

## IT214, Database Management Systems (Winter'2023)

### Group Projects

How to go about?

Remember: Your goal here is to “design and implement” the database for an identified application. And not to create application itself.

Here you do following:

1. Identify Database Application
2. Define Database Objectives
3. Describe the Application Usage Scenarios as advised in following section and given sample scenario description for DA-ACAD.  
This is your First Submissions.
4. Draw ER Diagram from the application usage scenario
5. Create Relational Schema Diagram
6. Create DDL scripts, execute them and create empty database. Save DDL scripts for submissions.
7. Populate database tables with some sample data through INSERT statements. Save INSERT scripts for submission
8. Implement Reporting Queries.
9. And more as described on Project Description Document.

How do Identify an database application?

1. Look around various social networking and business sites and consider creating database for one of them.
2. Look at Google Play-store, find out what are kind of application interests you.
3. Look professionals around, like broker, insurance agent, chartered accountant, consultant. Conceptualize an application for one them. Appropriate interaction with such user is highly desirable.
4. Look around business entities like Grocery Store, Pharmacy, Dispensary, Financing, etc. Conceptualize application for one them. Appropriate interaction with such user is again highly desirable.

Define Objective of database

1. Choose a “name” or title for proposed database. Finding out appropriate name is quiet useful. This helps in figuring out relevant set of data.
2. Here we explain in very about scope of application, business activities that it covers, reports that it generates, etc.

### Describe the database scenario

1. Objects that are important in that scenario. What data do they hold?
2. Talk about events/use case of application that generate data (data that are to be saved into the database)
3. Keep describing whatever you learn about the problem scenario on your mind.
4. Identify information and reports that are to be generated for decision making.
5. List down queries that are important for building the application.

#### *Considerations while describing the database*

1. You should be conceptualizing a real application with a real user
2. Do not over simplify. You can reduce the scope and width if you it to be large
3. You can also add more functions to the scope or drop from it as you learn more about it.

### Extract ER Diagram from description

1. Consider all repetitively used nouns as in scenario description as **entities**
2. Identify Data Items (attributes) that are used describe (represent) entities
3. Identify their relationships
4. Draw Draft ER diagram
5. Give quite a few iterations before you finalize this.