MULTIMEDIA DATABASES AND INFORMATION SYSTEMS

Organizers:
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Panelists:
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Alex Pentland, MIT Media Lab
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The role of computers in everyday usage is changing rapidly as their ability to acquire and store images, video sequences, and audio clips has exploded in the recent past. These roles are expanded even further when one considers the possibilities presented by the networks of today and even more importantly the networks that could emerge from merging cable and telephone companies in the near future. One of the most important challenges for continued success and growth of multimedia is the ability to easily manage and access the information: storing gigabytes of data, organizing the information such that it is easily obtainable, searching capabilities to allow for convenient access, presenting and delivering the requested information with appropriate quality of service, controlling access, and preserving copyrights. These functions are typically associated with databases which can easily be performed on text-based information; however, multimedia databases containing text, video, images, and audio present novel problems that must be addressed and resolved. This panel will discusss three of these issues that need to be resolved in order for multimedia databases and information systems to become a reality: information and data representation, query specification, and user interfaces. Other important issues, such as networking and storage, which will not be addressed.

Alex Pentland

INFORMATION AND DATA REPRESENTATION: How is the information represented, what features are extracted, how are they extracted? How to compute and index these representations? What is the level of user involvement in indexing? These represent the heart of the problem. In addition, the ease with which users can browse and navigate through the information space is critical and this is directly related to how the information is presented and indexed.

James Normile

QUERY SPECIFICATION AND USER INTERFACE: How should the user specify what information he or she is looking at? Keywords as used today to describe contents of video and images are a good start, but they are also biased, labor intensive, error prone, incomplete, and could cause permanent loss of information. What types of user interfaces are available to allow non-database experts to gain access to the information by combination of search/browse techniques? What kinds of interfaces and tools are needed to ease database population and annotation/indexing?

Charlie Judice

APPLICATIONS AND PRACTICAL ISSUES: The success of this technology depends highly on its applications and the cost. What are the possible applications? Would people really pay for them? How to bill someone? Per minute, per item, per search, by distance, combination? Copyright issues and how to enforce them?