Multimedia archive description scheme provides data structure to organize multimedia content

Technology #ms99-04-08d

Multimedia content has become increasingly pervasive, ranging from documents to audio content to videos. This can cause undesirable delays in the exchange, search, and storage of multimedia records. It is important to develop systems that process, filter, search, and organize this information so that useful information can be derived efficiently from the accessible exploding mass of information. In order to achieve this, an interoperable multimedia archive description scheme, such as MPEG-7, is necessary for the ongoing media standardization efforts. This technology provides a multimedia archive description scheme for interoperable multimedia content descriptions. The data structure established in this technology provides an efficient form for describing a collection of multimedia records to facilitate navigation through the variety of multimedia content available today.

Use of clusters to relate records provide an efficient method of sorting multimedia content

Browsing and searching through large collections of multimedia content from different sources is tedious and time-consuming. The technology provides a data structure which relates records by similarity measures. The principle data structure in the multimedia archive description scheme is a cluster which can include feature space attributes, semantic attributes, media attributes and meta attributes of the records in the archive. Cluster relationships can then relate records to clusters or clusters to clusters. This computer readable storage system may provide more efficient exchange and distribution of multimedia documents.

The increased efficiency of the technology has been demonstrated with various content including digital images, internet web pages, digital audio files, etc.

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Applications:

- Fast and efficient searching, filtering, browsing and organizing of multimedia content that is of interest to the user
- Digital library: image/video catalogue, multimedia directory service
- Broadcast media selection: Radio & TV channels
- Multimedia editing: personalized news and customized views of multimedia content
- Security services: traffic control, surveillance
- E-business applications
- Metasearch engines

Advantages:

- Provides efficient exchange and distribution of multimedia documents among heterogeneous audio-visual databases.
- Provides significant advantages for meta-search engines, which are gateways linking users to multiple search engines.
- Advanced query options allow for efficient matching of multimedia collection in selected feature spaces, while current search engines are restrained by the interface limitations.

Patent information:

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Related Publications:


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