

Visual Analysis and Software Assistance

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Rationale

- **PhD Project - Experiments**
 - Remote Tabletop Collaboration
- **Gained Different Multimedia Data Sets**
 - Unsynchronised files



- **Merging different Data Types**
 - Which software allows synchronising and analysing in-depth?

Questions






1. Which software is useful?



2. How can we analyse effectively?



Overview

- **Criteria for:** Which software is useful?
- **Comparison**
 - Atlas.ti 6 
 - Transana 2.41 
 - DRS (Digital Replay System) 
- **Conclusion**

Which software is useful?

- **Type of Data** – Multiple Multimedia Files
 - Synchronisation
 - Preparation of Data
- **Analysing Data**
 - Extracting Sequences in-depth Analysis
 - Coding Schemes

Atlas.ti 6

- **Compatible** with Windows/ Vista/ Mac BootCamp
- **Text files:** txt, rtf, doc, pdf
- **Multimedia files:** jpg, jpeg, gif, bmp, wav, avi, mpg, mpeg, mp3
- **Synchronisation of Transcript & Video** using **F4**
- Synchronisation of Multiple Videos not supported
- Requires **Preparation** if Multiple Data Files used

F4media

The screenshot displays two windows from the F4media application. The left window, titled 'f4 media 00:06:08', features a video player with a control panel on the left. The control panel includes buttons for F1, F4, F3, and F5, a volume slider (Lautstärke) ranging from 0 to 100, a spool interval slider (Spulintervall (in s)) ranging from 0 to 6, and a playback speed slider (Abspielgeschwindigkeit) ranging from 75 to 150. The video player shows a scene with four people in a laboratory setting. The right window, titled 'TextEditor: G1 AB Transcript QCA.rtf', displays a transcript with time-coded text. The transcript includes the following text:

<00:03:26> D: right, How do you want to do this?

A: ah well

T: shall we tell them what we did last time? <00:03:35>

<00:03:36> A: Yeah, we thought that ah our topic last time was nature versus development and a basically we pointed out the fact as we the create more technology and improve more technology we somehow distancing ourselves from nature and that a a human needs to have strong tights with nature and when we separate ourselves from nature that will cause problems. So, basically technology is there to help us but at the same time it is creating new problems. This is basically what we thought about those images and the story we were inspired with. <00:04:33>

<00:04:33> D: We came up with a slightly similar story but a different theme, actually Gabriella came up with the story and it is about oil corruption, where a an oil company wants to rip up a forrest to ahm build biocrops and they apply to the minister. <00:04:59>

A, T laughing

<00:05:00> D: what we suggest to do, what we suggest to do is we get your story up and we read it and we read my our story and use that to come up with our story <00:05:13>

At the bottom of the text editor window, there are buttons for 'Auto Zeitmarke' and 'Zeitmarke einfügen (F8)'.

F4media

- **Allows Transcribing and Editing Existing Transcripts** in relation to a Video File
- **Synchronise Transcript and Video** for Use in ATLAS.ti
- Requires **Preparation** of Videos
 - Particularly Multiple Videos
 - Video Quality poor but less important for Transcription

F4 Docs in ATLAS.ti

The screenshot displays the ATLAS.ti software interface. The main window shows a transcript of a conversation with a time-coded list on the left. A specific segment of the transcript is highlighted in blue. To the right, there is a video player window titled 'ActiveMovie Window' showing a video of four people in a meeting. Below the video player, there are two smaller windows, one of which is a video player for 'P 1: G1 p1p 120608.avi' with a progress bar and playback controls.

ATLAS.ti Transcript:

- 001 <00:03:26> D: right, How do you want to do this?
- 002 A: ah well
- 003 T: shall we tell them what we did last time? <00:03:35>
- 004 <00:03:36> A: Yeah, we thought that ah our topic last time was nature versus development and a basically we pointed out the fact as we the create more technology and improve more technology we somehow distancing ourselves from nature and that a human needs to have strong tights with nature and when we separate ourselves from nature that will cause problems. So, basically technology is there to help us but at the same time it is creating new problems. This is basically what we thought about those images and the story we were inspired with. <00:04:33>
- 005 <00:04:33> D: We came up with a slightly similar story but a different theme, actually Gabriella came up with the story and it is about oil corruption, where a an oil company wants to rip up a forrest to ahm build biocrops and they apply to the minister. <00:04:59>
- 006 A. T laughing
- 007 <00:05:00> D: what we suggest to do, what we suggest to do is we get your story up and we read it and we read my our story and use that to come up with our story <00:05:13>
- 008
- 009 T, A: Okay, Okay
- 010 D: If that makes sense?
- 011 A: Ah yeah that's fine
- 012 <00:05:19> G: can i open the documents
- 013 A: yes, that's fine
- 014 D: go on then <00:05:23>
- 015
- <00:05:24> G: SA this is more

Windows in Atlas.ti

The screenshot displays the ATLAS.ti software interface with several windows open. The main window shows a video player with a video of five people sitting around a table. Below the video is a quotation manager window showing a list of quotations. To the right, there are two smaller windows: a Code Manager and a Memo Manager, both displaying lists of codes and memos respectively.

Quotation Manager (18) ATLAS.ti

Id	Name	Size	Start	De...	Aut
1.1	G1 pip 120608.avi	349	6530	1	Supr
1.2	G1 pip 120608.avi	1750	6928	1	Supr

Code Manager (18) ATLAS.ti

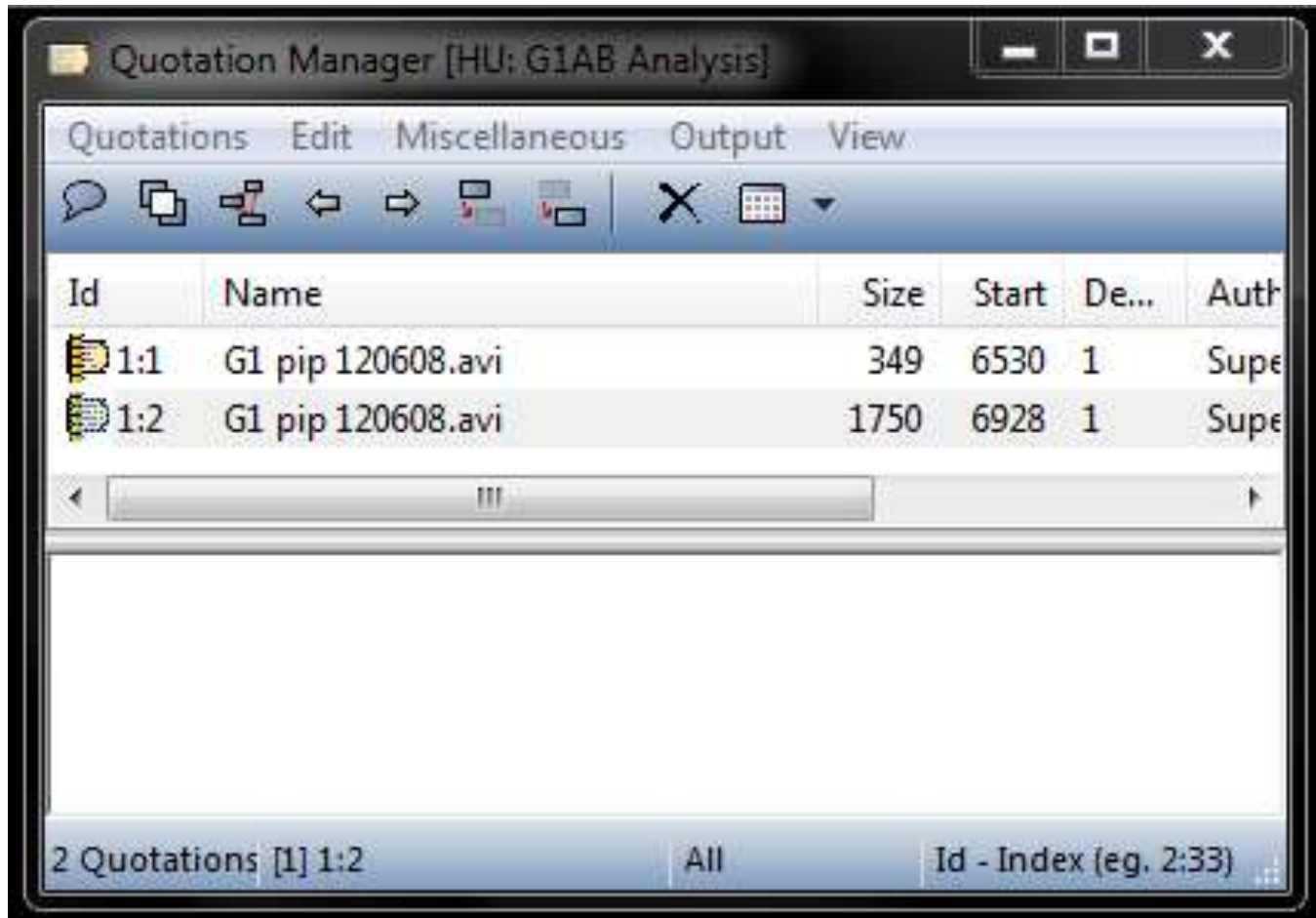
Name	Gr...	De...	Author	Created	Modif...
Co-located Inter...	0	0	Super	15/06/10	15/06/10
Introducing to S...	1	0	Super	15/06/10	15/06/10
Remote Interacti...	0	0	Super	15/06/10	15/06/10

Memo Manager (1) ATLAS.ti

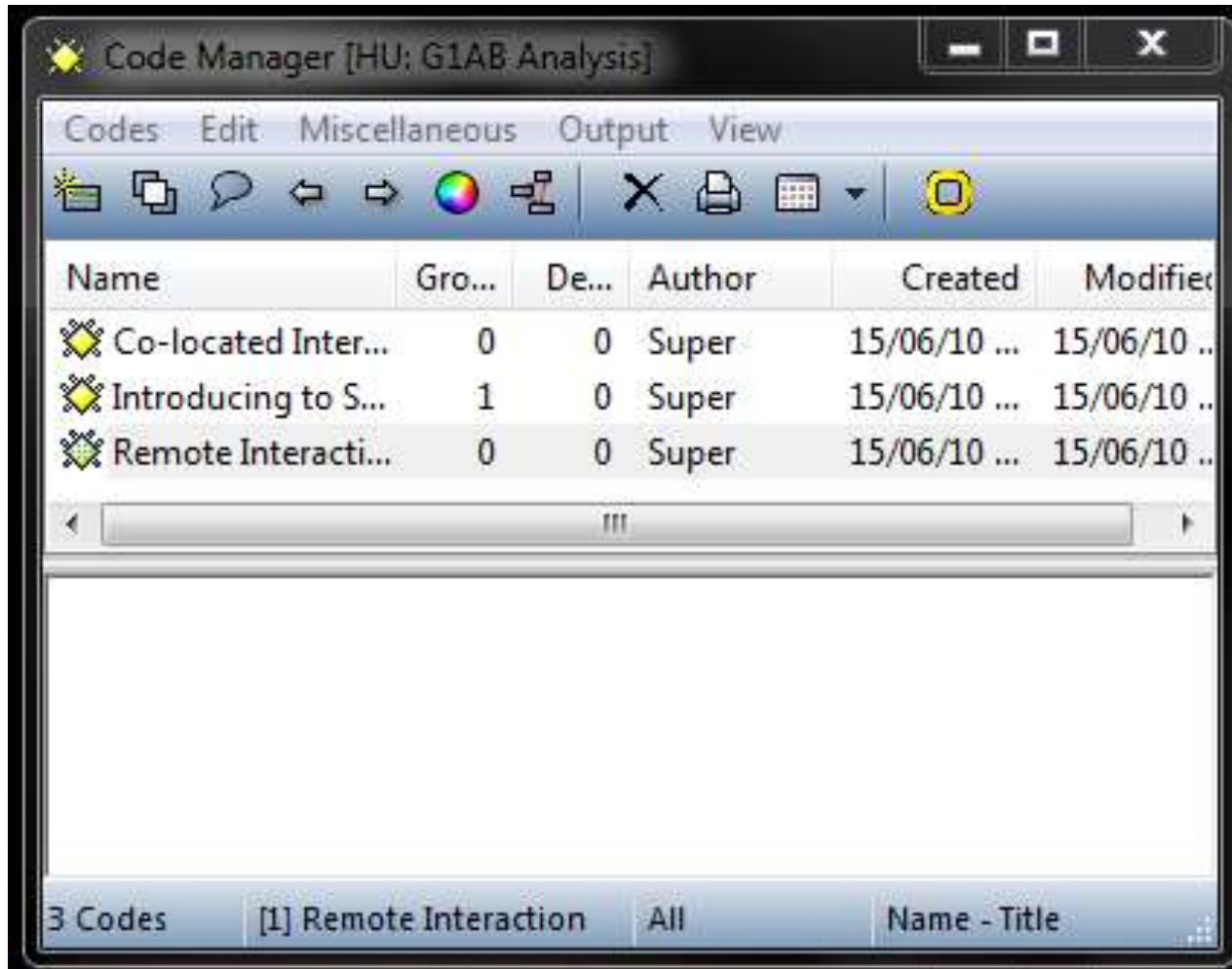
Name	Type	Gr...	De...	Size	Author	C
ME - 15/06/10	Memo	1	1	96	CRivers	15/0

At is introducing the co-located story by explaining the content and thought behind the story.

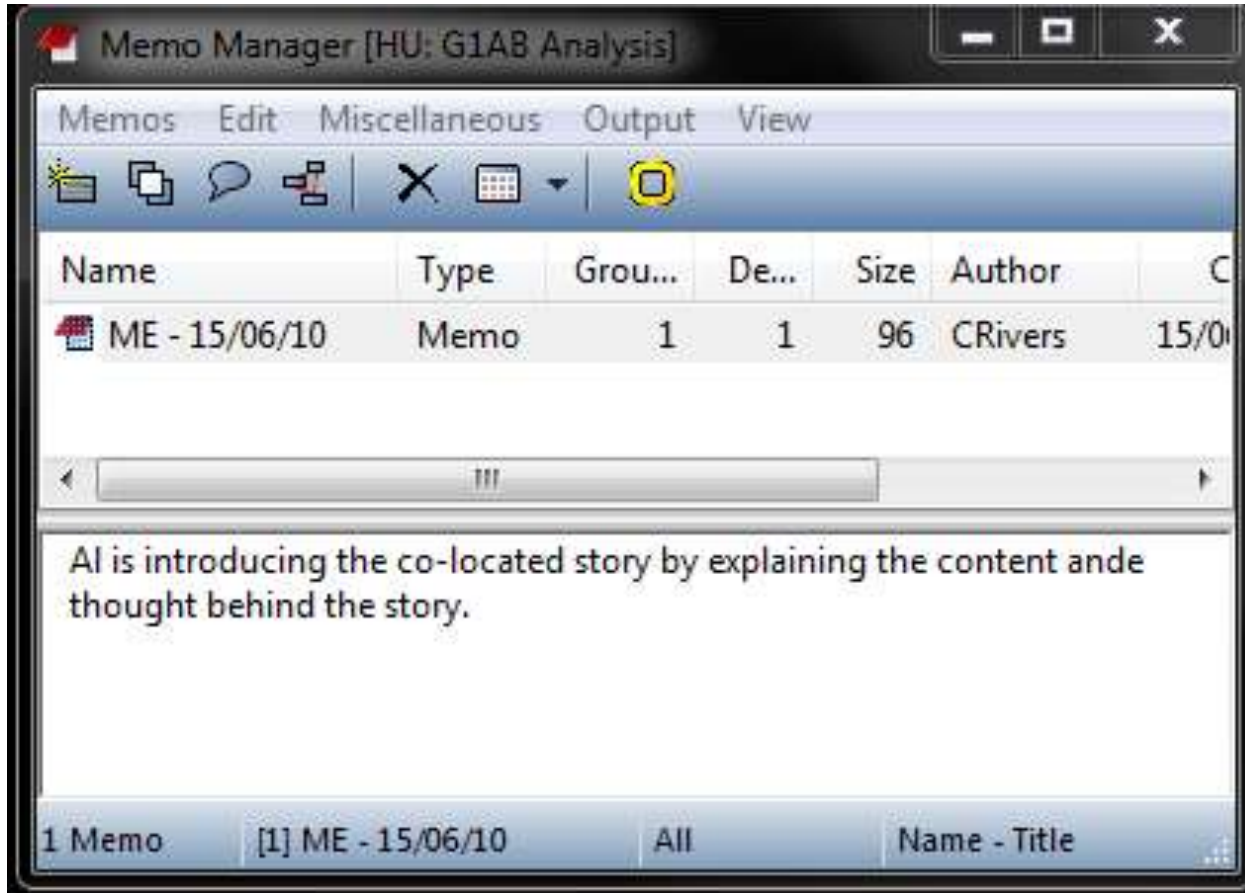
Quotation Manager



Code Manager



Memo Manager



Summary ATLAS.ti

- **Advantages**
 - Initial / Open Coding
 - Identifying Themes
 - Linking several codes to 1 quotation
 - Data (Video or Audio) can be synchronized with a transcript using F4 but difficult
- **Disadvantages**
 - Data has to be prepared
 - Detailed Analysis difficult

Transana 2.41

- **Compatible** with Windows/ Mac
- **Multimedia files:** wav, avi, mpeg-1, mpeg-2, mp3, rtf
- Does not support multimedia files from CD or DVD or still images
- Video and Transcript(s) can be analysed together -
Interactivity
- Video Data requires **Preparation**

Windows in Transana

The screenshot displays the Transana software interface, which is used for analyzing qualitative data. It is divided into several main windows:

- Visualization:** A large window on the left showing a red waveform of an audio recording. Below the waveform is a timeline with markers at 0:10:00.0, 0:20:00.0, 0:30:00.0, and 0:40:00.0. A status bar at the bottom indicates 'Time: 0:00:00.0', 'Current: 0:04:56.7', 'Selected: 0:00:00.0', and 'Total: 0:41:33.1'.
- Video Media File:** A window on the right showing a video playback of a meeting. The title bar reads 'Video Media File: "X:\Videos\EXP3 2x2\G1 pip 120608.avi"'. The video shows four people sitting around a table in a meeting room.
- Transcript:** A window at the bottom left displaying a transcript of the audio. The text is as follows:

1 =D: right, How do you want to do this?
2 =A: ah well
3 =T: shall we tell them what we did last time?
4 =<A: Yeah, the at the. Our topic last time was nature versus development and a basically we pointed out the fact as we the create more technology and improve more technology we somehow distancing ourselves from nature and that a a human needs to have strong tights with nature and when we separate ourselves from nature it causes problems. So, basically technology is there to help us but at the same time it is creating new problems. This is basically what we thought.
5 =D: We came up with a slightly similar story, actually Gabriella came up with the story and it is about oil corruption, where a an oil company wants to rip up a forest to ahm build biocropps and they apply to the minister.
6 =A, T laughing
7 =D: what we suggest to do, what we suggest to do is we get your story up and we read it and we read my our story and use that to come up with our joint story
8
9 T, A: Okay, Okay
10 D: If that makes sense?
11 A: Ah yeah that's fine
12 G: can I open the documents
13 A: yes, that's fine
14 D: go on then
- Data:** A window on the right side showing a hierarchical tree structure of the data. It includes a search bar and tabs for 'Database', 'Episode Clips', 'Selected Clips', and 'Keywords'. The tree structure is as follows:
 - Database: G1AB
 - Series
 - G1 Exp3
 - G1AB pip
 - G1AB
 - Collections
 - Co-located Interaction
 - Remote Interaction
 - Introducing the Story
 - Story Writing
 - Keywords
 - Co-located Interaction
 - Remote Interaction
 - Asking remote group
 - Search

Video Window

This screenshot shows a software interface with two main panels. The left panel, titled "Visualization", displays a red audio waveform on a white background. Below the waveform is a timeline with markers at 0:03:40.0, 0:04:00.0, 0:04:20.0, and 0:04:40.0. A control bar at the bottom of this panel shows "Time: 0:03:28.8", "Current: 0:03:28.8", "Selected: 0:00:00.0", and "Total: 0:01:33.1". Below the waveform is a "Transcript for Collection 'Remote Interaction', Clip 'Introducing the Story'" with a selection range of "0:03:27.0 - 0:03:31.2". The right panel, titled "Video Media File: 'K:\Videos [XP] 2ch01.pip 120608.avi'", shows a video frame of four people sitting around a table in a meeting room. A play button and a progress bar are visible at the bottom of the video window.

This screenshot shows a similar software interface. The left panel, titled "Visualization", displays a multi-colored audio waveform (red and blue) on a white background. Below the waveform is a timeline with markers at 0:30:00.0, 0:30:00.0, 0:30:00.0, and 0:40:00.0. A control bar at the bottom of this panel shows "Time: 0:00:00.0", "Current: 0:00:00.0", "Selected: 0:00:00.0", and "Total: 0:41:44.9". The right panel, titled "Video", shows a video frame of two people sitting at a table. A control bar at the bottom of the video window includes "Include in Clip", "Play Audio", and a volume indicator of "-119dB".

Transcript Window

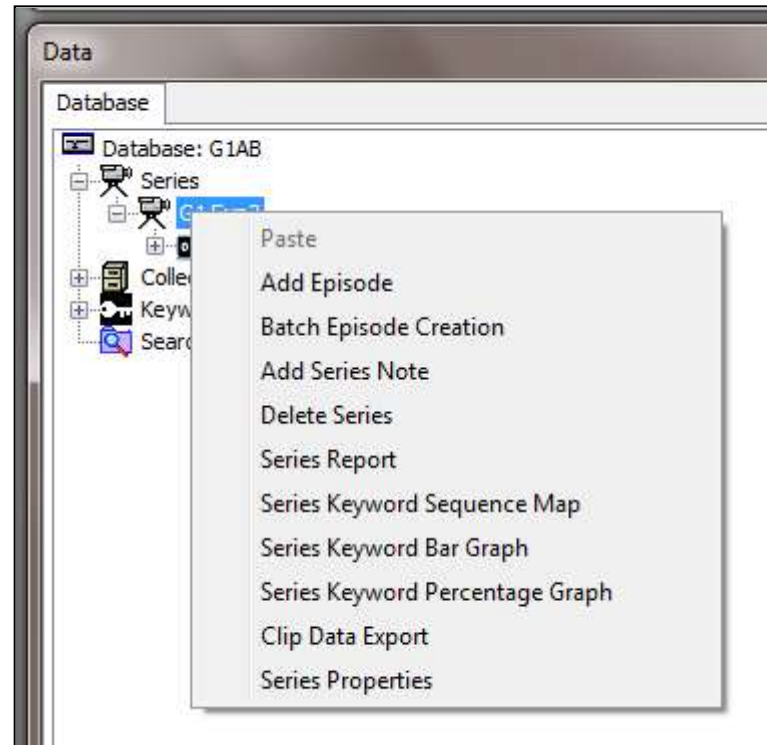
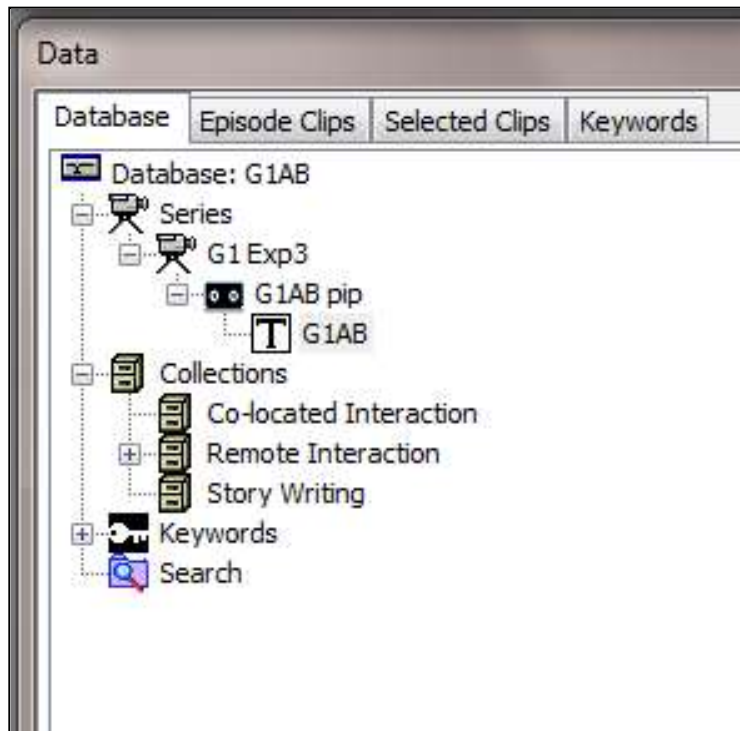
Transcript "GIAB" for Series "G1 Exp3", Episode "GIAB pip"

Selection: 0:03:35.1 - 0:04:27.7

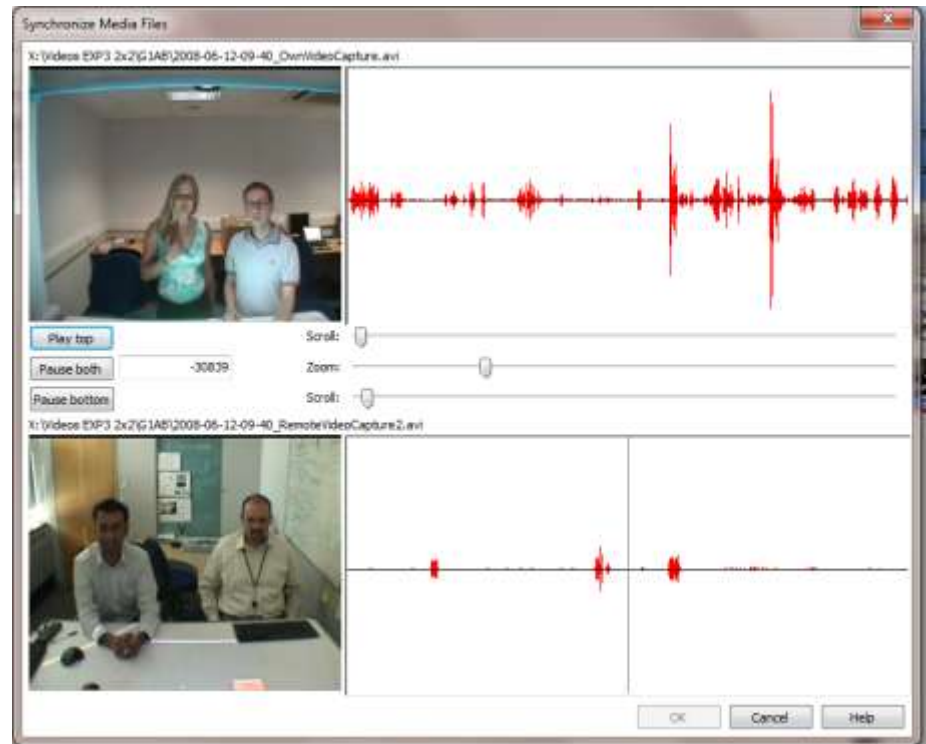
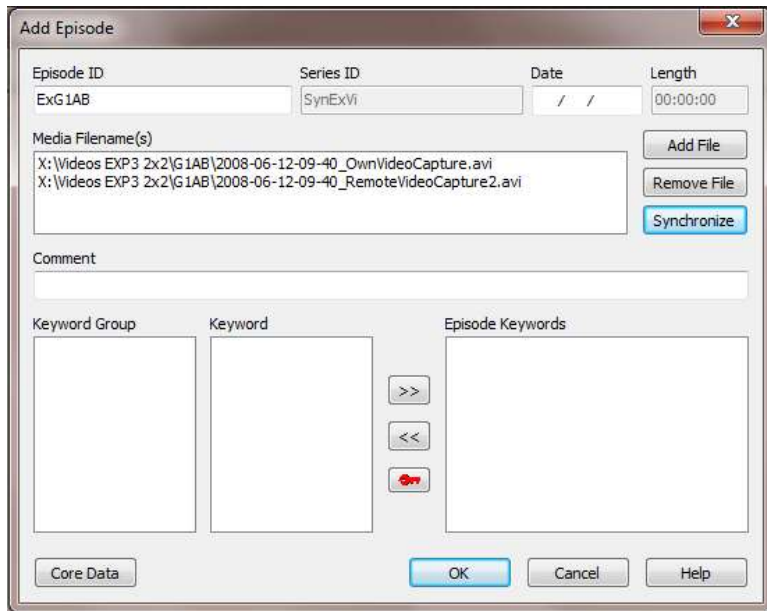
1 =D: right, How do you want to do this?
2 =A: ah well
3 =T: shall we tell them what we did last time?
4 =A: Yeah, the at the. Our topic last time was nature versus development and a basically we pointed out the fact as we the create more technology and improve more technology we somehow distancing ourselves from nature and that a human needs to have strong tghts with nature and when we separate ourselves from nature it causes problems. So, basically technology is there to help us but at the same time it is creating new problems. This is basically what we thought.
5 =D: We came up with a slightly similar story, actually Gabriella came up with the story and it is about oil corruption, where a an oil company wants to rip up a forrest to ahm build biocrops and they apply to the minister.
6 =A, T laughing
7 =D: what we suggest to do, what we suggest to do is we get your story up and we read it and we read my our story and use that to come up with our joint story
8
9 T, A: Okay, Okay
10 D: If that makes sense?
11 A: Ah yeah that's fine
12 G: can I open the documents
13 A: yes, that's fine
14 D: go on then
15
16 G: So, this is ours
17 D: This is ours
18 G: you do the mouse
19
20 D: can you see it
21 A: yes there is ours
22 ours is ...
23 D: it should be on the list
24 A: I think this is ours Yes
25 D: Yep.
26
27 Reading
28
29 T: it's like an article

Data Window

Adding an Episode (Video)



Synchronizing Visual Data



Producing Clips for Coding

Data

Database Keywords

Database: G1AB

- Series
 - G1 Exp3
 - G1AB pip
 - G1AB
- Collections
 - Co-located Interaction
 - Remote Interaction
 - Introducing the Story
 - Story Writing
- Keywords
- Search

Context menu:

- Cut
- Copy
- Paste
- Open
- Add Clip
- Add Multi-transcript Clip
- Add Clip Note
- Merge Clips
- Delete Clip
- Locate Clip in Episode
- Clip Properties

Data

Database	Episode Clips	Selected Clips	Keywords
Clip Start	Clip End	Collection ID	Clip ID
0:03:27.0	0:05:00.0	Remote Interaction	Introducing the Stor

Transcript "G1AB" for Series "G1 Exp3", Episode "G1AB pip"

1 ✘D: right, How do you want to do this?

2 ✘A: ah well

3 ✘T: shall we tell them what we did last time?

4 ✘<A: Yeah, the at the. Our topic last time was nature v
improve more technology we somehow distancing our
separate ourselves from nature it causes problems. So
basically what we thought.

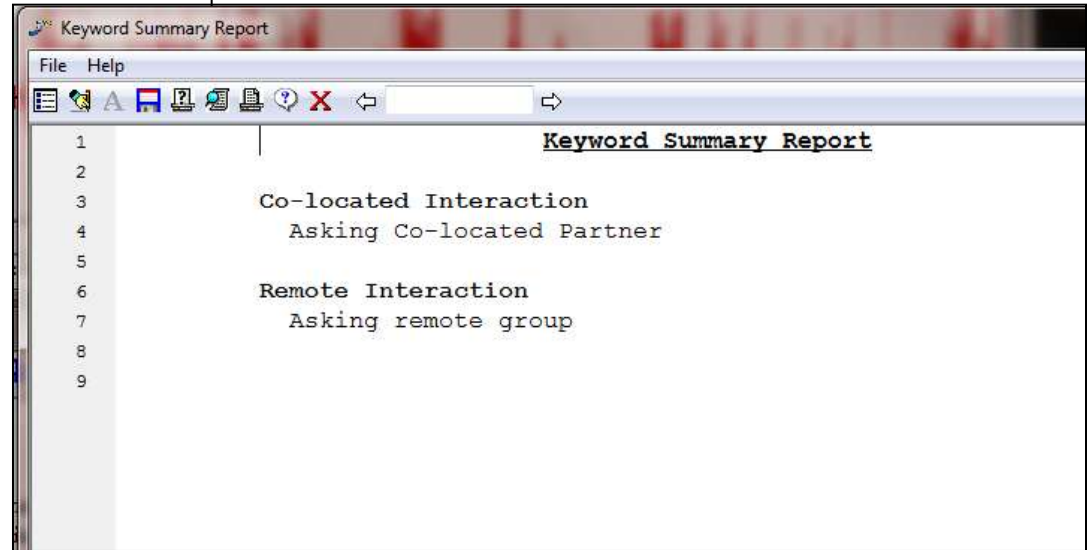
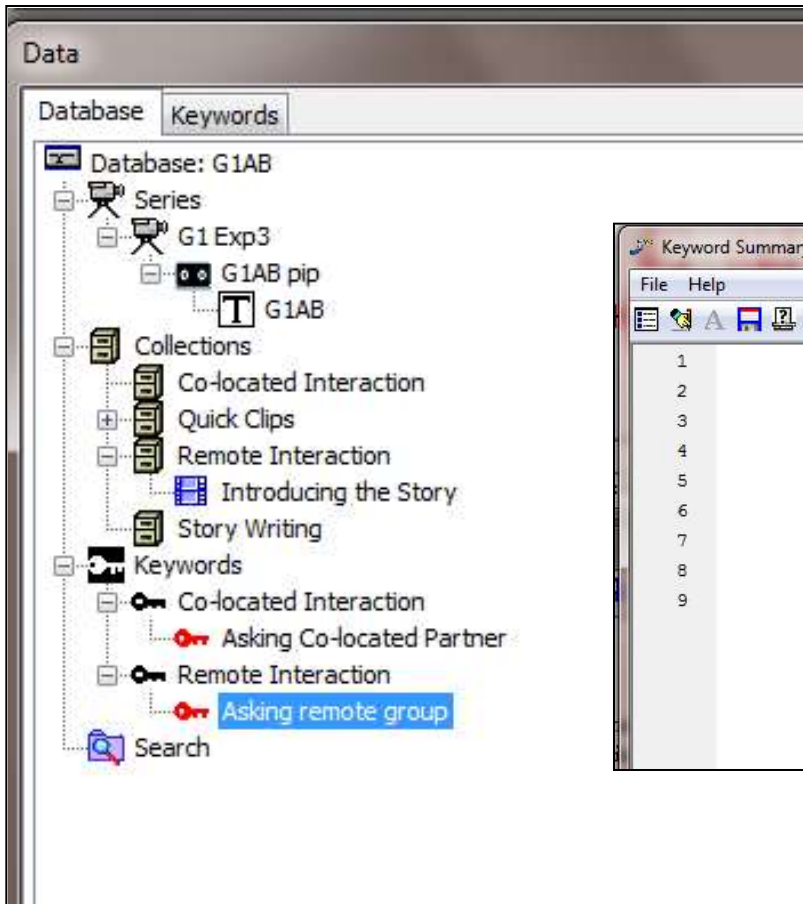
5 ✘D: We came up with a slightly similar story, actually C
rin on a forrest to ahm build biocrons and they annly t

Viewing Clips

The screenshot displays the Transana software interface, which is used for analyzing qualitative data. The interface is divided into several panels:

- Visualization:** A large window showing a red audio waveform. Below the waveform is a timeline with markers at 0:03:40.0, 0:04:00.0, 0:04:20.0, 0:04:40.0, and 0:05:00.0. The current time is 0:03:28.8, and the selected time range is 0:00:00.0 to 0:01:33.1.
- Transcript:** A text area showing a transcript for a clip titled "Introducing the Story". The transcript includes the following lines:
 - 1 D: right, How do you want to do this?
 - 2 =A: ah well
 - 3 <T: shall we tell them what we did last time?
 - 4 =A: Yeah, the at the. Our topic last time was nature versus development and a basically we pointed out the fact as we the create more technology and improve more technology we somehow distancing ourselves from nature and that a human needs to have strong tights with nature and when we separate ourselves from nature it causes problems. So, basically technology is there to help us but at the same time it is creating new problems. This is basically what we thought.
 - 5 =D: We came up with a slightly similar story, actually Gabriela came up with the story and it is about oil corruption, where a an oil company wants to rip up a forest to plant build biocrops and they apply to the minister.
 - 6 =A: T laughing
- Video Media File:** A window showing a video player with the file path "X:\Videos\EXP3 2x2x1 pip 120608.avi". The video shows four people sitting around a table in a meeting room.
- Data:** A tree view showing the database structure. The database is named "GIAB" and contains several series and collections. The "Keywords" series is expanded, showing a list of keywords including "Introducing the Story".

Coding by Keywords



Summary of Transana

- **Advantages**
 - Importing Data of Different Types easy (e.g. ATLAS.ti F4)
 - Having Multiple Transcripts and Video Files in one
 - Extracting Clips and coding individually
- **Disadvantages**
 - Videos have to be prepared
 - No still images

DRS (Digital Replay System)



- **Compatible** with Windows / Mac OSX 10.4
- **Multimedia files:** wav, avi, mpeg-1, mpeg-2, mp3, rtf and jpg, png, gif.
- Video and Transcript(s) can be analysed together -
Interactivity
- Video Data requires **Preparation** similar to Transana (Synchronization Issues)

Windows in DRS

The screenshot displays the Digital Replay System (DRS) interface, which is used for analyzing and replaying video recordings of interactions. The interface is divided into several windows:

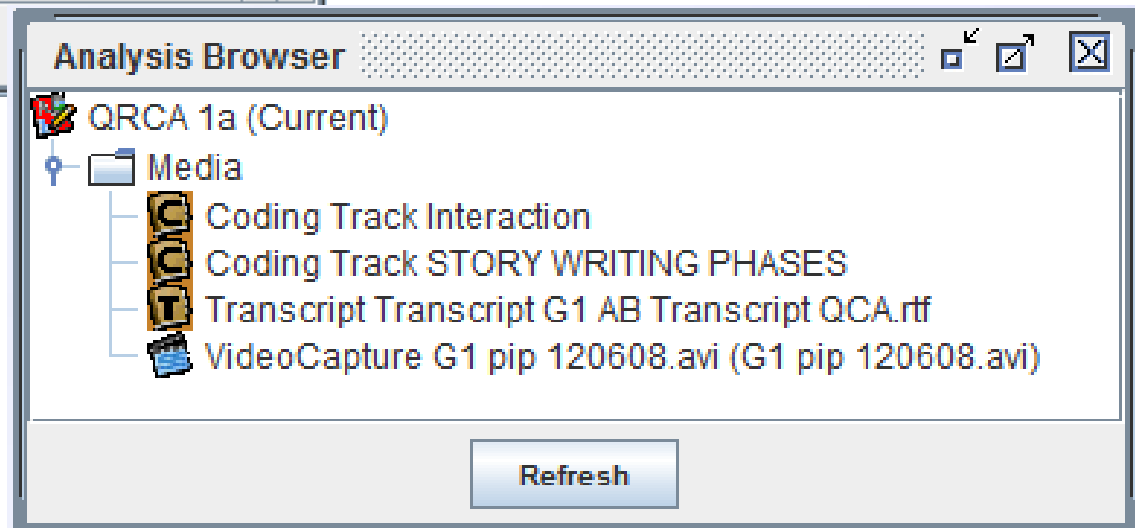
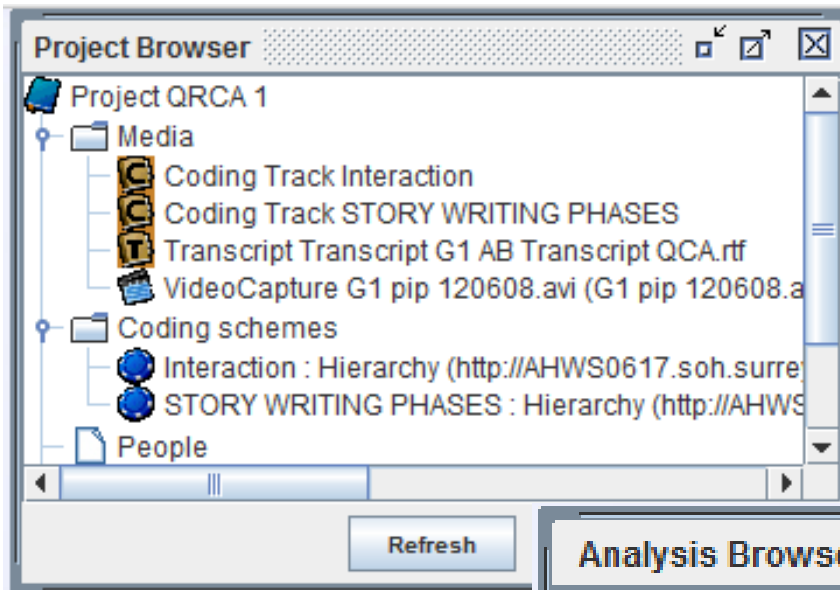
- Analysis Browser:** Shows the current project (GRCA 1a) and the media being analyzed (Coding Track Interaction).
- Project Browser:** Shows the project structure, including the Coding Track Interaction, Coding Track STORY WRITING PHASES, Transcript Transcript G1 All, Transcript OCA.rtf, VideoCapture G1 pip 120608.avi, and Coding schemes.
- Coding scheme interact...:** Shows a tree view of coding schemes, including Remote Interaction, Video Story G1A, and Co-located Interaction.
- Coding scheme STORY...:** Shows a tree view of coding schemes, including STORY WRITING PHASES.
- Transcript G1 All Transcript OCA.rtf:** Shows a transcript of the interaction, including dialogue between participants (D, T, A, G) and a timestamp (00:18:55.942).
- Track Viewer:** Shows a timeline of the interaction, with tracks for G1 pip 120608.avi, G1 pip 120608.avi, Interaction, and Transcript G1. The timeline is color-coded and includes a time scale (00:18:55.942) and a selection range (000 : 18 : 00:02:18 : 00:02:18 : 00:02:18).

The interface also includes a playback control bar at the bottom, showing the current time (00:18:55.942/00:56:05.078) and the mode (Stand-alone).

Video Window



Project & Analysis Browser



Analysis Browser

The screenshot displays the Analysis Browser interface. On the left, the 'Analysis Browser' window shows a tree view under 'QRCA 1a (Current)' with a 'Media' folder containing 'Coding Track Interaction', 'Coding Track STORY WRITING PHASES', 'Transcript Transcript G1 AB Transcript QCA.rtf', and 'VideoCapture G1 pip 120608.avi (G1 pip 120608.avi)'. A 'Refresh' button is located below the tree. On the right, the 'Interaction' window displays a table with the following data:

From time	To time	content
00:02:05.643	00:02:08.313	Annotation(http://AHWS061...
00:03:35.709	00:04:35.689	Intro Story G1A
00:04:35.777	00:05:32.208	Intro Story G1B

At the bottom of the Interaction window, there is a time input field containing '00:22:12.518', a 'Refresh' button, and an 'Export as CSV' button.

Analysis Browser

The screenshot displays the Digital Replay System P: QRC4 1 A: QRC4 1a interface. It features several panels:

- Project Browser:** Shows a tree view for 'Project QRC4 1' with sub-items like 'Media', 'Coding Track Interaction', and 'People'.
- Analysis Browser:** Shows 'QRC4 1a (Current)' with similar sub-items.
- Transcript G1 AB Transcript QCA.rtf:** Displays a transcript with highlighted text:

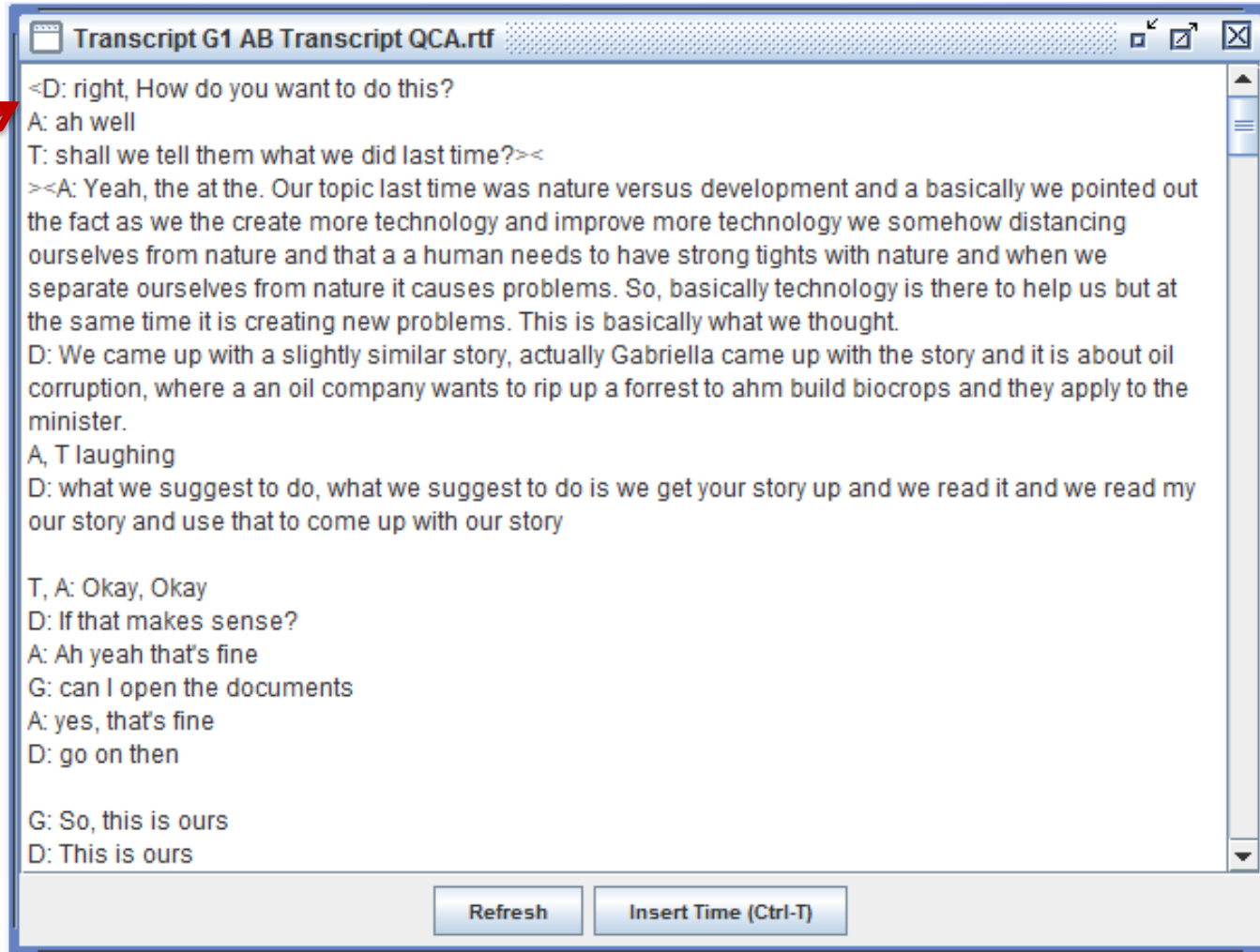
D: right, how do you want to do this?
 A: ah well
 T: what we fell from what we did last time?--
 --A: Yeah, the at the. Our topic last time was nature versus develop the fact as we create more technology and improves more techn ourselves from nature and that a human needs to have strong tigt separate ourselves from nature it causes problems. So, basically to the same time it is creating new problems. This is basically what w
 D: We came up with a slightly similar story, actually Gabriela came corruption, where a an oil company wants to rip up a forest to ahm minister.
 A: T laughing
 D: what we suggest to do, what we suggest to do is we get our story up and we read it and we read my our story and use that to come up with our story
 T, A: Okay, Okay
 D: if that makes sense?
 A: Ah yeah that's fine
 S: can I open the documents
 A: yes, that's fine
 D: go on then
 C: So, this is ours
 D: This is ours
- Coding scheme Interaction:** A table with columns 'From time', 'To time', and 'content'.

From time	To time	content
00:02:05.543	00:02:08.313	Annotation/http://www.sob1...
00:03:35.709	00:04:35.689	Intro Story G1A
00:04:35.777	00:05:32.208	Intro Story G1B
- STORY WRITING PHASES:** A table with columns 'From time', 'To time', and 'content'.

From time	To time	content
00:03:27.369	00:22:12.952	Planning
00:22:12.952	00:22:12.952	Annotation/http://www.sob1...
- Video Player:** Shows a meeting with four people around a table. The current time is 0:3:27 and the duration is 0:41:33.
- Timeline:** A horizontal bar chart showing phases over time. The 'STORY WRITING - Planning' phase is highlighted in purple, and the 'Interaction' phase is highlighted in yellow.
- Control Panel:** Includes buttons for 'Refresh', 'Insert Time (Ctrl-T)', 'Code edit', 'Set Load', and 'PRE SS_START_PRE SS_STOP'.

Transcript Window

Time
Codes



Transcript G1 AB Transcript QCA.rtf

<D: right, How do you want to do this?
A: ah well
T: shall we tell them what we did last time?><
><A: Yeah, the at the. Our topic last time was nature versus development and a basically we pointed out the fact as we the create more technology and improve more technology we somehow distancing ourselves from nature and that a a human needs to have strong tights with nature and when we separate ourselves from nature it causes problems. So, basically technology is there to help us but at the same time it is creating new problems. This is basically what we thought.
D: We came up with a slightly similar story, actually Gabriella came up with the story and it is about oil corruption, where a an oil company wants to rip up a forrest to ahm build biocrops and they apply to the minister.
A, T laughing
D: what we suggest to do, what we suggest to do is we get your story up and we read it and we read my our story and use that to come up with our story

T, A: Okay, Okay
D: If that makes sense?
A: Ah yeah that's fine
G: can I open the documents
A: yes, that's fine
D: go on then

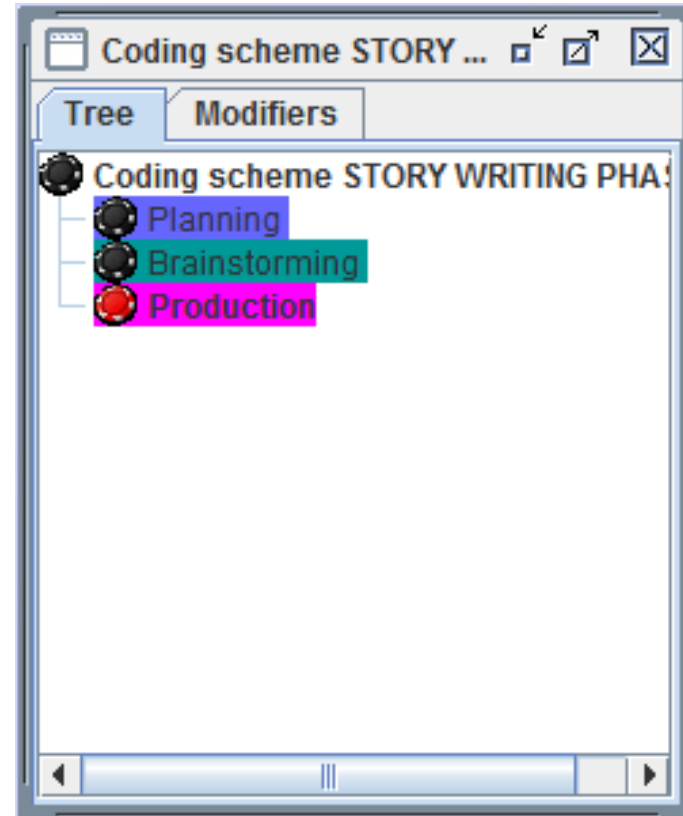
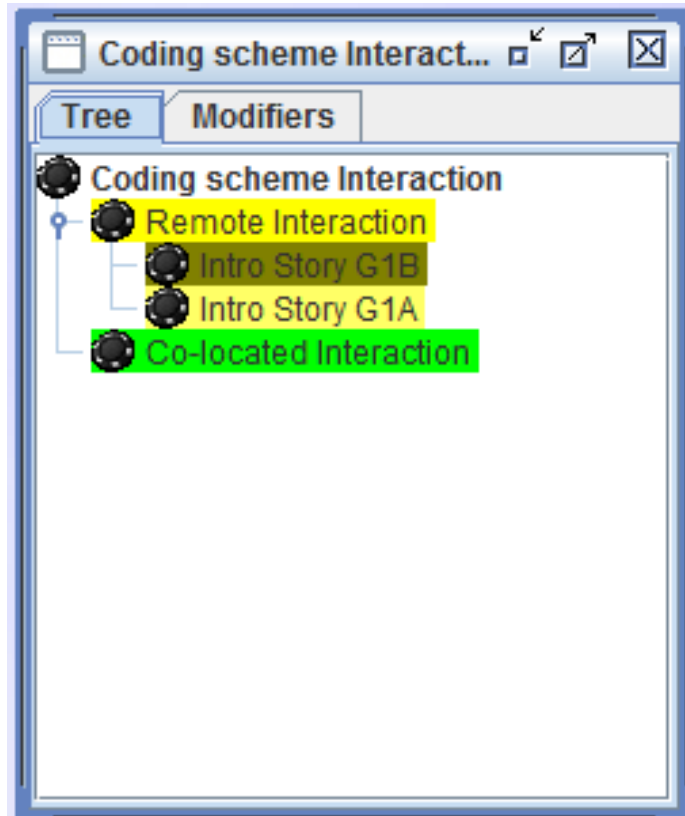
G: So, this is ours
D: This is ours

Refresh Insert Time (Ctrl-T)

Track Viewer

The screenshot displays the Track Viewer application window. At the top, the title bar reads "Track Viewer" and the menu bar includes "Tools", "View", and "Help". Below the menu bar, the "Time scale:" section features a "Time:" input field with the value "-00:00:00.088" and a "Selection:" field with the range "000 : 00 : 00.000 - 000 : 00 : 00.000". To the right of the selection field are navigation arrows. The main area is a timeline with a scale from 00:00:10.000 to 00:01:00.000. On the left, a "Tracks" list includes "G1 pip 12060...", "Transcript G...", "STORY WRITIN...", and "Interaction". The "STORY WRITIN..." track shows a "Planning" segment in blue. The "Interaction" track shows a yellow segment labeled "Intro Story G1A". At the bottom, a "Code edit:" section contains buttons for "Insert", "Set codes", and a dropdown menu currently showing "PRESS_START_PRESS_STOP".

Coding in DRS



Moving & Adding Codes




The image displays two side-by-side windows from a qualitative data analysis software. The left window, titled "Coding scheme Interact...", shows a tree view with a context menu open over the "Intro Story G1B" code. The menu options include "Add child code", "Move to top level", "Move to child of", "Set key", "Rename", "Recolour", "Same colour as parent", "Delete", and "Help". The "Move to child of" option is selected, and a sub-menu is visible with "Remote Interaction" and "Co-located Interaction". The right window, titled "Coding scheme STORY ...", shows a tree view with three codes: "Planning", "Brainstorming", and "Production".

Summary of DRS

- **Advantages**
 - View multiple media files synchronously (video, transcripts etc.)
 - Coding is easy to do
 - Adding and Importing files easy
- **Disadvantages**
 - In-depth analysis produces a lot of ‘windows’
 - Codes can not overlap in one track
 - Video quality is poor even if prepared

Conclusion

- ***Each CAQDAS tool offers good solutions***
 - **Depending on type of data**
 - **Amount of data**
 - **Level of analysis that want to be achieved**

CAQDAS tool	Type of Data	Size of Data	Level of Analysis
ATLAS.ti 	Any but difficult to combine	Small	Broader
TRANSANA 	Video/audio and transcript	Large	In-depth
DRS 	any	Medium	In-depth but complexity increases

Suggestions



- **Synchronization**

- Preparing the media files before using them in one of the CAQDAS tools

- **Transcription**

- Transcribing directly in the CAQDAS tool is beneficial as data can be directly related to media file