DISSERTATION

THE COMPUTATIONAL INFORMATION SYSTEMS RESEARCH GROUP IN THE DEPARTMENT OF INFORMATION STUDIES, UNIVERSITY OF SHEFFIELD

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ABSTRACT

This dissertation consists of six chapters, and describes the design and implementation of the World Wide Web pages for the Computational Information Systems Research Group in the Department of Information Studies.

The idea of implementing the World Wide Web pages for the research group is to get the information of the group published on the Internet. The area of networking (Internet) is reviewed particularly with reference to the World Wide Web. A few network tools are discussed. The emphasis is given more on the World Wide Web and the browser used as these form the most important part in this project. The Web pages were created via the HTML editor called the HTML Writer. The HTML language used in writing the program is described together with a brief description of the functions used in the program. A few number of hyper-editing systems are also discussed, with most attention being given to the hyper-editing system used in this project. The comparison was made between HTML Writer and the Hot-Metal Editor. The design and development of the Web pages is described from the first attempts to write the program to the final version. Lastly, the Web pages are reviewed as the final step in completing this project.

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CHAPTER 1

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1. INTRODUCTION

1.1 INITIAL SPECIFICATION

Information can now be made available and easy to access with the introduction of network services. It is the aim of this dissertation to make use of the network facilities by having a piece of information available on it.

The initial specification for this dissertation was to design a World Wide Web home page for Computational Information Retrieval Research Group and make it available on the Internet. An attempt was specifically made to create an environment within which the user was free to explore links and associations of any individual preference. A design structure had to be devised to organise and generate the information gathered from the group. This dissertation was intended to produce an overview of the WWW home page structure, therefore much effort is put on the World Wide Web and its components rather than to give an exhaustive account of the ever changing world of hypertext and hypermedia. The dissertation work carried out involved;

- · looking at the features of World Wide Web.
- generating a model for the home page design.
- gathering information required for the home page
- applying HTML to develop the home page.
- reviewing the design.
- getting the home page available on the network.

The contents of the thesis is for internal user only

BIBLIOGRAPHY

Arnold, S. E. (1994) Internet 2000. Infornortics, Calne.

Krol, E. (1994) **The Whole Internet,** User's Guide & Catalog. **O'Reilly &** Associates, Inc., USA.

Eddy, A. (1994) Internet After Hours. Prima Publishing, Rocklin, Cal.

Francis, B. (1992) Multimedia, CD-Rom & Compact Disc, A Guide for Users and Developers. Sigma Press, England.

Gilster, P. (1995) The Mosaic Navigator, The Essential Guide to the Internet Interface. John Wiley & Son, Inc., Canada.

Frei, H.P., Stieger, D. (1995) 'The Use of Semantic Links in Hypertext Information Retrieval'. Information Processing & Management. An International Journal, 31(1), pp 1-2.

Heaps, H.S. (1978) **Information Retrieval,** Computational and Theoretical Aspects. Academic Press, Inc., New York.

LaQuey, T.L. (1994) **The Internet Companion**, A Beginner's Guide to Global Networking. Addison-Wesley, Reading, Mass.

Manger, J. J. (1995) **World Wide Web, Mosaic and More.** McGraw-Hill, London.

Ozkarahan, E. (1995) 'Multimedia Document Retrieval' Information Processing & Management. An International Journal, 31(1), pp 113-l 14.

Rhyne, T. and Martin, L., Internet Kiosk "Scientific visualisation and technology transfer" an EPA case study . Computer, July 1995, pp 94-96.

Schofield, S. (1994) The UK Internet Book. Addison-Wesley.

Shindler, A. (1994) **Internet,** A Literature Guide. British Library Information Sciences Service, London.

Tomek, S. (1995) 'Natural Language Information Retrieval'. Information Processing & Management. An International Journal, 31(3), pp 397-398.

Vaughan, T. (1994) Multimedia, Making It Work. Osborne McGraw-Hill, London.

WWW URL REFERENCES

Mike Donn's Bookmarks

http://www.arch.vuw.ac.nz/Arch/off-campus.html

The KPT Background Archive

http://the-tech.mit.edu/KPT/bgs.html

Index of Color Lines and Bars on the Social Science Data Lab Server

http://osiris.colorado.edu/GIF/colors.html

Macmillan's HTML Workshop

http://www.mcp.com/general/workshop/

Graphics for HTML Documents

http://osiris.colorado.edu/~brumbaug/graphics.html.

Icon for use in WWW HTML Documents

http://www.uncg.edu:80/~bucknall/uncg/icons/

LAL Images for Buttons

http://lal.cs.byu.edu/buttons/gifs.html

HTML Writer • WWW and HTML Information and Resources

http://lal.cs.byu.edu/people/nosack/web_info.html

A Beginners Guide to HTML

http://www.ncsa.uiuc.edu/demoweb/html-primer.html

HTML Quick Reference

http://www.ncsa.uiuc.edu/General/Internet/WWW/Grobe.html

Web Development Tools

http://www.homepages.com/tools/