**CL2005 – Database Systems Lab**

**Lab - 5**

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**Sections:** BSCS-5f **Due** **Date &** 16-September-2024,

**Time:** 11:50 AM

**Lab Topic: ERD/EERD**

**Instructions**

1. First draw diagram on paper then draw them on MS Visio Tool.
2. Take screenshot of diagrams from Visio and paste it on word file.
3. Submit the word file on Google Classroom and return the paper drawing to your instructor.
4. Individual lab tasks
5. Deadline = = 16 Sept,2024 till 11:50 am.
6. You are required to do the complete lab tasks by using MS Visio Tool

**EERD using Crow’s foot database notation**

Consider an ONLINE\_AUCTION database system in which members (buyers and sellers) participate in the sale of items. Design an Enhanced Entity-Relationship diagram for the ONLINE\_AUCTION database. The data requirements for these systems are summarized as follows:

1. The online site has members, each of whom is identified by a unique member number and is described by an e-mail address, name, password, home address, and phone number.
2. A member may be a buyer or a seller. A buyer has a shipping address recorded in the database. A seller has a bank account number and routing number recorded in the database.
3. Items are placed by a seller for sale and are identified by a unique item number assigned by the system. Items are also described by an item title, a description, starting bid price, bidding increment, the start date of the auction, and the end date of the auction.
4. Items are also categorized based on a fixed classification hierarchy (for example, a modem may be classified as COMPUTER→HARDWARE →MODEM).
5. Buyers make bids for items they are interested in. Bid price and time of bid is recorded. The bidder at the end of the auction with the highest bid price is declared the winner and a transaction between buyer and seller may then proceed.
6. The buyer and seller may record feedback regarding their completed transactions. Feedback contains a rating of the other party participating in the transaction (1-10) and a comment.

**EERD using Crow’s foot database notation**

An international school of technology has hired you to create a database management system to assist in scheduling classes. After several interviews with the president, you have come up with the following list of **entities, attributes, and initial business rules:**

1. Room is identified by Building ID and Room No and also has a Capacity. A room can be either a lab or a classroom. If it is a classroom, it has an additional attribute called Board Type.
2. Media is identified by MType ID and has attributes of Media Type and Type Description.
   1. **Note**: Here we are tracking type of media (such as a VCR, projector, etc.), not the individual piece of equipment. Tracking of equipment is outside of the scope of this project.
3. Computer is identified by CType ID and has attributes Computer Type, Type Description, Disk Capacity, and Processor Speed. Please note: As with Media Type, we are tracking only the type of computer, not an individual computer. You can think of this as a class of computers (e.g., PIII 900MHZ).
4. Instructor has identifier Emp ID and has attributes Name, Rank, and Office Phone.
5. Timeslot has identifier TSIS and has attributes Day Of Week, Start Time, and End Time.
6. Course has identifier Course ID and has attributes Course Description and Credits. Courses can have one, none, or many prerequisites. Courses also have one or more sections.
7. Section has identifier Section ID and attribute Enrollment Limit.

After some further discussions, you have come up with **some additional business rules** to help you create the initial design:

1. An instructor teaches one, none, or many sections of a course in a given semester.
2. An instructor specifies preferred time slots.
3. Scheduling data are kept for each semester, uniquely identified by semester and year.
4. A room can be scheduled for one section or no section during one time slot in a given semester of a given year. However, one room can participate in many schedules, one schedule, or no schedules; one time slot can participate in many schedules, one schedule, or no schedules; one section can participate in many schedules, one schedule, or no schedules.
5. A room can have one type of media, several types of media, or no media.
6. Instructors are trained to use one, none, or many types of media.
7. A lab has one or more computer types. However, a classroom does not have any computers.
8. A room cannot be both a classroom and a lab. There also are no other room types to be incorporated into the system.

