텍스트이(가) 표시된 사진

자동 생성된 설명

1. Data redundancy and inconsistency : video data isn’t updated so data redundancy and inconsistency don’t matter. metadata has few relationships so they don’t lead to redundancy
2. Difficulty in accessing data : A database would be needed because if the video would need to be searched it would need to write an application program every new time since the metadata could be hard to find.
3. Data isolation: Data isolation is not a problem because adding new videos doesn’t change the previous videos. But for authorization information, it could be an issue if concurrent updates to it happen.
4. Integrity problems: Constraint could be an issue if not set. Because it can be bad to not have constraints and allow user to upload a video that would make the system break
5. Atomicity of updates : If a video is added, its metadata should be added, too, or the data will be inconsistent with partial updates.
6. Concurrent access by multiple users : Concurrent access is necessary for multiple users to be able to add videos as long as it is constrained. Uncontrolled access would lead to data inconsistency.
7. Security problems : It can be difficult to give access to users to data, but not be able to have all because it could lead to a security problem in the system.

1.7 (30pt)

❑List four significant differences between a file-processing system and a DBMS.

First, redundancy and inconsistency occur on a file-processing system a lot while it occurs on DBMS much less or not.

Second, accessing data is more difficult on a file-processing system also it requires to write a new program to carry out each new task. On the other hand, DBMS provides flexible access to data.

Third, there is atomicity of updates problem on file-processing system that failures may leave database in an inconsistent state with partial updates carried out while DBMS can deal with atomicity of updates problem.

Lastly, uncontrolled concurrent accesses that can lead to inconsistencies happen often on file-processing system, but DBMS can handle with this so it’s not a problem on DBMS.

1.8 (30pt)

❑Explain the concept of physical data independence and its importance in database system.

Physical data independence is an ability to modify the physical schema without changing the logical schema. The changes of modifying indexes and changing the access method don’t affect due to physical independence. With physical data independence, you don’t have to have changes in the application program for format. This means application programs do not have to be written again either.

1.10 (30pt)

❑ List at least two reasons why database systems support data manipulation using a declarative query language such as SQL, instead of just providing a library of C or C++ functions to carry out data manipulation.

1. users can all concurrently add and modify rows in the database without waiting for other users to finish their editing or thinking about writing over other users’ changes.
2. DML is a declarative language so it’s much easier for programmers to learn and use.

1.11 (30pt)

❑ Assume that two students are trying to register for a course in which there is only one open seat. What component of a database system prevents both students from being given that last seat?

transaction isolation