**Database Systems Quiz 1**

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1. Disadvantages of Database Systems:

* Database systems are very complex and difficult to design and, they are very time consuming. Developers and End-users of database must have complete skills of it if they want to use it.
* Substantial Hardware and software start-up cost. To store huge amount of data it will take more memory and fast processing power. So expensive software and hardware is required.
* Information is made available to users from remote places via a database management system, and because it is centralized, the potential of abuse is higher than with a file-based system. If the data center's information is corrupted, the organization's users will be in serious difficulties.

1. Examples for Mini-World:

* Library
* Parking
* Finances
* Job-Vacancies

Different Mini-World entities for different Mini-worlds mentioned above:

* Books
* Departments
* Parking\_Slots
* Fees
* Students
* Instructors
* Librarians
* Buildings

1. List of Entities to build a Video Site:

* Users
* Videos
* Comments
* Likes
* History
* Recently\_Searched
* Subscribers
* Downloads
* Recently\_Liked
* Shares

Relationship between the Entities:

* Users has many Videos
* Videos has many Comments
* Videos has many Likes
* Users have specific History
* Users has many Subscribers
* Users has many Downloads
* Videos has many Downloads
* Videos has many shares
* Users have specific Recently\_Liked

1. Yes, there is a problem in the given database. The ID in the table is Employee ID. Sometimes employees may work in different buildings, So though ID is unique there is a chance of data duplicity when it comes to building and budget. And another issue is the data is not normalized. If a person is trying to store the employee information, he doesn’t need to enter the details about building and budget. The database is providing more information than needed which makes the system complex for maintaining.

To solve that issue we need to split the massive table into two different tables. One table consists of ID, name, salary and dept\_id as attributes and the second table consists of dept\_id, dept\_name, building and budget.

Employee

|  |  |  |  |
| --- | --- | --- | --- |
| ID | name | salary | dept\_id |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Department

|  |  |  |  |
| --- | --- | --- | --- |
| dept\_id | dept\_name | building | budget |
|  |  |  |  |
|  |  |  |  |