

Computer Screen Information Systems in Museums: An Empirical Investigation at the Deutsches Museum

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The installation of a touch-screen system on the subject of renewable energies in the division "New Energy Techniques" provided the impetus for our study. The computer-supported information system (CIS) is set up on a digital video interactive (DVI) basis—a technological development that makes possible a fully digital solution for text, sound, graphics, pictures, and video. It is stored on CD-ROM.

The CIS offers an information program lasting a total of three hours and containing such diverse chapters as "Energy Principles," "Energy and Environment," "The World Energy System," and "What are Renewable Energies?" These are in addition to the entire spectrum of renewable energies, ranging from solar energy to the technology of the future. The visitors can start in wherever they wish, with the general overview or at a deeper level. How can visitors navigate in such a huge supply of information?

The objective of the study was to gather systematic data on how the medium is used by museumgoers, since evidence was needed in order to reach a decision on whether such a costly system should be used to disseminate other complex information. We furthermore hoped to answer the following research questions:

- Who are the users of the touch-screen information system?
- How long do they use the touch-screen information system?
- What topics do they select, and what paths do they take?
- What problems occur when the touch-screen information system is used?

For the investigation into the acceptance of the touch-screen information system, several methods were employed:

- * A *visitor structure analysis* of the department with comparison of samples from two survey campaigns, with a total of 446 interviews, in which sociodemographic features such as age or education of the visitors, their motives for visiting the department, and their duration of stay were recorded.
- * A thorough *systematic observation* of 223 users at the touch-screen, whose "navigational" behavior was observed and recorded at a second, hidden monitor.
- * *Interviews* with every second observed touch-screen user, yielding 110 interviews all told.

Such a multiple procedure, developed with support from the Institut für Museumskunde in Berlin, permits comparison between the set of people who visit the department and those who use the touch-screen system, as well as coordination of the data from the observations at the screen with the data from the subsequent interviews.

Selected Results

Specific results of the investigation serve as a basis for optimization. For example, it has led to the addition of an understandable schematic overview of the program. One of the department-specific results was the finding that, as could be expected with such a complex subject, nearly two-thirds of all visitors held a college or university degree and the majority had purposely sought out the department.

Confirmative results were obtained regarding computer user structure—"young adults" were twice as well represented among touch-screen users as among visitors to the department as a whole—as well as user behavior (a stay of 1-3 minutes for nearly 50% of the visitors, 4-6 minutes for about 20%), and user preferences (interactive sequences such as guessing games were favored).

New, more detailed results failed to support the findings of B. Serrell and others. It was in fact primarily the technical experts who collected before the touch-screen and stayed longer than average (21% of the visitors remained at the computer for more than 7 minutes, and 8.5% for more than 12 minutes) and who as a group had fewer problems working with the system than other users. Nevertheless, our findings also indicate that the CIS represents an attractive and easily operated tool for the majority of brief users.

The possibility of drawing the attention of young people to a topic that is generally of little interest to them with the aid of this new, attractive medium and of simultaneously fulfilling the high informational expectations of experts is closely tied to the nature of the department and topic. These results are not necessarily applicable to other subjects.

KEYNOTE SPEAKERS TO THE 1996 VISITOR STUDIES CONFERENCE

Gary Machlis, Chief Social Scientist for the U. S. National Park Service and Professor of Forest Resources and Sociology at the University of Idaho, has written several books and numerous articles including *On Interpretation: Sociology for Interpreters of Natural and Cultural History* with Donald Field (1992) and an edited volume of opinions on evaluating interpretation entitled *Interpretive Views* (1986). He has received the Burlington Northern Award, the University of Idaho's highest recognition for teaching excellence and a teaching grant from the National Endowment of the Arts.

Judy Rand spent half her childhood with her nose in a book, and the other half in the woods, wading through brooks. Years later, she landed at Sea World, where, trying to conquer a case of writer's block, she signed on as a science writer. In her 12 years at the Monterey Bay Aquarium, Judy went on to create and run the Exhibit Research and Development Department. She developed interpretive plans and instituted exhibit evaluation. Today, she heads a Seattle-based company (Rand and Associates) providing a number of services to museums, science centers, nature centers, and zoos.

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