GOA COLLEGE OF ENGINEERING

"Bhausaheb Bandodkar Technical Education Complex"

Experiment No: 10

MDBMS

Aim: To study various operations of MDBMS.

Theory:

Multimedia database is the collection of interrelated multimedia data that includes text, graphics (sketches, drawings), images, animations, video, audio etc and have vast amounts of multisource multimedia data. The framework that manages different types of multimedia data which can be stored, delivered and utilized in different ways is known as multimedia database management system. There are three classes of the multimedia database which includes static media, dynamic media and dimensional media.

Content of Multimedia Database management system:
Media data – The actual data representing an object.
Media format data – Information such as sampling rate, resolution, encoding scheme etc. about the format of the media data after it goes through the acquisition, processing and encoding phase.
Media keyword data – Keywords description relating to the generation of data. It is also known as content descriptive data. Example: date, time and place of recording.
Media feature data – Content dependent data such as the distribution of colors, kinds of texture and different shapes present in data.
Read the data as per the registration data. Multimedia database is database containing multimedia collections.

- Multimedia database management system is essential to manage multimedia data like text, graphics, animation, music, etc.

- Multimedia database management system can be defined as a software system that manages a collection of multimedia data and provides access to users to query and retrieve multimedia objects.
- Generally, a multimedia database contains text, image, animation, video, audio, movie, sound etc. which is stored in binary form.

- SQL query language is used for query and retrieval of data.

- There are generally two types of multimedia databases
- Linked Multimedia Databases and Embedded Multimedia Databases.

- Linked multimedia databases In this database, multimedia elements are organized as image, audio/ MP3, video etc. All the data may be stored either on off-line sources (CD-ROM, Hard Disc, DVD etc.) or on Online sources. One great advantage of this type of database is that the size of the database will be small due to the reason that multimedia elements are not embedded in the database, but only linked to it.

- Embedded multimedia database Embedded Multimedia Database implies that the database itself

contains the multimedia objects as in the binary form in the database. The main advantage of such a database is that retrieval of data will be faster because of the reduced data access time. However, the size of the database will be very large.

Characteristics of MDBMS:

- A MDBMS (Multimedia Database Management System) can be characterized based on its objectives at the time of handling multimedia objects.
- Corresponding storage media: Multimedia data must be stored and managed according to the specific characteristics of the available storage media.
- Comprehensive search methods: During a search in the database, an entry, given in the form of text or a graphical image, is found using different search queries and the corresponding search methods.
- Format independent interface: database queries should be independent of media format. MDBMS should provide information in formats requested by the application.
- Simultaneous data access: The same multimedia data can be accessed (even simultaneously) through different queries by several applications. Hence, consistent access to shared data can be implemented.
- Management of large amounts of data: The MDBMS must be capable of handling and managing large amounts of data.
- Long Transaction: The performance of a transaction in a MDBMS means that transfer of a large amount of data will take a long time and must be done in a reliable manner.
- Real-time Data: The read and write operations of continuous must be done in real-time. The data transfer of continuous data has a higher priority than other database management actions

Operations:

1. Input: Data will be written to the database. Raw and registering the data is mandatory. Descriptive data is optional
2. Output (play) operation: It involves reading the raw data from the database according to the registered data.
3. Modification: It involves changing of raw, registering and descriptive data. Modification can also be understood as a data conversion from one format to another.
4. Deletion Operation: This operation removes an entry from the database. The consistency of the data must be preserved.

Conclusion: MDBMS was studied and operations were performed on MDBMS successfully.