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1992 Human-Computer Interaction Laboratory Video Reports

Edited by Catherine Plaisant

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Abstract

•Introduction - Ben Shneiderman, [3:00]
•Dynamic Queries: database searching by direct manipulation - Ben Shneiderman, *Chris Williamson, Christopher Ahlberg,* [10:55]
•Treemaps for visualizing hierarchical information - *Ben Shneiderman, Brian Johnson, Dave Turo*, [11:25]
•Three strategies for directory browsing - Rick Chimera, [10:30]
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•Remote Direct Manipulation: a telepathology workstation - *Catherine Plaisant, Dave Carr*, [7:30]
•Guiding automation with pixels: a technique for programming in the user interface **-** *Richard Potter*, [11:50]

Human-Computer Interaction Laboratory
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http://www.cs.umd.edu/projects/hcil/

HCIL Video Reports
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Open House '92 Video

•Introduction-*Ben Shneiderman*, [3:00]
An introduction to the Human-Computer Interaction Laboratory, a brief update on the high-precision touchscreen developments (touchscreen keyboards and music instruments) and table of contents of the video.

•Dynamic Queries: database searching by direct manipulation -*Ben Shneiderman, Chris Williamson, Christopher Ahlberg,* [10:55]
Dynamic queries allow users to incrementally adjust a database query (with sliders) or easily select from a set of discrete attribute values coupled with a visual display of results that are rapidly updated. Dynamic queries on the chemical table of elements and a real estate database are demonstrated.

•Treemaps for visualizing hierarchical information-*Ben Shneiderman, Brian Johnson, Dave Turo*, [11:25]
Treemaps are a novel method for displaying hierarchical information using a 2-D space-filling algorithm that partitions a rectangular region. This allows hierarchies of several thousand items to be displayed at once on a normal monitor. Applications dealing with file structures and sales management are demonstrated.

•Three strategies for directory browsing-*Rick Chimera,* [10:30]
Three applications of treemaps and dynamic queries to directory browsing. (1)Top-down Treemaps retain the tree structure as viewed in a node-link graphic form. (2) Value Bars: a lightweight information visualization and navigation tool for multi-attribute listings and tables. Value bars have navigation and graphic characteristics similar to scrollbars and give an attribute value overview for the entire listing or table. (3) Dynamic Queries Directory Browsing allow users to interactively filter out files not satisfying criteria value.

•Filter-Flow metaphor for boolean queries-*Degi Young, Ben Shneiderman,* [6:35]
Evidence shows that users of database or information systems have diffi-culties specifying complex boolean queries. We present a novel visual presentation based on water filter-flow metaphors that reveals the effect of selectors and operators (AND, OR and NOT) on query outcome.

•The AT&T Teaching Theater: active learning through computer supported collaborative courseware-*Kent Norman*, [8:25]
The University of Maryland has developed an electronic teaching theater to explore use of computer-based technology in the classroom of the future. The focus is on methods to encourage collaboration and communication through the use of computering networking, video switching, and computer controlled audio/visual equipment connected to large screen projectors and student workstations. Examples of "HyperCourseWare" allow students to browse through the course syllabus, lecture notes, examples, assignments, and a class roll. In addition, the software provides online exams with immediate group results, feedback monitoring during lectures, online sharing of ideas and questions, and a "power blackboard" listing and showing steps in solving problems. Initial reactions by the students in six classes have been positive.

•ACCESS: an online public access catalog at the Library of Congress-*Gary Marchionini*, [8:15]
The Library of Congress ACCESS system is a touchscreen online public access catalog (OPAC) for novice and casual users. Eighteen stations find popular use in the Computer Catalog Center, allowing users easy access to the LC collection and freeing reference librarians from many user instruction responsibilities. The design of the system was facil-itated by collaboration between the HCIL and LC Automated Systems Office throughout the design, implementation, and evaluation processes.

•Remote Direct Manipulation: a telepathology workstation *Catherine Plaisant, Dave Carr*, [7:30]
As a form of telepresence, telepathology allows pathologists to render a diagnosis by examining specimens under a remotely controlled microscope. To allow rapid navigation the interface must account for the inherent time delays of the system and incomplete feedback. We demonstrate our simulator and several alternative interfaces.

•Guiding automation with pixels: a technique for programming in the user interface- *Richard Potter*, [11:50]
TRIGGERS is a programming system that tests for pixel patterns on the Macintosh display and manipulates the computer by sending mouse and keyboard events to the Macintosh user interface or by modifying the programming system's state information. The result is a macro programming system with full computational generality and significant access to data in any application on the Macintosh. TRIGGERS shows how the inherent visual nature of pixels and the user's extensive familiarity with the display content can make a programming system that is powerful and enjoyable to use.

Ordering Information

Video Year ☐1991 ☐1992 ☐1993 ☐1994 ☐1995

Cost and tape requests may be sent to:

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