User Guide for

ReLaTe

Integrated Interface

Version 2

5 October 1998

Acknowledgements

Parts of this user guide are based on the UKERNA SHRIMP User Guide that will be available from: http://www.ja.net/service_development/video/service_developments/shrimp/index.html.

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Version 2 by Kristian Hasler (update)

Disclaimer

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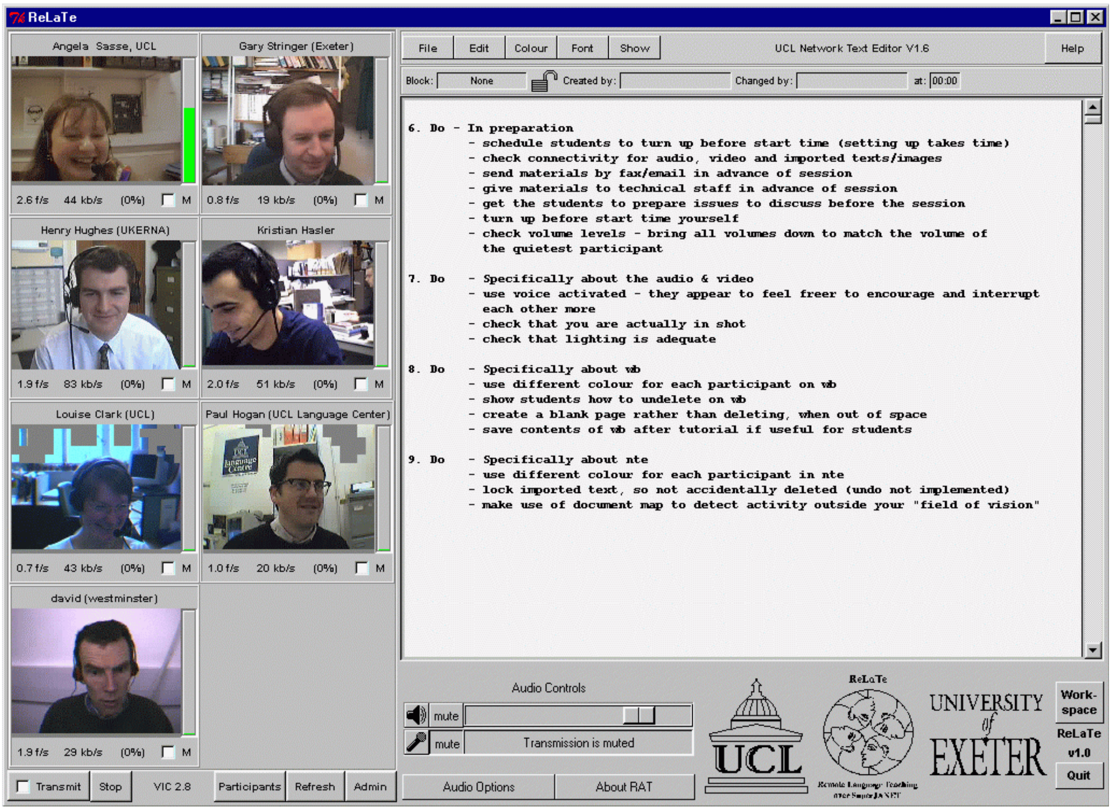

Figure 1: ReLaTe Main Window

The ReLaTe Integrated Interface is an application that combines all the video conferencing components into one single user interface. These components consist of the audio tool 'RAT', the video tool 'VIC', the shared text editor 'NTE' and the shared whiteboard 'WBD'.

! The latest versions of the tools (from the UCL Multimedia Homepage) are required for the interface to function correctly. At the time of writing, these are:-

- RAT v3.2.6
- VIC v2.8ucl1
- WBD v1.0ucl1
- NTE v1.5.31

1.1 *Getting started*

Unix:

Type the following from the command prompt:-

```
Prompt> relate
```

Windows 95/98, NT4.0:

> Click on the *Start* button in the bottom left hand corner of the screen. Select *Programs*, then *Mbone Tools* and finally *ReLaTe Integrated Interface.*

1.2 Quick guide to using ReLaTe

When you start up ReLaTe, you will get a small window where you can enter your name, telephone number and email address or edit the details if they are already filled out (see Figure 2).

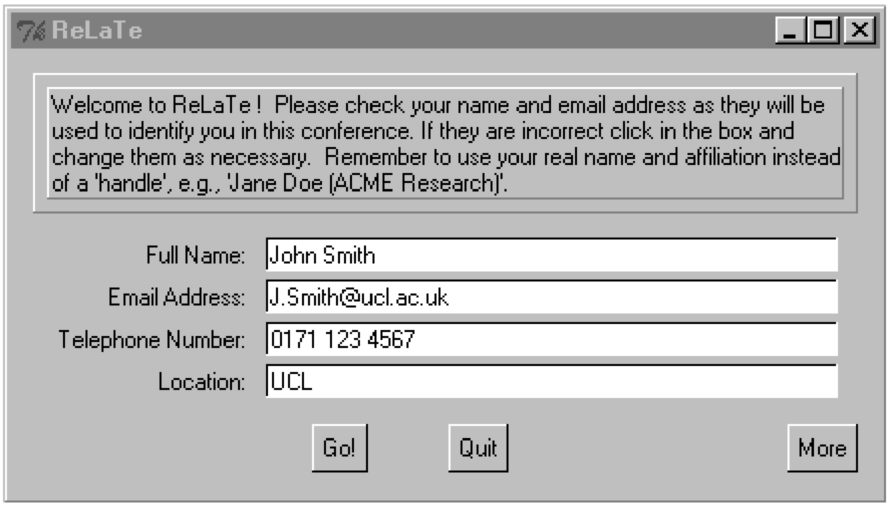

Figure 2: ReLaTe Initial Window

Press the *More* button to get a ReLaTe Configuration Window where you can put in the address, port number and ttl for each of the tools (see Figure 3). You can also disable any of the tools by deselecting its entry in the *required* column. You might want to start up with only the audio and text editor, for example.

The multicast address should be in the range 224.2.0.0 - 224.2.255.255. The port should be at least 5002.

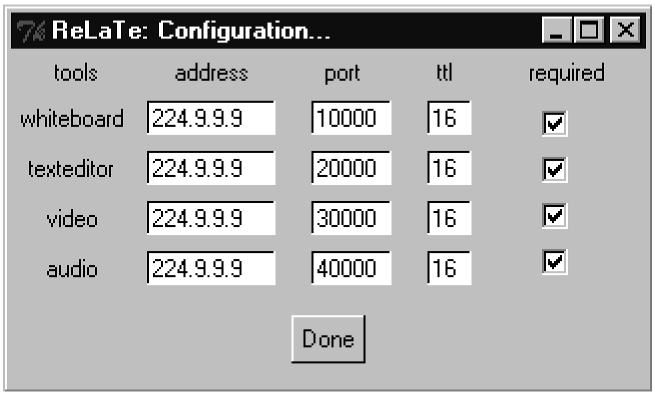

Figure 3: ReLaTe Configuration Window

- All participants must use the same addresses and port for each of the tools in order to “see” one another. The addresses for all of the tools may be the same, but the ports must be different for each tool.

The ttl should be 16 for conferences where all participants are in the same building, 48 if they are all in the UK, 63 if they are all in Europe and 127 for the rest of the world.

Once you are happy with the addresses, ports and ttl values for the tools, press the *Done* button in the ReLaTe Configuration Window, and then press the *Accept* button in the initial window.

ReLaTe will now start up. This will take a short while as the tools will be started up separately and eventually be combined into the single interface.

When shutting down ReLaTe, you should press the *Quit* button in the bottom right hand corner of the interface. If you quit by pressing the cross in the top right hand corner, the underlying audio, video and shared workspace tools will not be closed down correctly.

Audio

To listen to what the other participants are saying, you should use the audio controls which are at the bottom of the Main ReLaTe Window (see Figure 1).

The top slider bar is for controlling the volume of what you hear through the speaker or the headphones. You must turn the volume up in order **to hear** what other participants are saying by moving the top slider bar to the right.

The button slider bar is for controlling the volume of your microphone. In order **to speak**, you must depress the mute button which is just left of the button with the microphone icon.

Ideally, you should use headphones, as these enable you to speak and listen at the same time. If you are using speakers, you **must** mute your microphone by pressing the *mute* button next to the microphone whenever you are not talking. If not, everybody will hear an echo.

Video

You can choose between having up to 4 or up 8 people sending video at the same time (including yourself). The default maximum is 8. When you are having up to 8 video streams at the same time, all the images will be a set size. If you choose to have up to 4 people at the same time, one of the images can be enlarged. You can select a maximum of 4 participants by clicking on the *Participant* button at the bottom of the screen and select *four*.

To **transmit video** check the Transmit button in the bottom left-hand corner of Main ReLaTe Window.

To **stop transmitting video** press the *Stop* button in the bottom left-hand corner of the Main ReLaTe Window. When you stop transmitting, your video window will not go away, it will just freeze but it will eventually disappear.

To **enlarge** a video image (this is only possible if a maximum of 4 participants have been selected), click on the grey area immediately above the image you would like to enlarge. It will then appear in the square on top of the little images. You can only enlarge one window at a time, but you can change which window is enlarged at any one time.

To "tidy up" the video images, press the *Refresh* button at the bottom of the screen. This will close down pictures that are no longer active.

Shared Text Editor - NTE

Text that is typed in or imported into the text editor by other participants will automatically be displayed in the Main NTE Window. If the text takes up more than one screen, you can use the scroll bar on the right of the text area to scroll up and down.

In order to write in NTE, click anywhere in NTE and start typing. The text will begin from where you initially clicked.

You can edit text by clicking on the text you want to edit and then using the keyboard to make the changes.

Shared Whiteboard - WBD

WBD allows you to draw as well as type. It is a shared drawing tool with limited text functionality. You get the whiteboard by clicking on the Work-space button in the bottom left hand corner of the of the ReLaTe interface. You can switch between the two shared workspaces at any time during a conference, allowing you to make the best use of each of them for specific purposes.

! Remember patience is important! - if you do not get immediate reaction to your actions in WBD, wait a couple of seconds before attempting again.

Text or drawings created by other participants will automatically be displayed in your WBD Window.

To **write** on the WBD, select the button labelled "T", and type using the keyboard. Your text will appear where ever the mouse is.

! If you move your mouse while typing, the letters will be scattered over the page, following the mouse.

To **draw** on the WBD, select the button labelled with a feather, and draw using the mouse.

🔔 If nothing appears on the screen when you try to write or draw, check that the right icons in the right hand side of the WBD has been selected and check that the colour you are writing with is different from the background colour.

You can use the controls on the right hand side of the keyboard to draw various shapes (straight lines, arrows, squares and circles). You will also find options to move and copy text or drawings, change the font of writing, change the thickness of the brush for drawing, change the colour that you use for drawing and writing, change the orientation of the whiteboard.

You can use the controls at the bottom of the whiteboard to select a blank page, import postscript and text files and browse through the pages if there are more than one pages to the document.

WBD will always switch to the page where someone is currently writing or drawing. So if you select a *Blank Page* and start typing on it, all of the other session participants will automatically switch to the page you are now typing on.

You should now be able to use ReLaTe for taking part in conferences.

1.3 ReLaTe User Guide

The ReLaTe interface consists of four individual tools (VIC, RAT, NTE and WBD) which have been altered slightly and put into a common frame. The tools work independently of one another, so it is possible for one tool to crash without affecting the others. In effect, the ReLaTe interface removes the burden of windows management that running three tools separately causes. In this section we shall go through the four tools used by ReLaTe separately.

1.3.1 Audio (RAT)

See Figure 4 for what the audio controls look like.

The top slider bar is for adjusting the volume of the sound that you hear through the speakers or headphones. The bottom slider bar is for adjusting the volume of your microphone.

The top *mute* button is for stopping sound coming through the speakers or headphones. The bottom *mute* button is for muting your microphone, i.e. to stop the other participants from hearing what you are saying. When the mute button is pressed down, i.e. muted, the icon next to it will be greyed out.

! If you are not using headphones, you *must* mute your microphone when you are not talking. So before you say something, unmute your microphone, and as soon as you have finished talking, mute the microphone again.

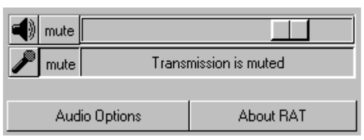

Figure 4: ReLaTe Audio Controls

If you want to adjust any of the audio settings, click on the *Audio Options* button, and you will get the RAT Preferences Window. Many of these options do not need to be changed but you might need to change one of the following:

- If other participants complain that your audio keeps cutting out, try turning off Silence Suppression, under the category 'Transmission'. If you turn silence suppression off, you should use push-to-talk.
- If you are only listening, for example to a lecture, you should turn on Lecture Mode, under the category 'Reception'. When you talk Lecture Mode is automatically switched off.
- If you want video and audio synchronised then you should turn on Video synchronisation , under the Category 'Interface'. You may notice more delay from other participants when using this option.

Click on the button labelled 'Save and Apply' to save and use your changes.

1.3.2 Video (VIC)

See Figure 5 to see what the ReLaTe video section looks like. The ReLaTe interface allows up to 4 or 8 participants to send video. There is no limit to how many participants can use audio and shared workspaces at the same time. You can select the maximum number of participants by clicking on the *Participants* in the bottom left hand corner of the ReLaTe interface and selecting *four* or *eight*.

To **enlarge** a video image (this is only possible if a maximum of 4 participants have been selected), click on the grey area immediately above the image you would like to enlarge. It will then appear in the square on top of the little images. You can only enlarge one window at a time, but you can change which window is enlarged at any one time

To **start transmitting video**, press the *Transmit* button in the button left hand corner. The little white box will be checked and your image will appear in one of the little squares above the controls.

To **stop transmitting video**, press the *Stop* button next to the *Transmit* button. When you stop transmitting, your image will not disappear form the screen, it will just appear frozen. Your image will only disappear from everybody's screens when you exit ReLaTe. You can make it disappear on your own screen by clicking the *Refresh* button.

To alter the setting of the video, press the *Admin* button, and the VIC Menu Window will be displayed. The options you are most likely to use are:

- If you want to adjust the number of frames per second and kilobits per second you are transmitting, you can do so on the slider bars to the right of the *Transmit* button.

- If you want to see a list of all the people running VIC on the address/port, click the *Members* button. (You can only see people who are *transmitting* video in the ReLaTe window. The *Members* button is the only way of telling how many people are *watching*).

- If you need to confirm the address, port, ID and ttl of VIC for the session, that information can also be found in the VIC Menu Window.

Figure 5: ReLaTe Video Controls

The following information is displayed under each image:

- <number> f/s: This tells you how many frames per second you are *receiving* from that person. In Figure 5, you are receiving 7 f/s from “David (Harrow)” in the large window, 8.4 f/s from Sofia etc. They may all be *transmitting* a maximum of 8 frames per second, but as the video has to travel over the Internet, there is no guarantee that you will *receive* 8 frames per second.

- <number> kb/s: This tells you how many kilobits per second you are *receiving* from each person. As with the frames per second, this number is dependent on the network and may well be different from what they are *transmitting*.

- (<number> %): This tells you how much packet loss you are receiving from each person, i.e. how much of the video information that each person is *transmitting* does not get through to you.

- *M*: This allows you to "mute" the images. When you mute an image your computer will no longer decode the video images that it receives. The image will appear frozen on the screen. You can mute your own image, but remember that even though it appears frozen on your own screen, it will NOT be frozen on the other participants' screens unless they themselves mute your image. Muting the images may sometimes be necessary if your computer cannot cope with updating all of the video streams, which can require a substantial amount of computing power.

1.3.3 Text (NTE)

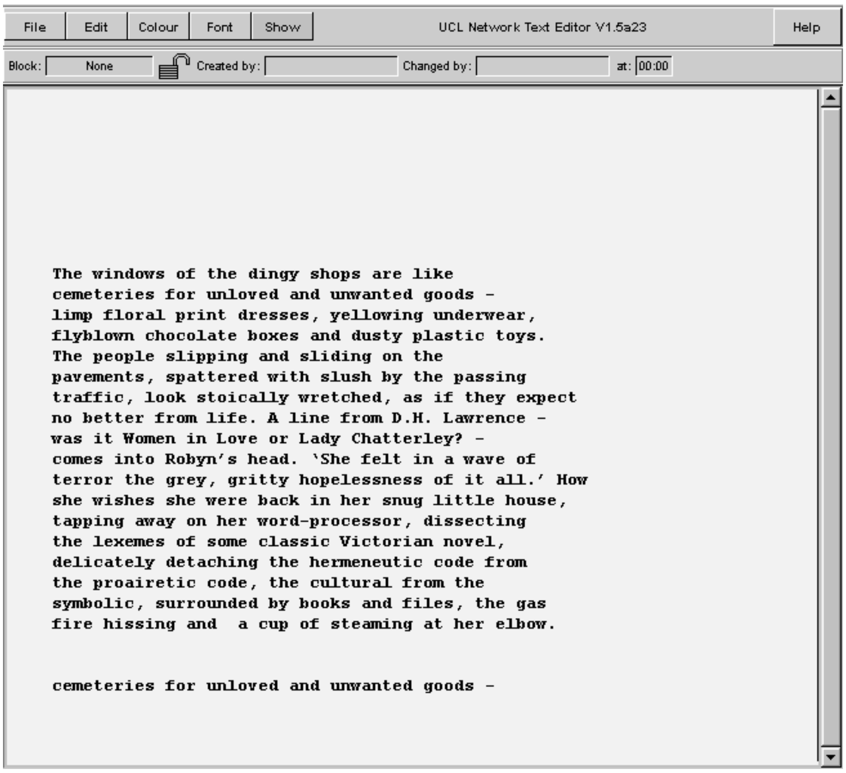

Figure 6: ReLaTe Shared Text Editor

All the text in NTE appears in the main editing window which is the big white part of the Main NTE Window. Text in NTE is treated as *blocks*.

To **create a block of text**, simply click with the left mouse button on a blank space, and start typing. If the screen is full and you cannot use the scroll bar to move further down the document a block of text should be created right at the bottom of the screen and the *Enter* key on the keyboard used to create more space for typing.

A *block* of text can be manipulated in different ways:

- You can **change the colour** of the block by selecting the block by clicking on it and choosing a colour from the *Colour* menu at the top of NTE. Colours are primarily to distinguish between different people editing the same document. You cannot set parts of a block to different colours - only the whole block. You can give your pen a default colour by choosing a colour from the *Colour* menu before you type anything.

- You can **change the font** into italics and/or bold by selecting the block by clicking on it and choosing a font from the *Font* menu at the top of NTE. The limited selection of fonts is to enable documents to be saved as plain text, without the problems that would result from variable width fonts. The different font styles are available to help distinguish different users' texts. You can only change the font of an entire block, not parts of it.

- You can **move** a block by selecting the block by clicking on it and holding down the Ctrl key on the keyboard and dragging the block of text with the left mouse button.

- You can **delete** a block by selecting the block by clicking on it and selecting *Delete Block* from the *Edit* menu at the top of NTE.

- If two blocks of text are on top of one another, you can **lower** the block on top, i.e. make it go in the background, by selecting the block by clicking on it and selecting *Lower Block* from the *Edit* menu.

To **edit** an existing block of text, select the block of text by clicking on it with the left mouse button. It is possible to edit the text of others as well as your own -unless they have locked their contributions.

Several people can work on the same block of text at the same time. However, a block can only have one colour, font and location at any one time, so it is not possible to highlight one person's contribution to that particular block by using a different colour or font.

When the *Current Block Info* option in the *Show* Menu is selected, a line is visible underneath the menu at the top of the screen displaying information about the block which you have currently selected. It will tell you the block id number, who created it, who last edited the block, and when it was last changed. A padlock after the block id tells you whether the block is locked or not. If it is locked, only its creator can edit the block.

A

> **Attracting Attention in the Text**
>
> If participants have to scroll to see the whole text because it is bigger than the window it is displayed in, there is no easy way of making sure that everybody is looking at the same part of the text. If you want to draw everybody's attention to a certain place in the text, you can hold down the right mouse button which will display a pointer on everybody else's screens - *but only if they are already looking at that part of the text!*
>
> If another participant is pointing to a part of the NTE which is not currently displayed in the window, a stripe, the same colour that the participant is currently writing with, will appear in the document map (Displayed in the bottom right hand corner of the Main NTE Window). The document map is only available if *Current Block Info* has been selected in the *Show* menu.
>
> Alternatively, you can mark the text by inserting special characters like a row of exclamation marks which can be easily found when scrolling up and down the text.

Box 1: NTE - Attracting Attention in the Text

🔔 It is generally a good idea for each participant to write with a different colour so that it is easy to identify who is writing what.

Saving and loading text

It is possible to save the blocks of text on the whiteboard in a file for later reference. It is likewise possible to load plain text files into NTE.

- You can save text by choosing *Save Plain Text* from the *File* menu. (The *Save Structured Text* option is not available).

- You can load text by choosing *Load Plain Text* from the *File* menu. However, there is a limit to how big a text file you can load. If the file is too big, it will automatically be truncated. (The *Load Structured Text* option is not available).

  If you load two or more texts, they will all appear in the top left hand corner of the window, so you will end up with two or more texts on top of one another. You can move the texts by holding down the Ctrl key on the keyboard and dragging the block of text with the left mouse button.

! If there is more than one block of text, there is a risk that the blocks may be aligned differently in other participants' NTEs.

Other options

By holding down the right mouse button, a **pointer** visible to the other participants will appear. When you right click, the pointer on your screen will say *me* (see Box 1: NTE - Attracting Attention in the Text), but to everybody else, the pointer will contain your user name.

A

> **NTE Mouse Bindings**
>
> Left Mouse Button: edit an existing block, or create a new block if no existing one is under the pointer.
>
> Ctrl + Left (Windows only) or middle (Unix only) Mouse Button: Grab and move an existing block.
>
> Right Mouse Button: Send a shared pointer that the other participants can see.

Box 2: NTE Mouse Bindings

If the *Participants* option in the *Show* menu is selected, a column will appear at the right of the screen, containing a **list of participants**, a small **control panel**, and a **document map**.

- At the top, a list of the **participants** in the conference is shown in their current colour. When a participant has not been heard from recently, their name is displayed in grey, and will eventually be removed. If the *Keep* button is selected, participants will remain in the list of participants despite no longer being active.

- Underneath the list of participants is a small **control panel** giving you three options.

  If you select *Read only*, you cannot write anything. This is a useful option if you do not wish to accidentally write or delete something in NTE.

  If you select *Lock New Items*, only you can edit and delete the blocks that you have created. This only applies to blocks created while this option has been selected. The option is useful if you want to import or type in some text which you do not want anybody else to edit or delete. If anyone apart from the creator of the block attempts to edit your text they will see a small padlock symbol.

  Encrypt Sessions allows you to encrypt the text in NTE so only participants with the right password can read the contents of NTE. You will be asked to enter a password for the session if you select this option. Then whenever other users wish to join the session they will have to enter the correct password before being allowed to join.

- The grey and white square at the bottom right hand corner of the screen is a **document map**. The white area represents the part of the document which is currently visible. If the document map is all white, you are seeing the entire text on the screen. But as the text gets longer, you will need to use the scroll bar to move around in the text, and the white area in the square gets smaller. The bigger the document, the smaller the white area. If the white area is at the top of the square, you are looking at the top of the text. The document map will give you an indication of when other users are modifying the document in an area that is not locally visible by displaying a coloured bar where the editing is taking place.

You can access a **help** text by clicking on the *Help* button in the top right hand corner of the Main NTE Window.

1.3.4 Whiteboard (WBD)

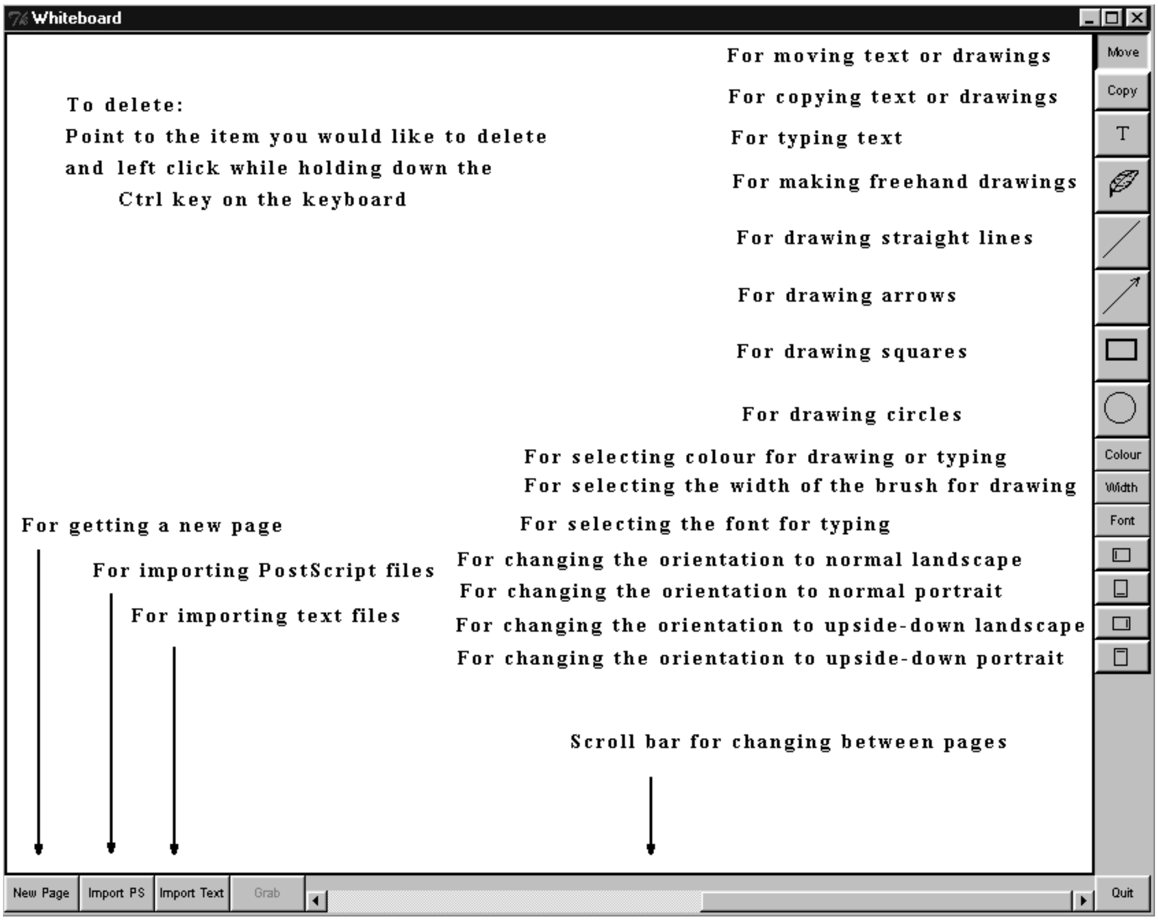

Figure 7: Main WBD Window

To type: Select the button labelled "T" in the Main WBD Window. Position your mouse pointer where you would like your text to appear and type using the keyboard. If you move the mouse while typing, the letters will still appear wherever the mouse pointer is!

A

> **Useful WBD Control Characters:**
>
> - BACKSPACE will delete the last typed character
> - Carriage return will start a new line under the start of the previous line
> - CTRL-left mouse click will delete the text or drawing under the mouse pointer

Box 3: Useful WBD Control Characters

To draw: Select the appropriate icons for what you want to draw (Figure 7: Main WBD Window). Using any of these tools is essentially the same as using any basic drawing program.

To delete: Point to the text or drawing that you would like to delete. Then hold the Ctrl button down on the keyboard and left click on the mouse.

You can only delete your own contributions in this way.

If you want to delete other participants' text or drawing, you have to "paint over" them. If the background colour of the WBD is white, you can select one of the drawing icons and the colour white, and use the mouse to paint on top of the text or drawing that you want to delete. (Remember to switch to another colour again for writing and drawing.)

You cannot edit text once you have finished writing it, i.e. moved your mouse elsewhere.

You cannot edit other peoples text

To change the text font: Click on the *Font* button on the right hand side of the Main WBD Window and select a font from the menu.

To change brush size (for drawing): Click on the *Width* button on the right hand side of the Main WBD Window and select a brush size from the menu.

A

> **Your cursor**
>
> Only you can see your mouse cursor. To point to something you must make a mark on the page - underline, circle or draw an arrow pointing to it. You can erase this pointer subsequently.

Box 4: WBD cursor

To change the colour (for text and drawing): Click on the *Colour* button in the right hand side of WBD and select the colour you want on the colour palette. It is normally a good idea for each participant to use a different colour so that it is easy to see who is writing or drawing what.

You cannot change the colour of text or drawings already in the WBD, only text or drawings that you are about to make.

To change the orientation of the whiteboard: Click on one of the four bottom most buttons on the right hand side of the Main WBD Window, depending on which orientation you want (see Figure 7: Main WBD Window).

! You cannot save or print the contents of the WBD.

To get a new blank page: Each page in the whiteboard is a set size - it does not have scroll bars. So if you run out of space, you can get a new page by clicking the *New Page button* in the bottom left hand corner of the Main WBD Window. Wherever you are when you create a new page WBD will automatically move you on to the new page. If you are on page 2 of 10 pages currently created, the new page will be page 11 and you will be moved to it.

A

Hints on use

- It is a good idea to begin by typing your name. It is also helpful if all participants choose a unique font/colour combination. This makes it easier to distinguish individual's contributions and reduces the need to sign or initial each contribution.
- WBD is a shared whiteboard, and does not provide the functionality of a general purpose drawing tool. If you need quality slides or diagrams, it is best to prepare them beforehand in minimal PostScript format (for example using "idraw") and import them into WBS using the Import PostScript function provided.
- Creating new pages by clicking the *New Page* button is faster than erasing the current page. It has the additional benefit of maintaining the previous pages for future reference.

Box 5: Whiteboard Hint for Use

Further Reading

For further information about the JANET Mbone service, see the JANET Mbone Service Technical Guide. The guide is available from: http://www.ja.net/documents/mbone3.4.ps

The following user guides are available from: http://www-mice.cs.ucl.ac.uk/multimedia/software

User Guide for RAT v3.2

User Guide for VIC v2.8

User Guide for WBD v1.0

User Guide for NTE v1.5

Glossary

Bandwidth

A term used to show the amount of information flowing through a communications channel. Expressed in units of n $\times$1000 bits per second, kbit/s.

CellB

A proprietary low bit rate video encoding developed by Sun Microsystems.

CIF

Common Image Format, fitting an image into dimensions of 352x288 pixels.

CODEC

COder/DECoder. A hardware or software processor converting between analogue audio or video and the digital format used for transmission, in both directions. The term is also used to describe the major hardware component of a videoconferencing system.

DES

Data Encryption Standard.

DVI

Audio encoding standard.

Framegrabber

A device which captures video one frame at a time from an analogue video source.

Frames per second (fps)

The frame rate for video image transmission, measured in frames per second (fps). The higher the frame rate, the better the motion rendition of the video image. 30 fps is the standard necessary for full motion video. To date, most communication channels are not capable of transmitting large numbers of video streams concurrently. With compression and the use of other signal processing algorithms, a videoconferencing VIC between 2 - 10 kilobits per second (kbit/s) is perfectly acceptable.

Gamma correction

Gamma correction is the correction of intensity values of cameras and monitors. In the context of displays, the luminescence of phosphor pixel is a non-linear function of the intensity of the electrons bombarding it. Conversely, both film and CCD cells have non-linear photon intensity versus recorded intensity functions. Gamma correction is a non-linear correcting function to overcome these problems.

GSM

Audio encoding standard.

H.261

ITU-T video encoding standard in narrowband audiovisual systems.

IP address

IP (Internet Protocol) addresses are unique numerical identifiers for each networked host computer. The IP address is used in conferencing when the conference is point-to-point rather than multiparty.

JPEG

Video encoding standard for still images. It has a high compression rate; it computes by dithering and losing “unnecessary” information, hence considered lossy. Decoding speed can be traded off against image quality.

Kilobits per second (kbit/s)

The kbit/s rate enables the participants to track how much bandwidth is being used during a session. For videoconferencing, the kbit/s should not be raised above 128 kbit/s, unless using a point-to-point conference or a Local Area Network (TTL=16). See TTL.

LBL

Lawrence Berkeley Laboratories, University of California, Berkerley, USA.

Lecture mode

An optimisation for one-way transmission which increases the delay on the layout of the media in order to minimise the loss of data in the network. The longer the playout is delayed, the more time there is to retransmit lost packets.

Loss Rate

The percentage of packet information lost during transmission.

LPC

Audio encoding standard. Linear Predictive Coder, 9 kbit/s.

Mbone

The multicast capable backbone of the Internet. It currently consists of a network of tunnels linking the islands of multicast capable sub-networks around the world.

MJPEG

Motion JPEG. The use of JPEG to encode motion video. A number of manufacturers have developed M-JPEG systems. There is no systems level standard for M-JPEG systems, and different manufacturers’ systems will not interoperate.

MPEG

Motion Picture Experts Group.

MTU

Maximum Transmission Unit. A measurement, in Bytes, of the largest packet size which a network is capable of transmitting.

Multicasting

Multicasting is sending audio, video etc. on the Internet in way which ensures that anybody who is interested in receiving the information, *can* receive it, but only people who *are* interested will receive it. Think of it as being in between unicast (like most telephone calls - between two telephones only) and broadcast (TV - the signals are sent to you whether you want to watch or not).

Multicast address

Addresses used for multicast conferencing should be in the range 224.2.0.0 - 224.2.255.255
Note: Multicast addresses must be agreed upon in advance of the multicast session, either through e-mail or phone or assigned using SDR.

Network congestion

A condition in an IP network where the amount of traffic injected into the network is too great for the routers to handle and some packets are discarded.

NTE
Network Text Editor.

NTSC
National Television Standard Code. The television encoding used in the USA.

NV
Network Video. A software package, in the public domain, which supports videoconferencing over Internet Packet Networks.

PAL
Phase Alternate Line. The television encoding used in Europe.

PCM
Audio encoding standard. Pulse Code Modulation, 64 kbit/s 8-bit µ-law encoded 8 kHz.

Port
A UDP (User Datagram Protocol) number unique to the broadcast session, and should be over 5000.
Note: The port number must be agreed upon in advance, either through e-mail or phone or assigned using SDR.

Protocol
A set of standards that govern the transfer of information between computers over a network or via telecommunications systems. To reduce errors, the computers at both ends of a communications link must follow the same protocol.

QCIF
Quarter Common Image Format with dimensions of 176x144 pixels.

RAT
Robust Audio Tool.

Receive-only
A condition where a tool is used to receive information, but cannot transmit.

Redundant audio encoding
Also known as redundancy. A technique to protect against packet loss where a second, low bandwidth version of the original encoding is piggy-backed onto the preceding packet so that, when single packets are lost, the redundant version is played back instead of silence.

RTP
Real-Time Protocol is an application level protocol that provides real-time support for multimedia communication.

RTIP
Real-Time Internetwork Protocol.

SCIF
Super Common Image Format with dimensions of 704x576 pixels.

SDR
Session Directory Tool.

Silence suppression
Silence suppression is used in packet voice systems to reduce the output bandwidth of an audio system by exploiting the on-off nature of speech; 50% savings are possible.

SIP
Simple Internet Protocol.

TTL
TTL stands for time to live, and determines how far multicast packages can travel over the Internet. The standard values are:
16 - Site
47 - UK
63 - Europe
127 - World

Unicasting
A unicast connection is a point to point connection between two specific machines.

VAT
Visual Audio Tool.

VIC

Video Conference tool. The tool included in the RELATE package for the transmission and reception of video streams.

WBD
Whiteboard.