

CSC 430/530 – Database Management Systems

Project Description

Project scope

Design and implement a database for a chosen domain, using MySQL RDBMS.

Domain ideas to choose from

- Hotel reservation management system.
- Restaurant reservation management system.
- Airline tickets reservation management system.
- Car rental management system.
- Apartment rental management system.
- Hospital operations management system.
- Online retail store management system.
- Real estate management system.
- Insurance company management system.
- Suggest your own (5 bonus points).

Deliverables & requirements

Part 1:

- A. Description of the mini-world (write-up).
- B. Enhanced entity-relationship (EER) diagram with specified cardinality ratio and participation constraints.
 - Minimum of five (5) strong entities.
 - At least one (1) multivalued attribute.
 - At least one (1) composite attribute.
 - Minimum of one (1) weak entity.
 - Minimum of three (3) relationships.
 - At least one (1) ternary relationship.
 - Minimum of one (1) specialization.
- C. Description of EER to relational data model mapping process (write-up).
- D. Relational schema diagram in MySQL Workbench Models format (.mwb).
 - Relations & attributes.
 - Constraints.
 - Define domains of attributes.
 - Specify primary keys.
 - Specify foreign keys and referential integrity constraints.

Upload compressed folder that contains:

- Write-up of the mini-world (A);
- EER diagram (B);
- Write-up of the EER-to-relational mapping (C);
- Relational schema diagram (D).

DUE DATE – April 22.

Part 2:

Implementation & utilization.

- SQL DDL commands.
 - Commands used to create & define schema, and create & define constraints.
- SQL DML commands.
 - Insert, delete, and update.
 - At least one (1) example of each command (three (3) in total).
 - Retrieval queries.
 - At least five (5) examples of retrieval queries.
 - At least two (2) have to be complex (nested, aggregate, group by, having, etc.)
- Triggers.
 - At least one (1) example of defined trigger.
 - At least one (1) example of trigger execution.
- Views.
 - At least three (3) examples of defined views (virtual tables).
- Schema modifications.
 - At least one (1) example of ALTER command.
- Each SQL query has to be accompanied by the comment describing query purpose.

Upload compressed folder that contains all required **SQL queries** (DDL, DML, triggers, views, schema modifications) in *.sql* or *.txt* format and **data files** in *.csv*, *.json* or *.dat* format.

DUE DATE – May 20.