

# Code-A-Text Integrated System for the Analysis of Interviews and Dialogues. C-I-SAID With Acoustic Manager

|   |    |
|---|----|
| Introduction.....   | 3  |
| What's on the CD ROM.....   | 3  |
| This Document.....  | 3  |
| What is C-I-SAID For?.....  | 3  |
| C-I-SAID and Code-A-Text Multi-Media.....   | 4  |
| Installing C-I-SAID.....  | 4  |
| What sort of computer do I need?.....   | 4  |
| Considerations before Installation.....   | 4  |
| Installing on Windows 2000 - Windows 98 Second Edition and Windows 98 first edition (with<br>Internet Explorer and components from Microsoft Office installed)..... | 5  |
| Installing on other versions of Windows 98, Windows NT4 with service pack 6 and Windows 95<br>with Internet Explorer 5.....   | 5  |
| <b>Installing DirectX 7a</b> .....  | 5  |
| Installing Data Access.....   | 5  |
| Installing C-I-SAID.....  | 5  |
| During Installation.....  | 6  |
| What's installed.....   | 6  |
| Folders.....  | 6  |
| The programmes.....   | 7  |
| Help Files.....   | 7  |
| Printable Documentation.....  | 7  |
| Installing the Acrobat Reader.....  | 7  |
| Documents in the Documents Folder.....  | 7  |
| Opening the Programme for the first time.....   | 7  |
| Uninstalling and Re-Installing C-I-SAID.....  | 8  |
| Overview of C-I-SAID.....   | 9  |
| Basic principles.....   | 9  |
| Importing Source Data.....  | 9  |
| Coding A Document.....  | 10 |
| Lexical Methods.....  | 11 |
| Rating Scales.....  | 11 |
| Searching Documents.....  | 12 |
| Lexical analysis.....   | 12 |
| Rating Scale Analysis.....  | 12 |
| Document and Segment Levels of Analysis.....  | 13 |
| Methods for Manipulating documents and codes.....   | 13 |
| Methods for Editing WAV files.....  | 13 |
| Input and Outputs.....  | 14 |
| Ten Minute Tour.....  | 15 |
| Terminology used in tutorials.....  | 15 |
| Opening the Programme for the first time.....   | 15 |
| Opening a document.....   | 15 |
| Getting Help.....   | 15 |
| To open a document.....   | 16 |
| Play the sound.....   | 16 |
| Stop the sound.....   | 16 |
| Controlling Playback.....   | 16 |
| View rating scales and codes.....   | 16 |
| Coding Using Comments and Annotations.....  | 18 |
| Analysis Using the Report Manager.....  | 18 |
| Lexical Analysis.....   | 18 |

|  |    |
|--|----|
| Lexical Searches .....   | 20 |
| Rating Scale Searches .....  | 20 |
| Rating Scale Analysis .....  | 21 |
| Viewing Acoustic Properties .....                                    | 24 |
| Support and Updates .....  | 25 |
| Appendix: Help For Users of the Code-A-Text Multi-Media System ..... | 25 |

# **Code-A-Text Integrated System for the Analysis of Interviews and Dialogues.**

## **C-I-SAID WITH THE Acoustic Manager**

### **Introduction**

#### ***What's on the CD ROM.***

The C-I-SAID folder on the CD ROM contains four folders under the parent folder.

- The only file in the parent folder is a text file describing the contents of the folders.
- Printable documentation is in the Documents folder.
- C-I-SAID is in the C-I-SAID folder.
- The DirectX and Data Access folders contain files that may be required during installation.

#### ***This Document.***

This document contains four sections

- A brief introduction C-I-SAID.
- Instructions for installation.
- A detailed overview of C-I-SAID.
- A ten minute tour of the C-I-SAID.

More detailed information and tutorials are to be found in the "USER GUIDE" which is installed as a help file with C-I-SAID or can be found in printed format in the Documents folder.

#### ***What is C-I-SAID For?***

The Code-A-Text Integrated System for the Analysis of Interviews and Dialogues (C-I-SAID) consists of an integrated suite of software programmes developed to facilitate the study of documents, usually based upon interviews or dialogues but can include documents such as questionnaires. C-I-SAID has its most obvious applications in psychology, psychotherapy, sociology, medicine and market research but also has uses in wider areas such as law and the humanities - particularly in theatre.

C-I-SAID offers a set of unique features which allow the depth of analysis, normally associated with a programme dedicated to qualitative analysis, within an analytic framework which is quantitative in orientation. Thus open ended coding, using comments and textual annotations, is accompanied by rating scales which can be categorical or numerical in format. There are also sections within the programme such as the lexicon (largely devoted to thematic content analysis) and the acoustic manager (devoted to the measurement of the volume, pitch and speed of speech) which generate statistics. The main outputs from C-I-SAID are reports, tables and charts which can be accompanied by a range of statistics that can be used to describe the documents in a project (along side qualitative methods) and compare them with one another.

Underlying the development of C-I-SAID is the recognition that the investigator who studies complex data based upon interviews, dialogues or texts is, as the investigation progresses, often increasingly divorced from their source data. The source data is likely to be video or sound but they may find themselves only studying one component, often a transcription, without reference to the speech from which the document was made. They may find themselves moving away, even from the transcription, if they resort to numerical analysis in order to capture complex underlying patterns. Statistical packages separate the source data from the coded data which they analyse and thus the link between the results and the original data often feels tenuous. C-I-SAID has been designed to provide methods which allow the investigator to use the tools of both qualitative and quantitative analysis whilst retaining the links to the source data.

To facilitate these goals C-I-SAID enables various methods of coding. These include free speech coding through comments and annotations; categorical and numerical scale coding through rating scales; lexical coding through thematic content analysis of document text and acoustic analysis which provides methods of automatically coding features of "tone of voice"

The use of the term numerical rather than statistical is deliberate. Essentially the method of validating statistical data comes from the theories of probability. Yet the data used in qualitative studies rarely complies to the requirements for such analyses. This does not invalidate the use of numbers to describe the phenomena but it does mean that the basis for validation often cannot stem from statistical theory alone. In C-I-SAID you will find sophisticated ways to organise and search source data, along side tabulations and graphical representations of that data. Statistical test are included because they often provide a way of indicating the comparative strength of a relationship. Normally the higher the level of abstraction in the analysis the greater the disjunction between the source data and the codes. In C-I-SAID this is not the case you only have to click on a graph or table to go back to the source data whether it be text, audio or video or images.

### ***C-I-SAID and Code-A-Text Multi-Media***

Although C-I-SAID has evolved from the Code-A-Text Multi-Media system there are many differences both in the terminology used and the way the programme is constructed. If you are familiar with the Multi-Media system you should read the Appendix at the end of this document before proceeding. Copies of the appendix are also found in on line help documentation.

## **Installing C-I-SAID**

### ***What sort of computer do I need?***

C-I-SAID will run on Windows 95 with Internet Explorer 5, Windows 98, Windows 2000 and NT4 with service pack 6a installed. Different systems will require different installation procedures.

You will need at least

- 32 Mb of Ram
- 120 MHz processor.
- 50 MB of hard disk space
- colour monitor with a resolution of at least 800 \* 600 (SVGA)
- access to a CD ROM drive.

If you intend to use audio or video then the higher the specification of the machine the better the performance. If you are intending to use the content analysis features of C-I-SAID then at least 50 megabytes of spare disk space is recommended.

### ***Considerations before Installation.***

Following Microsoft's recommendations, by default, the set up programme places C-I-SAID in a Code-A-Text Ltd folder within the Programme Files folder. You may find it more convenient to install the programme elsewhere. You can choose a different folder during the installation procedure. The main programme files are placed in the C-I-SAID folder and the demonstration files are placed in a sub folder of that. You can move the demonstration folder if you so choose.

Though the C-I-SAID programme can be on a "read only" drive all database files must be on a drive where the user has writing privileges. The programme also needs access to the Windows Registry while it is functioning.

The folder where the programme looks for its data files is known as a the **Working Folder** and that where it seeks sound and video files the Media Folder. These are initially set to the **Demonstration Folder**. The first hands on tutorial shows you how to change these folders

With most recently purchased computers C-I-SAID can be installed directly. On older machines or those that have not be upgraded by other programmes you will need to install DirectX (at least version 7a) and Microsoft Data objects first. As a general guideline machines with Internet Explorer 5 and Microsoft office will install directly.

C-I-SAID uses the new windows installer which is to be come the standard method for installing Windows programmes

Prior to installation close all applications and as many windows as possible.

### ***Installing on Windows 2000 - Windows 98 Second Edition and Windows 98 first edition (with Internet Explorer and components from Microsoft Office installed)***

From the C-I-SAID folder of the C-I-SAID CD ROM

- Run Setup.exe

This launches the windows installer a programme which detects the version of Windows you are using and launches the appropriate installation sequence. You may be asked to reboot after the windows installer is installed and after C-I-SAID is installed. If in doubt about the components installed on your machine or you experience difficulties when first stating C-I-SAID proceed as below.

### ***Installing on other versions of Windows 98, Windows NT4 with service pack 6 and Windows 95 with Internet Explorer 5.***

To avoid difficulties install both DirectX 7 and the Data Access Module before installing C-I-SAID.

#### **Installing DirectX 7a**

Change to the DirectX folder  
Run Dxsetup.exe

The latest version of DirectX can be downloaded from the Microsoft web site.

#### **Installing Data Access.**

Before installing C-I-SAID you must first install C-I-SAID Data Access.

- Change to the Data Access folder on the CD ROM.
- Run Setup.EXE

This installs the data access components required by C-I-SAID.

#### **Installing C-I-SAID**

From the C-I-SAID folder of the C-I-SAID CD ROM

- Run Setup.exe

This launches the windows install a programme which detects the version of Windows you are using and launches the appropriate installation sequence.

### ***Error Messages Associated with Installation problems.***

Most installations are straightforward and proceed without difficulties. If errors do occur they are almost certainly due to either DirectX or Data Access not being correctly installed.

#### **During Installation**

If you receive an error message saying that a file beginning with the letters "It" such as Itvid.dll failed to register.

This is usually Error 1904 but it can take different forms.  
Press abort and install DirectX.

#### **When you first run C-I-SAID.**

If you receive a Lead Error message when you first attempt to play an audio file

This most likely indicates that Direct X is not installed properly.

If you receive either of the following error messages when you first open a database.

429 ActiveX component can't create object  
3031 Not a valid password

This indicates that the Data Access is not correctly installed. Try installing the data access module as described above.

If you receive the following error when you try save a document.

3072 Unrecognised Function

This indicates a conflict between the Data Access facilities on the machine and those used by C-I-SAID. Try installing the data access module as described above.

As a general rule if you receive error messages when first running the programme they are caused by Data Access components not be installed.

### ***What's installed***

The installation will install C-I-SAID onto your computer.

#### **Folders**

The C-I-SAID folder which contains all the system files required by the programme. This can be on a read only drive.

The other folders are subfolders of the C-I-SAID folder.

The Demonstration Folder and contains the demonstration files. This must be on a folder on which you have writing privileges. You can copy the complete contents of the demonstration folder to new location.

The DAC folder which is installed as part of the data access and should not be removed.

## The programmes

C-I-SAID contains two main programmes

- The Document Manager in which you enter and code your source data
- The Report Manager which is used in the analysis of data.

Short cuts to these programmes are found in the C-I-SAID item in Programmes on the Start Menu.

## Help Files

- USER GUIDE: provides an overview of the programme with tutorials.
- Help: Contains detailed information about each of the functions found in the programme. **The help file provides context sensitive help and can be accessed by pressing F1 from within the main programme.**

Short cuts to these programmes are found in the C-I-SAID item in Programmes on the Start Menu.

## **Printable Documentation.**

There are printable copies of this booklet and the USER GUIDE in the "Documents" folder of the CD ROM. These are in the Acrobat 4.5 format.

## Installing the Acrobat Reader

If you do not have a version of the Acrobat which can read these documents installed on your computer

- *Open Run from the Windows start menu*
- *Use the browse feature to select "ar405eng.exe" from the Documents folder of the CD ROM.*
- *Press Open*
- *Press OK*

This will install Acrobat 4.5 for you.

## Documents in the Documents Folder

- Intro to C-I-SAID with Acoustic Manager  
This document is a copy of the "USER GUIDIE" help file which you will find on the C-I-SAID start menu item after the installation is complete. It provides an overview of the programme with tutorials.

**It is important that you read this document or follow the online version before starting to use C-I-SAID.**

You may find it useful to print this document.

## **Opening the Programme for the first time.**

You should first Open the Document Manager. When you do this the registration window will open.

If you have a registration number enter it into the box and press the proceed button. You will not need to enter this number again.

If you don't have a registration number press the "viewer button".

C-I-SAID can be run either as a viewer for existing files or as a full programme. In viewer mode you can read any existing C-I-SAID database or file but you cannot change them in any way. Viewer mode

can be used to evaluate C-I-SAID but it can also be used as a means of circulating C-I-SAID Documents.

### ***Uninstalling and Re-Installing C-I-SAID .***

The programme can be removed from the Remove Software facility in the windows Control Panel You cannot re-install C-I-SAID without removing the existing version. If you try to do so a window will open with various options. You must select "Remove" C-I-SAID before proceeding.

The uninstall programme only removes registry settings and files which were entered on your computer by the installation program. To clear all registry entries made by C-I-SAID during its operations by run the programme

- *ClearCTRegistry.exe.*

Which is found on the CD ROM. There is also a copy in the main C-I-SAID folder.

If you have installed the Data Access component remove this using the remove software facility in the control panel.

# Overview of C-I-SAID

## ***Basic principles***

The Code-A-Text Integrated System for the Analysis of Interviews and Dialogues (C-I-SAID) consists of an integrated suite of software programmes developed to facilitate the study of documents, usually based upon interviews or dialogues but can include documents such as questionnaires. C-I-SAID has its most obvious applications in psychology, psychotherapy, sociology, medicine and market research but also has uses in wider areas such as law and the humanities - particularly in theatre.

C-I-SAID offers a set of unique features which allow the depth of analysis, normally associated with a programme dedicated to qualitative analysis, within an analytic framework which is quantitative in orientation. Thus open ended coding, using comments and textual annotations, is accompanied by rating scales which can be categorical or numerical in format. There are also sections within the programme such as the lexicon (largely devoted to thematic content analysis) and the acoustic manager (devoted to the measurement of the volume, pitch and speed of speech) which generate statistics. The main outputs from C-I-SAID are reports, tables and charts which can be accompanied by a range of statistics that can be used to describe the documents in a project (along side qualitative methods) and compare them with one another.

Underlying the development of C-I-SAID is the recognition that the investigator who studies complex data based upon interviews, dialogues or texts is, as the investigation progresses, often increasingly divorced from their source data. The source data is likely to be video or sound but they may find themselves only studying one component, often a transcription, without reference to the speech from which the document was made. They may find themselves moving away, even from the transcription, if they resort to numerical analysis in order to capture complex underlying patterns. Statistical packages separate the source data from the coded data which they analyse and thus the link between the results and the original data often feels tenuous. C-I-SAID has been designed to provide methods which allow the investigator to use the tools of both qualitative and quantitative analysis whilst retaining the links to the source data.

To facilitate these goals C-I-SAID enables various methods of coding. These include free speech coding through comments and annotations; categorical and numerical scale coding through rating scales; lexical coding through thematic content analysis of document text and acoustic analysis which provides methods of automatically coding features of "tone of voice"

The use of the term numerical rather than statistical is deliberate. Essentially the method of validating statistical data comes from the theories of probability. Yet the data used in qualitative studies rarely complies to the requirements for such analyses. This does not invalidate the use of numbers to describe the phenomena but it does mean that the basis for validation often cannot stem from statistical theory alone. In C-I-SAID you will find sophisticated ways to organise and search source data, along side tabulations and graphical representations of that data. Statistical tests are included because they often provide a way of indicating the comparative strength of a relationship. Normally the higher the level of abstraction in the analysis the greater the disjunction between the source data and the codes. In C-I-SAID this is not the case you only have to click on a graph or table to go back to the source data whether it be text, audio or video or images.

## ***Importing Source Data.***

C-I-SAID bases its analyses on the documents within a project. A document can consist of sound, text and video. Each document is subdivided into speech units which in turn consist of segments. The segment is the unit which is analysed. The user defines a segment which may be a speaking turn, a section of text consisting of a set number of words, or even a period of sound broken by a silence. In many cases C-I-SAID will automatically create the segment structure.

C-I-SAID has facilities for recording or copying audio files on to the computer and a number of features for transcription, including the capacity to slow sound down, insert silences into text, or to stop playback for a specific period of time. C-I-SAID contains a spell checker with British and American English dictionaries, of more than 200,000 words, and the facility to add dictionaries from other European languages .

Apart from media and text files C-I-SAID can also attach images to a segment. For instance a frame from a video file might be added or a chart representing features of the segment.

C-I-SAID uses hypertext links to form associations between different parts of a document. Such links mean that the transcription and the media files are synchronised and the user can move between them with ease. These links, which are made by the user, also provide the facility to move between codes and the underlying source data.

Although C-I-SAID is specifically designed to analyse dialogues and has special facilities to accommodate different speakers with functions which enable the investigator to study the process sequentially it is by no means restricted to this format. It is possible to code a media file directly without any transcription of sound, indeed the programme could easily be used for the study of music.

Similarly, it is not restricted to the study of conversation. C-I-SAID uses the convention that a normal document without speakers contains a single speaker and can automatically format such a document accordingly. Indeed from entering a Text Document to obtaining a full content analysis can take a matter of seconds.

Documents can be typed within C-I-SAID or created elsewhere and imported via various files formats (RTF, TXT and HTML) or pasted from the windows clipboard which supports most formats used by word processors. Additionally source data can be imported in the form of tab delimited files which is useful if you wish to quickly create a large number of documents as you would if importing a set of questionnaires. The Data Editor Window provides a fast and easy way of creating these files.

### ***Coding A Document.***

A code is a label which is attached to a segment. These labels describe characteristics of the segment. In C-I-SAID codes are always, implicitly or explicitly the specific values of an underlying scale. Scales in C-I-SAID are essentially the same as variables in statistical programmes. The scales are created within different parts of the programme. Scales associated with text are created by the Lexicon and called lexical scales. Other scales are created via a process called "Rating" and these may be either manually coded or be the result of internal process such as those generated by the acoustic manager.

There are three main types of scale used in C-I-SAID.

**Nominal scales** have a value of true or false. The most obvious examples of these are in the coding of segments done through the lexicon. C-I-SAID creates a scale (hidden from the user) for each word in a project and then each segment is coded true if it contains a given word.

A nominal scale is a specific example of a **Categorical Scale**. **Categorical Scales** can have any number of values. For instance a scale which measures "Speaker Activity" might have a series of values such as "Asks Question", "Expresses Feelings", "Offers Opinion".

A **Numerical Scale** is a scale that has a list of numbers as values. For instance the lexicon creates a scale called "WordCount!" which has as its values the number of words in each segment. The Acoustic Manager creates a scale called "F0" which contains the value of the fundamental frequency of the speech in a segment. C-I-SAID, like most programmes treats numerical scales as if they are interval scales. However, the term numerical is preferred because often social science data do not meet the formal requirements of an interval scale. Mostly the data is ordinal so that the numbers indicate relative position on an implicit scale.

## Lexical Methods.

The term lexical methods is used to describe those methods of coding, searching and analysing documents which use as their source data the words contained in the document or comments added by the user. The lexical methods use computerised content analysis to generate indexes which are groups of nominal scales not usually visible to the user.

### Content analysis.

C-I-SAID creates an index of every word in a project. Words can be brought together in to *word groups* which relate to concepts that interest the investigator. C-I-SAID contains two internal dictionaries each of which contains more than 50 word groups. However, most investigators will want to create their own either by importing them from external sources or generating them from their own documents.

### Comments

A comment is a piece of text added by the user to a segment. Comments are stored apart from any texts in the segments to which they apply. C-I-SAID creates a separate index of words in the comments which can be searched in the same way as the text to which it is attached.

### Annotations

An annotation is a word entered into the main body of the text which functions as a code. Annotations might be used to indicate features such as tone of voice. C-I-SAID attaches an index of annotations to the comments index.

## Rating Scales.

### User Created

Rating Scales are created by the user to try and capture the underlying essence within the source data. C-I-SAID allows the user to create numerical, ordinal or nominal scales. Rating scales can be either categorical or numerical. Categorical scales contain codes in discrete categories. E.g. A scale of Anxiety might have three ordered categories High, Medium, Low a scale Food might have categories such as Meat, Fish, Cheese. By contrast numerical scales only contain numbers.

The values for the scales can be added manually through one of four data input methods. Two of the methods involve the user selecting the code with the mouse from a list displayed on the screen (segment view and grid coding), the third allows the user to use the numeric keyboard and the tab key (quick coding) and the fourth allows the user to import the codes directly from a tab delimited file.

### Auto Coding

In addition to manual coding the user can direct that the results of an operation such as a search, should be directed to the value of a scale. For instance, in analysing interviews based on consumer preferences you could search for all the segments that were coded "Expresses Preference" on a scale called Activity and all the segments coded True for the Words "Fish" or "Meat" or "Cheese" and direct the output to a scale called "Preference" with a value called "Food". You might then direct that all the segments containing the words "cinema", "theatre" or one of the words from the word group "Television" to be coded as "entertainment" on the preference scale. The word group television would be true if the segment contained any of the words "television", "tele", "tv". C-I-SAID would automatically code the segments with these values.

### Computer Generated

Apart from scales created by the user, C-I-SAID can generate many scales automatically. The lexicon generates a variety of rating scales and the user can also draw upon the hidden lexical scales, such as words or word groups and can convert these into Rating Scales.

### Acoustic Scales

The Acoustic Manager can be used to generate acoustic scales for a document. These are added to the collection of scales. The acoustic scales, which are applied to the segment can include volume interval, pitch - represented by separate volumes for the three dominant frequencies in a segment, time from beginning of file, length of segment in seconds, speech rate and ratio of sound to silence. These can be displayed graphically for any segment or selection and can be written into the database as numerical scales.

## Searching Documents

C-I-SAID can search a project using any of the coding methods described above. Apart from the normal Boolean operators C-I-SAID has a number of unique operators which allow for complex searches. There is no limit to the number of phrases that can be built into a search.

Searches can be filtered and the user can define which speakers and documents to include. The user can also restrict the search to segments which have specific codes. Such codes can themselves be the result of earlier searches.

By default searches are focused on the segment. However the user can elect to change this so that all the segments in a speech unit can be treated as a single unit. Word group searches can be focused on a user defined syntactical unit such as a phrase or other part of a sentence. If document characteristics are being used then the search can focus on documents themselves.

Output from a search is the segments meeting the search criteria which can be presented with their properties (text, media, codes) as reports, tables or spreadsheet. If the segments contained in a report are linked to a media file then the associated media can be played, if linked to an acoustic file then the acoustic properties can be displayed and if it contains text then word counts and other textual statistics are also available.

The output from a search can also be directed to Rating Scales and can be used to create a new document. Searches are used to select the data

## Lexical analysis

Lexical analysis can be applied to all words and word groups in a project. The functions are chosen from a dialogue window which presents a description of all the functions in the project and then activates a wizard to take the user through the required steps. There are currently 17 different functions in this part of C-I-SAID. Many of these have multiple representations.

These include

- Word and word group counts and facilities for comparing these between speakers and documents.
- Measures of association, including a concordance which shows the relative position of words to each other in a document, and cross-tabulations and correlations between individual words or word groups and between lexical codes and scales.
- Sequential plots which show the use of words and word groups over time and the ways which one speakers use of words are associated with the usage of another.

Many functions also have graphical outputs.

Word group scores can be converted to nominal and numerical rating scales and thus analysed using the rating scale functions.

## Rating Scale Analysis.

Rating Scale Analysis provides functions for analysing and graphically representing the Rating Scales in a project. The functions are chosen from a dialogue window which presents a description of all the functions in the project and then activates a wizard to take the user through the required steps. Like Lexical Analysis, Rating Scale Analysis has features which make it easy to examine the differences

between speakers and Documents. Each output from Rating Scale Analysis is accompanied by a chart clicking on which will take the user back to the source data.

The main features of Rating Scale Analysis are

- Descriptive statistics describing the distribution of codes within the scales. Charts include bar graphs and pie charts based on numbers, percentages or cumulative percentages.
- Methods of cross tabulation including both ordinal and nominal scale statistics. Charts include 3 D bar charts and stacked bar charts.
- Differences of means including T- Test, F- test, and Median tests. Charts include box plots based on either means all medians .
- Regression analysis with correlations and slopes. Chart is a scatter plot .
- Methods for calculating inter rater reliability which are presented in the same way as cross tabulations.
- Sequential charts which present information about numerical and categorical scales sequentially allowing the user to see the pattern of codes over time.
- Lagged cross tabulation which plots the relationship between codes on one segment and codes on another.

## Document and Segment Levels of Analysis

By default C-I-SAID analyses data based on a segment. Thus if you compare two documents you are comparing the segments within the documents. For many projects, however, the required level of analysis is not the segment but the document itself. Version 3 of C-I-SAID has special features which allow the user to create scales called document characteristics which are characteristics of the document itself not just of the segments within. A document characteristic is a constant throughout the document. The most obvious document characteristics in an interview project are the demographic characteristics, like gender, of the speakers. Other characteristics might be features of the document itself - such as the average number of words spoken per segment. C-I-SAID has special features to generate document characteristics which allow the document itself to be unit of analysis. It also allows for the analysis the relationships between the document characteristics and the segments. This means that version 3 of C-I-SAID becomes a useful tool for analysing documents such as questionnaires which involve a mix of pre coded and open ended questions. A long hands on section devotes itself to the principles of document characteristics and analysing questionnaires.

## Methods for Manipulating documents and codes.

A variety of methods exist for manipulating document structure. These include creating documents based on

- temporal and volume features of the sound file
- numbers of words spoken
- merging one document into another
- selecting a number of segments from a document e.g. all responses from one speaker

Rating scales can be manipulated by computing a new scale

- based on values in several other scales
- recoding existing scales
- counting values in other scales.
- generating new scales for specific purposes.

## Methods for Editing WAV files.

- Reports can be output as interactive web pages which allow the sound to be played in Internet Explorer. New WAV files can be created which only contain the segments in the document.
- New documents can be created from the segments selected into a grid. A new WAV file can be created which only contains the relevant segments. This may draw on a number of different source WAV files.
- WAV files can be edited and sections copied or deleted. A special erase feature allows sensitive information to be wiped without changing the data in the file.

- WAV files can be extracted from AVI video files for acoustic analysis.

### ***Input and Outputs.***

C-I-SAID supports the following

- media files: AVI, WAV and JPEG files (including MP3) and WMA.
- Text files: RTF, TXT and HTML
- Tables can be output as RTF, HTML or tab delimited.
- Graphs can be output as bitmaps or meta files.

Data grids, which form the basis of rating scale analysis can be output as SPSS command files and data/codes which are in tab delimited format can be input directly into a document.

The Data Editor Window can be used to create, view and edit tab delimited files.

# Ten Minute Tour

## ***Terminology used in tutorials***

The hands-on sections of this document provides you with the opportunity to get a sense of the look and feel of the programme. It guides you through a number of key operations.

### **Actions are indicated by bulleted text**

- *Do this*

### **Menus are expressed thus**

- *Select File\ Set Working Folder*  
Means click on the File Menu to open it and then select the Set Working Folder sub menu.

### **Buttons are expressed as**

- *Press OK*

Meaning press or click on the OK button.

### **Text entry is expressed as**

- *Enter "This text"*

Meaning type the phrase "this text" into the text box.

## ***Opening the Programme for the first time.***

- *Open the Document Manager* from the C-I-SAID item of the start menu.

When you do this the registration window will open.

### **If you have a registration number**

- *enter it into the box*
- *press the proceed button.*

You will not need to enter this number again.

### **If you don't have a registration number**

- *press the "viewer button".*

C-I-SAID can be run either as a viewer for existing files or as a full programme. In viewer mode you can read any existing C-I-SAID database or file but you cannot change them in any way. Viewer mode can be used to evaluate C-I-SAID but it can also be used as a means of circulating C-I-SAID Documents.

## ***Opening a document.***

The ten minute tour will allow you to see a number of the features available within C-I-SAID - to learn how to use these you must read the "Getting Started" help file or the "Introduction to C-I-SAID Document". Pressing F1 will open the main help file for a window.

When the programme opens the screen is blank to open a document

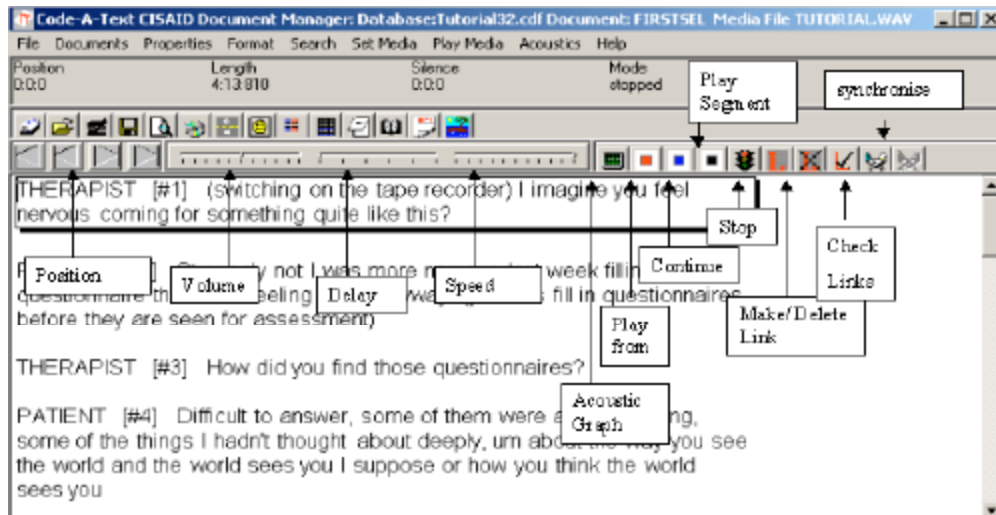
## Getting Help

- *Press F1 to open the help window.*

## To open a document

- *Select Documents \Open Document*
- *Select the demonstration database "Tutorial32.cdf"*
- *Select the document FirstSel*
- *Press OK*

The transcribed document appears in the text editing window and the editing and media toolbars are displayed.



## Play the sound

- *Place the mouse pointer over the last but one button - message synchronise media texts and codes*
- *Click the button*
- *Place the mouse pointer over the black button next to the traffic light icon. The message play from current text segment will appear*
- *Click the button*

The sound will play and the text will scroll. If the media file was a video the "video window" would open so that you could view the file.

## Stop the sound

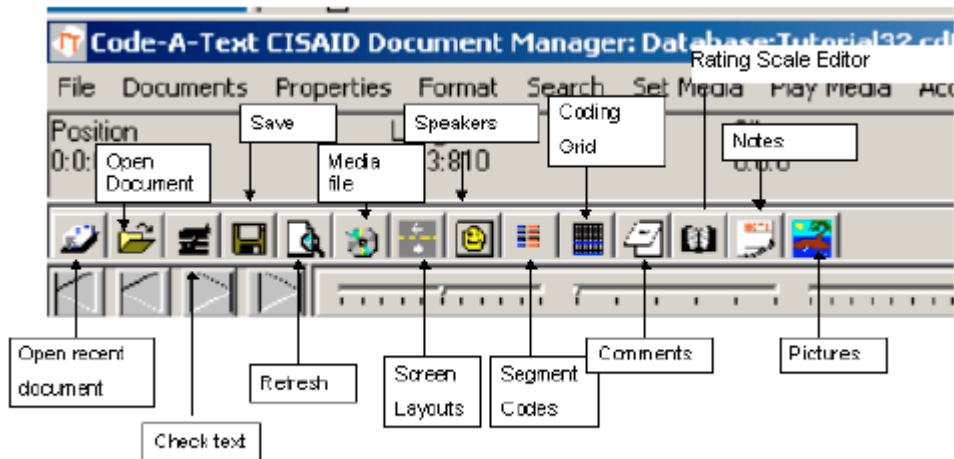
- *Click on the traffic light*

## Controlling Playback

The Volume and Speed sliders allow you to control the playback of the media file. On systems with less resources you must stop the media file playing before changing these. If you do not the programme may fail. Most modern computers can handle these changes, with the file playing, without difficulty.

## View rating scales and codes

C-I-SAID has three methods of viewing rating scales and codes we shall only look at one of these - the coding grid which displays the scales and codes in a spreadsheet.



### **To open the Coding Grid**

- Click on the coding grid button

The "Select Scales Window" appears - this allows you to choose the scales which will appear in the grid.

- Click on
  - Segment
  - Speaker
  - Activity
  - Anxiety

They will move to the right hand column.

- Press Apply

The coding grid window appears. Place it conveniently on the screen and resize the columns.

### **To change the current segment from the grid**

- Click on a row in the grid - note the text moves to that segment

### **To change the current segment from the Document Manager.**

- Click on a segment of text - the grid marker changes.

If the synchronise button is not depressed press on it to synchronise the windows.

- Press the Play from Segment Button.

As the sound plays the text scrolls and the grid moves to the current segment.

### **To see the codes available for a scale**

- Click on a cell in the "Activity" column of the coding grid
- Click on the left hand button "code the selected scale"

The available codes for the scale activity are displayed. (These are entered from the rating scale editor)

### **To change a code from the grid**

- Highlight the code in the Coding dialogue window
- Press the Apply Code to Segment or selection Button on Coding Dialogue the toolbar
- Close the grid by clicking on the close window button (the cross at the top right hand corner of the window)

Each of the coding windows can be opened and viewed in a similar fashion. Codes can be pasted to a range of continuous or discontinuous segments. The Quick Coding window provides a fast method of coding scales.

## Coding Using Comments and Annotations.

### **Annotations**

An annotation is a section of text (preceded by a %) which is ignored by the normal content analysis procedures and indexed along with comments. It thus provides a fast and efficient method of inline coding. You just enter the annotations and save the document as you would in a word processor.

### **Comments.**

A comment is a piece of freeform text which is attached to a segment but stored separately. Comments are indexed with annotations and documents can be searched using this index. Comments can be integrated into the text from searches.

#### **To open the comments window**

- *Click on the comments button.*

Comments are entered into the Comments window by the researcher.

- *Close the Document Manager*

## **Analysis Using the Report Manager.**

- *Select the Report Manager icon from the C-I-SAID programme item.*

Open the tutorial database

- *Select Files \ Open Code-A-Text C-I-SAID database*

The Report Manager handles the analytic side of the programme this tour will take you through some of the features. Each document can be indexed with separate indexes created for words, comments and annotations. Words can be combined into word groups. A word group being a combination of words which can be used as if they are a single word in analysis.

## Lexical Analysis

### **To view the word groups in a project**

- *Select Lexicon \ word groups*

Clicking on a word group shows all the words in that group. The Anxiety word group was created from the documents in the tutorial database whereas the others were imported from another project and thus contain words not in the current project.

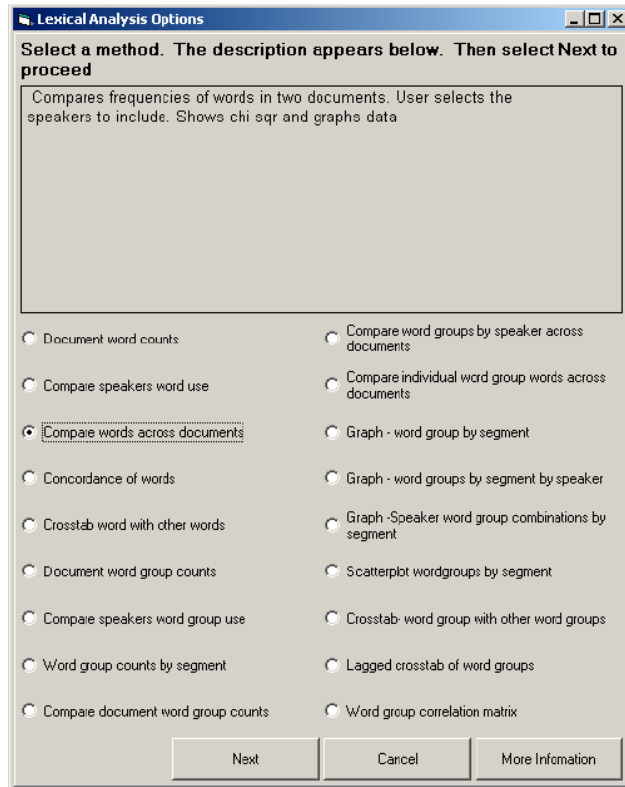
- *Close the word Group window by clicking on the close button at the top right and side.*

### **To view the word counts for a document**

The Lexical Analysis menu item provides access to the Lexical Options window.

To open this window

- *Select Lexicon \ Lexical Analysis.*



If you *select a radio button* a short description of the function appears in the text area.

Pressing on the *More Information* button takes you to the main help screen for that function.

Pressing the *Next* button starts the wizard that takes you through the steps required to undertake the analysis.

- *Select Document Word Counts*
- *Press Next*
- *Select the document FirstSel*

The word count for the document appears in the window.

**To view the text and media associated with a word.**

- *Select a row containing a word*
- *Click on source*  
All the segments containing the word are displayed.
- *Double Click on the segment header* (the part of the text with the number in it) and the sound plays. If video that would be displayed.
- *Double Click again to stop the sound.*
- *Close the text window.*

**To view the sequence of words.**

- *Click on the header of the column headed Patient to select it*
- *Select Actions \ Sequence*

A chart appears plotting the segments in which the word appears. From most charts you can get to the source data by clicking on the point in the chart.

- *Click on one of the bars*

The text appears.

- *Press F1 for more information about the word count window.*

- Close the Word Count window
- Close the Lexical Options window

## Lexical Searches.

Searching is one of the basic methods of selecting coded segments whether the codes be based upon lexical indexes or rating scales.

### To undertake a word group search

- *Select Lexicon \ Lexical Searches \ Search Word Groups*

The word group searches window opens

- *Select the word group anxiety*
- *Press the "Select And" Button to enter the word group into the and selection window.*
- *Press search*
- *Select the documents FirstSel and SecondSel*
- *Press OK*

The search results appear. Each of the segments which contains a word from the anxiety word group is displayed and the word group words highlighted in red. Clicking on the segment headers plays the media file.

Each search is saved and can be retrieved from the Saved Lexical Searches Window. The output from a search can be directed to code a rating scale.

- *Close the Search window*
- *Close the Report window.*

The same principles are applied to all forms of search.

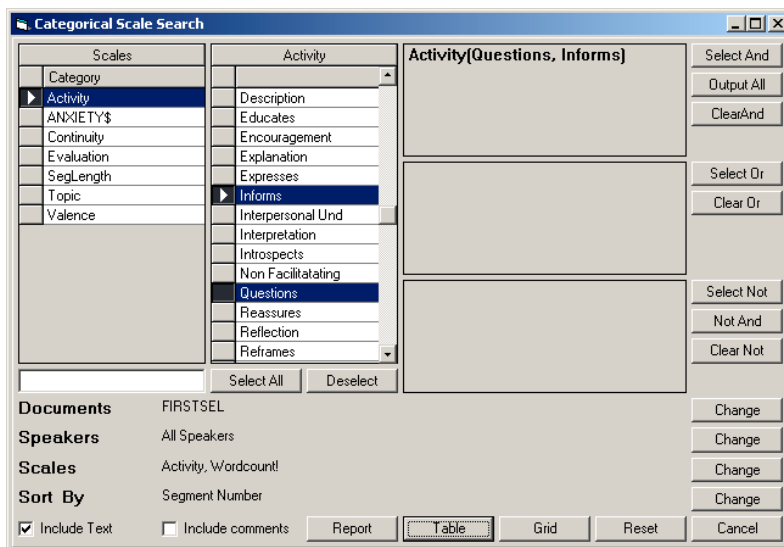
## Rating Scale Searches

You can search rating scales as you search the lexicon. However rating scale searches have options to output the data in the form of a report like that for lexical searches, a table or grid.

To create a Rating Scale search

- *Select Rating \ Searches \ Categorical Searches*

The Rating Scales Searches Window Appears



First select the scales and codes to include.

- *In the Categorical Scale Search window*
- *Select the scale "Activity"*
- *Select the codes "Informs" and "Questions"*

Now select the Documents to be included in the search

- *Press the Change button opposite Documents*
- *Select FirstSel*
- *Press OK*

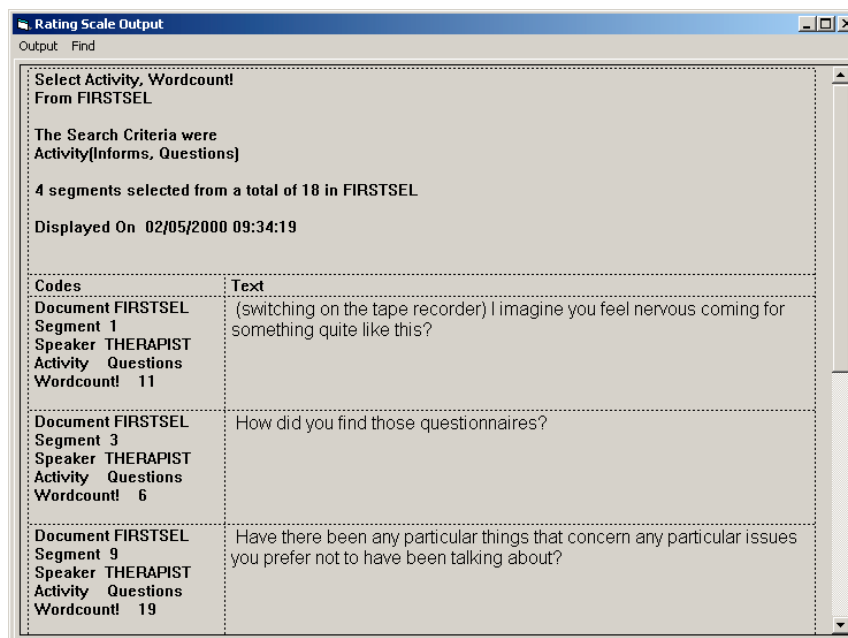
Now Select the scales to include in the output.

- *Press the Change button opposite Scales*
- *Select "Activity" and "Wordcount"*
- *Press OK*

Now choose the output format

- *Press the Tables button.*

The table output appears.



Rating Scale Output

Output Find

Select Activity, Wordcount!  
From FIRSTSEL

The Search Criteria were  
Activity(Informs, Questions)

4 segments selected from a total of 18 in FIRSTSEL

Displayed On 02/05/2000 09:34:19

| Codes  | Text  |
|--|---|
| Document FIRSTSEL<br>Segment 1<br>Speaker THERAPIST<br>Activity Questions<br>Wordcount! 11 | (switching on the tape recorder) I imagine you feel nervous coming for something quite like this?                   |
| Document FIRSTSEL<br>Segment 3<br>Speaker THERAPIST<br>Activity Questions<br>Wordcount! 6  | How did you find those questionnaires?  |
| Document FIRSTSEL<br>Segment 9<br>Speaker THERAPIST<br>Activity Questions<br>Wordcount! 19 | Have there been any particular things that concern any particular issues you prefer not to have been talking about? |

The table format is an RTF table the widths of the columns being determined by the size of the document manager window. This document can be edited in most word processors and the column widths changed.

### To play the media

- *Double Click on the document name in the codes column.*

## Rating Scale Analysis

Before you can undertake Rating Scale Analysis you must first create a *data grid* which is the output from a search. This allows you to select those sections of a database which you wish to analyse. In the

case of Rating Scales you can create a grid which contains all the segments and the scales from a project.

**Select all the segments**

- *Select Rating \ Searches \ Categorical Searches*
- *In the Categorical Scale Search window*
- *Press Output All*

**Select the Documents to include.**

- *Press the Change button opposite documents*
- *Select FirstSel and SecondSel*
- *Press OK*

**Output the grid**

- *Press grid*

The data grid now appears. We have chosen a spreadsheet with all the segments and scales in it. From the Data Grid we can conduct Rating Scale Analysis. Data Grids can be saved and opened directly.

|   | Document | Speaker   | Segment | Activity            | Wordcount! | ANXIETY\$ | ANXII |
|---|----------|-----------|---------|---------------------|------------|-----------|-------|
| ▶ | FIRSTSEL | THERAPIST | 1       | Questions           | 11         | True      |       |
|   | FIRSTSEL | PATIENT   | 2       | Responds            | 18         | True      |       |
|   | FIRSTSEL | THERAPIST | 3       | Questions           | 6          | False     |       |
|   | FIRSTSEL | PATIENT   | 4       | Description         | 42         | False     |       |
|   | FIRSTSEL | PATIENT   | 4.01    | Expresses           | 11         | False     |       |
|   | FIRSTSEL | THERAPIST | 5       | Request Exploration | 5          | False     |       |
|   | FIRSTSEL | PATIENT   | 6       | Expresses           | 107        | False     |       |
|   | FIRSTSEL | THERAPIST | 7       | Request Exploration | 25         | False     |       |

The data grid is a container for the data to be used in an analysis. You can change the column sizes and change the position of the columns. Data grids can be saved with their data and reused without searching the documents. Like any of the grids in C-I-SAID they can be output as either an RTF table, an HTML table or a tab delimited file. They can also be saved as SPSS syntax files.

**To undertake Rating Scale Analysis.**

- *Select Analysis - the Rating Scale Options window appears.*

**Select a method. The description appears below. Then select Next to proceed**

Interval scale statistics Mean, Median, Mode, Standard Deviation etc, are calculated for the scale. The distribution is presented as a bar or line chart, showing frequencies, percentages or cumulative percentages. Segments can be filtered from the grid by document, speaker and codes.

Frequency count for interval scale
  Frequency count for categorical scale

Plot interval scales sequentially.
  Cross-tabulate two categorical scales

Plot an interval scale sequentially with a category.
  Plot categorical scale sequentially

Regression analysis
  Lagged Crosstabulation

Compare means in categories.
  Scale agreement

Next      Cancel      More Information

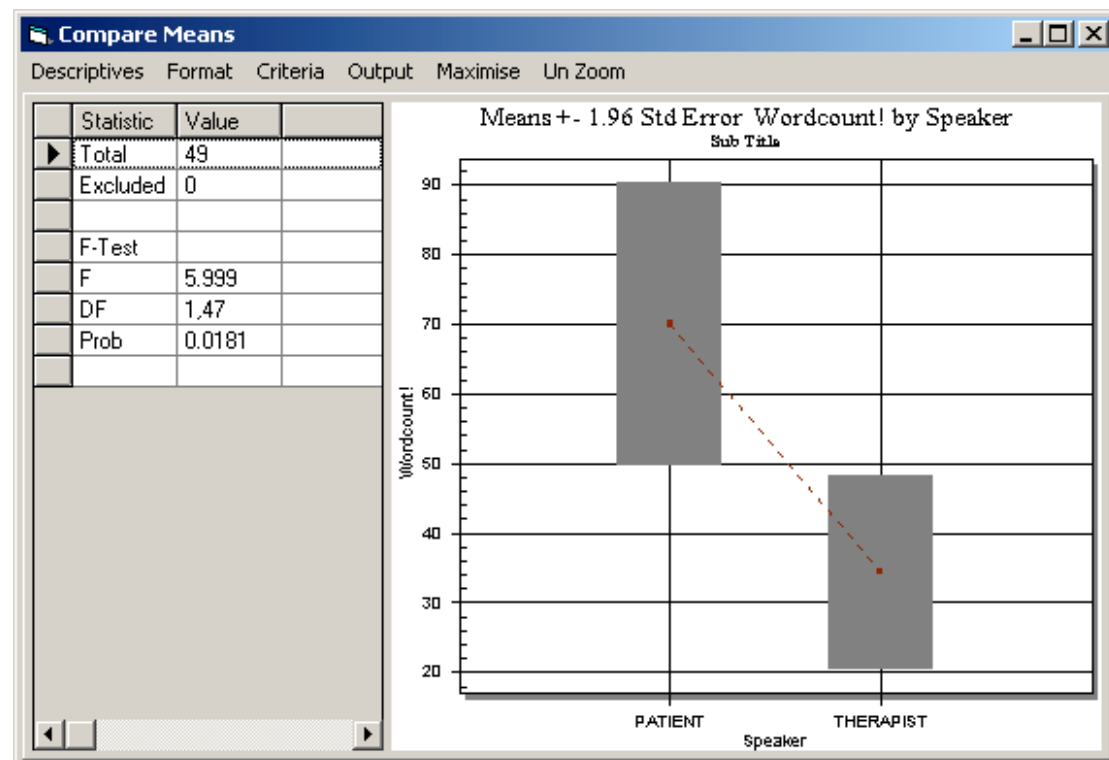
### Clear up the screen by

- *Closing the data grid*
- *Closing the categorical searches window.*

### Undertake an analysis

To illustrate a typical rating scale analysis we shall compare the average number of words spoken in each segment by the speaker.

- *Select compare means in categories*
- *Select Next*
- *Select word count*
- *Select next*
- *Select the speakers radio button*
- *Select the two speakers*
- *Select next*
- *Select calculate*



The output is displayed as a box plot with means and standard errors and a F-Test. More detailed descriptive statistics are displayed via the Descriptive \ Statistics menu which acts as a toggle. From the format menu you can display different statistics and different plots.

This tour has only sought to show you a fraction of the features of the programme. Before attempting to use it you should either read the "Introduction to C-I-SAID Document" or the identical help document "Getting Started"

## Viewing Acoustic Properties.

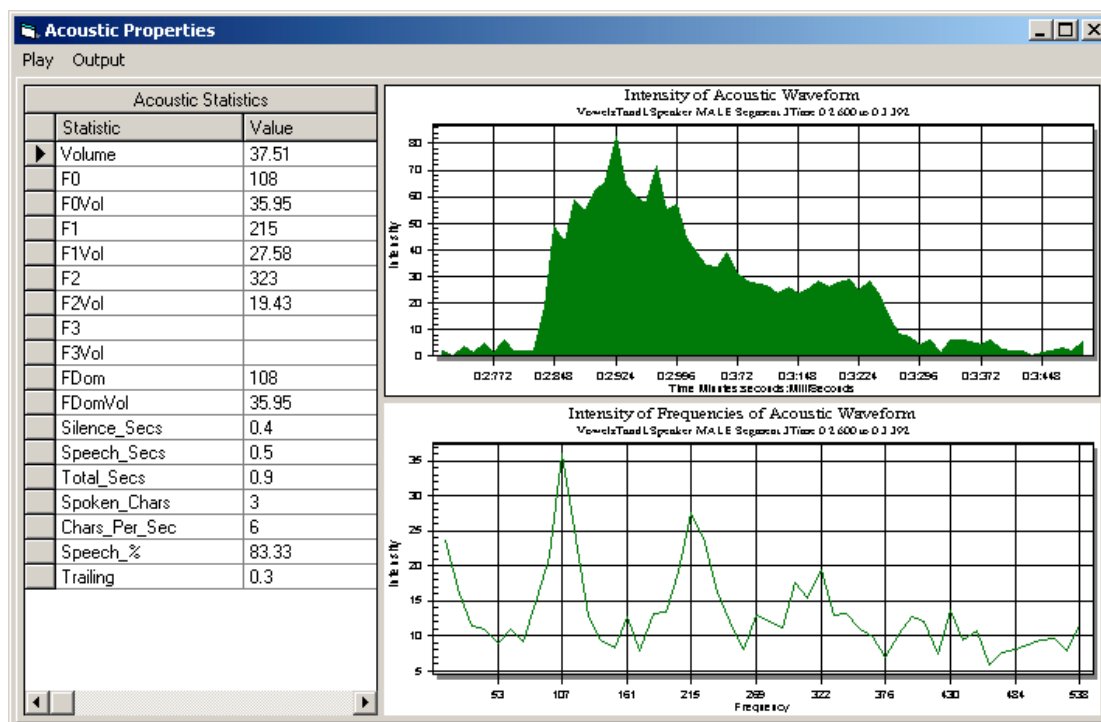
The acoustic properties of a section of sound involve measurements of pitch, volume and speech rate these can be viewed throughout the programme via the acoustics menus and also written as interval scales. For example

- *Select Documents \ Open Document*
- *Select NaturalVowels*
- *Select VowelsTandL*

This document contains a male and a female speaker speaking a series of words chosen because they represent vowel sounds.

- *Select a segment*
- *Select Acoustics \ View Acoustic Properties*

The Acoustic properties window is displayed.



The top graph shows the volume of sound when the male speaker says "ALL". The sound rises to a peak and falls. The lower graph shows the pitch with three major frequencies - F0 which is the fundamental tends to define whether we think the voice is high or low. The statistics show other properties of the speech. Generally speaking analysis is most effective when applied to phrases with changes in the overall volume, pitch and speech rate reflecting the listeners experience of changes in tone of voice.

## Support and Updates

The latest information regarding C-I-SAID and methods for obtaining support can be found on the Code-A-Text web site at [www.code-a-text.co.uk](http://www.code-a-text.co.uk)

## Appendix: Help For Users of the Code-A-Text Multi-Media System

Users of the Code-A-Text Multi-Media Version may find C-I-SAID confusing because, though the underlying principals are the same, the user interface and some of the terminology is different. The biggest single difference in the underlying structure is in the Archive which has been dropped and replaced by the Lexicon. There are only superficial similarities between the two features.

### Old terminology

Coding Frame  
Interpretations  
Text  
Directory  
Coding Manual  
Categorical Scale  
Archive

### New Terminology

Code-A-Text C-I-SAID Database  
Comments  
Document  
Folder  
Rating Scale Editor  
Rating Scale  
Lexicon -nearest equivalent.

You can use Code-A-Text Multi-Media Coding Frames in C-I-SAID though they need to be converted.

To convert a coding frame into a C-I-SAID database

- *Select Document Manager \File \convert Older Format to C-I-SAID database.*

If your coding frame contains less than 100 Scales you are advised to accept the offer of using more.

This tutorial uses the database file **tutorial32.cdf** but this can be replaced by a coding frame of your own provided it is converted.

The concept of **active words** is not used as all words are now indexed.

Word Groups can be imported from a converted coding frame from the Word Groups window in the Document Manager.

Acoustic databases are copied but do not convert reliably.

**A major difference in the two programmes is that changes made to text and codes in C-I-SAID have to be saved manually.**