

## Information Delivery of Full-Text Databases in Academic and Research Libraries using Hypermedia

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### Abstract

Information contained in the libraries can be easily accessible, if all the books in the library can be stored in a digital format searchable by a computer. Information delivery is the process of using computer to provide a user with access to specific information. The author mentions about the introduction of hypermedia in information delivery and its advantages. Special features in designing of full text databases and steps in developing the in-house hypermedia databases are briefly described. Even though it may not be the job of the library professionals to design and develop the hypermedia system for the information retrieval, but surely their ideas and experiences will play an important role as they have observed the user, studied the user psychology.

### Introduction

Information delivery whether in printed, electronic, digital or any media, is the main objective of the Information Professionals. Although information is all around us, it is not always as accessible as we would like to do.

It can be done if all the books in the library are stored in a digital format searchable by a computer. Thus the use of hypermedia in external or in-house publications will help the user to find what actually they are looking for.

Information Delivery is the process of using computer to provide a user with access to specific information. Doing this is appropriate when;

- Computer searching is required;
- You need fast retrieval of specific information;
- You want easy and user friendly access;
- The target database is too large to be effectively distributed by other means;
- You need a large database to be as physically small as possible.

- viii. **Task stacking** : the user is supported in having several paths of inquiry active and displayed on the screen at the same time, so that any given path can be unload to the original task.
- ix. **Collaboration** : several authors can collaborate, with the document and comments about the document being tightly interwoven.
- x. **Consolidated information** : It provides the information consolidated from different media like the text, pictures, audio and video.
- xi. **Economy** : It is economical by reducing the operations costs in space, maintenance, etc.
- xii. **Remote access** : The effectiveness of this technique is more when the user is at remote place from the library and information centre.
- xiii. **Reference library** : Helps user to get variety of information needs like, references on a particular topic, enrich the knowledge, etc.
- xiv. **Removing geographical and time barriers** : By means of networking hypermedia documents located in different geographical places, removes the distance and time barrier, resulting in the currency of information.
- xv. **Interactiveness** : Its interactive and user friendly media over the existing ones.

### **Designing features of Full-Text Databases**

Since the audience of information is often the general public, creation of easy-to-use Graphical User Interface (GUI) is critical but not impossible. In most of the cases the ultimate consumer of information is ignored while designing the information retrieval tools. Ultimately, the user is getting confused and seeks help from the information professionals. This calls for the most capable tools having a full set of features for authoring windows, menus and interactions and most of them are available in market. Now the time has come for the Information Professionals to decide where and what can be used to get the best of the Information Technology. The designing features needed by information delivery are :

### **User Interface in Hypermedia**

Large number of sophisticated features, information delivery design usually calls for the high-end assemble tools, or even single purpose tools, for tasks such as searching or hypertext. Some tools suitable for information delivery development are : *Authoring Professional*, *Multimedia ToolBook*, *MediaScript* and *IconAuthor*, etc.

## User Interface through Menus

An important part of the user interface for most information delivery applications is a menu structure. A menu consist of a screen or window that has a series of interactive controls (buttons, check boxes, etc). For the user response one can specify the following objects like;

- **Push Button** - A standard window Push Button
- **Click / Touch** - Any rectangular area of the screen can be a hotspot that the user click on for a response.
- **Clickable Objects** - Any authorware Screen Object of any shape can become a hotspot.
- **Movable objects** - Any screen object can be set up for the interaction by dragging it to a specified location to produce a match response.
- **Pull-Down Menu** - A pull down menu is attached to the interaction icon by their response type.
- **Text** - The user is expected to type some text into a text entry area.
- **Key Press** - This will respond when the user presses a designated key or keys.
- **Tries Limit** - This is used to set a limit on the number of times the user may try to response.
- **Time Limit** - This is used to set a time limit on the users response.

## Flexibility

In order to make the data / information access as easy as possible for the end user, the system should support a custom user interface that is tailored to the type of data and the user. In many cases, the presence of a computer should be hidden from the end user. This means that the monitors should look like a TV screen and the user control should be via touch screen.

## Data I / O

The information delivery application needs to access its database in many formats of mass storage. For updating, the delivery application should be able to read the updating information and respond to it and the update creation application should be able to create the distribution data steam or disk.

## **Special Functions**

Many applications require support of feature such as text searching, hypertext, printer output, or data communications.

## **Steps in Developing the In-house Hypermedia Databases**

### **Concept**

This includes identifying the audiences (students, faculty members, research scholars, scientists, etc.), the kind of application (i.e. presentation, interactive system, etc.), the purpose of the application (to inform, teach, train, etc.) and the general subject matter. Ground rules for the design like style, application size, target platform, etc., are very important in case the application is used on LAN / Internet.

### **Design**

The purpose of the design stage is to specify in detail the information delivery architecture, the style and all of the content materials that will be needed. The objective is to generate enough detail so that the following stages of the content collection and assembly can be carried out without more decisions.

### **Collecting Content Material**

Working from the concept and finalised content lists created in the design stage, the Head of the Library and Information Centre or those who involved in it must collect all the content material. Content materials can be obtained either by selecting it from available internal sources or libraries, acquiring it from outside sources, or creating in-house. Here one may need file conversion or editing tools to conform the foreign material to be in the format required. For example, if the material is in BitMap Picture (BMP) format and you need it in Graphical Image Format (GIF) then you need tools like Painshop Pro.

### **Assembly**

The entire application is put together in the assembly stage. Depending on the amount of support that the design tools has given to the earlier stages, there will be practically no work in this stage, or one may have to do it all. As the Hypertext Tools that you used for the design stage, you will find that most of the assembly is already done.

## Texting

Once the application is ready and content material is input, you need to test it to be sure that everything works and looks the way you want it. In fact, this will probably be done a lot of times you are assembling the application. An important issue in testing is to make sure that the application works in actual environment of the end user, not just in your system, especially, when the application is going to be made available on the LAN, Intranet or Internet. One should test with typical users to make sure that they can use the application by themselves. One must confirm that the user can understand and use the interface provided.

## Distribution

The question of distribution comes when you want to avail the ultimate product in your campus or sister information centres or for resource sharing. It can be on LAN, WAN, Internet, Intranet or the individuals on their desktop. An application typically will include a number of different files - sometimes a very large number and placing them on the desired distribution medium.

## Conclusion

As today we are going to introduce the latest technologies like hypermedia, one must take into consideration the end user of it rather than our rules and principles. The enormous success of the instances is its userfriendliness. One can find lot of IT products, especially available on Internet, which does not need any training or specialised skills to access them. Even though it may not be the job of the library professionals to design and develop the hypermedia system for the information retrieval but surely their ideas and experiences will play an important role as they have observed the user and studied the user psychology.

The author encourages the Library and Information Professionals to become the first on in your Organisation, Library, Information Centre to learn and apply these techniques of information delivery, if not, contribute their skills and experience in the design and development of hypermedia tools in the information delivery.

## References

1. Botto, Francis. *PC Multimedia : an introduction to authoring applications*. Oxford; Butterworth-Heinemann; 1995.

2. Farmer, Linda. Hypertext : links, nodes and associations. *Canadian Library Journal*, Aug 1989; 235-58.
3. Jacob, Nilelson. *Hypertext and hypermedia*. New York; Academic Press; 1990.
4. Luther, Arch C. *Authoring interactive multimedia*. London; Academic Press Professional; 1994.
5. Roy, Rada. Writting and reading hypertext : an overview. *JASIS*, May 1989; 40(3); 164-71.
6. Shewale, Nanaji Gopinath and Panigrahi, Pijush Kanti. Hypertext and HTML : tools and techniques to develop web pages. *Library Science with Slant to Documentation*, Sept.1997; 34(3); 149-53.
7. Simpson, Bernice. Hypertext : a vision for the future. *Aslib Information*, Sept. 1991; 253-54.