IS503 DATABASE CONCEPTS AND APPLICATIONS

ASSIGNMENT 1

A) Assume that you are asked to design an event tracker app MET (METU Event Tracker) that students and academics use. As the first step, you need to draw an ER or EER diagram based on the requirements given below, using Chen's notation (70 pts).

Note: Software requirements and database requirements are different. Be careful while distinguishing them. Software requirements may not be included in your diagram.

- The application should have a database to store information regarding users, sessions, registration information, reviews about events.
- **User:** Stores user information like ID (student or personnel ID), full name, email, affiliation, bio, interests, and registration status (academics/students), history of attendance coming from registered sessions, account type(private/public), contact info. They can search for tags of events and get information about the activity they are interested in.
- **Session:** Details of each session, including title, session ID, a visual, description, speaker(s), date, time, location, capacity, and session type (presentation, seminar, workshop), hashtags about the session, web page information (if available), number of attendants information, number of available seats information. Session status also will be stored as past, present, upcoming.
    - **Workshop:** Similar to sessions, but with a specific focus on hands-on activities and limited capacity.
    - **Presentation:** A specific talk or lecture within a session, with a presenter and associated slides/materials with unlimited capacity.
    - **Seminar:** Similar to presentations but the speaker must be academics only, and the capacity is limited.
- **Registration:** Shows attendance of users to their chosen sessions, including registration ID, registration date, any special background requirements, which student club/society they are in, their departments, a small survey to check if the user is aware of the topic of session, anonymity status, approval status of attendance. An attendee may register more than once if their participation is rejected. Attendees should pay for some of the featured events after their attendance is approved. (Do not include payment details in the database)
- **Review:** Allows attendees to rate and comment on sessions they've attended. It includes review ID, rate, and comment. Attendees can write reviews targeting specific seminars, workshops, or presentations.

Checklist:

- An entity cannot be defined as an attribute in other parts of the design.
- Write your assumptions clearly after drawing your diagram.
- Ensure you use cardinalities and participation constraints correctly.
- Two entities cannot be connected directly to each other. Likewise, two relations cannot be connected directly to each other. A relation connected entities.
- Remember that non-weak entities need a primary key and a weak entity may require a partial key to be uniquely identifiable. For primary or partial keys, you need to create new attributes apart from the ones listed above.

B) Draw the relational mapping based on your ER diagram, just like it is shown in the course slides. Do not forget to include the arrows between tables to show the foreign key relationships (30 pts).

Tips & Comments:

- You should stick to the requirements we provided in the assignment!
- Think simply. Do not try to incorporate the logic of the actual application here, we are only interested in the database part.
- If you believe certain parts are not mentioned enough in the requirements part, you can make certain assumptions, given that they do not contradict our requirements. You should explain them in detail.
- You can use this link or any tool you like to draw the diagrams. You can even draw them by hand, just be sure that your diagram is readable.
- If your diagram/mapping is getting too crowded with the arrows, you can use different colors to make them clearer. Otherwise, it is not easy to read.

Deliverables:

- You should upload a PDF file explaining your work and showing your visuals on ODTUClass.

Submission Policy:

- You should name your visuals properly. Your file should be named as "studentId_HW1.pdf", for example "e123456_HW1.pdf". There will be point reductions if you deliver the homework with a different format/name.
- You can upload your assignment until **17th of March 23:59**. There will be a 5% penalty each day after the deadline.