

**Introduction: Hyperties** (Hypertext based on The Interactive Encyclopedia System) enables users to easily traverse a database of articles and pictures (graphics and video-disc images) by merely pointing at highlighted words in context. This embedded menus approach and the simple user interface enables users to tap the substantial power of hypertext systems for browsing and information search tasks.

**Hyperties** can be used to scan organizational policy manuals, a tool for diagnostic problem solving, an environment for novels or mysteries, an online help strategy, a browser for computer program text and documentation, an addition to a museum exhibit, cookbooks or self-help manuals, or a way to explore cross referenced materials such as legal documents or an annotated Bible.

**Hyperties** allows users to explore information resources in an easy and appealing manner. They merely touch (or use arrow keys to move a light bar onto) topics that interest them and a brief definition appears at the bottom of the screen. The users may continue reading or ask for details about the selected topic. An article about a topic may be one or more screens long and contain several pictures that are computer graphics or videodisc sequences. As users traverse articles, **Hyperties** keeps the path and allows easy reversal, building confidence and a sense of control. Users can also select articles and pictures from an index, the table of contents, the path history, or from string search results.

**Authoring tool: Hyperties** authoring software guides the author in writing a title, brief definition (5-35 words), text (50-1000 words, typically), and synonyms for each article title. Authors mark references in the text by surrounding them with a pair of tildes. **Hyperties** collects all references, prompts the user for synonym relationships, maintains lists of articles and pictures, and allows editing, addition, and deletion of articles and pictures. The author tool displays TO/FROM citations for each article and allows authors to keep notes on each article. A simple word processor is embedded in the authoring software, but users can create articles on their own word processor, if they wish. Command menus reduce memorization, eliminate typing errors, and speed work. Authors create pictures with editors such as PC Paint and then can specify links from the articles to the pictures.

**Hardware requirements: Hyperties** runs on a standard PC (256K, monochrome or color, color required if pictures (CGA, EGA and VGA) are used) and on PS/2s, PCs, XTs, or ATs. Hard disk is preferred.

**History: Hyperties** has been under development since 1983 in the Human-Computer Interaction Laboratory. It was first written in APL and has been rewritten in the C programming language twice. Dan Ostroff, a graduate student in computer science, did the implementation and a major portion of the user interface design. Dr. Janis Morariu of the Center for Instructional Development and Evaluation and Charles Kreitzberg of Cognetics Corporation contributed substantially to the user interface design. Jacob Lifshitz, Susan Flynn, Richard Potter, Bill Weiland, Raymond Lee, Don Hopkins, and Catherine Plaisant-Schwenn have maintained and improved the system.

**Manual:** A 140 page users manual was prepared by Cognetics Corp. to describe the authoring process and explain the features in Hyperties.

**Availability:** The University of Maryland has made a contract for commercial distribution and development with Cognetics Corporation (Charles Kreitzberg, President), 55 Princeton-Hightstown Road, Princeton Junction, NJ 08550, Phone (609) 799-5005. The price is \$349.

**Continuing development:** Current development efforts focus on improved touchscreens, touchable graphics, multiple window strategies, authoring tools, and alternate indexing strategies. Runs on the Sun workstation under the NeWS Window System. A UNIX version of a text-only browser is being built.

# Hyperties:

## Hypertext based on The Interactive Encyclopedia System

Ben Shneiderman

Department of Computer Science, University of Maryland, College Park, MD 20742

### Introduction

**Hyperties** (Hypertext based on The Interactive Encyclopedia System) enables users to easily traverse a database of articles and pictures by merely pointing at highlighted words in context. This embedded menus approach and the simple user interface enables users to tap the substantial power of hypertext systems for browsing and information search tasks.

### Applications

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## **Hardware requirements**

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## **Manual**

A 120 page users manual is available to describe the authoring process. It shows extensive browser and author sessions.

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## **Continuing development**

Current development efforts focus on improved touchscreens, touchable graphics, inclusion of videodisk access, and alternate indexing strategies. runs on the SUN 3/50 workstation. An exploratory advanced browser with multiple windows and touchable graphics

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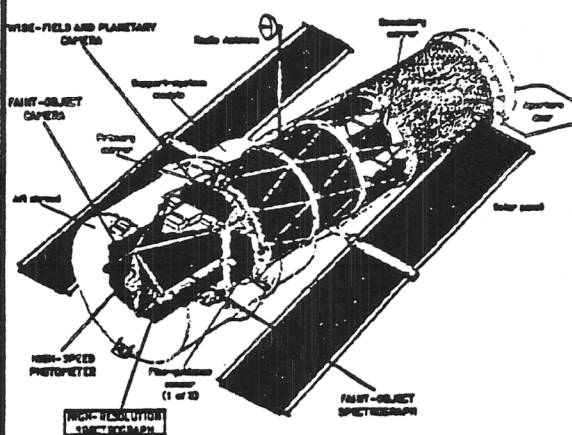
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1-11. E. P. Hubble Space Telescope

Hubble Space Telescope - Main View

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Edwin P. Hubble Space Telescope

WIDE-FIELD AND PLANETARY CAMERA

FAINT-OBJECT CAMERA

FAINT-OBJECT SPECTROGRAPH

High-Speed Photometer

High-Resolution Spectrograph

Photopolarimeter (1 of 2)

Primary Mirror

Secondary Mirror

Solar Panels

Support Structure

Antenna

Antenna

Antenna

High Resolution Spectrograph - An instrument capable of obtaining the ultraviolet spectra of individual objects in crowded fields.

FULL ENTRY

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Why the Hubble Space Telescope?

PAGE 1 OF 1

Imagine trying to see the clouds from the bottom of a muddy pond. That is how astronomers describe their view of the stars and planets through the Earth's atmosphere. As advanced as astronomical technology has become, our capabilities will be forever limited by the turbulence and brightness of our atmosphere. Even the finest ground observatories, such as the one at Mt. Palomar, California, are restricted by these conditions. In addition, the selective absorption of the atmosphere, which lets in visible light and radio waves emitted by stars and planets, but excludes most other forms of energy, limits our knowledge of celestial bodies.

To open the universe to observation in infrared, ultraviolet, x-ray, gamma-ray, and cosmic ray energies, NASA launched numerous satellites, each helping to explain different processes behind astronomical phenomena. But, to date, the value of these orbiting observatories has been limited by their relatively small size and limited spectral capability.

Now, for the first time, a ground-sized observatory will be placed in orbit to view the universe in visible and ultraviolet light unobscured by Earth's atmosphere.

Called the Edwin P. Hubble Space Telescope, the new observatory is a NASA-wide and international cooperative effort. Its name honors Edwin P. Hubble (1889-1953), who discovered that the universe extends far beyond the Milky Way galaxy.

The Hubble Space Telescope will weigh about 25,000 pounds (11,300kg) and will have a length of 43 feet (13.1 m) and a diameter of 14 feet (4.26 m). Its major components are an optical telescope assembly, five scientific instruments, and a support systems module.

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## WASHINGTON, DC: THE NATION'S CAPITAL

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Located between Maryland and Virginia, Washington, DC embraces the White House and the Capitol, a host of government offices as well as the Smithsonian museums. Designed by Pierre L'Enfant, Washington, DC is a graceful city of broad boulevards, national monuments, the rustic Rock Creek Park, and the National Zoo.

First-time visitors should begin at the mall by walking from the Capitol towards the Smithsonian museums and on

SMITHSONIAN MUSEUMS: In addition to the familiar castle and popular Air & Space Museum there are 14 other major sites. FULL ARTICLE ON "SMITHSONIAN MUSEUMS"

NEXT PAGE BACK PAGE RETURN TO "NEW YORK CITY" INDEX

Above: SUN 3 version shows two pages with text and graphics items selectable by mouse to obtain more information.

Left: PC version enables touchscreen or arrow key selection of highlighted items (embedded menus) in text only, but graphics can be shown.

# Hyperties