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Topic: ***Multimedia Databases-difference with conventional DBMS,***

## **Multimedia Databases-difference with conventional DBMS**

### **Multimedia Databases:**

Multimedia databases, which contain multimedia objects such as images, text, and various kinds of time-series data (e.g., audio), also require spatial data management. In particular, finding objects similar to a given object is a common kind of query in a multimedia system, and a popular approach to answering similarity queries involves first mapping multimedia data to a collection of points called feature vectors. A similarity query is then converted to the problem of finding the nearest neighbors of the point that represents the query object.

### ***Definitions: Multimedia vs. Multimedia Database***

With an increased availability of digital information options today, a commonly accepted definition of multimedia is a combination of different media (i.e., text, pictures, sounds, video, animations, etc.) used to present multimodal information in conjunction with computer technology. Due to the growing delivery of media by computer and the merging of increasingly powerful computer-based authoring tools with Internet connectivity, it seems that the term "multimedia" is now firmly associated with computer-based delivery. Although the term has not always been associated with computers, Gonzalez et al. asserted that "multimedia cannot be experienced without the technology

because it is the technology that creates the experience”

A multimedia database is a collection of related multimedia data. Common multimedia data types that can be found in a multimedia database include the following:

- Text
- Graphics: drawing, sketches, and illustrations
- Images: color and black & white pictures, photographs, maps and paintings
- Animation sequences: animated images or graphic objects
- Video: a sequence of images (frames), typically recording a real-life event and usually produced by a video recorder
- Audio: generated from an aural recording device
- Composite multimedia: a combination of two or more of the above data types

Among various media types, media can be divided into two major classes:  
**Continuous and discrete.**

Media that are changing with time such as audio and video are called **continuous media**; and time-independent media such as text, still images, and graphics belong to **discrete media**.

### **Understanding Multimedia Database Characteristics**

A multimedia database contains various data types such as text, images, graphic objects (including pictures, drawings and illustrations), animation sequences, video and audio.

Additionally, summarized some characteristics of multimedia data as below:

- **Lack of structure:** Multimedia data often are not quite structured; therefore, standard indexing and/content-based search and retrieval may not be available.

- **Temporality:** Different multimedia data types have different requirements. For example, some multimedia data types such as video, audio, and animation sequences have temporal requirements that have implications on their storage, manipulation and presentation, but images, video and graphics data have spatial constraints in terms of their content.
- **Massive Volume:** Usually, the data size of multimedia is large such as video; therefore, multimedia data often require a large storage device.
- **Logistics:** Non-standard media can complicate processing. For example, a multimedia database application requires using compression algorithms.