

HOLOTHEQUE:

A Multimedia Database System For Ethnology Studies

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Research Museum

The National Museum of Ethnology was established in 1974 as an Inter-University Research Institute. The principal functions of the Museum are: (1) to conduct research and investigation in ethnology; (2) to collect, maintain, and exhibit ethnological materials; and (3) through these activities, to deepen the general public's understanding and awareness of the various societies, cultures, and peoples of the world.

Museum Collections

Ethnology or Cultural Anthropology is the comparative study of the societies and cultures of the world's peoples. The scope of investigation covers all aspects of life, such as dwellings, clothing, food procurement and nutrition, history, world view, family and social structures, language, religion, psychology, arts and crafts, and technology, etc. Therefore, our museum collects many kinds of materials, such as artifacts, books, journals, audio-visual tapes/discs, films, slides, photographs, etc. The number of collections is now about 1,600,000 items, and is growing every year by nearly 50,000 items.

Multimedia Database

From the beginning of our museum, we had developed a computerized database system to access all information on different media. Figure 1 is a conceptual illustration of our multimedia database. Figure 2 shows a block diagram of the system. There are five distributed databases: title inventory, artifact image, photo & slide image, video, and book page image. They are located in different places in the museum, and connected by way of optical cable constituting a local area network (LAN). There are two loops of 32 Mbps and 16 Mbps transmission speed. More than 130 terminals or workstations are distributed in the museum, and we can approach directory to any database by way of them through LAN.

Contents of Each Database

(A) Title Inventory database keeps the descriptive data about books, artifacts, and audio/visual materials. The total number of items in which JP-MARC and LC-MARC data are included is about 6 million. (B) Artifact image database contains digitized artifact data taken by a special system developed by our museum which uses 3 CCD cameras to get images from four views. One artifact generates 7 MB data. Original data are stored on 12" add-on optical disc, and compressed color images are stored on magnetic disk. (C) Photo & slide image database stores digitized slide data taken by HDTV camera. One slide has 4.5 MB data. (D) Book page image database is a so called "electronic filing system" and keeps black and white images of documents. (E) Video disc database, which we call "VIDEOTHEQUE", is an automatic video-disc playback system. This system

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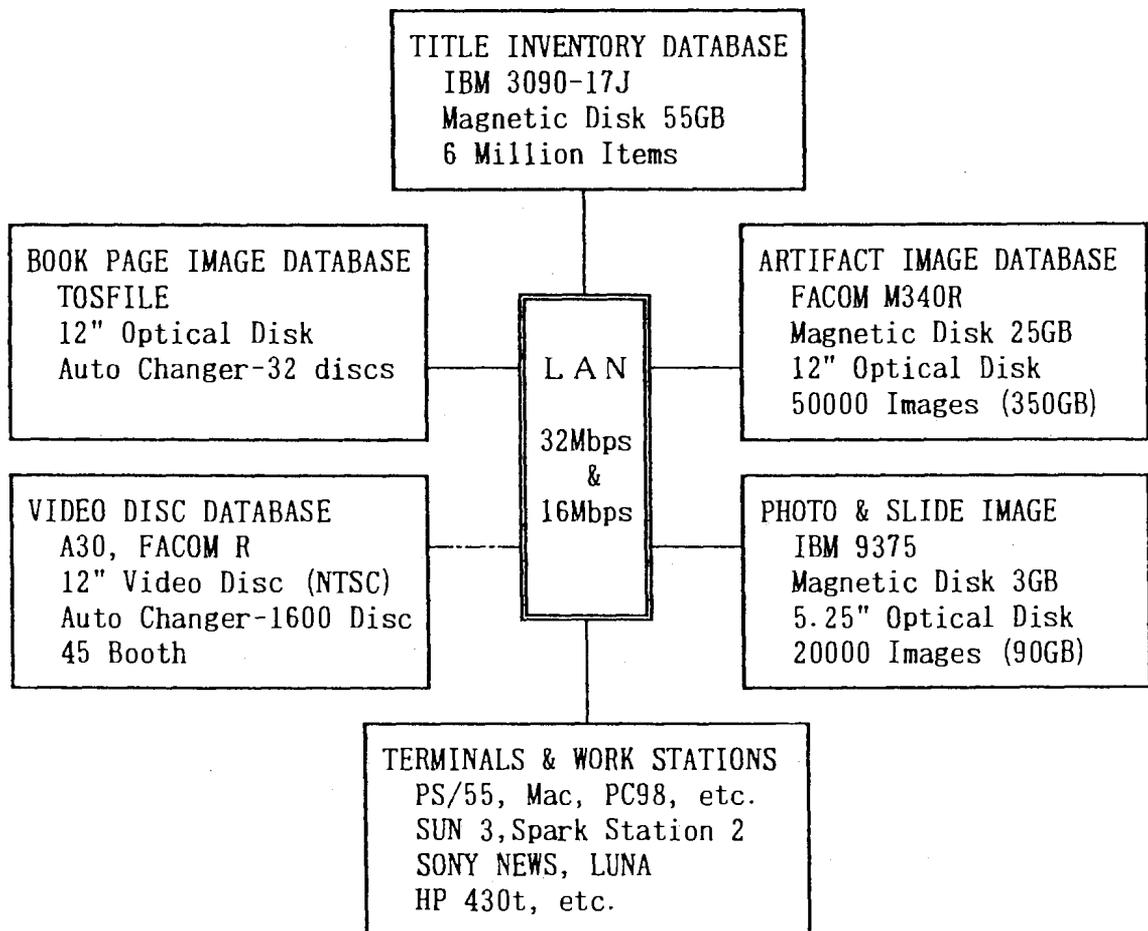
can contain up to 1,600 discs, and be, p-p-p-accessed from 45 booths in which the user can select any program from among 450 videos through conversation with the computer.

Optical Discs

At present, the amount of image data is about 500GB. Everyday 1GB data are processed and inputted into image database. In order to store these large volumes of data, we use several types of optical discs. There are 12" analog type video discs, 12" add-on typedigital discs, 5.25" add-on type, and 5.25" re-writable MO discs.

Holotheque

We are now designing an integrated multimedia workstation, from which we can retrieve whole related information at the same time, and see on the multi displays. There may be text description, artifact image, slide image, or movie, etc. This system will be called "HOLOTHEQUE," because all (=holo) different information are retrieved at the station as if they are stored in one storage (=theque). At the conference, several slides will be shown, so that the audience can well understand our computer systems and museum activities.



Block diagram of the multimedia database
at National museum of ethnology.