CS/DSA 4513 – Section 001 - Fall 2017 - Dr. Le Gruenwald

GROUP PROJECT 1

Assigned: 9/11/2017; Due: 9/18/2017 at 1:30 PM

(BOTH a Hard copy and Soft copy of your solutions need to be submitted; a hard copy is submitted in class at the beginning of the class AND a soft copy is submitted to the class website; late submission will not be accepted; read the "Group Project Grading Policy" posted on the class website to assign your grades to your group members).

Problem 1:

A Database for the Acting Agency iAct: upon noticing a trend of misinformation and mistakes with its data, iAct decides to pull together the available information in the interest of becoming the "go-to" resource for quick and reliable fact-checking in the field. iAct hires a DBA to organize the basic structure of its data into a database. The initial research produces the following information:

- Much of the information contained in the database relates to various categories and groups of people. A person is uniquely identified by an ID number. Each person also has a name, a date of birth, and an age.
- Every person modeled in the database is a manager, an actor/actress, or an agent. No person can take on more than one of these roles.
- A manager is a person, and is responsible for the agents. Each manager must have one and only one associated replacement manager who can fill in should he/she not be able to perform his/her duties. The branch of manager is also recorded.
- An actor has the number of movies the actor was involved in and the multiple accolades the actor received, if any. An actor hires an agent to help the actor find movies to play in. An agent is a person. Additionally, the agent's experience and phone numbers are reviewed when hiring him/her.
- A movie has a name, a director's name and a writer's name.
- Studios are organizations which produce movies. Every studio has a distinguished name along with its revenue generated per year and its location. A studio hires actors. Each studio produces multiple movies.
- Character details such as names of characters, types of characters (central, supporting, extras) and their descriptions are associated with a movie. Multiple movies may have the same characters.
- A studio places casting calls with agents.

Answer the following questions for Problem 1:

a) Draw an ER diagram for Problem 1. Underline all primary keys. No additional attributes are allowed.

b) Assume that the following information is added to the above problem description: "When an actor hires an agent, the hiring period is also recorded." How would you express this requirement in the ER diagram? If you cannot express it or do not believe it changes your earlier design, provide detailed explanations.

c) Assume that the following information is added to the above problem description: "Sometimes, when a studio hires an actor, the actor is contracted to work on multiple movies some of which are already in production." How would you express this additional information in the ER diagram? If you cannot express it or do not believe it changes your earlier design, provide detailed explanations.

d) Assume that the following information is added to the above problem description: "The details of an actor's contracts and the movies he/she works in are available for the public to access." How would you express this additional information in the ER diagram? If you cannot express it or do not believe it changes your earlier design, provide detailed explanations.

Problem 2:

Provide a detailed description and an ER diagram for a database application of your choice that is different from the one given in Problem 1 (a database application that is a modification of the one given in Problem 1 will not be accepted). The design must include at least 5 entity sets and cover all features: strong entity sets, weak entity sets, different kinds of relationship sets, total participation and partial participation, aggregation, role indicators, and generalization and/or specialization. The database application must not come from the textbooks/lecture notes/ homework assignments/class projects/exams/examples/qualifying exams used for CS/DSA-4513 at the University of Oklahoma. If you have obtained the application from some other sources, you must provide the sources' complete reference information in your answer. Turn in BOTH your detailed description and ER diagram. If either of them is missing, you will get a zero credit for this problem.

Notes for submission:

- All parts of your solutions must be typed (including your ER diagram) (i.e., no hand-written solutions will be accepted). Make sure that your submitted answers are readable; otherwise they will not be graded and you will get a zero credit for this assignment. An example of a free tool that you can use to generate ER diagrams is: http://www.draw.io
- For soft copy submission: submit your solutions for both Problems 1 and 2 in ONE SINGLE PDF FILE to the class website (file name convention: "Group" followed by your group number followed by "-Group Project 1"; Example: "Group10-Group Project 1")
- Attach to your group project a cover page that contains the following information:

COURSE:	CS/DSA-4513 - DATABASE MANAGEMENT
SECTION:	001
SEMESTER:	FALL 2017
INSTRUCTOR:	DR. LE GRUENWALD
GROUP PROJECT NUMBER:	<write your group number here>
GROUP MEMBERS	<list the names of all members here>
SCORE:	

- Within 24 hours after the due time, you must submit the grades you give to your group members to the Dropbox of Group Project 1 (do not use Email). The information you enter in the Dropbox must include your group number, the names of your group members and the grades you give to them. If you do not submit your member grades by that time, we will assume that you give equal points to all your group members (i.e. 10 points to each of your group members). **Read the "Group Project Grading Policy" posted on the class website.**