Volume 2

# Hyperwave User's Guide

Hyperwave Information Server

Version 4.1



**HYPERWAVE SERVER GUIDES** 

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## Hyperwave User's Guide

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## **TABLE OF CONTENTS**

| Introd  | uction  | . 1 |
|---------|---|-----|
| 1       | Architectural Concepts                              | . 2 |
| 1.1     | Static and Dynamic Architectures                    | 2   |
| . 1.1.1 | Static Structure                                    | 2   |
| . 1.1.2 | Dynamic Structure Helps                             | 3   |
| . 1.1.3 | More Container Classes                              | . 5 |
| . 1.1.4 | Separate Information and Presentation               | 8   |
| 1.2     | Metadata and Searching                              | 9   |
| . 1.2.1 | Documents, Objects, Attributes                      | 9   |
| . 1.2.2 | Search Capabilities                                 | 10  |
| . 1.2.3 | Stored Queries and Notifications                    | 12  |
| 1.3     | Link Management                                     | 14  |
| 1.4     | Customized Views                                    | 15  |
| . 1.4.1 | Highly Configurable User Interface                  | 15  |
| . 1.4.2 | Personal Collections and Agents                     | 16  |
| 1.5     | Collaborative Authoring                             | 18  |
| . 1.5.1 | Authoring Capabilities                              | 18  |
| . 1.5.2 | Document Management Functions                       | 20  |
| . 1.5.3 | Groupware Functions                                 | 20  |
| 1.6     | Security  | 21  |
| . 1.6.1 | Fine-Grained Access Control                         | 21  |
| . 1.6.2 | User and Group Management                           | 22  |
| . 1.6.3 | Directory Services                                  | 23  |
| . 1.6.4 | Encryption  | 23  |
| 2       | Getting Started with Hyperwave Information Server   | 25  |
| 2.1     | Viewing Information in Hyperwave                    | 25  |
| 2.2     | "View" Mode   | 27  |
| . 2.2.1 | Search  | 28  |
| •       | 2.2.1.1 The Verity Search Engine                    | 28  |
| •       | 2.2.1.2 The Native Search Engine                    | 31  |
| •       | 2.2.1.3 Refining Queries and Creating Query Objects | 32  |
| . 2.2.2 | Home  | 37  |
| . 2.2.3 | Preferences   | 37  |
| . 2.2.4 | Login   | 38  |
|         | 2.2.4.1 Logging in                                  | 38  |

| . 2.2.4.2 Logging out                                   | 39 |
|---|----|
| . 2.2.5 Help  | 39 |
| 2.3 Authoring mode                                      | 39 |
| . 2.3.1 The "Site" Menu                                 | 39 |
| . 2.3.1.1 Change Password                               | 40 |
| . 2.3.2 The "Admin" Menu                                | 40 |
| . 2.3.3 The "Login" Menu                                | 40 |
| . 2.3.4 The "Publish" Menu                              | 41 |
| . 2.3.4.1 Inserting Files                               | 41 |
| . 2.3.4.2 Inserting Collections                         | 43 |
| . 2.3.4.3 Inserting HTML and Text                       | 45 |
| . 2.3.4.4 Inserting Notes                               | 47 |
| . 2.3.4.5 Inserting Remote Documents                    | 49 |
| . 2.3.5 The "Modify" Menu                               | 50 |
| . 2.3.5.1 Attributes                                    | 51 |
| . 2.3.5.2 Editing Text                                  | 52 |
| . 2.3.5.3 Adding/Modifying/Deleting Hyperlinks          | 53 |
| . 2.3.5.4 Moving Objects                                | 56 |
| . 2.3.5.5 Making Shortcuts to Objects                   | 56 |
| . 2.3.5.6 Duplicating Objects                           | 57 |
| . 2.3.5.7 Deleting Objects                              | 57 |
| . 2.3.5.8 Replacing Documents                           | 58 |
| . 2.3.5.9 Workflow: Release Procedure                   | 58 |
| . 2.3.5.10 Version Control                              | 68 |
| . 2.3.5.11 Locking and Unlocking Documents              | 71 |
| . 2.3.6 The "View" Menu                                 | 73 |
| . 2.3.6.1 Link Map                                      | 73 |
| 2.4 Other Icons on the Toolbar in Hyperwave Version 2.6 | 74 |
| 2.5 Attribute Types                                     | 74 |
| 2.6 Hyperwave ODMA                                      | 82 |
| . 2.6.1 Installing ODMA                                 | 82 |
| . 2.6.2 Editing Microsoft Word Documents in Hyperwave   | 82 |
| . 2.6.3 Uploading Documents with ODMA                   | 84 |
| . 2.6.4 Editing Version Controlled Documents            | 85 |
| 2.7 Hyperwave Publishing Wizard                         | 85 |
| . 2.7.1 How to Use Hyperwave Publishing Wizard          | 85 |
| . 2.7.1.1 Extending HPW's Recognized File Types         | 88 |
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| •       | 2.7.1.2 Adding Custom Attributes                         | 88 |
|---------|--|----|
| 2.8     | Hyperwave Virtual Folders                                | 89 |
| . 2.8.1 | How to Use Hyperwave Virtual Folders                     | 89 |
|         | 2.8.1.1 How to Add a New Server                          | 89 |
|         | 2.8.1.2 Default Settings                                 | 90 |
|         | 2.8.1.3 Navigating with Hyperwave Virtual Folders        | 90 |
|         | 2.8.1.4 Functions in the Popup Menu                      | 91 |
|         | 2.8.1.5 Editing Documents with Hyperwave Virtual Folders | 93 |
|         | 2.8.1.6 Drag & Drop                                      | 95 |
| •       | 2.8.1.7 Reload   | 95 |
| 2.9     | Netscape Gold Support                                    | 95 |
| 2.10    | Java Applets and Hyperwave                               | 96 |
| . 2.10. | Inserting Java Classes                                   | 96 |
| . 2.10. | 2 Running Java   | 96 |
| 3       | Appendix A   | 97 |
| 3.1     | Hyperwave Copyright Notes                                | 97 |
| 3.2     | Netscape Copyright Statement                             | 97 |
| 3.3     | Berkeley Software Copyright                              | 97 |

### INTRODUCTION

The *Hyperwave User's Guide* is intended for people who need to upload or edit documents on a Hyperwave Information Server or for those who want a general introduction to Hyperwave's functions and features. Chapter 1 is a basic overview of Hyperwave's most important architectural concepts. It is meant to give new users a feel for what they can expect when working with the server and to show them how the server can simplify their information management tasks.

Chapter 2 describes all aspects of browsing and authoring with Hyperwave. It tells you how to upload documents using Web browsers such as Netscape and Microsoft Internet Explorer and how to use the Hyperwave Publishing Wizard to upload entire collections of documents. How to use Hyperwave's advanced search facilities to find information on the server and how to use the Open Document Management API (ODMA) interface to edit documents on the server is also described.

### **1 ARCHITECTURAL CONCEPTS**

In this chapter you will learn how Hyperwave's advanced features for reading and authoring can help you achieve your daily business goals more efficiently. You will also learn how Hyperwave Information Server enables system administrators to harness the complexity of intranet applications.

### **1.1 STATIC AND DYNAMIC ARCHITECTURES**

Many intranet and Internet Web servers use a static, file-based architecture of HTML pages logically connected by hyperlinks. In contrast, Hyperwave Information Server generates HTML pages and provides additional structuring elements that enable automatic generation of hyperlinks, without the need for programming.

### 1.1.1 STATIC STRUCTURE

In the classical hypertext "data model" of the Web shown in Figure 1, documents are connected by hyperlinks. The links are statically contained within the documents, and refer to other documents by URLs. Activating a hyperlink essentially jumps from one document to another.



Figure 1: The Hypertext "data model"

The rapid growth of the Web owes much to this simple architecture, because it makes it extremely easy to set up a small Web site. However, as the site grows, it can often become unmanageable. We refer to this phenomenon as the "GOTO syndrome", because the semantics of a hyperlink ("jump to document") and the infamous "GOTO" statement in early computer programming languages ("jump to statement") are fairly similar, as are the problems arising from it. However, while these problems were eliminated in structured programming languages decades ago, we are just beginning to attack them now in information management.

**STATIC STRUCTURE** The simple hypertext approach shown in Figure 1 has the following shortcomings: **PROBLEMS** 

Navigating large hypertexts is difficult. As the number of documents (and their hyperlinks) grows, users find it increasingly hard to get an overview of available information, to find the information they are looking for, and to find information again. Further, users find it difficult to locate new or updated information, to learn how much information exists on a certain topic, to make sure that they see every piece relevant to a certain topic, and to recognize outdated information. This is known as the "lost in hyperspace" syndrome.

• For authors (and large intranet sites will always require collaboration of a multitude of authors) there are more problems. One is link consistency: When you delete a document, the links in other documents pointing to the document just deleted break; the result is an error and a frustrated user.

• A less visible link management problem is known as "orphan": a document becomes unreachable when the last link pointing to it is removed. This condition is relatively difficult to detect. Both problems (broken links and orphans) become significant in a multi-author environment, because the actions of one author (deleting a link or a document) can lead to problems with another author's documents (which can become orphans or contain broken links), without the other author ever knowing of the problem.

- Similarly, when inserting a new document A, it is required to edit at least one other document B, in order to make a link to the new document. This is not only additional work, it also means that authors have to have write access to document B, which would also allow them to modify the contents of B or remove links to other documents. This means that the hypertext network approach shown in Figure 1 cannot support a security model suitable for collaborative authoring.

- The simple, "GOTO"-like navigation paradigm of hypertext makes it impossible to combine individual documents to self-contained information components, which can be re-used in different contexts in slightly different ways (customized views).
- **SPAGHETTI WEB** The result of all this is a Web of documents that looks like a "giant spaghetti bowl", as Robert Cailliau of CERN, one of the Web's inventors, once called it. In practical terms, this means lots of maintenance effort, inconsistency, and chaos.

### 1.1.2 DYNAMIC STRUCTURE HELPS

In modern programming languages such problems have been eliminated by the introduction of structured programming and abstract data types. In a similar fashion, Hyperwave Information Server eliminates the above problems by introduction of structural elements and an object repository.

**STRUCTURAL AND** When you look at any Web content, you may realize that there are two logically distinct groups of hyperlinks used:

*structural* (sometimes also called *organizational*) hyperlinks are used to structure (organize) the content. This type of hyperlink is commonly found in tables of contents, navigation bars, frames, "next", "previous", "up", and "home" links.

• *referential* ("*real*") hyperlinks are cross-references, emanating from areas (e.g., words) in a document (e.g., a text document), such as "see also section 4". This is what hyperlinks were originally intended for.

Traditional Web architectures do not distinguish between the two types of hyperlinks. Hyperwave Information Server takes a different approach: *structural* hyperlinks are maintained by the system, completely automatically and dynamically, rather than by the authors. This dramatically reduces the number of hyperlinks authors need to be aware of <sup>1</sup>.

**STRUCTURE ELEMENTS** To achieve this, Hyperwave Information Server introduces the concept of abstract structural elements called *containers*. A container contains a number of other elements, which could be documents or other containers. There are a number of predefined container classes: Collection, Sequence, MultiCluster, and AlternativeCluster.

Figure 2 shows the simplest container class, called *collection*. A collection is very much like a directory or folder in a hierarchical file system. However, an item may be a member of more than one collection (such as the text item in Figure 2). When accessing a collection (with a URL), it is visualized as a menu-like table of contents<sup>2</sup>, i.e. the user is given a choice of sub-elements. Of course the sub-elements could again be collections. This defines the so-called *collection hierarchy*.



Figure 2: The "Collection" structure element

Let's take a look at the big advantages of the structured approach over the "spaghetti web":

- **CONSISTENCY** The *collection listing* (menu) is dynamically generated by the system. This means that it is always consistent. When you delete something, the corresponding entry or entries are also removed. When you insert something into a collection, its entry appears in the collection listing. Since information objects inserted into Hyperwave Information Server's repository always have to be put into at least one collection, there can be no orphaned objects.
- **REDUCED MAINTENANCE EFFORT** All this is done with simple "insert" and "delete" operations. There is no need to manually maintain a table of contents, and no opportunity to make a mistake in doing so, such as forgetting to update a link when you move an object. We will look at a specific example to illustrate this later.
  - **SECURITY** Unlike in the hypertext model, there is no need to edit other people's documents in order to insert a new document. This is a precondition for a strong security model which supports collaborative authoring.
  - **NAVIGATION** While there is the possibility<sup>3</sup> to override the collection's automatic table of contents menu with a manually designed page, the majority of a large Web site's collections will use the automatically generated collection listings in order to reduce the overall graphic design work required. For the users this means a consistent way of navigating the hierarchy.

<sup>&</sup>lt;sup>1</sup> We will see later that Hyperwave Information Server also manages *referential* hyperlinks, but differently.

<sup>&</sup>lt;sup>2</sup> The visual presentation is highly customizable, so your menus do not all need to look the same.

<sup>&</sup>lt;sup>3</sup> So-called *collection heads* allow you to define a document which should be visualized whenever the collection is opened, optionally bypassing the automatically generated collection listing for a graphically rich visualization of the collection.

In addition, Hyperwave Information Server also supports a tree-like navigation of the collection hierarchy (similar to the Windows Explorer). This makes it very easy to navigate (and also manipulate, if you have the appropriate access rights) the collection hierarchy.

- **MULTIPLE VIEWS** The collection hierarchy can also be seen as a *classification* of the information in the system. Since a document or collection may be member of a number of collections, such a classification need not be unique. There can be multiple views (classifications) of the same information space<sup>4</sup>. After all, why should a company's top management have the same view as a specialized employee?
  - **SCOPE** Unlike the unorganized hypertext model shown in Figure 1, the collection hierarchy gives us the ability to define *scope* in terms of the logical structure of the information space. For example, we may specify that a certain search operation should be restricted to a certain part of the information space, i.e. only documents which are contained in a certain collection. Likewise, we can use the scope to perform arbitrary operations on a certain part of the information space, or to define access permissions.
- **HIGHLY DYNAMIC** The collection listing is not manipulated when you insert an element. Rather, it is generated on the fly when a user accesses the URL associated with the collection, taking into account such things as a sort order associated with the collection (you can sort by any metadata element of the members, see page 9), identity of the user (you never see items you are not allowed to see, not even in the collection listing), validity of the member item (objects can be made invisible before and after specified times), and user's preferences. Essentially, this means that for different users the collection listing may look different.
- **REUSABLE COMPONENTS** Of course, it now becomes possible to re-use certain parts of the collection hierarchy in many different places. For example, in a Web Based Training application, parts of a lesson may appear in multiple lessons. Still, they are not physical copies, but the very same items.

These advantages will become even more obvious when we discuss the other container classes below.

### **1.1.3 MORE CONTAINER CLASSES**

In addition to the collection, there is a small number of other predefined container classes<sup>5</sup>.

**SEQUENCE** A *Sequence* is similar to a collection. The difference is that in addition to the collection listing, the system also generates "next" and "previous" links between the member elements. This means that users need not press the "back" button on their browsers and select the next item manually when they want to look at all the elements one after the other. Sequences are useful in situations where a set of documents (pages) should be visited in a certain order, such as in many Web Based Training applications.

<sup>&</sup>lt;sup>4</sup> Please note that for reasons of consistency, it is important that the individual documents are identical, not copies.

<sup>&</sup>lt;sup>5</sup> While it is possible in principle to define your own container classes in Hyperwave Information Server 4, future versions will have more elegant means to (re)define document and container classes.



*Figure 3: The "Sequence" structure element* 

- **AN EXAMPLE** Figure 3 shows the logical structure of a sequence of 7 HTML documents. As an example of how significant the reduction of maintenance effort for this structure is, compared to other Web server based solutions, consider the following scenario: We want to insert a new HTML document between documents 4 and 5 (see Figure 3). With a standard Web server, where the hyperlinks are statically stored within the HTML documents, we would have to perform the following operations:
  - 1. Edit the table of contents document and insert a new hyperlink to the new document.
  - 2. Edit document number 4 and update the "next" hyperlink to point to the new document instead of the (old) document number 5.
  - 3. Edit the (old) document number 5 and update the "previous" hyperlink to point to the new document instead of document number 4.
  - 4. Edit the new document and insert hyperlinks to
    - a) the table of contents ("up"),
    - b) document number 4 ("previous"), and
    - c) (old) document number 5 ("next").
  - 5. Copy the new document to its correct place on the server

In other words: in addition to physically moving the new document to the server, we would have to create or update 6 hyperlinks in 4 different documents. Needless to say, this is a lot of effort, and there are a lot of opportunities to introduce errors or inconsistencies. The same effort is required when removing a document. Also, it means that whoever is supposed to insert information into the sequence must have write access rights to all other documents of the sequence and the table of contents.

With Hyperwave Information Server, we would perform only one operation:

1. Insert document into sequence

This operation physically copies the document to the server, and inserts it into the sequence, taking into account the sort order defined for this sequence (e.g., "alphabetically by title of the document"). The rest (maintaining the link structure) is done automatically. In fact, it is not done at all on insertion, but the links are generated on the fly when users access the sequence or its elements. When you want to remove a document from a sequence, you just delete it. The navigation is adapted automatically.

Obviously, this reduces maintenance effort significantly. Additionally, the dynamic generation of hyperlinks between the elements enables a number of features not possible with static HTML:

- The identical documents can be members of a number of sequences ("multiple views"). The "next", "previous", and "up" links are adjusted depending on where (from what sequence) the user came from. There is no need to create physical copies of documents.
- Similarly, you can use the sequence within another sequence. This means that your sequence becomes a component which may be re-used in different contexts.
- Access permissions are taken into account. When a user is not allowed to see, e.g., document number 3, the "next" link on document number 2 points to document number 4, and the table of contents would not list document number 3. The same would be true if document number 3 had expired. In other words, the user would never know that document number 3 even existed.
- Every user who has been granted write permission to the sequence object can insert information into the sequence, without having to modify other people's documents. This means that people can collaboratively and securely<sup>6</sup> populate the sequence.

Please note that the features listed above do not only apply for sequences, but for any class of container.

**MULTICLUSTER** While both collections and sequences display a menu of the elements contained, the *MultiCluster* combines all its elements into one document and displays the result. As always, this is done dynamically when a user visits the MultiCluster, so that sort order, expiration time, access permission, and user preferences are taken into account.

MultiClusters are useful in situations where you want to combine relatively small pieces of information (paragraphs, images, etc.) into one document. The individual pieces can be supplied by different authors (so that users can collaboratively create the large document without getting in each other's way), can have different access permissions (e.g., some paragraphs should only be seen by privileged users), and can be reused in other contexts.

**EXAMPLE** Let us look at a simple example, a calendar of events:

Each event is a small document, either created by a customized entry dialog or an HTML editor. The "expiration date" attribute is set to the date of the event. The event listing is a MultiCluster, which is sorted by expiration date. This has the effect that we get a single event listing sorted by date of the event. Listing of old events is automatically suppressed by the system (because expired objects are not displayed) without human intervention, so it looks as if the listing were maintained daily. Note that users with write access to the MultiCluster may add events, and edit or remove "their" events; there is no need to ask a dedicated Webmaster to edit the event listing, or to grant everybody write access to the whole listing.

- **ALTERNATIVECLUSTER** The *AlternativeCluster* is similar to the MultiCluster, but instead of returning a combination of all elements, the AlternativeCluster returns only one of its elements. The selection of this element is based on matching user preferences with attribute values of the elements. While it is in principle possible to select the element based on any attribute, the following types have proven to be useful:
  - **EXAMPLES** · Select by *language*: Use the user's language preferences to decide what document to show. In this case, the AlternativeCluster contains a number of translations of the same information, which is quite useful for managing multilingual applications.
    - Select by *MIME Type*: Use the user's preferred MIME Type settings to select a document. In this case, the AlternativeCluster contains the same information in different encodings (MIME Types), e.g., MS Word, PDF, and HTML. This is useful when the users do not have the same functionality at their client terminals (e.g., some have UNIX workstations where MS Word is not available), or need to perform different tasks with the information.
    - Select by *Quality*: Use the user's preferred Quality settings to select a document. In this case, the AlternativeCluster contains the same information in various encodings or qualities (specified by the *Quality* attribute). For example, an image may be available in lossless compression (e.g., GIF) and various quality levels of lossy compression (e.g., JPEG). This is

<sup>&</sup>lt;sup>6</sup> I.e., you can insert a document with write access only for yourself, so that others cannot tamper with your information.

useful in situations where the users have different bandwidth available (e.g., modem vs. LAN) and want to trade quality for speed.

COMBINATIONS

All kinds of combinations of structural elements are possible (while some combinations are more useful than others). For example, an application might be built as a collection of sequences of MultiClusters of AlternativeClusters of documents. Figure 4 shows another example.



Figure 4: Structure elements combined with hyperlinks

#### **REDUCE HYPERLINKS**

Figure 4 also shows an important philosophical aspect of building applications with Hyperwave Information Server. The bold arrows represent "real", referential hyperlinks, which may of course be combined with structural elements. The goal is to replace the structural (organizational) hyperlinks by a combination of structural elements as much as possible, and use hyperlinks only for cross-references. This has the tremendous advantage that the system itself takes care of generation and maintenance of structural hyperlinks, with all the added benefits of dynamic link generation. It also means that the site can easily be restructured later, without editing any documents.

### 1.1.4 SEPARATE INFORMATION AND PRESENTATION

Another important feature that comes with the use of structural elements is the clear separation of information (content) and its presentation (layout, navigation). The document management community has traditionally separated content and layout (just think of the concepts of SGML and now XML, where the document defines the content and a style sheet defines the layout). The importance of this distinction has been neglected in the Web, since HTML defines both content and its presentation (including navigation).

Hyperwave Information Server lets authors focus on supplying the content, and the presentation (with layout and navigation) is performed by the system, according to the exact specifications of system administrators.

- **ADVANTAGES** What are the advantages of having content and presentation separated?
  - It is absolutely necessary when you want to enable ordinary users to provide content, which
    is important in making intranets work and creating knowledge management applications.
    Otherwise, such users would have to worry not only about the information itself (where
    they have expertise), but also about aspects of user interface design, graphics, corporate

identity, navigation, complex authoring tools, and details of HTML (where they have no expertise). In other words, it would be impractical, and consequently users would have to ask a dedicated Webmaster to insert their information for them. This, in turn, would adversely affect the quality and timeliness of the information inserted.

- With the presentation (including layout and navigation) defined by an administrator in advance, it is consistent throughout the site. This not only ensures that all pages conform to a certain layout (including corporate identity), but it also means that users can rely on a consistent user interface (including navigation).
- Since the layout is not defined directly in the documents, it can easily be changed afterwards without having to touch the documents themselves. This means that one can immediately start with a prototype system, have users insert information, and worry about the details of layout later.
- You can also customize different interfaces to the very same information for different user communities (e.g., employees in the intranet vs. partners and customers in an extranet) or expertise (e.g., browse-only, authoring, administration). Users can even choose and configure their favorite interface at runtime (personalized interface).

More information about customizing the user interface can be found in the *Hyperwave Programmer's Guide*.

### **1.2 METADATA AND SEARCHING**

### 1.2.1 DOCUMENTS, OBJECTS, ATTRIBUTES

Unlike many other Web-based systems, Hyperwave Information Server stores its documents not just as plain files in a file system. Rather, it keeps them in an object-oriented repository (a kind of database), together with other information objects (e.g., structural elements). These objects carry metadata, i.e. attribute names and values. Needless to say, documents can be of any type.

While the list of attributes is extensible, some attributes have meaning to Hyperwave Information Server. We may classify attributes into the following groups:

**TYPES OF ATTRIBUTES** · User-defined attributes: The user in this case is the application developer, who may define any number of attributes that should be attached to documents (or some documents) and other objects. Within this group we may distinguish between:

- *Indexed attributes*, which can be searched for. This property has to be specified by the system administrator.
- *Non-indexed attributes*, which cannot be searched for and have only informational purpose.
- *System-defined attributes*: These attributes have meaning to the system, i.e. they are set and/or interpreted by the system itself. The system also defines which of them need to be indexed. We can further refine this group to:
  - *Read-only attributes*, the values of which are set and maintained by the system and cannot be changed by the user. Examples include the attributes *TimeCreated*, *TimeModified*, and *Size* (in Bytes).
  - *Read-Write attributes*, which can be set by the user (see Figure 5) and are only interpreted by the system. Examples include *Name* (the URL of the object), *Title* (is

displayed in collection listings and other places), *Rights* (defines access permissions), and *TimeExpire* (a date after which the object becomes invisible).

| 💥 Attributes - Netscape                 |  | _ 🗆 🗵    |
|---|--|----------|
| Attributes<br>Edit the Hypenwave object | t attributes of the document 'XFone Product Development Schedules' | <u> </u> |
| Туре:                                   | Document   |          |
| DocumentType:                           | collection   |          |
| TimeCreated:                            | 08/11/1998 14:31:17  |          |
| TimeModified:                           | 08/11/1998 14:40:53  |          |
| Subdocs:                                | 1  |          |
| GOid:                                   | 0xc0a8991a_0x0011ea04  |          |
| Link Map                                | Link Map   |          |
| Owner:                                  | jones  |          |
| Title:                                  | XFone Product Development Sched<br>English                         |          |
| Name:                                   | xfone/internal/schedules   |          |
| Add. Title                              | English 💌  |          |
| Rights:                                 | R:g dev<br>Open Rights Wizard                                      |          |
| Document: Done                          |  | ·        |

Figure 5: "Edit attributes" dialog

The ability to define arbitrary attributes (metadata) for all kinds of objects prepares Hyperwave Information Server for many applications, which would otherwise require the functionality of a relational database.

**EXAMPLE** A typical example, found in almost any intranet, is an employee directory. Every employee is represented by an object with user-defined attributes such as *Lastname*, *Firstname*, *Middlename*, *Phone*, *Fax*, *Email*, and *Department*, which are all indexed and thus searchable. The objects are inserted into a collection with a modified search dialog, which lets you search for boolean combinations of the above attributes. In a better implementation, we would not insert all employees into one large collection, but have a collection hierarchy representing the company hierarchy, with one collection for every department. Thus users could also browse instead of search, if they so prefer. The employee objects could also be documents or MultiClusters, so that we can offer additional information (e.g., pictures, work descriptions) per employee.

### **1.2.2 SEARCH CAPABILITIES**

As already discussed, Hyperwave Information Server allows searches in (indexed) attributes and Boolean combinations, for example:

ATTRIBUTES · "Images with 'X' in their Title or Keyword attribute"

· "Any objects (collections, documents, hyperlinks) created by user Y in the last week"

In addition, you can search in the full text of documents<sup>7</sup>, using the following advanced features:

- **FULL TEXT** · Thesaurus (search for synonyms)
  - Stemming (find expression in singular, plural or declined)
  - Phonetic search (find words with similar pronunciation)
  - · Case sensitive/insensitive
  - Proximity search (all words specified must appear in the same paragraph, or sentence, or immediately after each other, or within 5 words of each other).

| Extended Search - Netscape   | _ 🗆 × |
|--|-------|
| Extended Search  | 4     |
| Extended search is a powerful feature which will help you find the documents you need. |       |
| Search   |       |
| Simple Search  |       |
| Search For: xfone products   |       |
| ,  |       |
| In Contents: Full Text Search using the following options for each word                |       |
| ✓ thesaurus (search for synonyms)  |       |
| variations (find expression in singular, plural or declined)                           |       |
| sounds like (find words with similar pronunciation)                                    |       |
| Case Sensitive (distinct capital and small letters)                                    |       |
| (cannot be used together with variations, thesaurus and solidal like)                  |       |
| all words searched for are in same document (AND)                                      |       |
|  | -   - |
| In Attributes: 🔽 Title   |       |
| Keyword  |       |
| one of the searched words is in a document (OR)  |       |
| Owner: smith   |       |
| Created: anytime effect -7days before  |       |
|  |       |
| wiodified: anytime 🔽 after before  |       |
| (enter date in format MM/DD/YYYY or as relative date e.g4days)                         |       |
| Document: Done 📃 💥 🕮 🚳   | 1     |

Figure 6: Extended Search Dialog

**SCOPE** Figure 6 shows the "extended search" dialog of the default user interface that comes with Hyperwave Information Server. Needless to say, it is completely configurable. An important feature shown in Figure 6 is the ability to specify the search scope. Unlike many other search engines, which let you search the whole information space only, Hyperwave Information Server lets you restrict the scope to a certain subset of the collection hierarchy. The scope can be only one collection, a set of collections, the whole server, or even a set of collections residing on different Hyperwave Information Servers. This is an extremely useful feature, since it lets you (the user, not

<sup>&</sup>lt;sup>7</sup> Hyperwave Information Server integrates Verity's Search97 product, which is able to index more than 200 document formats.

the information provider!) narrow down the search to a specific subset of the information you are currently interested in, and reduces the number of unwanted hits significantly.

| 💥 Search Results | - Netscape   | _ 🗆 ×    |
|------------------|--|----------|
| Search Res       | sults  | <u>^</u> |
| 47 documents     | found. Showing 1-10  |          |
|                  | 🧼 - in attributes 单 - in content 👽 - in both   |          |
| 100% 🗣 🗐         | Administrator's Handbook - 2.2 CONFIGURING THE SERVER WITH<br>.DB.CONTR.RC<br>2.2 CONFIGURING THE SERVER WITH .DB.CONTR.RC 2.2.1 CONFIGURING<br>HWSERVERCONTROL 2.2.2 CONFIGURING WAVESTORE/WAVEORACLE<br>WAVESTORE VARIABLES WAVESTORE/WAVEORACLE VARIABLES 2.2.3<br>CONFIGURING DCSERVER 2.2.4 CONFIGURING FTSERVER 2.2.4.1 VERITY<br>SWITCHING<br>Owner: hwsystem, size: 71 kB, last modified: 05/11/1998 20:50:35<br>In collection Hyperwave Administrator's Handbook                  |          |
| 100% 💛 🗀         | <u>Configuring Hyperwave with .db.contr.rc</u><br>Owner: <b>hwsystem</b> , last modified: <b>04/27/1998 08:46:10</b><br>In collection <u>Hyperwave Reference Guide</u>   |          |
| 100% 🔍 🗐         | Configuring the server with .db.contr.rc<br>Configuring the server with .db.contr.rc 1.1 CONFIGURING THE SERVER WITH<br>.DB.CONTR.RC Contents<br>Owner: hwsystem, size: 614 bytes, last modified: 04/27/1998 08:46:10<br>In collection <u>Configuring Hyperwave with .db.contr.rc</u>  |          |
| 100% 🐓 🗐         | Configuring the server with .db.contr.rc - 1.1 CONFIGURING THE SERVER WITH .DB.CONTR.RC<br>1.1 CONFIGURING THE SERVER WITH .DB.CONTR.RC 1.1.1 CONFIGURING<br>HWSERVERCONTROL 1.1.2 CONFIGURING DBSERVER 1.1.3 CONFIGURING<br>DCSERVER 1.1.4 CONFIGURING FTSERVER 1.1.5 CONFIGURING HGSERVER 1.1.6<br>CONFIGURING WAVEMASTER 1.1.7 CONFIGURING WAVESETUP<br>Owner: hwsystem, size: 1 kB, last modified: 04/27/1998 08:46:10<br>In collection <u>Configuring Hyperwave with .db.contr.rc</u> |          |
| 100% • 🗐         | Configuring the server with .db.contr.rc - 1.1.1 CONFIGURING HWSERVERCONTROL 1.1.1 CONFIGURING HWSERVERCONTROL hwservercontrol starts and controls all Hyperwave server processes. Its scope is MAIN . MAIN::LOG : This variable is used to tell hwservercontrol where to put its log file and tell it what to do with old log files Document: Done  | ▼<br>▼   |

Figure 7: Search results

Searching is tightly integrated with navigation, so that when you navigate the collection hierarchy and press search at one point, the scope is by default set to the collection you are currently visiting. Conversely, when you have selected a search hit, you can explore the "vicinity" of the selected object in the collection hierarchy, and perhaps find more useful information related to the subject you have been looking for. Search hits are shown as a ranked list (see Figure 7), the format of which (e.g., what object attributes are displayed) is again completely customizable.

### **1.2.3 STORED QUERIES AND NOTIFICATIONS**

The "Search Results" window (Figure 7) has a button labeled "save query" at the bottom, which lets you store the query you just made as an object in the repository (see Figure 8), and re-evaluate it again and again. This query object is displayed as an object in the collection hierarchy. When you select such an object, it behaves like a collection. However, the members of the collection are not statically linked to it, but rather are generated on the fly by evaluating the query.

**EXAMPLE** This is a very powerful feature, as it allows new, dynamic views of existing material. Consider the previous "calendar of events" example. It contains a – potentially quite large - single collection with events. Let us assume I am a user interested only in events that deal with intranets. Assuming the system administrator enabled that feature for me, I could create my personal calendar of intranet-

related events by specifying a query that searches for documents containing "intranet" (and perhaps also "extranet" and "knowledge management") in their title or full text, within the event collection only. Then I would save this query in my home collection. Then, whenever I navigate to this query object, I will get a list (or, if I make it a MultiCluster object, a combined document) containing only the events relevant to intranets. Of course, I could also have a system administrator set this up for me.

**NOTIFICATIONS** Stored Queries may not only be activated interactively by users, they can also be performed by the system according to a schedule specified by the user. In this case, users may "subscribe" to the query object and receive e-mail in either HTML or ASCII format with descriptions and URLs of the objects found.

| 💥 Save Query - Netscape  |  | _ 🗆 ×   |
|--|--|---------|
| Save Query<br>Enter the name of the target collecti<br>window (the window where you have<br>the name of the collection will autor<br>Name for the new query object and | on by hand or navigate to the collection using the main<br>: opened the Query Object Wizard). With the second method<br>matically appear in the appropriate field. Fill out Title and<br>press "OK". |         |
| New Query Object   |  |         |
| * indicates a required field.  |  |         |
| Title:   | Marketing Info Query *   |         |
|  |  |         |
| Name (URL):  | xfone/homes/smith/query *  |         |
| Into Collection:   | xfone/homes/smith *  |         |
| Description:   | This query searches for new mar  |         |
| Evaluation Schedule  |  |         |
| On the days:   | ☑ Mon ☑ Mon ☑ Tues ☑ Wed ☑ Thurs<br>☑ Fri □ Sat □ Sun  |         |
| Monthly on the:  | 1st<br>2nd<br>3rd ▼ (multiselection possible)  |         |
| every:   | 60 💌 minutes   |         |
|  | between: 8:00 and: 18:00   |         |
| To EMAIL Adress:   | smith@xfone.com  |         |
|  | in format HTML   | -       |
| Document: Done   |  | dP 🏑 // |

Figure 8: Query Object Wizard

**EXAMPLE** For example, I could slightly modify the query specified in our previous example to only return those events having to do with intranets, which have been created or updated within the last 24 hours. Then I would let the system evaluate the query daily (at a certain time), and send me the result, if any, by e-mail. Then I can forget about the query object and relax; the Hyperwave Information Server will automatically inform me of new events or changes in events related to intranets.

Please note that in principle the notification functionality is similar to what has become known as channels, push technology, or subscription services. An important difference, however, is that with Hyperwave Information Server, users are no longer passive consumers of prepackaged information channels. Rather, it is the users who are in the driver's seat and perform their own "information mining" according to their objectives, effectively creating their own channels.

### **1.3 LINK MANAGEMENT**

Traditional Web-based systems keep link information directly within the source document, i.e. the document the link emanates from. Since the link information is only available in the source document, it is difficult to maintain the link consistency of (large) Web sites: when you are about to delete a document and want to know what other documents refer to this document, you have to look through all other documents for hyperlinks to this document. Obviously, this is prohibitively expensive for an intranet site with tens of thousands of documents.

**LINKS SEPARATED FROM DOCUMENTS** To avoid these problems with link consistency, the designers of Hyperwave Information Server chose a radically different approach to link maintenance: hyperlinks are separated from documents and stored as objects in their own right, in the same object repository as documents, collections and the like. In the case of HTML pages, for example, this means that the hyperlink information is extracted when the HTML page is inserted, stored in the repository, and dynamically merged back into the document when it is served to the user.

Links are realized as one or two objects: a *source anchor* defines the region the link is emanating from (e.g., a sequence of characters in a text or a region of an image). The source anchor points to either

- · a destination anchor, which is another region in the destination document, or
- · to a whole document, or
- to a container object, i.e. a group of documents (multi-ended link).

### **ADVANTAGES** What are the advantages of this additional complexity?

 Links are bidirectional. This means that it is possible to find the link source from the link destination (this is a simple operation performed by the repository). Users can navigate to the source from the destination, and the system can generate nice looking link maps like the one shown in Figure 9, showing both incoming and outgoing links around a given document.

| 🚰 Link Map - Microsoft Internet Explorer  |   | _ 🗆 ×    |
|---|---|----------|
| Link Map: HW Tools  |   | <u>^</u> |
| Into Document   | From Document   |          |
| Parents<br>Hyperwave Reference Guide<br>Hyperwave Tools<br>Links to This Document<br>Hyperwave KeyQuery<br>Set Title of Objects | Children<br>General Information<br>hwadmin<br>hwci<br>hwco<br>hwcontrol<br>hwcopy<br>hwdelete<br>hwdelobj<br>hwdochistory<br>hwdochistory<br>hwdownload<br>hwgetdata<br>hwinfo<br>hwinscoll |          |
| <b>e</b>    ,   | lnternet zone   |          |

Figure 9: Link Map

The bidirectional links are used to guarantee link consistency in arbitrarily large sites. For example, when a document is removed, links pointing to it are marked as invalid and are not merged into the corresponding documents (in other words, they become invisible for

ordinary users). When a document with the same name is inserted into the same collection, the links are restored again. Similarly, when a document is moved or renamed, the links follow. A server-server protocol even ensures this behavior across server boundaries.

- Source and destination anchors are objects, i.e. they have attributes such as title, author, creation time, link type, etc. This means, for example, that it is possible to search for links which were created by a given user during a given time range.
- In particular, links can be assigned individual access permissions, meaning that certain links in a document can be defined to be visible and thus accessible only for certain users or user groups. This is useful for presenting customized or personalized information, where different users see different hyperlinks.
- Creating a source or destination anchor in a document requires no modification of the document. This makes it possible to create hyperlinks in otherwise read-only documents, which is, e.g., useful in the case of annotations: users can be given the right to create annotations (which are basically hyperlinks with a certain link type) to documents, but denied the right to make modifications to that document.
- Many document types are not prepared for storing links in their respective encodings (e.g., images), or explicitly allow external hyperlinks (such as XML). Hyperwave Information Server is well prepared to manage hyperlinks in such document types.

### 1.4 CUSTOMIZED VIEWS

### 1.4.1 HIGHLY CONFIGURABLE USER INTERFACE

Hyperwave Information Server comes complete with a default user interface, as shown in Figure 5 to Figure 8. This interface offers the complete functionality available, including advanced authoring and administrative functions.

However, in nearly all intranet installations of Hyperwave Information Server, the user interface is customized to the needs of the customer. Typically, the graphics are changed to conform to the customer's corporate identity rules, and functionality is reduced for certain user groups. In some occasions, new functionality is added. Fortunately, flexibility in the user interface is one of the key features of Hyperwave Information Server.

- **DYNAMIC HTML** The basis of the user interface is, of course, HTML and JavaScript. For newer browsers (Netscape Communicator 4.x, Microsoft Internet Explorer 4.x), it also makes use of Dynamic HTML (DHTML), Cascading Style Sheets (CSS), and JavaScript 1.2. The server automatically senses the browser version, and sends the corresponding instructions to the client. The interface for older browsers needs more images, and is slower.
  - **PLACE** Hyperwave Information Server dynamically assembles the HTML sent to the browser out of predefined, customizable building blocks. This process is controlled by an HTML extension called PLACE, which is a small macro language. Basically, PLACE macros are evaluated to HTML code.
- **SERVER-SIDE JAVASCRIPT** In addition to the relatively simple PLACE language, Hyperwave Information Server also supports server-side JavaScript (SSJS). Together with a JavaScript interface to the Hyperwave API, this offers applications programmers a very high degree of flexibility in design of their applications. The JavaScript code is precompiled and executed directly in the server, which yields high performance. The Hyperwave API gives access to all functions of the server, thus making it possible to extend the server with almost arbitrary functionality.

#### CLIENT-SIDE JAVASCRIPT, JAVA APPLETS, ACTIVEX

CUSTOMIZED USER INTERFACE In addition, application programmers may of course make use of client-side application development tools, such as (client-side) JavaScript, Java Applets, ActiveX controls, and the like.

Application programmers and system administrators can configure different interfaces to be sent to different user groups or users acting in certain roles. A number of possibilities exist to distinguish user groups:

- Hyperwave Information Server can be distributed to execute on a number of physical computers in parallel. Most important, the Web interface can be separated from the repository, and multiple Web interfaces can access the same repository. Consequently, there may be multiple Web interfaces on different computers (or on the same computer, but listening on different ports) with different user interfaces. This is useful in intranet/extranet applications, where internal users connect to a different machine than external users, and see the same information with different interfaces. The Web interface for the external users will then reside outside a firewall, and only connect to the repository through the firewall, while the internal Web interface will be inside the firewall.
- The interface can be designed to behave differently depending on users or user groups. For example, anonymous users could be given a very simple interface. When they log in to the server, the interface would become more functional. Members of the "system administrators" user group would get the interface with the highest functionality, including user administration functions.
- Users can also be distinguished by the IP address of the client (or proxy server) they are connecting from. Connections from a certain group of IP addresses can be configured such that they are automatically identified as some (low-privilege) user, which is distinguishable from the completely anonymous users coming from other IP addresses. This is again useful in intranet/extranet applications, where internal users can automatically (without having to log on) be given higher privileges (e.g., read access for certain parts not visible for external users), a different starting point for navigation, and a different user interface.
- Also, the very same user may act in different roles, or modes. Typically, the interface can be kept rather simple and fast for browsing users. If a user switches to "edit mode", the interface becomes more functional.
- Since such user modes are saved in client-side cookies, users can also to some extent customize the interface to their preferences, and have them remembered between sessions.
   For example, it is possible to select a certain interface language, preferred MIME Types and quality, and select between different interface styles. Of course, the system administrator determines the extent to which such personalizations are possible.

### 1.4.2 PERSONAL COLLECTIONS AND AGENTS

So far we have covered the mechanisms that application programmers and system administrators use to customize the user interface. We will now talk about how users and information providers can create customized views of the information space.

**MULTIPLE VIEWS** Information providers can create multiple views (hierarchies of structure elements) of the same information. For example, a parts catalog could be structured both by the type of part and by its geographical location. Users can be given the choice of navigating either way, depending on the task at hand.



Figure 10: Multiple views of the same information

For some applications it is useful to not allow users the choice, but rather force them to take a specific path of navigation, depending on their user group. This can be controlled with appropriate access permissions of the structural elements. Also, so-called "user templates" allow local redefinition of the user interface for given objects (e.g., collections). This means that the default user interface can be overridden when the user accesses a certain part of the information space.



Figure 11: Customized navigation with access rights on hyperlinks

A different way of customizing navigation paths is shown in Figure 11. Here, hyperlinks are assigned different read access rights so that different users see different links in the documents, and consequently follow different navigational paths.

**HOME COLLECTION** Optionally, identified users can be assigned a *home collection*, where they can build their own view of the information space, like a highly sophisticated bookmark list. They can create shortcuts to frequently used information, structure them in collection hierarchies, and store personal documents, annotations, and hyperlinks.

**PERSONAL AGENTS** Users can also store query objects in their home collections. Stored queries behave like dynamically calculated collections, which means users can create personal, dynamic views of existing information. In addition, such personal views can act as agents and inform their creators by e-mail when their contents change (see Figure 8). Please note that unlike "push" channels, where users are more or less passive information consumers, with Hyperwave Information Server the users are in control and can define their *personal agents* themselves.

### **1.5 COLLABORATIVE AUTHORING**

Hyperwave Information Server enables ordinary users to become intranet information providers. No longer is the publishing process restricted to a limited set of Webmasters or publishers. This is made possible because authors can focus on the content they want to provide, while the system takes care of the details, such as navigation, consistency, user interface, and graphical layout. We believe this is an important step necessary to make intranets work.

This section deals with the various methods of publishing information to a Hyperwave Information Server.

### 1.5.1 AUTHORING CAPABILITIES

#### **WEB BROWSER**

A standard Web browser is sufficient to perform all functions of Hyperwave Information Server, including authoring and administrative functions. In particular, it is possible to insert individual files into collections (i.e., upload them from the local file system; see Figure 12), create collections, edit attributes, delete objects, and move objects around in the collection hierarchy. Small text documents can be directly inserted and edited in an HTML form. Netscape's "publish" function (HTTP PUT) is also supported.

| 💥 Upload File - Netscape                     |                            |         | _ 🗆 ×   |
|--|----------------------------|---------|---------|
| Upload File<br>* indicates a required field. |                            |         |         |
| Title:                                       | Sales 1997                 | *       |         |
| Description:                                 | Sales figures for 1997     |         |         |
| Name (URL):<br>File:                         | xfone/sales97              | Browse  |         |
| Into Collection:                             | XFone Internal Information | Diowse  |         |
|  | more                       |         |         |
|  | OK Cancel                  |         |         |
| Document: Done                               |                            | = 🐝 🛀 👌 | P 炎 //. |

Figure 12: Uploading a file into a collection

These methods of inserting information into and manipulating information on the Hyperwave Information Server require no additional client software (just a Web browser), and are platformindependent (i.e., users can publish from Windows, UNIX, MacIntosh, or Network Computers). In addition, more convenient methods of publishing information exist for client computers running Windows95 or Windows NT. These methods are explained below.

**PUBLISHING WIZARD** Microsoft offers an API for publishing information to Web servers, called WEBPOST API. The user sees this through Microsoft's *Web Publishing Wizard*. This has been extended to include the ability to publish to Hyperwave Information Servers, becoming the *Hyperwave Publishing Wizard* (see Figure 13). The Wizard allows upload of multiple files or whole directory structures in one step.

| Hyperwave Publishing W | fizard   |
|------------------------|--|
| HYPERWAVE              | Enter a name under which your settings will be saved for<br>use in further sessions.<br>orion.hyperwave.com<br>Enter the host name of the server (without http://).<br>orion.hyperwave.com<br>Enter the Hyperwave port number: 418<br>V1.2 |
|                        | < <u>B</u> ack Ne <u>x</u> t≻ Cancel Help  |

Figure 13: Hyperwave Publishing Wizard

**ODMA** The *Open Document Management API* is a standard API for reading and storing documents from/to document management systems. It is also supported by Hyperwave Information Server. This means that ODMA-aware clients (e.g., Microsoft Word 97, Microsoft Powerpoint 97) can directly access documents on the Hyperwave Information Server, bypassing the Web browser (see Figure 14)

| 📲 HYPE   | RWAVE ODMA: SaveAs           |           |          | _ 🗆 X             |
|----------|------------------------------|-----------|----------|-------------------|
| 😋 н      | ODMA - Acc                   | cess      | с        | lassic 'Save As'  |
| Name:    | index.html                   |           | £        | <b>*</b>          |
| Title:   | Welcome Page                 |           | English  | <b>•</b>          |
| Rights:  | R: a; W: g:hweditors         |           | 🔽 Enable | e version control |
| Contents | of Hyperwave ODMA            |           |          |                   |
| Title    |                              | Name      |          | SaveAs            |
| 🖥 Нур    | erwave Administrator's Guide | admin.doc |          |                   |
| 🛄 Нур    | erwave Information Server    | HWIS.txt  |          | Cancel            |
| 📋 Нур    | erwave Odma information      | odma.html |          |                   |
| 📲 📆 Нур  | erwave User's Guide          | user.doc  |          |                   |
|          |                              |           |          |                   |
|          |                              |           |          |                   |
|          |                              |           |          |                   |
|          |                              |           |          |                   |
|          |                              |           |          |                   |
| •        |                              |           | Þ        |                   |

Figure 14: ODMA SaveAs dialog in Word 97

#### WINDOWS NAME SPACE EXTENSION

Under Windows 95 and Windows NT it is possible to extend the name space of the operating system, i.e. to make objects look like files and directories in the Explorer. The so-called *Hyperwave Virtual Folders* is such a name space extension, and behaves like a network file system. Users can browse information on a Hyperwave Information Server as if it were a file system (see Figure 15), use "drag and drop" interface to move files between Hyperwave Information Servers and other file systems, edit attributes, etc.



Figure 15: Hyperwave Virtual Folders

### **1.5.2 DOCUMENT MANAGEMENT FUNCTIONS**

**VERSION CONTROL** Hyperwave Information Server also supports typical document management functions, which enable cooperative editing in the information space. In particular, objects can be locked while they are being edited. It is also possible to use version control on documents. In this case, the document is checked in and each time a user wants to edit it, he or she must check it out. This creates an experimental version and the document is locked. While authors can now edit and test the experimental version, other users still see the latest committed version of the same document. Only when the document is checked in again does this version become the current version for all users. Of course it is possible to look at old versions and to revert to an old version.

Version control can be performed interactively using the Web browser, but also using the Hyperwave Publishing Wizard, the ODMA interface, or the Windows Name Space Extension. In addition, there are corresponding API functions for version control, so that versions can be manipulated programmatically.

### **1.5.3 GROUPWARE FUNCTIONS**

#### ANNOTATIONS

Users can annotate (i.e. make a comment on) documents and collections. These comments are stored as documents, and thus they can, in turn, be annotated again. This means that any document or collection can be the starting point of an asynchronous electronic discussion.

Annotations can be made public (readable by all users), private (readable only by the author), or group annotations (readable by a defined discussion group). Annotations may be addressed to individual locations in the document, or the whole document.

**NOTIFICATIONS** In addition, careful setting of stored queries with notifications can inform members of the discussion group of new annotations, thus integrating Hyperwave's annotation functions with e-mail.

### 1.6 SECURITY

Hyperwave Information Server enables anybody in an organization to publish information in the organization's intranet. Naturally, this requires a strong security model suitable for collaborative authoring, which protects the work of one user from other users.

### 1.6.1 FINE-GRAINED ACCESS CONTROL

Every object (document, container, hyperlink, script) stored in the Hyperwave Information Server has associated access rights. Access rights specify who is allowed to

- read
- · write (modify)
- unlink (delete)

the object in question. The access rights are reflected in the *Rights* attribute of an object. For example, having write permission to a document means one is allowed to modify the document, whereas having write permission to a collection means one is allowed to insert or remove members from that collection.

- **DEFAULTS** In order to keep things simple, reasonable defaults have been specified. By default (i.e. when no other access permissions are specified), everybody is granted read access, and only the creator of the object has write access. When no unlink permission is specified, those that have write permission also have unlink permission. When a new document is inserted into a collection, the document inherits its access rights from the collection.
- **RIGHTS WIZARD** The Rights Wizard allows users to set permissions for individual objects without having to remember the syntax of the **Rights** attribute or the valid user and group names (see Figure 16).

|                | Groups:                                 | Users:                                | Author<br>Only: |  |
|----------------|---|---------------------------------------|-----------------|--|
| Read Rights:   | hwreaders<br>hwusa<br>hyperwave<br>iicm | (None)<br>agehret<br>agrim<br>ajancke |                 |  |
| Write Rights:  | hwcgi<br>hweditors<br>hwmunich<br>hwrd  | (None)<br>agehret<br>agrim<br>ajancke | ×               |  |
| Unlink Rights: | hwcgi<br>hweditors<br>hwmunich<br>hwrd  | (None)<br>agehret<br>agrim<br>ajancke | ×               |  |
| Rights String: | R:g hwreade                             | rs; W:g hwcgi                         | hwrd            |  |

Figure 16: Rights Wizard

### 1.6.2 USER AND GROUP MANAGEMENT

Hyperwave Information Server supports a hierarchical scheme of users and user groups. A user (represented by an object in the repository) can be a member of one or more groups (also objects), which in turn can be members of one or more other groups.

MANAGEMENT USING A WEB BROWSER As always, administration of users and user groups is possible using a Web browser. The system administrator(s) can create new users and groups, modify existing users and groups, delete them, and assign users and groups to groups. See the *Hyperwave Administrator's Guide* for details.

| 💥 New user - Netscape                           |                         |            |
|---|-------------------------|------------|
| New User<br>Create a new Hyperwave User. * indi | cates a required field. |            |
| User Name:                                      | jones                   | *          |
| Password:                                       | *****                   | *          |
| Verify Password:                                | ****                    | *          |
| Description:                                    | Barbara Jones           |            |
| Home collection:                                | homes/jones             |            |
| Groups:   | hwcgi                   |            |
|   | more                    |            |
|   | OK Cancel               |            |
| Document: Done                                  |                         | , 🕦 剑 🏑 // |

Figure 17: User and Group administration

### 1.6.3 DIRECTORY SERVICES

Large organization will typically have a directory of users already in place, and will not want to duplicate the users and groups already stored in this directory into the Hyperwave Information Server repository.

**EXTERNAL AUTHENTICATION INTERFACE** Therefore, Hyperwave Information Server supports an *External Authentication Interface*, a documented software interface where customers and partners can connect their existing directory service. When a user logs on, the external directory service is asked whether username and password are correct, and what groups the user belongs to, instead of looking it up in the internal user directory.

**STANDARD INTERFACES** In order to reduce the customization effort, Hyperwave Information Server comes with three standard interfaces:

- · LDAP (Lightweight Directory Access Protocol) compliant directory servers.
- · Windows NT user directory
- · NIS (Network Information Services; a.k.a. Sun YP)

### 1.6.4 ENCRYPTION

Hyperwave Information Server is based on open standards, and uses HTTP for transfer of data between the Web browser and the server. Unfortunately, HTTP foresees sending all information in its header (including user information) in (almost) clear text. While this may be no problem in an

intranet environment, where the network is usually trusted, it is definitely a problem in extranet applications.

**SSL** Hyperwave Information Server optionally uses version 2 of the *Secure Socket Layer (SSL)* protocol to encrypt all information (including documents) sent to the browser. Since the software is made outside the U.S., it is not subject to U.S. export regulations, and uses full 128-bit symmetric keys for the encryption (provided that the browser allows it).

It is in principle possible to store documents in encrypted form on the server, so that nobody - not even the system administrator - can read them. In this case, full text search is of course not possible, and the client needs to configure a helper application to decode the documents before displaying them.

### 2 GETTING STARTED WITH HYPERWAVE INFORMATION SERVER

This chapter shows how you can take advantage of Hyperwave's rich functionality using Internet clients. You will find explanations of how to upload documents to the server, delete them, run a search, create links, etc. The Hyperwave Publishing Wizard, a tool for publishing multiple documents to the Web, is also described.

### 2.1 VIEWING INFORMATION IN HYPERWAVE

Viewing information on a Hyperwave Information Server is as simple as viewing information on any multimedia server. Figure 18 shows a typical Hyperwave page. Hyperwave, however, offers you more ways to navigate through the information on the server than just following the reference links that happen to be available on a page.



Figure 18: A typical Hyperwave page

INFORMATION STRUCTURING

Chapter 1 of this manual describes Hyperwave's functions and features. There you can read about collections, which organize information on the server, and clusters, which control how a group of documents is presented and in what language. Because every collection and document in Hyperwave is a member of a collection, it is possible to navigate up or down in the collection

hierarchy and access all documents on the server without the explicit use of hyperlinks. Figure 19 shows how collections automatically display their members as a list of links. By clicking on a collection in this listing, you can, in turn, display its contents as a list of links.

#### HINTS ABOUT UPDATED INFORMATION, DOCUMENT SIZE, ETC.

Hyperwave displays certain information about each object in a collection listing in the default interface. A "new" or "updated" icon is shown for 24 hours next to any items which have been newly uploaded or edited. If you are in authoring mode, the size (of documents) or the number of subdocuments each object contains (for collections), as well as the name of the owner, is displayed.



Figure 19: A collection listing

**OBJECT ATTRIBUTES** Clicking on an attributes icon () in a collection listing lets you view the attributes of the corresponding object, with the option to edit them if you have the proper access rights. Many attributes, such as **TimeCreated** and **TimeModified** are maintained by the server. Others, such as **Title**, **Owner**, **Rights** (the access rights assigned to an object), and **PresentationHints** (an attribute which lets you override the presentation of collections as lists) can be changed. Most editable attributes control various aspects of the presentation of objects on the server. Others, such as **Keyword**, let you associate words with an object to make searching for it easier. See <u>page</u> 74 for a complete listing of all available attribute types with explanations of their functions.

**RECOMMENDED** BROWSERS To take full advantage of the functionality of the Hyperwave interface, a JavaScript 1.1 capable browser is required. The browsers listed below are recommended for use with Hyperwave Information server 4.x.

- Windows 95 or Windows NT: Netscape Communicator/Navigator 4.x, Microsoft Internet Explorer 4.x
- UNIX: Netscape Navigator/Communicator 4.x

Browsers with a few restrictions in functionality with respect to text selection while creating links and name suggestion when uploading files are

- Windows 95 or Windows NT: Netscape Navigator 3.x, Netscape Navigator Gold 3.x, Microsoft Internet Explorer 3.x with JavaScript 1.1 support
- UNIX: Netscape Navigator 3.x, Netscape Navigator Gold 3.x

Other browsers may not display JavaScript properly.

**HYPERWAVE INTERFACE** VERSION 4.X Hyperwave Information Server version 4.x has a new, menu-driven interface. This interface is automatically used by the server if you are using Netscape Navigator/Communicator 4.x, or Microsoft Internet Explorer 4.x. If you are using an older version of one of these browsers, the server uses the user interface from version 2.6 of Hyperwave.

**FLEXIBILITY IN THE INTERFACE** The descriptions of Hyperwave Information Server functions found in this guide are based on the default user interfaces of Hyperwave Information Server 4.1 and 2.6. Keep in mind that the Hyperwave interface is very flexible and can be arbitrarily changed by system administrators (see the *Hyperwave Programmer's Guide*) to fit the needs of the user. Thus the interface on the server you are using may be different from the interface described here.

### 2.2 "VIEW" MODE

All guest users, as well as identified users who are not in authoring mode, are in *view mode* when browsing a Hyperwave Information Server. This mode allows users to browse information on the server, run a search, change user interface preferences and log in to the server. If you are an identified user, you have the additional option of switching to authoring mode. There are no pulldown menus in this mode; all functions are accessed directly from the menu bar.

**OVERVIEW OF FUNCTIONS** 

Search

Home

.

- · Preferences
- · Login
- Help

An additional button appears for identified users:

There are five buttons on the menu bar in view mode:

Authoring

#### SHORT DESCRIPTION OF FUNCTIONS

The functions available in view mode are described below.

Search: This button gives you access to the simple and extended search forms in a separate window. These forms allow you to find documents on any part of the server you have read access to.

Home: Clicking on this button takes you to the default server entry page if you are a guest user, and to your personal home collection if you have one and are identified.

**Preferences**: This button displays a window that lets you select various user interface preferences, e.g. interface language, document quality, sort order of collection listings, interface appearance, etc.

Login: This button displays a window where you can enter your Hyperwave user name and password.

Help: This button displays the online help index.

**Authoring**: This button appears only when the user is identified. This button switches from view mode to authoring mode, allowing the user access to the full publishing and modification options that the server offers, in addition to all the functions available in view mode.

**DETAILED DESCRIPTION OF** ITEMS

In the sections that follow, the options for view mode are explained in greater detail.

#### 2.2.1 SEARCH

Hyperwave Information Server has integrated search facilities, including a choice between its native fulltext engine and the commercial fulltext indexer Verity. This section describes the default forms for simple and extended search when using Hyperwave with version 4.x browsers as well as those when using older browsers. The forms are different depending on if Verity or the native search engine is being used. This can only be configured by the server administrator. Note that the server administrator can modify the search interfaces to let you search in any indexed or nonindexed attribute.

FULLTEXT AND ATTRIBUTE Hyperwave Information Server lets you search the content of text documents in most common SEARCH formats, such as Microsoft Word, Microsoft Excel, HTML, RTF, and Lotus 1-2-3. This option is a powerful aid in getting the information you need. For example, you may be working for a big company with a large server that contains information that is useful to you on the job. You can think of this large information repository as being analogous to a library. As in any library, you can search by document title, but with Hyperwave you can also search on content. This is like being able to search every page in every book in a library for a word or combination of words in a single step. The default Hyperwave interface allows you to search in fulltext, as well as by certain attributes. These attributes include Author (the name of the person who uploaded the object), Name (the URL of the object), and TimeModified (the date and time a document was last modified). Searching by date of last modification allows you to limit your search to find only the most up-to-date documents.

#### 2.2.1.1 THE VERITY SEARCH ENGINE

Hyperwave comes with two different fulltext search engines, the commercial fulltext indexer Verity and the native search engine. The system administrator can configure the server to use the search engine of choice. The search interface consists of a simple search form and an extended search form. Note that the appearance of the extended search form varies depending on which search engine is being used. See page 31 for a description of the interface when using the native search engine. The Verity search engine is used by default.

THE SIMPLE SEARCH FORM WITH VERSION 4.X BROWSERS

THE SIMPLE SEARCH FORM WITH OLDER BROWSERS

- To use the simple search form for version 4.x browsers, do the following:
- Click on Search on the toolbar. 1
- 2. In the window that appears, enter a search term or terms in the Search for field. Multiple terms are combined with "OR", i.e. at least one of the terms will be present in every document found.
- 3. Select what you want to search in under in document. You can search in the attributes of objects or the content of text documents. At least one of these boxes must be checked. See page 74 for a list of attribute types with explanations.
- 4. Select the Search scope using the radio buttons. Your options are to search the entire server, restrict the search to the collection you were browsing when the search form was accessed, or search the server pool (if the server is a member of one). Your system administrator may add further options.
- 5. Decide how to sort the results using the list box. You can sort them according to importance (how well they match the search criteria), date created, date last modified, title or owner.
- 6. Click on the "OK" button.

To use the simple search form for older browsers (see Figure 20), do the following:

- Click on the "SEARCH" icon in the Hyperwave toolbar. 1.
- Click on the "Simple Search" tab. 2.

28

- 3. Enter a search term or terms in the **Search for** field. The terms are combined with "OR", i.e. at least one of the terms will be present in every document found.
- 4. Select what you want to search in under **in document**. You can search in the attributes of objects or the content of text documents. At least one of these boxes must be checked. See <u>page</u> 74 for a list of attribute types with explanations.
- 5. Select the **Search scope** using the radio buttons. These options allow you by default to search the entire server, restrict the search to the collection you were browsing when the search form was accessed, or search the server pool if the server is a member of one. Your system administrator may add further options.
- 6. Decide how to sort the results using the list box. You can sort them according to importance (how well they match the search criteria), date created, date last modified, title or owner.
- 7. Click on the "Search" button.

*Note:* Remember to log in to the server before making your search if you are searching for information which is not available to anonymous users.

| 💥 Search - Netscape   | - 🗆 × |
|---|-------|
| Search<br>To search for specific terms, just enter the words or phrase in the search field below. |       |
| Extended Search   |       |
| Search For: business plan 98  |       |
| in Document: 🔽 Contents (Full Text Search):   |       |
| ✓ all Attributes (Keyword, Title, URL etc.):  |       |
| in Scope: The Whole Server  |       |
| Sort Results By Importance  |       |
| OK Cancel   |       |
| 📑 🛛 Document: Done 📃 💥 📬 👌 🖻  | 🏒 /i. |

Figure 20: The simple search form

THE EXTENDED SEARCH FORM

The extended search form (see Figure 21) lets you take advantage of Verity's advanced features.Verity offers fulltext search with several options, including

- a thesaurus, to find documents that contain words that have the same meaning as your search term
- a function that finds grammatical variations of the search term (for example, if you enter the term "compute" you will also find any documents that contain the words "computing" or "computers")
- · a function that finds words that sound like your search term
- · case sensitive search
- a function for associating one or more search terms, e.g. all search terms should be found in the same document, same paragraph, same sentence, etc.

| Search         |  |  |
|----------------|--|--|
| Search For:    | Simple Search<br>xfone products  |  |
| In Contents:   | Full Text Search using the following options for each word   |  |
|                | 🔽 thesaurus (search for synonyms)  |  |
|                | variations (find expression in singular, plural or declined)   |  |
|                | sounds like (find words with similar pronunciation)  |  |
|                | Case Sensitive (distinct capital and small letters)<br>(cannot be used together with variations, thesaurus and sounds like)<br>all words searched for are in same document (AND) |  |
| In Attributes: | ☑ Title  |  |
|                | Keyword  |  |
|                | one of the searched words is in a document (OR)  |  |
| Owner:         | smith  |  |
| Created:       | anytime 💌 after -7days before  |  |
|                |  |  |

Figure 21: The extended search form when using the Verity search engine

The extended search form also offers various options for finding documents by searching in titles or keywords, date the document was last modified, or author. Lastly, the results can be filtered by MIME type and language.

Extended search with Verity is done as follows with version 4.x browsers:

- 1. Click on **Search** in the toolbar. The "Search" dialog box appears. Click on the "Extended Search" button in this dialog box.
- 2. Enter one or more words in the "Search For" text box.
- 3. Switch content search on or off by selecting or deselecting the "In Contents" check box. When content search is turned on, the "thesaurus", "variations", "sounds like" and "casesensitive" checkboxes can also be selected. Use the listbox to specify how you want the search terms to be associated in the documents found, e.g. all words in same document (AND), all words in same sentence, etc.
- 4. Select any or all of the attribute types (Title, Keyword, etc.) you want to search in using the checkboxes. Use the listbox to specify whether you want all (AND) or at least one (OR) of your search terms to be present in the attributes of the objects found.
- 5. Optionally enter a Hyperwave user name in the "Owner" field if you want to find objects created by a particular user.
- 6. Enter preferences for date created and date modified of the objects found. The date can be entered in the form MM/DD/YYYY, e.g. "03/30/98" or relatively to the current date. A relative date can be specified in terms of minutes, hours or days. You can, for example,

#### EXTENDED SEARCH WITH VERSION 4.X BROWSERS

enter "-3days" or "-3d" to mean "the date which is three days before today". By entering "-3d" in the "after" field of the search form, you can easily find all documents which were uploaded to the server in the last three days. It is also possible to enter e.g., "-2minutes" to find documents inserted in the last two minutes, or "-1hour" to find documents inserted in the last hour.

- 7. Select a MIME type from the listbox if you want only a particular document type in your search results.
- 8. Select the search language. Default choices are German and English.
- 9. If you don't want the documents found to contain a particular word, enter the word in the appropriate field.
- 10. Select the search scope. This tells Hyperwave which part of the server it should search on. You have the choice between searching the collection you were browsing when you accessed the search form, searching the entire server, or searching the server pool if the server is a member of one.
- 11. Select how you want to sort the results using the listbox.
- 12. Click on the "OK" button.

Extended search with Verity is done as follows with version 2.6:

- 1. Click on the "SEARCH" icon in the Hyperwave toolbar.
- 2. Click on the "Extended Search" tab.
- 3. Follow instructions for Extended Search version 4.1 starting with item 3.

*Note:* Remember to log in to the server before making your search if you are searching for information which is not available to anonymous users.

### 2.2.1.2 THE NATIVE SEARCH ENGINE

Hyperwave offers two different search forms: a simple search form, where only a few preferences for the search can be entered, and an extended search form, where additional restrictions, such as author and time modified can be specified. The search forms vary depending on if the Verity or native fulltext engine is being used. See <u>page</u> 28 for a description of the Verity search interface.

**THE SIMPLE SEARCH FORM** Simple search is the same whether using the Verity or the native search engine. See <u>page</u> 28.

THE EXTENDED SEARCH FORM WITH VERSION 4.X BROWSERS

**EXTENDED SEARCH WITH** 

**OLDER BROWSERS** 

The extended search form offers all the search functionality of the simple search form and more. Here you can additionally search by author, language, time created, time modified, etc. It is used as follows in 4.x versions:

- 1. Click on **Search** in the toolbar. The "Search" window appears. Click on the "Extended Search" button in this window.
- 2. Enter one or more words in the "Search For" field.
- 3. Turn content search on or off by selecting or deselecting the "Full Text Search" button. Use the listbox to specify whether you want all (AND) or at least one (OR) of your search terms to be present in the content of the objects found.
- 4. Select any or all of the attribute types (Title, Keyword, etc.) you want to search in using the checkboxes. Use the listbox to specify whether you want all (AND) or at least one (OR) of your search terms to be present in the attributes of the objects found.
- 5. Optionally enter a Hyperwave user name in the "Owner" field if you want to find objects created by a particular user.
- 6. Enter preferences for date created and date modified of the objects found. The date can be entered in the form YY/MM/DD, e.g. "98/03/30" or relatively to the current date. A relative date can be specified in terms of minutes, hours or days. You can, for example, enter "-3days" or "-3d" to mean "the date which is three days before today". By entering "-3d" in the "after" field of the search form, you can easily find all documents which were uploaded to the server in the last three days. It is also possible to enter e.g., "-2minutes" to
find documents inserted in the last two minutes, or "-1hour" to find documents inserted in the last hour.

- 7. Select a MIME type from the listbox if you want only a particular document type in your search results.
- 8. Select the search language. Default choices are German and English.
- 9. If you don't want the documents found to contain a particular word, enter the word in the appropriate field.
- 10. Select the search scope. This tells Hyperwave which part of the server it should search on. You have the choice between searching the collection you were browsing when you accessed the search form, searching the entire server, or searching the server pool if the server is a member of one.
- 11. Select how you want to sort the results using the listbox.
- 12. Click on the "OK" button.

Extended search with the native search engine is done as follows:

- 1. Click on the "SEARCH" icon in the Hyperwave toolbar.
- 2. Click on the "Extended Search" tab.
- 3. Follow the instructions for Extended Search version 4.1 starting with item 3.

*Note:* Remember to log in to the server before making your search if you are searching for information which is not available to anonymous users.

#### 2.2.1.3 REFINING QUERIES AND CREATING QUERY OBJECTS

After your search is complete, the results are displayed as a list of titles linked to the actual documents. Each item in the list includes an icon representing document type, the relevance of the document to the search in percent, an icon which tells whether the search term was found in content or attributes or both and a description (see Figure 22).

THE EXTENDED SEARCH FORM WITH OLDER BROWSERS

| Search Results             | - Netscape   | - 🗆 ×    |
|----------------------------|--|----------|
| Search Res<br>47 documents | ults<br>found. Showing 1-10  | <u> </u> |
|                            | 🤗 - in attributes 🎱 - in content 🗣 - in both   |          |
| 100% 🗣 🗐                   | Administrator's Handbook - 2.2 CONFIGURING THE SERVER WITH<br>.DB.CONTR.RC<br>2.2 CONFIGURING THE SERVER WITH .DB.CONTR.RC 2.2.1 CONFIGURING<br>HWSERVERCONTROL 2.2.2 CONFIGURING WAVESTORE/WAVEORACLE<br>WAVESTORE VARIABLES WAVESTORE/WAVEORACLE VARIABLES 2.2.3<br>CONFIGURING DCSERVER 2.2.4 CONFIGURING FTSERVER 2.2.4.1 VERITY<br>SWITCHING<br>Owner: hwsystem, size: 71 kB, last modified: 05/11/1998 20:50:35<br>In collection Hyperwave Administrator's Handbook              |          |
| 100% 🔶 🗀                   | <u>Configuring Hyperwave with .db.contr.rc</u><br>Owner: <b>hwsystem</b> , last modified: <b>04/27/1998 08:46:10</b><br>In collection <u>Hyperwave Reference Guide</u>   |          |
| 100% 🗣 🗐                   | Configuring the server with .db.contr.rc<br>Configuring the server with .db.contr.rc 1.1 CONFIGURING THE SERVER WITH<br>.DB.CONTR.RC Contents<br>Owner: hwsystem, size: 614 bytes, last modified: 04/27/1998 08:46:10<br>In collection <u>Configuring Hyperwave with .db.contr.rc</u>  |          |
| 100% 🗣 🗐                   | Configuring the server with .db.contr.rc - 1.1 CONFIGURING THE SERVER WITH<br>.DB.CONTR.RC<br>1.1 CONFIGURING THE SERVER WITH .DB.CONTR.RC 1.1.1 CONFIGURING<br>HWSERVERCONTROL 1.1.2 CONFIGURING DBSERVER 1.1.3 CONFIGURING<br>DCSERVER 1.1.4 CONFIGURING FTSERVER 1.1.5 CONFIGURING HGSERVER 1.1.6<br>CONFIGURING WAVEMASTER 1.1.7 CONFIGURING WAVESETUP<br>Owner: hwsystem, size: 1 kB, last modified: 04/27/1998 08:46:10<br>In collection Configuring Hyperwave with .db.contr.rc |          |
| 100% 🔶 🗐                   | Configuring the server with .db.contr.rc - 1.1.1 CONFIGURING<br>HWSERVERCONTROL<br>1.1.1 CONFIGURING HWSERVERCONTROL hwservercontrol starts and controls all<br>Hyperwave server processes. Its scope is MAIN . MAIN::LOG : This variable is used to<br>tell hwservercontrol where to put its log file and tell it what to do with old log files<br>Document: Done   | -        |

Figure 22: The Search Results page

**REFINING THE QUERY** 

After you have run a search, you can click on the "Refine Query" button at the bottom of the search results page to change the query you entered for that search and run a new search.

| 💥 Save Query - Netscape  |   |
|--|---|
| Save Query<br>Enter the name of the target collecti<br>window (the window where you have<br>the name of the collection will autor<br>Name for the new query object and p | ●<br>on by hand or navigate to the collection using the main<br>opened the Query Object Wizard). With the second method<br>natically appear in the appropriate field. Fill out Title and<br>oress "OK". |
| New Query Object   |   |
| * indicates a required field.  |   |
| Title:   | Marketing Info Query *  |
|  | English 💌   |
| Name (URL):  | xfone/homes/smith/query *   |
| Into Collection:   | xfone/homes/smith *   |
| Description:   | This query searches for new mar   |
| Evaluation Schedule  |   |
| On the days:   | I Mon I Mon I Tues I Wed I Thurs<br>I Fri □ Sat □ Sun   |
| Monthly on the:  | 1st ▲<br>2nd<br>3rd ▼ (multiselection possible)   |
| every:   | 60 minutes  |
| To EMAIL Adress:   | smith@xfone.com   |
| Document: Done   | = 🔆 🥵 💋 🌽 //  |

Figure 23: The Save Query window

**OUERY OBJECTS** Hyperwave allows you to create *query objects*, which are queries that are stored on the server and can be executed as the user wishes. If an evaluation schedule has been entered for the query object, the query is run periodically, and sends the results to a specified email address. In this case, it is called a *subscription*.

- CREATING QUERY OBJECTS/SUBSCRIPTIONS WITH VERSION 4.X BROWSERS
- 1. Log in to the server and run a search using either the simple or extended search form. The results of the search will appear on the search results page along with a "Save Query" button (see Figure 22).
  - 2. Click on the "Save Query" button. The "Save Query" window (see Figure 23) appears.
  - 3. Specify a **Title** for the query object. Select the appropriate language from the list. This title will appear in the collection listing.
  - 4. Specify a Name for the query object.
  - 5. Specify the Name attribute of the collection you want to insert the query object into.
  - 6. Enter an optional description for the query object.
  - 7. Specify the evaluation schedule for the query object. Use the checkboxes to select the days of the week, or the listbox to choose the dates in the month on which you want the query to be automatically executed.
  - 8. Specify the interval in minutes you want the query to be run using the listbox, and specify the times when you want the automatic searches to start and end.

- 9. Specify up to two email addresses where the results should be sent, as well as the format you want the results sent in.
- 10. Click on the "OK" button. The query, as you originally entered it in the search form, will be saved as a query object.
- **CREATING QUERY OBJECTS/SUBSCRIPTIONS WITH OLDER BROWSERS** 1. Log in to the server and run a search using either the simple or extended search form. The results of the search will appear on the search results page along with a "Save Query" button (see Figure 22).
  - 2. Click on the "Save Query" button. The Query Object Wizard (see Figure 23) appears.
  - 3. Specify the **Name** attribute of the collection you want to insert the query object into, a title for the query object and a **Name** attribute for the query object.
  - 4. Specify the days you want the query to be run. It is possible to select any or all days of the week using the checkboxes, or any or all days of the month using the listbox.
  - 5. Specify the interval in minutes you want the query to be run using the listbox, and specify the times when you want the automatic searches to start and end.
  - 6. Specify one or more email addresses that you want to have the results sent to, as well as the format you want the results sent in.
  - 7. Click on the "Create Query Object" button. The query, as you originally entered it in the search form, will be saved as a query object.

#### ACTIVATING THE QUERY OBJECT MANUALLY

When you create a query object, a corresponding item appears in the collection you specified when creating the query object. This object looks like a pair of binoculars on a folder in the collection listing (see Figure 24). Though the query object may have a schedule by which it is automatically activated, it is also possible to click on it to activate it at any time. If you do this, the search results are inserted dynamically into the query object on the server. Note that it is only possible to activate the query by hand when not in edit mode.



Figure 24: Query Objects

#### CHANGING THE QUERY SCHEDULE

Y It is possible to change the schedule which specifies when the query object should be automatically executed. To do this, you must access the attributes of the query object and change the HW\_Schedule attribute. This is done as follows:

- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the query object (query objects are shown in collection listings with a binocular icon as seen in Figure 24) and click on the "i" icon next to it.
- 4. Edit the HW\_Schedule attribute, which specifies when and how often the query object is evaluated. See below for syntax.
- 5. Click on the "OK" button.

The syntax for HW\_Schedule is as follows:

Format: <day>; <starttime>, <stoptime>, <interval>;

<day> may be mo, tu, we, th, fr, sa or su (for the days of the week) or a number from 1 to 31 (for the days of the month). <starttime> and <stoptime> give the beginning and ending time of evaluation for the selected days. Note that if <stoptime> is left out, the query is carried out only once for each specified day at <starttime>. <interval> is the interval in minutes that the query is executed between <starttime> and <stoptime>.

**EXAMPLE QUERY** To get a notification mail every Tuesday and Friday every 15 minutes between 8am and 5pm, you would enter tu;08:00,17:00,15;fr;08:00,17:00,15.

*Note*: For subscriptions to work in Hyperwave, the server has to be configured to be able to run them. If the subscription feature is not working, contact your server administrator.

## 2.2.2 HOME

Clicking on "Home" in the tool bar brings you to the default home collection of the server if you are not identified, and to your personal home collection if you are.

## 2.2.3 PREFERENCES

PREFERENCES WITH VERSION 4.X BROWSERS

Clicking on "Preferences" in the tool bar makes the "Preferences" window appear (see Figure 25), which allows you to change various aspects of the user interface:

- Language: Select your preferred language from the list. The user interface will be displayed in this language (currently German and English are available) and documents will be retrieved in the preferred language if available.
- **Quality**: Select a quality level from the list. If a document is available in different qualities, the quality which best matches the user's preference is sent. This setting is useful e.g. when you have a slow network connection and would prefer to have lower quality but faster transmission of documents.
- Sort Order: Select the sort order for collection listings from the available options.
  - Sequence #, Title: This sorts first by sequence number, then by title.
  - · Creation Date: This sorts according to the time the object was created on the server.
  - Author: This sorts alphabetically by the name of the user who created the object on the server.
- View as: Select the preferred appearance for the collection structure.
  - · Listing: Only the contents of the collection you are currently browsing are displayed.
  - **Partial Tree**: The contents of the collection you are currently browsing are displayed in the context of a partial tree, i.e. only the succession of parents of the collection are shown.
  - Tree: When you open a collection, it is displayed in the context of the collection hierarchy.
- · Interface: Select the interface appearance from various options on the list.
- Interface Options: These options affect the appearance of the collection listing.
  - Auto Scroll Tree: If this option is activated, the browser scrolls automatically to the current collection.
  - Show Subdocs: Switch this option on to display the number of subdocuments (i.e. the total number of documents contained directly in the collection plus all documents contained recursively in its child collections) next to each collection.

| X Preferences - Netscape   |   |
|--|---|
| Preferences<br>Here you can change certain user int<br>sessions. | terface parameters. Your settings will also be used in future |
| Language:  | English 🔽   |
| Quality:   | high 💌  |
| Sort Order:  | Sequence #, Title 💌   |
| View As:   | Partial Tree  |
| Interface:   | Hyperwave 💌   |
| Interface Options:   | <ul> <li>Auto Scroll Tree</li> <li>Show Subdocs</li> </ul>    |
|  | OK Cancel   |
| Document: Done   |   |

#### Figure 25: The Preferences dialog

**PREFERENCES WITH OLDER** BROWSERS The Hyperwave interface that is used with older browsers allows users to change their language and document quality.

- 1. Click on the "PREFERENCES" icon to make a form appear where you can set language and document quality.
- 2. Make your selections in the listboxes and click on the "Apply Preferences" button.

CHANGING YOUR PASSWORD WITH OLDER BROWSERS

# The Hyperwave interface that is used with older browsers allows identified users to change their passwords.

- 1. Log in to the server.
- 2. Click on the "PREFERENCES" icon then click on the "Change Password" tab.
- 3. Enter the old password, the new password and verify the new password. Click on the "Change Password" button.

# 2.2.4 LOGIN

#### 2.2.4.1 LOGGING IN

With 4.x browsers, login is as follows:

With older browsers, login is as follows:

Logging in will allow you access to restricted information and allow you to edit the contents of the server if you have appropriate access rights.

LOGIN WITH VERSION 4.X BROWSERS

- 1. Click on Login.
- 2. In the window that appears enter your user name and password and click on "OK".

LOGIN WITH OLDER BROWSERS

- 1. Click on the "LOGIN" icon in the toolbar.
- 2. In the window that appears enter your user name and password and click on "OK".

### 2.2.4.2 LOGGING OUT

Users who have logged in to the Hyperwave Information Server can log out again if they like.

LOGGING OUT WITH VERSION 4.X BROWSERS

LOGGING OUT WITH OLDER BROWSERS Click on Login.

1.

- 2. In the window that appears, enter "anonymous" as user name and no password.
- 1. Click on the "LOGIN" icon in the toolbar.
- 2. In the window that appears, enter "anonymous" as user name and no password.

#### 2.2.5 HELP

The "Help" menu contains two items.

- · Contents: Brings you to the Hyperwave help index.
- · Hyperwave Home Page: Brings you to the Hyperwave WWW server.

# 2.3 AUTHORING MODE

For identified users, the item "Authoring" appears on the tool bar. Clicking on this item allows access to Hyperwave's authoring, modification and administration functions.

Seven menus appear when in authoring mode.

Site: This menu contains items relating to the server site, e.g. Search, Home, Preferences, etc.

**Publish**: The **Publish** menu contains items which are used for uploading collections and documents to the server.

**Modify**: The **Modify** menu contains items for manipulating items on the server, e.g. for editing text, inserting hyperlinks, deleting and moving objects, etc.

View: The View menu gives you access to object attributes, the link map, object locking and version control.

Admin: This menu contains items necessary for administrating users and groups.

Login: Selecting this item causes the login window to appear (see page 38).

Help: This menu gives you access to help on Hyperwave functions (see page 39).

**DN OF** In the sections that follow, the options for authoring mode are explained in greater detail.

DETAILED DESCRIPTION OF FUNCTIONS

## 2.3.1 THE "SITE" MENU

The Site menu contains the items:

Search: See page 28.

Site Home: This item brings the user to the default home collection of the server.

User Home: This item brings the user to his or her personal home collection.

Server Pool: This item brings you directly to the server pool that your server is a member of (if a server pool has been set up).

**Change Password**: Selecting this item causes a window to appear where you can change you Hyperwave password. See below

Preferences: See page 37.

### 2.3.1.1 CHANGE PASSWORD

All users with an account on the Hyperwave Information Server can change their password.

CHANGING YOUR PASSWORD 1.

2. Click on Authoring to switch to authoring mode.

Log in to the server by clicking on Login.

- 3. Select Site→Change Password. The "Change Password" window appears. Type in your old password and your new password in the corresponding fields. Type in your new password a second time in the "Verify New Password" field.
- 4. Click on the "OK" button.

# 2.3.2 THE "ADMIN" MENU

If you are a member of the group "system", you can access certain information about the server and administrate users and groups. The **Admin** menu contains the following items:

- · Users
- · Groups
- · Assign Users and Groups
- Server Status
- · Who is Online

**SERVER STATUS** The "Server Status" function lets you see the server name, up time, total amount of data retrieved in megabytes, etc.

- 1. Log in to the server as a "system" user.
- 2. Click on the item **Authoring** on the toolbar.
- 3. Select Admin $\rightarrow$ Server Status.
- **WHO IS ONLINE** The "Who is online" function shows you a list of users currently logged in to the server, including user name, the host the user is connecting to the server from, their idle time, etc.
  - 1. Log in to the server as a "system" user.
  - 2. Click on the item Authoring on the toolbar.
  - 3. Select Admin $\rightarrow$ Who is online.

MANAGING USERS AND GROUPS See the Hyperwave Administrator's Guide for information on managing users and groups in Hyperwave.

# 2.3.3 THE "LOGIN" MENU

See page 38.

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### 2.3.4 THE "PUBLISH" MENU

This menu lets you access all functions for inserting new objects into the server, e.g. collections, clusters, files, annotations, remote documents, etc. You can use these functions as long as you have appropriate access rights for the collections you want to insert objects into.

The Publish menu contains the following items:

- File: Files of any type can be uploaded.
- · Collection: A collection is a container used for holding other collections and documents.
- · Cluster: Clusters allow you to combine multiple documents as desired.
- Sequence: This is a collection type which automatically links the items contained in it sequentially.
- HTML: You can type in and upload an HTML text (to upload an HTML file, use the item File).
- Text: You can type in and upload a plain text (to upload a text file, use the item File).
- Note: Formerly called "annotation", this item allows you to make a comment on an object on the server.
- · Remote Document: A Remote Document is a link to a document on another server.
- · CGI: This item allows you to create CGI objects.

The mechanism for inserting the above document types is explained in greater detail below.

#### 2.3.4.1 INSERTING FILES

Files are inserted as follows:

- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the collection you want to insert the file into. Select Publish→File. The "Upload File" window appears (see Figure 26). Keep in mind that you must have the appropriate access to the collection where you want to insert the file.
- 4. Enter a **Title** for the document and select a language from the menu. If you leave the **Title** field blank, the title used is the file name without the extension, unless the file is of type HTML, in which case the title is parsed from the HTML file.
- 5. Enter a description if desired.
- 6. A Name (unique identifier for the object being inserted) is optional. If you are using JavaScript and did not enter a name, a name, consisting of the name of the parent collection and the file name separated by a slash (unless the file is an HTML file, in which case the file name without the extension is used) will automatically appear in the Name field after you press the "OK" button. Thus, if the file hyperwave.gif is inserted into a collection with the name "graphics", the suggested name is "graphics/hyperwave.gif".
- 7. Click on "More" to enter additional attributes. The MimeType attribute is explained below; all other attribute types are explained on <u>page</u> 74. The Custom Attribute field allows you to enter an attribute with the name and value of your choice.
- 8. Enter the full path for the file you want to insert or use the file browser to select a file.
- 9. Click on the "OK" button.

| 💥 Upload File - Netscape                  |                            |        | _ 🗆 × |
|---|----------------------------|--------|-------|
| Upload File * indicates a required field. |                            |        |       |
| Title:                                    | Sales 1997<br>English 💌    | *      |       |
| Description:                              | Sales figures for 1997     |        |       |
| Name (URL):                               | xfone/sales97              |        |       |
| File:                                     | C:\documents\sales.x1      | Browse |       |
| Into Collection:                          | XFone Internal Information |        |       |
|   | more                       |        |       |
|   | OK Cancel                  |        |       |
| Document: Done                            |                            | = 💥 🕮  | 🚽 🈕 💋 |

*Figure 26: Uploading a file* 

INSERTING FILES USING OLDER BROWSERS Files are inserted as follows using earlier versions of the Hyperwave interface:

- 1. Log in, switch to edit mode by clicking on the "EDIT" icon, and click on the "new document" icon () to access the "new document" form.
- 2. Select the "File" tab.
- 3. Enter the Name or GOid of the collection you want to insert the file into. Default is the collection you were browsing when you accessed the "new document" function. Keep in mind that you must have the appropriate access rights to insert an object into this collection.
- 4. Enter a Title for the document and select a language from the menu. If you leave the Title field blank, the title used is the file name without the extension, unless the file is of type HTML, in which case the title is parsed from the HTML file.
- 5. A Name (unique identifier for the object being inserted) is optional. If you are using JavaScript and did not enter a name, a name, consisting of the name of the parent collection and the file name separated by a slash (unless the file is an HTML file, in which case the file name without the extension is used) will automatically appear in the Name field after you press the "Insert file" button. Thus, if the file hyperwave.gif is inserted into a collection with the name "graphics", the suggested name is "graphics/hyperwave.gif".
- 6. Click on "More" to enter additional attributes. The **Base** and **MimeType** attributes are explained below; all other attribute types are explained on <u>page</u> 74. The **Custom Attribute** field allows you to enter an attribute with the name and value of your choice.
- 7. Enter the full path for the file you want to insert or use the file browser to select a file.
- 8. Click on the "Insert file" button.
- **THE BASE ATTRIBUTE** The **Base** attribute is necessary for texts and is by default the name of the server you are currently connected to, e.g. http://www.hyperwave.com. The value of **Base** is used as base for the links in the HTML text, i.e. a link that looks like this

<A HREF="telephone\_list.html">Telephone numbers</A>

in your HTML text will, with the above mentioned base attribute, point to

http://www.hyperwave.com/telephone\_list.html.

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MIMETYPE MimeType is used to tell Hyperwave the type of file being uploaded. It is entered by selecting a MIME type from those available in the listbox. In many cases it is possible to take the default "automatic detection" option because Hyperwave uses a so-called magic number test to figure out the file type, and, if you use Netscape, many further file types are recognized by their extensions. The following MIME types are recognized by Hyperwave:

| MIME type              | File type        |
|------------------------|------------------|
| text/html              | HTML text        |
| application/postscript | PostScript files |
| image/jpeg             | JPEG images      |
| image/gif              | GIF images       |
| image/x-png            | PNG images       |
| video/mpeg             | MPEG videos      |
| video/x-avi            | AVI videos       |
| x-world/x-vrml         | VRML 3D scenes   |
| audio/x-wav            | WAV audio        |
| audio/x-au             | AU audio         |
| application/x-java     | Java classes     |

#### 2.3.4.2 INSERTING COLLECTIONS

There are five types of collections: Collection, Language Cluster, Sequence, Multi Cluster and Alternative Cluster.

#### Collection

**COLLECTION TYPES** 

Collections are used to hold documents and other collections.

Language Cluster

A Language Cluster is a collection which functions as a multilingual document. If you insert two or more different texts into a cluster, each in a different language, then when the cluster is accessed the text which corresponds to the language the user has set will be displayed.

Sequence

If you insert documents into a sequence, then when a member of the sequence is accessed, buttons appear which let you navigate sequentially, forwards or backwards, through the members.

MultiCluster

All documents which have been inserted into a multicluster are displayed as a composite document when the multicluster is accessed.

· AlternativeCluster

An alternative cluster is a collection of documents from which exactly one document is chosen by certain criteria. The behavior of such a cluster is more like that of a simple document than a collection.

Two typical applications for alternative clusters are

- To allow a choice between documents which have different levels of quality but the same type (MimeType). A typical application are images with different resolutions or color depth which represent the same content, but consume different amounts of space. A user with low network bandwidth is able to receive an image with less quality in a reasonable amount of time.
- To allow a choice between documents in different representations which do not have the same type (MimeType). Sometimes it is necessary to offer information in different data formats or media types. For instance, an announcement may be available in PostScript, HTML, sound or even video format. Users can set their preferred document type.

Rules for choosing a document from an alternative cluster:

- 1. If the alternative cluster has a **MimeType** set then only documents of this **MimeType** are taken into account.
- 2. These documents are compared to the **PrefMimeTypes** (preferred MIME types which are stored in the user record) from left to right. Documents with the best matching **MimeType** are kept for further processing.
- 3. From these documents (all with the same MimeType) the ones with the smallest difference in quality compared to the quality given with the matching MimeType in the PrefMimeTypes field are selected.
- 4. If the resulting set contains more than one document, the one with the best matching language is chosen.
- 5. Alternative clusters can be nested.
- **INSERTING COLLECTIONS** Collections are inserted as follows:
  - 1. Log in to the server by clicking on Login.
  - 2. Click on Authoring to switch to authoring mode.
  - 3. Navigate to the collection you want to insert the collection into. Select **Publish→Collection**. The "New Collection" window appears (see Figure 27). Keep in mind that you must have the appropriate access to the collection where you want to insert the collection.
  - 4. Enter a Title for the new collection including a language from the listbox.
  - 5. Enter a description for the collection if desired.
  - 6. Enter a **Name** for the collection. Names should be given hierarchically, e.g. if you are inserting the collection into the collection "smith", and it is a collection for papers, you should call the new collection "smith/papers".
  - 7. By clicking on the "more" button, you can add further attributes, including a **Custom Attribute** with the type and value of your choice. An explanation of available attribute types and their values is found on <u>page</u> 74.
  - 8. Click on the "OK" button.
  - **INSERTING CLUSTERS** The procedure for inserting clusters is the same as that for inserting collections except that you must select Publish $\rightarrow$ Cluster and the cluster type of your choice in step 3. See <u>page</u> 43 for a description of collection types.
  - **INSERTING SEQUENCES** The procedure for inserting sequences is the same as that for inserting collections except that you must select Publish $\rightarrow$ Sequence in step 3. See <u>page</u> 43 for a description of collection types.

| X New Collection - Netscape   |                                 |           |
|-------------------------------|---------------------------------|-----------|
| New Collection                |                                 |           |
| * indicates a required field. |                                 |           |
| Title:                        | Development Department          | *         |
|                               | English 💌                       |           |
| Description:                  | This collection contains a list |           |
| Name (URL):                   | xfone/departments/development   | *         |
| Into Collection:              | XFone Departments               |           |
|                               | more                            |           |
| I                             | OK Cancel                       |           |
| Document: Done                |                                 | 🛀 🔊 🎸 //. |

Figure 27: Inserting a collection

**INSERTING COLLECTIONS** With older browsers, collections, clusters and sequences are inserted as follows: **USING OLDER BROWSERS** 

- 1. Log in, switch to edit mode by clicking on the "EDIT" icon, and click on the "new collection" icon (
- 2. Select the desired collection type from the list box. See below for an explanation of the different collection types.
- 3. Type the Name or GOid attribute of the collection you want to insert the new collection into in the "into collection" field. By default the collection is inserted into the collection you were browsing when you accessed the "insert collection" function.
- 4. Enter a Title for the new collection including a language from the menu.
- 5. Enter a **Name** for the collection. Names should be given hierarchically, i.e. if you are inserting the collection into the collection "smith", and it is a collection for papers, you should call the new collection "smith/papers".
- 6. By clicking on the "more" button, you can add a new attribute from the menu, including a **Custom Attribute** with the type and value of your choice. An explanation of available attribute types and their values is found on page 74.
- 7. Press the Insert collection button.

#### 2.3.4.3 INSERTING HTML AND TEXT

HTML and plain text can be inserted into Hyperwave not only in the form of files; they can also be entered by hand just before being uploaded. This is done as follows with version 4.x browsers:

- INSERTING TEXT AND HTML USING VERSION 4.X BROWSERS
- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the collection you want to insert the text into. Select Publish→HTML or Publish→Text depending on what you want to upload. The "New Text" window appears. Keep in mind that you must have the appropriate access to the collection where you want to insert the text.
- 4. Enter a Title for the new text including a language from the listbox.
- 5. Enter a description for the text if desired.

**INSERTING TEXT AND** 

**HTML USING OLDER** 

BROWSERS

- 6. Enter the text in the large window in the form (see Figure 28). With the "Text" option, the text should be plain ASCII text, and with the "HTML" option, it should be syntactically correct HTML.
- 7. Click on "More" to enter additional attributes. All attribute types are explained on page 74. The Custom Attribute field allows you to enter an attribute with the name and value of your choice.
- 8. Click on the "OK" button.

When using older browsers, text and HTML are uploaded as follows:

- Log in, switch to edit mode by clicking on the "EDIT" icon, and click on the "new 1. document" icon (L) to access the "new document" form.
- Select the "Text" or "HTML" tab to enter plain text or HTML respectively. 2.
- 3. Enter the text in the large window in the form. With the "Text" option, the text should be plain ASCII text, and with the "HTML" option, it should be syntactically correct HTML.
- Enter the Name or GOid of the collection you want to insert the text into. Default is the 4. collection you were browsing when you accessed the "new document" function. Keep in mind that you must have the appropriate access rights to insert an object into this collection.
- 5. Enter a title for the text and select a language from the menu.
- A Name (unique identifier for the text being inserted) is optional. 6.
- 7. Click on "More" to enter additional attributes. All attribute types are explained on page 74. The Custom Attribute field allows you to enter an attribute with the name and value of your choice.
- Click on the "Insert text" button. 8.

| 💥 New Text - Netscape   |                 |
|---|-----------------|
| New Text<br>*indicates a required field.  | <u>^</u>        |
| Title: Employee List *  |                 |
| Description: Employee list for Personnel Dep  |                 |
| Into Collection: XFone Internal Information   |                 |
| <pre></pre> <html>       Jane T. Smith, Personnel Director  Michael L. Dennis, Assistant Director  Susan J. Brown, Secretary <!--/BODY--> </html> |                 |
| more  |                 |
| Document: Done  | ⊥<br>// ♦∕ ¶ی ⊑ |

Figure 28: Inserting an HTML text

#### 2.3.4.4 INSERTING NOTES

It is possible to attach a note to any Hyperwave object. By default, annotated objects display a link to their annotations in their footer.

- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Select Publish→Note. The "New Note" window appears.
- 4. Navigate to the collection or document you want to annotate. If you want to annotate the entire document, click on the "Whole Document" button. If you want to annotate a specific word or phrase in the document, mark that phrase and click on the "Current Selection" button.
- 5. Enter the text of the annotation in the large window. This text can be plain text but HTML markup is allowed. However, the HTML header and footer are automatically added to the text so what you enter in the form should only contain elements which are allowed in the <BODY> section of an HTML text. Note that if you enter plain text, carriage returns will be ignored unless you enter a <P> or <BR> tag. After the annotation is inserted, a link from the annotation to the annotated object is automatically made.
- 6. Give the note a title and select a language from the list. Default is the title of the object you are annotating, preceded by the text "Comment on".
- 7. Enter the **Name** attribute of the collection you want to insert the annotation into. Default is the collection you were browsing when you opened the "New Note" window.
- 8. Enter a Name attribute for the note. Optionally enter a description.

#### INSERTING NOTES USING VERSION 4.X BROWSERS

- 9. Select the access rights for the annotation. "Public annotation" makes the annotation readable by all users, "Private annotation" makes it readable by its author only, and "Inherited" causes the annotation to have the same access rights as the collection it is being inserted into.
- 10. Click on the "OK" button.

| 💥 New Note - Netscape  |  |
|--|--|
| New Note<br>Navigate to the document where yo<br>window where you opened the note<br>attached and press the "Current Sel               | u want to create a note, using the main browser window (the<br>window). Mark the phrase where the annotation should be<br>ection" button in the wizard.                        |
| Target   |  |
| Link Target:   | Current Selection  |
| Phrase:  | development plan for July  |
| Document:  | Cordless 200 Development Plan  |
| Note<br>I think we have to recom-<br>July. The goals are unrea-<br>development team is on va-<br>change our development go<br>suffer.] | ider the development plan for the month of<br>listic, especially since half of the<br>cation in July. I think that if we don't<br>als, the quality of the finished product may |
| litle: Commen<br>English   | t on Cordless 200 Develop *  |
| Document: Done   |  |

Figure 29: The New Note window

INSERTING NOTES USING OLDER BROWSERS

- 1. Log in and click on the "ANNOTATE" icon to access the Annotation Wizard.
- 2. Navigate to the collection or document you want to annotate. If you want to annotate the entire document, click on the corresponding "Set" button. If you want to annotate a specific word or phrase in the document, mark that phrase and click on the "Set current selection" button. In some older browsers you may have to enter the phrase by hand after pressing the "Set" button.
- 3. Enter the text of the annotation in the large window in the Annotation Wizard. This text can be plain text but HTML markup is allowed. However, the HTML header and footer are automatically added to the text so what you enter in the form should only contain elements which are allowed in the <BODY> section of an HTML text. Note that if you enter plain text, carriage returns will be ignored unless you enter a <P> or <BR> tag. After the annotation is inserted, a link from the annotation to the annotated object is automatically made.

- 4. Enter the Name attribute of the collection you want to insert the annotation into. Default is the collection you were browsing when you opened the Annotation Wizard.
- Give the annotation a title. Default is the title of the object you are annotating, preceded 5. by the text "Comment on".
- 6. Optionally give the annotation a Name attribute.
- Select the access rights for the annotation. "Public annotation" makes the annotation 7. readable by all users, "Private annotation" makes it readable by its author only, and "Inherited" causes the annotation to have the same access rights as the collection it is being inserted into.
- 8. Click on the "Insert annotation" button.

#### **INSERTING REMOTE DOCUMENTS** 2.3.4.5

Hyperwave lets you insert remote objects into the server. Remote objects are references to objects on other servers, e.g. WWW or FTP servers.

**INSERTING REMOTE DOCUMENTS USING VERSION 4.X BROWSERS** 

**DOCUMENTS USING OLDER** 

BROWSERS

- 1. Log in to the server by clicking on Login.
- Click on Authoring to switch to authoring mode. 2.
- Navigate to the collection you want to insert the remote document into. Select 3. mind that you must have appropriate access to the collection where you want to insert the remote document.
- 4. Give the remote document a title and select a language from the list.
- 5. Enter the URL of the remote object you want to access with the Hyperwave remote document. See below for details about what types of URLs can be entered.
- 6. A Name (unique identifier for the object being inserted) and description for the remote document are optional.
- 7. Click on "More" to enter additional attributes. All attribute types are explained on page 74. The Custom Attribute field allows you to enter an attribute with the name and value of your choice.
- 8. Click on the "OK" button.
- Log in, switch to edit mode by clicking on the "EDIT" icon and click on the "new **INSERTING REMOTE** 1. document" icon (**L**) to access the "new document" form.
  - 2. Select the "Remote Document" tab to access the proper form.
  - 3. Enter the URL of the remote object you want to access with the Hyperwave remote document. See below for details about what types of URLs can be entered.
  - 4. Enter the Name or GOid of the collection you want to insert the remote object into. Default is the collection you were browsing when you accessed the "new document" function. Keep in mind that you must have the appropriate access rights to insert an object into this collection.
  - 5. Enter a title for the document and select a language from the menu.
  - 6. A Name (unique identifier for the object being inserted) is optional.
  - 7. Click on "More" to enter additional attributes. All attribute types are explained on page 74. The Custom Attribute field allows you to enter an attribute with the name and value of your choice.
  - Click on the "Insert remote document" button.

It is possible to insert documents of types "http", "https", "ftp", and "telnet". The URL is entered **REMOTE URLS** using the protocol type followed by "://", then the address. Some examples are

http://www.icg.tu-graz.ac.at/magellan

for a WWW document, and

ftp://ftp.iicm.edu

for an FTP connection.

For telnet connections, the URL is entered in the following form:

telnet://user@host.

| 💥 New Remote Dokument - Netscape                  |              |
|---|--------------|
| New Remote Document * indicates a required field. |              |
| Title: Hyperwave Guides (remo<br>English 💌        | te) *        |
| Remote-URL: http://www.hyperwave.c                | :om/docume * |
| Name (URL): xfone/homes/smith/hwgu                | lides        |
| Description: Link to latest Hyperwa               | we docume    |
| Into Collection: Phil Smith's Home Collection     |              |
| more  |              |
| OK Cancel   |              |
| Document: Done                                    | 📃 🔆 🎇 💕 🎸 // |

Figure 30: Inserting a remote document

**INSERTING CGI OBJECTS** This option is only available for system users and is explained in the *Hyperwave Administrator's Guide.* 

# 2.3.5 THE "MODIFY" MENU

This menu lets you access all functions for modifying objects on the server, e.g. moving and deleting objects, creating and modifying links, etc. You can use these functions as long as you have appropriate access rights for the documents and links you want to modify.

The Modify menu contains the following items:

- Attributes: Lets you view and edit the attributes of any object.
- Edit Text: HTML and plain text documents can be edited.
- Hyperlink: Lets you add, modify or delete hyperlinks in HTML text.
- Move: Allows you to move documents and collections from one collection to another.
- · Shortcut: Lets you create a shortcut from a collection to a collection or document.
- Duplicate: Makes duplicate (real copy and not a shortcut) of a document.
- · Delete: Deletes documents and collections.
- · Replace: Lets you replace an existing document.
- Workflow-Release Procedures: Allows you to set up a chain of users for the systematic review of documents.

- Version Control: Version control allows you to save all versions of a document ever created.
- · Lock/Unlock Object: Lets you lock/unlock documents.

These menu items are explained in greater detail below.

### 2.3.5.1 ATTRIBUTES

If you have appropriate access rights for an object you can edit some of its attributes. Title and Name (a unique identifier assigned to the object) are editable if you are the owner of the object. Other attributes, such as TimeCreated (the time the object was inserted into Hyperwave), DocumentType (e.g. text, image) and GOid (a unique number which is assigned to the object when it is created and which can be used to identify the object) are maintained by the server and cannot be changed.

| 💥 Attributes - Netscape                 |  |       | _ D ×    | (  |
|---|--|-------|----------|--|
| Attributes<br>Edit the Hyperwave object | t attributes of the document 'XFone Product Development Schedules' | _     | <u> </u> |  |
| Туре:                                   | Document   |       |          |  |
| DocumentType:                           | collection   |       |          |  |
| TimeCreated:                            | 08/11/1998 14:31:17  |       |          |  |
| TimeModified:                           | 08/11/1998 14:40:53  |       |          |  |
| Subdocs:                                | 1  |       |          |  |
| GOid:                                   | 0xc0a8991a_0x0011ea04  |       |          |  |
| Link Map                                | Link Map   |       |          |  |
| Owner:                                  | jones  |       |          | And a second sec |
| Title:                                  | XFone Product Development Sched<br>English                         |       |          |  |
| Name:                                   | xfone/internal/schedules   |       |          |  |
| Add. Title                              | English 💌  |       | _        |  |
| Rights:                                 | R:g dev<br>Open Rights Wizard                                      |       |          | -  |
| Document: Done                          |  | - 61P | 🧶 🗍      | -<br>//,   |

Figure 31: Editing attributes

EDITING ATTRIBUTES USING VERSION 4.X BROWSERS

- Attributes are edited as follows when using version 4.x browsers:
- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the document or collection whose attributes you want to modify.
- 4. Select Modify→Attributes. The list of the object's attributes appears (see Figure 31). Some of them can be edited.
- 5. Click on the "more" button at the bottom of the attribute list to add a new attribute using the menu and field at the bottom of the list. Under **Custom Attribute** you can enter a completely new attribute with the desired name and give it an arbitrary value.
- 6. When you are finished editing the attributes, click on the "OK" button.

EDITING ATTRIBUTES USING OLDER BROWSERS Attributes are edited as follows when using older browsers:

- 1. Log in and switch to edit mode by clicking on the "EDIT" icon.
- 2. Navigate to the document or collection whose attributes you want to modify.
- 3. Click on the "edit attributes" icon (). The list of the object's attributes appears. Some of them can be edited.
- 4. Click on the "more" button at the bottom of the attribute list to add a new attribute using the menu and field at the bottom of the list. Under **Custom Attribute** you can enter a completely new attribute with the desired name and give it an arbitrary value.
- 5. When you are finished editing the attributes, click on the "Apply Attributes" button.

**Note:** Certain attributes, such as **Title** and **Name**, can be entered multiple times. You can have, e.g. several different **Name** attributes and thus have several different URLs which you can use to access the same object.

**LINK MAP** When editing attributes, it is possible to view the references to and from a document by clicking on the "Link Map" button in the attributes window. This allows you to see the incoming and outgoing links for an object, as well as its parent collection(s) and children documents.

#### 2.3.5.2 EDITING TEXT

The "Edit Text" function lets you edit HTML or plain text documents.

EDITING TEXT USING VERSION 4.X BROWSERS

- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the text you want to edit. Select Modify→Edit Text. The "Edit Text" window appears. Edit the text.
- 4. Click on the "OK" button.
- **EDITING TEXT USING** 1. Log in, switch to edit mode by clicking on the "EDIT" icon, and navigate to the text you want to edit.
  - 2. Click on the "modify objects" icon (<sup>11</sup>). The Modify Wizard appears.
  - 3. Click on the "Text" tab.
  - 4. Edit the text.
  - 5. Click on the "Modify text" button.

# *Note:* If you edit a plain text document, any links present in the document will be deleted when you upload the modified document.

**LINK IDS IN HTML DOCUMENTS** You may be wondering about the numbers that appear after links in the source text of HTML documents (see Figure 32). They are unique link identifiers which ensure that your links remain consistent even if you move the destination document to another collection. When they appear it means that the link is closed, i.e. the link destination exists in your system. If you want to change a link to point to another object you need to remove its link ID, otherwise the link will continue pointing to the previous destination.

| <html></html>  |  |
|--|--|
| <head><br/><title>Hyperwave HW &amp;PI Definition - 1 OVERVIEW</title></head>  |  |
| <pre><!-- This document was created from RTF source by rtftohtml version 3.9.3--> <body b6c0l0r="#ffffff" text="#000000"></body></pre>   |  |
| <& HREF="/apidef/api.htm;id=0000dfcc"> <img<br>SRC="/apidef/images/leftg_gif:id=0000dfcg" &lt;="prev" horder=0&gt;//&gt;&gt;</img<br>  |  |
| <pre><a href="/apidef/apidef.htm;id=0000dfd0">IMG SRC="/apidef/images/rightg.gif;id=0000dfd0"&gt;IMG SRC="/apidef/images/rightg.gif;id=0000dfce" ALT="next" border=0&gt;/A&gt;</a></pre>                 |  |
| <pre><a href="/apidef/api.htm;id=0000dfd4"><img alt="Up " border="0" src="/apidef/apig.gif;id=0000dfd2"/></a> <a href="/apidef/api.htm;id=0000dfd2"><img< pre=""></img<></a></pre>                       |  |
| <pre>SRC="/apidef/images/topg.gif;id=0000dfd6" ALT="Title " border=0&gt; <a href="/apidef/api_c.htm;id=0000dfdc"><img <="" alt="Contents " pre="" src="/apidef/images/contg.gif;id=0000dfda"/></a></pre> |  |
| chr size=4>  |  |
| 1 OVERVIEW   |  |
| <pre>KLI&gt;KA REF="/ abidef/ abi02.htm; id=0000dfde"&gt; 1.1 What is the HWIS</pre>   |  |
| AP 1?  |  |

Figure 32: Editing HTML text

## 2.3.5.3 ADDING/MODIFYING/DELETING HYPERLINKS

The Modify menu allows you to create, edit or delete hyperlinks in HTML texts.

Links can be created in Hyperwave using the Link Wizard (note that you must have JavaScript 1.1 or higher to use the Wizard). It is possible to create links in HTML and plain text. Please note that at this time, links created in plain text documents are deleted if the text is edited.

#### CREATING HYPERLINKS USING 4.X BROWSERS

**CREATING LINKS USING** 

**OI DER BROWSERS** 

- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Select Modify → Hyperlink → Add Hyperlink. The Link Wizard appears.
- 4. Set the link start. This is done by navigating to the document where you want the link start, selecting the desired word or phrase with the mouse and clicking on the "Current Selection" button near the top of the window. The marked phrase and the title of the document appear in the respective fields.
- 5. Use the radio buttons to decide what to do if the selected phrase appears more than once in the text.
- 6. Select the link type. You can create a normal reference link, an annotation, or an inline image. Add optional access rights for the link using the Rights Wizard.
- 7. Set the link target. Navigate to the document where you want the link target. To set the entire document as target, click on the "Whole Document" button. To set a phrase as target, select the phrase and click on the "Current Selection" button.
- 8. Click on the "OK" button.

# Log in, switch to edit mode by clicking on the "EDIT" icon, and click on the "make link" icon (<sup>(S)</sup>) to access the Link Wizard.

2. Set the link start. This is done by navigating to the document where you want the link start, selecting the desired word or phrase with the mouse and clicking on the "Set"

button near the top of the window. The marked phrase and the title of the document appear in the respective fields. In some older browsers the phrase does not automatically appear in the corresponding field when you press "Set". In this case you must enter the phrase by hand.

- 3. Use the radio buttons to decide what to do if the phrase is not unique in the document.
- 4. Add an optional title and access rights for the link, and select the link type. See below for an explanation of these attributes.
- 5. Set the link target. Navigate to the document where you want the link target. To set the entire document as target, click on the appropriate "Set" button. To set a phrase as target, select the phrase and click on the "Set current selection" button. In some older browsers you may have to enter the phrase by hand after clicking on "Set".
- 6. Click on the "Create link" button.

**Note:** If your local server is part of a server pool, it is possible to make links from the local server to another server in the pool. The only difference is that when setting the link target you have to navigate to the remote server over the "Hyperwave Serverpool" collection, which is found in the root collection.

| 💥 Hyperwave Link Wizard - Netscape  |   | _ 🗆 ×     |
|---|---|-----------|
| Hyperwave Link Wizard<br>Navigate to the document where you<br>window where you opened the linkw<br>press the respective "Set" button in t<br>the phrase manually. After you have | u want to create a link, using the main browser window (the<br>wizard). Mark the phrase for the link start or the link target and<br>the wizard. Note: On some older browsers you have to fill out<br>eset both link start and link target press "Create Link". |           |
| Link  |   |           |
| Link Start:   | Current Selection   |           |
| Phrase:   | language mapping  |           |
| Document:   | Hyperwave HW API Definition - 1   |           |
| If Phrase is not unique:  | <ul> <li>Manually select links to create</li> <li>Create links for all occurrences</li> </ul>   |           |
| Linktype:   | Reference   |           |
| Rights:   | R:g api<br>Open Rights Wizard   |           |
| Target  |   |           |
| Link Target:  | Current Selection<br>Whole Document   |           |
| Phrase:   |   |           |
| Document:   | efinition - 1.3 LIST OF MODULES   |           |
|   | OK Cancel   | -         |
| Document: Done  | E 🔆 🐃   | 🚽 🌮 🏑 //. |

Figure 33: The Link Wizard

**LINK ATTRIBUTES** The Link Wizard can be used to give various attributes to the links created if desired. These attributes include **Title**, **Rights**, and link type (reference, annotation or inline).

Giving a link a Title can help you find the link during a search. **Rights** are used to control who can see the link, e.g. you can give a document and a link in the document different rights so that the users who can read the document do not necessarily see the link.

There are three different link types: "Reference", "Annotation" and "Inline image". "Reference" links are normal links. "Annotation" links are links from an annotation to the annotated document (see <u>page</u> 47). "Inline image" links are links from an HTML text to an image, which cause the image to appear in the text.

#### MODIFYING HYPERLINKS USING 4.X BROWSERS

- **VKS** 1. Log in to the server by clicking on Login.
  - 2. Click on Authoring to switch to authoring mode.
  - 3. Navigate to the document whose hyperlinks you want to edit. Select **Modify→Hyperlink→Modify Hyperlink**. The Modify Hyperlinks window appears, displaying the document with an "attributes" icon next to each link (see Figure 34). Click on one of these icons to access the attributes of the link. A list of the link's attributes appears.
  - 4. It is possible to change the **Owner** attribute of the link (if you are a member of the group "system") or change or add a **Title** or **Rights** attribute. Click on "More" to add an additional attribute (see <u>page</u> 74 for a list of attribute types with explanations) or a custom attribute (attribute with an arbitrary name and value).
  - 5. Click on the "OK" button.

# **EDITING LINKS USING** 1. Log in, switch to edit mode by clicking on the "EDIT" icon, and navigate to the text whose links you want to edit.

- 2. Click on the "modify objects" icon (
  ). The Modify Wizard appears.
- 3. Click on the "Edit Links" tab. The document is displayed with an "attributes" icon next to each link. Click on an icon to access the attributes of the link.
- 4. Click on the "edit" button to edit the link attributes. It is possible to change the **Owner** of the link (if you are a member of the group "system") or change or add a **Title** or **Rights** attribute. Click on "More" to add an additional attribute (see <u>page</u> 74 for a list of attribute types with explanations) or a custom attribute (attribute with an arbitrary name and value).
- 5. Click on the "Apply attributes" button.



Figure 34: Links displaying links to their attributes

- DELETING LINKS USING 1. 4.X BROWSERS
- . Log in to the server by clicking on Login.
  - 2. Click on Authoring to switch to authoring mode.
  - 3. Navigate to the text whose links you want to delete and select **Modify**→**Hyperlinks**→**Delete Hyperlink**. The "Delete Hyperlinks" window appears.
  - 4. Use the checkboxes to select the links you want to delete.
  - 5. Click on the "OK" button.

#### **DELETING LINKS USING OLDER BROWSERS** 1. Log in, switch to edit mode by clicking on the "EDIT" icon, and navigate to the text whose links you want to delete.

- 2. Click on the "modify objects" icon (
  ). The Modify Wizard appears.
- 3. Click on the "Delete Links" tab. The document is displayed with a checkbox next to each link. Use the checkboxes to select the links you want to delete.
- 4. Click on the "Delete Links" button.

### 2.3.5.4 MOVING OBJECTS

Objects are moved as follows when using Hyperwave with 4.x browsers:

- 1. Log in to the server by clicking on Login.
- 2. Click on **Authoring** to switch to authoring mode. The items in the collection hierarchy appear with a checkbox next to each.
- 3. Navigate to the collection which contains the items you want to move. Use the checkboxes to select one or more items.
- 4. Select **Modify**→**Move**. In the window that appears, select the target collection for the object(s) to be moved.
- 5. Click on the "OK" button.

#### MOVING OBJECTS USING OLDER BROWSERS

BROWSERS

MOVING OBJECTS USING VERSION 4.X BROWSERS

Objects are moved as follows when using older browsers:

- 1. Log in, switch to edit mode by clicking on the "EDIT" icon, and navigate to the collection which contains the object(s) you want to move.
- 2. Click on the "modify objects" icon (I). The Modify Wizard appears, displaying the collection you were just browsing with a checkbox next to each item.
- 3. Click on the "Move" tab.
- 4. Select the objects you want to move using the checkboxes.
- 5. Enter the Name or GOid attribute of the collection you want to move the object(s) to in the "Move documents to collection" field.
- 6. Click on the "Move selected documents" button.

### 2.3.5.5 MAKING SHORTCUTS TO OBJECTS

A shortcut is a link to a Hyperwave object. If you make a shortcut to an object, it appears as if this object is contained in the collection. However, only one physical copy of it exists on the server. If you want to make a real copy of an object on the server, use the "duplicate" function.

**MAKING SHORTCUTS TO** 1. Log in to the server by clicking on Login. **OBJECTS USING 4.X** 

# 2. Click on **Authoring** to switch to authoring mode. The items in the collection hierarchy appear with a checkbox next to each.

- 3. Navigate to the collection which contains the items you want to make shortcuts to. Use the checkboxes to select one or more items.
- Select Modify→Shortcut. In the window that appears, select the target collection for the object(s) to be linked.

56

5. Click on the "OK" button.

MAKING SHORTCUTS TO OBJECTS USING OLDER BROWSERS Shortcuts to objects are made as follows when using older browsers. Note that the "shortcut" function was previously called the "link" function.

- 1. Log in, switch to edit mode by clicking on the "EDIT" icon, and navigate to the collection which contains the object(s) you want to link.
- 2. Click on the "modify objects" icon (I). The Modify Wizard appears, displaying the collection you were just browsing with a checkbox next to each item.
- 3. Click on the "Link" tab.
- 4. Select the objects you want to link using the checkboxes.
- 5. Enter the Name or GOid attribute of the collection you want to link the object(s) to in the "Link documents to collection" field.
- 6. Click on the "Link selected documents" button.

**Note:** If your local server is part of a server pool, it is possible to link documents from another server in the pool to a collection on your server. The only difference is that in step one you have to navigate to the remote server over the "Hyperwave Serverpool" collection, which is found in the root collection.

#### 2.3.5.6 DUPLICATING OBJECTS

The "duplicate" function makes an actual physical copy of a document on the server.

Documents are duplicated as follows when using Hyperwave with 4.x browsers:

- 1. Log in to the server by clicking on Login.
- 2. Click on **Authoring** to switch to authoring mode. The items in the collection hierarchy appear with a checkbox next to each.
- 3. Navigate to the collection which contains the items you want to duplicate. Use the checkboxes to select one or more items. Note that it is not possible to copy collections.
- Select Modify→Duplicate. In the window that appears, select the target collection for the duplicated object(s).
- 5. Click on the "OK" button.

DUPLICATING DOCUMENTS USING OLDER BROWSERS

**DUPLICATING OBJECTS** 

**USING VERSION 4.X** 

BROWSERS

Documents are duplicated as follows when using older browsers. Note the "duplicate" function was previously called the "copy" function.

- 1. Log in, switch to edit mode by clicking on the "EDIT" icon, and navigate to the collection which contains the document(s) you want to copy.
- 2. Click on the "modify objects" icon (I). The Modify Wizard appears.
  - 3. Click on the "Copy" tab. All member documents of the collection you were just browsing will be displayed with a checkbox next to each. Note that it is not possible to copy collections.
- 4. Select the documents you want to copy using the checkboxes.
- 5. Enter the Name or GOid attribute of the collection you want to insert the copied document(s) into in the "Copy documents into collection" field.
- 6. Click on the "Copy selected documents" button.

#### 2.3.5.7 DELETING OBJECTS

Objects are deleted as follows when using Hyperwave with version 4.x browsers:

#### DELETING OBJECTS USING 4.X BROWSERS

- 1. Log in to the server by clicking on Login.
- 2. Click on **Authoring** to switch to authoring mode. The items in the collection hierarchy appear with a checkbox next to each.
- 3. Navigate to the collection which contains the object(s) you want to delete and use the checkboxes to select one or more documents to be deleted.

**DELETING OBJECTS USING OLDER BROWSERS** 

4. be permanently deleted.

Objects are deleted as follows when using older browsers:

- Log in, switch to edit mode by clicking on the "EDIT" icon, and navigate to the collection which contains the object(s) you want to delete.
- Click on the "modify objects" icon (I). The Modify Wizard appears, displaying the 2. collection you were just browsing with a checkbox next to each item.
- Click on the "Delete" tab. 3.
- 4. Select the objects you want to delete using the checkboxes.
- Click on the "Delete selected documents" button. The checked objects will be 5. permanently deleted.

Note: The delete function is recursive, i.e. you can delete a collection even if it contains other documents and collections.

#### 2.3.5.8 **REPLACING DOCUMENTS**

Log in to the server by clicking on Login. 1.

- Click on Authoring to switch to authoring mode. 2.
- Navigate to the document you want to replace and select Modify → Replace. The 3. "Replace" window appears, displaying a list of the attributes of the current document. There are fields where you can enter a base attribute and a file name.
- 4. Enter a base if you are replacing a text (the value of this attribute is used as a base for the links in the document if it is an HTML document).
- 5. Enter a file name including the path, or select a file using the file browser.
- Click on the "OK" button. 6.
- Log in, switch to edit mode by clicking on the "EDIT" icon, and navigate to the 1. document you want to replace.
  - 2. Click on the "modify objects" icon (I). The Modify Wizard appears.
  - Click on the "Replace Document" tab. A list of the attributes of the current document is 3. displayed. There are fields where you can enter a base attribute and a file name.
  - Enter a base if you are replacing a text (the value of this attribute is used as a base for the 4. links in the document, if it is an HTML document).
  - 5. Enter a file name including the path, or select a file using the file browser.
  - Click on the "Replace document" button. 6.

#### WORKFLOW: RELEASE PROCEDURE 2.3.5.9

INTRODUCTION

#### Release Procedure is an extremely useful and efficient Hyperwave feature for the systematic review of documents. Using Release Procedure, a predefined chain of users can be set up and used to circulate, review, edit and release documents within a system.

Once a procedure (flow) has been created, many cases (instances of a procedure) can be started based on its structure. Each procedure has an administrator, a publisher, auditors and possibly readers.

The administrator is the user with the rights to edit the procedure.

The publisher is the user who is responsible for editing documents, assigning documents to a case, creating cases and releasing them to the auditors, and receiving documents for reworking in the case of rejection.

The auditors are the users who are responsible for reviewing documents. Each auditor who accesses the Case collection has the choice of either releasing or rejecting the case. If the case is released, it is passed on to the next auditor in the list, if it is rejected, it is returned to the publisher

**REPLACING DOCUMENTS** 

**REPLACING DOCUMENTS** 

**USING VERSION 4.X** 

BROWSERS

USING OLDER BROWSERS

for reworking. Auditors add comments to the case, explaining their reasons for releasing or rejecting it.

**Readers** are users who are assigned read rights to documents in the Release collection, once documents have been released. Readers do not actively take part in the reviewing process.

- **EXAMPLE** Let us take an example. A department head writes a report on his department's projected sales figures for the quarter. Before this document is made available to all the employees in the company, it must first be reviewed by two other department heads, the accounts manager and the sales manager. DepartmentHead1 is therefore the **publisher** and the other department heads and the managers are **auditors**. When the administrator is creating a new procedure, he enters a list of user names as **auditors**. The order in which the names are entered, e.g. DepartmentHead2 > DepartmentHead3 > AccountsManager > SalesManager, is exactly the order in which documents are circulated for review.
- **REVIEWING DOCUMENTS** Auditors receive notification that a case is to be reviewed. When the auditor navigates to the Case collection, the case is displayed in the interface with a comment box and two option buttons underneath it, **Release** and **Reject**. The auditor can choose to release the case, sending it on to the next auditor or back to the publisher if this auditor is the last on the list, or to reject the case, sending it back to the publisher for editing. The auditor can also add an optional comment, regarding the reasons for releasing or rejecting the case. These comments are stored in the Case collection, along with the documents.

When a case is rejected, the rejected documents and their comments are inserted into a folder in the collection. This folder is labeled Rejection and includes the relevant date and time.

When the publisher feels the returned document has been sufficiently revised, the case is started again and the release procedure started anew. Documents that are released for the second time must be sent through all auditors again, not just to the auditor who rejected the case.

**RELEASE PROCEDURE** MENU The menu items under Release Procedure are as follows: New Release Procedure, Edit Release Procedure, Edit Release Procedure, Show open Cases, Create Cases, Start Case, Delete Case and Show state of the Case. These items are explained in detail below.

#### Hyperwave User's Guide - Getting Started with Hyperwave Information Server

| XA Case of 'Review technical documen    | tation' from 98/10/22 at 19:54       | 1:46 - Netscape 🛛 🗖 🗙  |
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| Back Forward Reload Home Se             | arch Guide Print Securi              | ty Stop 💼              |
| 👔 🌿 Bookmarks 🧔 Location: 8007/rele     | ase_collection_909078905181_0        | xc0a89934_0x0002f75f 💌 |
| 📔 🖳 FTP search v3.5 🖳 AltaVista: Main   | 関 orion:8007 🛛 HW 🖳 HW I             | NQA 🖳 Schipf 🖳 test 🦉  |
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| Attributes (Ctrl+Shift+A)               |                                      |                        |
| Edit Text                               |                                      |                        |
|   |                                      |                        |
| Hyperlink                               |                                      |                        |
|   |                                      |                        |
| Move                                    |                                      |                        |
| Duplicato                               |                                      |                        |
| Delete                                  |                                      |                        |
| Replace                                 |                                      |                        |
| · · · · · · · · · · · · · · · · · · ·   |                                      |                        |
| Release Procedure                       | New Release Procedure                | 1                      |
| Version Control                         | Edit Release Procedures              |                        |
| Lock/unlock Object                      |                                      |                        |
|   |                                      | -                      |
|   | Show open Cases                      |                        |
|   |                                      |                        |
|   |                                      |                        |
|   |                                      |                        |
|   | Delete Case                          | _                      |
|   |                                      |                        |
|   | Show state of the Case               | ]                      |
|   | r futuro - You aro loggad in as real |                        |
| pi privperwave - Organize you           | nuture - i ou are royyeu mas m       |                        |

Figure 35: Release Procedure Menu

CREATING A NEW PROCEDURE

When creating a new release procedure, the administrator must enter the following information: **Procedure Name**: the name the procedure is to have. This should be descriptive.

**Description**: a short description of the procedure, which will appear on the interface next to the collection listing.

Administrators: the user(s) with the rights to edit the procedure

Publishers: the user(s) that assigns documents to procedures and starts cases

Auditors: the user(s) who are to review documents. These user names must be entered in the order in which they are to receive documents.

*Note*: For all cases where there is a user name or list of user names to be entered, there is a button that will open the User Wizard, allowing the administrator to choose user names easily from a list.

There are two checkboxes, allowing the user to decide which notification options are to be used. If the option **Show open cases at login** is selected, a pop-up window will appear when the publisher or auditor logs into the Hyperwave Server. If the option **inform per e-mail** is selected, the publisher or auditor will receive an e-mail detailing the status of cases in which they are involved. For more information on notification, see <u>page</u> 66.

**Release collection**: here the name of the collection is entered, where documents assigned to release procedures can be stored. It is also possible to edit and release documents from their original location.

The next two check boxes allow the administrator to manage the Release collection into which release flow documents are inserted:

By clicking Published documents can only be stored in the "Release collection", the administrator ensures that the value inserted for Release collection (see above) cannot be changed. All release flow documents must then be stored in this collection, and the value cannot be edited at other stages (e.g. in the Assign Documents to Release Procedure dialog box).

By clicking **Copy Documents to Release Collection**, the administrator ensures that a working copy of all release flow documents is stored in the Release collection. The advantage of choosing this option is that working copies of documents to be reviewed are created in a separate release collection, and the initial versions of the documents still exist in their original collection.

**Readers:** the user(s) that have read rights to documents in the Release collection. These users can access documents when they are released but have no active part in the review procedure. If no users are specified as **Readers** at this point, read rights for the Release collection will be given to all users.

**Detailed description**: a detailed description of the procedure, which is listed in the text file version of the procedure description. This is an administrative document, which shows attributes and values associated with the procedure.

The following steps explain how to create a new release procedure:

- 1. Log onto the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Select Modify  $\rightarrow$  Release Procedure $\rightarrow$ New Release Procedure.
- 4. In the dialog box that appears, input the appropriate information as discussed above
- 5. Click OK.

| 💥 New Release Procedu                      | ire - Netscape   | _ 🗆 ×    |
|--|--|----------|
| New Release P<br>Create a new Release Prod | Procedure<br>cedure  | <u>•</u> |
| Procedure name:                            | Review tecnical docuemtnation *<br>English 💌   |          |
| Description:                               | Auditors are Mansuet Gaisbauer   |          |
| Administrators:                            | short desription of the procedure  rm  Open User Wizard  |          |
| Publishers:                                | Can edit this procedure          sogorman       *         Open User Wizard       *   |          |
| Auditors:                                  | mgais fkappe * Open User Wizard  |          |
|  | auditor to another in the order shown above.<br>☑ Inform per e-mail<br>□ Show open cases at login  |          |
| Release collection:                        | pubcoll1       *         Default collection used to store started cases          Published documents can only be stored in the "release collection"  |          |
|  | <ul> <li>Published documents are copied to the "release collection"</li> <li>NOTE:Document names will be changed. E.g.:<br/>/rootcollection/people/mydocs/new/descriptions/blue.html</li> <li>becomes</li> <li>/products/colors/blue.html</li> </ul> |          |
| Readers:                                   | Open User Wizard           Can read all case documents for this procedure without participating in a review or authorizing task  |          |
| Detailed<br>description:                   | Mansuet Gaisbauer and Frank<br>Kappe has to review the<br>documentation. Synnøva<br>O`Gorman is the publisher. The   |          |
|  |  |          |
| Docume                                     | nt Done 📃 💥 🤐 🚽  | <u>·</u> |

Figure 36: New Release Procedure dialog box

#### **EDITING A RELEASE PROCEDURE** The following steps explain how to edit a release procedure. In order to edit a procedure, the user must have been assigned as **administrator** when the procedure was first created.

- 1. Log onto the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Select Modify  $\rightarrow$  Release Procedure $\rightarrow$ Edit Release Procedure...
- 4. A dialog box will appear with a list of all release procedures. Click on the edit button beside the procedure you wish to modify.
- 5. In the dialog box that appears, modify the appropriate information.
- 6. Click OK.

**ASSIGNING DOCUMENTS** Once release procedures have been set up, instances of these procedures (cases) can be created and one or more documents can be assigned.

The following steps explain how to assign a document to a release procedure.

- 1. Log on to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the collection containing the documents you wish to assign.
- 4. Select the document(s) you wish to assign to a release procedure using the checkboxes.
- 5. Select Modify  $\rightarrow$  Release Procedure  $\rightarrow$  Assign Release Procedure ...
- 6. A dialog box appears listing all currently existing release procedures. Choose the procedure you wish to assign the documents to, using the radio buttons.
- 7. The default Release collection for these documents appears in a text box. You can edit this collection name as long as the option Published documents can only be stored in the "Release collection" was not checked in the New Release Procedure dialog box (see Figure 36). It is at this point that working copies of the documents are copied into the Release collection (if this was chosen when Creating a New Procedure).
- 8. If you wish to release the documents to the reviewers immediately, check the option Start Case immediately, and input a Case title. Checking this option skips the step Create Case.

If this option is not checked, the next step is to create the case. See page 65 Click OK.

| n Doci        | uments to a Relea                    | ase Procedure - Netscape   | _ 🗆 ×   |
|---------------|--------------------------------------|--|---|
| Ass<br>Assign | ign Docume                           | ents to a Release Procedure<br>ents to a release procedure.  | <u>^</u>  |
| Rele          | ease Proce                           | dures  |   |
|               | Title                                | Description  |   |
| ¢             | Review<br>technical<br>documentation | Publisher is Synnøva O'Gorman<br>Auditors are Mansuet Gaisbauer and Frank<br>Kappe.                            |   |
| 0             | Review URD                           |  |   |
| Rel           | ease collection                      | pubcoll1<br>Target collection of the to be released documents  |   |
| ম             | Start Case imme                      | ediately   |   |
|               | Case title                           | A Case of 'Review technical doc<br>English 💌   |   |
|               | Decument Deve                        | OK Cancel  |   |
|               | Assign<br>Rela                       | Assign Documents to a Release Assign Document Assign Documer Assign the selected documer Release Proceed Title | Assign Documents to a Release Procedure - Netscape<br>Assign Documents to a Release Procedure<br>Assign the selected documents to a release procedure.<br>Release Procedures<br>Title Description<br>Review Publisher is Synnøva O'Gorman<br>technical Auditors are Mansuet Gaisbauer and Frank<br>documentation Kappe.<br>Release collection pubcoll1<br>Target collection of the to be released documents<br>Release collection pubcoll1<br>Target collection of the to be released documents<br>Start Case immediately<br>Case title A Case of 'Review technical doc<br>English Cancel |

Figure 37: Assign Documents to Release Procedure dialog box

#### ASSIGNING DOCUMENTS CONTAINING INLINE IMAGES

When documents being assigned contain inline images, and these images are not located in the same collection as the documents to which they belong, an extra dialog box is displayed when the documents are being assigned to a Release Procedure. This dialog box lists all inline images in the selected document(s) and allows the publisher to select which ones are to be included in the release procedure for review. These images then appear as separate documents in the Release collection.

It is also possible to assign these documents to separate flows, e.g. if the text document is to be reviewed by the manager and the documentation specialist and the graphics are to be reviewed by the manager and the graphic artist.

| 💥 Assign Release Procedure - Netscape 📃 🗖   | × |
|---|---|
| Assign Release Procedure<br>The following images are referred to by the documents to be assigned. Select which images are to be<br>included in the procedure. |   |
| Welcome to Hyperwave Information Server 4.1   |   |
| ☑ 🖻 db-coll-head.gif  |   |
| 🗖 🖻 bulletklein.gif   |   |
| 🗖 🖻 logo.gif  |   |
| Welcome to Playground   |   |
| 🗷 🖻 comein-sm   |   |
| OK Cancel   |   |

Figure 38: Selecting Inline Images

**CREATING CASES** After documents have been assigned to a procedure, the publisher can then create the case. This means that the publisher selects documents and creates instances of release procedures for those documents. The publisher also assigns a **Case title** and either starts the case straight away or prepares it for starting. If the documents selected are assigned to more than one release procedure, all relevant cases will appear in the **Create case** dialog box.

The cases are stored in folders in the Release collection. These folders (Case collections) take their names from the Case titles.

The **Create Case** dialog box appears (see Figure 39), allowing titles, and a language ID be attributed to each case. Current language options are English and German. In this dialog box, there is also a **Start case immediately** checkbox for each case, allowing the publisher to start the case from within this dialog.

The first time a document is released to a procedure, it is likely that the steps **Create Case** and **Start Case** will happen concurrently. However, as the review process continues, and documents are returned to the publisher for editing and reworking, the publisher will create cases in order to work on documents. Only when he has made the appropriate changes to the documents, will the case then be started again (released to the procedure).

If the checkbox Start case immediately was selected in the previous step (Assigning Documents to a Release Procedure), then the Create Case step is completely skipped.

The following steps explain how to create a case:

- 1. Log on to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the collection containing the documents you wish to create a case for.
- 4. Using the checkboxes, select the document(s) you wish to create a case for.
- 5. Select Modify  $\rightarrow$  Release Procedure  $\rightarrow$  Create Case...
- 6. In the dialog box that appears, for each case, type in a **Case** Title and select a language attribute from the listbox. It is also possible to start the case from within this dialog box by selecting the checkbox labeled **Start Case immediately**. This option is selected by default.

#### 7. Click OK.

| 💥 Create Case - Netscape                                     |              |
|--|--------------|
| Create Case<br>Create a new Case for the selected documents. |              |
| Cases  |              |
|  |              |
| Case title A Case of 'Review technical<br>English 💌          | doc *        |
| ✓ Start Case immediately                                     |              |
| Case title A Case of 'Review URD' from<br>English            | 98/ *        |
| OK Cancel  |              |
| Document: Done   | 🗏 🔆 🍋 🕪 🎸 // |

Figure 39: Create Case dialog box

**STARTING CASES** As previously mentioned, it is also possible to start cases from within the Create Case dialog box. When starting a case from within the Create Case dialog box, it is also required to input Case Title and a language attribute (current options: English and German).

The following steps explain how to start a case using the Start Case option in the Release Procedure menu. To start a case or cases from within the Assign Documents to a Release Procedure dialog box, or from within the Create Case dialog box, see <u>page</u> 63and <u>page</u> 65.

- 1. Log on to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the collection containing the case(s) you wish to start.
- 4. Select the case(s) you wish to start using the checkboxes.
- 5. Select Modify  $\rightarrow$  Release Procedure  $\rightarrow$  Start Case...
- 6. Click OK.

**NOTIFICATION** When creating a new release procedure, there are two options to select for notification of cases to be reviewed etc (see Figure 36). Notification can occur either by e-mail, by means of a pop-up window at login, or both. Both methods of notification contain a link to the case in question.

The auditor who rejects a case will receive notification that the publisher has been informed of the rejection, and the last auditor in a procedure will receive notification that the publisher has been informed of the successful completion of the case.



#### Figure 40: Notification Pop-up

It is also possible at any time for auditors and publishers to check cases to be created, cases to be started, and cases closed since last login by choosing the option **Show Open Cases** from the **Release Procedure** menu. See Viewing Open Cases, below.

**VIEWING OPEN CASES** The following steps explain how to view all open cases.

- 1. Log onto the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Select Modify  $\rightarrow$  Release Procedure  $\rightarrow$  Show Open Cases...
- 4. A window will appear displaying all open cases. The cases are grouped under the headings Cases to be started, Cases to be reviewed, and Closed Cases since last login. The cases appear as links, which will bring the user directly to the appropriate case collection.
- 5. Click OK.

| 斑        | Open Cases - Netscape  | _ 🗆 🗵    |
|----------|--|----------|
|          | Open Cases   | <b>^</b> |
|          | You are involved in the following cases.                             |          |
|          | Cases to be started:   |          |
|          | A Case of 'Review technical documentation' from 98/10/22 at 19:54:46 |          |
|          |  |          |
|          | Cases to be reviewed:  |          |
|          | A Case of 'Review ADD' from 98/10/22 at 19:59:30                     |          |
|          | OK   |          |
|          |  |          |
| <b>f</b> | Document: Done   | 🌮 //.    |

Figure 41: Show Open Cases dialog box

VIEWING THE STATUS OF A CASE 1. Log onto the server by clicking on Login.

- 2. Click on **Authoring** to switch to authoring mode.
- 3. Navigate to the Case collection whose status you wish to view.
- 4. Select Modify → Release Procedure → Show State of Case...
- 5. A window will appear displaying the status of the selected case. Possible values for the release flow status are: not yet started, waiting for the review to begin, being reviewed, being edited, released. The window also displays the date of the last review or release, the last auditor to have released the case, the case publisher and the number of documents in the case.
### 6. Click OK.

| Case statu   | S Waiting for the review begin |
|--|--------------------------------|
| Documents have to be reviewed b                                | y publi1                       |
| 01: Refused by publi1 a  | t 10/21/1998 17:30:11          |
| Documents are waiting for the Review Proces<br>being started b | s publi1                       |
| Time of the last review  | v 10/21/1998 17:37:09          |
| b  | y jschipf                      |
| Case publishe  | r jschipf                      |
| Number of documents in the cas                                 | e 4                            |

Figure 42: Show State of Case dialog box

**DELETING A CASE** The following steps explain how to delete a case. 1. Log on to the server by clicking on Login. 2. Click on Authoring to switch to authoring mode. 3. Navigate to the collection containing the case you wish to delete. 4. Select the case(s) you wish to delete using the checkboxes. Select Modify  $\rightarrow$  Release Procedure $\rightarrow$  Delete Case... 5. Click OK. 6. Note: by deleting a case, you remove it completely from the procedure to which it was assigned. All duplicates of documents stored in the Release collection will be deleted. The original version of documents is not affected by this action, nor is the procedure to which documents had been assigned. 2.3.5.10 VERSION CONTROL Hyperwave's Version Control feature lets you save and retrieve all the versions ever created of a document on the Hyperwave Information Server. It encompasses four functions: check in, check out, version history and revert to version. THE "CHECK IN" AND Documents in Hyperwave are not automatically version controlled. If you want a document to be **"CHECK OUT" FUNCTIONS** version controlled, you must use the check in function on it. This assigns a version number to the document (starting with 1.0), and makes it so that no one can edit it unless he or she has used the check out function on it. When a user checks out the document, it is automatically locked for this user, meaning that only this user can edit it until it is checked in again. When a document has been checked out by a user, it is called an *experimental* version. After the **EXPERIMENTAL AND LAST COMMITTED VERSION** document has been checked in, the new version is called the *last committed version*. THE "VERSION HISTORY" With the version history function, you can view the complete version history of a document, FUNCTION including the version number, the user who created the version and the time it was created. For each entry in the list the title of the version with a link to that version is shown, so you can easily view any version in the history.

| THE "REVERT TO VERSION"<br>FUNCTION                          | With the <b>revert to version</b> function you can go back to any version in the history of a document and use it as the most recent version (last committed version).   |
|--|--|
| CHECKING IN MULTIPLE   | The following steps explain how to check in several documents simultaneously.  |
| DOCUMENTS WITH<br>VERSION 4.X BROWSERS                       | 1. Log in to the server by clicking on Login.  |
|  | 2. Click on <b>Authoring</b> to switch to authoring mode.  |
|  | 3. Navigate to the collection that contains the document(s) you want to check in. Use the checkboxes to select the document(s).  |
|  | 4. Select Modify→Version Control→Check In.   |
| CHECKING IN SINGLE<br>DOCUMENTS WITH<br>VERSION 4.X BROWSERS | The following steps explain how to check in a single document. Checking in a single document has the advantage that you are given the option of manually changing the version number and you can add a comment about the version.  |
|  | 1. Log in to the server by clicking on Login.  |
|  | 2. Click on <b>Authoring</b> to switch to authoring mode.  |
|  | 3. Navigate to the document you want to check in and select Modify→Version Control→Check In. A window appears where you can change the document version number (the "New version" field) and enter a comment about the changes in the version. Note that the version number you enter must be greater than the most recent version number. |
|  | 4. Click on the "OK" button.   |
| CHECKING OUT MULTIPLE  | The following steps explain how to check out several documents simultaneously.   |
| DOCUMENTS WITH<br>VERSION 4.X BROWSERS                       | 1. Log in to the server by clicking on Login.  |
|  | 2. Click on <b>Authoring</b> to switch to authoring mode.  |
|  | 3. Navigate to the collection that contains the document(s) you want to check out. Use the checkboxes to select the document(s).   |
|  | 4. Select Modify $\rightarrow$ Version Control $\rightarrow$ Check Out.  |
| CHECKING OUT SINGLE  | The following steps explain how to check out a single document.  |
| DOCUMENTS WITH<br>VERSION 4.X BROWSERS                       | 1. Log in to the server by clicking on Login.  |
|  | 2. Click on <b>Authoring</b> to switch to authoring mode.  |
|  | 3. Navigate to the document you want to check out and select Modify→Version Control→Check Out. A window appears, displaying information about the document version.  |
|  | 4. Click on the "OK" button.   |
| VERSION HISTORY WITH   | 1. Log in to the server by clicking on Login.  |
|  | 2. Click on <b>Authoring</b> to switch to authoring mode.  |
|  | 3. Navigate to the document whose version history information you want to view.  |
|  | 4. Select <b>Modify</b> → <b>Version Control</b> → <b>Version History</b> . The version history appears. For each version, the version number, time the version was created, version author, and a link to the version appear.   |

REVERTING TO AN EARLIER VERSION WITH 4.X BROWSERS

- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- 3. Navigate to the document for which you would like to revert to an earlier version.
- 4. Select **Modify**→**Version Control**→**Revert to Version**. Use the radio buttons to select the version you would like to revert to and click on the "OK" button. All versions which are later than the version you selected will be permanently deleted.

#### USING VERSION CONTROL WITH OLDER BROWSERS

- 1. Log in and switch to edit mode by clicking on the "EDIT" icon.
- 2. Navigate to the collection that contains the document(s) you want to use version control on.
- 3. Click on the "version control" icon in the lower right half of the toolbar. What you see now depends on which type of object you are browsing.
  - a. If you are currently browsing a collection, you will be able to check out any checked in items or check in any checked out items in the collection by clicking on the "check out" and "check in" tabs respectively. Select the item(s) you want to check in or check out using the checkboxes and click on the button below the list of documents. See above for details about these functions.
  - b. If you are currently accessing a **document**, you will see three tabs: "Document history", "Revert to version" and, depending on if the document is currently checked in or out, either "check out" or "check in" respectively. See above for an explanation of these functions. You can **check out** a document simply by clicking on the "Check out document" button. When you **check in** a document, you may enter two things: the version number you want to give it and an optional comment.

The version number consists of a major version number and a minor version number separated by a point. When checking in the document you have the choice of taking the default version number or specifying one yourself. By default, the minor version number is raised by one, e.g., if you checked out version 2.3, the new version will be 2.4. If you want to change this number, e.g. raise the major version number, you can do it by hand before checking in the version. In this case the new major version number must be greater than or equal to that of the last version.

A comment can be made in the box in the middle of the check in window.

| neck In Document - Microso | ft Internet Explorer                                |  |
|----------------------------|---|--|
| Check In Do                | cument  |  |
| Title:                     | Cordless 200 Development Plan                       |  |
| Modified on:               | 08/11/1998 14:44:02                                 |  |
| New Version:               | 1.1   |  |
| Comment:                   | Only minor changes and corrections Ahave been made. |  |
|                            | OK Cancel   |  |
|                            | lnternet zone                                       |  |

Figure 43: Checking in a document

#### BROWSING VERSION CONTROLLED DOCUMENTS

When browsing a version controlled document, the version you see depends on whether the document is currently checked in or checked out and what your access rights to the document are. If it is checked in, you will see the last committed version. If it is checked out, you will see the last committed version if you only have read rights, and the experimental version if you have write rights. If you look at the attributes of a version controlled document, the value of HW\_Version (see below) is the version number if the document is checked in or if you have only read rights. If you have write rights to the object, its value is "experimental", to show that a user has locked the object.

#### VERSION CONTROL AND ACCESS RIGHTS

When you check in a new version of a document, by default it gets the same access rights as the previous version. It is, however, possible to edit the attributes of each version to give each one different access rights. If the document is accessed e.g. by a link, the rights attribute of the newest version is used to determine if the document is displayed or not.

DELETING VERSION I CONTROLLED DOCUMENTS r

SPECIAL ATTRIBUTES OF

**VERSION CONTROLLED** 

DOCUMENTS

If a version controlled document is deleted, then ALL versions of the document are deleted. It is not possible to delete single versions of a document. With "revert to version" (see above) it is possible to delete all versions of a document that have a higher version number than a specified version.

Version controlled documents have four specialized attributes:

#### · HW\_VersionOwner

The value of this attribute is the Hyperwave user name of the user who checked in the current version. This attribute is maintained by the system and cannot be edited.

#### · HW\_VersionTime

The value of this attribute is the point at which the current version was checked in. It is also maintained by the system and cannot be edited.

### · HW\_Version

This attribute tells you the version number of the document. This number consists of a major version number and a minor version number separated by a point. When checking in a document, you have the choice of taking the default version number or specifying one yourself. By default, the minor version number is raised by one, e.g., if you checked out version 2.3, the new version will be 2.4 unless you specify otherwise.

#### HW\_VersionComment

The value of this attribute is a comment which the person checking in the document can optionally give to the document.

### 2.3.5.11 LOCKING AND UNLOCKING DOCUMENTS

Hyperwave allows users to lock their documents, i.e. it is possible for a user to designate that only he or she can edit a particular document during a certain time period.

#### WHO CAN LOCK A GIVEN DOCUMENT?

Documents can only be locked by their authors, other users who have write rights for the document and users in the group "system". When a document is locked, it can only be edited by the person who locked it. Before other users can edit the document, the person who locked it or a member of the group "system" must unlock it.

Note: Only documents, e.g. text, images, etc. can be locked and not other objects such as collections.



Figure 44: A document that has been locked

| HOW TO LOCK                       | 1.  | Log in to the server by clicking on Login.              |  |  |
|-----------------------------------|---|---|--|--|
| VERSION 4.X BROWSERS              | 2.  | Click on Authoring to switch to authoring mode.         |  |  |
|                                   | 3.  | Navigate to the document you want to lock.              |  |  |
|                                   | 4.  | Select Modify→Lock Object.                              |  |  |
| HOW TO LOCK                       | 1.  | Log in and switch to edit mode using the "EDIT" button. |  |  |
| DOCUMENTS USING OLDER<br>BROWSERS | 2.  | Navigate to the document you want to lock.              |  |  |
|                                   |   | Click on the "Lock Document" icon (🛅) in the toolbar.   |  |  |
| APPEARANCE OF LOCKED<br>DOCUMENTS | Once a document is locked, all users who view it in edit mode see a status line that says tha document is locked and which includes the name of the user who locked it (see Figure 44). |   |  |  |
| HOW TO UNLOCK                     | 1.  | Log in to the server by clicking on Login.              |  |  |
| VERSION 4.X BROWSERS              | 2.  | Click on Authoring to switch to authoring mode.         |  |  |
|                                   | 3.  | Navigate to the document you want to unlock.            |  |  |
|                                   | 4.  | Select Modify→Unlock Object.                            |  |  |
| HOW TO UNLOCK                     | 1.  | Log in and switch to edit mode using the "EDIT" button. |  |  |
| DOCUMENTS USING OLDER<br>BROWSERS | 2.  | Navigate to the document you want to unlock.            |  |  |
|                                   |   |   |  |  |

3. Click on the "Unlock Document" icon (
) in the toolbar.

### 2.3.6 THE "VIEW" MENU

The View menu lets you access object attributes, lock and use version control on documents, or view a link map.

The View menu contains the following items:

- Attributes: Lets you view the attributes of any object (see page 51 for editing attributes).
- Header/Footer off: This switches on/off the Hyperwave header and footer in the default user interface.
- Link Map: Generates a map of incoming and outgoing links for any object.

| k Map - Microsoft Internet Explorer   |   |  |
|---|---|--|
| Link Map: HW Tools  |   |  |
| Into Document   | From Document   |  |
| Parents<br>Hyperwave Reference Guide<br>Hyperwave Tools<br>Links to This Document<br>Hyperwave KeyQuery<br>Set Title of Objects | Children<br>General Information<br>hwadmin<br>hwci<br>hwco<br>hwcontrol<br>hwcopy<br>hwdelete<br>hwdelobj<br>hwdochistory<br>hwdownload<br>hwgetdata<br>hwinfo<br>hwinscoll |  |
|   | Internet zone   |  |

*Figure 45: Viewing document references* 

### 2.3.6.1 LINK MAP

It is possible to generate a link map for any Hyperwave collection or document. The link map displays incoming and outgoing links for the object (see Figure 45). All links associated with the object are shown, including parent collections, reference links which point to the object and annotation links to the object on the "into document" list, and children objects and reference links that originate in the object on the "from document" list.

#### **GENERATING A LINK MAP**

- 1. Log in to the server by clicking on Login.
- 2. Click on Authoring to switch to authoring mode.
- Navigate to the document or collection for which you want to generate a link map. Select View→Link Map.

# 2.4 OTHER ICONS ON THE TOOLBAR IN HYPERWAVE VERSION 2.6

There are several icons that appear in the lower part of the toolbar in version 2.6 which have not yet been mentioned in this guide. When they are active and what they do is explained below in the order they appear on the toolbar.

- The "Home" icon: This brings you to the global home collection on the server and is always active.
- If the "Personal home" icon: This brings you to your personal home collection on the server, if you have one and are identified.
- The "Go up one level" icon: This brings you up one level in the collection hierarchy and is visible unless you are in the root collection.
- The "Go back to document" icon: If you are using one of the Hyperwave functions, e.g. search, insert document, etc. this brings you back to the page you were browsing when you accessed the function.
- The "Disable header and footer" icon: This is used to turn off the Hyperwave header and footer for the current object.
- The "Attributes" icon: This shows you the attributes of the document or collection you are currently browsing. If you are in edit mode, the attributes are in their editable state.

# 2.5 ATTRIBUTE TYPES

Below is a list which explains the attribute types briefly with examples in alphabetical order. This list contains attribute types for collections, documents, remote objects, anchors, etc.

CollectionType

**CollectionType** is an attribute of collections. Its possible values are "Cluster", "Sequence", "MultiCluster" and "AlternativeCluster", which are all subtypes of the basic type "Collection" and which each have special features additionally to the normal collection features.

· Description

You can use this attribute to enter a brief description of the contents of a collection or cluster. Web clients display this description between the collection's title and the listing of its contents if no full collection head (see attribute **PresentationHints**) has been declared for the collection.

It is possible to enter different versions of the description in different languages, using the language prefixes (see Title attribute). In this case, only the description which corresponds to the selected language is shown. However, unlike the title attribute, it is not required that you give a description a language prefix.

DocAuthor and DocDate

These attributes are used to enter the actual author of the document (not the person who uploaded it) and the actual date the document was created (not the date at which the document was uploaded to the server).

DocumentType

DocumentType tells you what type (e.g. text, collection, generic, etc.) an object has. This attribute cannot be changed by the user.

· GOid

The GOid or "Global Object Identifier" is a unique identifier that every Hyperwave object has. It consists of two 8-digit hexadecimal numbers connected by an underline ("\_") character. The first uniquely identifies the Hyperwave Information Server which contains the document and the second uniquely identifies that object on that server. This scheme makes the GOid for every Hyperwave object in the world unique. The GOid can be used in many Hyperwave functions instead of the Name attribute. For example, for the "move" function, a target collection must be entered so Hyperwave knows where to put the objects. In this case, either the Name or GOid of the collection can be entered.

This number may also be used as a path in the URL. For example, the object with the GOid 0x811b9908\_0x00147a26 can be accessed from any web client using the URL

http://<server\_name>/0x811b9908\_0x00147a26

Hint

Hint is an attribute of anchors. If the anchor is pointing to another server, the value of Hint is an external URL. If the link is open, i.e. the anchor's destination object has been deleted from the server but the anchor itself has not been, Hint stores information about the object that was removed. This makes it possible for Hyperwave to reconstruct links once an appropriate object is uploaded to the server. See also the *Hyperwave Administrator's Guide*.

Host

Host is an attribute of remote documents. Its value is the remote host taken from the URL that was entered when the object was created.

· HW\_HEADER

By default, Hyperwave displays frame documents without the Hyperwave header and footer. If this attribute type, with the value "yes", is given to a document, the frame document is displayed with a header.

HW\_PLAIN

If this attribute type, with the value "yes", is given to a document, the document is displayed without the Hyperwave header and footer.

Keyword

The **Keyword** field is optional and allows you to associate words of your choice with objects (collections, documents and anchors) while you are inserting them or afterwards. These words can be used to search for this object (see <u>page</u> 28) so keywords should be words which describe the object but are not found in its title. You can add a new keyword field for each keyword or you can simply enter the different keywords separated by spaces in one field. If you want to combine more than one word to a single keyword, connect the words with a hyphen, e.g. "decision-support-systems".

License

The value of this attribute is a series of hexadecimal numbers. For example, the License attribute of Meyer's 10-volume Encyclopedia on IICM's Hyperwave Information Server in Graz has the following value:

0x0000012c 0x0000003 0x0000014

The first of the three hexadecimal numbers specifies the timeout period, which is 5 minutes in our example (hexadecimal 12c is 300 seconds). This represents the length of time that a user can lock the collection without retrieving documents. The second hexadecimal number specifies the number of licenses or simultaneous accesses to the

collection - in our example, 3. The last hexadecimal number specifies the number of documents a user is allowed to retrieve in a single "grab" of the license. This is a measure against somebody trying to download the whole collection (of possibly copyrighted material) and blocking it for a long time for others. In our example, a user may look at 20 encyclopedia entries before having to return it. Thus, the maximum time a single user can keep the encyclopedia is  $5 \times 20 = 100$  minutes. Also, the time to download the whole encyclopedia (43,820 documents) is significantly increased.

For the license scheme to work, the License attribute must be given to a collection and the documents whose retrieval is affected by the license must be in the collection and each one must contain a reference to the collection (in the encyclopedia example it is named "ref.m10") in the "L:" field of the Rights attribute. Thus the value of the Rights field would look like this:

L:ref.m10

This is done so that every access to a document in the collection is taken into account, regardless of how it was found (including searching and link following). It is not necessary to directly access the collection with the License attribute to enable the license mechanism.

LinkType

LinkType is an attribute of anchors. Its possible values are "annotation", for annotation links, and "inline" for inline images. Normal reference links have no LinkType attribute.

MimeType

The MIME protocol is used in Internet communications to transmit documents of varying formats. The protocol handles complexities by establishing a relationship (a mapping) between the format of a document's content and the format of the document's computer representation. It is used to tell your Web browser how to interpret the content of a transmitted document. With the proper Helper Application settings and software, your Web browser can automatically initiate the necessary actions to provide you access to content transmitted in numerous formats. Thus it is important to set the correct MIME type when uploading documents to Hyperwave. When uploading documents, you can let the browser set the MIME type or select a MIME type from a list.

· Name

The value of this attribute can be almost any name you would like to give your document or collection except for a few restrictions: it must be unique on the server you are inserting the object into and may not contain any spaces. When naming collections, it is recommended to use a hierarchical scheme. This means that a collection should be named according to the collections which it is a member of, e.g. if your home collection is named "smith" and you want to insert a collection of personal information into it, you might name this collection "smith/personal". This naming system helps to avoid attempts to use names which are not unique.

Names are also used in URLs. For example, to access a document on your server with the name "smith/papers", you would enter the URL http://<my.server>/smith/papers.

· Owner

The value of the **Owner** attribute is (initially) the user name of the person who created the object. This user automatically has the right to modify the object. The value of the **Owner** field may be changed in order to change the ownership of the document. This can only be done by the group of system administrators (members of the group "system") and not by the owner or by other users who have rights to the object.

· Path

Path is an attribute of remote documents (see <u>page</u> 49 for instructions on how to insert remote documents). For WWW documents Path is the file name of the remote

document including its directory path, e.g. if you enter the URL http://www.server.com/public/info/text1.html for your remote document, Path is public/information/text1.html. For telnet connections, which are entered as telnet://user@host, Path is the value of user.

#### PLACETemplate

PLACE is a meta-HTML language, which is used to configure the appearance of Hyperwave's interface. It consists of standard language constructs such as if-statements, macro-statements and while-loops and a number of so-called *placeholders*. Placeholders make meta-information about the currently shown document and information about the Hyperwave Information Server accessible and can be of type STRING, NUMBER or BOOL.

Normally every document on a particular server has the same basic layout which is based on a set of PLACE templates that are installed automatically with the server, and which may or may not have been altered by the server administrator. The PLACETemplate attribute is used to change that appearance for a particular document. To do this, you need a template which gives documents the desired appearance. The template script must be uploaded to the server and be given MimeType text/plain. To cause a document to use the newly uploaded PLACE template instead of the default, you must give the document the PLACETemplate attribute and enter the Name or the GOid of the place template as its value. See the *Hyperwave Programmer's Guide* for details on programming PLACE templates.

### · Port

Port is an attribute of remote documents. Its value is taken from the URL that was entered when the document was created, if a port number was included in the URL. Its value is 80 by default.

#### PresentationHints

By default, Hyperwave presents collections as a list of links to their members. Clusters also have a default presentation. **PresentationHints** can be used to change this behavior. There are three possible entries for this field.

- CollectionHead: Normally, when you open a collection, it just displays a list of the objects it contains and does not display any of the actual documents contained in it. If, however, you declare one of these documents or clusters as CollectionHead, it is presented automatically when the collection in accessed. A list of links to the other collection members is displayed below the document.
- FullCollectionHead: This is similar to CollectionHead in that it causes one document to be displayed automatically when a collection is opened, but the list of links below the document is not shown in this case.
- Hidden: The Hidden value is useful for documents contained in clusters. Usually clusters display several documents simultaneously, but you can use Hidden to explicitly declare that a certain object should not be displayed. This is useful, for example, when you have a cluster which contains both a text which contains an inline image, and the inline image itself. Ordinarily the text (including the inline image) and separately the inline image itself would be displayed. If you give the image the Hidden attribute, it will suppress the separate display of the image and only show it within the text.
- · Price

The **Price** attribute is used to implement Hyperwave's document pricing feature. Different users and groups can be offered different prices based on the value of this attribute, which is a series of one or more prices (specified as unsigned 32-bit integers), optionally followed by a colon and a specification of users and user groups. Each price declaration is separated by semi-colons.

For example, the value of the price attribute could be:

0x00000064;0x00000050:g iicm,u wonko; 0x00000000:u fkappe

which specifies that the document should normally be worth 100 units (64 in hexadecimal), but members of user group "iicm" and user "wonko" get a rebate of 20% and pay only 80 units (50 in hexadecimal), while user "fkappe" would have to pay nothing.

Protocol

**Protocol** is an attribute of remote objects and has as value the protocol type of the object, taken from the URL that was entered when the remote object was created. It can have values such as "http" and "telnet".

Quality

This attribute can be given to a document in an alternative cluster. An alternative cluster is a cluster which contains several different documents, one of which is selected when the cluster is accessed based on preferences for preferred document type and quality set in the user record of the current user (see the *Hyperwave Administrators Guide*). The value of **Quality** can be a whole number between 1 and 100, where 100 is the best possible quality.

Rights

The **Rights** attribute can only be given to an object or modified by the author of the object or system users (members of user group "system"). It allows you to give read, write and unlink access to your objects. "Read access" is permission to see objects and "write access" is permission to modify objects. "Unlink access" is only meaningful for collections and gives permission to remove objects from the collection.

By default (that is, when no **Rights** attribute is present) only the author of the object and members of the group "system" have write and unlink permissions while all users (including anonymous users) have read permission. In principle, the **Rights** attribute allows you to reduce the set of users who have read access, to enlarge the set of users who have write access, and to reduce the write access set to a set of users with unlink access.

Its value is composed of read ( $\mathbb{R}$ :), write ( $\mathbb{W}$ :) and unlink ( $\mathbb{U}$ :) permission fields, separated by semicolons. For each field, the value 'a' means that the author of the object has access, 'u *users*' means that the specified users (user names separated by blanks) have access, and 'g *groups*' means that the members of the specified user groups (group names separated by blanks) have access. Each field may appear only once, and within the field, field values may be separated by commas.

Summing up, syntax is as follows:

R:a, u users, g groups; W:a, u users, g groups; U:a, u users, g groups

where any of the three major fields (R, W or U) can be used or left out as needed and any of the a, u and g fields can be used or left out as needed. This is made clear in the examples that follow.

**Note:** This syntax may seem somewhat complicated, and thus Hyperwave offers you the alternative of using the Rights Wizard, which lets you easily give read, write and unlink writes to the users and groups of your choice.

**EXAMPLE VALUES FOR THE RIGHTS ATTRIBUTE** Note that the author of an object and all system users always have read, write and unlink rights even if it is not mentioned explicitly below.

R:g project\_a,u smith

Members of user group project\_a and user smith have read permission, only the author of the object has write and unlink permissions (the write field is not present and thus the defaults are used).

R:g project\_a project\_b;W:g project\_a

User groups project\_a and project\_b have read permission, but only group project\_a has write and unlink permissions.

W:g bl b2;U:g bl

All users have read permission (default; read field is empty), and groups b1 and b2 are granted write permission, but only the members of b1 may also remove objects from this collection (the unlink field is ignored for objects which are not collections).

### R∶a

Only the author has read (and by default write and unlink) permission.

W∶a

This is the default setting that is used when the Rights attribute is not present: everybody can read, but only the author may write and unlink.

### Sequence

The value of the **Sequence** attribute is used to specify the order in which objects appear in the list of members when a collection is accessed. The value of this field should be a whole number, negative or positive. It is a good idea to leave a gap between the sequence numbers so that it is always possible to insert new objects between existing ones, e.g. you should assign only the numbers 10, 20, 30, etc. to the objects. If an object has no sequence number, it is treated as if it had zero as a sequence number. By default the members are sorted by sequence number and any which have the same number are sorted by title. A sequence number is valid for every collection in which an object is contained, thus changing the sequence number for an object will affect the way it is sorted in all collections in which it is found. See also the attribute **SortOrder**.

### · SortOrder

This attribute is useful for collections because it affects the order in which the list of collection members is presented, if the collection is presented in the default way. There are two different ways of entering this attribute. The first option is to enter a combination of the characters in the table below, each of which stands for a certain sorting criterion.

| Character | Meaning   |
|-----------|---|
| А         | Author  |
| С         | TimeCreated   |
| Е         | TimeExpire  |
| 0         | TimeOpen  |
| Ν         | Name  |
| S         | Score   |
| t         | Type (order: collection, cluster, text, image, film,<br>audio, scene, PostScript, generic, annotation,<br>remote) |
| Т         | Title   |
| #         | Sequence number   |
| -         | use the reverse of the next stated sorting criterion  |

The items are sorted by the first criterion stated and those which cannot be differentiated by this criterion are sorted by the next criterion and so on. For example, the entry #-T causes the objects to be sorted by sequence number and those objects which have the same sequence number to then be sorted by title in reverse alphabetical order. If an object has more than one title in different languages, the object will be sorted according to the title in the currently set language.

The default sort order is #T, i.e. objects are sorted by sequence number and then by title if the sequence number is the same (all objects without a sequence number are treated as if they had 0 as sequence number).

The second option for entering a value for this attribute has a somewhat more complex syntax and allows you to sort by any attribute. It consists of one or more groups of three values, separated by colons and surrounded by parentheses:

'('<AttributeName>':' <SortType>':' <Order>')'

Note that all three of these fields must be present when using this sorting syntax. Note also that if more than one such triple is entered, then the objects are sorted first by the first sorting criterion, and those which cannot be differentiated using one criterion are sorted by the next.

The fields have the following meanings:

<AttributeName>: The name of the attribute you want to sort by.

*<SortType>*: This specifies how the value of the attribute should be interpreted. The following values are possible:

I (Integer): The attribute value is interpreted as a number.

S (String): The attribute value is interpreted as a string.

D (Date): The attribute value is interpreted as a date.

E (Enumeration): The attribute value is interpreted as a string and is ordered according to the order field.

<*Order*>: Specifies the sort order. <*Order*> can have as value "+", meaning the values are sorted in increasing order, "-", meaning the values are sorted in decreasing order, or a list of values and placeholders.

If a list of values and placeholders is entered here, the attribute values are compared with the values specified and sorted accordingly. The specified values can also be just a prefix of the attribute value. It is possible to use the placeholder <code>%lang</code> in order to access the user's language preference.

### Examples

(Title:E:ge;en;fr)

Sort by title, where objects with German titles come first, followed by objects with English and then French titles. Objects with titles in other languages are not sorted in any special order.

(Sequence:I:+)(TimeModified:D:-)(MIMEType:E:image)

Sort increasingly by sequence numbers, where objects with the same sequence number are sorted such that the most recently modified documents are first, and finally by MIME type if the documents are not distinguishable by either of the first two criteria.

(Title:E:%lang;en;fr)

Sort by title, where the objects of the language declared by the user come first.

(Title:E:ge)(Title:S:+)

First the objects are sorted such that objects with a German title come first, then the objects are further sorted alphabetically by title. Note that for the Title attribute as well as for all other attributes that can be given to an object multiple times, that if the same attribute is sorted by more than one criterion, the same instance of the attribute is always used. This means in this case that all objects with German titles come first after sorting by the first criterion, then when these objects are further sorted alphabetically, they are sorted by the German title and not by a title in some other language.

Subdocs

**Subdocs** is an attribute of all collection types and tells you how many documents are contained in the collection either directly or indirectly in its subcollections. Because documents can be contained in more than one collection at the same time, the value of **Subdocs** may be larger than the actual count of different documents in the collection and its subcollections. This attribute is maintained by the server and users cannot change its value.

TAnchor

**TAnchor** is an attribute of anchors, and can have as value either "Src" for source anchors or "Dst" for destination anchors.

### TimeModified and TimeCreated

TimeModified tells you when an object was last modified, i.e. the last time when either the object or its attributes were modified. This attribute is not under the control of the user but is maintained by the server. TimeModified is indexed, which means that it is possible to quickly find objects according to when they were last modified.

TimeCreated tells you when an object was created on the server. Like TimeModified, it is maintained by the server and is indexed.

### · TimeOpen and TimeExpire

These attributes are used to make an object on the server visible only during a certain range of time. TimeOpen designates the time at which the object becomes visible and TimeExpire the time when it can no longer be seen. The object is always visible to its owner and system users, regardless of the entries in these fields. The entries must be times and are entered in the form

[yy]yy/mm/dd hh:mm:ss

You need only specify the time to the desired accuracy, thus 97/01/03 is a perfectly valid entry and is equal to January 3, 1997 at 12:00 am.

· Title

Hyperwave objects may be given more than one title, but each title given **must** be declared as being of a different language. Titles can be given either when the object is being inserted or later by editing its attributes. In either case a menu where you can select a language appears after the field where you enter the title. Note that if you give objects multiple titles and you sort the objects by title, only the titles corresponding to the current language preference will be considered.

Please note that if you do not have JavaScript, the menu mentioned above doesn't appear and the language must be entered with the title. This is done by entering a two-letter language prefix, followed by a colon, followed by the title itself. All language prefixes currently in use are listed below.

| Language | Abbreviation |
|----------|--------------|
| English  | en           |
| German   | ge           |
| French   | fr           |
| Italian  | it           |
| Spanish  | sp           |
| Japanese | јр           |

Thus, some possible entries in the Title field when not using JavaScript are:

en:The City of Graz

· ge:Die Stadt Graz

- sp:La Ciudad de Graz
- Туре

Type distinguishes between anchors and other documents. For anchors, **Type** is "Anchor" and for all other objects, e.g. collections, texts, remote documents, etc. it is "Document". This attribute cannot be changed by the user.

### 2.6 HYPERWAVE ODMA

### 2.6.1 INSTALLING ODMA

ODMA can be installed with the installation package for the NT Hyperwave Information Server. See the *Hyperwave Installation Guide* for details.

INSTALLATION REQUIREMENTS

- In order to install ODMA, you must have:
- Windows 95 or Windows NT 4.0
- · Microsoft Internet Explorer 4.0 or higher

### 2.6.2 EDITING MICROSOFT WORD DOCUMENTS IN HYPERWAVE

- 1. Start Microsoft Word.
- 2. Select File→Open. The Hyperwave ODMA Select File window appears (see Figure 47). Click on the "Classic File Open" button if you want to open a file from your file system, or continue on to the next item to use ODMA to edit a file in Hyperwave.
- 3. You can either choose from the list of servers in the Select File window, or you can select the item "add NEW entry", to add a new server to the list of favorites (see Figure 46). In the form you must enter a nickname for the server, its URL and port, the collection you want to access on the server, and your user name and password for that server.

If you select an item from the list of servers, you will go directly to the server and collection specified in that item. It is then possible to browse through the list of Hyperwave objects displayed and to select a Word, HTML, or plain text document to be edited in Word.

4. When you are finished editing, save the text with File→Save. This will upload the changed text back to the server.

| PERWAVE O                           | DMA: Add new Server   |
|-------------------------------------|---|
|                                     | ODMA - Access   |
|                                     |   |
| Enter a name u<br>sessions.         | inder which your settings will be saved for use in further  |
| Friendly name:                      | Hyperwave document repository   |
| Enter the host i                    | name of the server (without http://).   |
| ServerURL:                          | hw.hyperwave.com  |
| ServerPort:                         | 80  |
| Please enter th                     | e login name for your account on the Hyperwave server.  |
| LoginName:                          | vanessa   |
| Please enter th                     | e password for your account on the Hyperwave server.  |
| Password:                           | XXXXXX  |
| Enter a collecti<br>collection must | on name where your documents will be stored. This<br>exist and you must have write access to this collection. |
| Collection:                         | ~home   |
|                                     |   |
|                                     | OK Cancel   |

Figure 46: Adding a new server to the list of favorites

| HYPERWAVE ODMA: Select Fi      | le             |              | _ 0               |
|--------------------------------|----------------|--------------|-------------------|
|                                | ess            | Cla          | assic 'File Open' |
| Look in:                       |                |              | <u>*</u>          |
| Title                          | Name           |              | Open              |
| 🚊 Homes                        | homes          |              |                   |
| 🚞 HyperWave Server Pool        | hw_server_pool |              | Cancel            |
| 🗒 Hyperwave-Extended Search    |                |              |                   |
| 🚞 Mailto                       | mailto         |              |                   |
| 🚞 MS Dynamic HTML/Javascript   | msdyn          |              |                   |
| 🗒 New Features of Hyperwave In | new_features   |              |                   |
| 📄 Online Documentation         | documentation  |              |                   |
| 🚊 pooltest                     | pooltest       |              |                   |
| 🇐 www.iicm.edu                 |                |              |                   |
|                                |                | <u>ل</u> ے . |                   |
|                                |                |              |                   |

Figure 47: The Hyperwave ODMA Select File window

### 2.6.3 UPLOADING DOCUMENTS WITH ODMA

HTML, plain text and Word documents can be uploaded to the server as follows:

- 1. Start Microsoft Word.
- 2. Select File→Open. The Hyperwave ODMA Select File window appears (see Figure 47). Click on the "Classic File Open" button, and open a file from your file system.
- 3. After you have loaded a file, select File→Save As. The window in Figure 48 appears. Name is optional, and can be used to give the document a MIME type as well as a name (see below). You must enter a Title and select a language from the list (default is English). Rights are optional (see page 78 for syntax). Click on the "Enable version control" checkbox if you want the document to be checked in after it is uploaded. Select the server and collection where you want to insert the document using the list.
- 4. Click on the "Save As" button.

**NAME** The Name attribute can be used to give the document you are uploading a particular MIME type. By default, all documents uploaded to the server from Microsoft Word using ODMA are stored on the server as Word documents. By giving the **Name** a value with a particular extension, you can also upload HTML and plain text documents and give them the correct MIME type on the server. For example, if you give a text document the name "home.txt", the document will be given the Hyperwave **MimeType** "text/plain". Likewise, a document which is given a name which ends in ".htm" or ".html" will get the **MimeType** "text/html".

| HYPE        | RWAVE ODMA: SaveAs           |           |          |                 |
|-------------|------------------------------|-----------|----------|-----------------|
| <b>3</b> Hì | PERWAVE ODMA - Acc           | cess      | Cla      | assic 'Save As' |
| Name:       | index.html                   |           | E        |                 |
| Title:      | Welcome Page                 |           | English  | •               |
| Rights:     | R: a; W: g:hweditors         |           | 🔽 Enable | version control |
| Contents    | of Hyperwave ODMA            |           |          |                 |
| Title       |                              | Name      |          | SaveAs          |
| 📆 Нур       | erwave Administrator's Guide | admin.doc |          |                 |
| Нур         | erwave Information Server    | HWIS.txt  |          | Cancel          |
| Hyp         | erwave Odma information      | odma.html |          |                 |
| 🔁 Нур       | erwave User's Guide          | user.doc  |          |                 |
|             |                              |           |          |                 |
|             |                              |           |          |                 |
|             |                              |           |          |                 |
|             |                              |           |          |                 |
|             |                              |           |          |                 |
| •           |                              |           | Þ        |                 |

Figure 48: Uploading a document to the Hyperwave Information Server

### 2.6.4 EDITING VERSION CONTROLLED DOCUMENTS

If the Hyperwave document you want to edit with Word is version controlled, then it is automatically checked out when you select it for editing as long as you have write rights for it. When you save it, it is uploaded to the server but remains the experimental version, i.e. it is not checked in. When you close the document in Word, you are prompted with the question of if you want the document to be checked in again or not. Click on "Yes" to check in the document.

### 2.7 HYPERWAVE PUBLISHING WIZARD

The Hyperwave Publishing Wizard (HPW) is a tool designed to make the process of publishing documents to a Hyperwave Information Server as simple as possible. It plugs into Microsoft's Web Publishing Wizard, which means that you can publish documents directly from most new Microsoft programs. You can also upload whole directory trees that you have prepared on your local disk to Hyperwave with just a few mouse clicks.

| Web Publishing Wizard |   |  |
|-----------------------|---|--|
| N. N. 1977            | Select a Web Server   |  |
|                       | Select the Web server to which you want to publish your Web<br>pages. To add a Web server to the list, click New. |  |
|                       | Web server:   |  |
|                       | hwpc58 (overwrite, version)   |  |
|                       | New<br>The URL for the selected Web server is<br>http://hwpc58.hyperwave.com                                      |  |
|                       | < <u>B</u> ack Ne <u>x</u> t > Cancel Help  |  |

Figure 49: The Web Publishing Wizard

### 2.7.1 HOW TO USE HYPERWAVE PUBLISHING WIZARD

After successful installation, the Web Publishing Wizard inserts itself into the "send to" popup menu of the Microsoft Explorer. When you start the Web Publishing Wizard you are guided through the process of uploading files or directories to Hyperwave Information Server with the Hyperwave Publishing Wizard.

This is done as follows:

- 1. In the Microsoft Explorer, hold down the right mouse button on the file or directory you want to upload. On the menu that appears, select "send to/Web Publishing Wizard". This starts the Web Publishing Wizard.
- 2. Once you have started the Web Publishing Wizard, click on "Next" to display the screen in Figure 49. You can select one of the servers on the list and upload your documents to it, or enter a new one. If you want to enter a new one, continue with the next step.
- 3. Click on the "New" button to start entering information about the server. In the window that appears, enter a descriptive name for the server. The server name and all other preferences you enter will be saved under that name for future use, i.e. you will be able to select it from the server list in the Web Publishing Wizard so you can proceed quickly through later uploads with the same preferences.
- 4. Click on the "Advanced" button. In the window that appears, select "Hyperwave Server" from the list. This invokes the Hyperwave Publishing Wizard.
- 5. In the next window, enter the URL of the server you want to upload to.
- 6. After you click on "Next", the Hyperwave Publishing Wizard appears (see Figure 50). This window displays the descriptive name and the server name you entered earlier in the Web Publishing Wizard, as well as the default Hyperwave port number. Do not change the descriptive name or server name.
- 7. In the next window you must enter your Hyperwave login name, password, and the name of the collection you want to upload your documents to.
- 8. The next window lets you decide what to have the Hyperwave Publishing Wizard do if you are publishing documents which already reside on the server.
- 9. The Access Rights window allows you to set read and write access for the documents you are uploading. For each kind of right, you can choose to give it to yourself only, to the Hyperwave groups you specify, or to all users. When giving rights to groups, you may enter one or more groups in the field, separated by spaces.
- 10. In the Language window, select the desired language for your documents.
- 11. Select the desired options in the Version Control window. These options are explained below.
- 12. Click on "Finish" to start the uploading process.

*Note:* Files which are uploaded to Hyperwave using the Hyperwave Publishing Wizard must not have spaces in their file names.

| Hyperwave Publishing W | /izard   |  |        |
|------------------------|--|--|--------|
|                        | Enter a name under which your sett<br>use in further sessions.<br>orion.hyperwave.com<br>Enter the host name of the server (w<br>orion.hyperwave.com<br>Enter the Hyperwave port number: | ings will be sav<br>vithout http://).<br>418 | ed for |
|                        | < <u>B</u> ack Ne <u>x</u> t >   | Cancel                                       | Help   |

Figure 50: The Hyperwave Publishing Wizard

You may also invoke the Wizard by dragging the file or directory to be published onto the Web Publishing Wizard icon (after you have placed it on your desktop), if you prefer. Also, some programs (like FrontPage) explicitly offer a "publish" button, so that you can upload documents directly from the program.

| Hyperwave Publishing Wi | zard  |
|-------------------------|---|
|                         | Version Control         Image: Mersion control         Image: Forced check in: Documents not under version control are checked in.         Image: Commit version: If a document is version controlled, then the experimental version is committed after it is replaced. |
|                         | < <u>B</u> ack <u>N</u> ext > Cancel Help   |

Figure 51: Enabling version control with HPW

**VERSION CONTROL** The Hyperwave Publishing Wizard can be used to enable automatic version control for your documents.

There are three checkboxes in the Version Control window. Clicking on the first checkbox activates the other two. These two options work as follows:

Forced check in: This option only affects documents which are not already version controlled. With this option, new documents are uploaded, checked in and then checked out. Documents to be replaced are checked in, checked out, and the experimental version is replaced.

Commit version: Specifies that version controlled documents are to be checked in as a last step.

See also page 68 for more information about version control.

The combination of options you select affects your documents according to the following table.

| Options                             | New document                                   | Document exists, not version controlled                           | Document exists, version controlled                              |
|-------------------------------------|--|---|--|
| none                                | create new<br>document, no<br>version control  | replace document, no<br>version control                           | error  |
| version control                     | create new<br>document, no<br>version control  | Replace document, no<br>version control                           | check out document,<br>replace experimental<br>version           |
| version control,<br>forced check in | create new<br>document, check in,<br>check out | Check in, check out,<br>replace experimental<br>version           | check out document,<br>replace experimental<br>version           |
| version control,<br>commit version  | create new<br>document, no<br>version control  | Replace document, no<br>version control                           | check out document,<br>replace experimental<br>version, check in |
| all                                 | create new<br>document, check in               | Check in, check out,<br>replace experimental<br>version, check in | check out document,<br>replace experimental<br>version, check in |

### 2.7.1.1 EXTENDING HPW'S RECOGNIZED FILE TYPES

The HPW recognizes certain standard file types and does not upload file types it does not recognize. You can extend the file types recognized by using the registry editor. Start the registry editor (regedit.exe) in the command line. For every file extension you wish to add create a "key" entry in:

HKEY\_CURRENT\_USER-Software-Hyperwave-Publishing Wizard-Filetypes

The name of the key entry must be the file extension of the file type you want to add. Within this new key create the string values "Filetype" and "Mimetype" and add the appropriate values (e.g., key entry: "exe", Filetype= "Generic", Mimetype= "application/octet-stream").

### 2.7.1.2 ADDING CUSTOM ATTRIBUTES

If you need a set of custom attributes which should be attached to every file you upload to a specific site follow the steps below.

Start the registry editor (regedit.exe) in the command line. For every site you have created you will find an entry under:

HKEY\_CURRENT\_USER  $\rightarrow$  Software  $\rightarrow$  Hyperwave  $\rightarrow$  Publishing Wizard  $\rightarrow$  Sites

Example:

You have a site entry with the nickname "HyperwaveSite1"

(HKEY\_CURRENT\_USER $\rightarrow$ Software $\rightarrow$ Hyperwave $\rightarrow$ Publishing Wizard $\rightarrow$ Sites $\rightarrow$  "HyperwaveSite1") and you want to add the custom attributes "hint=on" and "speed=123".

1. In the registry editor activate the key entry "HyperwaveSite1" (click on it) and press the right mouse button. In the menu that appears, select "NEW" and "Key". Insert a new key with the name "Attributes" (case sensitive!).

- 2. Activate the new key entry (click on it) and again press the right mouse button, select "NEW" and "Key". Insert a new key with the name of the new attribute you want to add (in our example "Hint").
- 3. Activate the new attribute entry (click on "Hint") and press the right mouse button. Now insert a new string value ("New" → "String Value"). The name of the string value must be "Value" (case-sensitive) and for the data enter the value you want to assign to the attribute (in our example "on").

Repeat steps 2 and 3 for every attribute you want to add.

### 2.8 HYPERWAVE VIRTUAL FOLDERS

Hyperwave Virtual Folders is a tool designed to make the process of handling documents on a Hyperwave Information Server as simple as possible. It plugs into Microsoft's Explorer, which means that you can navigate and edit documents directly from the standard Microsoft Explorer program. You can also upload whole directory trees from your local disk or download them to your disk with just a few mouse clicks.

### 2.8.1 HOW TO USE HYPERWAVE VIRTUAL FOLDERS

After successful installation, Hyperwave Virtual Folders inserts itself into Microsoft Explorer's Desktop. When you first open Hyperwave Virtual Folders, you only have the possibility to add a new server entry for further exploring.

| 🔯 Exploring - Hyperwave Neighborhood   |                                      |
|--|--------------------------------------|
| <u>F</u> ile <u>E</u> dit <u>V</u> iew <u>T</u> ools <u>H</u> elp  |                                      |
| 🖙 Hyperwave Neighborhood 💿 💼 🖭   |                                      |
| All Folders  | Contents of 'Hyperwave Neighborhood' |
| Desktop     My Computer     My Computer     Hyperwave Neighborhood     Generation     Recycle Bin     Registry View     Needed Stuff | Add new<br>server                    |
| 19 object(s)   | li.                                  |

Figure 52: First View

### 2.8.1.1 HOW TO ADD A NEW SERVER

Click on the "Add new server" icon to start the Hyperwave Site Wizard in order to add a new server to the Microsoft Explorer's view. The Wizard (see Figure 53) guides you through this process, prompting you for information such as the server address, port number, user name and password, firewall proxy settings, etc. After you finish making entries with the Wizard, the new server should appear under Hyperwave Neighborhood in the Explorer.

| <br><ul> <li>New Hyperwave Site Information —<br/>Enter the Hyperwave <u>H</u>ostname<br/>(without http://);</li> </ul> | Enter the Hyperwave<br>Portnumber: |
|---|------------------------------------|
| intranet.xfone.com  | 80<br>Apperwave site:              |
| rootcollection  |                                    |
| Vroxy Settings  |                                    |
| Enter the Proxy Hostname (without<br>http://):  | Enter the Proxy<br>Portnumber:     |
| firewall.xfone.com  | 3128                               |
|   |                                    |

Figure 53: The Hyperwave Site Wizard

### 2.8.1.2 DEFAULT SETTINGS

When opening the view for a Hyperwave Folder you can change default properties with the View menu.

| 🔍 Explori                 | ng - Network based Qual                   | ity Assura     | nce  |             |          |            |                     |
|---------------------------|---|----------------|--|-------------|----------|------------|---------------------|
| <u>F</u> ile <u>E</u> dit | t <u>V</u> iew <u>T</u> ools <u>H</u> elp |                |  |             |          |            |                     |
| Setwork Network           | k ✓ <u>T</u> oolbar                       | 1 🖭 ]          | ₽ <u>₽</u> <b>8:8: 111</b>                   |             |          |            |                     |
| All Folders               | ✓ Status <u>B</u> ar                      |                | Contents of 'Network based Quality Assurance | t'          |          |            |                     |
| 🗉 🔁                       | h Large Icons                             |                | Title  | Name        | Author   | HW_Version | TimeModified        |
| 📃 🖻 🐉                     | h S <u>m</u> all Icons                    |                | Month Index and Homepage - NQA Hyper T Pr    | index.htm   | ngaadmin |            | 1998/09/14 15:11:17 |
|                           | <u>h</u> <u>L</u> ist                     |                | NQA CGI Scripts                              | nqa.cgi     | ngaadmin |            |                     |
|                           | – • <u>D</u> etails                       |                | NQA Hypertext Manual 4.0                     | nga.manual  | ngaadmin |            | 1998/04/29 07:46:53 |
|                           |   | don<br>Acou    | NQA Project Administration 1.0               | nga.padmin  | ngaadmin |            | 1998/04/29 07:34:50 |
|                           | 🗧 Arrange <u>I</u> cons 🕨                 | Assu           | NQA Road Map for Users                       | nga.roadmap | ngaadmin |            |                     |
| ±                         | Ling up Icons                             |                |  |             |          |            |                     |
| • • •                     | n Properties 🕨 🕨                          | Defaul         | t Properties                                 |             |          |            |                     |
|                           | s. Bofroch                                | <u>U</u> pload | Properties                                   |             |          |            |                     |
|                           | si <u>R</u> effesti                       | Langua         | ge Priorities                                |             |          |            |                     |
| I 1 35                    | Coptions                                  | 1              |  |             |          |            |                     |
| . ±.                      | 🔲 down                                    | -              |  |             |          |            |                     |
| •                         |   | ►              |  |             |          |            |                     |
|                           |   |                |  |             |          |            |                     |

Figure 54: The View menu

#### LANGUAGE PRIORITIES

With this dialog you can set your preferred displaying language. Hyperwave Virtual Folders displays titles in the preferred language if that language is available.

**UPLOAD PROPERTIES** 

# 2.8.1.3 NAVIGATING WITH HYPERWAVE VIRTUAL FOLDERS

These settings are used when uploading files via drag & drop.

Navigating on a Hyperwave server with Hyperwave Virtual Folders is as easy as browsing through your local file system. You can open and close any collection/folder by double clicking on the name or icon. If you double click on any document on the server the document will be downloaded to the default Windows Temporary Directory. After downloading the file to the local drive the associated application is started to view the file. There is a special behavior for HTML objects. Instead of downloading the file your default Web browser is started with the URL Location of the clicked document.

*Note:* The downloaded temporary files are not automatically deleted, so it is recommended that you frequently clear your temporary directory.

| 🔍 Exploring - B   |                              |               |        | _ 🗆 × |
|---|------------------------------|---------------|--------|-------|
| <u>F</u> ile <u>E</u> dit <u>V</u> iew <u>T</u> ools <u>H</u> elp   |                              |               |        |       |
| 🖻 B 💽 🖭   | b-<br>b-<br>b-<br>b-<br>b-   |               |        |       |
| All Folders   | Contents of 'B'              |               |        |       |
| scratch   | Title                        | Name          | Author | HW_Ve |
| Software  | 🚞 B/0                        | BaseStone/B/0 | hwtest |       |
| 🗎 🕀 🧰 Temp  | <b>□</b> B/1                 | BaseStone/B/1 | hwtest |       |
| Test  | 🚞 B/2                        | BaseStone/B/2 | hwtest |       |
| 🛛 🕀 🛄 win32app  | 🚞 B/3                        | BaseStone/B/3 | hwtest |       |
| 📕 🗄 🜄 Winnt   | 🚞 B/4                        | BaseStone/B/4 | hwtest |       |
| Email [U:]  | B/5                          | BaseStone/B/5 | hwtest |       |
|   | B/6 New                      | BaseStone/B/6 | hwtest |       |
| Pinters     Petwork Neighborhood  | B/7 Delete                   | BaseStone/B/7 | hwtest |       |
|   | B/8 Modify                   | BaseStone/B/8 | hwtest |       |
| in the second s | B/9 Checkout                 | BaseStone/B/9 | hwtest |       |
| BaseStone   | Checkin                      |               |        |       |
|   |                              |               |        |       |
|   | <u>P</u> roperties           |               |        |       |
|   | Reload                       |               |        |       |
| Template Cache Test   |                              |               |        |       |
| 🗄 💼 Web Based Training  |                              |               |        |       |
| schipf  | •                            |               |        | Þ     |
| 10000 subdocs   | You are logged in as user hv | vtest         |        |       |

Figure 55: Popup menu

### 2.8.1.4 FUNCTIONS IN THE POPUP MENU

The context sensitive popup menu offers you several functions for manipulating data on the server. The menu contains the following items:

- New: Allows you to create a new collection or cluster on the server.
- Delete: Allows you to delete a document or recursively delete a collection. If an error occurs while deleting the files, the delete operation will stop at the location where the error occurred.
- Modify: Allows you to recursively change the attributes of a collection (see page 91).
- **Checkout**: This command recursively checks out the documents contained in the current folder.
- Checkin: This command recursively checks in the documents contained in the current folder. Before check-in, you are given the option of entering a comment for the version, and to force check-in of documents which are not already version controlled. You can increase the minor version number for the objects, e.g. 4.2 becomes 4.3, or the major version number, e.g. 4.2 becomes 5.0.
- Properties: Allows you to change the attributes of the current object or use version control on it (see page 92).
- **Reload**: Updates the contents of the folder shown in the Explorer according to the current state of the server.
- **MODIFY** The "Modify" function allows you to recursively change the attributes of a collection and its contents. When you select the "Modify" item, the "Modify Attributes" window appears (see Figure 56). Use the "Add", "Remove" and "Change" buttons to make a list of the attributes you want to add, delete and modify. Click on "OK" to apply the changes.

| Modify Attributes         |                      |           | ×  |
|---------------------------|----------------------|-----------|--|
| Add, remove or chan       | ge the following att | ributes   |  |
| Attribute Name            | Value                | New Value | Use the buttons  |
| PresentationHi<br>DocDate | Hidden               |           | Hyperwave<br>attributes in the table<br>to the left. The   |
| 🛨 TimeExpire              | 98/01/01             | 98/09/01  | symbols in the table<br>match the symbols<br>beneath the buttons<br>to show the action<br>on the attributes. |
|                           |                      |           | Add  |
|                           |                      |           | Remove   |
|                           |                      |           | Change   |
| Delete Selected           |                      |           |  |
|                           | ОК                   | Cancel    |  |

Figure 56: The Modify Attributes window

**PROPERTIES** This option allows you to modify the attributes of the selected object as explained below.

| Object Properties           | × ×  |
|-----------------------------|--|
| All Attributes Version Cont | rol  |
| L                           |  |
|                             |  |
| Attribute                   | Value  |
| Author                      | cptest   |
| Body                        | BGCOLOR=DDDDDD                                     |
| DocumentType                | text   |
| GOid                        | 0xc0a89919 0x000c86c6                              |
| HW_EffectiveAccess          | WRITE_ACCESS                                       |
| Mimelype                    | text/html  |
| Dath                        | CDC0v0001 - 767.0v00007956                         |
| Biobte                      | W/s  |
| TimeCreated                 | 1998/02/20 08:58:23                                |
| Title                       | en:Camera Page                                     |
| Туре                        | Document   |
|                             |  |
| Select an attribute from th | e list and press the delete button to remove it    |
| Edit the attribute name an  | d value and add it to the list with the add button |
| Attribute Name:             | Attribute Value:                                   |
|                             |  |
|                             |  |
|                             |  |
|                             |  |
|                             | OK Cancel Apply                                    |

Figure 57: Object properties

- To change an attribute value, click on the value (only the attributes that have a white background can be modified) and enter the new value and then click on the "Apply" button.
- To delete attributes, select one or more attributes and click on the "Delete" button and then the "Apply" button.
- To add a new attribute, enter an attribute name and value in the appropriate fields (see Figure 57) and click on the "Add" button and then the "Apply" button.

| Object Properti  | es  | ×   |
|--|---|---|
| All Attributes   | /ersion Control   | 1   |
|  | XFone Business Pla  | n   |
| Version: 1.2 V<br>Version Comn<br>Made mino              | /ersion Owner: vkeitel`<br>nent:<br>r changes.                | Version Time: 1998/08/12 14:17:16   |
| Version: 1.1 V<br>Version Comn<br>Corrected s            | /ersion Owner: vkeitel<br>nent:<br>some errors in sales fig   | Version Time: 1998/08/12 14:14:33<br>ures for 1997.   |
| Version: 1.0 V<br>Version Comn<br>Added sec              | /ersion Owner: vkeitel<br>nent:<br>tion on potential marke    | Version Time: 1998/08/12 14:09:49<br>t segments.  |
| <u>.</u>   |   | V   |
| Press Check<br>In button to<br>commit the<br>new version | Press Check<br>Out button to<br>get a working<br>version copy | Enter a version number in the<br>editfield below and press the<br>Revert to Version button to<br>revert to a previous version |
| Check In   | Check Out   | Revert to Version   |
|  |   | OK Cancel Apply   |

Figure 58: Version control with Virtual Folders

**VERSION CONTROL** Click on the "Version Control" tab to check in or check out a document or revert to an older version of the object (see Figure 58). Just click on the button to execute the specific command. Before reverting you should enter a valid version in the edit field next to the button.

When checking in an object a dialog appears where you can enter a version number and a description for the new version. If you leave the version number blank it is automatically incremented by the server.

*Note:* Sometimes the view is not correctly updated after the status of an object is changed. If this happens it is recommended to refresh (F5 key) the Explorer view.

### 2.8.1.5 EDITING DOCUMENTS WITH HYPERWAVE VIRTUAL FOLDERS

Documents can be edited with Hyperwave Virtual Folders in much the same way files on the local hard disk can be edited.

**REQUIREMENTS** For modification of documents on the server to work, the application used for editing must use the Windows common dialogs for load and save. It is also necessary that the Hyperwave Document Spooler is installed and running when editing the documents.

**EDITING DOCUMENTS** Double-click on the document you want to edit and it will appear in the appropriate editor. Modify the document and save it. The document is automatically uploaded to the server by the spooler. A second possibility for editing documents through Virtual Folders is to start an application and load a document into it from a Hyperwave Information Server by navigating to Virtual Folders in the "Open" dialog (this only works if the application uses the standard Windows open and save dialogs). Again, the document is copied to the temporary directory and checked periodically by the spooler for changes.

**UPLOADING DOCUMENTS** Lastly, it is possible to upload new documents to the server by selecting "Save As" in applications that use the standard Windows open and save dialogs and navigating to the Virtual Folders.

**HYPERWAVE DOCUMENT** SPOOLER The Hyperwave Document Spooler is automatically installed with Hyperwave Virtual Folders and is inserted in the "Startup" menu so that it is automatically started each time you start your computer. If you take the spooler out of the "Startup" menu, you must start it by hand if you want to edit documents on the server using Virtual Folders.

The spooler works as follows: when you retrieve an object through Virtual Folders to edit it, the file is opened in the corresponding application and copied to a particular directory. The spooler checks this directory periodically for changed files and if it finds one, it uploads it to the server. An icon with a blue and white arrow is displayed in the taskbar (in the lower right corner of the screen) when the spooler is running. If the spooler is active, i.e. it is uploading a document to the server, the icon is also active.

# **SPOOLER SETTINGS** You can check the status of the spooler with a left mouse click on the spooler icon. A window appears which shows what the spooler is currently doing, e.g. uploading a document to the server.

| Spooler Properties 🛛 🗙   |
|--|
| Spooler Path (if this setting is changed a new directory will<br>be created to store temporary files, but the old directory is<br>not removed) |
|  |
| Skip files with names beginning with the following text<br>(enter a list separated with semicolons, no wildcards)                              |
| ~  |
| Skip files with names ending with the following text (enter a<br>list separated with semicolons, no wildcards)                                 |
| ~  |
| Spooler Delay in milliseconds (500 to 30000 ms)  |
| ] 30000 OK Cancel  |

Figure 59: Spooler properties window

A right mouse click on the spooler icon displays a context-sensitive menu. The menu contains the following items:

- About: Displays the version number of the Hyperwave Document Spooler.
- Properties: This item allows you to select one of two further items:
  - Spooler: This item displays a dialog that allows you to change spooler settings (see Figure 59). Here you can change the temporary directory (the directory that Virtual Folders downloads the files to and which the spooler checks for modified files), and adjust the spooler delay in milliseconds. Furthermore, it is possible make settings which prevent the spooler from uploading files that end or begin with strings you specify. This can be used e.g. to prevent the spooler from uploading temporary (.tmp) files.
  - Temporary Files: This allows you to set two further options for the spooler. You can tell the spooler whether or not to put deleted files in the Windows Recycle Bin when

clearing the workspace, and whether or not to show a Windows progress dialog when deleting these files.

- Empty Workspace: This allows you to manually delete the files from the temporary directory.
- Close: This lets you close the spooler. You have the choice of logging off (in which case the spooler is closed but is started again at the next reboot) or closing the spooler (in which case it will not be started again at reboot).

### 2.8.1.6 DRAG & DROP

Hyperwave Virtual Folders lets you move, copy or link objects on a server easily with drag & drop. Drag & drop also works between different Microsoft Explorer windows.

**KEYBOARD SUPPORT** There is keyboard support for the drag & drop functionality, meaning that you can copy an object with CTRL-c and paste it with CTRL-v.

DRAG & DROP BETWEEN THE SERVER AND THE LOCAL FILE SYSTEM On drag operations to or from the local drives only the copy operation is performed. This means that whether you use the "copy" or the "move" function, data is not deleted from the Hyperwave Information Server.

It is important to note that collections that have been downloaded from the Hyperwave Server using drag & drop must be uploaded in the same configuration. For example, let us imagine that you download a collection Collection1 which contains collections Collection1.1, Collection1.2 and Collection1.3, and Collection1.3 contains files File1.3.1 and File1.3.2. Even if the only changes you make are to File1.3.2, you must reload the collection to the Server in its entirety. If a single file is uploaded instead of the whole collection, the links will not be able to be updated. Obviously, it is possible to download single files from the Hyperwave Server, if you know that you only want to make changes to one file.

Note that when downloading files from a server to the local file system all files are downloaded to the Windows temporary directory first and then they are transferred to the destination directory. Whether the files are deleted from the temporary directory afterwards depends on the drag & drop operation you chose. If you chose "move", the files are deleted, and if you chose "copy", the files are not deleted. Thus it is recommended that you make "move" operations when transferring to the file system so that the files do not reside on your hard disk in duplicate.

**.HMI FILES** When downloading from a server, .hmi files are automatically created. These files contain attribute information for the documents and collections that were downloaded so that when they are uploaded, they get the correct attribute information. See the *Hyperwave Administrator's Guide* for more information about .hmi files.

### 2.8.1.7 RELOAD

If any changes are made on a server, the Hyperwave Virtual Folders are not notified automatically. Thus it is necessary to manually upload the data shown in the Explorer. When using the 'Reload' operation the currently selected folder will be reloaded from server.

Sometimes if there are any inconsistency in displaying the objects it is recommended to reload and after that to refresh the Explorer.

# 2.9 NETSCAPE GOLD SUPPORT

Hyperwave offers full Netscape Gold support, which means you can use Netscape's editor to publish documents to Hyperwave.

There are a few things you should note when using Netscape Gold to publish documents with Hyperwave.

• There are problems when entering the location to publish to and the user name and password when publishing documents. You are prompted for this information after

initiating the publishing process using File/Publish or the Publish button in the Publish Files window. In the lower half of this window you must enter the location to publish to. Enter the complete name of the Hyperwave Information Server (preceded by http://) followed by a slash and the collection name where you want to publish the document, e.g. http://www.iicm.edu/~mycollection. Below this field are the user name and password fields. Do not enter anything in these fields or the publishing procedure will not work. You will be prompted for your user name and password after you click on OK.

• It is recommended that you enter a title for the file you are publishing, using the menu item **Properties/Document** and selecting **General**, where you will find a field for entering the title. If you do not do this, the title of the document will be the same as the name of the file you are uploading.

# 2.10 JAVA APPLETS AND HYPERWAVE

Java is one of the most exciting recent developments in the World Wide Web. It promises to solve many problems by being platform independent and offering new perspectives on interaction and information presentation over the Internet.

Java and JavaScript are supported by Hyperwave.

### 2.10.1 INSERTING JAVA CLASSES

Java classes must have the **DocumentType** "Program" and a **Name** attribute to be referenced from within an HTML document. Java classes can be inserted into Hyperwave with a web browser as follows:

- 1. Press the Edit button on top of your screen (in default layout).
- 2. From the options that appear choose Insert Document.
- 3. In the form that appears you may insert the necessary information, like Collection (name of the collection where you want to insert your applet), Title, Name, File (in some browsers you can browse for file names). From the listbox choose the attribute DocumentType and type in Program as value. The Name attribute consists of codebase/classname, for the example below Name is mydir/java/xyz.class.
- 4. Commit your entries by clicking on Insert Document.

### 2.10.2 RUNNING JAVA

To run Java a reference must be included in a HTML document following the pattern: <applet codebase="/mydir/java" code="xyz.class"> <param ....>

# **3 APPENDIX A**

# 3.1 HYPERWAVE COPYRIGHT NOTES

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# INDEX

| access rights                             | 70        |
|---|-----------|
| annotation links                          | 55        |
| assign documents containing inline image  | es64      |
| assign documents to a release procedure   | 63        |
| attribute types                           | 74        |
| CollectionType                            | 74        |
| Description                               | 74        |
| DocAuthor                                 | 74        |
| DocDate                                   | 74        |
| DocumentType                              | 74        |
| GOid                                      | 51,75     |
| Hint                                      | 75        |
| Host                                      | 75        |
| Keyword                                   | 75        |
| License                                   | 75        |
| LinkType                                  | 76        |
| MimeType                                  | 43, 76    |
| Name2                                     | 8, 76, 79 |
| Owner                                     | 76        |
| Path                                      | 76        |
| PLACETemplate                             | 77        |
| Port                                      | 77        |
| PresentationHints                         | 74, 77    |
| Price                                     | 77        |
| Protocol                                  | 78        |
| Quality                                   | 78        |
| Rights                                    | 78        |
| Sequence                                  | 79        |
| SortOrder                                 | 79        |
| Subdocs                                   | 80        |
| TAnchor                                   | 80        |
| TimeCreated                               | 81        |
| TimeExpire                                | 81        |
| TimeModified                              | 81        |
| TimeOpen                                  | 81        |
| Title                                     | 81        |
| Туре                                      | 81        |
| attributes                                | 26        |
| attributes of version controlled document | s71       |
| authoring mode                            | 39        |
| Base attribute                            | 42        |
| browsers, recommended                     | 26        |
| check in                                  | 68        |
|   |           |

| check out                               | 68         |
|---|------------|
| collection type                         |            |
| multicluster                            | 74         |
| collection types                        |            |
| cluster                                 | 43, 74, 77 |
| multicluster                            | 43         |
| sequence                                | 43, 74     |
| CollectionHead                          | 77         |
| collectiontypes                         |            |
| alternative cluster                     | 43         |
| copying                                 |            |
| documents                               | 57         |
| create a new procedure                  | 60         |
| create cases                            | 65         |
| delete case                             | 68         |
| duplicating documents                   | 57         |
| edit release procedures                 | 63         |
| experimental version                    | 68         |
| extended search form                    |            |
| native                                  | 31         |
| Verity                                  | 29         |
| FullCollectionHead                      | 77         |
| fulltext search                         | 28         |
| global home collection                  | 74         |
| header/footer off                       | 73         |
| Hidden                                  | 77         |
| HW_Version                              | 71         |
| HW_VersionComment                       | 71         |
| HW_VersionOwner                         | 71         |
| HW_VersionTime                          | 71         |
| Hyperwave Publishing Wizard             | 85         |
| information structuring                 | 25         |
| inline image links                      | 55         |
| inserting                               |            |
| Java                                    | 96         |
| Java                                    | 96         |
| language prefixes                       | 81         |
| last committed version                  | 68         |
| link attributes                         | 54         |
| Link Wizard                             | 53         |
| linking                                 |            |
| objects                                 | 57         |
| logging in to the server                | 38         |
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| logging out of the server      | 39     |
|--------------------------------|--------|
| MIME type                      | 76, 88 |
| moving objects                 | 56     |
| Netscape Gold support          | 95     |
| password                       | 95     |
| changing                       | 40     |
| personal home collection       | 74     |
| placeholders                   | 77     |
| preferences                    | 37, 38 |
| query object                   | 34     |
| recommended browsers           | 26     |
| reference links                | 55     |
| release procedure              | 58     |
| release procedure notification | 66     |
| revert to version              | 69     |
| Rights Wizard                  | 78     |
|                                |        |

| search                     | 28                 |
|----------------------------|--------------------|
| scope                      |                    |
| search results             | 32                 |
| server pool                | 28, 29, 54, 57     |
| shortcuts                  | 56                 |
| simple search form         |                    |
| native                     |                    |
| subscriptions              | 36                 |
| syntax of Rights attribute | 78                 |
| system users               | 50, 71, 76, 78, 81 |
| Verity                     | 28                 |
| version history            | 68                 |
| view case status           | 67                 |
| view open cases            | 67                 |
| Web Publishing Wizard      | 85                 |
| workflow                   | 58                 |
|                            |                    |