User Guide for

WBD

Version 1 (DRAFT)

September 1998

Acknowledgements

This user guide is based on the UKERNA SHRIMP User Guide which will be available from http://www.ja.net/service_development/video/service_developments/shrimp/index.html.

Currently this document is nearly identical to the appendix on WBD in the UKERNA guide, but as opposed to the UKERNA guide, this document will be updated as WBD gets updated insofar as is possible.

Disclaimer

UCL cannot accept any responsibility for any loss or damage resulting from the use of the material contained in this document. The information is believed to be correct, but no liability can be accepted for any inaccuracies.

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1 Introduction

WBD - unicast and multicast shared workspace. WBD can be used for either point-to-point videoconferencing involving a direct link between two hosts or for multiparty conferencing with many participants via the Internet Mbone (see Box 1).

Unicast and Multicast

A *unicast* connection is like a telephone call which has one connection between two telephones for the duration of the call. You should use unicast if there are only two people in the conference and if one of you does not have access to multicasting. In order to set up a unicast connection, you must know the name of the computer that the person you want to have a conference with is going to use.

A *multicast* connection can, in principle, have an unlimited number of participants. You should use multicast if it is likely that there will be more than two participants in the conference. Tools like RAT, VIC, NTE, WB and SDR have been specially developed for multicasting.

Box 1: Unicast and Multicast

WBD is a WB clone which runs on all platforms, but it is mainly being used as a whiteboard for the Windows95/NT4.0 platform as WB is only available for UNIX platforms. WBD is a relatively new tool, and therefore less tested than the other tools, and hence likely to be more unstable. WBD, however, provides Windows95/NT4.0 users with a whiteboard which interoperates with WB on the UNIX platforms.

WBD is first and foremost a conferencing tool - not a drawing tool. You can think of it as a drawing tool with limited functionality.

1.1 Getting started

There are two ways of starting up WBD: from the command line and from SDR.

1.1.1 Starting up WBD from SDR

When joining a conference with whiteboard from SDR, WBD will start up automatically.

1.1.2 Starting up WBD from the command line for a multicast conference

Click on the *Start* button in the bottom left hand corner of the screen. Select *Run...* In the Run Window, type the following in the *open:* field.

Open: wbd [options] <address/port>

The multicast address should be in the range 224.2.0.0 - 224.2.255.255 (except when using admin scope – see Box 2). The port number should be at least 5002.

So, as an example, this line would start WBD with a TTL of 48 (See Box 2 for an explanation of TTL) on the multicast address 224.2.4.70 and port number 5004:

Open: `wbd –t 48 224.2.4.70/5004`

TTL

TTL stands for Time To Live and determines how far the audio that you transmit will travel. A TTL of 15 will reach other parts of your campus, a TTL of 47 will reach all parts of the JANET Mbone, a TTL of 63 reaches Europe, and 127 worldwide.

The default for all the Mbone tools is a TTL of 16.

Admin scope

There is currently a move away from using TTL for scoping conferences to using admin scopes. Using admin scope will limit conferences more accurately and is more sophisticated than specifying a TTL.

Like TTL scopes, admin scopes need to be set up by the network administrator. When the scopes have been configured, you will get a range of addresses for each of the scopes defined. Using an address in the range provided will limit your conference to that scope.

Example: If local scope is defined as addresses in the range of 239.0.0.0 - 239.100.255.255, any conference on addresses in this range will be restricted to the local area as defined by the network administrator.

The most widely used method for scoping is still TTL, so you should contact your local systems administrator to see if admin scopes have been set up. If not, you should ask them to do it.

Box 2: TTL and Admin scope

In the example above the user has used the option '-t' to specify the TTL. TTL determines how far the audio packets will go, i.e. how far away you can talk to people. A TTL of 48 is generally large enough for communication within the UK.

All participants must use the same multicast address and port number in order to "see" one another in WBD.

1.1.3 Starting up WBD from the command line for a unicast conference

As with the other Mbone tools the command format is:

Click on the *Start* button in the bottom left hand corner of the screen. Select *Run...* In the Run Window, type the following in the *open:* field.

```
Open: wbd [options] < remote_hostname/port>
```

So, as an example, this line would start WBD for a unicast conference with someone on the computer called myhost.example.ac.uk on port 5004:

```
Open: wbd myhost.example.ac.uk/5004
```

The person at the other end, in this case the person who is working on myhost.example.ac.uk will have to do the same command but with the name of your computer instead of myhost.example.ac.uk.

🔔 TTL is not applicable in unicast sessions.

1.2 WBD user guide

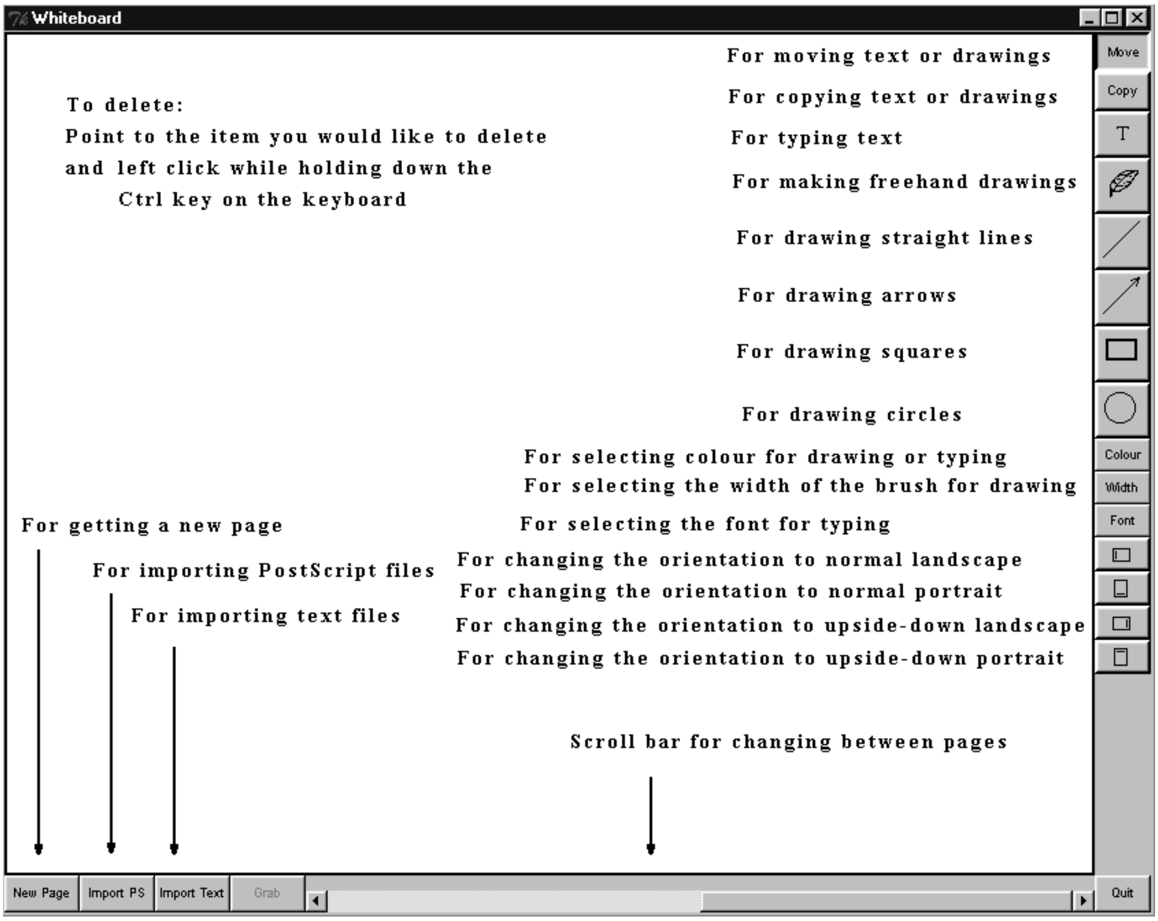

Figure 1: Main WBD Window

To type: Select the button labelled "T" in the Main WBD Window (see Figure 1). 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!

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 (see Figure 1). 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 with the left mouse button.

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. clicked with 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.

Your cursor

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

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.

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

To get a new blank page: Each page in WBD 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 (see Figure 1). No matter which page you are on when you create a new page, WBD will automatically insert the new page as the last page and 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.

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 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/mbone.3.4.ps

Glossary

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.

LBL

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

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.

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.

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.

Receive-only

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

SDR

Multicast Session Directory.

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.

WB

Whiteboard.

WBD

WB clone which can run under Windows95/NT4.0.