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## **Web Page Designing for Academic Libraries in Cyber Age**

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### **Abstract**

*With the explosive growth of web today, libraries in their old concepts are no more in existence. A good and well designed and developed library web page is not only excellent media for publicizing the library functions, activities, programs, resources and services but also helps to bring to the notice of users all significant information which they must know in developing and using their library in the process of time. In this respect, considerable thought should go to determining the kind of information and its presentation on the web.*

*In view of above concepts an attempt is made in this paper to develop a model of web page designing for academic libraries basing on the existing available web pages.*

The explosive growth in digital information places an ever – increasing burden on the library mechanism used to store and access it. A wide range of technologies as one of the fastest, most universal means of disseminating information mainly among educated population is the Internet. In the phenomenal growth of the Internet, websites are a means of publicity for the organization hosting the page. The official web page of an academic library has a different role to play in the Internet in disseminating information, as no library in the world possesses all information or resources to meet the various needs of the user community. So the scope of using Internet and its associated technologies in Library and information services is becoming wider and popular. Now-a-days, different institutions have access to the Internet. Generally it is a good idea for different organizations and institutions to create a web page to present their information to interested users.

The term Internet describes the aggregate of information links and switches that comprise the present world wide public information network. Internet is growing rapidly due to the popularity of world wide web which makes the internet easier to use and enhance its value as a communication medium. Broadly, world wide web supports following services:

- Web page publishing on www (HTTP) servers
- Web page reception using web browsers
- Transmitting and receiving electronic mail
- File transfer between computers via FTP (File Transfer Protocol) servers.

## **1 Web page**

The content of the single file of hypertext is called a page, or more formally a web page. A web page can be of any size. Thus a web page may have only a few lines or it may be so large as to contain many screenful of information. Documents and collections are constructed with linked pages. The home page is the entry point to a www server or a collection. The home page is the first page of information received by a visitor. When you access library page by clicking a link on some

other page or else typing in its URL (Uniform Resource Locator), the server hosting it sends the text and all of the graphics files referred to in the page, and then the browser whatever you are using such as Microsoft Internet Explorer, Netscape navigator, mosaic, etc assembles the page on your screen for you to view.

## **2 Designing a good web page**

Good pages incorporate basic principles of good design, good organization, and good writing. Here are some general suggestions.

- Design usually attractive layouts.
- Choose color combinations carefully (restraint works well)
- Ensure your graphics add to the content rather than distract from it.
- Use hyperlinks to emphasize hierarchical organizations.
- Add hyperlinks to related sites where appropriate
- Uphold all of the traditional elements of good writing.

## **3 The three C's of web page design**

While developing a web page, always the three C's of web page design are to be remembered:

1. Quality **content**
2. Reader **convenience**
3. Artistic **composition**

## **4 Library web pages**

User needs to know what resources, facilities and services are available in the library, to know whether it is worth a visit. An academic library user needs a ready database of documents (or Catalogue) that he/she can access remotely, so that search and retrieval time is reduced. The user needs a platform to communicate with his/her librarian for administrative purposes and perhaps also a discussion forum with co-academicians. A website for an academic library could fulfill these roles. The Internet has proved to be a ready platform for the dissemination of such information to people in academic circles.

There are two aspects of creating and hosting web pages for libraries. The first one is the promotion and advertising aspect. Sherman strongly argues that “Promotion of libraries will not make libraries what they are not. But an effective program of promotion, not merely occasional publicity, can indeed develop a lasting interest in libraries and a continued use of their resources”. The second aspect is to identify and utilize potential of web as an alternative medium for delivering library services and for using library databases.

#### **4.1 Contents identification for library web pages**

Identification of contents to create a web page is a highly intellectual exercise and needs constant revision to arrive at a serviceable web page. For promoting Academic libraries on the web, the identification of contents is done by visualizing the service in the perspective of the existing library environment and by tracing out the different looks followed to provide the service.

#### **The content of Library web pages:**

The library home page

What’s new

About the library

    General information

    Library Opening Hours

    Contact Information

    Staff

    How to get to the library

Resources

    Library’s on line catalogues

    Databases on the web

    Online encyclopedias

    CD-Rom collections

    Full-text-collections

    Full-Text-Journals

    Full-text-news papers

    Job Resources

    Search the web

Services

    Reference Services

- Loan Services
- Borrowing instruction
- Renewal of loans
- Interlibrary loan
- Information retrieval
- Document delivery services
- User education
- Proxy service
- Frequently Asked Questions
- Programmes mnjhuy76mnjhuy76
- Links

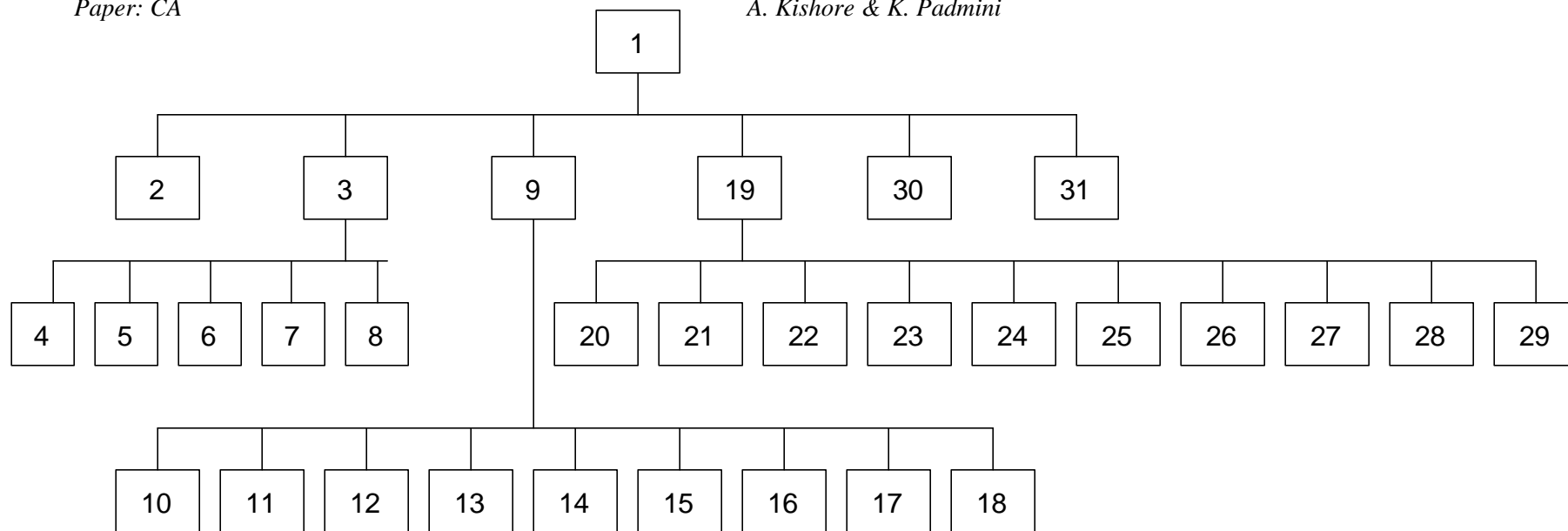
## **5 Design the structure of the web pages**

You should split a large web site into multiple, smaller, self-contained pages unless you expect a lot of your users to copy your entire site to local files (an unusual circumstance).

Divide the information you are about to publish into subdocuments (individual HTML-documents). Don't put too much text and images in one document. Reading on the screen is different from reading on paper. The less readers have to scroll documents on the screen, the better. Very large documents with sizable images are also slow to load.

Draw a chart of subdocuments and linking between them. Drawing a chart would help you to visualize the structure of your pages. Don't make the tree of documents too deep, because the readers usually read just the few top documents, unless they are really interested in the information you have to offer.

Some readers may want to print your pages, but printing page by page is slow. You could provide a version for printing, i.e. one big file with all the documents, but without the fancy graphics.



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|--|--|
| 1. The library home page (index. htm)                  | 19. Services (services.htm)                      |
| 2. What's new  | 20. Reference services (ref.srv.htm)             |
| 3. About the library (Abt-lib.htm)                     | 21. Loan services (loan-srv.htm)                 |
| 4. General Information (gen-Info.htm)                  | 22. Borrowing instruction (borrow-instr.htm)     |
| 5. Library opening hours (lib-open-hrs.htm)            | 23. Renewal of loans (renewal.htm)               |
| 6. Contact information (contact-info.htm)              | 24. Interlibrary loan (inter-lib.htm)            |
| 7. Staff (staff.htm)                                   | 25. Information retrieval (inf-retr.htm)         |
| 8. How to get to the library (how.to.get.htm)          | 26. Document delivery services (doc-del-svr.htm) |
| 9. Resources (resources.htm)                           | 27. User education (usr-educ.htm)                |
| 10. Library's on line catalogue (lib-online-catlg.htm) | 28. Proxy service (prx-srv.htm)                  |
| 11. Databases on the web (databases-web.htm)           | 29. Frequently asked questions (fre-asd-que.htm) |
| 12. Online encyclopedias (online-enpd.htm)             | 30. Programmes (prg.htm)                         |
| 13. CD-Rom collections (CD-collections.htm)            | 31. Links  |
| 14. Full-text-collections (ful-txt-collections.htm)    |  |
| 15. Full-text-journals (full-text-jour.htm)            |  |
| 16. Full-text-newspapers (full-text-nepr.htm)          |  |
| 17. Job resources (job-rsr.htm)                        |  |
| 18. Search the web (srh-web.htm)                       |  |

Fig. 1: Example chart of documents and linking between them

Give a name to each document (file). The name of a document should describe the content of that document, like in the above. First document (i.e. home page) is usually named *index.htm*. When writing a document, remember to use a descriptive TITLE element at the beginning of the document. The chart you have drawn is your guide when writing documents, so use it.

Notice that there should always be a link from every subdocument to the index or home page in order to avoid the "lost in hyperspace" phenomenon. The reader of the document should always know where he or she currently is and where to go next. Don't create links just for the fun of linking, links should always point to a relevant document.

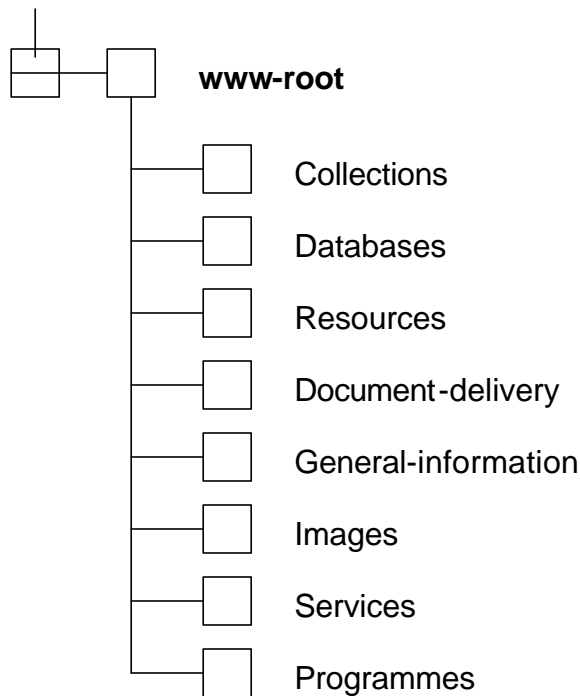
For a large collection of documents, create a table of contents (usually *index.htm*) with links to individual subdocuments. If the documents are meant to be read in some specific order, use links to "next" and "previous" documents.

### **Think about the directory structure**

You could save your HTML files and images into one single directory on your WWW server, but if there are going to be lots of files, maintaining the files could become quite difficult.

Check out the structure you just have designed, and look if there are files that clearly belong together, such as images, forms and so on. For example, images to be used with a number of documents (library logos etc.) should be in one directory. This way it is easy to update the images, and you always know where to find them. Images belonging to only one document should be placed in the same directory as the document file itself.

When writing HTML documents and creating HTML links between them, it is essential to know where the target documents are located. In other words, you have to know the *path* to the document, i.e. the document *URL* (Uniform Resource Locator, e.g. *http://www.vtt.fi/inf/*).



**Fig. 2:** Example of directory structure

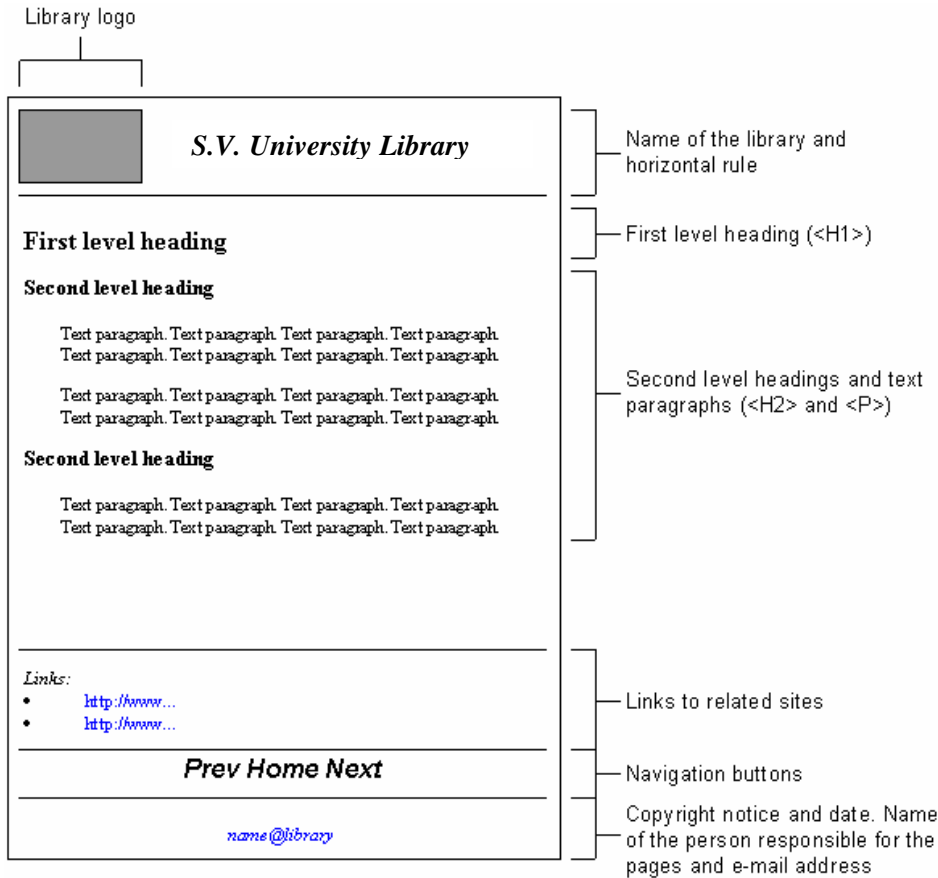
## 6 Graphical lay-out of web pages

Design the layout. Remember that HTML is not designed for defining the outlook of the documents. You can't have total control over how the pages will look on the reader's screen, the reader can change the font, text colors and window size.

Knowing the limitations of HTML, you can design a layout that will look fine when viewed with different browsers and by many different window or font sizes. Don't design for a specific browser, and be careful when using features that will need the



use of non-standard, extended HTML tags. Design your documents so that they are easy to read and navigate. Again, drawing a chart of the layout helps.



**Fig. 3:** Example of layout design

The layout should be the same in every document, i.e. default buttons should always be in the same place, consistent use of headings, colors, background images, horizontal rules etc. You should also have a copyright notice and creation/modification date in every document.

## 7 Select HTML tools and write HTML documents

### Web page and HTML:

A web page using HTML generally has following three parts:

- (i) A head, that identifies the document as HTML and establishes its title;

- (ii) A body, that contains the content for a web page. This is where all displayed text on a page comes from, as well as links to graphics, multimedia information, and to locations inside this HTML file or to other web documents, and
- (iii) A footer, that labels the page by identifying its author, date of creation and version number.

## **8 Converters**

If all or some of the documents you are going to publish on the web are already in electronic form, at probably in some word processor format, you could use a converter to create HTML files.

Shareware and freeware converters can be found on the Internet. Conversion is usually based on styles used in the word processor, so the quality of conversion depends on the consistent use of styles in the original document. You should notice that some information may be lost during conversion, e.g. multiple columns in original document cannot be translated into HTML. Tables and images are also sometimes difficult to some converters. In most cases, converted files need some manual editing.

Remember that the use of some converters, word processor add-ons, or WYSIWYG (What You See Is What You Get) editors for editing your existing HTML files may ruin your HTML code by adding extra tags without your control.

If you want to retain the exact layout of the original document, check out Adobe Acrobat, Common Ground and Tumbleweed Envoy 7.

## **9 HTML editors**

HTML files can be written with any text editor, but HTML editors have powerful menus and buttons supporting HTML coding. As with converters, there are dozens of

shareware and freeware HTML editors available on the Internet (see the links at the bottom of this page).

Using a HTML editor does not mean that you can forget learning HTML. Even when using a WYSIWYG drag-and-drop editor you should know what elements you can have in HTML document.

When choosing a HTML editor, think about at least...

- price (commercial, shareware or freeware)
- HTML features supported (e.g. tables, forms etc.)
- file size the editor can handle (some editors have size limit of 32K)
- does the editor support user defined document templates?
- availability (e.g. download it from the Internet)
- other tools (e.g. spell checker)
- color coding of HTML tags in editor window, search & replace within multiple files etc.
- does the editor support inserting extended and special characters (e.g. characters not included in English, like *å, ä, ö, ð, æ, ø*, etc.)

## 10 Create images

Image is an important criterion for a web site. Some times it will disseminate the pinpointed message with a little space. But it is always better to give image of size less than 20 KB.

### 10.1 Image tools

When inserting images into your documents, they should usually be in GIF (Graphic Interchange Format) or JPG (JPEG, Joint Photographic Experts Group) format. If you have images in some other format, you need to convert the images into GIF or JPEG in order to be able to show them as inline images (i.e. an image that is shown on the browser window instead of showing it with an external viewer).

GIF images can have max. 256 colors (1-8 bit) and JPG's are 167 million color images (24 bit). In GIF images you can select one color to be transparent and a GIF can also be saved using the interlace method.

Again, all the software you need can be downloaded from the Internet, as shareware or freeware. Some of the shareware software is mainly for converting and saving files in different formats, but many have real image processing capabilities, so you can create images from the scratch without buying expensive software.

Always use the ALT tag and a relevant explanatory text in HTML code when inserting images to HTML documents. Many users with slow connection have the "Show Images" option set off.

## **10.2 Image maps**

Image maps are ordinary GIFs, but associated with a map file, so that the image can have active hot spots, i.e. links to other documents.

Map file defines upper left corners and lower right corners of the active areas and target document URL for each of the active areas. Finding appropriate corners manually could be difficult, but fortunately there are many shareware image map editors. In shareware collections image map editors are usually in the same category with normal image editors.

The format of the map file depends on the server software, so you have to know what kind of server is in use at your site. You can also use client-side image maps, but not all browsers can understand them, so be careful.

### ***What More to do?***

- Testing the designed web pages
- Announcing the web pages
- Maintaining the web pages.

## **11 Recent Developments**

There are recent developments that enhance the aesthetics of a website. These developments are not mandatory, but inclusion of them adds a little weightage to the presentation. The extensible markup language (XML) and its ingredients such as XSL (Extensible Style Language), XLL (Extensible Linking Language) is being developed by W3C (World Wide Web Consortium) XML working group to enable delivery of SGML information over the web while over coming the limitations of HTML. XML is strong in intelligence, maintenance, linkage, simplicity and publicity. XML is an important new compliment to architectural underpinnings of the web as java and HTML. Based on the elements such as text parsing, tree management, and formatting, XML tagging is an advanced card catalogue for a library of web pages.

Java also plays a vital role in designing web page. Java is an object oriented multipurpose, multiplatform, development language, its primary use is to create applets that can be included in the web applications. Typical functions performed by applets include multimedia and general utilities.

## **12 Conclusion**

Designing web page is really an art. A good and well designed and developed library home page thus is not only excellent media for publicizing the library functions, activities, programmes, resources and services but also helps to bring to the notice of users all significant information which they must know in developing and using their library in the process of time. These and other considerations have been discussed in this paper and an attempt was made to identify and present the factors for determining the presentation of the web page of an academic library. Therefore, cyber-age libraries are not just a simulation of the conventional library in an, electronic form, but a paradigm shift of the concept of library usage.

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