Video

The Microcosm Link Service
An Integrating Technology

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ABSTRACT

The Microcosm hypermedia system is currently implemented in C under Microsoft Windows. Macintosh and Unix/Xversions have been prototyped. The video shows the MS Windows version which is the most fully developed and has been integrated with several Windows applications.

Microcosm consists of a number of viewers which allow the user to view and interact with many different formats of information. The viewers communicate with Microcosm which then sends messages through a filter chain. Important filters are the link databases, or linkbases. In Microcosm, documents are not marked up internally: the link data is held in these separate link bases, and the viewers communicate with the linkbases to establish what buttons and links exist relevant to a particular document.

The Microcosm model allows a spectrum of link types. At one end of this spectrum are specific links or buttons which are manually authored links from a fixed source point to a destination point. Generic links are links that have a fixed destination but which may be followed from any point in any document where the appropriate object (such as a text selection) occurs. At the other end of the spectrum are computed links. These links are generated dynamically using information retrieval techniques, for example.

An important feature of Microcosm is the facility to dynamically install filters, particularly linkbases. It is common for a user to have at least two linkbases in the filter chain. One will be the application's linkbase which will contain links made by the original author. Another will belong to the user, and will contain personal link information and annotations. It is thus possible to have one set of multimedia documents, with a number of different linkbases that might contain completely separate views on the same set of information. If required, a user could install more than one such linkbase at a time and use the union of these sets of links.

The Microcosm model provides a link service using which it is possible to follow links into and out of applications that are not part of Microcosm. Many Windows application packages have facilities that permit programmable communication with the Dynamic Data Exchange (DDE) and in this case it is possible to treat such an application as a Microcosm viewer. When it is not possible to communicate via the DDE, links can be followed by simply cutting and pasting a selection to the clipboard. The openness of the model, allows selections to be any data objects.

This has been used to full effect in the integration of Microcosm with Autocad, where the selection of an Autocad object is used as the basis of link retrieval, and with the SPANS GIS system, where the selection of a coordinate in a SPANS map is used similarly. The video shows examples of all these techniques based on material taken from some of the many applications that have been developed using Microcosm, including a historical archive, medical education and urban planning applications.

REFERENCES

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