On the Application of the World Wide Web

Daniel Yacob and Tsehay Demeke

Introduction

The path to Information Super Highway is in a continuous refinement. The goal to attain massive data at a reasonable speed is being realized.

As the cost of hardware/software dwindles and the need for obtaining information at one's finger-tips increases, we will see more and more innovative means of sharing knowledge.

The future growth of a nation will ultimately depend on its ability to effectively compete and know about its surroundings. No one can help but join these waves of information in order to stay afloat.

TO KNOW IS TO BE INFORMED *and vice versa*.

World Wide Web

It has been recently estimated that over 11 terabytes of information is available on the Internet. The amount of data is increasing as you are reading this article. So is the thirst for knowledge in various disciplines.

The world wide web is a hypermedia system originated by CERN, a high-energy physics laboratory in Switzerland. Even though the physicists used it to share papers among their peers, the web gained popularity among other users.

The flexibility of the web includes such diverse information as Gaelic texts, art exhibits, movie clips, and electronic magazines.

Reading a book is a sequential activity but hypertext (hypermedia) is non-linear chain.

One of the popular network information browsers that allows you to retrieve documents from the world wide web is NCSA Mosaic. This WWW client is available for Macintosh, Microsoft Windows on IBM PC-compatible and the X Window System on UNIX computers.

The National Center for Supercomputing Applications (NCSA), located at the University of Illinois at Urbana-Champaign is one of the leading center for the application of WWW browsers.

Information Distribution

The World Wide Web provides another kind of medium that serves the distribution of information. Different from E-mail list servers, the user is required to make the journey to the subject material. The Web does not facilitate multi-user communication well in the immediate sense that one would be accustomed to from IRC and E-mail exchanges (most Web browsers will have a Usenet and E-mail interface however). Indeed, this was never the intent of the Web, however some variety of current news is available on the Web. A good example is weather (most impressive when interactive) and sports.

The World Wide Web better serves archival type information. That is, the type of info you will like to have at hand as a reference. Most Web Homepages are in themselves a data base of interests of the writer. It is left to the original composer to keep the contents and links current. Many universities and companies now provide extensive Homepages giving full details on the schools, departments, faculty, courses offered or products offered. You may even apply to a program at a Homepage as well as search for the current address of a friend and look in on research projects. A very well developed and extensive data base is the African Studies Homepage at the University of Pennsylvania edited by Julie Siskind.

HTML Browsers as an FTP and Gopher Archive Interface

A secondary service that the Web provides is as graphical interface for downloading and previewing files remotely stored files. The ease of use with mouse "point and shoot" makes navigating the Internet as familiar to a user as clicking open folders in a Macintosh or Microsoft Windows environment. The Ethiopia ftp archives at Rensselaer Polytechnic Institute, and the Empire gopher archives are two informative sites to demonstrate this ease of navigability. The user need not remember the names, addresses and passwords for the different archives at a given Homepage. Indeed, a Web surfer need not even know how to use ftp and gopher to access the archives, or even the filename and address of the Homepage that brought him or her there. Nearly all Web browsing software allows one to add your favorite sites to a "hotlist" to revisit later at the click of a mouse button at some later time.

W3 for Personal Graphic Communication

The primary utility of the W3 is the incorporation of site, sound and text from across vast distances into a single form of presentation and communication. Though generally applied to communicate visual and text data to a large audience, the Web does permit the same form of communication privately between individuals. An author experimented with this to communicate graphical ideas in a hypertext letter to *Yitna Firdyiwek* who found the visual communication "...very helpful showing me what you were talking about." and added "In our bilingual context, especially, ... the graphic capabilities are enormous." The implementation here that kept the document private was to send by standard e-mail the name of the hypertext document *only* to the person(s) the composer wished to read it. The same principle may be applied to assist the progression of group discussions when visual communication becomes advantageous for the advancement of the topic. Passwording files is also possible through HTML when security is a concern.

The Expansion of Ethiopic Script on the Web

The Ethiopic script that decorates the Abyssinia CyberSpace Gateway has been implemented by making gif files from Eview and Mule documents. This is a highly inefficient solution to providing Ge'ez text on the Web; the data transmissions size requirements are orders of magnitude greater than what would be needed for raw text.

At present, web browsers have the text limitation of presenting at most 256 characters, and generally not more than 128. The extended Ethiopic Fidel has up to 357 characters. Like many other writing systems an encoding method is required to go between the 8-bit limitation and the more copious 2nd script. A multilingual version of Mosaic is capable of decoding 8-bit text into a "local" script and present the decoded text with the appropriate font. With SERA (The System for Ethiopic Representation in ASCII) and with the X-Windows fonts and font utilities at the Rensselaer archive, full Ethiopic implementation is ready for Mosaic today.

However, before making this great plunge into the hyper dimension of the W3, it is a better approach for the long term that would be implementers put their energies now into first bringing Fidel completely into Unicode. At that time, when addressing issues are resolved, the beauty of Fidel is sure to make its expansion self-propagating.