Characteristics of a Digital Image Database to Meet the Needs of Instruction, Study and Research in Israeli Institutions of Higher Education

Julia Khagar

Abstract:

This study has analyzed the construction and characterization of digital image databases and their suitability for research and educational activities. It has surveyed the opinions of students and faculty from the Humanities departments of various Israeli universities. The goal of this study was to discover the functions of an ideal electronic image database serving educational and research purposes, as well as provide clear criteria for the definition of an "ideal image database".

This paper analyses examples of a variety of electronic databases, while pointing out their advantages and disadvantages.

The review of the relevant literature covered the following topics:

- Metadata issues

- Indexing methods of the images

- Image retrieval

- The images of the database: quality – standards and quality control

- User interface design

- Usability surveys of digital image databases and the user's needs

- Digital image databases as a tools for learning, teaching and research

- The role of the library in incorporating the digital images in the teaching process

The leading questions of the research were:

- Who should participate in the construction of the database?

- Which is a better database: the one consisting of a permanent collection or another one that provides the possibility of adding digital images and data?
- Which search functions should be included in the electronic image database?
- Whether free access should be provided to students and faculty both on the campus and from out of campus locations?
- Whether the quality of the images is an essential criterion for the successful usage of the database?

The research participants included the faculty and the student body of the Humanities departments of the universities in Israel. We chose the quantitative method (in the form of a questionnaire) as the main technique for this study, together with qualitative elements, such as observation of the way of image usage during the teacher's presentations in class, which enabled the content analyses as a counterpart to the statistical data.

The first phase of the study examined the lecturer's usage of images in class. Several lectures were attended in order to learn about different ways of using images at lectures. The second phase of the study consisted of 465 printed questionnaires. The questionnaire had two versions: one for the faculty, another for students. 175 questionnaires were filled out, which constitutes 37.6% of the total potential population.

The results of the study unequivocally indicate the necessity of maintaining digital image database in the Israeli universities. In addition, the survey participants pointed out their preference for consulting and integrating the library in the process of construction of such databases. One of the outstanding features of this study was the resemblance of views of the faculty and the student body. Consequently, this similarity of opinions between two different populations of users downplays the importance of associating the user with a certain population, while highlighting the importance of users' needs and the capability of the database meeting these needs.

According to the study's objective – defining the functions of a digital image database – following are a number of functions defined by the targeted population of this research:

- In addition to an existing collection of images the user should be able to include his private pictures in the database
- The images in the database should be of high quality
- The following search categories should be included in the database:
    1. Keywords
    2. The creator's name
    3. The title of the object of art
    4. The subject
    5. The date of the object's creation
    6. The name of the museum
    7. The materials and the measurements
- An option of constructing collections of images for class presentations should be included
- The database should be accessible from out of campus locations

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