Transana 5.10
Distinguishing features

This document is intended to be read in conjunction with the 'Choosing a CAQDAS Package Working Paper' which provides a more general commentary of common CAQDAS functionality. This document does not provide an exhaustive account of all the features and functions provided by Transana 5.0 but is designed to highlight some of its distinguishing elements. However, Transana is different from the other software packages reviewed here due to its emphasis on audio/video/still image data. The Comment section at the end details our opinions on certain aspects of functionality and usability. See also Silver and Lewins (2014, 2nd edition) *Using Software in Qualitative Research: A Step-by-Step Guide*, Sage Publications.

Background   https://www.transana.com

Transana is software to facilitate the transcription, management, and analysis of digital video, audio, still image, PDF, and text data. ▪ It was originally created for the analysis of video and audio data at the Wisconsin Center for Education Research, University of Wisconsin-Madison, USA. It now supports a broader range of data types and is developed, supported, and sold by its author, Dr. David K Woods, through www.transana.com ▪ Here we review version 5.0 of Transana.

Minimum System Specifications (recommended by developer)

Windows OS: MS Windows 10 or higher ▪ Macintosh OS: macOS 10.15 (Catalina) or higher ▪ RAM 4Gb (minimum) ▪ Minimum Screen Resolution: 1024x768 pixels (1920x1080 is recommended) ▪ 60-200 MB disk space for Program, 10MB space for database: the amount and quality of video is the critical factor relating to required disk space for data.

Structure of work in Transana 5.10

Transana operates using 3 components: the application, the original media files and the database ▪ The database contains the workings of the project; the documents, transcripts, quotes, clips, keywords, collections, notes, etc. ▪ Image and media files are not altered by Transana, and are linked to the database rather than imported ▪ The user interface comprises 5 elements (see Figure 1). The menu bar houses the main program menus. The Media window displays the video. The Document window displays text data and provides transcription tools for media files. The Data window lists the 'database tree', providing various ways of organizing, managing, and analyzing data and ideas (documents, episodes, transcripts, quotes, clips, snapshots, collections, keywords, notes, and searches). The Visualisation window displays coding information and information about the current media file, such as a waveform. PDFs, still images, and reports are display in additional pop-up windows ▪ The quote is the basic unit of analysis for text data. A quote is a selection from a Document (a text file or text in a PDF) identified by the user as analytically interesting ▪ The clip is the basic unit of analysis for audio and video data. A clip is a selected portion of an Episode (a video or audio file) identified by the user as analytically interesting ▪ A snapshot is a coded still image or graphical selection of a PDF ▪ Quotes, clips, and snapshots can be *categorized* in Collections and ***coded*** according to thematic or conceptual Keywords.

Data types and format in Transana 5.10

Transana supports a broad range of common video, audio, image, and text formats. ▪ Unsupported media formats can often be converted using Transana's media conversion tool ▪ Video format support varies based on operating system ▪ Transana does not work with streaming video due to media responsiveness requirements ▪ Database and file manipulation tools facilitate the organization and storage of large collections of digital media and images. ▪ Transana supports most common still image formats, and facilitates the capture of still images from video data ▪ Transana supports DOCx, RTF, TXT, and PDF documents. ▪ Transana can import data from a variety of online survey tools.

Automated Transcription in Transana 5.10

Several options for generating automated transcription of audio and video files using artificial intelligence are offered by Transana. Users can opt for embedded or server-based options ▪ **Embedded tools** run from your computer, and no data leaves your computer, so there is no risk that sensitive research data is made available elsewhere ▪ **Server-based tools** require the audio to be uploaded to a remote server in order to process. Although these tools are typically very secure, some research ethics requirements (IRBs etc.) do not allow such tools to be used, hence Transana's additional option for embedded automated transcription. ▪ Either option offers accurate transcription of audio, however, as with all such tools, they do make mistakes and therefore must be checked

Transcribing & Synchronising Audio/Video with written transcripts in Transana 5.10

In addition to automated transcription options, Transana facilitates manual transcription where for example it is necessary generate more nuanced transcripts than is possible via automated transcription services, such as non-verbal interaction ▪ However, they are generated, transcripts can be synchronized with corresponding video or audio data. ▪ The auto-rewind function makes manual transcription quicker and easier, and media play-back speed can be adjusted to suit requirements. ▪ There are various keyboard shortcuts to facilitate the transcription process ▪ The waveform is the visual representation of the volume of the source data's audio which Transana can generate automatically upon importation ▪ Time codes enable the synchronised playback of video, sound and transcript. They enable a point in the transcript to be linked to a frame in the corresponding media file. Time codes are provided at the beginning of every sentence during automated transcription, and can be inserted manually at appropriate positions in any transcript to allow easy positioning of the media file based on the transcript. ▪ Transcripts generated outside of Transana can be imported and synchronised with corresponding audio/video files ▪ Transana can import image files into transcripts, and can capture individual frames from video files. This allows for a unique form of image- based visual transcription, as well as hybrid transcription where images and words are mixed. ▪ Note that transcripts are not required in Transana. There are mechanisms for coding and categorizing media data without transcripts when that is desired.

Figure 1 : Transana 5.10. Main interface showing multiple synchronised videos and multiple transcripts
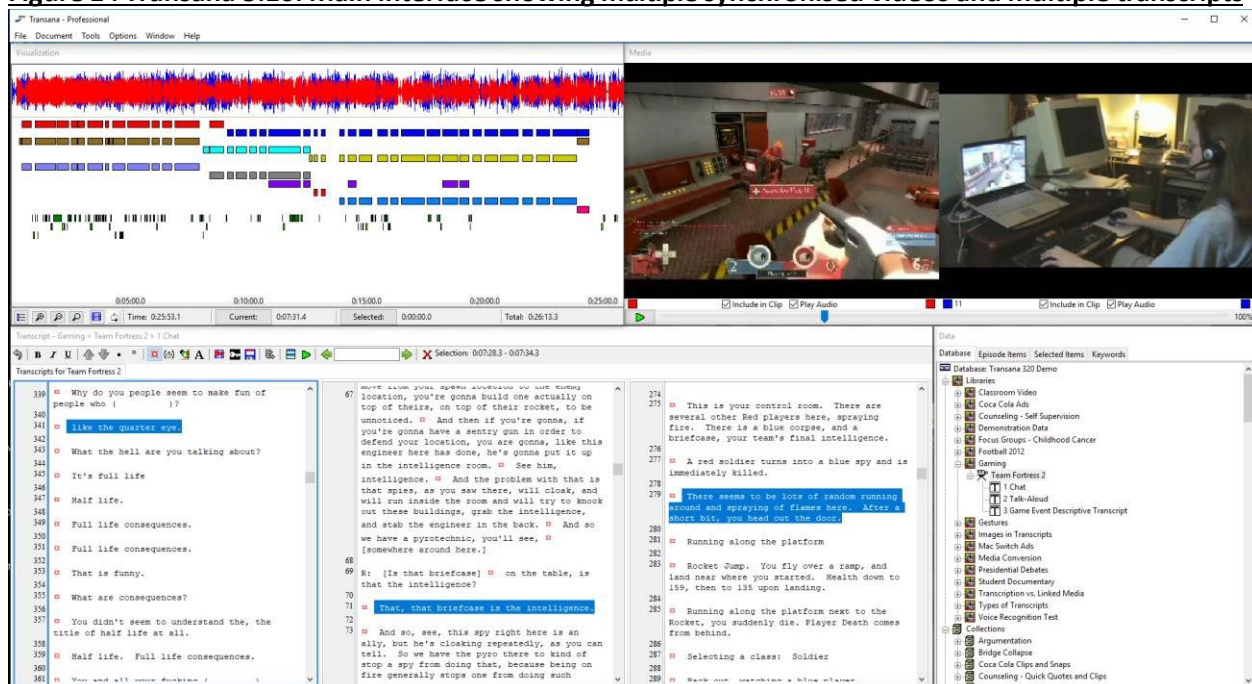
Generating multiple transcripts in Transana 5.10

Separate transcripts can be used to represent different aspects of interest in a media file. Many written transcripts for each audio/video file (Episode) can be created, and Transana can display up to five of them simultaneously. This enables a holistic view and representation of a data file or for individual perspectives to be given primacy for certain analytic purposes ▪ Transcripts can be synchronised with the media file individually by inserting time codes independently. Analytic selections (clips) can be created using any number of currently-open transcripts, allowing for flexible representation of complex analytic ideas and viewpoints.

Synchronising multiple video files in Transana 5.10

Up to four video files representing different perspectives on the same event or phenomena can be synchronised with one another and then played back and analysed simultaneously. Waveforms facilitate the synchronisation process ▪ Synchronised media files can be controlled simultaneously. The audio of individual videos can be disabled as required. ▪ Multiple transcripts can be created for the set of synchronised media files and analytic selections (clips) can be created with any combination of currently-open media files, allowing different perspectives to be prioritised as desired.

Still Images in Transana 5.10

Still images can be analysed within Transana and are referred to as "snapshots." Still images can be captured from video files in Transana, or come from pre-existing image files. Snapshots can be resized, zoomed, positioned and coded using "coding shapes" to emphasize portions of the original image and to focus attention on salient aspects of images. Snapshots can be associated with a specific location in a media file for context and be embedded within documents and transcripts for context.

PDF Data in Transana 5.10

PDF documents can be analyzed in Transana focusing on text (PDF Quotes) or on the graphics and layout of the PDF (PDF Snapshots). This allows for either content or visual analysis of PDFs as desired.

Closeness to data and interactivity in Transana 5.10

Synchronisation of audio/video, waveform and written transcript keeps the user very close to all three data representations simultaneously ▪ Interactivity is very good: control video playback from any window: clicking on a particular point in one window takes you to the corresponding point in other windows ▪ Resizable windows enable focus on the required aspect. ▪ View quotes and clips individually or collectively, or in context. ▪ Transana's text and graphical reports include hyperlinks to the underlying data selections to allow easy access to the original data and context at all phases of analysis. ▪ Transana emphasizes analysis of media over analysis of transcripts to maximize closeness to media data. ▪ Transana provides several mechanisms for connecting data of different types where appropriate. For example, a screen shot from video data can be coded as a snapshot with a link to the position in the source media data, or that snapshot can be embedded in the media file's transcript to place it in context.

Analysis of Data in Transana 5.10

Transana supports two complementary approaches to analysis. *Coding* is implemented in Transana by creating and applying keywords to data selections (quotes, clips, and snapshots). The process and functionality of Keywords in Transana is essentially the same as coding in other packages. ▪ The keyword database tree is hierarchical in that keywords must be created within Keyword Groups. Keywords can, however, belong to multiple Keyword Groups. *Categorization* is operationalized in Transana through the creation of Collections which contain data selections (quotes, clips, and snapshots) and manipulation of those analytic selections within the evolving Collection structure. Collections can be conceptualized as representing themes and sub-themes within an analysis, each holding the data selections that are evidence for that theme. ▪ Collections are represented in the database tree hierarchically, with base Collections representing main themes and nested Collections representing sub-themes. These two complementary systems both represent what is analytically important about data selections, but with slightly different analytic tools and affordances. ▪ Different qualitative methodologies benefit from the strengths of one system or the other. They support different ways that researchers approach and conceptualize data, with coding being more abstract and

categorization being more visual. Researchers have also described taking advantage of these different ways of representing analytic data at different stages of the analytic process. Researchers can take advantage of both systems with the same data. See the Transana Tutorial for more information on this topic.

Coding and Categorization Schemas in Transana 5.10

Codes in Transana are called Keywords, which are gathered in Keyword Groups. Categorization in Transana is implemented through Collections. Collections can be nested inside other Collections. Data selections (quotes, clips, and snapshots) can be coded and placed in a thematic collection to enable researchers to take advantage of all of Transana's analysis tools.

Analytic Processes in Transana 5.10

The general model for analysis in Transana is that the researcher makes a selection in the data of something interesting or analytically important and then categorizes or codes that selection (or both). The details differ slightly by data type and, for media data, whether there is a transcript. Multiple codes can be assigned to a single data selection, and data selections can be copied to place the same selection in multiple Collections. Text selections, media selections, and keywords can be merged with items of the same type where appropriate, but still image and PDF selections cannot. Snapshots and PDF Snapshots can be coded using "coding shapes," where color, shape, and line style indicate the code applied.

Basic Retrieval of coded and categorized data in Transana 5.10

There are several ways to retrieve coded and categorized data selections: individually, through Collections in the database tree, through reports, and by using the Search tool to find selections (regardless of collection) coded with (combinations of) keyword(s). ▪ Retrieval by Collection is a very quick and easy way to view all selections which have been grouped together sequentially. ▪ Retrieval by Coding starts with a Search, which produces Collection-like Search Results. ▪ Summary Information is very easy to access, providing an overview of which Keywords have been applied to the quotes, clips, and snapshots. Summary information can be outputted in various ways.

Organisation of data in Transana 5.10

Source text files, PDFs, and media (audio/video) files and their associated transcripts, are organised into Libraries of documents, PDF documents, and episodes with transcripts in the database. A library may have multiple documents and multiple episodes, and an episode may have multiple media files and multiple transcripts. ▪ Socio-demographic characteristics are handled at the Keyword level, and can be assigned to documents, PDF documents, and episodes to serve as default codes for all selections created from those sources, as well as individually to quotes, clips, and snapshots. ▪ Analytic text selections, audio/video segments, PDF selections, and still image snapshots are organized into Collections.

Writing Tools in Transana 5.10

Transana provides writing spaces through its Notes tool. Individual notes (which may act as analytic memos or practical / procedural comments) can be applied to Libraries, Documents, Episodes, Transcripts, Collections, Quotes, Clips, and Snapshots (but not to Keyword Groups or Keywords – for which definitions can be specified). ▪ The Notes Browser allows all notes to be viewed and edited centrally. Individual notes can be located within it from the Browser. Reports containing all or selected notes can be generated and exported. ▪ Search for words or phrases across notes in order to locate similar comments. ▪ Text documents can also be created within Transana as writing spaces. Transana refers to such documents as Research Journals. Research Journals can contain hyperlinks to quotes, clips, snapshots, and notes as a way of referring to critical analytic selections during analytic writing. This is particularly useful during first-draft writing up of Results for reference and to maintain closeness to the source data.

Searching and interrogating the database in Transana 5.10

The presence and absence of keywords as they have been applied to quotes, clips, and snapshots is retrieved via the Search Tool using standard Boolean (AND, OR, NOT, and parentheses) operators. ■ The Search Tool can also locate words and phrases contained in the text of documents, transcripts, quotes, PDF quotes, and clips. ■ Searches can be saved and re-run as analysis progressed (dynamic mode of analysis). ■ The results of searches are initially stored in a separate part of the database structure but they can also be converted to Collections as a snapshot of the results (static mode of analysis).

Visual tools in Transana 5.10

Various visual tools provide alternative representations of aspects of work. Different visualisations enable more or less emphasis to be placed on aspects of work and the ability to alter colours used in the graphics provides an additional level of display. ■ The keyword visualisation shows how a document, episode, quote, or clip has been coded, including the ability to customize the information displayed. ■ The hybrid visualisation displays how a media file has been coded in its entirety alongside the waveform view. ■ There are also a number of ways in which graphs can be generated to represent data alternatively. These include the Keyword Map which shows the distribution of coding across text or across the time line of a media file; the Collection Keyword Map which allows comparison of coding for clips gathered from various sources into a Collection; the Library Keyword Sequence Maps which enable the identification of coding distributed across Episodes; and a Word Cloud, which provides information visually about the language used within the data.

Output options and presentation mode in Transana 5.10

Reports, maps and graphs can be exported as text documents or image files as appropriate, including: Library, Document, Episode, Collection, Keyword Summary, and Notes reports, and Keyword Map, Collection Keyword Map, and the Library Keyword Maps and Graphs. ■ Outputs can be refined using savable filter configurations which can embody specific analytic views. ■ Presentation mode facilitates the demonstration of work with others. Video can be presented during play-back in different ways; 'Video only' displays the video window in full screen and 'Video and Transcript only' displays the video and scrolling highlighting of synchronised transcript.

Team working in Transana 5.10

The multi-user version of Transana is specifically designed for collaborative projects. It is a separate application allowing multiple users (in different locations) to collaborate, working on the same database at the same time. ■ This facilitates real-time analytic collaboration between distributed teams, whether working on the same or different networks. ■ Users can set up their own servers for multi-user Transana or can sign up for the Transana Cloud Service. ■ The chat window enables real-time communication with team members whilst working in a multi-user database.

Comment on Transana 5.10

Transana is powerful software, developed specifically for the analysis of video data but now also enabling textual and visual analysis. Researchers primarily using audio/video data are recommended to consider Transana as it may provide a number of important advantages in comparison to other options in this respect.

Interactivity *Transana is very easy to use. The ability to synchronise playback of video, sound and transcript and to control playback from any view is seamless and analytically helpful. Interactivity between windows and analytic functions is good.*

Synchronicity of multiple files and transcripts *The ability for each media file to have multiple transcripts associated with it is very useful for analytic purposes where there is a need to interpret the same data from different perspectives. Similarly, the ability to synchronise multiple media files with one another offers a sophisticated means of analysing associated video, which may be particularly useful for projects with a focus on interaction and other forms of non-verbal communication. These features are unusual amongst CAQDAS packages.*

Automated transcription   *Offering options for both embedded and server-based automated transcription provides flexibility where data security and sensitivity to the accounts of research participants is of heightened importance. The automated transcription services offered are highly accurate in most situations.*

The structure of the database *tree system can be a little confusing at the outset. Coding and Categorization of Quotes, Clips, and Snapshots serve similar, overlapping purposes and the differences can be nuanced. In addition, each quote, clip, snapshot, collection, keyword group etc. can have its own ID – requiring clear and systematic use of IDs and groups of other objects (collections, keywords etc.).*

The Search Tool *is not as sophisticated as most other CAQDAS packages, only providing standard Boolean operators (AND, OR, NOT and parentheses) for searching for the occurrence of keywords in the dataset. The ability to create quotes, clips, and snapshots in collections can obviate the need to use keywords for general sorting purposes and any clip can belong to any number of collections.*

Team working *The ability of the multi-user version to allow geographically dispersed researchers to work on one database simultaneously is very useful and can significantly facilitate collaborative team work. Setting up the multi-user version requires a degree of technical expertise or IT support, although information on the Transana website is useful in this regard. Alternately, the Transana Cloud Service eliminates the need to set up a personal server. Whilst any team member can make changes to a database when using the multi- user version, changes are not automatically tagged or logged according to who made the change. Therefore teams need to find workaround solutions if it is important to the progress of the analysis to track 'who did what'.*

Further Reading
- Dempster, Paul G. & Woods, David K. (2011). The Economic Crisis Though the Eyes of Transana. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 12(1), Art. 16, http://nbn-resolving.de/urn:nbn:de:0114-fqs1101169.   - Halverson, Erica; Bass, Michelle & Woods, David (2012). The Process of Creation: A Novel Methodology for Analysing Multimodal Data. The Qualitative Report, 17, 22, http://www.nova.edu/ssss/QR/QR17/halverson.pdf   - Manolis Mavrikis & Eirini Geraniou (2011): Using Qualitative Data Analysis Software to analyse students' computer-mediated interactions: the case of MiGen and Transana, International Journal of Social Research Methodology, 14:3, 245-252, http://dx.doi.org/10.1080/13645579.2011.563623   - Mavrou, Katerina, Douglas, Graeme & Lewis, Ann (2007). 'The use of Transana as a video analysis tool in researching computer-based collaborative learning in inclusive classrooms in Cyprus'. International Journal of Research & Method in Education, 30 (2), 163-178.   - Parmeggiani, Paolo (2009). 'Going digital: Using new technologies in visual sociology', Visual Studies, 24:1, 71 – 81   - Silver, Christina & Lewins, Ann (2014) Using Software in Qualitative Research: A Step-by-step Guide, Sage Publications, London   - Woods, David K. & Dempster, Paul G. (2011). Tales From the Bleeding Edge: The Qualitative Analysis of Complex Video Data Using Transana. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 12(1), Art. 17, http://nbn-resolving.de/urn:nbn:de:0114-fqs1101172.