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1991 Human-Computer Interaction Laboratory Video Reports

Edited by Catherine Plaisant

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Abstract

•Introduction - Ben Shneiderman
•Scheduling home control devices - *Catherine Plaisant, Ben Shneiderman*
•Touchscreen toggles **-** *Catherine Plaisant*
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•PlayPen II (now known as PenPlay II): A novel fingerpainting program **-** *Andrew Sears, Ben Shneiderman*
•Touchscreen keyboards - *Andrew Sears, Ben Shneiderman*
•Pie menus **-** *Don Hopkins*
•Three interfaces for browsing tables of contents - *Rick Chimera*

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http://www.cs.umd.edu/projects/hcil/

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Open House '91 Video

•Introduction- *Ben Shneiderman*

•Scheduling home control devices
Catherine Plaisant, Ben Shneiderman
We describe three different user interfaces supporting the scheduling of home-control devices (such as VCR, air conditioning or furnace) over time periods ranging from minutes to days. The touchscreen-based user interfaces include a 12-hour clock, 24-hour dial and 24-hour linear prototypes. They are demonstrated on a PC-AT equipped with a touchscreen. User reactions were collected during an informal usability test. The reviewers' feedback as well as the flexibility to add functionalities favor the linear representation.

•Touchscreen toggles-*Catherine Plaisant*
We describe six different touchscreen based toggle switches allowing the control of two state devices by novice or occasional users. The user interfaces, ranging from button type toggles to sliding toggles are demon-strated on an IBM PC. Results from a formative usability test are given indicating that all the toggles described here can be used with very low error rates. The sliding toggles were rated harder to use and were least preferred. On the other hand they offer other advantages such as the reduction of the risk of undesired activation.

•A home automation system
Reuel Launey (Custom Command Systems)
A complete home automation system is demonstrated, showing how the entertainment, security and climate control systems are easily controlled. The graphic user interface uses floor plans, calendars, time lines, and many direct manipulation techniques. The video also shows the product version of the scheduler prototyped at HCIL.

•PlayPen II (now known as PenPlay II): A novel fingerpainting program- *Andrew Sears, Ben Shneiderman*
PenPlay II is an entertaining software package which allows users to draw directly onto the computer monitor using either a touchscreen or a mouse. In addition to being entertaining, PenPlay II demonstrates the use of the location of a touch, direction of movement, and the speed of movement as input. Ten patterns can be generated, several of which are speed and direction sensitive.

•Touchscreen keyboards-*Andrew Sears, Ben Shneiderman*
The effect of keyboard size on typing rates is investigated. Four keyboard sizes, ranging from 7 to 25cm wide, were used by both novices and experienced users. Novices typed between 10 and 20 words per minute (WPM) depending on the size of the keyboard. Experienced users typed between 20 and 30 WPM. A brief demonstration of the four keyboards is given followed by an overview of the experimental results.

•Pie menus-*Don Hopkins*
A pie menu is a format where the items are placed along the circumference of a circle at equal radial distance from the center. Several examples are demonstrated on a Sun running NeWS window system, including the use of pie menu for window management, the simultaneous entry of 2 arguments (by using angle and distance from the center), scrollable pie menus, precision pie menus, etc.

•Three interfaces for browsing tables of contents-*Rick Chimera*
Three different interfaces were used to browse a large (1296 items) table of contents. A fully expanded stable interface, expand/contract interface, and multi-pane interface were studied in a between-groups experiment with 41 novice participants. We found that both the expand/contract and multi-pane interfaces produced significantly faster times than the stable interface for many tasks using this large hierarchy. The animation char-acteristics of the expand/contract interface appear to play a major role.

Ordering Information

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

Tape requests
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