

Microcosm Pro

for Windows

User Guide



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Additional information about Microcosm is available on our World Wide Web site:

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1 Conventions

Before you start using Microcosm, it is important to understand the conventions used in the documentation.

1.1 Typographical Conventions

Formatting convention	Type of information
→	Step-by-step procedure.
<i>italic</i>	The word is being used as a Microcosm technical term, e.g. <i>generic link</i> .
Bold type	A reference to a Microcosm function or process.
<i>Bold Italic</i> type	A reference to another part of the documentation.
Monospaced font	Used for examples of data such as Microcosm application names, Windows File System directory names, or files names.

1.2 Window Systems

Microcosm runs on Windows 95 and Windows NT. On these systems the interface described by this documentation is identical.

2 The Microcosm System

In this Chapter

- **Microcosm: An Open Hypermedia System**
 - **Links Between Documents**
 - **The Different Types of Link**
 - **The Caerdroia Application**
-

2.1 Microcosm: An Open Hypermedia System

Microcosm is an open hypermedia system which enables users to browse through and query collections of multimedia information held as computer files. Hypermedia facilitates browsing and research by providing tools which allow links between related information to be found and followed easily.

An open system is one which does not bind the information into a particular data format (e.g. an Asymetrix ToolBook document) but leaves it as standard computer files. This means that the information held in those files can be used by other Microcosm applications or other software packages.

In closed hypermedia systems the user is constrained to finding and following links made by the **author** of the application. These links usually appear as highlighted text or graphics (known as **buttons**) so that finding the links is a trivial task. This type of application usually tends to limit the user to simply clicking on buttons. Microcosm applications that make extensive use of buttons for links can be used in this way.

One of the advantages that Microcosm offers is the ability for **users** to make links between related information, so that they can explore the documents in a less directed way and create their own view of the material being studied. In this way Microcosm applications can also be created for subjects that are open to a variety of interpretations, where users are more actively involved in the material.

In Microcosm, a set of related documents (which can be text, illustrations, photographs, animations, video or sound) is assembled by an author into an application and registered with the *Document Management System (DMS)*. This is a database containing details about the documents such as their filename and physical location - the documents themselves are *not* moved or modified in any way. Each document is given a descriptive name and a number of data tags (document type, author, keywords etc.) which are also stored in the DMS.

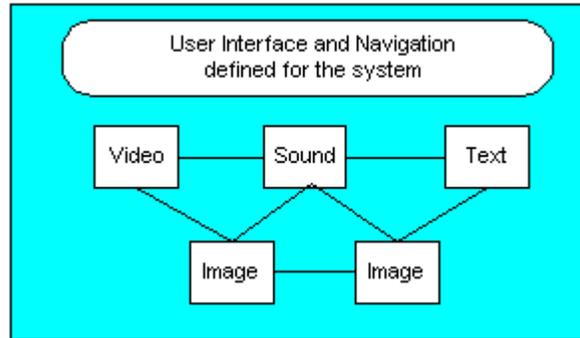
2.2 Links Between Documents

The author can browse through the documents and make links interactively by selecting the start and end points of the links using tools provided within Microcosm. For example, the start point might be a word, phrase or picture in a text document and the end point might be a specified region of a photograph. When the user selects the start point and follows the link, the destination document (the photograph) is displayed by a Microcosm viewer so that the end point of the link is visible.

This type of link, where clicking on a button (i.e. highlighted text or picture) causes a defined link to be followed, is common in closed hypermedia systems. Typically, these systems work by embedding the link details at the appropriate point in the document itself. Because of the way in which details of the links are stored, Microcosm is able to go beyond this simple model and offer valuable new ways of finding and following links.

A Closed System

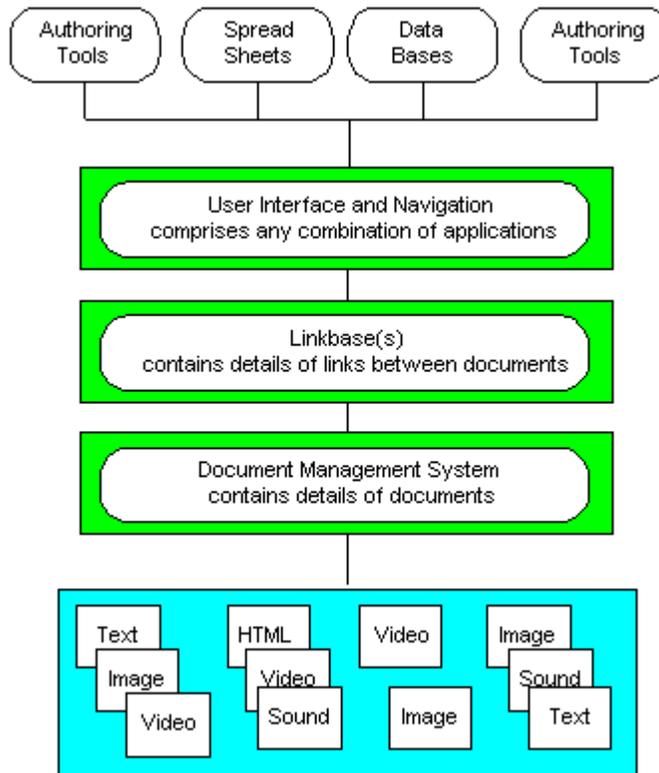
*A Closed
Hypermedia
System*



Information has been copied from standard files and modified before being embedded in the application. Details of the links between documents are stored in the documents themselves. The only links available are those made by the author.

An Open System

*Microcosm: An
Open Hypermedia
System*



Information is stored as standard files. Details of the files are stored in the Document Management System. Details of links between documents are stored in linkbases. Authors and users can create their own linkbases.

To explain how links in Microcosm work, some new terminology must be introduced:

A **linkbase** is a database which contains details about links between documents. These details are automatically added to the linkbase when a link is created.

The start and end points of a link are known as *anchors*, and can be one or more words, a picture or equation, a region of a bitmap or the start of a document.

A link is made from a *source* document to a *destination* document. Links can be made within documents, in which case the source and destination are the same.

A *unique identity number* is automatically assigned to all documents when they are imported into the **Document Management System**. Microcosm can therefore differentiate between documents that have the same descriptive name.

When the author creates a link an entry is added to the linkbase which includes these details:

the *unique identity number* of the document containing the *source anchor*.

the location of that *source anchor* within that document.

the text (if applicable) defined by the *source anchor*.

the *unique identity number* and name of the document containing the *destination anchor*.

the location of that *destination anchor* within that document.

the type of link—*button*, *specific*, *local* or *generic* (see the next section).

Because these details are held separately rather than embedded in the documents themselves, Microcosm is able to make links from (or to) read-only files (e.g. those stored on a file-server or a CD-ROM).

Another advantage offered by the linkbase approach is the ability to have multiple linkbases that refer to the same set of documents but offer different perspectives on the information they contain. For example, an application may be supplied with a linkbase representing the author's view of the material—while users can create their own linkbase containing other relationships that they have discovered.

2.3 Different Types of Link

Because the link details are held in a database, the linkbase can be searched for links associated with a specified word or phrase. There are various types of link:

Link Type	Description
<i>Button</i>	a link from a visible anchor in a source document to a specific location in a destination document. This is the only type of link possible for bitmap or animation documents.
<i>Specific</i>	a link from an invisible anchor in a source document to a specific location in a target document.
<i>Local</i>	a link from invisible anchor(s) in a source document to a specific location in a target document. Suppose the word <i>Mizmaze</i> is selected as the source anchor and a link is made to a picture of a Mizmaze. If the link type local is selected when the link is made, all occurrences of the word <i>Mizmaze</i> in that particular source document (and only that document) are

Link Type	Description
	linked to the picture.
<i>Generic</i>	a link from invisible anchor(s) in ANY piece of text to a specific location in a target document. For example, if the link on <i>Mizmaze</i> described above was created with the link type generic instead, then all occurrences of the word <i>Mizmaze</i> in any document are linked to the picture.

Each type of link has its own advantages:

<i>Button</i>	these might be used in situations where the link should be obvious; for example a link from a text document to an associated illustration or photo.
<i>Specific</i>	these might be used in situations where the link provides detailed information about a particular subject; for example a link from a reference to the document referred to.
<i>Local</i>	these are used instead of a generic link in situations where the link from a word or phrase needs to be restricted to a particular document. For example, a local link might be used to provide a link to an explanation of a 'jargon' word that is used in a particular way in the document.
<i>Generic</i>	these might be used in situations where the link should be available throughout the application; for example a link to an explanation of a technical term in a glossary.

2.4 The Caerdroia Application

Microcosm is supplied with an example application called **Caerdroia**, based on issue 25 of the journal of the maze and labyrinth research group, **Caerdroia**. Special thanks are owed to Jeff Seward, **Caerdroia**'s editor, for his permission to use the journal as the basis for the application and his help in providing artwork and computer files.

Caerdroia was chosen for a number of reasons:

The most mundane was that copyright clearance for the text and illustrations was relatively easy to obtain. Please note, however, that all text and images are still © **Caerdroia** or © individual authors, photographers and artists.

The second reason was that the documents represent a realistically-sized pool of related text and images such as might be found in a typical **Microcosm** application. Because all of the documents deal with aspects of the same topic (mazes and labyrinths) many links between the documents are possible. In addition, all of the important document types (text, illustrations, photos, animations and video) could be utilised.

The third reason was that the subject matter was neither technical nor trivial and is hopefully of general interest. This makes it easier for you to work with the application and create meaningful links between documents.

The final reason was that the author of this user guide saw intriguing parallels between the path through the labyrinth to the centre and the role of Microcosm as a tool for following threads of meaning to discover the knowledge concealed within the documents.

3 Starting and Closing Microcosm

In this chapter

- **Choosing an Application**
 - **Alternative Methods of Logging In**
 - ◆ **Automatic Login**
 - ◆ **Logging in as the Application Owner**
 - ◆ **Logging in as the Microcosm Administrator**
 - **Logging Out**
-

3.1 Choosing an Application

Before you can use Microcosm you may need to log into Microcosm by typing your **User name** and **Password**. Microcosm stores information about the way you configure applications (e.g. the name and location of any linkbase files you have created) in an initialisation file. Logging in enables Microcosm to automatically set itself up the way you want it.

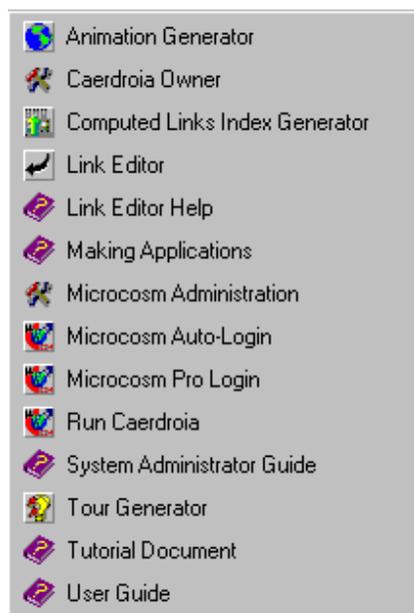
You should have already installed Microcosm as described in the **System Administration Guide**.

➔ Single click on the Start button in the Task Bar and move the pointer to Programs and then to Microcosm Pro.

The menu of all Microcosm components will pop-up.

➔ Single click on Microcosm Pro Login.

*The list of
Microcosm
components*



The Microcosm Login window will appear

*The Microcosm
LoginWindow*



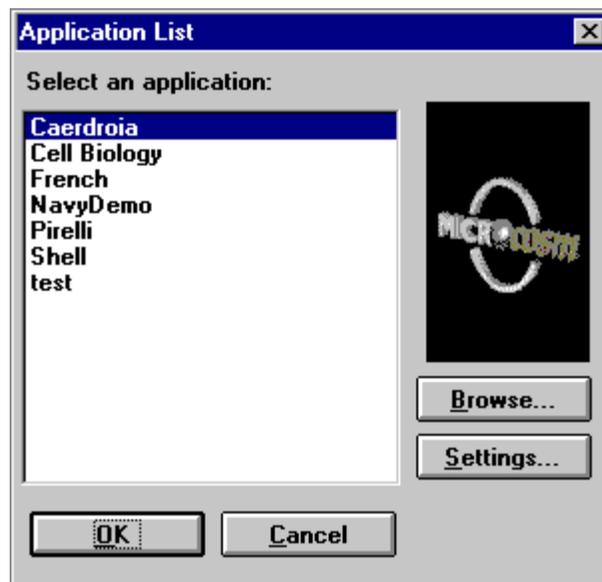
➔ Type in your **User name**, press the **Tab** key to move the cursor, type in your **Password** and press the **Enter** key. Note that your User name and Password are case-sensitive—so capitals and lower case letters must be entered correctly.

NOTE You can click on the arrow to the right of the User name field to select your User name from a scrollable list, then click in the Password field to move the cursor, type your password and click on the **OK>>** button.

NOTE There is a default User name (**guest**) and Password (**guest**) supplied.

If you have typed a valid User name and Password, the login window will expand to show a list of the applications available.

*Microcosm
application list
showing list of
applications*



➔ Select the application you require by double-clicking on it. Alternatively, click once to select the application and then click on the **OK** button or press **Enter**.

The application will start.

NOTE. The first time you use Microcosm after installation, several “Gas Gauges” will appear as a number of internal files are built.

NOTE The **Settings** button gives you access to the Microcosm Configuration wizards (see **The Microcosm Configuration Program** in the **System Administration Guide**) and also allows you to add new Microcosm Applications to the Application List (see **Managing the Application List** in the **System Administration Guide**).

NOTE The **Browse** button allows you to point Microcosm directly at a so called **Application Registry File** (.MCM), which will run that application directly even when it is not on the application list.

After a short pause, two icons will appear in the Task Bar. These represent Microcosm software components and their functions are described in detail in other sections.

The Microcosm icon



Microcosm Pro

➔ At any time you may single click this icon to show the **Select a Document** window which is used to choose those documents that you wish to see.

Or

➔ Right click will produce a menu which contains a number of useful items which are described in other sections. The most important is **Close**, which will terminate Microcosm.

The Filter Manager icon



Filter Manager

This icon gives access to the **Filter Manager** which is described in other sections.

NOTE If you have chosen the Caerdroia application, a Startup document will appear automatically. Microcosm can be set to open any number of Startup documents. See **Startup Documents** in the **Microcosm Configuration Program** for more information.

NOTE If an application does not have any startup documents, the Microcosm will display the Select a Document window.

3.2 Alternative Methods of Logging In

The main reason for needing to login to Microcosm is to ensure that users may be delivered their own links and documents, and then to allow the user to select an application. If you wish you can create windows shortcuts that pass command line parameters to Microcosm when it starts, and using such shortcuts you may make it faster and easier to start Microcosm in cases where you will always be the same user, or where you will always use the same application.

You may use windows shortcuts to

- Login automatically
- Login is the owner of an application
- Login as the system administrator

3.2.1 Logging in Automatically

The Microcosm start menu, as delivered has a shortcut called “Microcosm Auto Login”. This shortcut will automatically log you in as the user “guest”, and take you straight to the window where you select your application.

Note: If you examine the windows shortcut target, you will see that it contains:

```
"C:\Program Files\McmPro\BIN\Mircosm.exe" /u:guest  
/p:guest
```

Another shortcut in the Microcosm start menu is labelled “Run Caerdroia”. This will automatically log you on (as user guest) and start the Caerdroia application.

Note: The windows shortcut target is:

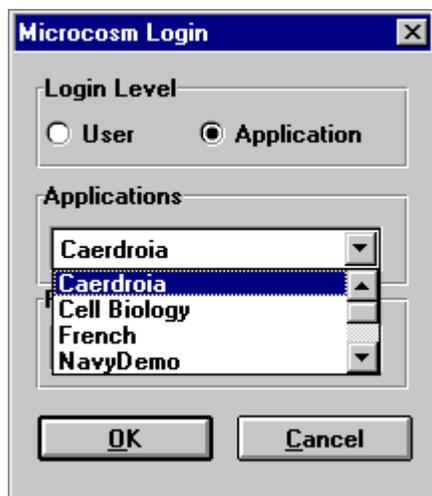
```
"C:\Program Files\McmPro\BIN\Mircosm.exe" /u:guest  
/p:guest /a:C:\McmApps\mazes\Mazes.mcm
```

3.2.2 Logging in as the Application

If you login as a user then you will not be able to alter the base application in any way. Instead you will be able to add your **own** folders, documents, links, annotations and settings. These will act **in addition** to the existing application. If you are the **owner** of an application and wish to alter the application folders, documents, links and settings, then you must login as the application owner. When an application is created the creator will have supplied a password which will be needed to provide take ownership of the application.

➔ When asked to login, select the *Application* radio button, as shown below.

Logging in as the application



→ Select your application and provide your password.

Access to run or administer an application



The application list will now contain just your application, and you may choose to run the application by pressing “OK”, or press “Settings”, in which case you will be able to change the system environment for your application.

Note: The Microcosm start menu has a shortcut labelled “Caerdroia Owner” which has the windows shortcut target

```
"C:\Program Files\McmPro\BIN\Microcosm.exe" /np  
/u:C:\McmApps\mazes\Mazes.mcm
```

I.E. the “user” is the mcm file in the root of the application directory, and there is no password (simply because the Caerdroia application was created with a blank password).

3.2.3 Logging in as the Microcosm Administrator

If you have the administrator password (which is initially blank) then you can login as the Microcosm administrator, which will allow you to make changes to the Microcosm system, or to administer other peoples applications.

Note: The Microcosm start menu contains the following shortcut to allow you to login as the administrator.

```
"C:\Program Files\McmPro\BIN\Microcosm.exe"  
/r:mcsystem.reg /u:administrator /np
```

→ When you see the login dialog, simply press **OK** (assuming that no password has yet been set).

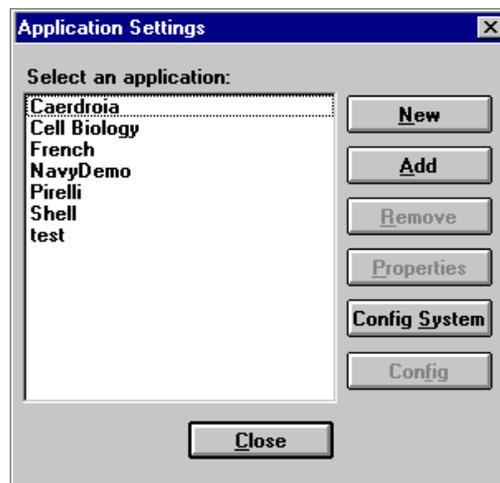
Logging in as administrator



Choosing "Application" would allow you to login as if you were the owner of the application.

You will now see the application list, for example

Access to administer the system



→ You may now select to Configure the System, or if you select the application you wish to administer, you will get full administrative access to both the system and the application.

Note: System administration is outside the scope of this manual, and is covered in the System Administration Guide.

3.3 Logging Out

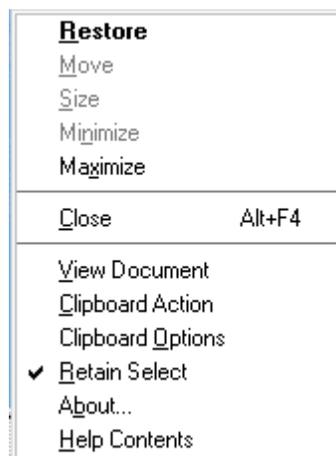
To log out you must terminate Microcosm

◆ From the Microcosm icon

→ Right click on the Microcosm icon  in the Task Bar.

The menu for the Microcosm icon will appear.

*Microcosm Menu;
Closing
Microcosm*



→ Click on **Close**

You will be asked to confirm that you wish to end the Microcosm session. Click on OK to terminate Microcosm.

◆ From *Select a Document*

You can terminate Microcosm from the File Menu of the *Select a Document* window.

→ Single click on the Microcosm icon in the Task Bar, then select File in the Select a Document window. **Exit Microcosm** is the last item in the File menu. The leftmost icon on the toolbar will also close Microcosm.

4 Selecting and Viewing Documents

In this chapter

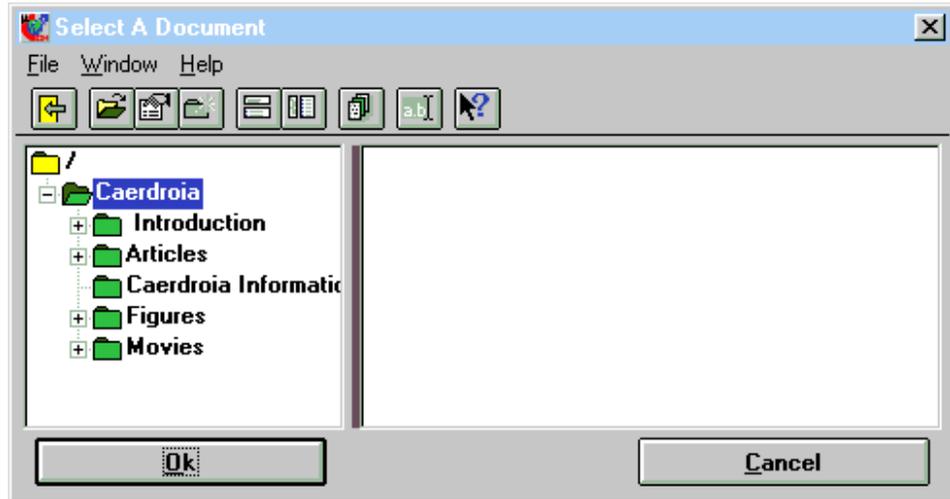
- **The Select a Document Window (Introduction)**
 - **The Document Management System**
 - **The Folder Structure**
 - ◆ **Document Type Icons in the Folder Structure**
 - **The Select a Document Window (Details)**
 - ◆ **Reshaping the Select a Document Window**
 - ◆ **Select a Document: File Menu**
 - View Document
 - View Document Information
 - Save Window Size and Position
 - Edit Document Information...
 - Import Local Document...
 - Import External Document...
 - Add Folder...
 - Delete Folder...
 - Delete Document...
 - Exit Microcosm
 - ◆ **Moving and Copying Documents**
 - ◆ **Renaming a Folder**
 - ◆ **Shortcut Keys**
-

4.1 The Select a Document Window (Introduction)

Documents may be selected and viewed at any time using the *Select a Document* window.

→ Click on the *Microcosm* icon  in the Task Bar to open the *Select a Document* window.

Select a Document
window



The left hand side (the left hand *pane*) of the *Select a Document* window shows the *folder structure* of the application documents as a hierarchy of folders. The folders in green are those parts of the folder structure associated with the Microcosm application you chose when logging in. If a folder has a + beside it, there are lower level folders in the folder hierarchy that are currently hidden. Double click on a folder with a + to open up the lower level folders. Double click on a folder with a - to ‘fold up’ the lower levels in the hierarchy.

- click on a folder in the folder structure in the left hand pane and the documents associated with that part of the structure will appear in the right hand pane.
- double-click on the document’s name in the right hand pane to view it. Alternatively, click once on the document’s name to select and highlight it and then click on the **OK** button to view it.

The selected document will be displayed by the appropriate Microcosm viewer.

The Select a Document window will stay open at all times. If you wish it to close after you have selected a document to view:

- right click once on the *Microcosm* icon. The menu will show Retain Select checked (with a ✓) and click on **Retain Select** to remove the check mark. Then click somewhere else on the screen to remove the menu.

The section Select a Document Window (Details) contains full description of all the features.

4.2 The Document Management System

A typical Microcosm application consists of a large number of documents (which can be text, graphics, animation, video, sound or other document types) stored as computer files. These documents have been *imported* into Microcosm and *registered* so that their details are recorded in a database known as the **Document Management System (DMS)**. The data on each document (the Document Attributes) include:

- its location(s) within the folder structure. A document can be placed in more than one part of the folder structure.
- a name describing its content. This name is shown when the document is viewed.
- its real (windows) filename and location. This is the full pathname of the file, including the drive letter.
- its document type. The document type is used to identify the viewer which will be used to display the document.
- the name of its author(s) and the date it was imported.
- keywords which can be used to describe the content of the document.

The last two items are optional.

It is important to remember that when a document is imported into Microcosm it is unchanged in any way. The information in the **DMS** acts as a link between Microcosm and the original document file. If a document is removed from the **DMS** the original file remains unchanged.

In general, there is one **DMS** for each Microcosm application, and in addition users will have their own **DMS**. The documents in the current user's **DMS** will appear differently (See the section User Folders and Documents).

If you are logged on to Microcosm as a *user* rather than as the *owner* of the application, then you will only be able to make **DMS** changes to the documents in the user **DMS**.

Although, in general, you can expect to see all the documents in the current **DMS** databases by using the **Select a Document** window, document information can be modified so that the document is hidden

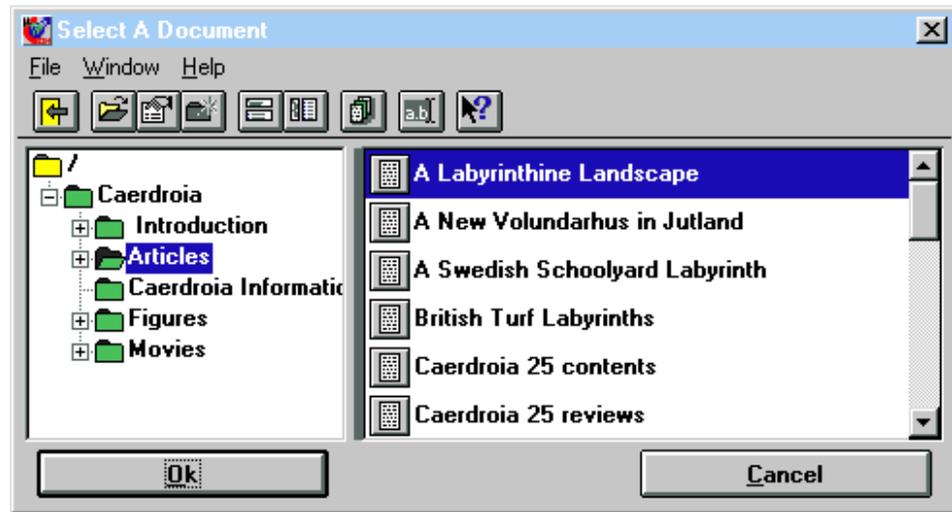
4.3 The Folder Structure

The author of the application can create a folder structure to organise the documents in the **Document Management System** in a way that makes it easier to locate the ones you wish to view.

This structure can be based on the physical file types (text, bitmap etc.) or can follow the sense of the information they contain—for example all documents (of whatever type) about a particular topic can be grouped together. In addition, documents can appear more than once in the structure. This can be illustrated by looking at the folder structure of the Caerdroia application.

- Click on the *Microcosm* icon  in the Task Bar to open the *Select a Document* window.
- Click on a branch in the left hand pane

Select a Document window showing folder structure



In the left pane there is a graphic representation of the folder structure, and in the right is a list of the documents associated with the part of the structure (a *branch*) currently selected. The layout is similar to the Windows File Manager.

The example above shows the overall folder structure of the Caerdroia application. In the left hand pane the folder structure contains:

- Articles text files that form the main body of Caerdroia 25.
- Figures the associated illustrations and photographs.
- Movies additional animation and video clips.

And additional branches have also been created to contain:

- Introduction a convenient starting point for users.
- Caerdroia Info information about the Caerdroia society itself.

NOTE If all you can see of the folder structure is the yellow 'root' folder (labelled /) or the green Caerdroia folder, double-click on these folders to expand them until the structure is as shown.

Some of the folder icons that form the folder structure have plus or minus signs on them. A plus sign indicates that there are lower levels in the hierarchy.

- Double-click on the Articles folder icon to expand the structure and display the lower levels. Note that the Articles folder icon now contains a minus sign.
- Click on The Centre of the Labyrinth folder icon to see a list of the documents it contains. Then click on The Labyrinth folder icon and scroll down the list of documents to see what it contains.

Select a Document window showing sub-branches



The two sub-branches of the structure (The Centre of the Labyrinth and The Labyrinth) contain all the documents (both text and figures) associated with two leaflets produced by the Caerdroia Society. You will notice that the documents for each branch contain more than one document type.

- Double-click again on the Articles folder to collapse the structure and hide the two sub-branches.
- Click on the Introduction folder icon to view the documents it contains.

Select a Document window showing duplicate document locations



You will see that the Introduction branch also contains the text of the two leaflets, showing how a document can appear at more than one place in the folder structure.

NOTE A key feature is that the documents themselves are not duplicated; the folder structure only contains pointers to the actual files.

◆ Hidden Documents

It is possible to have documents which are *hidden*. This term is used to describe documents that have been imported into Microcosm but do not appear in any branch of the Folder Structure. *Hidden* documents can be seen if they are a target of a link.

Documents can be *hidden* by importing the document into an existing branch of the Folder Structure and then using the Edit Document Information process of the Select a Document window to change the branch name to one that does not exist in the Folder Structure.

4.3.2 Document Type Icons in the Folder Structure

Each document type is assigned an icon, so that you can identify individual document types. In a standard Microcosm installation the following document types are defined:

Icon	Document Type	Contents
	TEXT	ANSI or ASCII text, or RTF
	BITMAP	A graphic in BMP or JPEG format
	SPREADSHEET	A spreadsheet in Microsoft Excel or Lotus 1-2-3 format
	DATABASE	A database which will be viewed in spreadsheet format. DBase, Access, Paradox and SmartWare
	RASTER	Graphics represented internally as pixels
	VECTOR	Graphics that are represented internally with vector descriptions and can be rescaled
	WP	Word Processor files
	ANIMATION	A sequence of bitmaps
	VIDEO	A video sequence in AVI format
	SOUND	a sound file in WAV format
	TOUR	A Microcosm guide tour
	TOOLBOOK	An Asymetrix Toolbook application
	WORLD WIDE WEB	A page held on the World Wide Web
	LAUNCHER	Any executable file
	ZDEFAULT	Any other file. Microcosm will ask Windows to display this file (as if clicked on in Explorer)

4.4 The Select a Document Window (Details)

To see the *Select a Document* window either:

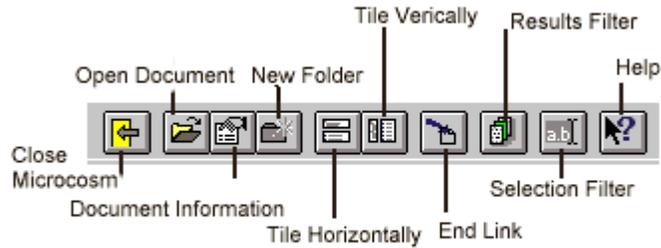
→ Click on the *Microcosm* icon  in the Task bar.

or

➔ Right click on the *Microcosm* icon in the Task Bar and select **View Document** from the menu.

The icons on the task bar unfortunately do not have tooltips (as this is 16 bit code), but they have the following meanings:

The Toolbar on the Select a Document Window



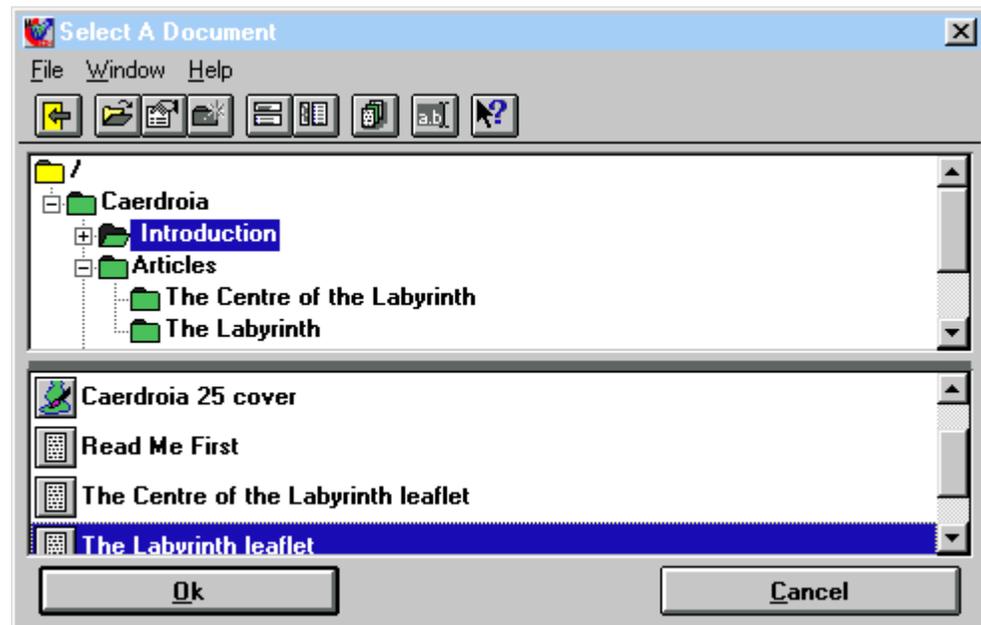
4.4.1 Reshaping the *Select a Document* Window

The window can be closed, resized or repositioned using the standard Windows techniques. Resizing the window is useful for those Microcosm applications with long document names.

The divider between the left (folder structure) and right (document list) panes can be moved by dragging it.

The **Window** menu can be used to tile the Select a Document window vertically, as shown in the examples so far, or horizontally as shown below.

Select a Document window tiled horizontally



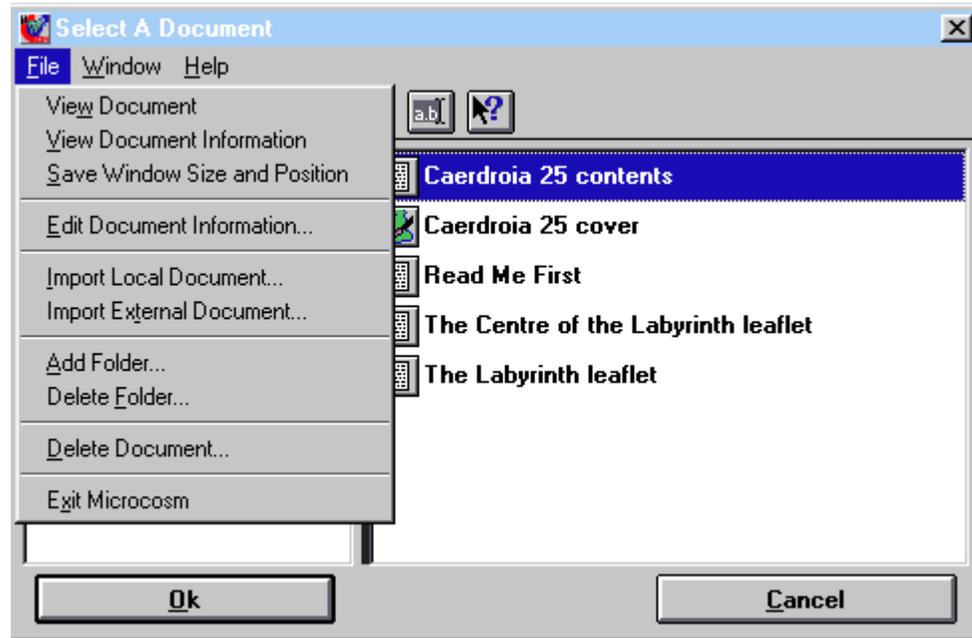
When you change from horizontal to vertical tiling (or back again) you will have to adjust the window size and position, and the border between the two panes.

NOTE Some of the features described here are only available if the system you are using has full authoring or reader-interactive capabilities. Check with your system administrator if you are unsure.

4.4.2 Select a Document: File Menu

If you are an author, the *Select a Document* File Menu will look like this:

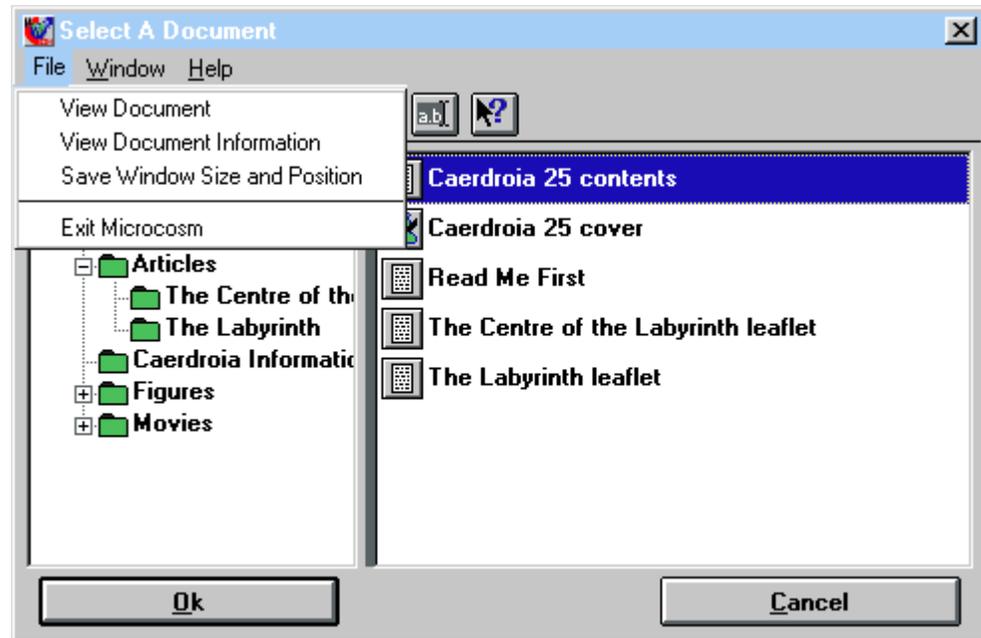
Select a Document: File Menu for Authors



allowing you to import new documents and modify the document information.

If you are not an author, you will have access to a more restricted menu.

Select a Document: File Menu for non-authors



◆ **View Document**

To see a document, in the *Select a Document* window

➔ Select the document in the right hand pane

➔ Click on the **File** menu

➔ Click on **View Document**

Or

➔ Double-click on the document in the right hand pane

Or

➔ Select a document in the right hand pane

➔ Click on OK

◆ **View Document Information**

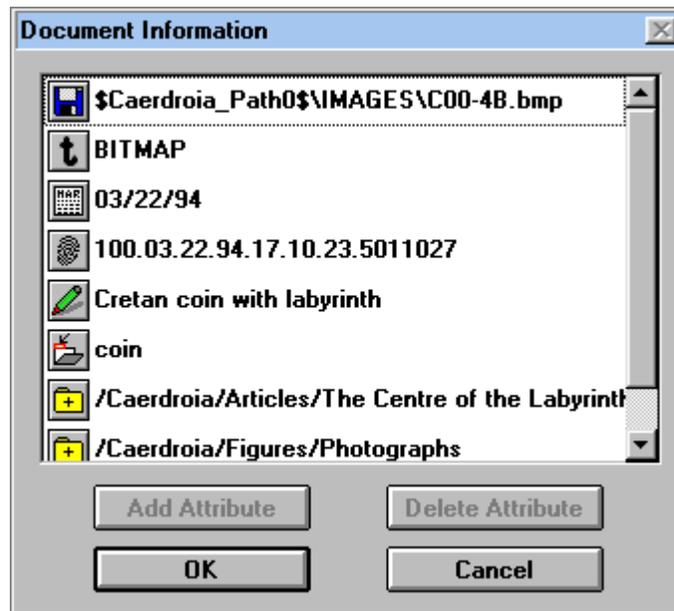
Choosing **View Document Information** displays a dialogue box containing all the attributes that are stored in the DMS for the selected document.

➔ In the *Select a Document* window, select a document in the right hand pane

➔ Click on the **File** menu

➔ Click on **View Document Information**

*Document
Information
window from
Select a Document*



The icons in this window have the following meanings

Icon	Name	Used for
	File Name	The location of the file in the Windows File System (see Note below)
	Type	The document type (e.g. TEXT or SOUND)

Icon	Name	Used for
	Date	The date on which the file was imported into the DMS
	Unique Id	A unique number used by Microcosm to identify the document
	Description	The document description used in the Select a Document window
	Keyword	Any associated keywords
	Folder	The location of the document in the folder hierarchy.
	Author	The person who created the document

NOTE In the example above, *\$Caerdroia_Path0\$* is a Microcosm *Application Path Variable*. These variables are built and used by Microcosm to keep track of documents associated with each application. They are fully described in the **Path Variables** section in the **System Administration Guide**. If the document does not reside in the main application directory, the full path name of the file is used.

◆ **Save Window Size and Position**

Since the current size and position of the *Select a Document* window are remembered automatically when the window is closed, this menu item is redundant.

◆ **Edit Document Information...**

If you are an author you can change any of the document attributes associated with a document in whichever DMS you are logged in to use (so a user can edit document information for their own documents, and the application owner can edit the application documents)..

➔ In the *Select a Document* window, select a document in the right hand pane then **either**

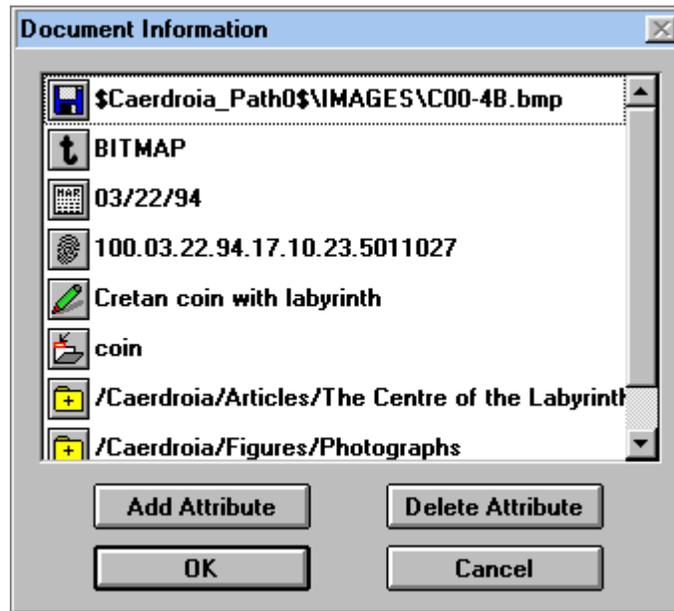
➔ Click on the **File** menu and then on **Edit Document Information...**

➔ Double-click on the attribute you want to change (e.g. Description entry ).
The current values of the information are shown.

or

➔ Click with the **right** mouse button

Document Information Window: editing the Information



Entering a New Description



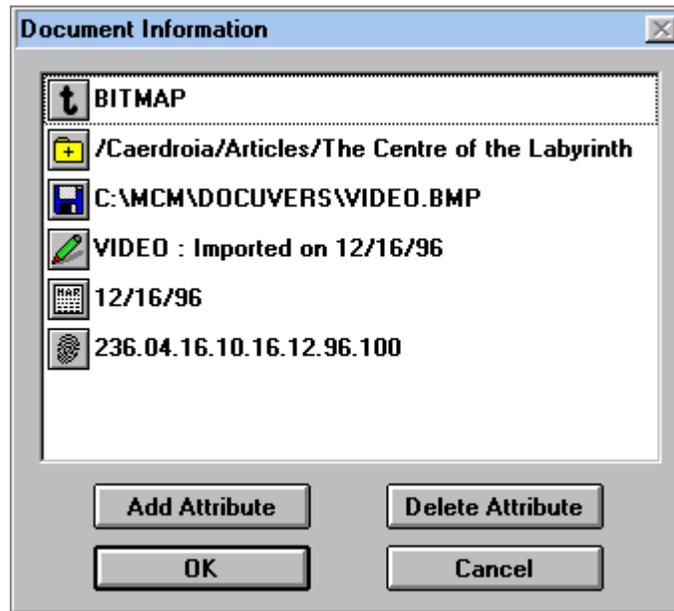
- Type the new value over the old value
- Click **OK**
- Click on **OK** in the *Document Information* dialogue.

You will see that the description in the right hand pane of the *Select a Document* window has changed to the description you have just given to the document.

NOTE Although all the attributes are editable, you should not change the UniqueID entry  as this is what Microcosm uses to identify the document. Only change the File Name  if you change the position or name of the file in the Windows File System. You should not change the document Type  which relates the contents of the file to a particular viewer.

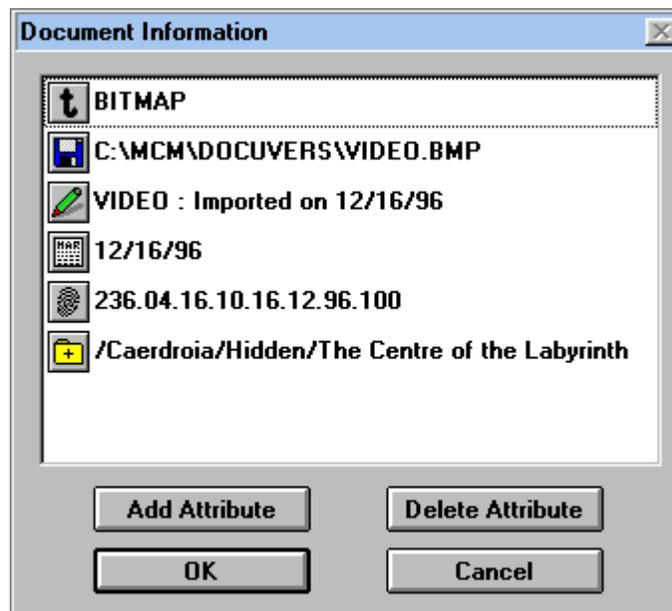
Documents that cannot be seen in the *Select a Document* window are called *hidden* and are created by importing the document into any branch of the Folder Structure and using Edit Document Information to change the branch name. For instance, if the Document Information for a document is

*Edit Document
Information:
Creating a hidden
document*



Then changing the branch name to one that does not exist in the Folder Structure will effectively make the document *hidden*.

*Edit Document
Information: The
branch name has
been changed.*



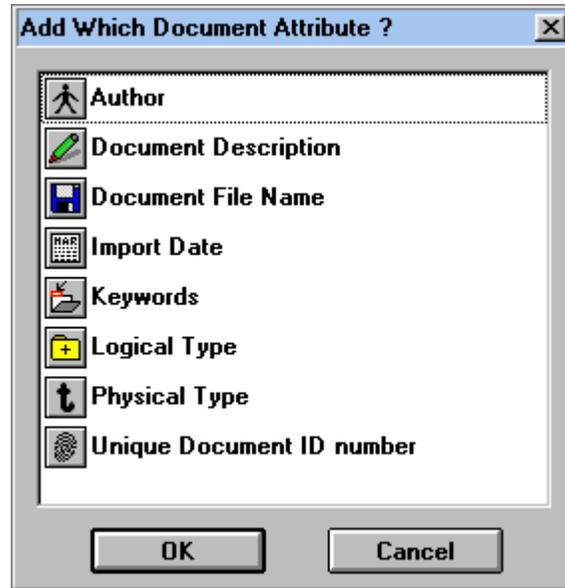
Note You will have to take special action to make the document visible again. One way would be to use a branch name *hidden* and place all hidden documents in this branch. To hide the documents remove the *hidden* branch from the Folder Structure. To make the documents visible again, add the *hidden* branch to the Folder structure.

Add Attribute

The **Add Attribute** option on the Document Information allows you to specify additional attributes for a document. Clicking on the button displays a dialogue box with a list of all possible attributes.

→ Click on **Add Attribute** in the Document Information window

*Document
Attributes list from
Document
Information
Window*



→ Select the attribute you wish to add and click on **OK**

→ You can now enter the value for that attribute as described above.

Delete Attribute

Delete Attribute removes the attribute selected from the document's entry in the *DMS*

◆ Import Local Document...

Files not already in the **Document Management System** can be imported and registered in the **DMS**, provided that you are logged on either as an authoring user or as the owner of an application.

To import and register a document:

→ Use the left hand pane of the *Select a Document* window to identify and select the branch in the folder hierarchy into which the file is to be imported.

→ Choose **Import Local Document...** from the **File** menu to open a **Select a File** window.

→ select the required file and click on OK

The **Select a File** window will close and the selected file will be registered as a document in the **DMS**.

Drag and Drop

You can also import documents by drag and drop

→ Use the left hand pane of the *Select a Document* window to identify and select the branch in the folder hierarchy into which the file is to be imported.

→ Open the Windows File Manager and, with the pointer over the selected file, press the left mouse button and drag the file to the right hand pane.

You can use the Shift and Ctrl keys to select more than one file to import into the branch.

Document Description

If the document is already registered with the **DMS**, the action of importing it again will create a *document reference*. The reference will be given the same document description as the existing document.

If the document is not already known to the **DMS**, the document will be given the description containing the document file name. You will probably want to change this description and add other attributes to the document, as described in Edit Document Information.

Application Path Variable

If you import a document from a directory that is defined by an *Application Path Variable* then the file name stored in the DMS will contain the name of the *Application Path Variable*. If the document is in another directory, the full path name of the document file is used.

If you are an application author and importing documents for that application, it is highly recommended that you move or copy the document file to the **DATA** directory under the application directory (the directory defined in the *Application Path Variable*) before you import the document.

◆ **Import External Document...**

If the document you wish to import into Microcosm does not exist on the local Windows File System, then it may be possible to access it on a local network or on the World Wide Web.

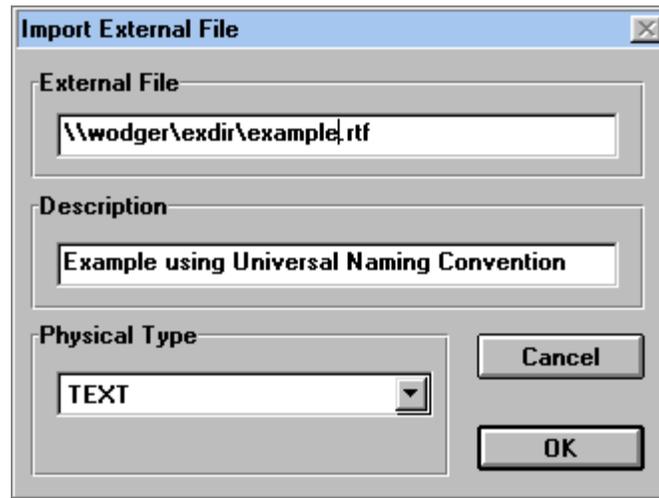
Local Networks

Windows 95 and Windows NT which are connected to a network allow files on one PC to be accessed from another PC, using the Universal Naming Convention (UNC).

➔ Use the left hand pane of the *Select a Document* window to identify and select the branch in the folder hierarchy into which the file is to be imported.

➔ Choose **Import External Document...** from the **File** menu.

*Import External
File: using the
Universal Naming
Convention*



- ➔ In External File enter the name of the machine in the Workgroup and the directory and file name, using the UNC.
- ➔ Enter a suitable description for the document.
- ➔ Choose the physical type for the document.

In the example above, the file `example.rtf` is in the shared directory `exdir` on the networked machine known as `wodger`. The general form of the UNC is

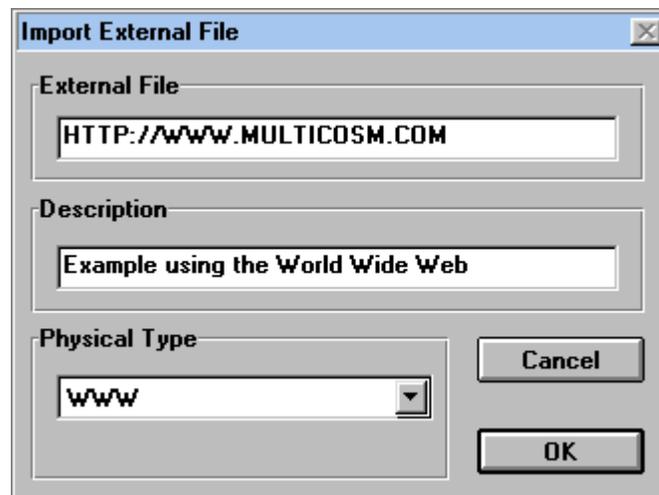
`\\Machine-name\shared-directory-name\sub-directories\filename`

There can be any number of sub-directories after the shared directory.

World Wide Web

- ➔ Use the left hand pane of the *Select a Document* window to identify and select the branch in the folder hierarchy into which the file is to be imported.
- ➔ Choose **Import External Document...** from the **File** menu.
- ➔ In External File enter the URL of the Web page.
- ➔ Enter a suitable description for the document
- ➔ Choose the physical type for the document, in this case WWW.

*Import External
File World Wide
Web*



In this case the External File is a Web page which is to be viewed as a WWW Document Type. Netscape (or an equivalent Web browser) must have been installed on your system. (See the **Document Types** section of the **System Administration Guide** for more information on document viewers and the associated document types).

NOTE When Microcosm encounters a document of type WWW it will attempt to launch this document in whatever program is registered with Windows as the default handler of htm and html files. This is likely to be Internet Explorer or Netscape. If this fails you will get a SHELLEXEC error reported, and the likely cause is that you do not have any default browser registered with Windows.

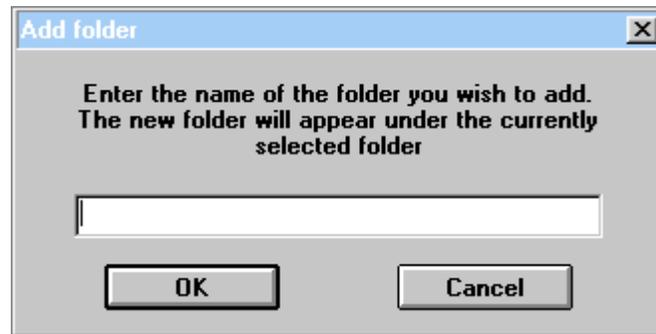
◆ **Add Folder...**

Provided that you are logged on as an application owner or an authoring user, new branches can be added to the folder structure by choosing **Add Folder...**

➔ In the *Select a Document* window, select the branch under which you wish to add the new branch, and choose **Add Folder...** from the **File** menu.

A dialogue box is displayed:

Add Folder



➔ Type the name of the new branch, and click on **OK**. The new branch will be added to the folder structure.

◆ **Delete Folder...**

Provided that you are logged on as an application owner or an authoring user you can remove any branch from the folder structure that belongs to you. If a branch containing documents is removed, all documents within that branch are moved to the root (/) of the folder structure.

➔ In the *Select a Document* window, select the branch that you wish to delete.

You will be asked to confirm that you really do wish to delete the branch

➔ Click on **OK**

◆ **Delete Document...**

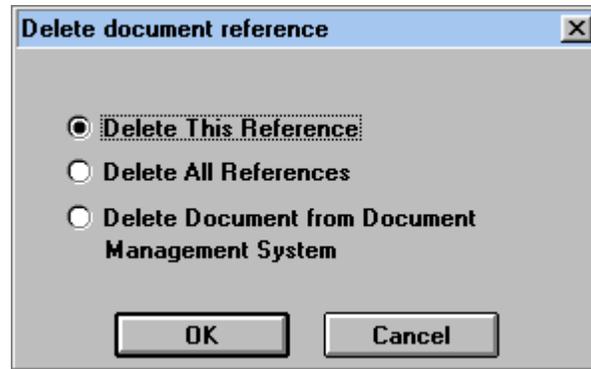
To delete a document from the **Document Management System**

➔ Select the document you wish to remove in the *Select a Document* window.

➔ Choose **Delete Document...** from the **File** menu.

A dialogue box will appear:

Delete Document



The choices here dictate what happens to references to this document in other parts of the folder structure.

Delete This Reference results in the selected document being removed only from this point in the folder structure. All other references remain intact.

Delete All References results in all references to the selected document being removed from the folder structure. However, the document is not removed completely from the **DMS**. Instead it is moved to the very top of the structure.

→ Click on the root branch of the folder structure (/), and you should see the document for which you have deleted all references. The document has been moved to the root of the structure in order to provide a safety mechanism when removing documents.

NOTE If you were to remove the document completely from the **DMS** before ensuring that all links had been updated accordingly, it is possible that links might be left dangling (i.e. pointing to a document that Microcosm no longer knows about).

When you are sure no dangling links remain, you can safely remove the document completely from the **DMS**

→ Select the document in the root branch of the folder structure.

→ Choose **Delete Document...** from the **File** menu.

→ Click on **Delete Document from Document Management System**, then click on **OK**.

The document will now be removed completely from the **DMS** but it has **not** been removed from the Windows File System.

NOTE It will not be possible to delete documents that do not belong to (were imported by) you; so for example a user will not be able to delete documents that belong to the application owner.

◆ Exit Microcosm

Use this menu item to close the current Microcosm session, log out and close Microcosm.

→ Click on **File** and then **Exit Microcosm**.

You will be asked to confirm that you wish to close your Microcosm Session. Click on **OK**.

4.5 Moving/Copying Documents to Other Folders

It is possible to copy or move documents that belong to you (a user cannot copy or move application documents - only the application owner can do that) from one branch of the folder structure to another branch by the normal Windows drag-and-drop process.

- ➔ Open up the folder structure in the left hand pane of the *Select a Document* window until you can see the branch into which you wish to move or copy a document.
- ➔ Select, in the right hand pane, the document you wish to move or copy.
- ➔ Press the left hand mouse button and drag the document over the required branch.

NOTE To move, hold down the SHIFT key while dragging. To copy, hold down the CTRL key while dragging. A + will appear in the drag icon. Holding down neither will also do a copy.

- ➔ Release the mouse button.

NOTE If you have copied the document to the new branch, you have made a new reference to that document in the DMS.

NOTE It will not be possible to delete documents that do not belong to (were imported by) you; so for example a user will not be able to delete documents that belong to the application owner.

◆ Moving/Copying Multiple Documents

It is possible to select more than one document in the right hand pane of the *Select a Document* window and then move or copy them in one go to the required branch.

- ➔ Select a document

Either

- ➔ Select a continuous block of documents by pressing the Shift key and clicking on the document at the other end of the block

or

- ➔ Select a number of separate documents by pressing the Ctrl key and clicking on the required documents in turn.

Then

Either

- ➔ To **copy** the selected documents (optionally hold down the Ctrl key and) drag the documents to the required branch of the left hand pane.

Or

→ To **move** the selected documents hold down the SHIFT key and drag the documents to the required branch of the left hand pane.

4.6 Renaming a Folder

The recommended way to change the name of an existing branch in the folder structure is to:

- Add a folder with the new name
- Copy the documents in the original branch to the new branch.
- Delete the original folder.

4.7 User Folders and Documents

Much of the previous discussion has referred to adding folders and documents when you are the *owner* of the application.

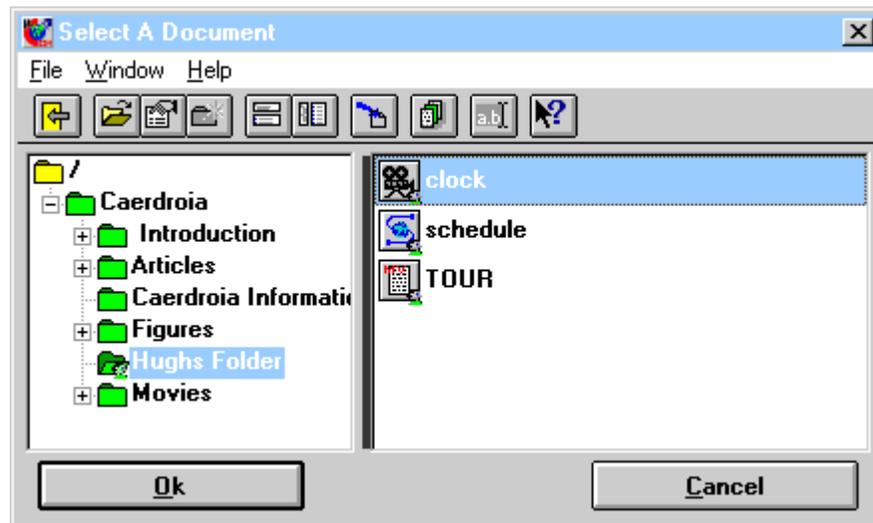
If you have logged on as a user *who has authoring rights* then you will not be able to alter the folder structure or the properties of the documents that are part of the applications.

However, if you do create a new folder it will become a user folder, and will have a different icon as shown below for the folder labelled “Hughes Folder”.

Similarly if you import a new file it will show as a user document, as shown in the right hand pane below.

User folders and documents will only be seen when you login as the user who created them.

Select a Document window showing a user Folder and user files



Note: It will not be possible to move or copy an application document into a user folder (as the user cannot move or copy application documents), and the user folder will not be visible if you are logged on as the application.

However, it is possible for a user to import a user document (or copy it) into an application folder. This document will still only be visible to this user.

4.8 Shortcut Keys

When using Select a Document, you can use the usual shortcut keys to change the window size and position

- Press **Alt-Spacebar** to get to the window control menu.
- Use the **up** and **down arrow** keys to select one of the menu items.
- Press **Enter**
- If you have chosen Size or Position, use the **arrow** keys to modify the window.

You can use the usual shortcut keys to access any of the menu items. For instance, to close the Select a Document window you can

- Press **Alt-F** to select the **F**ile menu.
- Press **X** to choose **E**xit.

In addition the Select a Document window has the following shortcut keys:

Shortcut Keys	Action
+ or =	Expand the selected Folder Branch
-	Collapse the selected Folder Branch
Tab	Change the selection to the next window feature, such as the pane or button.
Arrow keys	To move the selection to the next or previous item

5 Document Types and Their Viewers

In this chapter

- Document Types and Viewers
 - Special Microcosm Viewers
 - Viewers using Windows facilities
 - Viewers using Windows applications
 - The MultiViewer
 - The Document Icon
-

5.1 Document Types and Viewers

In Microcosm a *document* is a file that has been imported into Microcosm and registered with the **Document Management System**. The original file is not moved or changed in any way.

Microcosm can handle documents in many formats and Microcosm provides a viewer which will display the document in its correct form. Each format is given a Document Type (a single Document Type can include many formats) and each Document Type is handled by a particular viewer.

There are four types of viewer

1. **Special Microcosm Viewers.** These viewers have the complete set of Microcosm navigation and link making functions
2. **Viewers using Windows Facilities.** These viewers are standard Windows processes and have no Microcosm special functions.
3. **Windows Applications as Viewers.** There are a number of Windows applications which can be enhanced by running special Microcosm macros to have a limited set of Microcosm functions.
4. **The MultiViewer.** which can display a large number of file types. When most file types are viewed by the MultiViewer, the Microcosm functions are made available.

5.2 Special Microcosm Viewers

The four viewers listed below have been specially written for Microcosm and contain the full set of navigation and link making facilities, together with a number of options to control things like button colour and zoom factor. See the Text and Graphics viewers for a full description of the viewers

Document Type	Document Icon	Description
TEXT		ANSI or ASCII text, or RTF
GRAPHIC		Windows bitmap image or JPEG compressed image.
		The format used for Microsoft Video for Windows
		A special Microcosm file containing an sequence of BMP bitmap images
TOUR		Microcosm Guided Tour

Files for the Text viewer can be generated by:

Format	Generated by
ANSI, ASCII	A text processor such as Notepad supplied with Windows. The document can contain text only in upper or lower case, all with the same font size. The font size used to display the document can be set from the Text Viewer Options menu.
RTF	Microsoft Word for Windows document saved as an RTF file. The document can contain many of the objects that can be created by Word for Windows. Diagrams, pictures, a variety of fonts and font colours and tables are all supported.

Files for the Graphics Viewer can be generated by:

Format	Generated by
BMP	Many program packages will generate Bimap Windows standard format pictures. The viewer will display BMP pictures in both RGB and RLE formats.
JPEG	Many program packages will generate JPEG format pictures.
Complex with the .ani extension	Microcosm. Animations are constructed from a control file and a series of bitmaps. See Creating Animations for details on how this is done. The format is also handled by the Tour Viewer (see below).
AVI	Microsoft Video for Windows is the easiest way to generate AVI files. There is alternative video editing software. To capture video sequences a video capture card must be installed.

The Tour viewer handles

Format	Generated by
Complex	Microcosm. Guided Tours are a single coded file constructed using special features in Microcosm. See Creating Guided Tours for details on how this is done.

5.3 Viewers using Windows facilities

Microcosm “views” sound files by using the Windows Media Player. No special Microcosm functions are available.

Document Type	Document Icon	Description
SOUND		Windows wave audio
LAUNCHER		Any Windows .EXE file.
ZDEFAULT		Use the program registered with Windows to display this document

Two “special case” types are provided with Microcosm. If an executable file is imported into Microcosm, Microcosm will register it as type **LAUNCHER**, and when links to this file are followed, it will simply execute the file.

The other type is the **ZDEFAULT**. If Microcosm cannot match the extension of a given file with one of its existing types, then it will register the file as ZDEFAULT. In this case, when you ask to play a file of this type, Microcosm will ask Windows to display the file in whatever application Windows has registered for this file type. If Windows has no file type, then Microcosm will report a “SHELEXEC” error.

Sound files can be generated by:

Format	Generated by
WAV	Windows Sound Recorder. This comes standard with Windows software.

NOTE WAV files require a sound card and speakers/headphones.

5.4 Viewers using Windows applications

Any Windows application can be used as a viewer if the application is registered as a viewer (see the Microcosm System Administration Guide for more information). However, a limited number of applications have had macros or special procedures written which give a limited number of Microcosm functions.

Document Type	Document Icon	Description
TOOLBOOK		Asymetrix Toolbook document
WWW		World Wide Web document

NOTE In order to view some types of documents additional software may be required:

TBK files require Asymetrix Toolbook to be installed. (The redistributable run time is installed as part of the Microcosm installation). WWW files require a Web browser to be installed. Microcosm will use the default web browser on your system.

Files can be generated as follows

Viewer	Format	Generated by
Toolbook	TBK	An application built with the Asymetrix Toolbook Visual Authoring System
World Wide Web Browser	HTML HTM	Text Processor in the HTML Markup Language. See Viewing World Wide Web Documents for more details

5.5 The MultiViewer

The MultiViewer is an enhanced version of the Outside/In application which is used under licence from the INSO Corporation. The viewer can display documents from a wide range of formats.

In a standard Microcosm this viewer has been set up to handle documents of five broadly differing types.

Document Type	Document Icon	Description
SPREADSHEET		Microsoft Excel Lotus 1-2-3
DATABASE		dBase DataEase Access Paradox SmartWare
RASTER		There are many applications and packages that will produce files in these formats (e.g. GIF, TIF, BMP)
VECTOR		CorelDraw Acrobat Postscript Powerpoint AutoCad Windows MetaFile

Document Type	Document Icon	Description
WP		Word for Windows WordPerfect Rich Text Format ASCII text Hypertext Markup

With some file types the full set of Microcosm navigation and link making facilities are available. With other types, the viewer will display the document but you will find that some Microcosm functions are not available. A full description of the viewer can be found in the MultiViewer.

5.6 The Document Icon

The document icon is used in many of the Microcosm dialogue boxes to help identify which document type is being processed. In a standard Microcosm the documents can be identified by the following icons.

Document Type	Icon	Document Type	Icon	Document Type	Icon
TEXT		VIDEO		LAUNCHER	
GRAPHIC		SOUND		ZDEFAULT	
ANIMATION		SPREADSHEET		TOOLBOOK	
TOUR		DATABASE		WWW	
RASTER		VECTOR		WP	

6 Viewing Text Documents

In this chapter

- **Viewing Text Documents**
 - ◆ **The Toolbar**
 - ◆ **The Status Bar**
 - ◆ **File Menu**
 - Open, Exit
 - ◆ **Action Menu**
 - ◆ **Edit Menu**
 - Copy
 - ◆ **Options Menu**
 - Fonts, Zoom, Buttons, Colours, Settings, Toolbar, Status
 - ◆ **Help Menu**
 - ◆ **Shortcut Keys**

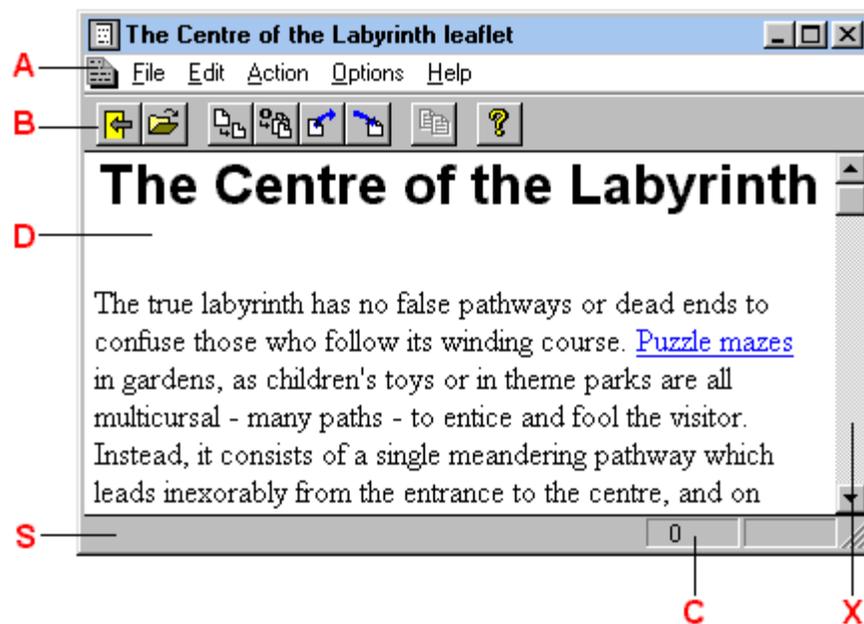
 - **Associated Documents**
-

6.1 Viewing Text Documents

The Microcosm Text Viewer can display documents stored as Rich Text Format (RTF) files as well as plain ASCII (e.g. generated by the Windows Notepad). RTF is a de-facto standard defined by Microsoft and is used to define the layout of complex documents produced, for instance, by Word for Windows or WordPerfect. By using one of these packages to write documents which are then saved in RTF, it is possible to author and view documents containing coloured backgrounds, pictures and tables.

When a Text document is selected for viewing, it is loaded into the Text Viewer. More than one instance of the Viewer can be activated so that several documents can be viewed at once provided that their windows have been sized and positioned correctly.

*Text Viewer:
Window Features*



- A:** click the Page Icon to keep document open when another is selected and viewed
- B:** the Toolbar
- D:** the document display area
- C:** information about the cursor's position within the document
- S:** the Status Bar
- X:** the Scroll Bar

The window can be closed, resized or repositioned by the user using the standard Windows techniques. In most cases, the text is automatically reformatted in the document display area **D** to the width of the Viewers window. However some complex formatting, such as a table, will not be reformatted and the window must be adjusted to display the whole table.

The document can also be iconised using the standard Windows technique of clicking on the down arrow at the right of the title bar. This is useful if you need to keep documents available for quick reference but do not want them cluttering the screen. Double-click on an iconised document to see it again.

The page icon, **A**, at the left of the menu bar is used to control whether the document is closed or retained when another document is viewed. Clicking on the icon toggles between these two modes.



The document will be retained on the screen until it is closed. The icon represents a page with one corner folded over.



The document will be closed if another is selected and viewed.

The Toolbar **B** at the top of the window gives short cuts to items in the menus.

The Status Bar **S** displays information about the position of the cursor. For instance, if the cursor is over a button the link description for the button will appear. **C** shows the character position of the cursor within the document.

The scroll bar, **X**, conforms to Windows standards. If the whole document will fit into the window, the scroll bar is removed. If the window is resized so that the document no longer fits into the window, the scroll bar will reappear.

6.1.1 Text Viewer: The Toolbar

The viewer toolbar contains the following icons.



Quit

Clicking on this icon will close the viewer window.



Open

Clicking on this icon will display the *Select a Document* dialogue. A new document can then be chosen. The new document **must** be a Text document. If the new document is of any other type, the results will be unpredictable.



Follow Link

After making a selection in the text, clicking on the icon will instigate an Action.Follow Link.



Associated Documents

Clicking on this icon will instigate an Action.Follow Link in which there is no selected text. See Associated Documents for more information.



Start Link

This icon is used to create the source anchor of a link and will instigate an Action.Start Link



End Link

This icon is used to create the end anchor of a link and will instigate an Action.End Link



Copy

After making a selection, clicking on the icon will result in an Edit.Copy. See the Edit Menu.



Help

Clicking on this icon will give access to Help on the Text Viewer.

The Toolbar can be removed from the window by the **Options** menu.

6.1.2 Text Viewer: The Status Bar

The Status bar contains useful navigation information. When the pointer is positioned over a button, text is displayed in the left hand end of the status bar which gives information about the link associated with the button. If the pointer is positioned over a button in the toolbar, the function of the button appears in the status bar.

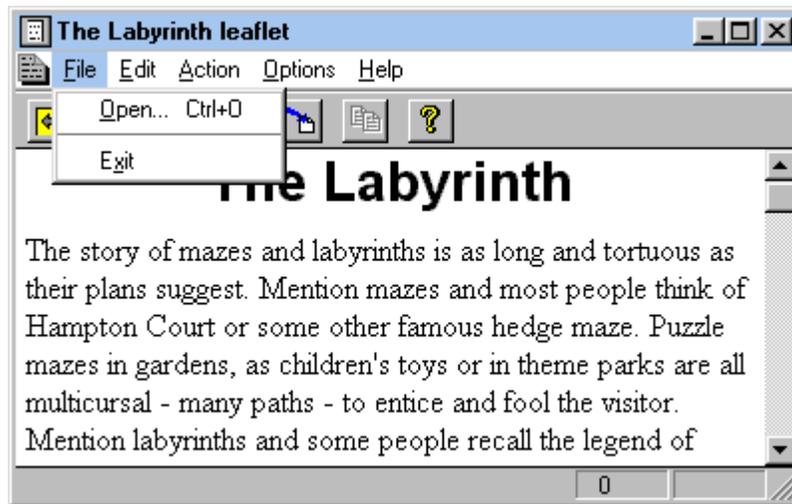
At the right hand end of the status bar is information about the text cursor's position within the document which is only relevant to authors developing applications and may be ignored by users. The left hand number is the current position of the caret (the I-bar). If two numbers are shown they indicate the limits of the current selection.

The **Options** menu can be used to remove the Status Bar.

6.1.3 Text Viewer: File Menu

The File menu can be used to open other text documents and to close the Text Viewer.

*Text Viewer:
File menu*



◆ Open

The **Open** menu option will display the *Select a Document* dialogue. A new document can then be chosen. If the new document contains something other than ASCII text or RTF, the results will be unpredictable.

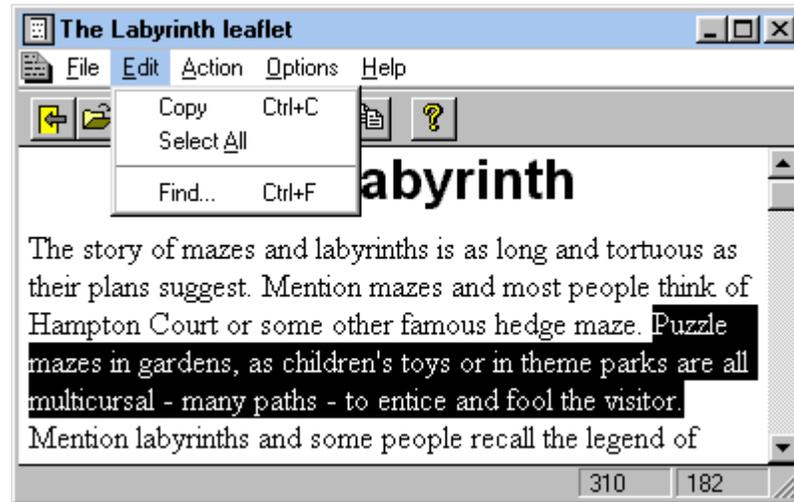
◆ **Exit**

The **Exit** menu option closes the viewer.

6.1.4 Text Viewer: Edit Menu

The Edit menu can be used to copy information to the clipboard and also to find text within the document.

*Text Viewer:
Edit menu*



◆ **Copy**

The most convenient way to copy text from the Microcosm environment to a word-processed document is to start the word-processor, load your document (essay, thesis, report etc.) and then iconise the word-processor before starting Microcosm. Then, when you find some text that you wish to copy to your document:

- ➔ Drag the mouse to highlight the text to be copied and select the **Edit.Copy** menu option. If the text to be selected is a single word which is not a button, a double click on the word will highlight it.
- ➔ Double-click on the word-processor icon to switch applications and expand its window. Position the text cursor where you want the text to go and select the **Edit.Paste** menu option. It is usually a good idea to save the file at this point.
- ➔ Click on the down-arrow at the right of the title bar to iconise your document again and continue working with Microcosm.

The **Copy** option will copy any text selected to the clipboard.

◆ **Copy Object**

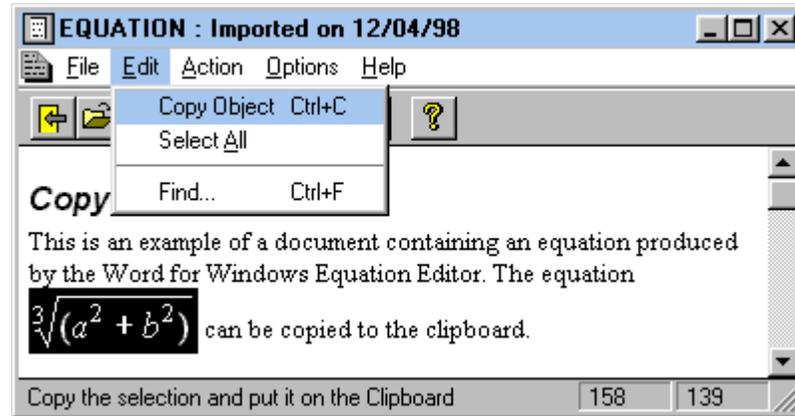
The **Copy Object** option will copy other objects to the clipboard. Text documents can contain data (objects) other than text, for instance equations generated by Word for Windows or pictures (bitmaps) generated on a scanner. If the selection that is to be copied to the clipboard contains only the object, the *picture* representation of that piece of data is placed on the clipboard. If the selection contains any text at all, the text is placed on the clipboard and the object is replaced by an indicator of the presence of the object (often in the form {metafile nnnnnnnn}).

Thus, to copy some data containing both text and a picture, it is necessary to split the process to copy the text and picture separately.

If the selection is an OLE (Object Linking and Embedding) object, it is possible to copy *all* the object data to the clipboard. For instance, if a picture in the text was created by MSDraw (the drawing package of Word for Windows), or an equation in the text was created by MathType (an Equation Editor that can be run with Word for Windows), it is possible to copy the picture or equation object to the clipboard. An OLE object can be identified by pointing at the part of the text which is of interest (e.g. an equation) with the mouse pointer. If the object is OLE, the status bar will indicate its presence.

To copy an OLE object to the clipboard, use the mouse to select the item of interest by, for instance, double clicking on the item. Then choose **Copy Object** from the **Edit** menu.

*Text Viewer:
Copy Object*



The data on the clipboard can then be pasted into an application capable of dealing with the object data.

◆ **Select All**

The Select All Option will select everything in the document.

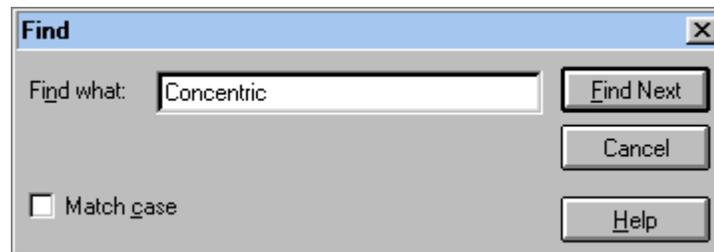
◆ **Find**

The Edit Option can be used to find pieces of text in a document.

➔ Click on **Edit.Find**

➔ Enter the text you wish to find, for example Concentric as show below.

*Text Viewer:
Finding Text*



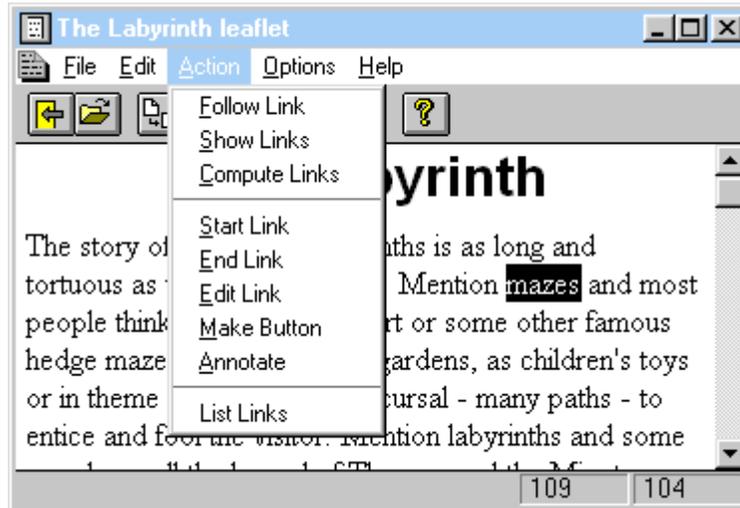
➔ Click on Find Next

The viewer will scan forward from the current position of the caret (the current position is also shown in the Status Bar) looking for the text. If the text is found, the viewer will position the document so that the text is in the window. If the text is not found a message is produced.

6.1.5 Text Viewer: Action Menu

The Action menu is used for all actions associated with links, both link following and link creation

*Text Viewer:
Action menu*



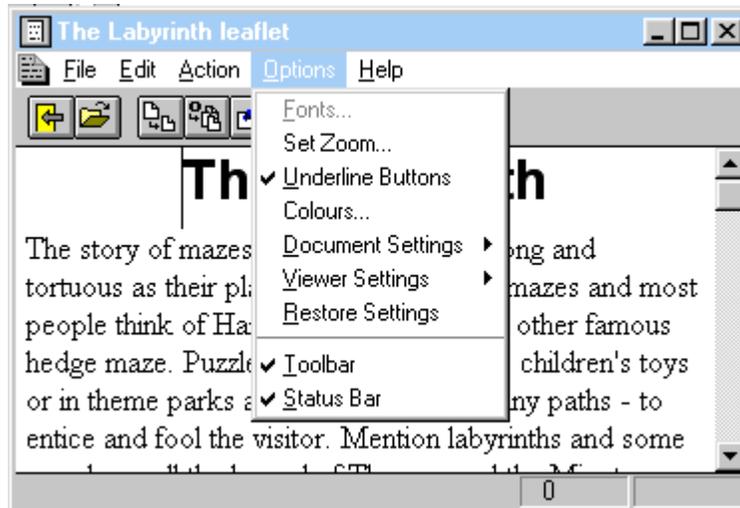
The first three options in the **Action** menu enable you to find and follow existing links between this document and others in the **Document Management System**. The List Links option will give you a list of all the buttons in the document. These options are explained in the section Discovering Links.

The next five options allow you to create new links and annotations, and to edit an existing link, and are explained in the section Creating Links.

6.1.6 Text Viewer: Options Menu

The Options menu is used to change the appearance of the Text Viewer window. Any changes can be retained for the next time a document is viewed.

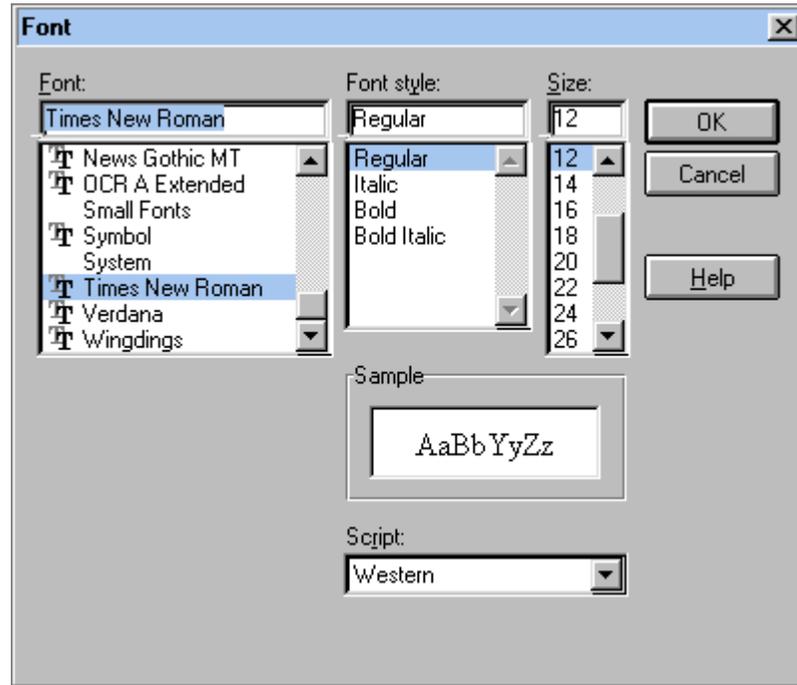
*Text Viewer:
Options menu*



◆ **Fonts...**

The **Font** option can be used to set the font Type, Style and Size for documents authored in ASCII (e.g. by Notepad). You cannot modify the fonts in documents in RTF format.

*Text Viewer:
Options menu:
Font window*

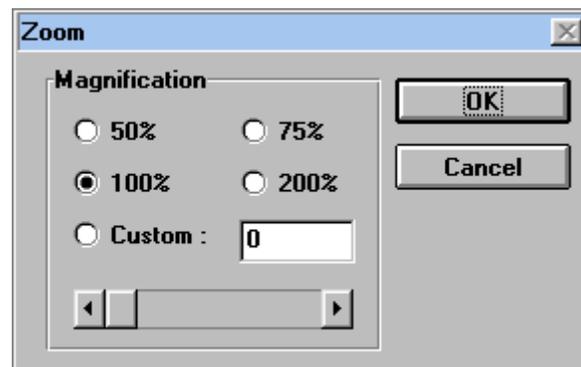


- Choose the **Font**
- Choose the font Style
- Choose the font Size
- Click on **OK**

◆ **Set Zoom...**

The **Set Zoom...** option is used to set the zoom factor for the document.

*Text Viewer:
Set Zoom*



Less than 100% will make the characters and other objects in the window smaller. 100% will make the the characters and other objects appear as they were originally authored. Greater than 100% will make the characters and other objects in the window bigger.

Custom can be used to specify a zoom factor not available through the buttons. The scroll bar can be used to set a custom value.

→ Click on the required zoom factor or set a custom zoom factor

→ Click on **OK**

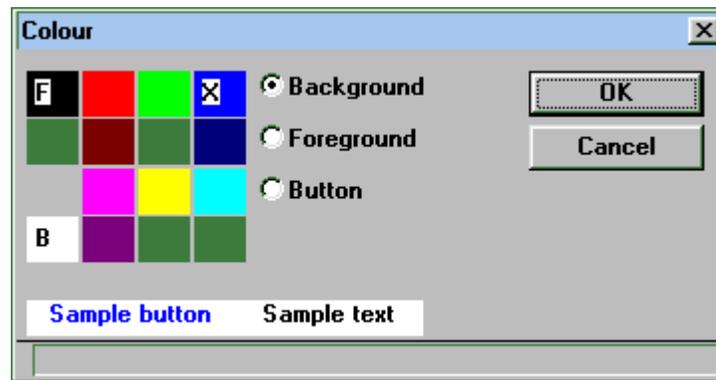
◆ Underline Buttons

The Underline Buttons option allows any buttons in the document to be underlined. This is particularly useful with monochrome screens. If the option is checked (with a tick) buttons will be underlined. Click the option to turn underlining on and off.

◆ Colours...

The **Colours** option has a dialogue box which offers the selection of Background, Foreground and Button colour. The default colours are black text on a white background with blue buttons.

*Text Viewer
Colour dialogue
box*



The current colour selection is shown by B for background, F for foreground and X for buttons. Click on either Background, Foreground or Button and then click on the required colour. The box below the colour selection palette shows the effect of the current selections.

Setting the Foreground colour will not affect those parts of the text set to a particular colour by the original author.

◆ Document Settings

The **Document Settings** option allows you to save the appearance of a document. **Save Document Settings** saves the appearance immediately, while Save Document Settings on Exit will save the appearance when the document is closed.

The appearance of a document is controlled by the values set by the other items in the option menu (Fonts, Set Zoom, Underline Buttons and Colours), together with the size and position of the document window.

Clear Document Settings will clear the settings for this particular document. The Viewer Settings will then apply for this document.

NOTE If, as an author, you wish to closely control the layout of documents on the screen, open the document, size and position it on the screen. Click on **Options/Document Settings/Save Document Settings**. This will ensure that the document will always open in the same position on the screen.

◆ **Viewer Settings**

The **Viewer Settings** option allows you to save the appearance of a document for all documents displayed by the viewer. **Save Viewer Settings** saves the appearance immediately.

The appearance of a document is controlled by the values set by the other items in the option menu (Fonts, Set Zoom, Underline Buttons and Colours). The size and position of the document window are **not** saved.

Clear Viewer Settings will clear the settings for the viewer. The default System Settings will then apply for all documents displayed by this viewer.

NOTE If, as an author, you wish to closely control the appearance of documents displayed by this viewer, open a single document, click on **Options/Viewer Settings/Save Viewer Settings**. This will ensure that all the documents will open with the same appearance.

You can override Viewer Settings by using Document Settings for a particular document.

◆ **Restore Settings...**

The **Restore Settings** option allows Size, Position and Colour attributes for a particular document to be reset to the original (application) defaults. The restored settings will be applied immediately.

◆ **Toolbar**

The **Toolbar** option allows the Toolbar in the viewer to be turned on (shown) or off (hidden). If the toolbar is shown, the option is checked with a tick mark. Click on the option to turn the toolbar on or off. It is recommended that the Toolbar is left showing at all times. It offers useful short cuts to some of the viewer functions (see the Toolbar description below).

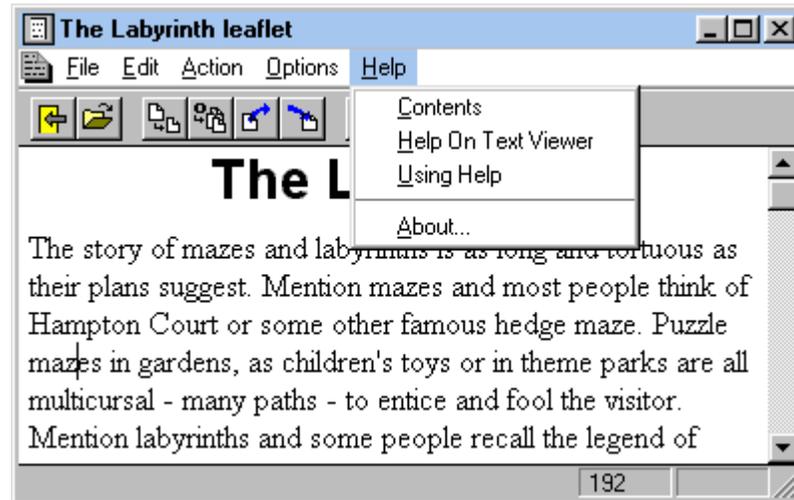
◆ **Status**

The **Status** option allows the status bar at the bottom of the viewer window to be turned on (shown) or off (hidden). If the status bar is shown, the option is checked with a tick mark. Click on the option to turn the status bar on or off. It is recommended that the Status Bar is shown at all times. It contains useful navigation information.

6.1.7 Text Viewer: Help Menu

Help on using help is available by choosing the Using Help option.

*Text Viewer:
Help menu*



- ◆ **Contents**

Selecting the **Contents** option gives help on the use of Microcosm, equivalent to the Microcosm User Guide.

- ◆ **Help on Text Viewer**

Selecting this option gives specific help on viewing text documents.

- ◆ **Using Help**

Selecting this option displays a help window on "How to use Help".

- ◆ **About ...**

Selecting the **About** option displays a window containing details about this version of the Text Viewer software.

6.1.8 Shortcut Keys

When using the Text Viewer, you can use the usual shortcut keys to change the window size and position

→ Press **Alt-Spacebar** to get to the window control menu.

→ Use the **up** and **down arrow** keys to select one of the menu items.

→ Press **Enter**

→ If you have chosen Size or Position, use the **arrow** keys to modify the window.

You can use the usual shortcut keys to access any of the menu items. For instance, to close the Text Viewer window you can

→ Press **Alt-F** to select the **F**ile menu.

→ Press **X** to choose **E**xit.

In addition the Text Viewer has the following shortcut keys:

Shortcut Keys	Action
CTRL + O	Open a new document (equivalent to File/Open)
CTRL + C	Copy the selected item (equivalent to Edit/Copy)
Tab	Move the selection to the next button in the document
Shift + Tab	Move the selection to the previous button in the document
Return	Follow link
Page Up/Down	Move the document up or down
Arrow keys	To move the current position of the cursor

6.2 Associated Documents

It is possible to have groups of documents that are *associated* with a particular document. For instance, a document that describes Simple Harmonic Motion (SHM) can have an *associated* document that contains all the equations used to describe SHM. *Associated documents* can be viewed by either

→ Clicking on Action.Follow Link with **no** selection

or

→ Clicking on the Associated Documents  button in the Toolbar.

Associated Documents are defined by the link from the source document, which has no selection as the source anchor. See Creating Links in Text Documents. Since no selection is made the link to associated documents can be made from anywhere in the source document.

If an attempt is made to follow links to associated documents (i.e. by Follow Link with no selection or by clicking on the button  in the Toolbar) and there are no associated documents, the message No Links Found will appear.

7 Viewing Graphics Documents

In this chapter

- **Viewing Graphics Documents**
 - ◆ **The Toolbar**
 - ◆ **The Status Bar**
 - ◆ **Media Bar**
 - ◆ **Making Selections**
 - ◆ **Zooming to Selection**
 - ◆ **File menu**
 - Open, Exit
 - ◆ **Edit menu**
 - Copy
 - ◆ **Action Menu**
 - ◆ **Options Menu**
 - Zoom, Button Style and Colour, Display Labels, Settings, Toolbar, Media Bar, Status Bar

 - **Viewing Large Graphics**

 - **Viewing Animations**

 - **Viewing Video**

 - **Shortcut Keys**
-

7.1 Viewing Graphics Documents

The Microcosm Graphics Viewer can display documents stored as Windows bitmaps (.bmp), video (Microsoft .avi) and Microcosm animations (.ani). All of these formats support colour and grey scale images at whatever number of colours/greys are supported by the system in use. It also supports compressed JPEG images (.jpg) at 256 colours.

NOTE The WinECJ.DLL used by Microcosm's Graphics Viewer supports single pass 8 bit colour quantisation. An enhanced version of the WinECJ.DLL which supports higher quality two pass optimized colour quantisation and 24 bit colour can be obtained from: Ying Shan, P.O. Box 7523, Bristol Parkway, Culver City, CA 90233, USA.

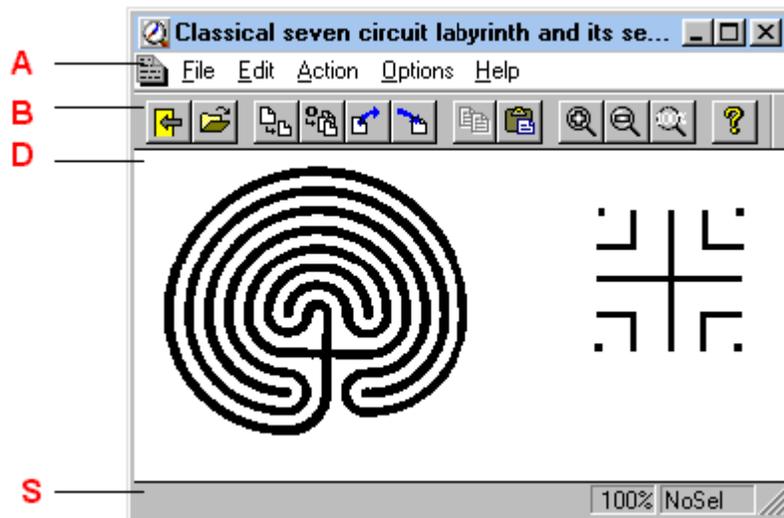
When a graphics document is selected for viewing, it is loaded into the Microcosm Graphics Viewer. Several documents can be viewed at once.

The window can be closed, resized or repositioned using the standard Windows techniques. If the window displays only part of the image, scroll bars enable the rest of the image to be viewed.

The document can also be iconised using the standard Windows technique of clicking on the down arrow at the right of the title bar. This is useful if you need to keep documents available for quick reference but don't want them filling the screen. Double-click on an iconised document to view it.

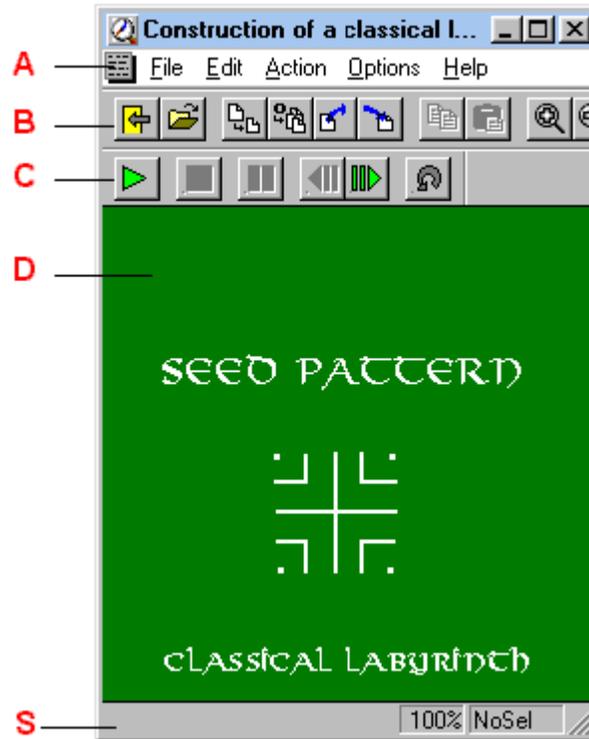
The window for the Graphics Viewer can have two forms. For static pictures:

Graphics Viewer window features for static pictures



while for Animations and Video there is an extra row of buttons, the Media bar.

*Graphics Viewer:
Window Features
Animation or
Video*



- A:** click to keep document open when another is selected and viewed
- B:** the Toolbar
- C:** the Media Bar
- D:** the document display area
- S:** the Status Bar

The page icon **A** at the left of the menu bar is used to control whether the document is closed or retained when another document is viewed. Clicking on the icon toggles between these two modes:



The document will be retained on screen until it is closed. The icon represents a page with one corner folded over.



The document will be closed if another graphics document is selected and viewed.

The picture is displayed in **D**.

The Toolbar **B** contains buttons for many of the more frequent actions.

The Media Bar **C** contains buttons for the control of the Animation or Video and will appear only for those document types.

The Status Bar **S** contains information about zoom sizes and possible actions.

7.1.1 Graphics Viewer: Toolbar

The toolbar contains the following icons.



Exit

Clicking on this button will close the viewer window.



Open a new document

Clicking on this button will display the *Select a Document* dialogue. A new document can then be chosen. The new document **must** be one that can be displayed by the Graphics Viewer. If the new document is of any other type, the result will be unpredictable.



Copy to the clipboard

After making a selection, clicking on the button will put the coordinates of the selection on the clipboard.



Start Link

Clicking on this button will initiate a Start Link Action.



End Link

Clicking on this button will initiate an End Link Action



Zoom In

After making a selection, clicking on the button will double the current picture size. The window size will remain unchanged. Repeated use will produce a picture which can be up to eight times the original. The Status Bar shows the current size as a % of the original picture.



Zoom Out

Clicking on this button will decrease the picture to half its current size. The window size will remain unchanged. Repeated use will produce a picture which can be up to six times smaller than the original. The Status Bar, when it can be seen, shows the current size as a % of the original picture.



Zoom 1:1

Clicking on this button will return the picture to its original size.



Copy

Clicking on this button will copy the co-ordinates of the current selection to the clipboard.



Paste

Clicking on the button will paste the contents of the clipboard (which must be a set of co-ordinates copied by a previous *Copy*) to the picture.



About

Clicking on this icon will give access to the About information.

The Toolbar can be removed from the window by the **View** menu.

7.1.2 Graphics Viewer: Status Bar

The Status Bar contains information about

- The target document if the mouse pointer is moved over a button.
- The size of the picture as a percentage of the original picture
- Information about the current selection.

7.1.3 Graphics Viewer: Media Bar

The Media Bar only appears when the viewer is handling an Animation or Video document.



Start

Click on this button to start the document.



Stop

Available when the document is playing. Click to stop the document



Pause

Available when the document is playing. Click to pause the document.



Step Backwards

Click to move the document one frame backwards.



Step Forwards

Click to move the document one frame forward.



Loop

Click to play the document in a loop.

The Media Bar can be removed from the window by the **View** menu.

7.1.4 Graphics Viewer: Making Selections

Use the mouse to select part of the picture. This is necessary if the start (or possibly the end) of a link is being defined. A selection can also be used to identify the part of the picture that is to be the centre of a zoom.

All selections start as rectangles.

◆ **Creating the Initial Rectangle**

- Place the mouse pointer inside the picture and click and hold the left button until a small black dot appears.
- Keeping the button down, drag out a rectangular area of the picture.
- When the rectangle is the desired size, release the button.

*Graphics Viewer:
The initial
rectangle*



The vertices of the area are marked with small black squares while the boundaries of the selection are red lines.

◆ Moving a Vertex

If you wish to change the position of a vertex

- ➔ Place the mouse pointer over a vertex. The pointer will become a hollow arrow indicating which directions you can drag the vertex.
- ➔ Press the left button and drag the vertex to its new position
- ➔ Release the button.

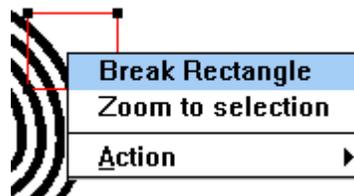
If you are dragging a vertex which is part of a rectangle, the whole rectangle will be resized, and retained as a rectangle. If you wish to move the side of a rectangle, drag the side of the rectangle rather than the vertex.

◆ Breaking the Rectangle

This allows the initial rectangle to be made into a more general polygon.

- ➔ With the mouse pointer inside the rectangle (the mouse pointer will turn to a hand) click on the **right** button and then click on **Break Rectangle**.

*Graphics Viewer:
Breaking the
Rectangle*



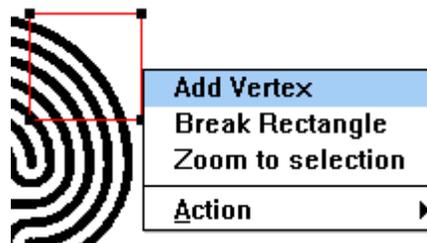
You will then be able to drag the vertices of the rectangle to create other non-rectangular shapes.

◆ Adding a Vertex

You can add a new vertex between two existing ones.

- ➔ Place the mouse pointer on the boundary of the existing selection. If the selection is a rectangle, you will see a hollow arrow. If the rectangle has already been broken, you will see a cross hair.
- ➔ Click the **right** button and then click on **Add Vertex**.

*Graphic Viewer:
Adding a Vertex*



In this example, the vertex is being added before the rectangle has been broken. Adding the new vertex will break the rectangle.

Graphic Viewer:
The vertex has
been added and
moved



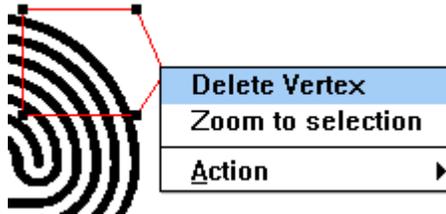
In this example the new vertex has been added and moved slightly to show that the rectangle has been broken.

◆ **Deleting a Vertex**

→ Place the mouse pointer over the vertex you wish to delete. It will turn to a hollow arrow.

→ Click the **right** button and then click on **Delete Vertex**.

Graphic Viewer:
Deleting a Vertex



If there are only three vertices in the selection, any attempt to delete one of them will be ignored.

◆ **Moving the Selection**

→ Place the mouse pointer inside the selection. The pointer will turn to a hand. Press the left button and drag the selection.

→ When the selection is in the required position, release the left button.

◆ **Deleting a Selection**

→ Click anywhere in the picture outside the selection.

7.1.5 Graphics Viewer: Zooming to Selection

Documents displayed by the Graphics Viewer can be *zoomed*. Zooming will change the size of the picture without changing the size of the window. Zooming can be either **in** which will make the picture bigger so that the detail can be seen more easily, or **out** which will enable more of the picture to be seen in the window.

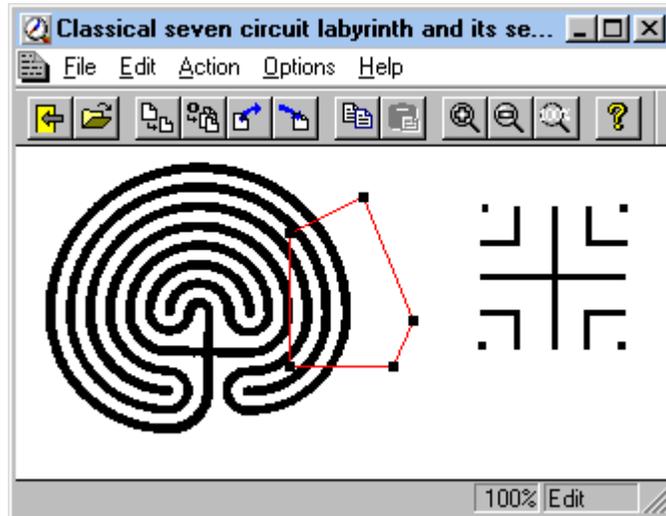
Zooming of the whole picture can be controlled from the View menu. Each Zoom operation will change the size of the picture by a factor of two: **in** will double the current picture size and **out** will halve the current picture size. Zooming to 1:1 will return the picture to its original size.

Zooming **in** and **out** can be controlled from the Toolbar.

Alternatively it is possible to use the mouse to zoom to a selection in a picture.

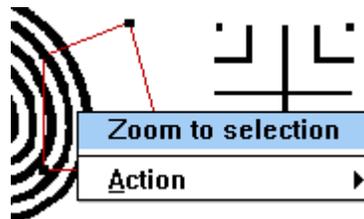
→ Create a selection

Graphics Viewer:
The selection for
Zooming



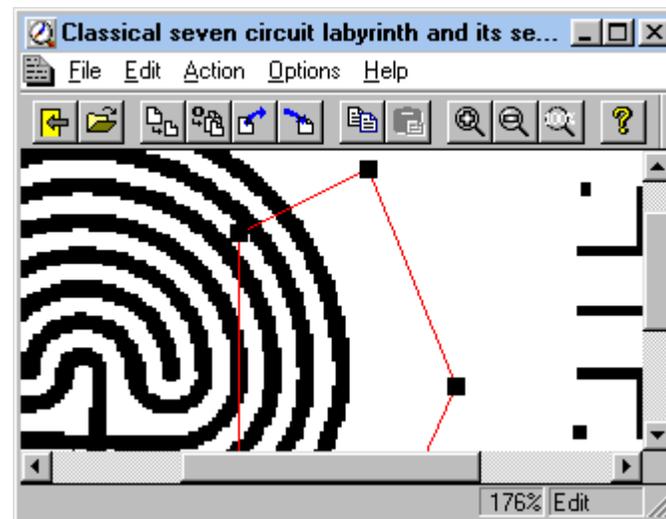
→ With the mouse pointer inside the selection (the pointer will turn to a hand) click on the **right** button and then on **Zoom to Selection**.

Graphic Viewer:
Use the right
button for Fit to
Selection



The picture will be zoomed so that the part that is bounded by the selection will be made to fit the current size of the window. This fitting is only approximate and corresponds to a *bounding rectangle* of the selection

Graphic Viewer:
Zooming by Fit to
Selection



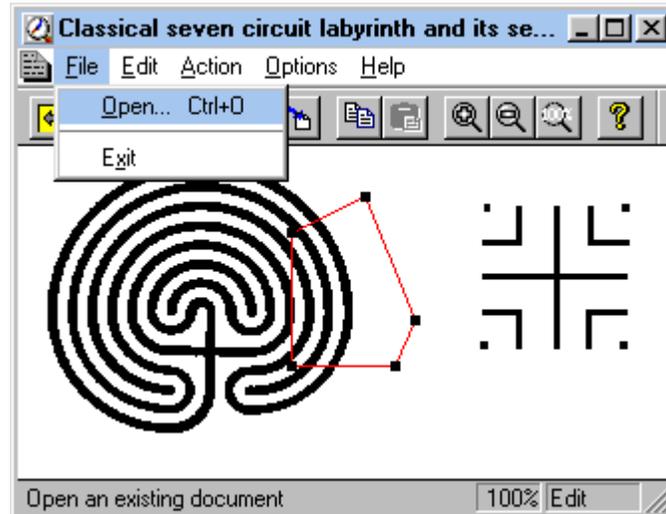
Since the picture will no longer fit the window, scroll bars will appear.

NOTE **Zoom to Selection** can also be performed by double clicking the **left** mouse button with the mouse pointer inside the selection.

7.1.6 Graphics Viewer: File Menu

The **File** Menu can be used to open other graphics documents and to close the Graphics Viewer.

*Graphics Viewer:
File menu*



- ◆ **Open**

The **Open** menu item can be used to view other graphics documents. Clicking on **Open** produces the *Select a Document* window which can be used to select another document.

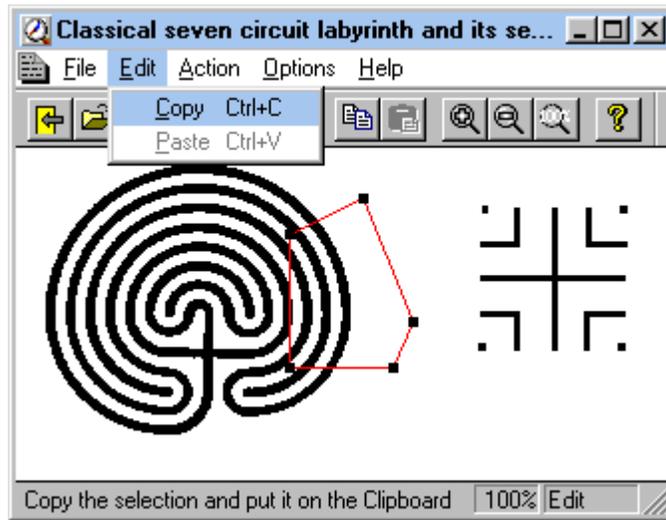
- ◆ **Exit**

The **Exit** menu item closes the Graphics Viewer.

7.1.7 Graphics Viewer: Edit Menu

The **Edit** Menu can be used to copy the co-ordinates of the selected area to the clipboard.

Graphics Viewer:
Edit menu



- ◆ **Copy**

The **Copy** item copies the co-ordinates of the current selection to the clipboard. If there is no selection the option is greyed out.

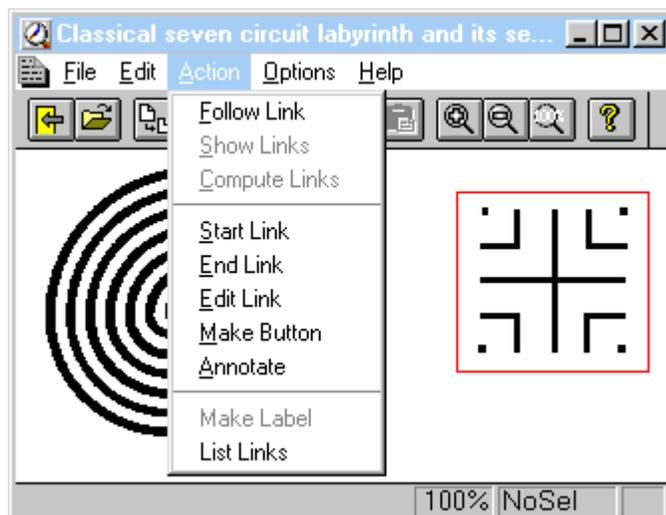
- ◆ **Paste**

The **Paste** item pastes the co-ordinates on the clipboard into the picture. The co-ordinates must have been placed on the clipboard by a previous **Copy**.

7.1.8 Graphics Viewer: Action Menu

The **Action** menu has options that enable you to find and follow existing links between this document and others in the **Document Management System**. These options are explained in the section on Discovering Links.

Graphics Viewer:
Action menu



The lower set of options allow you to create new links, including generic links to the bitmap, end to Edit an existing link. These processes are explained in the section Creating Links.

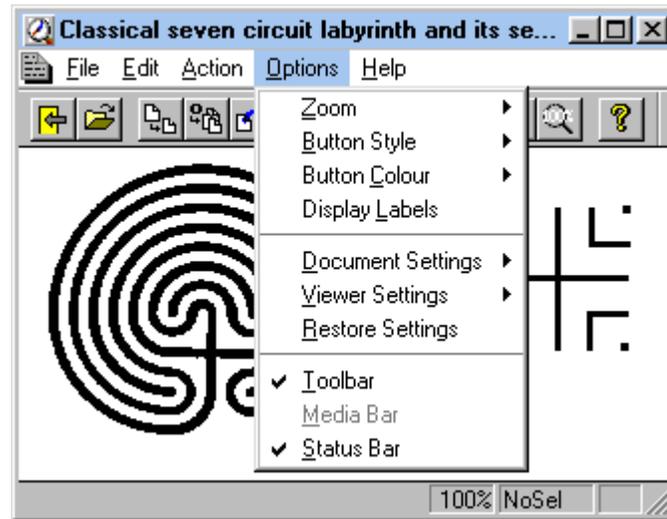
If **Make Label** is greyed out, there is no selection.

List Links will produce a list of all the links in the document.

7.1.9 Graphics Viewer: Options Menu

The **Options** menu alters the appearance of the picture in a variety of ways.

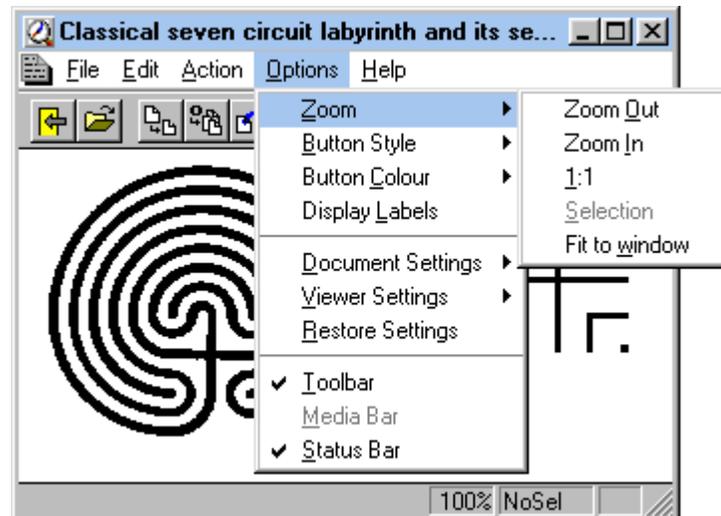
Graphics Viewer:
Options menu



◆ Zoom

The **Zoom** option sets the *Zoom Factor* for the current document. The Zoom Factor is the amount by which the size of the original picture is changed when it is displayed. You can use **Options.Save Options** to save the Zoom Factor.

Graphic Viewer:
Zoom



Zoom In

The **Zoom In** menu item will change the size of the picture by a factor of two: it will **double** the current picture size to enable you to see more detail in the picture. The window size will not change.

Zoom Out

The **Zoom out** menu item will change the size of the picture by a factor of two: it will **halve** the current picture size to enable you to see more of the picture in the current window.

1:1

Zooming to **1:1** will return the picture to its **original** size. The current window size will remain unchanged.

Selection

The picture will be zoomed so that the part that is bounded by the **selection** will be made to fit the current size of the window. This fitting is only approximate and corresponds to a *bounding rectangle* of the selection. If there is no selection, this menu item is greyed out.

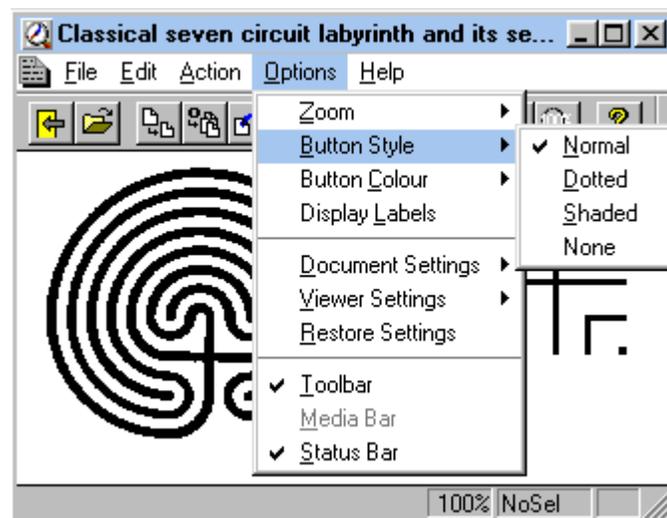
Fit to Window

The picture is zoomed (**In** or **Out**) so that the whole picture will fit into the current window.

◆ Button Style

The **Button Style** menu item sets the way in which buttons (link anchors) are displayed.

*Graphic Viewer:
Button Style*



Normal

If this item is checked with a tick, the button area is outlined in a coloured, solid, line.

Dotted

If this item is checked with a tick, the button area is outlined in a coloured, dotted, line.

Shaded

If this item is checked with a tick, the button area is outlined in a coloured, solid, line and is shaded.

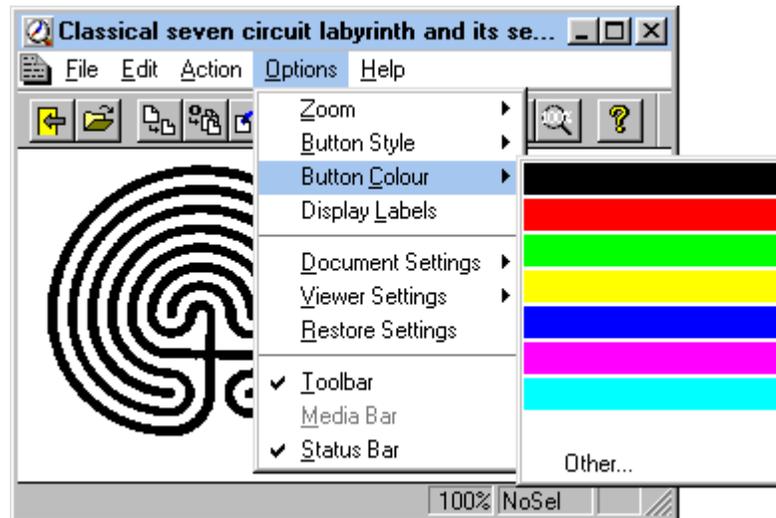
None

If this item is checked with a tick, the button area is not outlined at all. The button is still active and the link can be followed by double clicking within its boundary.

◆ Button Colour

The **Button Colour** menu item sets the colour of buttons (link anchors) when they are displayed.

*Graphic Viewer:
Button Colour*



The **Other** item displays a more extensive colour palette.

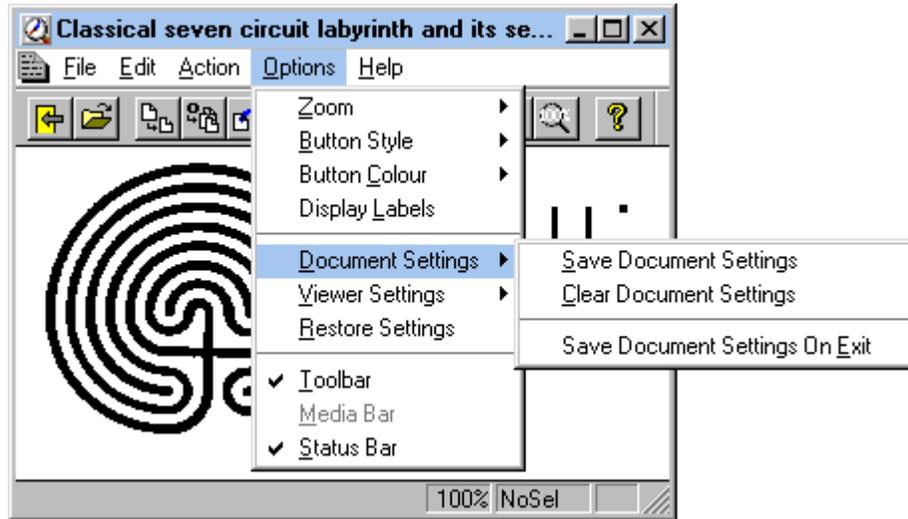
◆ Display Labels

The **Display Labels** menu item allows the Link Description to be displayed for buttons associated with this graphic. If the Option is checked on (with a tick mark) then, when the mouse pointer is over the button, the Link Description will be displayed. Click on the item to turn the option on or off.

◆ Document Settings

The **Document Settings** option allows you to save the appearance of a document. **Save Document Settings** saves the appearance immediately, while **Save Document Settings on Exit** will save the appearance when the document is closed.

*Graphics Viewer:
Document Settings
Option*



The appearance of a document is controlled by the values set by the other items in the option menu (Zoom, Button Style, Button Colour and Display Labels), together with the size and position of the document window.

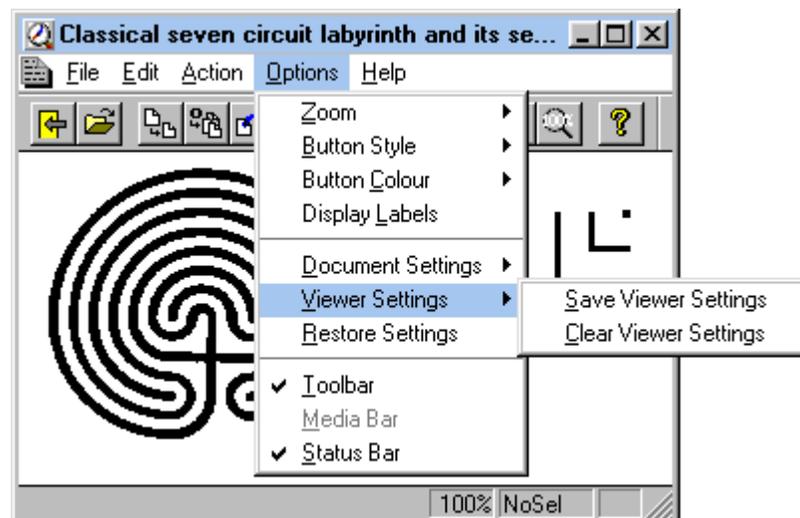
Clear Document Settings will clear the settings for this particular document. The Viewer Settings will then apply for this document.

NOTE If, as an author, you wish to closely control the layout of documents on the screen, open the document, size and position it on the screen. Click on **Options/Document Settings/Save Document Settings**. This will ensure that the document will always open in the same position on the screen.

◆ **Viewer Settings**

The **Viewer Settings** option allows you to save the appearance of a document for all documents displayed by the viewer. **Save Viewer Settings** saves the appearance immediately.

*Graphics Viewer:
Viewer Settings
Option*



The appearance of a document is controlled by the values set by the other items in the option menu (Fonts, Set Zoom, Underline Buttons and Colours). The size and position of the document window are **not** saved.

Clear Viewer Settings will clear the settings for the viewer. The default System Settings will then apply for all documents displayed by this viewer.

NOTE If, as an author, you wish to closely control the appearance of documents displayed by this viewer, open a single document, click on **Options/Viewer Settings/Save Viewer Settings**. This will ensure that all the documents will open with the same appearance.

You can override Viewer Settings by using Document Settings for a particular document.

◆ **Restore Settings**

◆ **Toolbar**

The **Toolbar** menu item allows the Toolbar in the viewer to be turned on (shown) or off (hidden). If the Toolbar is shown, the option is checked (with a tick mark). Click on the item to turn the toolbar on or off. It is recommended that the Toolbar is left showing at all times. It offers useful short cuts to some of the viewer functions (see the Toolbar description below).

◆ **Media Bar**

The Media Bar appears below the Toolbar in the viewer window for appropriate document types (i.e. Animations and Video).

The **Media Bar** item allows the Media Bar in the viewer to be turned on (shown) or off (hidden). If the Media Bar is shown, the option is checked (with a tick mark). Click on the item to turn the toolbar on or off. It is recommended that the Toolbar is left showing at all times. It offers useful short cuts to some of the viewer functions. The Media Bar menu item is only available for Animation or Video documents.

◆ **Status Bar**

The **Status** menu item allows the Status Bar at the bottom of the viewer window to be turned on (shown) or off (hidden). If the Status Bar is shown, the option is checked (with a tick mark). Click on the item to turn the status bar on or off. It is recommended that the Status Bar is shown at all times. It contains useful navigation information.

7.1.10 Viewing Large Graphics

If a link is made to a bitmap that is too large to fit on the screen, the Bitmap Viewer will have scroll bars that enable the rest of the image to be viewed. Alternatively, large bitmaps can be ‘scrolled’ by positioning the cursor inside the window,

pressing the right mouse button (which changes to a hand shape) and dragging the cursor.

Links made to a specific area of a large bitmap will have that area highlighted and positioned at the centre of the window (if possible) when the link is followed.

7.2 Viewing Animations

Microcosm can display animations consisting of a sequence of frames, each stored as a Windows bitmap (see the section on Creating Animations).

Microcosm uses the *Graphics Viewer* to display animation sequences.

7.3 Viewing Video

Microcosm can display video segments stored as Windows AVI files.

Microcosm uses the *Graphics Viewer* to display video segments.

7.4 Shortcut Keys

When using the Graphics Viewer, you can use the usual shortcut keys to change the window size and position

→ Press **Alt-Spacebar** to get to the window control menu.

→ Use the **up** and **down arrow** keys to select one of the menu items.

→ Press **Enter**

→ If you have chosen Size or Position, use the **arrow** keys to modify the window.

You can use the usual shortcut keys to access any of the menu items. For instance, to close the document you can

→ Press **Alt-F** to select the **F**ile menu.

→ Press **X** to choose **X**it.

In addition the Graphics Viewer has the following shortcut keys:

Shortcut Keys	Action
-	Zoom Out
+ or =	Zoom In
CTRL + O	Open a new document (equivalent to File/Open)
CTRL + P	Play
CTRL + R	Auto Repeat
CTRL + S	Stop
CTRL + U	Pause
CTRL + C	Copy the selected item (equivalent to Edit/Copy)
Tab	Move the selection to the next button in the document

Shortcut Keys	Action
Shift + Tab	Move the selection to the previous button in the document
Return	Follow link
Arrow keys	Move the current position of the picture within the window
CTRL + Arrow key	Move the current position to the edge of the picture
SHIFT + Arrow key	Move the picture by the width or height of the window

8 Documents other than Text and Graphics

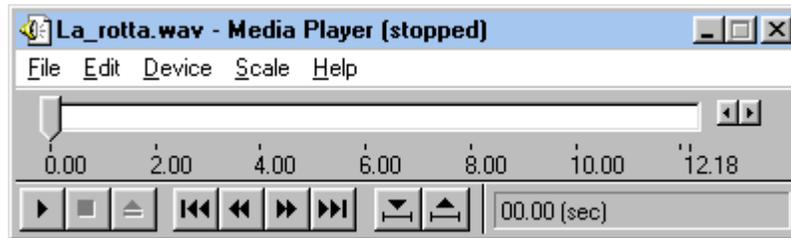
In this chapter

- **Listening to Sound**
 - **Following Guided Tours**
 - **Viewing World Wide Web Documents**
 - **Microcosm-Aware Applications**
-

8.1 Listening to Sound

Sound segments are stored as Windows WAV files and 'viewed' using the standard Windows Media Player.

Windows Media Player showing audio segment



The control buttons at the foot of the screen are similar to those found on conventional audio and video players.

- ➔ Click on the **Play** (forward arrow) button at the foot of the window to play the audio segment
- ➔ Click on the **Stop** (square) button at the foot of the window to stop the audio.
- ➔ Click on the **Rewind** (double left-arrow) to move to the start of the audio segment if you wish to hear it again.

The menus are not used by Microcosm.

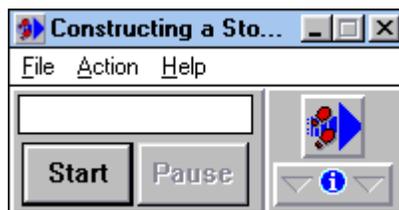
8.2 Following Guided Tours

Guided Tours enable users to step through a pre-determined sequence of documents. This is useful if the author wishes to ensure that users have viewed selected documents in a particular sequence, perhaps as an introduction to a subject.

Microcosm allows users to leave the Guided Tour and explore other documents of interest, but also allows them to easily rejoin the Tour where they left off.

- ➔ Select a **Guided Tour** document from Caerdroia/Introduction/Miscellaneous branch in the *Select a Document* window.

Guided Tour Viewer at start of tour



- ➔ Click on the **Start** button to view the first document in the tour. The **Start** button changes to read **Next**.

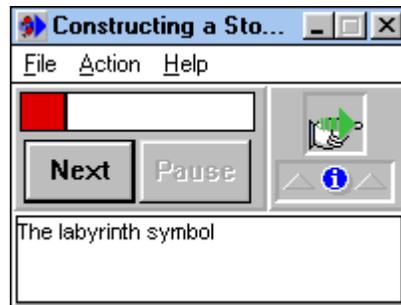
*Guided Tour
Viewer ready to
display next
document*



- ➔ After viewing the document (and possibly following any links) click on the **Next** button to view the next document in the tour. The 'gas gauge' indicates progress through the tour.
- ➔ It is possible for the author of the Guided Tour to make it automatically step through the documents, displaying each for a specified length of time. The **Pause** button can be used to manually pause such sequences.
- ➔ When all of the documents have been viewed, the buttons change to **Again** and **End**. Click on **Again** to view the Guided Tour again or **End** to terminate the Tour.

Clicking on the Information button (bottom right) expands the window and displays the name of the current document (by default). It is possible for the author of the Guided Tour to present additional information in this area. Click on the Information button again to collapse the window.

*Guided Tour
Viewer showing
additional
information*



The **File** menu has one item, **Exit**, which allows you to terminate the tour at any time.

The **Action** menu has one active item, **End Link**, which allows you to specify the tour as the end of a link.

8.3 Viewing World Wide Web Documents

Documents on the World Wide Web can be viewed using the default Web Browser that is installed on your machine. All the features of the Browser will be available.

8.4 Microcosm-Aware Applications

Documents which must be processed by other applications can also be viewed. There are two types of application:

- Those which are **Microcosm-aware**, which means that they have been programmed to communicate with Microcosm using Dynamic Data Exchange (DDE).
- Those which are not Microcosm-aware.

If an application is Microcosm-aware, the following rules apply:

- The application must be registered as a Microcosm viewer. This is done by adding a new document type to Microcosm using the application as the document viewer.
- Links may be made to the start of the document, using the **End Link** menu option or using **End Link** from the **Link Maker** filter. It may be possible to link to a specific point in the document, depending on the information that can be exported from the application.
- Local and Generic links can be followed from the document using the **Follow Link** option. The ability to follow specific links or buttons will depend on whether it is possible to make such links from the application.
- Local and Generic links from the document can be made using the **Start Link** option. The ability to make specific links or buttons will depend on what information can be exported, imported and displayed by the application

If an application is not Microcosm-aware, the following rules apply:

- The application used to view the document must be registered as a Microcosm viewer. This is done by adding a new document type to Microcosm.
- Links may be made to the start of the document using **End Link** from the **Link Maker** filter.
- Generic links can be followed from the document by copying a text selection to the **Clipboard** (section 7).
- It is not possible to make specific links or buttons within the application

The procedures used to register an application as a Microcosm viewer and make selected applications Microcosm-aware are described in the **System Administration Guide** in the section on Document Types.

9 The MultiViewer

In this chapter

- **General Information**
 - **Outside In**
 - **Physical Types**
 - **Multiviewer Text Formats**
 - **Multiviewer Graphics Types**
 - **Multiviewer Tabular Types**
 - **File Formats**
-

9.1 The MultiViewer General Information

The MultiViewer will display documents that are held in a wide variety of formats. The behaviour of the Multiviewer is slightly different depending on the sort of file being viewed.

Microcosm Physical Type	Registered Extensions	Comments and Help
WP	DOC, WP5, WP6, WPD, RTF, TXT, HTM, HTML	Common Text Word Processor Formats. See help on Multiviewer Text Formats .
Raster	GIF, JPG, TGA, TIF, PNG, BMP, PCD, PCX	Common Raster Graphics formats. See help on Multiviewer Graphics Formats .
Vector	CDR, PDF, DXF, PS, PPT, DWG, WMF	Common Vector Graphics formats. See help on Multiviewer Graphics Formats .
Database	MDB, DBS, DEZ, PDX, SMT, FMT	Common Database formats. See help on Multiviewer Tabular Formats .
Spreadsheet	XLS, WKS	Common Spreadsheet formats. See help on Multiviewer Tabular Formats .

9.2 Outside/In

The MultiViewer is an enhanced version of the Outside/In application and is included in Microcosm under licence from the INSO Corporation. The enhancements, developed by Multicosm, make it similar to the Text and Graphics viewers.

9.3 MultiViewer Physical Types

In a standard Microcosm system, there are five Physical Types which use the MultiViewer to display documents.

DATABASE This physical type is used for database files such as those produced by Microsoft Access. The files are displayed in spreadsheet format.

SPREADSHEET This physical type is used for spreadsheets such as those produced by Microsoft Excel.

RASTER This physical type is used for graphics files which contain pictures represented in pixel format such as BMP or TIF files.

VECTOR This physical type is used for scaleable graphics such as those produced by CorelDraw.

WP This physical type is used for text and word processed files, such as those produced by Microsoft Word and WordPerfect.

When a file is imported into the system, it is assigned a particular Physical Type depending upon the file format. Some file formats can be handled by more than one viewer. For instance, RTF files can be seen using either the TEXT viewer as well as the MultiViewer and the system has to decide which viewer to use. See Importing Local Documents for more information.

9.4 Multiviewer Text Formats

Viewing text based documents of the WP type in the Multiviewer is essentially the same as viewing Text type documents using the RTF Viewer, and users should see the section on **Viewing Text Documents** for help.

The Multiviewer and Text Viewers a few small differences.

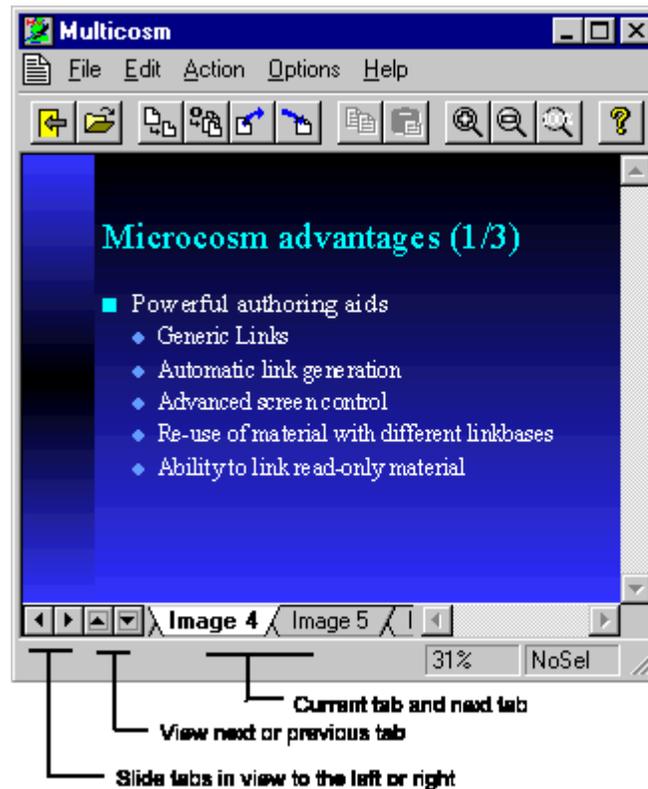
Function	Text Viewer	MultiViewer
Document Layout	The whole document is displayed a single scrollable page.	The document can be viewed as 1) a number of scrollable pages (page view) or 2) as non-formatted (normal view).
Text Wrapping	When the window width is changed, the text is wrapped to fit the window width.	In Page View the text is not wrapped. In Normal View text is wrapped.
Zooming	Full function to zoom the text in and out and modify the text to any size.	Limited to fitting the document width to the current widow size and scaling the font contents accordingly.
Colours	The full range of colour control is available.	Only a small number of changes can be made to the colours used when displaying the document

9.5 Multiviewer Graphics Formats

Viewing graphics documents of the Raster or Vector types in the Multiviewer is essentially the same as viewing Bitmap type documents using the Bitmap Viewer, and users should see the section on **Viewing Graphics Documents** for help.

Some formats (for example the Powerpoint (.ppt) format) will consist of more than one page. In this case the Multiviewer will assign a tab to each page, and these tabs will appear at the bottom of the Multiviewer window.

Tabs in the Multiviewer



It is possible to scroll the range of tabs in view, and to view the next and previous tab as shown above.

9.6 Multiviewer Tabular Formats

The Multiviewer allows you to view common spreadsheet and database formats. In this mode it is not possible to select the text so the only sort of linking out of the document that will be possible will be document to documents links (associated documents).

In the case where a spreadsheet of database consists of more than one table, each table will appear as a separate tab on the bottom of the Multiviewer window.

Links may be made into the document to each tab within the document.

9.7 File Formats

The table below shows all the applications that produce files that can be viewed with the Generic Viewer. The Description shows the application which produces the file and the Physical Type indicates which Physical Type the MultiViewer will use to display the file.

The list contains many file formats that, in the a standard system, have no physical type. These file formats can be viewed by either adding the file type to an existing physical type, or create a new physical type. See the System Administration Guide for more information.

Description	Physical Type
-------------	---------------

Description	Physical Type
Microsoft Access 1.0, 2.0	DATABASE
Ami Pro; Ami; Professional Write Plus	
Microsoft Office Binder	
Bitmap Windows, OS/2, OS/2 Warp; Windows Cursor, Icon; CorelDraw 2.0	RASTER
Computer Graphics Metafile	
DBase III, IV, V	DATABASE
DataEase 4.x	DATABASE
Navy DIF	
Micrografx drawing products	
DEC DX 3.0 and below, 3.1, 4.x	
AutoCad Interchange ASCII, Binary	VECTOR
Enable word processor	
Enable Spreadsheet	
Enable word processor 3.0	
DOS executable, Windows Executable or DLL	
CCITT Group 3 Fax	
First Choice DB	
First Choice SS	
IBM DCA/FFT	
Freelance 1.0 & 2.0 for Windows, 96 for Windows 95, 1.0 & 2.0 for OS/2	
Framework III	
Compuserve GIF	RASTER
Harvard Graphics DOS 3.0 Chart, DOS 2.0 Chart, DOS 3.0 Present	
Internet HyperText Markup Language	
CALS Raster	
Portable Network Graphics	
X-Windows Bitmap and Pixmap	RASTER
X-Windows Dump	
Kodak Photo CD	RASTER
Corel Draw Clipart	VECTOR
Micrografx Designer	
Framemaker	
GEM Image (Bitmap)	RASTER
HP Gallery	

Description	Physical Type
GDF General Graphics Format	
Gem File (Vector)	
OS/2 PM Metafile	
IBM Picture Interchange Format	
use LZW filter. Harvard Graphics for Windows	
Wang IWP	
JustWrite 1.0, 2.0; Q&A Write 3	
Legacy; Wordstar for Windows	
LHZ & LZA Self Extracting Compress	
Mass 11	
Lotus Manuscript 1.0, 2.0	
MacWrite II	
Multimate 3.6, Advantage 2	
MultiMate 4.0	
MultiMate Note	
Multiplan 4	
Microsoft Word 4.x, 5.x, 6.x, Windows Write	WP
Mac Works 2.0 Spreadsheet	
Mac WordPerfect 2.0, 3.0	WP
Mac WordPerfect 1.x	WP
Mac Works 2.0 WP	WP
(OS/2 only) OS/2 Metafile	
OfficeWriter	
PC File 5.0 DEC	
Paintbrush, DCX (multipage PCX)	
Paradox 2, 3, 3.5, 4 and for Windows	DATABASE
PFS: Write A & B; Professional Write 1 & 2; IBM Writing Assistant; First Choice word processor, 3 word processor	
HP Graphics Language	
Lotus PIC	
Macintosh PICT, PICT2	
MacPaint	
PowerPoint 3.0, 4.0 for Windows, 4.0 for Macintosh	VECTOR
PowerPoint 7.0 for Windows 95	VECTOR
PowerPoint 97	VECTOR

Description	Physical Type
PFS: Plan	
Q&A Write	
Q&A Database	
Quattro Pro 5.0, 6.0, 7.0 for Windows	
Sun Raster	
R:Base System V, 5000	
IBM DCA/RFT	
Reflex	
Rich Text Format	WP
Samna	
SuperCalc 5	
Ami Draw	
Novell Presentations 3.0, 7.0	
Smart DataBase	
Smart Spreadsheet	
SmartWare II	DATABASE
Lotus Snapshot	
Sprint	
UNIX Compress, Tar	
Text - DOS, ANSI, Macintosh, Unicode character set; UUencode;Text Mail (MIME)	WP
Targa	
TIFF format; EPS (TIFF header only); CCITT Group 3 & 4 Fax; JPEG; JFIF (JPEG not in TIFF format)	RASTER
Total Word	
IBM DisplayWriter 2, 3, 4, 5	
Volkswriter	
Microsoft Word 6.0 for Windows; Microsoft Word 7.0 for Windows 95; Microsoft WordPad	WP
Microsoft Word for Windows 97	WP
Lotus 1-2-3 for OS/2 release 2	SPREADSHEET
Lotus 1-2-3 3.0, 4.0, 5.0	SPREADSHEET
Lotus 1-2-3 6.x	SPREADSHEET
Lotus 1-2-3 1.0, 2.0; Symphony; Microsoft Works SS, DB; VP-Planner; Mosaic Twin; Quattro (DOS), Pro(DOS); Generic Works; Windows Works Spreadsheet, Database	SPREADSHEET
WordMarc	

Description	Physical Type
Windows Metafile	VECTOR
Word for Windows 1.5, 2.0; Word for Macintosh 4.0, 5.0	WP
Microsoft Works DOS 1.0 WP, DOS 2.0 WP, Win 3.0 WP, 4.0 WP	WP
WordPerfect 5.x	WP
WordPerfect 6.0, 6.1, 7.0	WP
WordPerfect 4.2	WP
WordPerfect Graphic 1.0	RASTER
WordPerfect Graphic 2.0, Presentations	RASTER
Dec WPS Plus	
Novell PerfectWorks 2.0 word, 2.0 draw, 2.0 spreadsheet	
Wordstar 3.0, 4.0, 5.0, 6.0, 7.0	
Wordstar 2000	
Microsoft Excel 2.5,3.0,,4.0, 5.0, 7.0, 97, 2.x Chart, 3.0 Chart, 4.0 Chart, 5.0 Chart, 7.0 Chart	SPREADSHEET
XyWrite/ Nota Bene	
PKZIP format; Self UnZipping EXE	

10 Discovering Links

In this chapter

- **Buttons**
 - ◆ **Buttons in Text Documents**
 - ◆ **Buttons in Graphics Documents**
 - ◆ **Buttons in Animation Documents**
 - ◆ **Buttons in other Document Types**

 - **Follow Links**

 - **Show Links**

 - **Compute Links**

 - **List Links**

 - **Annotations**
-

10.1 Buttons

Buttons are the easiest type of link to find and follow since they are visible in the document. Buttons are always a link from a specific point in the source document to a specific point in the target document (often the start of the target document).

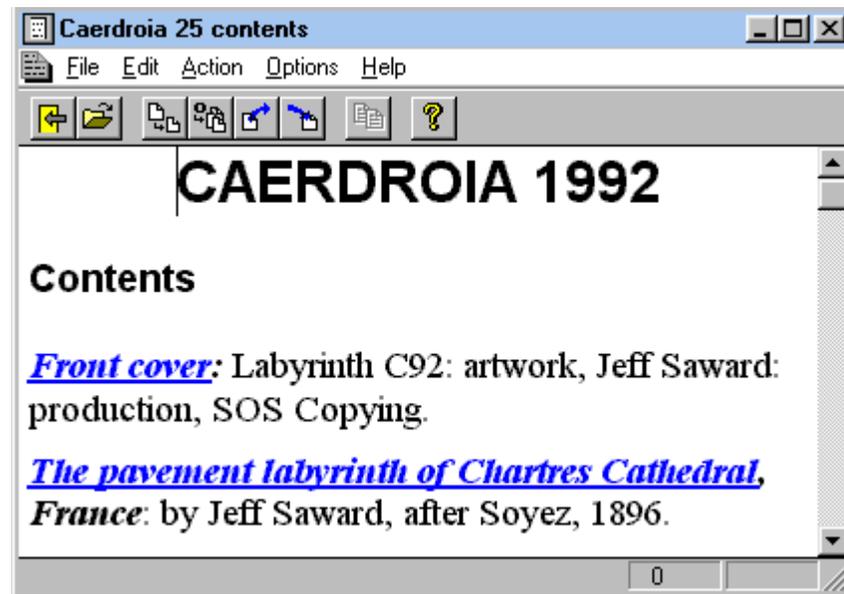
Buttons are the only type of link that can be made from bitmap or animation documents. All types of link (button, specific, local and generic) can be made from text documents.

➔ Double-click on a button to follow the link and view the target document.

10.1.1 Buttons in Text Documents

Buttons that are anchored on text are shown as coloured text. You can also underline buttons using the Options menu.

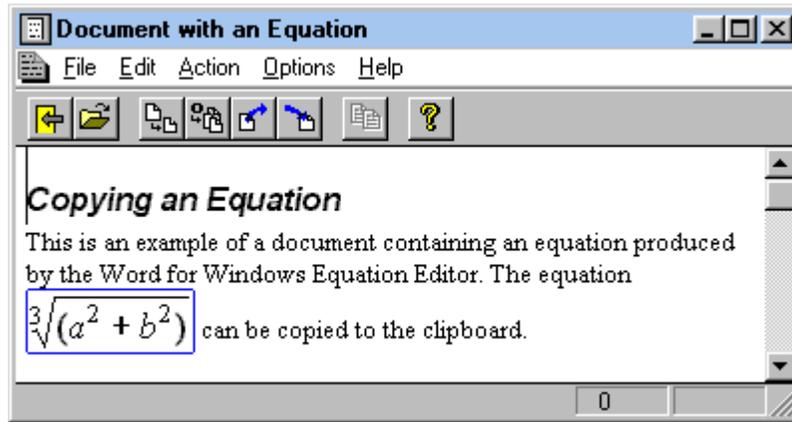
*Buttons in Text Documents:
Coloured Text and Underlined Buttons*



In the example above the words `Front cover` and `The pavement labyrinth of Chartres Cathedral` are coloured to indicate the presence of a button.

If a button is anchored on objects in the text such as diagrams, pictures or equations, the buttons are shown as a coloured box round the object.

*Buttons in Text Documents:
Bordered Objects*

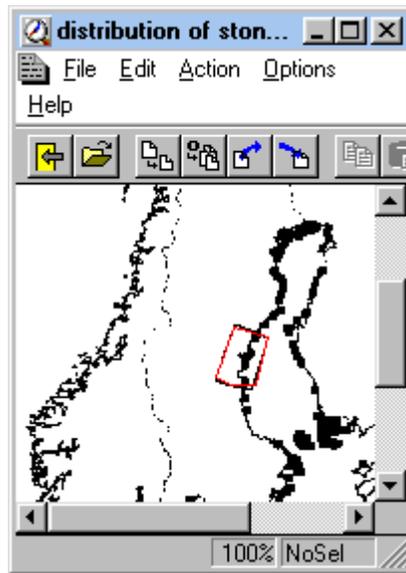


The default colour is blue, but it can be changed using the Text Viewer **Options.Colours..** menu option.

10.1.2 Buttons in Graphics Documents

Buttons in graphics documents may be hidden. They can be made visible by selecting the Graphics Viewer **Options.Button Style** menu option. The menu also allows the visual appearance of the button to be selected.

*Buttons in Graphics: Visible
button bordered in red*



In this example, the button is made visible by a red border.

If the Graphics Viewer **Options.Display Labels** menu option is selected, moving the screen cursor over a button (visible or hidden) will cause the link description to appear.

10.1.3 Buttons in Video and Animation Documents

Buttons can be placed in Video and Animation documents and appear like buttons in other graphics documents. The buttons can be designed to move over the picture as the video or animation is played.

The **Options.Button Style** can be set to make the buttons visible and to set the style.

10.1.4 Buttons in Other Document Types

It is not possible to create buttons in sound documents.

Buttons in Word documents can be created but are not coloured when the document is viewed.

Buttons in Excel documents are not coloured. In order to follow the link it is essential to select the whole cell, not just part of the cell data.

10.2 Follow Links

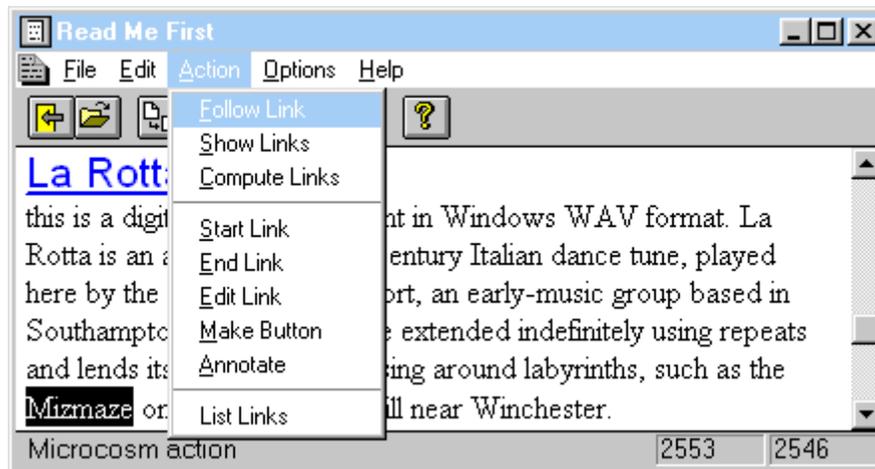
Although you can use **Follow Links** to follow a button, in general, **Follow Links** is used to follow those links which have *hidden* anchors.

The anchors for specific, local and generic links are not visible (they are *hidden*) and, even if you double click on the anchor, do not respond to the double-click action that will cause a button link to be followed. These types of link are often created by authors to give background information on the document being viewed.

The process is to select part of the document and then choose **Follow Links** from the **Action** menu.

- ➔ In a text document, select a word, phrase or object. In a graphics document, single click on the button to select it
- ➔ select the **Action.Follow Links** menu option.

*Follow Links:
Text has been
selected*



In this example, the word *Mizmaze* has been selected and the **Follow Link** menu item is about to be chosen.

If no link is available from your selection a message appears saying **No Links Found**.

- ➔ Click on the **OK** button or press **Enter** to clear the message.

NOTE. If you select the wrong set of characters as the link anchor, the link will not be followed. If you are selecting a single word, it is often convenient to double-click on the word to select it.

If you are following a button in a text document, it is strongly recommended that you double click on the button rather than select the text and choose **Action.Follow Link**. The text you select must exactly match the text in the root anchor of the link before the link will be identified.

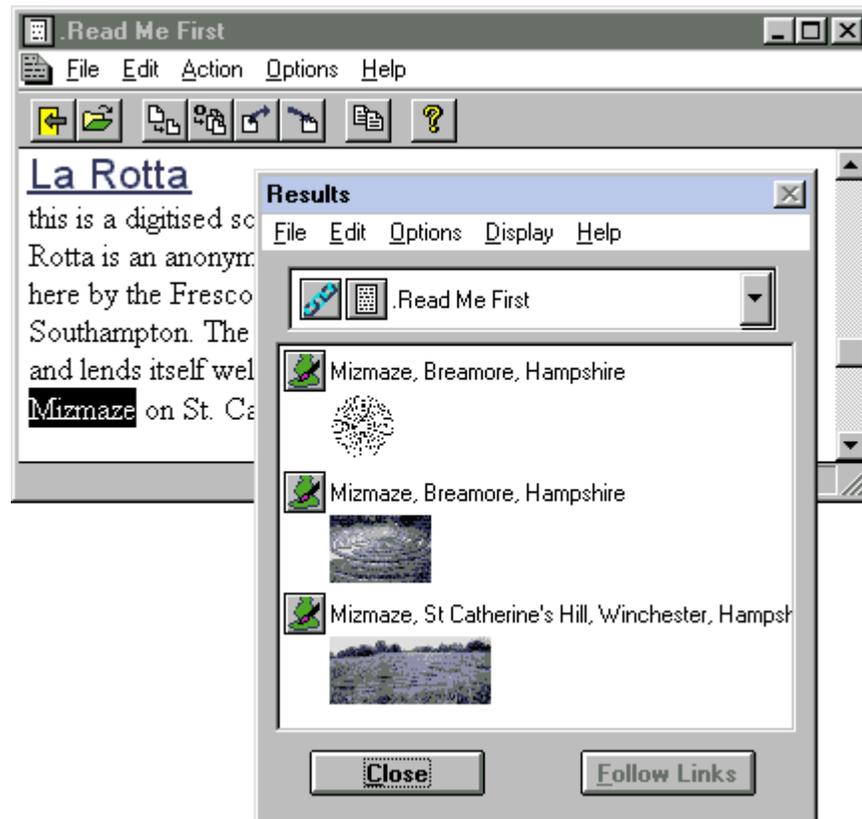
In some cases, there may be several links anchored in the selection that you have made. If the **Results** Filter has the same settings as when first installed, the following actions are taken

- If a single link is available from your selection, Microcosm will display the target document which will be positioned so that the end anchor point is visible.
- If more than one link is available from your selection, Microcosm will display the **Results** window with a list of all the links.

If **Results** appears

- ➔ Select a link in the window and then click on the **Follow Link** button, or simply double-click on a link in the **Results** window.

The Results window showing all links from the highlighted word.



You can find out more about **Results** in the relevant section.

Do remember that **Follow Links** can be used to follow **all** types of link.

10.3 Show Links

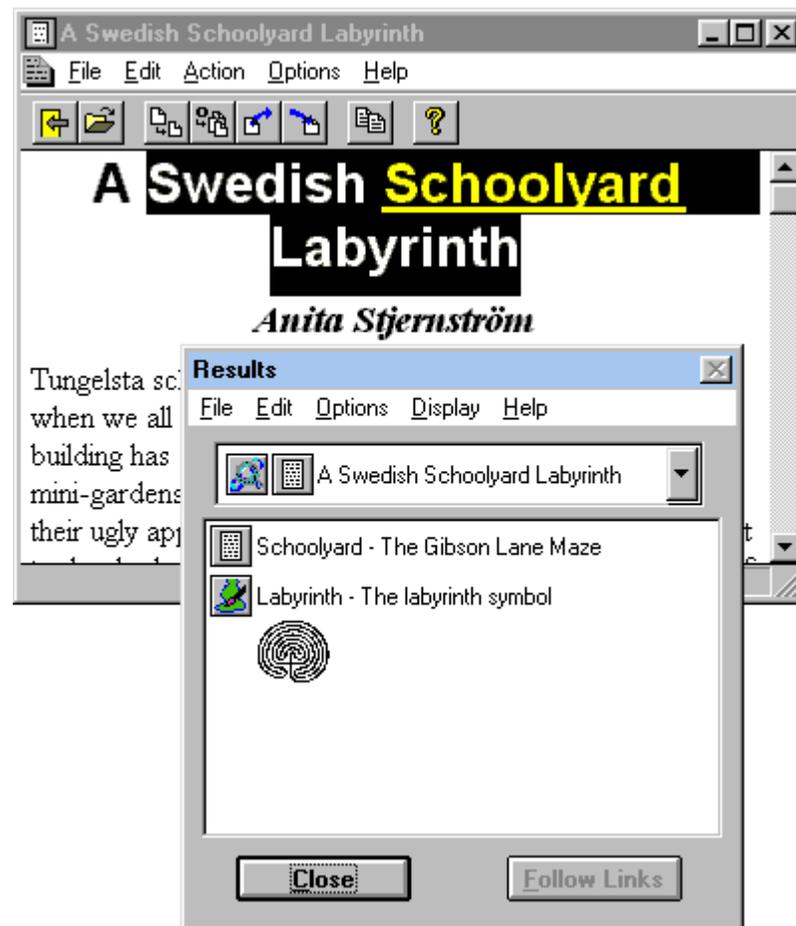
Show Links is a useful way of identifying hidden links (specific, local and generic links are *hidden*) in a piece of text. This process can be particularly useful when searching for links that the author of the application may have included.

Show Links checks each significant word in the selection to see if a link is available. Common words such as *the* or *and* are ignored; the list defining these words is known as **stop words**.

- ➔ Drag the mouse to highlight the text that you wish to search and select the **Show Links** menu option in the Action Menu.

NOTE It is possible to use the **Selection Filter** to directly type some text for Show Links to work with.

The Results window holds the results of Show Links



If no links are available from your selection a message appears saying **No Links Found**. Click on the **OK** button or press **Enter** to clear the message.

In some cases, there may be several links anchored in the selection that you have made. If Microcosm has the same settings as when first installed, the following actions are taken

- If a single link is available from your selection, Microcosm will display the target document which will be positioned so that the end anchor point is visible.
- If more than one link is available from your selection, Microcosm will display the **Results** window with a list of all the links. To follow a particular link:

If **Results** appears

➔ Click on a link in the window and then click on the **Follow Link** button, or simply double-click on a link in the window.

In the example above, two links have been found, one from the word *Schoolyard* to a Text Document *The Gibson Lane Maze* and one from the word *Labyrinth* to a picture, *The Labyrinth Symbol*.

See the section on the **Result** Filter for more details.

10.4 Compute Links

Compute Links is a powerful tool which allows users to select some text and quickly find other documents that contain a high occurrence of the significant words in the selection. Compute Links constructs links to these documents -the list of links is presented to the user with the **Results** window.

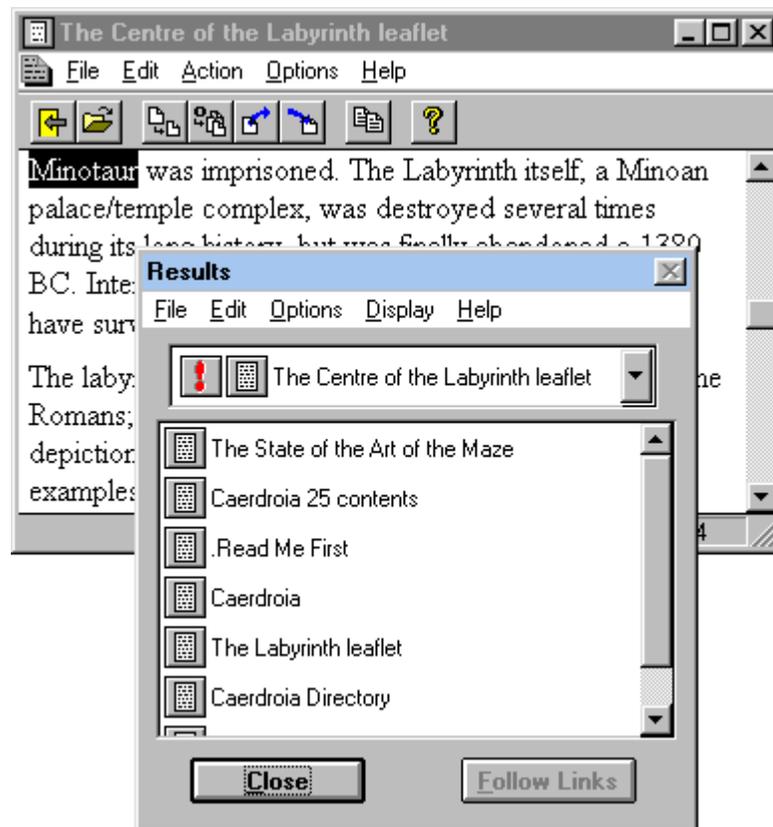
→ Select some text which contains one or more keywords about the subject of interest. The search procedure is very fast and becomes more accurate as more text is selected.

NOTE It is possible to use the **Selection Filter** to directly type some text for Compute Links to work with.

→ Select **Compute Links** in the Action menu.

If more than one document is identified as of interest, the **Results** window displays a list of documents, sorted in order of similarity with the highest similarity at the top of the list.

Results listing documents relevant to the word 'Minotaur'



→ Double-click on a link in the **Results** window to see it.

Or

→ Single click on a link to select it and then click on **Follow Links**.

See the section on the **Compute Links Filter** for a full description of the Filter and the various options that can modify the way it works.

NOTE In order to use Compute Links, the **Compute Links Filter** must be in the Filter Chain and an Index File must have been generated. If you

single click on the Filter Manager icon  and cannot see *Computed linker* in the pop-up menu then the Compute Links filter is not in the Filter Chain. If the Compute Links item in the Action menu of a viewer is greyed out, the Compute Links filter is not in the Filter Chain. Use the **Filter Manager** to move the filter into the Filter Chain. See the **Filter Manager** section of the **System Administration Guide** on how to build the Index File.

10.5 List Links

List Links is a useful way to produce a list of all the Buttons in a Text or Graphics document. You can then follow any of the links in the list.

➔ Select **List Links** in the **Action** menu.

List Links



The List Links window shows **Link Descriptions** of all the buttons contained in the document. You can follow a link by selecting a link and then clicking on OK.

You can also select the link you wish to follow by typing characters in the text field. The links shown in the list will change to show only those that contain the sequence of characters that you have typed.

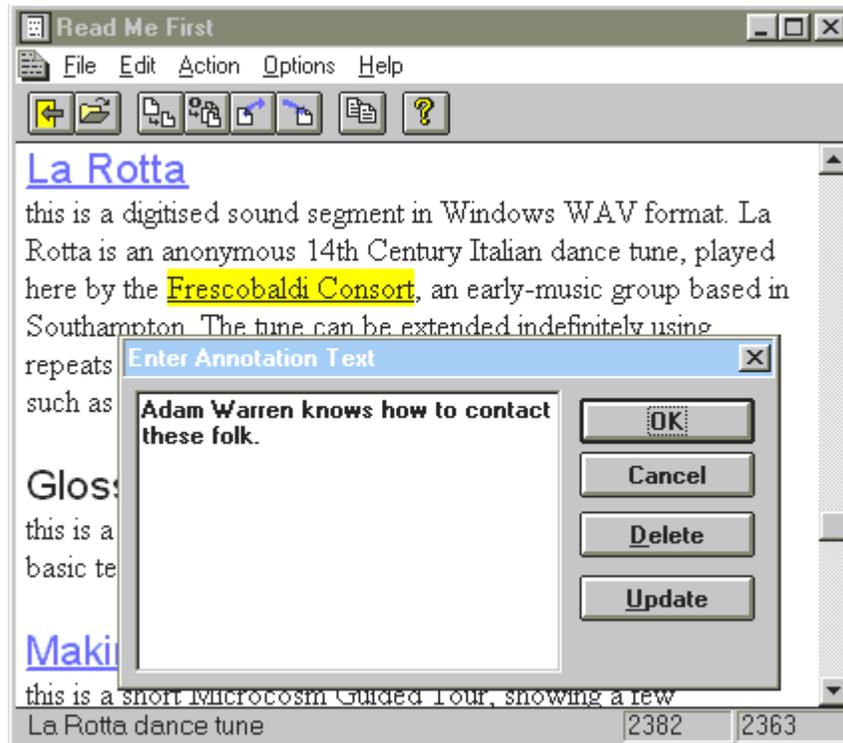
10.6 Annotations

Annotations are small text items that may be attached to parts of documents in the same way that links are attached. There is no conceptual difference between a link to a small text document and an annotation, but annotations have been optimized for fast and easy creation and modification.

In the figure below, the user has clicked on a button over the text “Frescobaldi Consort” and the annotation window appears. The user may edit or add to the note it contains and update the annotation.

If you do not wish to alter the annotation, press the “OK” or “Cancel” buttons when you have finished reading the contents.

The Annotation Window appears when the user follows an annotation link



11 Result Filter

In this Chapter

- **Overview**
 - **Session Record**
 - **Available Links Session**
 - **History Session**
 - **File Menu**
 - **Edit Menu**
 - **Options Menu**
 - **Display Menu**
 - **Position in the Filter Chain**
-

11.1 Result Filter: Overview

The Result Filter performs a number of functions:

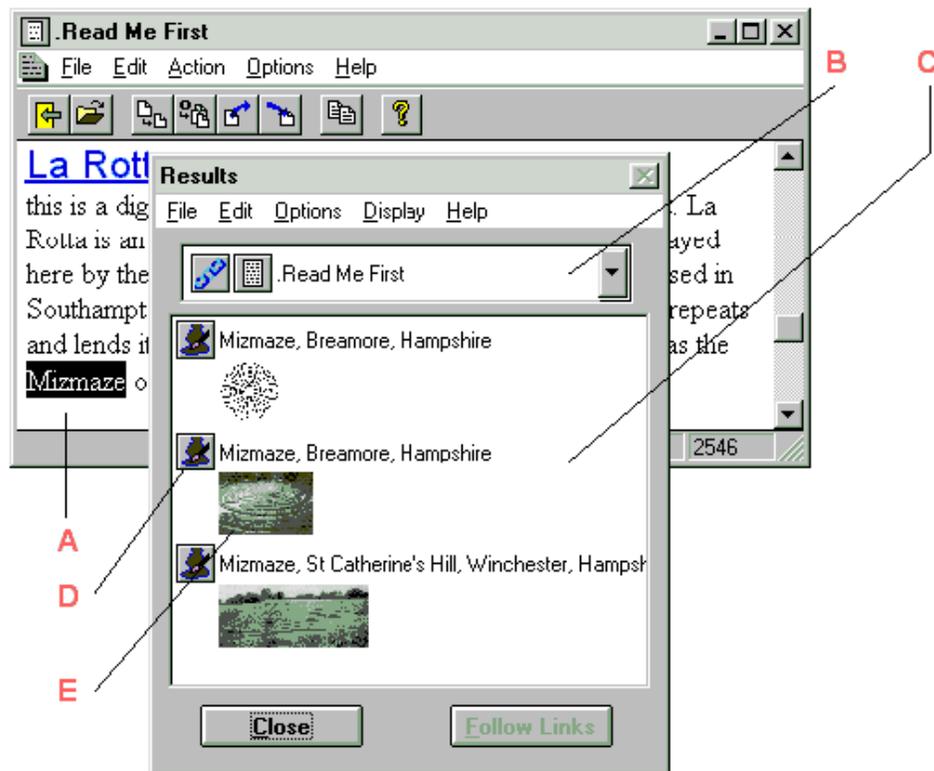
If a link following operation identifies more than one possible target document, the Filter will display all the target documents in a *Session* of Available Links and allow the user to choose which document to see.

It keeps a *Session Record* of all link following operations to which the user can return at a later time. Each session can be reviewed and edited.

It keeps a record, the *History Session*, of all documents that have been displayed by Microcosm. The History can be saved and reloaded during a later Microcosm Session.

In the example below, a **Follow Links** action has been taken after the word *Mizmaze* was selected in the text document *.Read Me First*. The action has identified three links which are displayed in the **Results** window.

*Results Filter:
Window Features*



A: the selection in the Text Viewer used for the Follow Links operation.

B: The *Session Record* - a drop down list of sessions. The session name is the title of the document from which the links were identified. There is always a History session.

C: A scrollable list of Available Links identified in this session.

D: The icon of the document type and name of the target document for each link identified.

E: An abstract of the target document.

When Microcosm starts and the Filter Chain is built, the Result Filter window will be closed. If a link following action is taken that results in more than one link being identified, the window will appear with the links recorded in a Session.

NOTE This behaviour depends upon the setting of the filter Options. The behaviour described above requires that the **Auto Follow Single Links** option is checked on.

The **Close** button will close the window but not remove the filter from the Filter Chain.

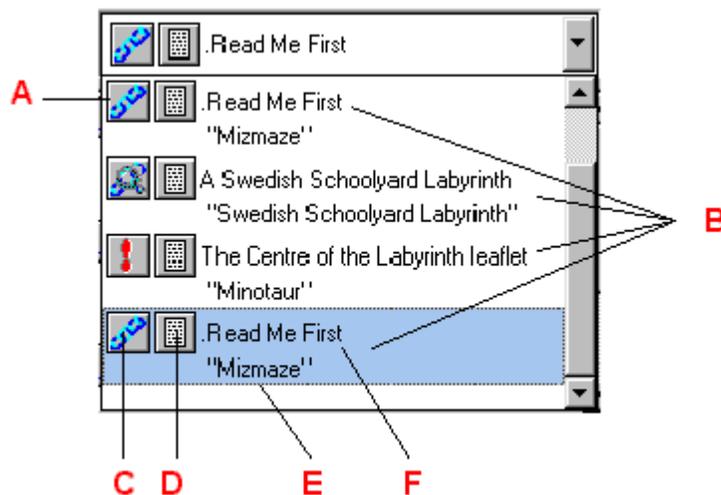
If the Result Filter window is closed, the current state of the filter can be seen by a

single click on the Filter Manager icon  at the bottom of the screen and then a click on Result in the pop-up menu. Alternatively the Result Filter can be shown at any time by clicking on the Results Icon  in the Toolbar on the Select a Document window.

11.2 Result Filter: The Session Record

In the Result window, the drop down list of Sessions, the *Session Record*, contains information about the link following Action that led to the Session being generated. For instance, in the Session Record shown below, there have been three link following operations resulting in four items in the Session Record. There are three *Available Links Sessions* and there is always a *History Session*.

*Result Filter:
Session Record*



A is the History Session and is always present.

B is the current list of Available Links Sessions. In this case three link following actions have been taken, all from the same document `.Read Me First`.

C is an icon representing the link following Action that generated the session.



Follow Link



Compute Links



Show Links

D is the Document Type icon of the document in which the Action was taken. In this example, `.Read Me First` is shown to be a Text document.

E is the selection used for the link following action. In this example the selection was always `Mi z maze`.

F is the description of the document in which the Action was taken.

In this example the Option **Remember Multiple Sessions** has been checked on. This has the effect of recording each link following every Action. If this option had not been checked only one (the last) link following action is recorded.

11.3 Result Filter: Available Links Session

An Available Links Session of the **Result Filter** holds the results of one link following action.

➔ Click on the  button in the **Result Filter** window.

➔ In the Session Record, click on session you wish to see.

In the example below, there are three records in the Available Links session created by a Compute Links from `A Swedish Schoolyard Labyrinth`.

*Result Filter:
Available Links
Session*



Links that have been followed from the session are made grey. In this case the link has been followed to The Labyrinth symbol.

You can select more than one link to follow by the normal Windows convention of using the mouse in conjunction with the Shift and Ctrl keys on the keyboard.

You can use the Edit Menu to delete Available Links Sessions.

If the **Auto Follow Single Links** Option is on, and the link following action has identified a single link, the session will contain one item only, the identified link, greyed out because it has been followed.

If the **Remove Self Referencing Links** Option is on, any link found which points back to the document originating the session will be removed from the session. If **all** the links found in the session are self referencing, the session will be empty.

11.4 Result Filter: History Session

The History Session of the **Result Filter** holds a record of all links followed.

→ Click on the  button in the **Result Filter** window.

→ Click on History in the Session record.

In the example below, there are four records in the History Session, showing the links have been followed.

*Result Filter:
A History Session*



The most recently viewed document is at the top of the list.

If you load a previously saved history session, the loaded history will be appended to the end of the current History session.

The **Auto Save History** Option allows you to automatically carry history from one use Microcosm to the next.

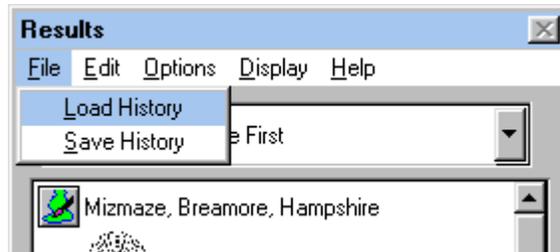
If the History Session only contains one record in addition to the History Session, it may be because the **Remember Multiple Sessions** Option is checked off.

You can use the Edit Menu to delete all the links in the History Session.

11.5 Result Filter: File Menu

The File Menu of the **Result Filter** allows you to load and save history sessions.

*Result Filter:
File Menu*



◆ Load History

If you have previously saved the History session, you can reload it from the saved file. Click on this menu item to open the Windows Open dialogue. The loaded history will be appended to the current History session.

◆ Save History

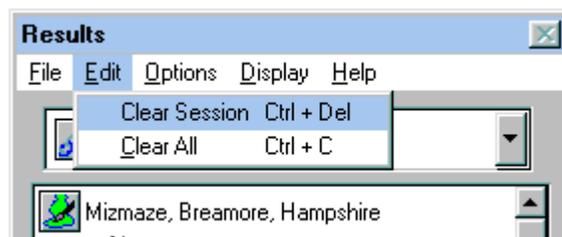
Click on this item to save the entries in the History Session. The Windows Save As dialogue will appear. If there is no History to save, this item will not be available (it will be greyed out).

The **Auto Load Save History** Option allows you to automatically load and save your History Session.

11.6 Result Filter: Edit Menu

The Edit Menu allows you to clear previously recorded Sessions.

*Result Filter:
Edit Menu*



◆ Clear Session

Clicking on this menu item will delete all the documents in the currently selected session. If the session is **not** the History session, the session will be deleted from the Session Record.

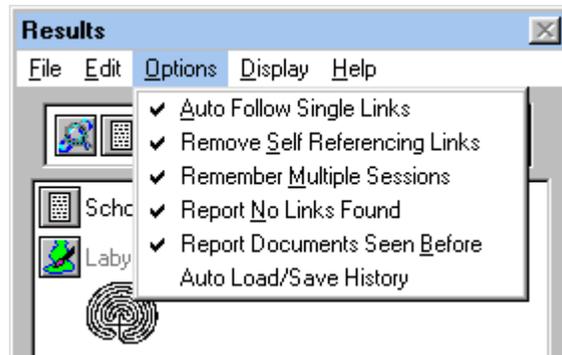
◆ **Clear All**

Clicking on this menu item will clear all sessions including History. All sessions except an empty History will be deleted from the Session Record.

11.7 Result Filter: Options Menu

The Options Menu controls the way in which the Result filter records sessions and displays results and messages.

*Results Filter:
Options Menu*



◆ **Auto Follow Single Links**

If this option is checked on (with a tick) and the action identifies only one link, then the target document is displayed automatically. The link following operation is still recorded as a Session.

If the option is checked off (no tick), all links (including single links) found by link following actions will be displayed in a Session.

Click on the menu item to turn the option on and off.

◆ **Remove Self Referencing Links**

Some link following operations can identify links which point back to the document which is originating the operation - the link is called Self Referencing. If this option is checked on (with a tick) these types of link will be ignored by the Result Filter. If **all** the identified links are Self Referencing, then the session will be empty. Click on the menu item to turn the option on and off.

◆ **Remember Multiple Sessions**

The Result Filter can record a large number of sessions which are listed in the Session Record. However, in some circumstances it may be more appropriate to record only the results of one session, in which case check this option off (with no tick). Click on the menu item to turn the option on and off.

The History session is always recorded.

◆ **Report No Links Found**

If a link following operation cannot identify any links, then a message **No Links Found** can be produced.

◆ **Report Documents Seen Before**

If a document has been seen before, a message **You have seen this document before** will be produced.

*Results Filter:
You have seen this
document before*



Check this item on (with a tick) to produce the message. Click on the menu item to turn the option on and off.

If you click on the **Stay Away** button, this message will not appear again until the option is turned on again.

◆ **Auto Load/Save History**

If this item is checked on (with a tick), when Microcosm is closed, the current state of the History Session for the current user and the current application will be saved. This saved History Session will be automatically loaded when the user signs onto the application again.

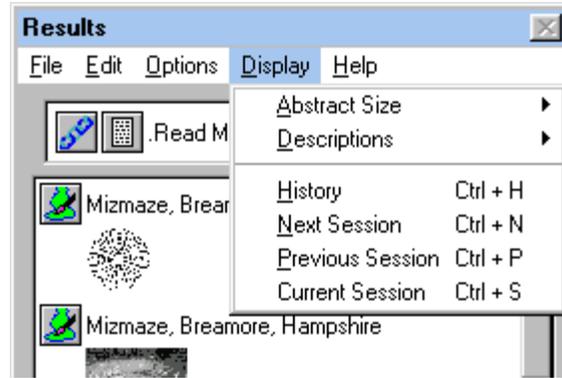
The first time you close Microcosm you will be asked where to save the History Session.

If the application has a Start-Up document **and** the Start-up document is recorded in the History Session when it is saved, **and** the **Report Documents Seen Before** option is checked on (with a tick), you will see **You have seen this document before** message when you select the application.

11.8 Result Filter: Display Menu

The Display Menu allows you to set the size of the abstracts and to show document or link descriptions in the various sessions.

*Results Filter:
Display Menu*



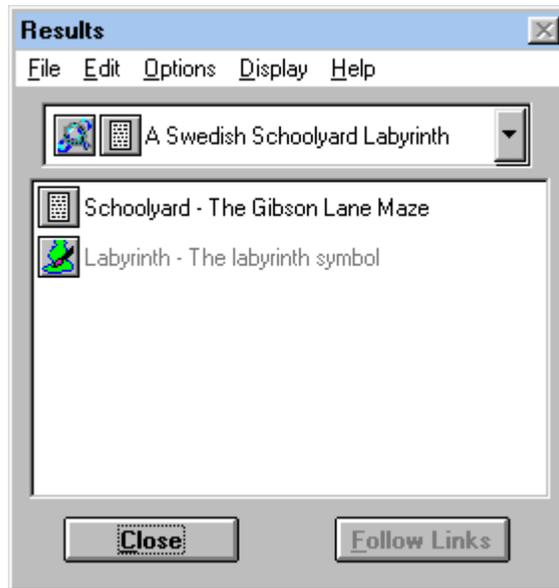
◆ **Abstract Size**

Abstracts are shown in a session if the target document is a graphic picture. This option sets the size of the abstract.

None

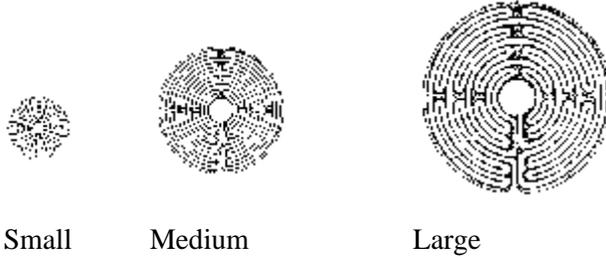
If this option is chosen, no abstracts are shown for each session.

*Results Filter:
No abstracts
shown*



Small, Medium and Large

If one of these options is chosen, an abstract appears for each target document.



◆ **Descriptions**

When a link is created, a link description is always generated (see *Creating Links in Text Documents* and *Creating Links in Graphics Documents*) and held within the link. Although the Link Description is often authored to be the same as the name of the target document it is often useful to have different descriptions in every link. This can be particularly true when there are many links to the same target document.

This option specifies whether Link Description (the description held in the link) or Document Description (the description held with the document) is to be used in the Session.

Link Descriptions

Check this item on (with a tick) if you wish to show Link Descriptions in the session.

Document Descriptions

Check this item on (with a tick) if you wish to show Document Descriptions in the session.

◆ **History**

Clicking on this menu item will display the History Session.

◆ **Next Session**

Clicking on this menu item will display the next session in the Session Record.

◆ **Previous Session**

Clicking on this menu item will display the previous session in the Session Record.

◆ **Current Session**

Clicking on this menu item will display the current session in the Session Record.

11.9 Result Filter: Position in the Filter Chain

The Result Filter should be placed at the end of the filter chain.

12 Show Links Filter

In this chapter

- Overview
 - Options
 - Position in the Filter Chain
-

12.1 Show Links: Overview

The Show Links Filter is used to locate links that are anchored in a piece of text. The use of Show Links is described fully in the Show Links section of Discovering Links.

12.2 Show Links: Options

Show Link has a number of options that can be set to modify how the filter works.

→ Right click on the **Filter Manager** icon  in the Task Bar and then single click on ShowLink in the pop-up menu to display the **Options** window:

The Show Links Options window



→ Click on the check boxes to switch each option on or off. An option is on if there is an X in the box. Click on **OK** to close the window.

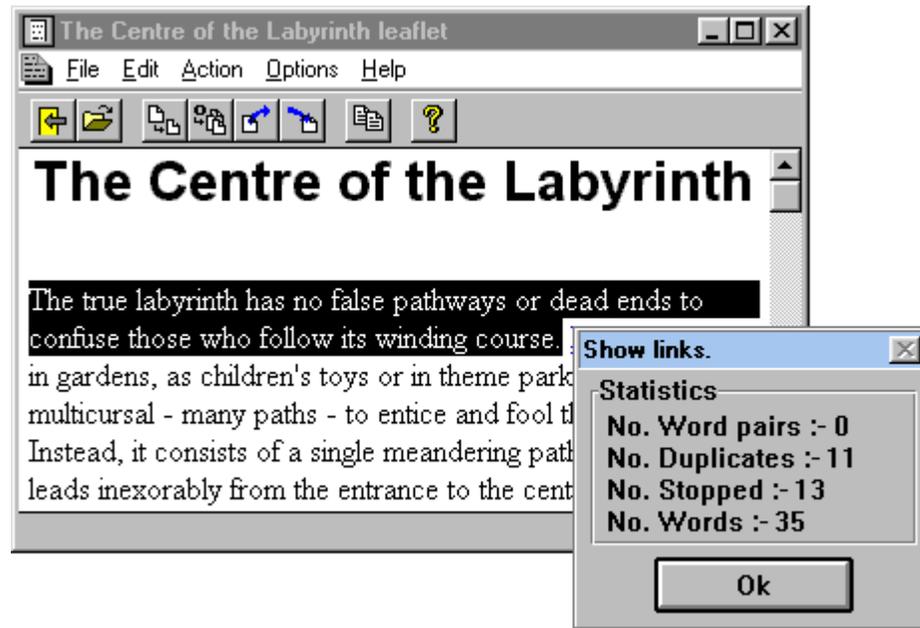
◆ Word Pairs

After words from the stop words have been removed, the text selection will be searched for link anchors. If the **Word Pair** option is on, individual words will be used for the search and then consecutive word pairs will be used. If Word Pairs is off, only individual words are used.

NOTE If the author of the link has created an anchor with a phrase that contains more than two words (e.g. *square hedge maze*), or if one of the words is in the stop words (e.g. *the symbol*), the **Show Links** will not be able to find any links from that phrase. This characteristic must be addressed by authors to ensure that their anchors can be found using **Show Links**.

◆ Statistics

If the **Statistics** option is on, a window displaying information about the search will be displayed before the **Result** filter displays any links that are found.



12.3 Show Links: Stop Words

When a selection of text is passed to the Show Links Filter, the first action taken by the filter is to remove words from the selection that are considered to be of low importance when trying to identify links. Words such as *the*, *in*, *by* and *from* are unlikely to be used as anchors for links and so can be excluded from the selection.

The words to exclude are called **Stop Words** and are defined in a file which, by default, is called `words.stp`. The file is located by a Showlink branch in the Microcosm Registry. When Microcosm is first installed, there is only one file of Stop Words which is located by the `System/Showlink` branch in the Registry and placed in the `mcm\bin` directory. The Registry Editor of the Microcosm Configuration Program can be used to change the location of the file.

12.4 Show Links: Position in the Filter Chain

The Show Links Filter takes the selection and passes words and possibly word pairs onto the linkbases to identify links. For this reason Show Links should be placed in front of any linkbases.

13 Compute Links Filter

In this chapter

- **Overview**
 - **Options**
 - **Compute Links and the Clipboard**
 - **Stop Words and Cut Words**
 - **How Compute Links Works**
 - **Position in the Filter Chain**
-

13.1 Compute Links: Overview

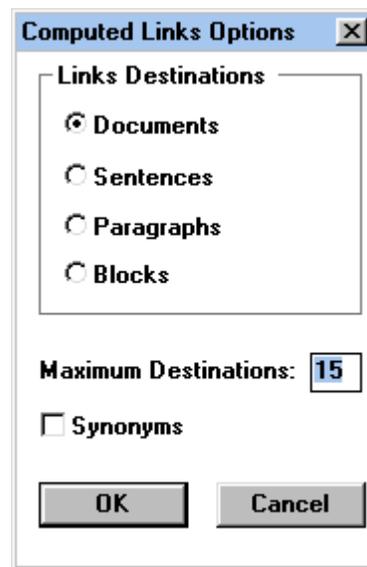
There is a description of Compute Links and how it is used in the section on Discovering Links.

13.2 Compute Links: Options

There are a number of options that control the way Compute Links works.

- ➔ Click on the **Filter Manager** icon  in the Task Bar to show the Filter Manager dialogue.
- ➔ Right click on the Computed Linker filter line
- ➔ Click on **Options...** from the menu to display the **Compute Links Options** window.

The Compute Links Options window



◆ Link Destinations

The **Link Destinations** buttons determine how the documents selected from the **Results** window are viewed. If the **Sentence**, **Paragraphs** or **Blocks** options are chosen, the document will be automatically positioned to display the section having greatest similarity to the original text selection.

- | | |
|------------------|---|
| Documents | the viewer displays the start of the document. |
| Sentences | the viewer displays the sentence that has the greatest similarity to the original text selection. |

- Paragraphs** the viewer will position the document at the start of the paragraph that has the greatest similarity to the original text selection.
- Blocks** the viewer will position the document at the start of the 512 byte block that has the greatest similarity to the original text selection.

If any option other than **Documents** is chosen, the **Compute Links Options** window expands to display further options (see below).

◆ **Maximum Destinations**

The **Maximum Destinations** field determines the maximum number of documents that may be listed in the *Results* window.

◆ **Synonyms**

If **Synonyms** is checked on (contains an X) a file of synonyms will be used by the Compute Links process. This enables relevant documents to be found even if they do not contain exactly the same form of words as the original text selection. For example, if documents relevant to the word *Christian* are required then suitable synonyms might be *religious*, *church* and *cathedral*.

The file that contains lists of words that are to be treated as synonyms must be an ASCII text file called **synonyms.txt** located in the same directory as the Compute Links filter (e.g. `c:\mcm\bin\synonyms.txt`).

Each line in the file must contain a list of synonyms separated by spaces. For example, if the words *Christian*, *religious*, *church* and *cathedral* are to be treated as synonyms, one line in the file will read:

Christian religious church cathedral

The standard Microcosm installation does not contain a synonym file.

◆ **Further Compute Links Options**

If the **Sentence**, **Paragraphs** or **Blocks** options are chosen as the **Link Destination** from the **Compute Links Options** window, the window will expand to show further options.

It is recommended that the **Weighting Strategies** and **Matching Functions** options are left at their default values. If the Compute Links indexes were built for words and word pairs, then the **Phrase** and **Word and Phrase** options will be available (not greyed out) in the **Weighting Elements** section. Selection of the **Phrases** option causes the matching of a succession of word pairs to have a much higher weighting than matching on a single word or word pair. For example, if the text selection was *medieval Scandinavian stone labyrinths* and the word pairs *medieval Scandinavian*, *Scandinavian stone*, and *stone labyrinths* are all matched in a document, then this 'hit' is treated as a phrase of three consecutive word pairs with a very high value.

13.3 Compute Links: the Clipboard

When **Compute Links** presents a list of relevant documents ('hits') in the **Results** window, it is possible to inspect the context of each hit by copying the relevant parts of the document to the clipboard so that it be viewed using the Windows **Notepad**.

→ Perform the **Compute Links** Action.



→ Click on the **Filter Manager** icon in the Task Bar.

→ In the **Filter Manager** window, single right click on the **Computed Linker** line in the list of filters.

→ Click on **Copy to Clipboard** menu option.

→ Open **Notepad** from the Windows **Accessories** program group and select **Edit.Paste** to view the relevant text sections from all the documents listed in the **Results** window.

NOTE The Copy Results to Clipboard option cannot be set and should be seen as an action to be taken each time you wish to copy the results of a Compute Links to the clipboard.

13.4 Compute Links: Stop Words and Cut Words

The words that are removed from the selection, before the selection is searched for any links, are called **Stop Words** and are defined in a file which, by default, is called `words.stp`. The file is located by a `Complink` branch in the Microcosm Registry. When Microcosm is first installed, there is only one file of Stop Words which is located by the `System/Complink` branch in the Registry with the `StopFile` entry locating the file in `mcm\bin` directory. The Registry Editor of the Microcosm Configuration Program can be used to change the location of the file.

The **Cut Word** file contains a list of words which affect the way in which Phrases (see Further Compute Links Options above) are identified. If a word in a Phrase appears in the Cut Word file, that word effectively ends the phrase. The file is located by a `Complink` branch in the Microcosm Registry. When Microcosm is first installed, there is only one file of Stop Words which is located by the `System/Complink` branch in the Registry with the `CutFile` entry locating the file in `mcm\bin` directory. The Registry Editor of the Microcosm Configuration Program can be used to change the location of the file.

13.5 Compute Links: How It Works

Compute Links works by matching significant words in the text selection to an index (the 'inverted index') of the text files. An inverted index is a list of **all** the significant words in the text files, sorted into alphabetical order. The index also contains the locations of every occurrence of each word in the text files. This makes

it easy for Compute Links to find which documents contain the words in a text selection. By comparing the exact locations of those words it can determine which documents best match the text selection.

NOTE. that it is necessary for the author of the application to create the index file (`invert1.tab`) for the Compute Links facility to work. This procedure and others needed to make Compute Links available are described in the **System Administration Guide**

13.6 Compute Links: Position in the Filter Chain

The Compute Links Filter uses the inverted file to identify possible documents of interest and can be placed anywhere in the Filter Chain, but before the Available Links or Result Filters.

14 Using the Clipboard

In this chapter

- **Following Links**
 - **Clipboard Options**
 - **Clipboard Action**
 - **Copying Information**
-

14.1 The Clipboard: Following Links

Microcosm has been designed to enable many applications, such as Microsoft Write, to communicate with Microcosm and use the powerful linking tools provided by Microcosm. This is achieved by allowing Microcosm to monitor all information that is placed on the clipboard. If you place data on the clipboard, Microcosm can intercept the data and use it for any of the link following operations. This enables links to be found from documents that are either not known to Microcosm at all (the documents have not been imported into the **Document Management System**) or from documents that are being viewed by a Microcosm viewer that is not Microcosm-aware (like Microsoft Write).

The data placed on the clipboard is used to identify possible anchors of *generic* links. Although any data can be copied to the clipboard for link following operations, it is probably only useful to copy text.

For example suppose that a Microsoft Write file contains a reference to the Breamore *Mizmaze* and Microcosm has been set to monitor the clipboard. Selecting the word *Mizmaze* and copying it to the clipboard will cause the linkbase(s) to be searched for generic links on the word *Mizmaze*.

If Microcosm is set to monitor the clipboard, any of the link following actions can be taken automatically. Alternatively, Microcosm can be set to allow the user to choose which action to take.

Clipboard Options are used to make Microcosm monitor the clipboard and define which link following action to take when information is placed on the clipboard.

Select Action allows the user to choose which link following action to take when information is on the clipboard.

14.2 Clipboard Options

The **Clipboard Options** are used to set Microcosm to monitor the clipboard and specify which action to take if information is placed on the clipboard.

- ➔ Right click on the **Microcosm** icon  in the Task Bar and click on the **Clipboard Options** item in the pop-up menu to display the *Clipboard Options* window:



→ Click on the **Monitor Clipboard** check box to switch this option on or off. If there is an X in the box the option is on and Microcosm will monitor the clipboard.

If **Monitor Clipboard** is checked on, Microcosm will intercept (but not change) all data that is placed on the clipboard

→ Click on one of **Action on Selection** to determine which type of link action will be carried out on clipboard text. In each case, except the last, Microcosm will automatically behave as if the text had been selected in the Text Viewer and the appropriate option selected from the **Action** menu.

Follow Link: the data that has been copied to the clipboard is used as the possible anchor of a link. The data is passed to the linkbases to try to identify any links with this anchor.

Compute Link: the data that has been copied to the clipboard is passed to the Compute Links Filter.

Show Link: the data that has been copied to the clipboard is passed to the Show Links Filter.

User makes choice: when information is placed on the clipboard, the user is given the choice of which action to take and the *Select Action* window will be displayed.

NOTE If the *Select Action* window appears, then the **Clipboard Options** have been set to **User Makes Choice**. If this is not what is required use the **Clipboard Options** to change the setting.

14.3 Clipboard Action

If you have placed some information on the clipboard and you then wish to use that information as the selection for a link following action, you should use **Clipboard Action**.

→ Copy some information to the clipboard.

→ Right click on the **Microcosm** icon  in the Task Bar and click on the **Clipboard Action** menu item to display the *Select Action* window:



→ Click on one of the buttons to determine which type of link action is carried out on the clipboard text.

Follow Link: the data that has been copied to the clipboard is used as the possible anchor of a link. The data is passed to the linkbases to try to identify any links with this anchor.

Compute Link: The data that has been copied to the clipboard is passed to the Compute Links Filter.

Show Link: the data that has been copied to the clipboard is passed to the Show Links Filter.

Cancel: the link following operation is abandoned.

The *Select Action* window will also appear if the **Clipboard Options** have been set to make Microcosm monitor the clipboard and the **User makes choice** clipboard option has been set.

14.4 The Clipboard: Copying Information

Text can be selected and copied to the Clipboard from the Text Viewer so that it can be pasted into a word-processed document. If all the documents are owned by your company then the restrictions on doing this may be those of confidentiality.

Please note, however, that in some cases the documents you are looking at will have the copyright owned by another party. If this is the case the Academic tradition is that you should only use short extracts and that you should always include an attribution or reference to the source document. In a Commercial company you should contact the owner of the copyright before copying the information.

The most convenient way to copy information from the Microcosm environment to a word-processed document is to start the word-processor, load your document (essay, thesis, report etc.) and then iconise the word processor before starting Microcosm. Then, when you find some text that you wish to copy to your document:

→ Drag the mouse to highlight the text to be copied and select the **Edit.Copy** menu option.

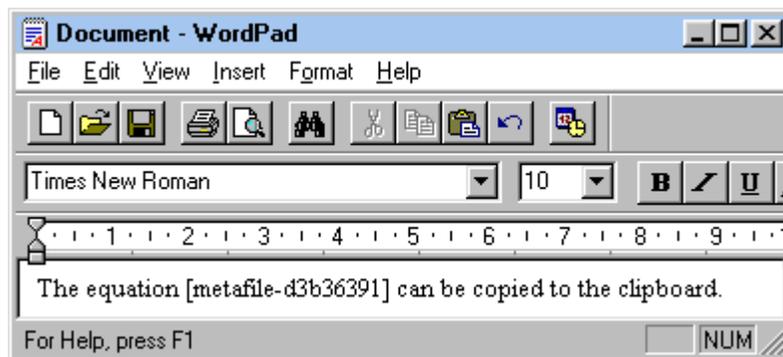
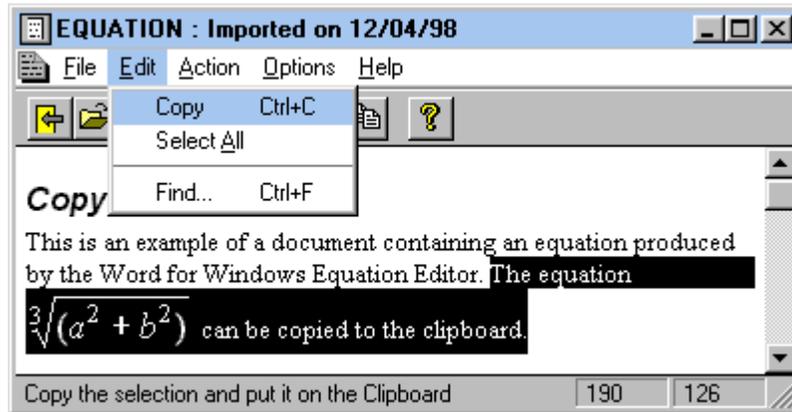
- ➔ Double-click on the Word Processor icon to switch applications and expand its window. Position the text cursor where you want the text to go and select the **Edit.Paste** menu option. It is usually a good idea to save the file at this point.
- ➔ Click on the down-arrow at the right of the title bar to iconise your document again and continue working with Microcosm.

NOTE The clipboard can also be used by applications that are not Microcosm-aware to search text for generic links. See *The Clipboard: Following Links*

If you are copying information from the text viewer that includes items other than text, for instance an equation, if you wish to copy both the text and the object, it is important that you copy the data in stages. If you select data that includes both text and object, the object will appear, after the Paste operation as *[metannnn]*.

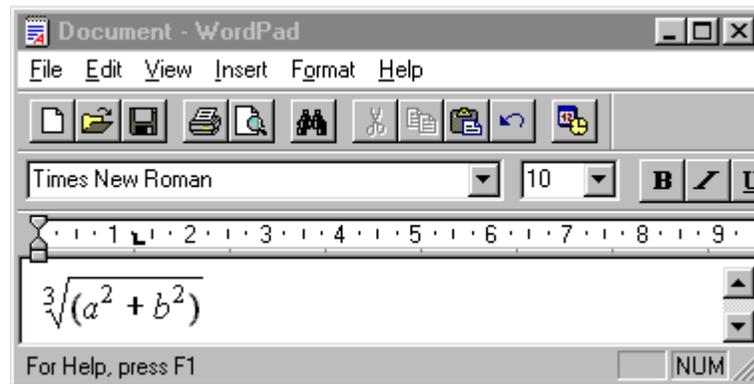
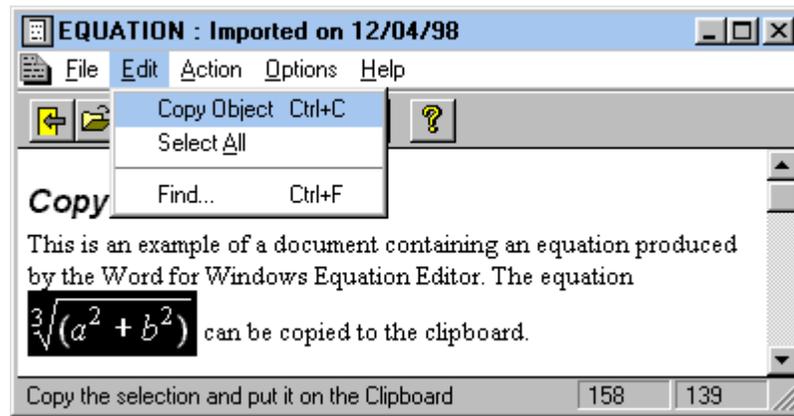
In the example below, the selected data has been copied from the text viewer into the Microsoft Write word processor. The object appears in the Write document as *[meta-d3b36391]*.

*Copying Data:
The data includes
an object other
than text*



If only the object is copied to the clipboard using **Copy Object**, the object will be pasted correctly.

*Copying Data:
Using Copy Object*



In this example, only the equation has been selected and copied to the clipboard. The object appears correctly in the Write document.

15 Selection Filter

In this chapter

- Overview
 - Position in the Filter Chain
-

15.1 Selection Filter: Overview

The selection filter can be used link following operations without selecting text in documents. It is also a convenient way to define the anchor for a generic link.

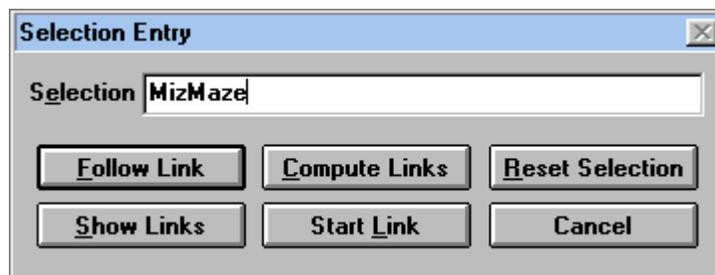
As with all filters, it is possible to access the selection filter from the filter manager.

- ➔ Right click on the **Filter Manager** icon  in the Task Bar.
- ➔ Single click on **Selection** in the pop-up menu to display the **Selection Entry** window.

However, access to the selection filter is easier using the shortcut icon  which may be found on the toolbar of the Select A Document window.

NOTE The Selection Filter must be in the Filter Chain before it can be used. If you cannot see Selection in the pop-up menu, the filter is not in the Filter Chain. See **Changing the Filter Chain**.

The Selection Entry window



- ➔ Type a word or phrase into the **Selection** field and select an action by clicking on the appropriate button. In each case Microcosm will behave as if the text had been selected in the Text Viewer and the appropriate option selected from the **Action** menu.

If the **Reset Selection** button is pressed the current text selection will be cleared.

If the **Start Link** button is pressed the **Start Link** window will be displayed. This enables **generic links** to be made to a target document without having to select the source anchor in a document. For example, if the **Selection Entry** window is used to create a generic link for the word *Mizmaze* to a photo of the Breamore Mizmaze, all occurrences of the word *Mizmaze* in all text documents will be linked to that photo.

15.2 Selection Filter: Position in the Filter Chain

The Selection Filter must be placed before any linkbases in the Filter Chain.

16 Link Maker Filter

In this chapter

- Overview
 - Position in the Filter Chain
-

16.1 Link Maker Filter: Overview

The Link Maker Filter is used to perform all link creation operations. If the Link Maker Filter is not in the Filter Chain then no links can be created and the application will be one with read-only capability. The Start Link, End Link and Make Button items in the Action Menus of the Text and Graphic Viewers (and all other Microcosm Aware viewers) will be greyed out to indicate that these functions are not available.

If you wish to have Link creation capability and the Link Maker Filter is not in the Filter Chain, use the Filter Manager to modify the Filter Chain.

The Link Maker Filter can be used directly to specify the end of a link. This is particularly useful if the target document does not have a viewer which is Microcosm aware (i.e. it does not have an **Action** menu which contains the **End Link** function).



➔ Right click on the **Filter Manager** icon in the Task Bar and then on **Link Maker** in the pop-up menu to display the **Select a Document** window.

➔ Select the document that is to be the target (end of) of the link

The **End Link** window will appear. The document itself will not be displayed.

➔ Complete the link as usual.

See the section on Links to Other Documents on linking to Sound documents.

16.2 Link Maker Filter: Position in the Filter Chain

The Link Maker Filter performs all the processes for link creation. It should be placed near the front of the Filter Chain, after the Selection Filter but before any linkbases.

17 Creating Links

In this chapter

- **Application Linkbases**
 - **User Linkbases**
 - **Creating Links Between Documents**
 - **Link Anchors**
 - **Creating Links in Text Documents**
 - **Creating Links in Graphics Documents**
 - ◆ **Make Label**
 - ◆ **Creating More than One Link from a Button**
 - ◆ **Creating Polygonal Buttons**
 - **End Links: Using the Link Maker Filter**
 - **Make Button**
 - **Editing Links**
 - **Links in other Documents**
 - Animation, Video and Sound Documents
-

17.1 Application Linkbases

All links are held in special files called *linkbases*. *Application linkbases* contain the links that are associated with one particular Microcosm application.

In most cases, the author of a Microcosm application will have created links that enable its users to explore the material by following links to documents that represent the main themes of the application. The type and number of links made will depend on the application; some authors may try to create all possible links, others may just sketch in those they consider important. The second approach may be better for applications intended to stimulate critical analysis and research skills.

For a linkbase to be used it must be in the Filter Chain. Use the **Filter Manager**



icon in the Task bar to set Microcosm to use appropriate linkbase(s) (see the **Filter Manager** section of the **System Administration Guide**).

17.2 User Linkbases

Microcosm is normally set up so that a user can create and save links in their own personal linkbase, thus developing their own interpretation of the material. These links are usually **in addition** to those defined by the application linkbase.



Use the **Filter Manager** icon in the Task Bar to set Microcosm to use appropriate linkbase(s) (see the **Filter Manager** section of the **System Administration Guide**).

17.3 Creating Links between Documents

There are four basic steps to creating a link between documents:

- View the source document, select the start anchor (which can be text, an object such as an equation or a picture in a text file, or an area of a bitmap) and then select **Start Link** from the **Action** menu. The **Start Link** window is displayed.

Then

- View the target document, select the end anchor (which can be text, an object such as an equation or a picture in a text file, or an area of a bitmap) if required and then select the **End Link** from the **Action** menu. The **End Link** window is displayed.

Then

- Click the **Complete** button on either the **Start Link** or **End Link** window to display the **Linker** window. Click a button to select the type of link required and then click on **OK**.

Then

- Click the **Close** buttons on both the **Start Link** and **End Link** windows to close them and tidy up.

The target document can be the same as the source document, so that (for example) links can be made between references in the text and a bibliography at the end of the document or between a contents page and sections of a long document.

If a specific end anchor is not selected, following the link will cause the target document to be displayed and positioned at its top left hand corner.

17.4 Link Anchors

When creating a link between documents it is usual to define a start anchor and often useful to also define an end anchor.

◆ Text Documents

The selection can be either text of any length, or an object such as a picture or an equation.

◆ Graphic Documents

The selection is an area of the picture.

◆ “No Selection” Anchors

It is not essential that start and end anchors are selected before the link is created.

Start Anchors

If a link is created and no selection is made for the Start Anchor, the link will only be followed if **Action.Follow Link** is used without a selection being made.

End Anchors

If a link is created and no selection has been made for the end anchor, following the link will cause the target document to be displayed at the start of the document for a text document or at the top left hand corner for a graphic document.

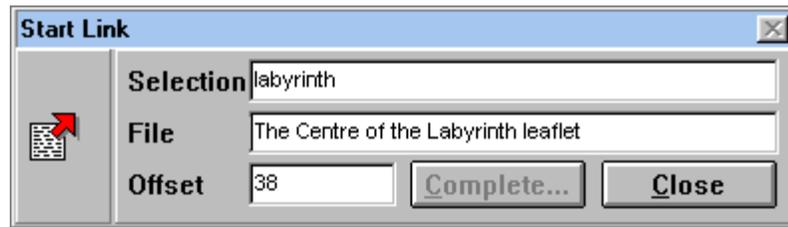
If a selection for the end anchor has been made, following the link will display the document positioned such that the selection will be visible.

17.5 Creating Links in Text Documents

This section describes how to create links from and to text documents. The process is identical for both the Text Viewer and the MultiViewer.

- ➔ View the document from which the link is to be made.
- ➔ Drag the mouse to select the start anchor and then select the **Action.Start Link** menu option (or click on the Start Link button  in the viewer Toolbar). The **Start Link** window is displayed.

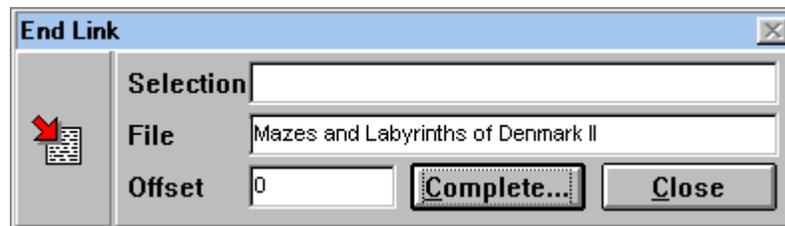
The Start Link window



NOTE If you do not make a selection before you Start Link, the link will point at an Associated Document - see below for more information.

→ Use the *Select a Document* window to choose and view the target document. Select the end anchor if required and then select the **Action.End Link** menu option (or click on the End Link button  in the viewer Toolbar). The **End Link** window is displayed.

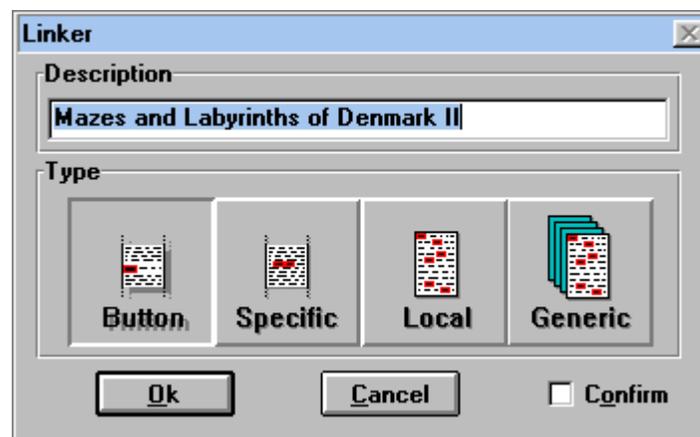
The End Link window



NOTE In this example no selection has been made and so following the link will display the start of the target document.

→ Click the **Complete** button on either the **Start Link** or **End Link** window to display the **Linker** window.

The Linker Maker window



→ Click a button to select the type of link required and then click on **OK**.

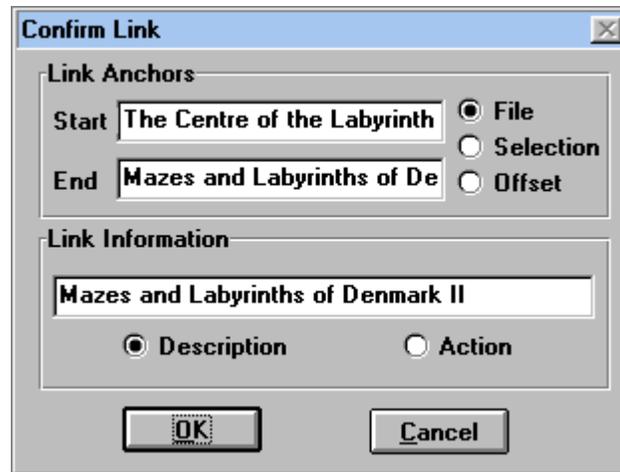
All four types of link (button, specific, local and generic) can be made from text documents.

NOTE The **Description** field of the **Linker** window contains the link description that can be presented in the **Results** window. If you do not change the field, the Description will be the same as the Document Description.

→ Click the **Close** buttons on both the **Start Link** and **End Link**.

NOTE If the **Confirm** check box is set on, the **Confirm Link** window will be displayed so that the link details can be double-checked and/or manually recorded. This is not usually necessary.

The Confirm Link window



This window does not allow any changes to be made to the link data. Click on **Description** to see the Link Description in Link Information, or click on **Action** to see the Link Action in Link Information.

NOTE When the link is completed, Microcosm does not automatically close the **Start Link** and **End Link** windows in case other links need to be made to or from those anchors. To make another link from the start anchor (for example) cancel the **End Link** window, select and view the new target document, select the new end anchor, select the **Action.End Link** menu option and complete the link.

◆ **Link Descriptions**

If you do not change the Description field in the Linker dialogue, the Document Description is used. In many cases this is satisfactory. However, a different Link Description can have extra useful information for users following the links. For instance, the Link Description could have a few words about the content of the target document, rather than just the title of the document.

- When the mouse pointer is over a button in a text or graphics document, the Link Description for the link appears in the Status Bar.
- The **Result** and **Available Links** Filters can be set to display either Link Descriptions or Document Descriptions.
- If there are many links to a single target document, it may be useful to create unique Link Descriptions for each link.

◆ Associated Documents

If a start anchor is created with **no** selection, the target document becomes an *associated document*. This means that the link can be followed from anywhere in the source document by either Action.Follow Link with no selection, or by clicking on the Associated Documents button  in the Viewer Toolbar.

Associated Documents can be used to hold summary information about the source document. For instance, if the source document describes Simple Harmonic Motion (SHM), then an associated document could contain all the equations used to describe SHM.

Associated documents can only be linked from text documents.

17.5.2 Lost Links

When a button link is created, the location of the Start Anchor and the associated text or object of the Anchor are tightly bound. When the document is displayed, the viewer obtains all the buttons for the document from the linkbase, checks that the text or object in the document at the specified location matches the information in the link and then turns that anchor to the appropriate colour.

However, if the document has been modified in some way (e.g. by adding an extra few characters, a new paragraph or a new picture) the actual button location will have moved and the viewer will not be able to match the link information with the document. If this occurs, the viewer makes every attempt to find the new location of the anchor text or object. In many cases the anchor can be found and a new binding is developed.

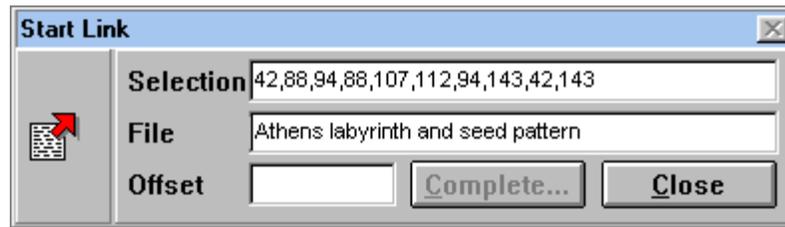
In some cases the new location of the anchor will not be found. For instance, if the anchor is text that has had a spelling correction, or if the anchor is a picture which has been replaced, the anchor will not be found. When this occurs, the viewer marks the link as a **Lost Link**. The Microcosm **Link Editor** can be used to find and correct **Lost Links**.

17.6 Creating Links in Graphics Documents

This section describes how to create links from and to graphics documents. The process is identical for both the Graphics Viewer and the MultiViewer.

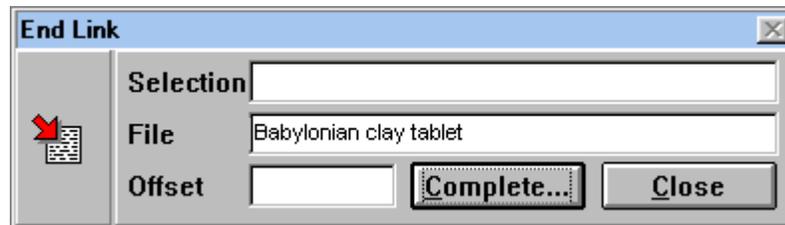
- ➔ View the document from which the link is to be made.
- ➔ Select the area of the image that will be the start anchor.
- ➔ Select the **Action.Start Link** menu option. The **Start Link** window is displayed. Note that the **Selection** field contains the coordinates of the area selected.

The Start Link window showing selection co-ordinates



- Use the **Select a Document** window to choose and view the target document. Select the end anchor (the area of the picture) if required and then select the **Action.End Link** menu option. The **End Link** window is displayed.

The End Link window



NOTE In this example no selection has been made and so following the link will simply display the target document. If an area of the picture was selected as an end anchor, following the link would display the picture with the area highlighted.

- Click the **Complete** button on either the **Start Link** or **End Link** window to display the **Linker** window.
- Make sure that the **Button** link type is selected and then click on **OK**. Only button links can be made from graphics documents.

NOTE The **Description** field of the **Linker** window contains the link description that is presented in the **Results** window. If you do not change the field, the Description will be the same as the Document Description.

- Click the **Close** buttons on both the **Start Link** and **End Link**.

If the **Confirm** check box in the **Linker** window is set on, the **Confirm Link** window will be displayed so that the link details can be double-checked and/or manually recorded. This is described in the previous section, but is not usually necessary.

NOTE When the link is completed, Microcosm does not automatically close the **Start Link** and **End Link** windows in case other links need to be made to or from those anchors. To make another link from the start anchor (for example) cancel the **End Link** window, select and view the new target document, select the new end anchor, select the **Action.End Link** menu option and complete the link.

17.6.1 Make Label in Graphics Documents

Make Label is used to generate a number of links from graphic documents to a common target graphic document. It can be seen as defining a generic link (based upon a text string) from buttons in graphics documents to a single target document. Each button in the graphics documents is given the same text string when defined.

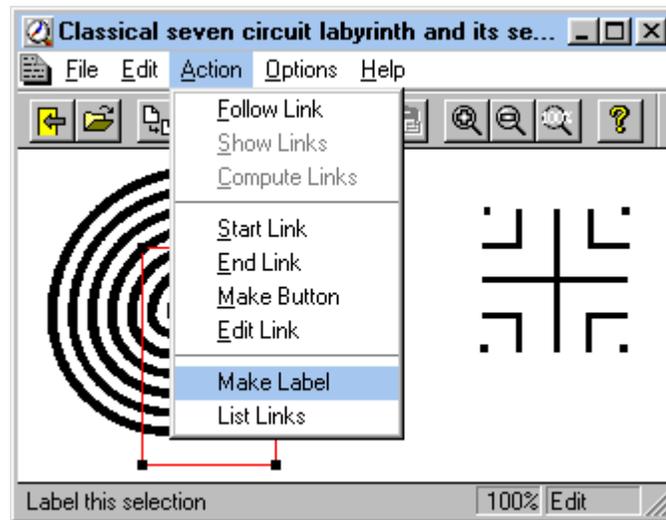
The process is identical for both the Graphics Viewer and the MultiViewer.

Suppose that, in the Caerdroia application, there is one exemplar graphic document that illustrates a common feature of some mazes, a *seed pattern*. You can use **Make Label** to create links from all exemplars of the *seed pattern* to the exemplar document, the common target document.

Use **Make Label** to create the link to the common target document.

- ➔ Display the common target document
- ➔ Select an area of the document
- ➔ Click on the **Action.Make Label** menu item

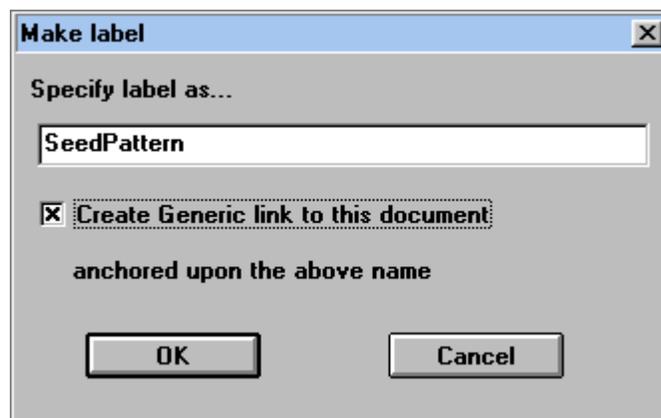
Graphic Document with Make Label



The **Make Label** window will appear.

- ➔ In the **Specify Label as ...** field, type the text that will appear as a button label and check the **Create Generic Link to this document** box (with an X)

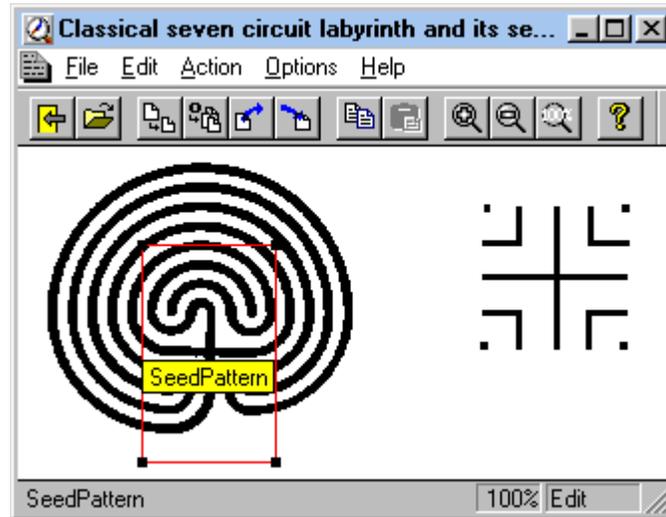
*Name Selection
Generating the
Generic Link*



→ Click on **OK**

At this point in the process you have created a button with the label *SeedPattern* in the common target document which points to itself. If the **Options.Display Labels** menu option is selected and the pointer is placed over the button, the button label *SeedPattern* is shown.

*Make Label:
the Label in the
common target
document*

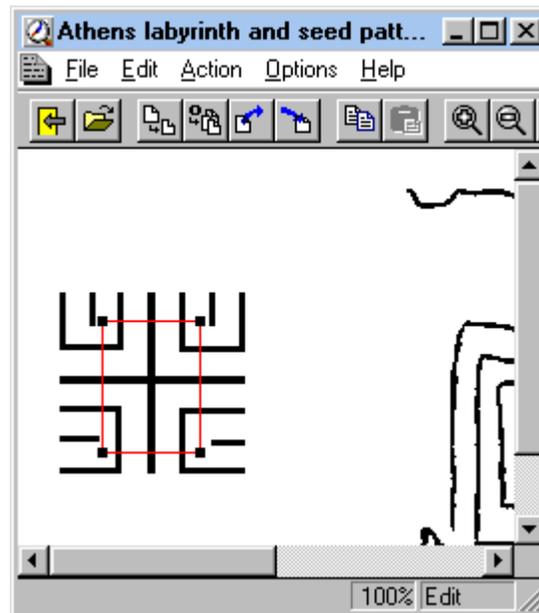


If you follow the link by double-clicking on the button, you will display a second copy of the document, indicating that you have created a link back to this document

The next stage in the process is to create the generic link from other graphics documents to the common target document, using the text *SeedPattern*.

→ Display another document and select an area as a link anchor.

*Make Label:
Specifying a
second button*



→ Click on **Action.Make Label**

→ Type in the required text, in this case *SeedPattern*, but **do not check** the **Create a generic link...** box.

*Make Label:
Specifying the
Second Button*



→ Click on **OK**

At this point in the process you have created a button with the label *SeedPattern* in the current document which points to the common target document. If the **Options.Display Labels** menu option is selected and the pointer is placed over the button, the button label *SeedPattern* is shown.

If you double-click on the button you have just created, you will follow the link to the common target document. In the example above, if you double click on the button in the Athens Labyrinth and Seed Pattern document you will follow the link to the Classical seven circuit labyrinth.. document.

17.6.2 Creating More Than One Link From a Button

More than one link can be made from a button (both in text and graphic documents) by leaving the **Start Link** window open after a link has been completed. Select another end anchor and complete the link as normal.

It is also possible to create additional links from a button by re-selecting the button area. In a graphics document

- Re-select the button by positioning the cursor inside the button area and clicking the right mouse button.
- Select **Action** from the pop-up menu.
- Select the **Start Link** option from the subsequent pop-up menu and proceed as before.

If the **Options.Display Labels** menu option is selected, the label will show the name of the target document of the first link made from the button.

17.6.3 Creating Polygonal Buttons in Graphics Documents

The default shape of anchors in graphics documents is a rectangle. Buttons of different shapes can be created by modifying the original rectangle. See Making Selections in the Graphics Viewer.

17.6.4 Links to Large Graphics Documents

If a link is made to an image that is too large to fit on the screen, the Graphics Viewer will display the document in a smaller window with scroll bars that enable

the rest of the image to be viewed. If a link is made to a specific area of a large image, that area will be highlighted and positioned at the centre of the window (if possible) when the link is followed.

17.7 End Links: Using the Link Maker Filter

End anchors can be specified by using the Link Maker Filter. This method of defining end anchors can be used for all links, but can only specify the start of the document. This is specially appropriate

- if the document viewer for the target document is not Microcosm Aware and does not have an Action menu. This is the case for sound documents.
- There is no target selection and it is appropriate for the viewer to open the target document at the start of the document.

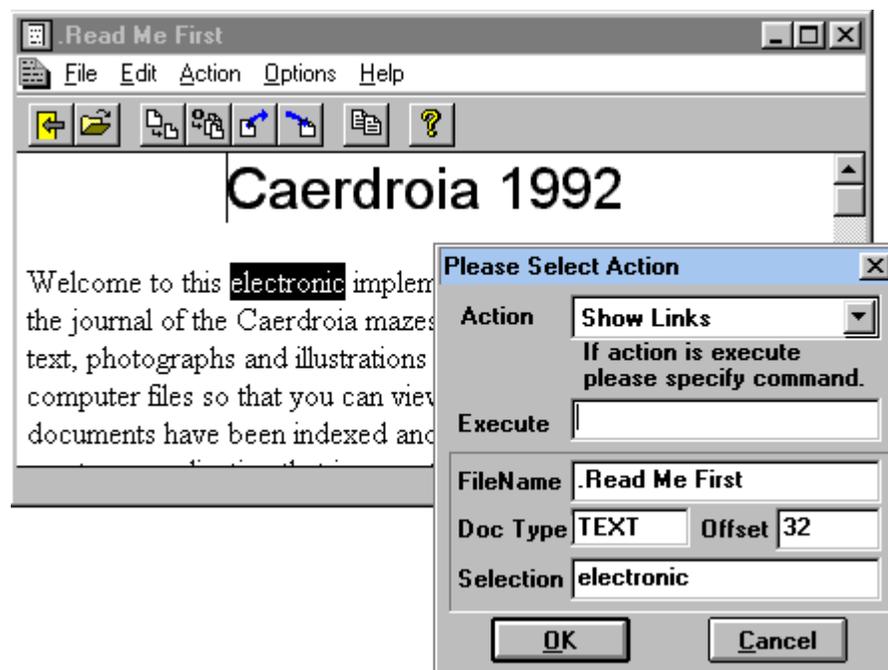
See the Link Maker Filter for a full description.

17.8 Make Button

The **Make Button** item on the **Action** menus of the Text and Graphics viewers can be used to create a link with a visible button but without a specific target document. For instance, **Make Button** can create a button link that, when followed, will start the Windows Notepad application. In the example below the Text viewer is used but the process is the same for the Graphics Viewer.

- ➔ Select the text or area of the picture which is to be the Anchor of the link
- ➔ Click on **Action.Make Button**. The **Please Select Action** window will appear.

*Make Button:
Selecting the
Anchor*



In this example, the text *electronic* has been selected as the link anchor for the button, and then **Action.Make Button**. You cannot modify the FileName (which is the really the Document Description), Doc Type, Offset and Selection fields.

→ In the *Please Select Action* window, click on the down arrow to reveal the possible actions for the button.

*Make Button:
Selecting the
Action*



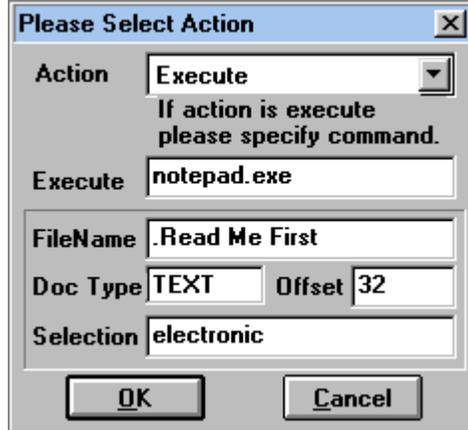
The items that can be chosen from this list control the action that is taken when the button is followed.

Show Links. If this action is chosen the Selection is used for a Show Links link following action.

Compute Link. If this action is chosen the Selection is used for a Compute Links link following action

Execute. If this action is chosen Microcosm will start the executable program defined in the Execute field.

*Make Button:
Specifying an
Execute Action*



In this example, the action is Execute and the executable program to start when the link is followed is Windows Notepad.

Note The specified executable program must be placed in a directory that can be found by Microcosm. Either specify a full length path name, or place the program in one of the directories searched automatically by Windows, or place the application in a directory on the Path. In this case, notepad.exe is in the windows directory.

→ Click on **OK**

The button will be created. If you double click on the button, the Windows Notepad program will start.

Note The link that has been created is *incomplete* in that it does not have a target document. The target program is not a document and will not appear in the Select a Document window. The link cannot easily be edited with the Link Editor.

17.9 Editing Links

Once a link has been created it is possible to use the Link Editor to modify the link. There are two ways to start the Link Editor.

17.9.1 From the Program Group

You can start the Link Editor from the Microcosm Plus program group by clicking on Start, then Program Groups, Microcosm Plus and then the Link Editor. You will then have to specify the linkbase containing the links you wish to modify.

17.9.2 From the Text or Graphics Viewer

You can start the Link Editor from the Text Viewer Action Menu or the Graphics Viewer Action menu. In order to use the Link Editor in this way, you must know the Start Anchor of the link you wish to modify.

In the Text Viewer

➔ Select the text which is the Start Anchor of the link you wish to edit.

If the link is a button, you must to select all the text that is highlighted. If the Start Anchor for the button is a graphic (e.g. a picture or equation in the text), then you must select the graphic. If the link is Specific, Local or Generic, you will have to use other information to identify the text which is the Start Anchor.

➔ Click on **Action**, then **Edit Link**.

If the selection is a Start Anchor, the Link Editor will start with the correct linkbase and link identified. You will then be able to edit the link you have selected and any other links in that linkbase. If the selection cannot be identified in a linkbase, Microcosm will 'beep' at you.

In the Graphics Viewer

➔ Select the button which is the Start Anchor of the link you wish to edit.

➔ Click on **Action**, then **Edit Link**.

The Link Editor will start with the correct linkbase and link identified. You will then be able to edit the link you have selected and any other links in that linkbase. If the selection cannot be identified in a linkbase, Microcosm will 'beep' at you.

17.10 Links in Animation and Video Documents Documents

Animation and video documents are shown by the Graphics Viewer and all the facilities for creating buttons in the Graphics Viewer are available for creating links from these documents.

Both of these document types are made up of a *sequence of frames*. By using the Media Bar of the Graphics Viewer, you can step through the document sequence one frame at a time.

Buttons in these documents can be created to be either *Static* or *Moving*.

17.10.1 Static Buttons

A Static Button is created if you define a button on any one frame of the sequence. When the link is completed, and the sequence is played, the button will be visible (if the correct Graphics Viewer Options have been set) on every frame of the sequence.

If you double click on the button while the sequence is playing, the link will be followed.

17.10.2 Moving Buttons

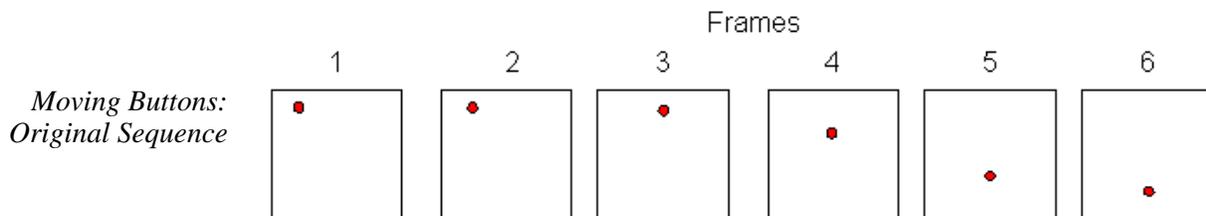
A Moving Button is created if you place a selection on one frame of a sequence, move the sequence (forward or back) to a second frame, drag the selection to a new position and then create the button with the usual **Action.Start Link** process.

The frames which define the positions of the button are known as *Key Frames*. There can be many Key Frames in a sequence and the button will move around the picture on a path defined by the position of the button in each of the Key Frames. The Graphics Viewer calculates the position of the button for all the *Intermediate Frames* between the Key Frames so that when the sequence is played, the button appears to move across the picture. The button will appear at the first Key Frame in the sequence, move through the Key Frames, and disappear after the final Key Frame.

In the sequence of six frames shown below, there is a red dot travelling horizontally across the picture from Frame 1 to Frame 3, and then vertically from Frame 3 to Frame 6.

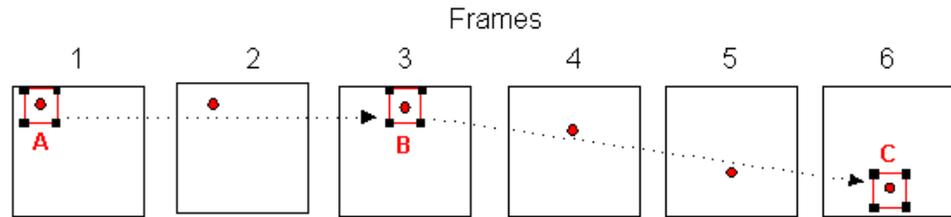
◆ Positioning the Button

Before the button is created, the positions of the button must be defined by moving a selection around the picture.



Key Frames are selected at the end of each straight line part of the path of the button.

*Moving Buttons:
Defining the Key
Frames*



In this case, the Key Frames are Frames 1, 3 and 6.

A A selection has been made around the ball in Frame 1.

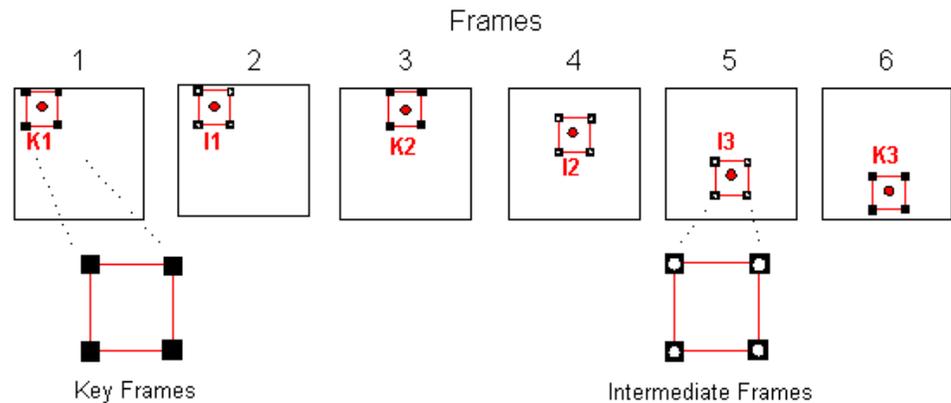
B The sequence has been played forward to Frame 3 and the selection dragged to its new position.

C The sequence has again been played forward to Frame 6 and the selection dragged to its final position.

The process of dragging the selection defines the Key Frames.

If the sequence is now played, the position of the selection in each of the frames can be seen.

*Moving Buttons:
Intermediate
Frames*

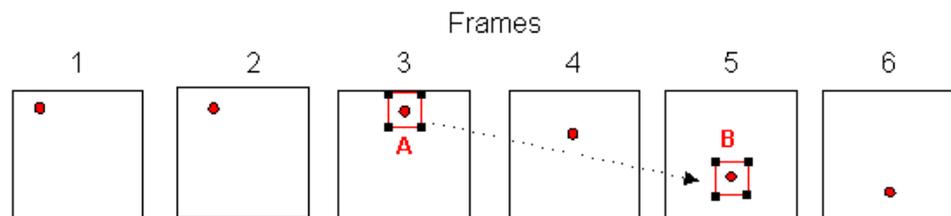


Kn Key Frames.

In Intermediate Frames. In order to identify Intermediate Frames the sizing handles of the selection appear hollow. Intermediate Frames cannot be resized.

It is possible to have a moving button that only appears for part of the sequence.

*Moving Buttons:
partial sequence*



A The first Key Frame has been defined by a selection in Frame 3.

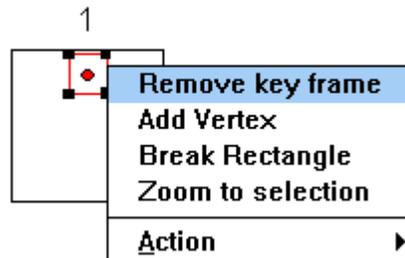
B The sequence has been advanced and the selection has been dragged to its new position in Frame 5 to define the last Key Frame in which the moving button will appear.

A Key Frame is always defined in Frame 1. For the moving button to appear only from Frame 3 onwards, the Key Frame must be deleted from Frame 1.

→ Position the sequence at Frame 1.

→ Place the mouse pointer over the edge of the selection and right click.

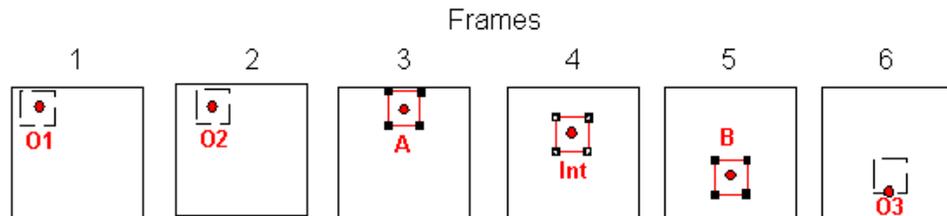
*Moving Buttons:
Removing a Key
Frame*



→ Click on Remove key frame.

When the sequence is now played, the frames which are outside the definition of the moving button have the position of the bounding Key Frames marked by a *Position Box* which is dashed.

*Moving Buttons:
Frames outside the
Key Frames*



A,B The positions of the selection to define the Frames within which the button will appear.

O1, O2, O3 The Position Box for Frames outside the Key Frames.

Int The Intermediated Frame between the Key Frames..

When the button is actually created, the position box is not shown.

◆ Changing the Button Shape

The button can change its shape as it moves across the picture. At each key frame you can change the shape of the selection by moving the existing vertices. You can also change the number of vertices from one Key Frame to the next. See the *Graphics Viewer Making Selections*.

◆ Creating the Button

Have defined the Key Frames for the sequence, you then create the button, starting with the usual **Action.Start Link**.

◆ Links to Animation and Video Documents

Links to animation and video documents can only be made to the first frame of the animation sequence.

17.11 Links in Sound Documents

Links cannot be made **from** sound documents.

Links **to** sound documents can only be made to the start of the sound sequence. The target sound document is identified by the Link Maker Filter.

- ➔ Right click on the **Filter Manager** icon  in the Task Bar and then on **Link Maker** in the pop-up menu to display the **Select a Document** window.
 - ➔ Select the document that is the target of the link
- The **End Link** window will appear. The document itself will not be displayed.
- ➔ Complete the link as usual.

18 Changing the Filter Chain

In this Chapter

- **Overview**
 - **Accessing Filters**
 - **Changing the Filter Chain**
 - ◆ **Adding Filters to the Chain**
 - ◆ **Removing Filter from the Chain**
 - ◆ **Reordering the Chain**
-

18.1 Filter Manager: Overview

Microcosm comes with a number of filters, most of which are included in the Filter Chain when Microcosm is initially installed. The **Filter Manager** can be used to move filters in and out of the Filter Chain as well as up and down the Filter Chain.

NOTE You should use the Microcosm Registry Editor to introduce completely new filters. This is described in the **System Administration Guide**.

Microcosm works by passing message along the Filter Chain. The ordering of the filters in the Filter Chain dictates how the system will behave since some filters are designed to act in response to messages that arrive from other filters earlier in the Filter Chain. If the filters are not sensibly ordered, Microcosm will behave in an unpredictable way. If all the Microcosm filters are included in the chain, the preferred order is shown below.

Filter	Position
<i>Link Maker</i>	This is the filter that creates links. It must be in front of any <i>Linkbase</i> filters or links will not saved in the linkbase.
<i>Selection</i>	Must be in front of any filter that makes use of text selection (i.e. <i>Computed Linker</i> , <i>Show Links</i> and <i>Link Maker</i>).
<i>Tour Engine</i>	Can appear anywhere in the Filter Chain
<i>Show Links</i>	Must be in front of the <i>Linkbase</i>
<i>Computed Linker</i>	Must be in front of <i>Results Box</i>
<i>User Linkbase</i>	Preferably in front of an <i>Application Linkbase</i> . Must be in front of <i>Results Box</i> .
<i>Application Linkbase</i>	Must be in front of <i>Results Box</i> .
<i>Results Box</i>	Must be after <i>Linkbases</i> and <i>Computed Linker</i> .

See the description of Filters and the Filter Chain in the **System Administration Guide** for more details.

The **Filter Manager** can be used to access individual filters and also to modify the Current Filter Chain during a Microcosm session.

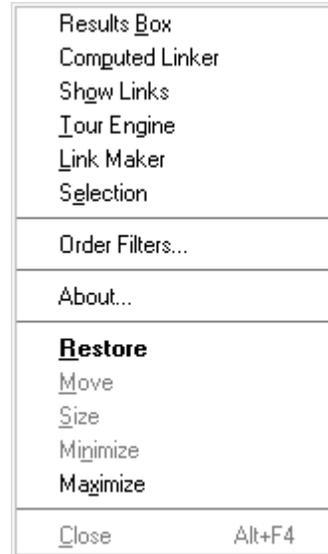
18.2 Filter Manager: Accessing the Filters

Use the Filter Manager to access the filters that are currently in the Filter Chain. Depending on the filter, you will be able to use and/or modify the way the filter works.

Either

→ Right click the Filter Manager icon  in the Task Bar.

*Filter Manager:
Changing the
Filter Options*



The top list in this pop-up menu show some of the filters that are in the filter chain. To access an individual filter:

→ Single click on the filter name in the pop-up menu.

Or

→ Click the Filter Manager icon  in the Task Bar. The Filter Manager window will appear.

*Filter Manager:
Accessing the
Filter Chain*



This window shows all the filters in the Filter Chain. The top of the list is the start of the chain.

NOTE If the Filter Manager window appears with two panes, showing both the list of Filters and the list of Available Filters, you can click on the **Manage <<<** button to make the window appear as shown above.

➔ To access a particular filter, double click on the name in the list.

Filter	Access
<i>Selection</i>	The Selection window is shown. See the Selection Filter.
<i>Link Maker</i>	The Select a Document window is shown. This is used to identify a target document of a link. See the Link Maker Filter.
<i>Tour Engine</i>	No response. Guided Tours have no options. See Following Guided Tours.
<i>Show Links</i>	The Options window for Show Links is shown. See the Show Links Filter.
<i>Computed Linker</i>	No response. If you wish to change the Compute Link options, see the Computed Links Filter.
<i>Results Box</i>	The Results window is shown. See the Results Filter.

To access the Filter options, in the Filter Manager window,

➔ Right click on the required filter.

*Filter Manager:
Accessing the
Options*



→ Left click on the required item in the pop-up menu.

18.3 Filter Manager: Changing the Filter Chain

The Filter Manager is used to modify the Filter Chain, both moving filters up and down the chain, and moving filters to and from the chain.

→ Right click the **Filter Manager** icon  in the Task Bar and then click on **Order Filters...** in the pop-up menu

or

→ Click the **Filter Manager** icon

The Filter Manager dialogue box will appear.

*Filter Manager:
Current Filter
Chain*



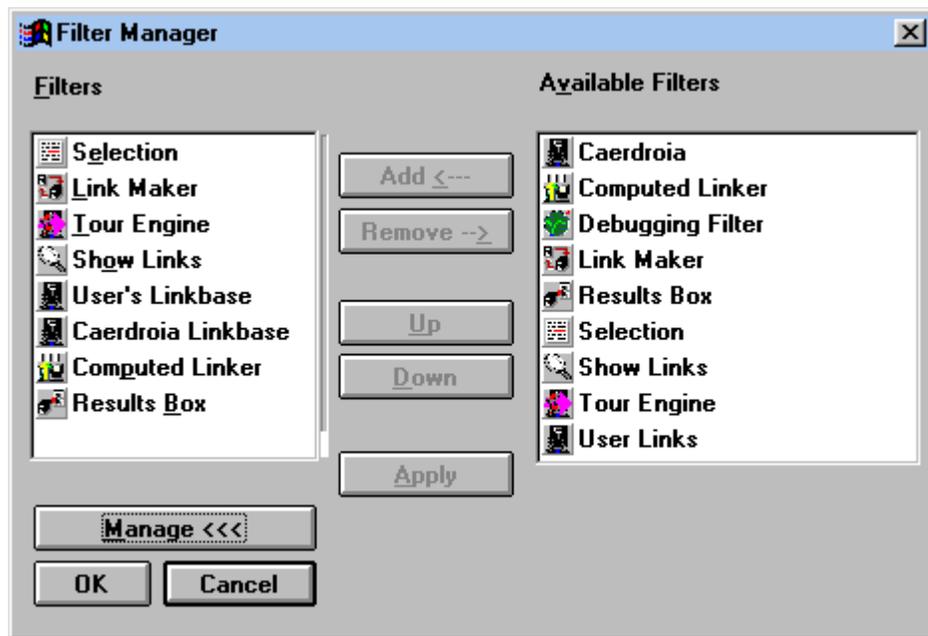
This dialogue shows the filters that are in the Filter Chain. The top of the list is the front of the chain.

NOTE If the Filter Manager window appears with two panes, showing both the list of Filters and the list of Available Filters, you can click on the **Manage <<<** button to make the window appear as shown above.

If you wish to make changes to the Filter Chain

➔ Click on **Manage>>>**

*Filter Manager:
Current Filter
Chain and
Available Filters*



Use the **Add <...** and **Remove ...>** buttons to move filters in and out of the chain.
Use **Up** and **Down** buttons to change the order of the chain.

Apply is used to change the Filter Chain but leave the Filter Manager window open.

OK is used to change the Filter Chain and close the Filter Manager window.

Manage<<< is used to close the right hand pane of the Filter Manager window.

The Filter Manager does not allow you to add completely new filters to the list of Available Filters. If you wish to do this you must use the *Microcosm Configuration Program* (in the **System Administration Guide**).

NOTE. The order of the filters in the filter chain, shown in the Filters (left hand) pane of the Filter Manager window, is crucial to the way in which Microcosm works. Only re-order the filters if you are aware of the effects of doing so. See the **Filter Manager: Overview** for more information.

18.3.1 Filter Manager: Adding Filters to the Filter Chain

To move a filter from the list of Available Filters to the Filter Chain

- ➔ Click the **Filter Manager** icon  in the Task Bar.
- ➔ Click on **Manage>>>**
- ➔ Select a filter in the list of Available Filters (in the right hand pane)
- ➔ In the list of Current filters (the left hand pane) click to select the filter **before** which the filter is to be added.
- ➔ Click on the **Add <---** button
- ➔ Click on **OK**

If no selection is made in the Current list, the added filter is placed at the end of the Current list (it will appear at the bottom of the Current list). Use **Up** and **Down** buttons to get the filter into the correct position. When the new Current list is correct, click on **OK**.

18.3.2 Filter Manager: Removing Filters from the Filter Chain

Filters can be removed from the Filter Chain.

- ➔ Click the **Filter Manager** icon  in the Task Bar.
- ➔ Click on **Manage>>>**
- ➔ Select a filter in the list of Filters (in the left hand pane)
- ➔ Click on the **Remove >--** button
- ➔ Click on **OK**

Filters that have been removed from the Filter Chain are still in the list of Available Filters. See the **System Administration Guide** on how to Define the Available Filters.

18.3.3 Filter Manager: Reordering the Filter Chain

Filters in the Filter Chain can be moved up or down the chain.

- ➔ Click the **Filter Manager** icon  in the Task Bar.
- ➔ Click on **Manage>>>**
- ➔ Select the filter to be moved from the list of Filters (in the left hand pane)
- ➔ Click on the **Up** or **Down** buttons to move the filter
- ➔ Click on **OK**

If the selected filter does not move, select an adjacent filter and move it in the opposite direction.

19 Editing Links

In this chapter

- **Link Editor Overview**
 - **Selecting Links to Edit**
 - ◆ **Selecting a Linkbase**
 - ◆ **Selecting the Type of Link to Edit**
 - ◆ **Selecting the Link Data to Display**
 - ◆ **Selecting the Linked Document**
 - ◆ **Refining the Selection**
 - ◆ **Select Links Window Features**
 - **Editing the Link Data**
 - ◆ **Edit Link Window Features**
-

Note All the controls in the Link Editor will give context sensitive help.
Select the required control and press F1 to get context sensitive help.

19.1 Link Editor Overview

Because Microcosm stores all its linking information in *linkbases* which are separate from the data to which the links refer, it is sometimes necessary to edit links.

For this reason, Microcosm provides a **Link Editor**, which enables you to update, change or remove any of the links stored in any linkbase.

Editing links is performed in two steps:

- Selecting a set of links to be edited
- Editing each of those links

Note You can select a link for editing by using the Text Viewer Action Menu or the Graphics Viewer Action Menu, or the Muliviewer Action Menu.

◆ Selecting Links to Edit

Selecting links to edit involves the following steps:

- Choose the linkbase which contains the links to be edited (the **Linkbase menu**)
- Optionally, choose a particular document containing the links to be edited (the Document menu). This restricts the number of links presented for possible editing.
- Choose which **Type of Link to Select** (e.g. Buttons or Generic Links) for editing
- Choose how the **Link Data should be Displayed** (e.g. by Link Description) for each link

The identified links are displayed in a scrollable box. And you can select links to be edited from this list. A number of different actions can then be performed:

Follow Link

The system displays the destination document. This will only happen if Microcosm is running

Edit Link

A second window is displayed which contains details of the link. Some of these details can be edited.

Delete Link

This will delete the link from the linkbase.

There is a Search menu that has functions to check that any documents referenced in the linkbase actually exist in the *Document Management System*, and that documents in the *Document Management System* actually exist in the Windows File System

◆ Editing Links

The Link Editing window has two modes of use - **Simple** and **Advanced**.

In the **Simple** mode, it is possible to:

- View the Source and Destination documents (only if Microcosm is running)
- Change the Link Type (e.g. from Button to Generic)
- Change the Link Action for buttons (e.g. from Follow Link to Show Links)
- Change the Link Description
- Update the link in the linkbase
- Delete the link completely

In the **Advanced** mode there are additional functions:

- Remove the Lost Link marker in a link
- Change the selection and offset of either the source or destination documents
- Fit the selection to the offset or the offset to the selection for links in documents which have been edited
- Change the destination document

This section of the User Guide has been written as a tutorial for using the Link Editor. If you have the Caerdroia application installed on your version of Microcosm (if you have you will see it in the list of Applications when you sign on to Microcosm) you can use this guide to practice editing a link.

◆ Preparation for Editing a Link

Start the Caerdroia application, logging in as the Application owner. Open the document *The Centre of the Labyrinth Leaflet* from the Introduction branch of the folder structure.

Create a button link anchored on the phrase *true labyrinth* in the first paragraph, and with *The labyrinth symbol* in the Articles/*The Labyrinth* branch as the destination document. Enter the Link Description *Example Link for Link Editor Tutorial*.

This link, which will have been placed in the application Linkbase (mazes), is the one used to demonstrate the features of the Link Editor.

19.2 Selecting Links to Edit

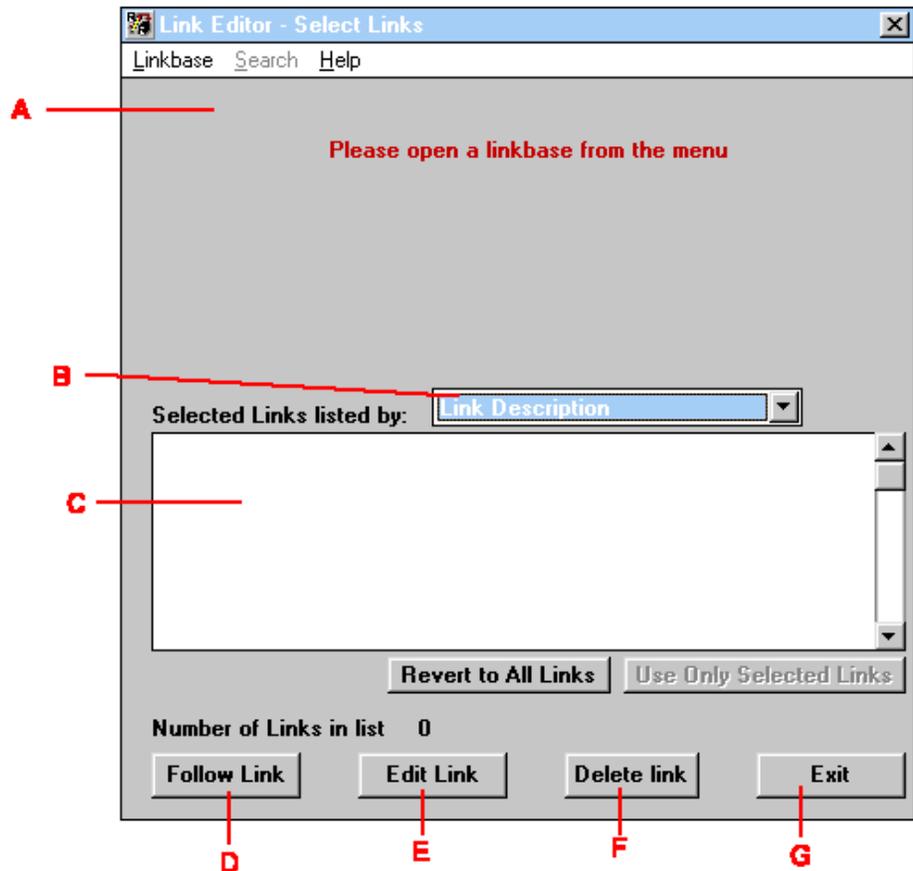
To start the Link Editor

➔ Single click on the Start button in the Task Bar and move the pointer to Programs and then to Microcosm Plus.

The menu of all Microcosm Plus components will pop-up.

➔ Single click on Link Editor .

Link Editor:
Link Selection
window



The **Select Links** window appears when the **Link Editor** is started. It is used to select those links to be edited.

A The name of the linkbase containing the links to be edited will appear in this region of the window.

B The *link data* to be displayed in **D**. Select one from the drop down menu.

C The links that are of the type chosen are listed here. Links to be edited must be chosen from this list.

D Click on this button to **Follow** the selected link to see the destination document.

E Click on this button to **Edit** the selected link.

F Click on this button to **Delete** the selected link.

G Click on the button to **Exit** from the Link Editor.

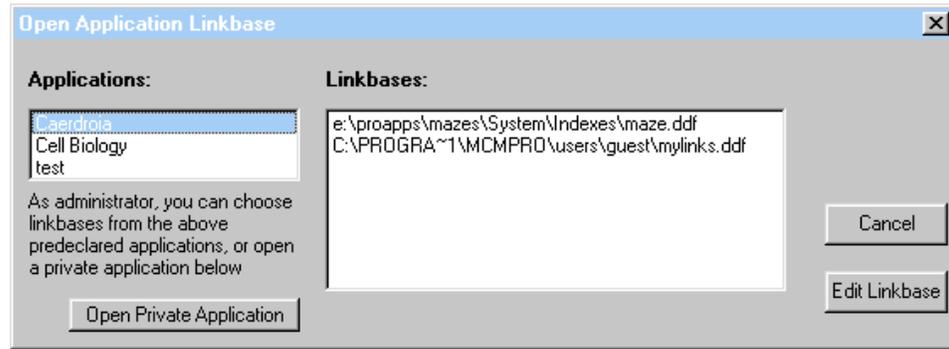
The *Link Editor* can only access one linkbase at a time.

19.2.1 Selecting a Linkbase

You can edit links in either an *Application* or a *Users Linkbase*.

➔ In order to edit links you must select a linkbase by pointing the Link Editor at the linkbase. You do this by choosing Open from the Linkbase menu.

Selecting a Linkbase to edit



- ➔ Select the application that you wish to work with (either from the list of applications or by pressing the **Open Private Application** button and pointing at an application registry file (.mcm) .

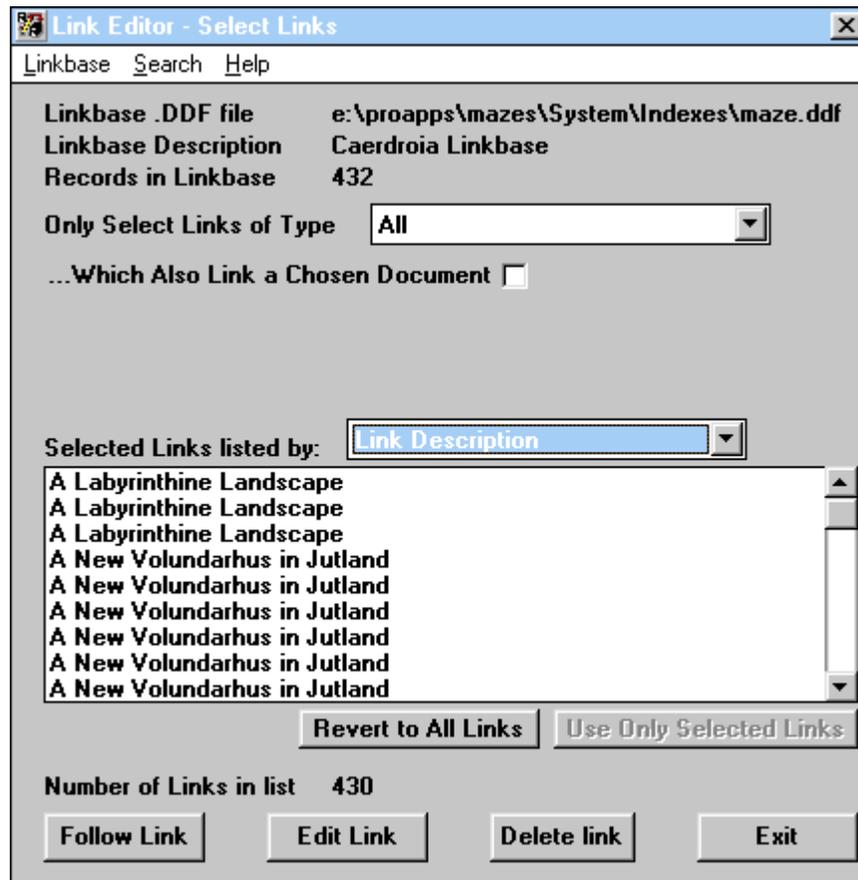
Note If you were already running an application at the time that you started the Link Editor, then this application will be the only application in the application list. If you logged on as a user, then the application linkbase(s) will be read-only. If you logged on as the application owner you will not be offered any user linkbases.

- ➔ Select the linkbase you wish to edit.

e.g. in this example the user selects

E:\Program Files\ProApps\mazes\Indexes\maze.ddf.

Link Selection window with All link types selected



When a linkbase has been chosen, some information concerning the linkbase will appear in the top of the editor window. Two new controls will appear, which enable one to refine the set of selected links.

When a Linkbase is first chosen, **All** the links for that Linkbase are shown. In this example there are 432 links in the Linkbase, all of which are in the list of Selected links.

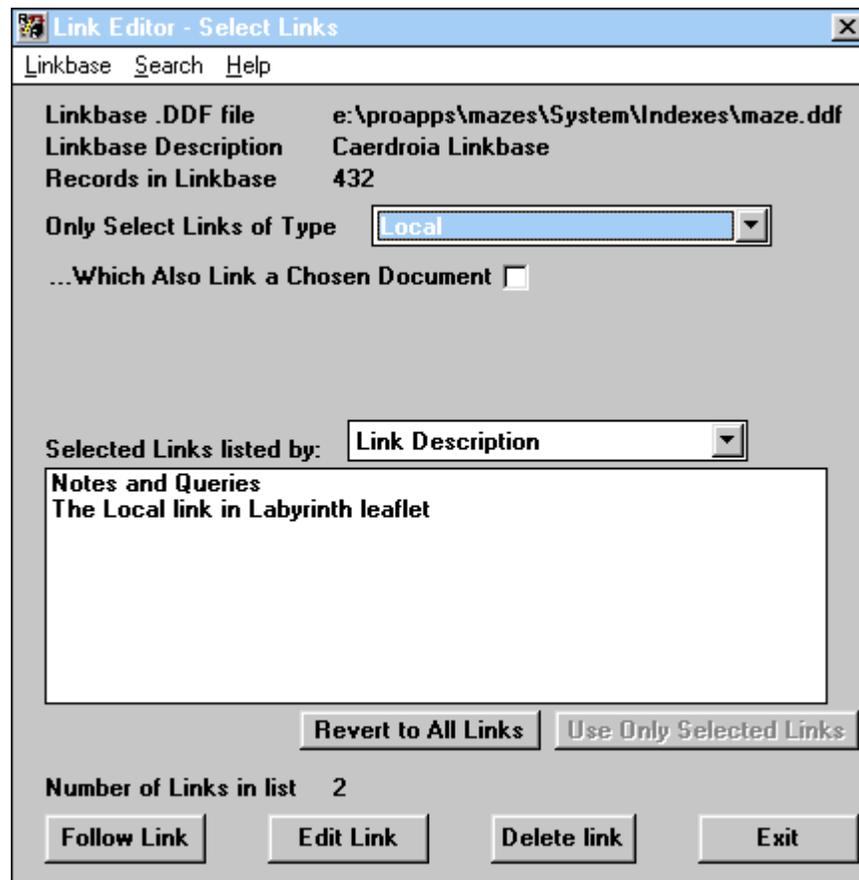
NOTE After the linkbase has been edited and if **All** links have been selected, there may be a difference between the Records in Linkbase (shown in the upper part of the window) and the Number of Links in list (shown below the list of Selected Links). This is due to the way in which the linkbase operates. If the difference is large, it may be best to compress the linkbase. See **Compress** in *Select Links Window Features*.

19.2.2 Selecting the Type of Link to Edit

You can select all the links in the linkbase or choose to see links of a particular type

→ Choose the type of link you wish to see from the drop-down menu labeled **Type of Links to Select**

Link Selection with linkbase and link type selected



In this example, **Local** was chosen from the drop down list. The two local links in the linkbase are shown in Selected Links.

The drop down list contains the following items:

Button, Specific, Local, Label or **Generic** will select only the links of that type.

All will display all the links in the linkbase

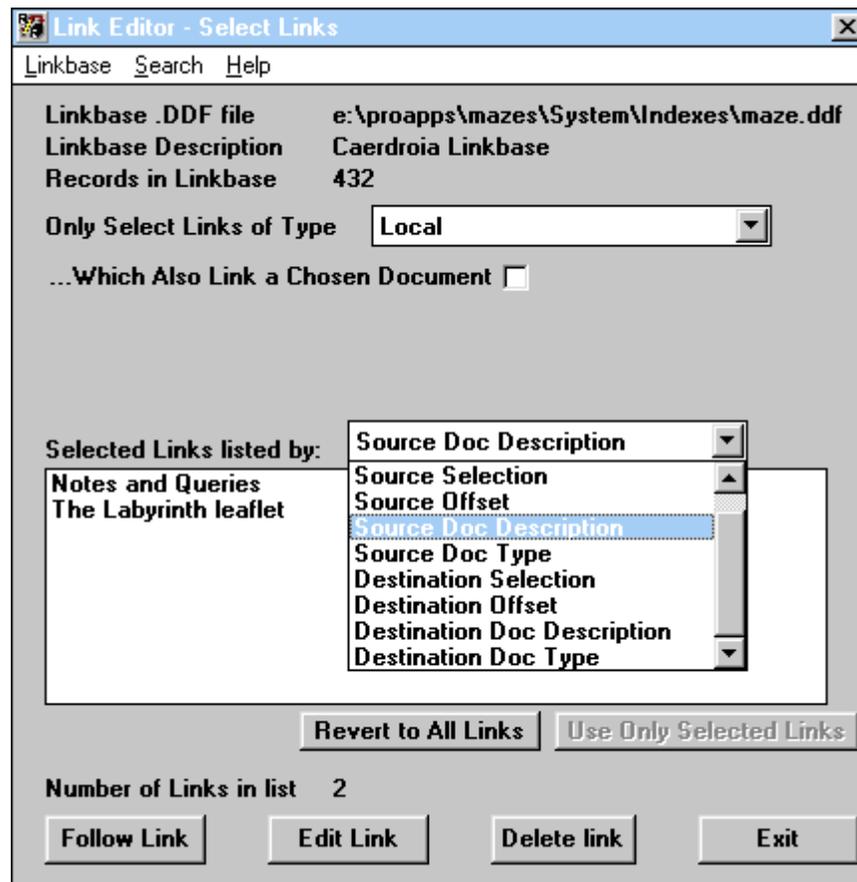
Lost Links are Buttons that cannot be positioned in a document. The Link Editor can be used to identify these links and then position the button correctly. See Lost Links in Creating Links.

19.2.3 Selecting the Link Data to Display

There are a number of ways in which links can be shown in the Selected Links list. The **Link Data Displayed** drop-down menu allows you to choose how the links are to be shown.

➔ Select an item from the drop-down menu labeled **Link Data Displayed**.

Link Selection window showing Source Document Description



In this example, the **Local** links are show by **Source Doc Description**.

Source Selection will display the text (or co-ordinate positions of the link anchor if the link is a button in a graphic) anchor of the link.

Source Offset will display the position in the document of the selection.

Source Doc Description will display the description of the document holding the anchor for the link.

Source Doc Type will display the Type of the document used to create the anchor.

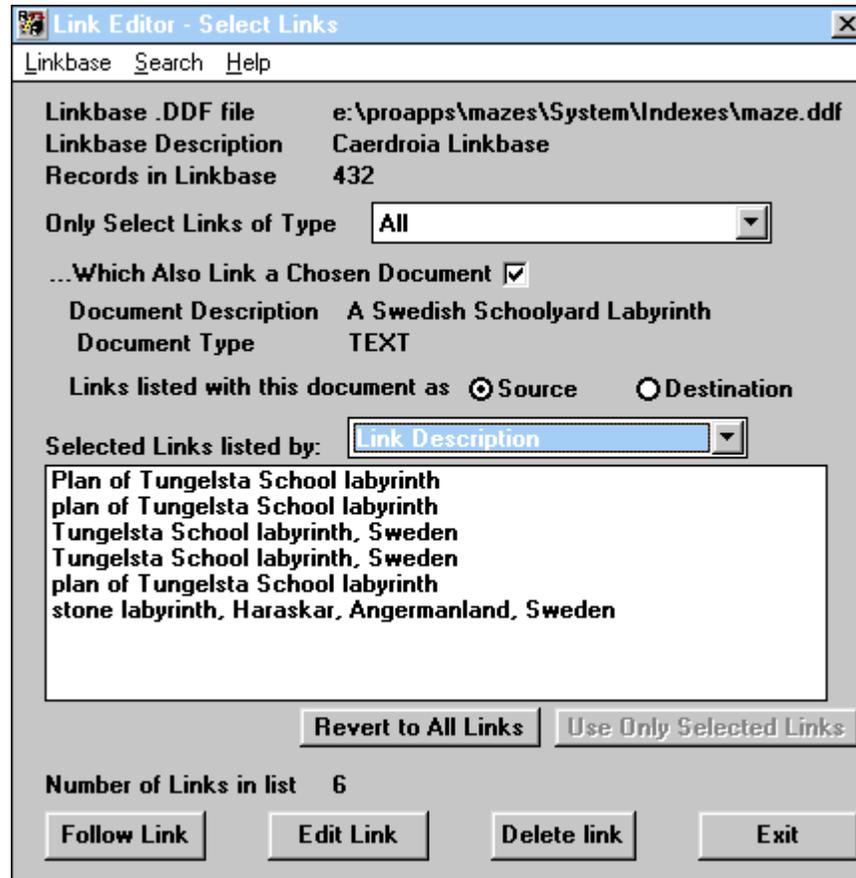
Destination link data is similar to the **Source** link data above.

19.2.4 Selecting the Linked Document

A very common requirement when editing links is to narrow the set of links you are working with down to only those which have anchors in a given document.

- ➔ Tick the Box labeled "Which Also link to a given document"
- ➔ A Select a Document Dialog will appear. Use it to browse to find the required document. In the example below the user has chosen the document with the description "A Swedish Schoolyard Labyrinth"
- ➔ Select the Source or Destination Radio Button. In the example below the user has selected Source.

*Selecting Links
with just one
document as their
source*



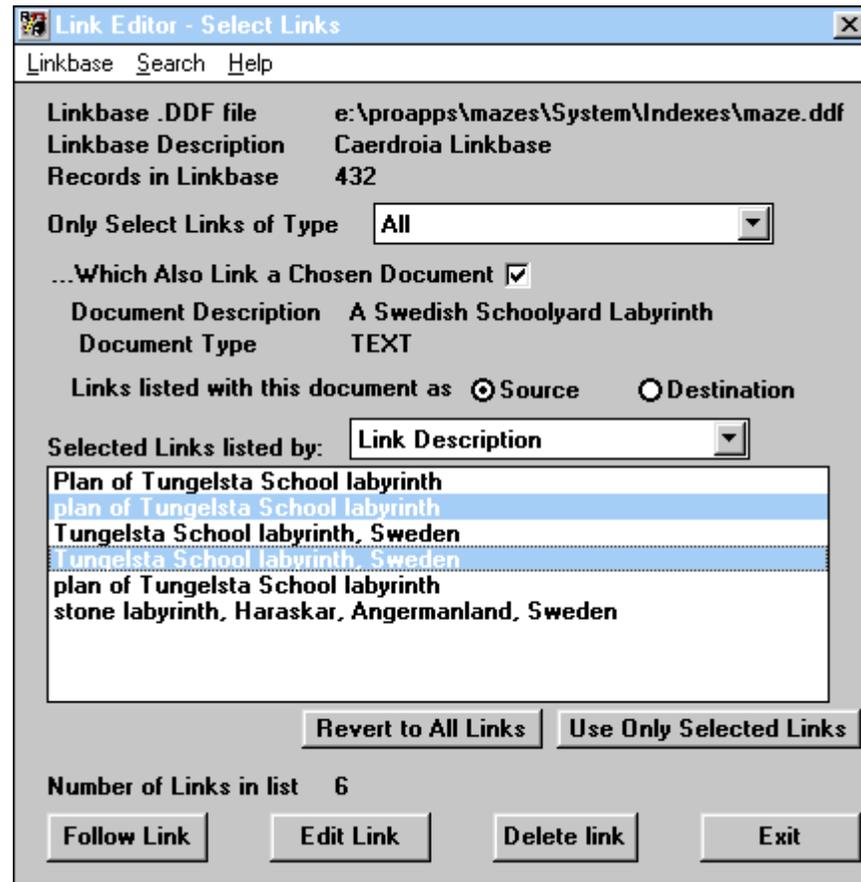
The list of links which now appears is just those which have their source anchor in the chosen document. You can swap between source and destination at any time.

19.2.5 Refining the Selection

Sometimes you may wish to work with a set of links that you have selected manually.

- ➔ Given any list of selected links, one at a time select the links you wish to work with, using the standard Windows conventions for multiple selection from a list. (Click on the first one. Shift-Click will then extend the selection down to the new click, or Ctrl-Click will select another one)

Selecting Individual links to work with



- ➔ Press the button labeled “Use Only Selected Links”. The list of selected links will alter to consist only of the selected links (in the above example only two links will now be in the list).

19.2.6 Select Links Window Features

The Select Links window of the Link Editor has the following menus and buttons.

◆ Linkbase Menu

Open...

The **Open...** option enables you to select a linkbase file to edit. See **Selecting a linkbase**.

Import

This option allows the user to import (copy) all the links from any linkbase on the file system into the current working linkbase. The user is offered a file dialog with which to point at a linkbase (* .raw) file somewhere on the file system.

Export

This option allows the user to export (copy) all the links that are in the current selection list into a new linkbase file. You will be offered a file dialog with which to select the position and name of the new linkbase file.

Moving links can be achieved by copying the links then deleting them from the selection list.

Compress

The **Link Editor** does not remove links entirely from the linkbase when you delete them. Instead it marks them as deleted. In addition when you edit a link, the original version is marked as deleted and a copy is made with the changes included. **Compress** removes completely all links marked as deleted from the linkbase. If you have a large linkbase, this process will take some time. The process will not start if Microcosm is running.

Exit

Exit closes the **Link Editor**.

◆ Search Menu

Use the **search** menu to verify that documents referenced in links do actually exist in the **Document Management System (DMS)** (i.e. verify that they have, in fact, been imported into Microcosm and a record of the document does exist in the **DMS**) and that all documents in the **DMS** have a corresponding file in the Windows File System.

The search for missing documents or files is performed against the list of selected links:

Missing in Document Management System

Each document in the list of Selected Links is identified in the **DMS**. If a document does not have a record in the **DMS** then that link in the **Selected Links** list is highlighted. Notice that the missing record can be either the Source or Destination document.

Missing in File System

Each document in the list of Selected Links is located in the Windows File System. If a document does not have a corresponding file, then the link in the **Selected Links** list is highlighted. Notice that the missing file can be either the Source or Destination document.

Since the **Link Editor** must interrogate the **DMS** in order to find the file name of the document, it is recommended that the **DMS** is checked for missing documents before the Windows File System is checked for missing files.

◆ Only Select Links of Type Pull Down List

Only links of the given type (Button, Specific, Local, Generic, Label, Lost or All) will be displayed. All means all the links in the linkbase. Lost links are ones where the source anchor for the button has disappeared (probably due to editing). Changing this value will cancel any previous refinements of the Selected Links list.

◆ **Which Also Link a Chosen Document Check Box**

This check box allows the user to refine the set of Selected Links to only those with anchors in a particular document. When checked, a *Select a Document* Dialog will appear. Use it to browse to find the required document then select either the *Source* or *Destination* Radio Button.

◆ **Selected Links Listed By Pull Down List**

This pull down allows you the user to define which field of the Selected Links list will be displayed. By default it will be *Link Description*, (which will often be the same as the *Destination Document Description*). Changing this value will not change the set of links in the Selected Links list.

◆ **Selected Links List Box**

This is the Set of links which you are currently working on. You can alter this list using the *Only Select Links of Type* Pull Down List, the *Which Also Link a Chosen Document* Check Box, and by making manual selections from this list and pressing the *Use Only Selected Links* Button. In the *Edit links* window you will be able to move back and forward through this list using the **Next** and **Previous** buttons.

◆ **Use Only Selected Links Button**

When this button is pressed, the list of selected links will be refined to only those links which have been manually selected. Links may be selected using the standard Windows conventions for multiple selection from a list. (*Click* on the first one. *Shift-Click* will then extend the selection down to the new click, or *Ctrl-Click* will select another one). This button may be used repeatedly to refine the set of links in the Selected Links list.

All further actions will apply to only the links in the Selected Links list. To return to working with all the links in the linkbase, or to start a new refinement, press the "Use All Links" button.

◆ **Revert to All Links Button**

Press this button to cancel any selections that have been made to refine the set of Selected Links, so that you can see all the links in the linkbase again, and start a new refinement.

◆ **Follow Link Button**

Choose **Follow Link** to see the destination document of the selected link. Microcosm must be running for this to work. There must only be one link selected.

◆ **Edit Link Button**

Choose **Edit Link** to move into Edit Link Screen with selected link as the current link. There must only be one link selected. Within the Edit Link screen you will then be able to move back and forward through the remainder of the Selected Links list.

◆ **Delete Link Button**

Choose **Delete Link** to remove the link or links from the linkbase. Multiple selections may be made using the standard Windows conventions for multiple

selection from a list. (*Click* on the first one. *Shift-Click* will then extend the selection down to the new click, or *Ctrl-Click* will select another one).

◆ **Exit Button**

This button will close the link editor. The user will be asked to confirm that this was intended.

19.3 Editing the Link Data

To edit a link:

➔ In the Select Links window, click on the link that you wish to change.

➔ Click on **Edit Link**. The Edit Link window will appear:

The **Link Edit** window is where you can make changes to the link.

*Link Editor:
Link Edit window
(simple mode)*

In this example, the button from the document *Caerdroia 25 Contents* has been selected. The Link Description is *The State of the Art of the Maze*. The offset of the button is 377.

If you are working through the *Caerdroia* example, you can change the link to a generic link, and to give it an different description.

You can change the **Link Type**

➔ Select **Generic** from the **Link Type** drop-down menu. You will notice that the **Link Action** field changes from *FOLLOW.LINK* to blank.

You can change the **Link Description**.

➔ Select the text in the **Link Description** text field.

→ Replace the existing description with `My link to the Article by Adrian Fisher`

Using the other drop down menus and/or changing the text in the text fields you can make other changes to the link. However, in this case, you can now update the link

→ Click on the button labeled **Update Link**.

→ To close the Edit Link window, click on the button labeled **Exit**.

The link is now generic with a new description.

→ Click on the button labeled **Exit** to close the **Link Editor**.

If you are working through the Caerdroia example, you can now test your changed link by opening the **Selection** filter:

→ Type `true labyrinth` in the **Selection** filter, and choose **Follow Link**. The target document of the link, the picture of the labyrinth symbol will appear.

The Link Editor Window allows you many more features than this, which are described in the section in Edit Link Window Features.

19.3.1 Edit Link Window Features

The **Link Edit** window appears when one or more links have been selected in the **Link Selection** window and **Edit Link** has been chosen. The window can be used to change some of the information contained in a link.

◆ **Link Menu**

Next Link/Previous Link

Next and **Previous** can be used to move up and down the list of the selected links.

Update Link

All modifications to the link data are temporary until **Update Link** is clicked.

Delete Link

This option will delete the link currently being edited.

◆ **Edit Menu**

Undo Last Update

There is a ‘one level’ undo function—after the link has been updated choose **Undo Last Update** from the **Edit** menu to remove the last update from the linkbase and replace the original data.

Cut/Copy/Paste

These are the usual Windows functions which allow data in the editable fields to be moved to and from the clipboard.

◆ Options

There are two ‘modes’ of operation. The **Options** menu in the menu bar allows either, Simple and Advanced mode. The **Link Edit** window always starts in Simple mode.

Simple

The **Link Edit** window always starts in Simple mode. The user is confined to editing only the link *Type*, the link *Description* and the link *Action*. The user can also View the endpoints of a link to ensure that the link is correctly constructed.

or:

Advanced

This mode gives access to the more complex editing operations and should only be used by those who have a more advanced understanding of the way in which Microcosm links are constructed. In the mode the user can not only edit the link Type, Description and Action, but can also edit the anchors of the link (the source and destination points) and can change the destination document of a link.

*Link Editing:
Advanced Mode
Options*

Link Editor - Edit Link

Link Edit Options Help

Link Type
Button

Link Action
FOLLOW.LINK

Link Description
Babylonian clay tablet

Source Document

Description The Babylonian Labyrinth

Real Selection clay tablet

Selection clay tablet

Offset 326 TEXT View

Fit Selection to Offset Fit Offset to Selection

Destination Document

Description Babylonian clay tablet

Selection 50,120,50,120

Offset BITMAP View

Fit Selection to Offset Fit Offset to Selection

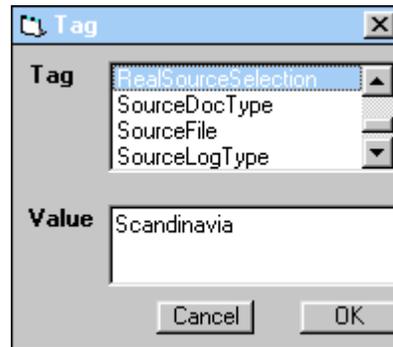
Select New Destination Document

Previous Link Next Link Update Link Delete Link OK

All Tags

This option gives the user access to all the fields (tags) stored in a link. The user can directly edit any value.

Link Editing: All Tags



In this example the user has selected the tag `RealSourceSelection`. The user could now directly edit the value. The link editor will then create a new link with the new value, and will not delete the old link.

Note Editing the values directly like this is likely to create bad links unless the user has a clear understanding of the meaning of the tag values.

◆ Link Type

The **Link Type** box contains the current type of the link being edited. Clicking on the down arrow will drop down a list of alternative link types which can be chosen.

◆ Link Action

The **Link Action** box will show data only when the **Link Type** is a Button. Clicking on the down arrow will drop down a list of alternative button actions. By default, the **Link Action** is Follow Link.

◆ Lost Links (Advanced mode only)

A Lost Link occurs when a viewer attempts to match a link in the linkbase with the relevant document and cannot identify the source anchor of the link. When this occurs, the link in the linkbase is marked as 'lost' and the **Lost Link** button is shown. Clicking on the **Lost Link** button will remove the Lost Link marker.

NOTE. It is important that, if the link is marked as lost, and the marker is removed, the data causing the problem is modified. This probably means modifying the Real Source Selection and the corresponding Source Offset.

◆ Link Description

The **Link Description** can be modified by clicking on the Link Description box and modifying the data from the keyboard.

By default, when the link is created, the **Link Description** is set to be the same as the description of the destination document. However, by a careful choice of a description considerable information can be given to the user to aid navigation.

◆ **Link Edit Window: Source Document Attributes**

Selection

This data can be modified only when Link Edit is in Advanced mode.

For a Text document, the Selection is **either** a modified version of the text that was selected in the Source Document **or** if a graphic object was selected as the anchor, a picture marker usually in the form {metafile nnn}. The modified data is the 'normalised' version of the Real Source Selection (see Real Source Selection for a full description).

For a Graphic document, which includes Bitmaps, Video clips and Sequences, the selection is the set of co-ordinates of the vertices of the selected area.

Real Source Selection (seen in Advanced mode only).

The **Real Source Selection** is only critically important for those links that are Buttons. The **Real Source Selection** is the text that was actually selected in the document when the link was created and is used by the viewer (together with the **Source Offset** of the **Real Source Selection**) to identify and colour the button when the document is displayed.

NOTE. If the text in the document at the Offset specified in the link does not match the **Real Source Selection** in the link, then the link can become a Lost Link. The text viewer will make every attempt to locate the new position of the **Real Source Selection**. If it cannot do so, the link will be marked as Lost.

This data can be changed, but care must be taken to ensure that the modified Real Source Selection does actually exist in the document. The **View** buttons can be used to see the actual contents of the document. In other types of link, the **Real Source Selection** is maintained but is only used to generate a 'normalised' Source Selection. If the **Real Source Selection** is modified, the normalised version of the new data is placed in **Source Selection**. The **Advanced** Option has processes to aid in keeping the Selections and Offsets in synchronisation (**Fit Selection to Offset** and **Fit Offset to Selection**). Normalisation is achieved by reducing all characters in the **Real Source Selection** to lower case and then removing a characters such as , (comma), ;(semicolon) and . (full stop).

There can be **Real Source Selections** for documents of types other than those containing text. For instance, bitmaps of various types (.BMP and .JPG) can have buttons, the locations of which are a string of co-ordinates held in the **Real Source Selections** and a copy in the **Source Selection**. It is possible to modify the position of the buttons by changing the values of the co-ordinates.

Offset

This is the offset of the Real Source Selection (and of course the corresponding normalised Source Selection) in the document. If the link is a Button and there is a

mismatch between the **Real Source Selection** and the **Source Offset**, the button will not be located. If the link is Specific, then it will not be possible to follow the link. In both cases, the link will become Lost. The **Advanced** Option has processes to aid in keeping the Selections and Offsets in Synchronisation (**Fit Selection to Offset** and **Fit Offset to Selection**).

View

Clicking on the **View** button will cause the Editor to send a message to Microcosm to display the Source document.

NOTE Microcosm must be running for **View** to work.

Fit Selection to Offset (seen in Advanced mode only)

In order to make the process of ensuring a correspondence between the **Offset** and the corresponding text in the document (i.e. the Selection), clicking on the **Fit Offset to Selection** button will cause the *Link Editor* to use the text in the document at the specified Offset as the Selection.

The Selection is from the Offset position to the next blank or end of the document. Since the document is a Source Document, the identified text is treated as the Real Source Selection and a normalised version is used as the Source Selection. This function is only available for those documents containing text (i.e. documents of the TEXT and WP types).

Fit Offset to Selection (seen in Advanced mode only)

Clicking on the **Fit Selection to Offset** button will cause the *Link Editor* to scan the text in the document looking for the currently specified Real Source Selection. When this is found, the Offset is set to the position of the text. If the Selection is not found in the document a message is displayed.

This function is only available for those documents containing text (i.e. documents of the TEXT and WP types).

NOTE There may be more than one occurrence of the Selection in the document and the scanning process may encounter the wrong one. It is important to verify that the correct piece of text has been identified:
Use the **View** button to see the document.

◆ **Destination Document Attributes**

Selection

This data can be modified only when *Link Editor* is used in **Advanced** mode. For a Graphic document the selection is the set of co-ordinates of the vertices of the selected area. In many cases, the link will have been created with no Destination Selection.

Offset

This data can be modified only when *Link Editor* is used in **Advanced** mode. For text documents, the Offset is the location of the Destination Selection in the Destination Document.

View

Clicking on the **View** button will cause the Editor to send a message to Microcosm to display the Destination document.

NOTE Microcosm must be running for **View** to work

Fit Selection to Offset (seen in Advanced mode only)

Clicking on the **Fit Offset to Selection** button will cause the *Link Editor* to use the text in the Destination Document at the specified Offset as the Selection.

The Selection is from the Offset position to the next blank or end of the document. This function is only available for those documents containing text (*i.e.* documents of the TEXT and WP types).

Fit Offset to Selection (Advanced mode only)

Clicking on the **Fit Selection to Offset** button will cause the *Link Editor* to scan the text in the Destination Document looking for the currently specified Selection. When this is found, the Offset is set to the position of the text. If the Selection is not found in the document a message is displayed.

This function is only available for those documents containing text (*i.e.* documents of the TEXT and WP types).

NOTE There may be more than one occurrence of the Selection in the document and the scanning process may encounter the wrong one. It is important to verify that the correct piece of text has been identified: Use the **View** button to see the document.

Select New Destination Document (seen in Advanced mode only)

This advanced function is used to change the destination document of the link. The new document is identified by choosing a document in the *Select a Document* window.

◆ Other Buttons

Next Link

If a number of links have been selected for editing in the *Link Selection* window, **Next Link** steps through them in sequence. When there are no more links to process, the **Next Link** button is greyed out.

Previous Link

If a number of links have been chosen for editing in the *Link Selection* window, **Previous Link** steps through them in reverse order. When the first link is being processed, the **Previous Link** button is greyed out.

Update Link

Update Link actually updates the linkbase with the modifications that have been made. You can use the **Edit.Undo Last Update** menu item to remove the update. Undo only goes back one level.

Delete Link

Delete Link will delete the link being edited from the linkbase.

Exit

This will close the *Link Edit* window.

20 Creating Complex Documents

In this chapter

- **Creating Guided Tours**

- ◆ **Creating Tours from a History List**
- ◆ **The Guided Tour Scripting Language**
- ◆ **Form-Based Creation & Editing of Guided Tours**
 - Creating a New Guided Tour
 - Editing an Existing Guided Tour

- **Creating Animations**

- Creating the Individual Frames
 - Defining the Sequence of Frames
-

20.1 Creating Guided Tours

There are three ways to create a **Guided Tour**. You can:

- use a saved **History**,
- design the Guided Tour using a *simple scripting language*
- create one using a *form based tool*.

The Guided Tour is a .mmc file that has been imported into the Microcosm **Document Management System**. The Tour Generator (MIMGEN.EXE) provides facilities to convert history files (.hst) and ASCII files containing the scripting language (.mpl) into Guided Tours (and back again) while the form based tool creates such files directly. The form based tool allows you to edit existing Guided Tours, and ASCII files may be edited using any text editor such as Notepad.

To start the Tour Generator

➔ Single click on the Start button in the Task Bar and move the pointer to Programs and then to Microcosm Plus.

The menu of all Microcosm Plus components will pop-up.

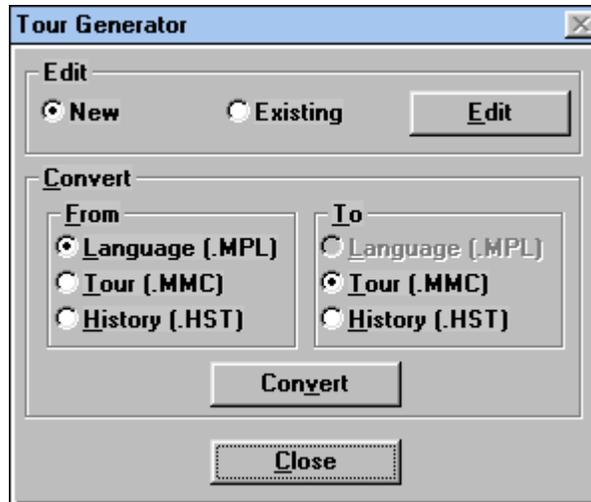
➔ Single click on Tour Generator.

*The list of
Microcosm Plus
components*



The Tour Generator icon will appear in the Task Bar.

➔ Click on the Tour Generator in the Task Bar.



The **Edit** section of this window enables you to create a new tour using the scripting language or changing an existing tour that has already been imported into Microcosm.

The **Convert** section allows you to convert existing data (e.g. a History List) into another form (e.g. a Tour).

20.1.1 Creating Tours from a History

This is, perhaps, the easiest way to create a Guided Tour. The first stage is to create a suitable History list.

- Use the Results Filter to clear the History Session.
- View all the documents you wish to appear in the Guided Tour by opening and closing them in the order that you wish them to be opened and closed in the Guided Tour.
- Use the Results Filter to save the History Session.
- Give the history list a suitable file name, using the `.hst` file extension.

The next stage is to create the Guided Tour from the History list.

- Click on the **Tour Generator**  in the Microcosm Plus group.

The **Tour Generator** icon will appear in the Task Bar..

- Click the **Tour Generator** icon.
- Select the **History (.hst)** radio button in the **From** section and **Tour (.mmc)** in the **To** section, and press the **Convert** button.
- Select the History list you have just created and press **OK**.
- A **Save File As...** dialogue window will appear. Choose a filename for your Tour (with a `.mmc` extension) and press **OK**.

The Tour is now complete. If you want to change the appearance or behaviour of the Tour, see the section below on **Form Based Creation and Editing of Tours**.

NOTE Before your Guided Tour can be used it must be imported into the **Document Management System**.

20.1.2 The Guided Tour Scripting Language

A more flexible way of producing Guided Tours is to use the scripting language to produce a language file (.mpl) which can then be converted to a Guided Tour using the **Tour Generator** in exactly the same way as converting a History List.

Language files are produced using a plain ASCII file editor such as Notepad. This section describes the syntax of the language.

Each document in the Tour has its own section and these are all linked by a section which tells the generator the order in which to use the predefined documents and a description for the Tour to be generated.

As well as these two basic sections within the scripting language file there is also a default document section, this can be used to reduce the overall length of the language file. This section has the same structure as a document section but it is used when the user misses out parts of a document section. For example if every document in the Tour is a TEXT document then this information can be placed in the default section and does not need to be included in each of the document sections. If there are documents that are not TEXT then simply including their document type will override the default definition.

An example of a language file is shown below.

```
[default]
doctype=TEXT
operand=open
next=user
state=lock
after=leave
offset=0

[node1]
description=Cell biology introduction
document=600.04.02.92.16.39.18
.
.
.
[nodeN]
description=The last document in this MIMIC
document=600.04.02.92.16.38.29
after=autoclose
offset= 123

[mimic1]
description=MIMIC 1: Ciliary Movement
nodes=node1, node2, node3, node4, node5, node6, node7, node8,
....., nodeN
```

The section headings are:

- [default]
the default information for any missing document information

- [nodeN]
where N is the document number from 1...number of document
- [mimic1]
the section containing the document order and Guided Tour description

NOTE Defining .mpl files requires that you know the unique ID (from the **Document Management System**) for each document you want to include.

The keywords for the [default] or [nodeN] sections are as follows:

description Any string which describes this stage of the Guided Tour

document the unique ID for the document concerned

doctype the physical document type of the document concerned

operand open | close | change

open Open the document concerned

close Close the document concerned

change Change the document concerned so that it is now locked or unlocked

next user | clock | system | clockpause | systempause | clockuser | systemuser

user Wait for the user to press the 'next' button before continuing.

clock Wait for a set amount of time before continuing

system Wait until the current document has been fully presented to the user

clockpause The same as the clock type but the user can pause the Tour

systempause The same as the system type but the user can pause the Tour

clockuser The same as the clock type but the user can make the Tour continue before the set time period is over

systemuser The same as the system type but the user can make the Tour continue before the document has been viewed

state lock | unlock

lock Present the document concerned in a locked viewer

unlock Present the document concerned in an unlocked viewer

after leave | autoclose

leave Leave the document concerned on the desktop when the Tour progresses

autoclose Close the document concerned when the Tour progresses

offset the offset at which the document concerned should be opened

The keywords for the [mimic1] section are as follows.

description Any string which describes the Tour

nodes node(N) , node(N+1) , ...node(M)

20.1.3 Form-Based Creation & Editing of Guided Tours

Form-based creation allows you to use a dialogue box to create a tour.

◆ Creating a New Guided Tour

→ Click on the Tour Generator entry  in the Microcosm Plus group.

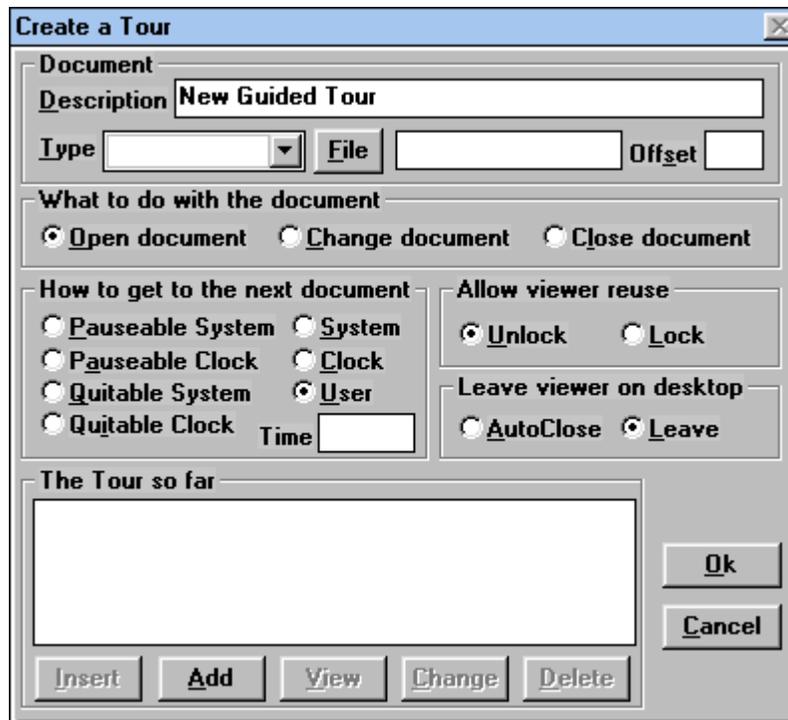
The Tour Generator icon will appear in the Task Bar.

→ Click on this icon.

→ Within the **Edit** section of the **Tour Generator** window, click on the **New** radio button, then click on **Edit**. The Windows Save As dialogue box will appear.

→ Specify the name of the new Tour file to be created. The Create a Tour dialogue will appear, in which you can specify the elements of your Guided Tour. All of the functions described above in the scripting language are mirrored by features this window.

*Guided Tour
Creation window*



→ Type a description for your Tour in the **Description** field. Now click on **Add** at the bottom of the window.

Now you can start to add documents to your Tour:

→ Click on the **File** button. The **Select a Document** window will appear from which you can choose the document you wish to appear next in the Tour. Select

the document you want, and click on **OK**. The Unique ID for that document should appear in the **File** field of the window.

- ➔ Choose the appropriate physical document type for this document from the drop-down menu labeled **Type**.

The radio buttons in the **What to do with the document**, **How to get to the next document**, **Allow viewer reuse** and **Leave viewer on desktop** sections correspond exactly to the elements of the scripting language described above.

- ➔ Set the radio buttons to reflect the desired behavior for this stage of the Tour.
- ➔ Click on **Add** to add this document to the Tour.
- ➔ Continue adding documents to the Tour until it is complete.
- ➔ Click on **OK** to close the window.

The Tour can now be viewed in Microcosm as soon as it has been registered with the **Document Management System**.

◆ **Editing an Existing Guided Tour**

- ➔ Within the **Edit** section of the **Tour Generator** window, click on the **Existing** radio button, then click on **Edit**. The **Select a Document** window will appear from which you can choose the Tour you wish to edit.

Once you have selected the Tour, the **Tour Creation** window will appear, with all the information for your Tour filled in.

- ➔ To edit elements within the tour, click on the document in the **Tour so far** list at the bottom of the window, then specify the changes to this document in exactly the same way as you did when you first created the Tour. When all the changes have been made, click on **Change**.
- ➔ To change the order of documents within the Tour, click on the document you want to move in the **Tour so far** list, then click at the position to which you want to move it.
- ➔ Click on **OK** when all the changes have been made to close the window.

20.2 Creating Animations

Animations consist of a sequence of Bitmap files in much the same way as a traditional cartoon is created—*i.e.* they are drawn at a rate which gives the appearance of movement. As a result of this, they are very simple to create. There are two stages to creating an animation.

- Create the individual frames
- Define the sequence of frames

◆ **Creating the Individual Frames**

The individual frames can be created using any suitable drawing package that will produce bitmap (Windows .BMP format) or JPEG files. Once the sequence has been created, each frame must be imported into the **DMS**.

- ➔ Create a branch in the folder structure in which to store the animation frames (see Add Folder or Select a Document)
- ➔ Import the individual frames into the **DMS**. There is no need to give the frames descriptions other than the default descriptions which are assigned automatically, although you may if you wish.

◆ **Defining the Sequence of Frames**

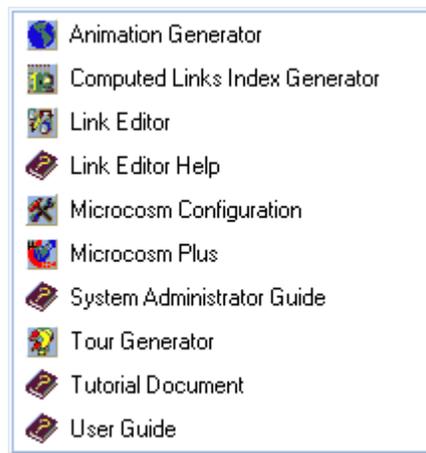
An animation sequence is defined by an .ani file, which you create using the **Animation Generator**.

To start the Animation Generator

- ➔ Single click on the Start button in the Task Bar and move the pointer to Programs and then to Microcosm Plus.

The menu of all Microcosm Plus components will pop-up.

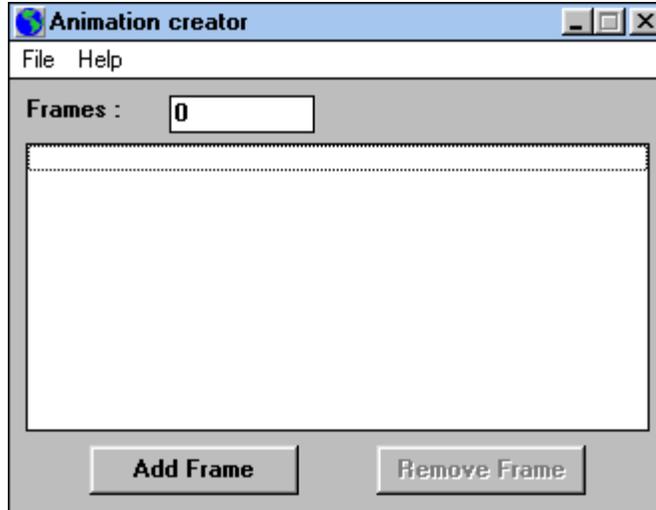
*The list of
Microcosm Plus
components*



- ➔ Single click on Animation Generator .

The **Animation Generator** window will appear.

Animation Creator window

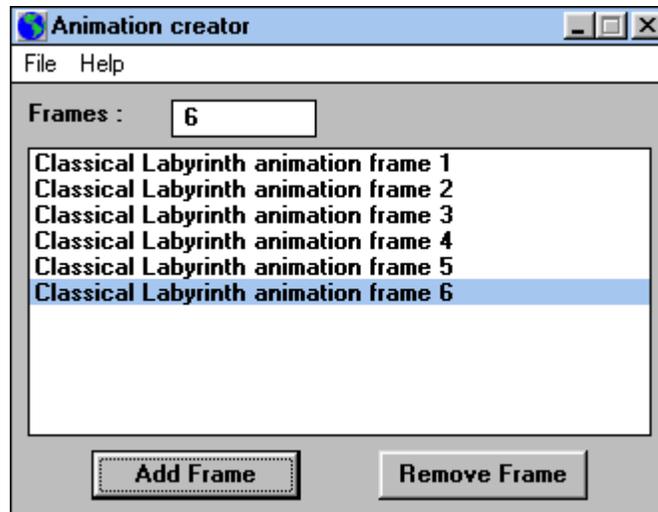


→ Click on the **Add Frame** button, and the **Select a Document** window will appear. Select the first frame for your animation, click on **OK**. The description for the frame will appear in the list of frames in the **Animation Generator** window. The frame count will increase by 1 to reflect the number of frames in the list.

→ Continue to add frames in this way until the sequence is complete.

For instance, after adding six frames the dialogue could look like this.

Animation Creator window with added frames



→ Choose **Save As** from the **File** menu to save the .ani file.

→ Import the .ani file into the **DMS**.

A Frame can be removed from the sequence by selecting it in the list of frames and clicking on the **Remove Frame** button. The frame will be removed and the frame count updated to reflect the new number of frames in the sequence.

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