. With condensation, sections or pages of transcripts can be made drastically shorter, leading to more manageable volumes of transcripts. With keyword searching and indexing, keywords can be searched fluidly throughout the body (and notes) of the text of a BFT, and keyword indexes can be generated, which can be a useful feature for attorneys or investigators.

8) A simpler, but also quite helpful tool would be the creation of indexes for transcripts. Currently, it is often the case that the monotonous chore of creating such indexes is not undertaken, but this can lead to considerable loss of time and occasional mix-ups as parties in proceedings attempt to keep track of information in stacks of numerous transcripts. This is particularly the case since they may need to organize it according to different categories. For example, it may be that they need to focus on 20 transcripts out of 80, and further, to focus on those portions of these transcripts which feature two given speakers. In that case, software could assist them in quickly and accurately generating an index for this objective.

9) TT software could include a (printable) uniform key for transcription and translation, as a ready-made reference for readers. However, it might also automatically generate a list of all symbols used in a given transcript, so that this more specific key could be included in the cover page's key to a transcription and translation. In this way, transcriber-translators could have the option of printing a uniform key for projects in which there are numerous transcripts, or of tailoring their keys specifically for each transcript.

10) Since TT software requirements are complex, it would be very nice to have a help and support section, on-line tutorials, and other options for on-going training.

Software Interphase for TT Hardware

Ideally, of course, software developed for transcription-translation should be integrated with state-of-the-art TT hardware features. The software could assist with control mechanisms for pauses, variable speeds, and variable rewind functions operated by any combination of a foot pedal, mouse, and a jog wheel. TT software could also interphase with settings for a stereo, Dolby, or theater sound system, all of which are required for quality TT work.

Software for TT Source Analysis, Evaluation, and Management

Currently there are several excellent programs for sound analysis and enhancement, some of which are listed in the end notes to this paper. These programs require specialized training, well beyond the scope of most transcriber-translators' skills or needs. However, features for filtering and separation or highlighting of sounds and voices are straightforward enough that they may be learned and applied by many transcriber-translators. They could be included as a technical aid in TT software, with the understanding that transcriber-translators may ultimately be called as expert witnesses in legal proceedings. In this forensic context, they should be ready to respond to questions about their qualifications and methodology for intervention with an audio source.

Sound evaluation features are an additional possibility for TT software. Software could help transcriber-translators and their clients determine several useful items of information about the quality and other properties of the sound which they have been assigned to work with. Thus, software could provide:

A) A sample set for several types of recordings commonly faced by transcriber-translators. This "gallery" could assist transcriber-translators in describing and evaluating the sound quality of a given recording for their clients and/or collaborators. To give an example, the samples could be ranked 1-6 in terms of their difficulty for transcription-translation. A client could then be told that recording x will likely take 2 hours per minute because it is a level 4, etc.

B) A sample set for unintelligible or inaudible statements. This more specific set of samples would provide an initial reference as to what kind of audio source might benefit from audio analysis, so that transcriber-translators could provide some recommendations to their clients as to whether a particular audio source might benefit from sound enhancement.

C) Source segmentation. Transcriber-translators should be able to quickly duplicate and separate those portions of an audio source which need extra work, or which might benefit from another look or investigation by a collaborator. This would greatly help the flow of projects since, since then different parts of a recording could be more easily be worked on at the same time by different professionals.

D) Segment measurement. It goes without saying that sound synchronization (discussed above) and segmentation implies sound measurement, however this simple tool is in itself useful for TT work. Using it, transcriber-translators can easily record the lengths of unintelligible or inaudible statements, and software could assist them in automatically including these measurements on their transcripts.

Some Final Thoughts

Ultimately, TT software should be flexible enough to assist in evaluating, analyzing, and managing any source or set of sources which can be coordinated with each other because they are frame or time-line based. Thus for example, it should be equally able to manage audio, video, internet, or other recorded content which might be projected in any format. As courtroom presentations increasingly become more "multimedia", it only stands to reason that transcription-translation software needs to become technologically versatile. Seamless continuity in source management is needed as forensic professionals increasingly face the task of integrating different kinds of evidence in their work.

As noted at the outset, TT software has a great potential for facilitating collaboration between transcriber-translators and other forensic experts, and consequently for helping these language professionals be recognized as expert witnesses in their own right. By the same token, since TT software's end-users could include professionals from different fields, it is important that care be taken to include feedback on software from not only transcriber-translators and legal professionals in different contexts (judges, defense attorneys, prosecutors, court reporters, etc.), but also personnel in the investigative and intelligence fields. An example of a series of features which may interest these fields would be that of "real-time" applications, through which information from a transcript, or that which is being transcribed, could be managed in a "live" setting.

The overwhelming majority of TT work (whether forensic or not) performed in the US is ultimately paid for by the US taxpayer. There is, therefore, an unavoidable argument to be made that all professionals paid by the taxpayer base should work hard to be more cost-efficient. By far the greatest single tool for this to take place is through the development of

high-powered TT software. Over the long run, such software could save US taxpayers many millions of dollars. This is yet another reason for it to be given serious consideration by all parties involved.

Finally, greater agility in TT management can mean that transcript review and quality control can be tremendously facilitated for all parties involved. Numerous defendants, lawyers, and indeed any citizen who might otherwise quite literally not have had the time to work through transcripts can be given many more opportunities to engage more fully in a judicial process which involves that complex —and often, to the uninitiated, quite daunting— set of evidence known as the bilingual forensic transcript.

Footnote (1)

As Janis Palma has noted in her paper on expert witnesses presented at NAJIT's 2003 Nashville Conference, such headings could include: (1) a **cover page** with the case style and number, and the name of the court and contact for the expert; (2) a **table of contents** if the report is longer than seven or ten pages, (3) a **summary of conclusions** with the factual conclusions and the expert's conclusions, (4) the expert's **qualifications**, with a brief Curriculum Vitae, (5) the **documentation** (in this case the transcript-&-translation), (6) the **technical background**, or literature and other documentation on which the expert relied to base his or her opinion, (7) the expert's conclusions or **opinion**, (8) the **literature citations**, (9) and the expert's **signature** and date on the final report.

Notes:

The following links contain partial lists of transcription software:

<http://www.jkeane.com/AppxJm8.html>

http://www.business.com/search/rslt_default.asp?nav=dir&type=web&vt=all&query=transcript+software&search=Search

<http://www.realtime-advantage.com/related.asp>

The following are links for several major transcription software companies:

www.stenograph.com

www.gsclion.com

www.expressscribe.com

<http://www.reallegal.com/BinderProdInfo.asp> (Site offers on-line demos, trial downloads, and tutorials.)

<http://www.summation.com> (Has on-line demos, and will send you a CD demo.)

The National Court Reporters Association (www.ncraonline.org) provides additional transcription "tech" links, and also an on-line forum. You can have full access to this site with the friendly help of a member court reporter, such as for instance the following tech shopping area: <http://www.ncraonline.org/service-corp/tech.shtml>

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