

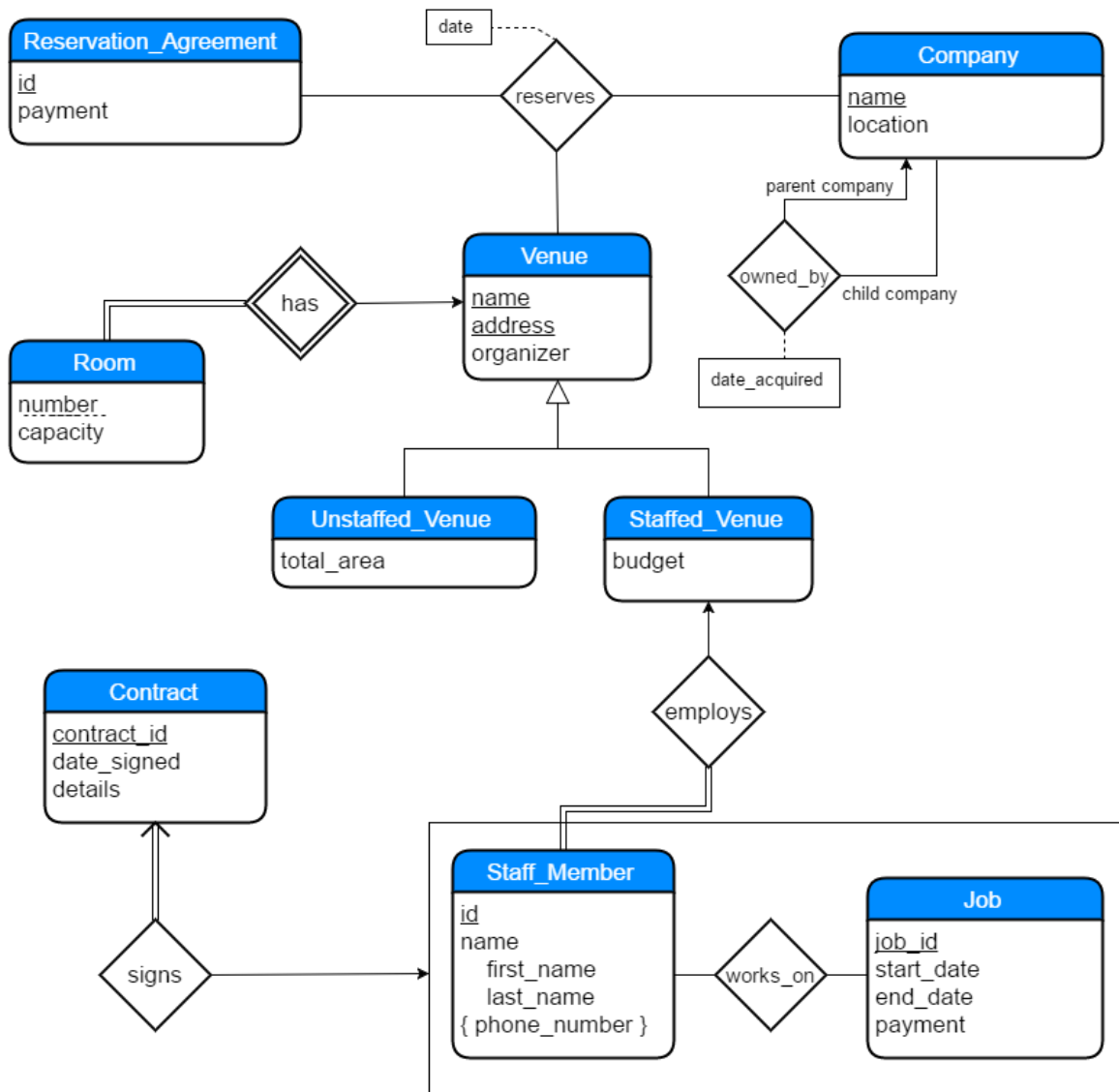
GROUP PROJECT 2

Assigned: 9/21/2016; Due: 10/3/2016 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 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).

Problem 1: You do not need ORACLE for this problem. Do the following:

- Write a description for the attached ER diagram.
- Convert the attached ER diagram to a Relational Database.
- Draw a Schema Diagram for the relational database.



Problem 2: Given a relational database that consists of the following relations:

Performer (pid: integer, pname: string, years_of_experience: integer, age: integer)

Movie (mname: string, genre: string, minutes: integer, release_year: integer, did: integer)

Acted (pid: integer, mname: string)

Director (did: integer, dname: string, earnings: real)

Do the following using ORACLE SQL Developer 4.1.3:

- a) Create the relations.
- b) Populate the relations with SQL Insert statements using the given data posted on the class website and ORACLE SQL Developer 4.1.3.
- c) Implement the following queries in SQL using ORACLE SQL Developer 4.1.3:
 1. Display all the data you store in the database to verify that you have populated the relations correctly.
 2. Find the names of all performers with at least 20 years of experience who have acted in a movie directed by Black.
 3. Find the age of the oldest performer who is either named “Hanks” or has acted in a movie named “The Departed”.
 4. Find the names of all movies that are either a Comedy (genre = “Comedy”) or have had more than one performer act in them.
 5. Find the names of directors for whom the combined number of performers for all movies that they directed is more than one.
 6. Find the genres for which exactly two directors direct a movie of that genre.
 7. Find the names and pid's of all performers who have acted in two movies that have the same genre.
 8. For each genre, display the genre and the average length (minutes) of movies for that genre.
 9. Decrease the earnings of all directors who directed “Up” by 10%.
 10. Delete all movies released in the 70's and 80's (1970 <= release_year <= 1989).

You will need to create a SQL file to store your SQL statements. This SQL file must have *sql* as its extension. You must also use ORACLE SQL Developer 4.1.3 to save your output to a text file with *txt* as its extension.

Problem 3: Do the following using the ER diagram that you have developed for the application of your choice (Problem 2 in Group Project 1) and using ORACLE SQL Developer 4.1.3:

- a) Create the relations.
- b) Populate the relations using your own data.
- c) Implement the SQL queries to display all the data you store in the database to verify that you have populated the relations correctly.
- d) Give the English descriptions of six queries and implement them (one query must involve more than one relation; one query must involve an aggregation function; one query must involve a “group by” clause; one query must involve a nested SQL query; one query must cause a violation of a primary key constraint; and one query must cause a violation of a foreign key constraint).

You will need to create a SQL file to store your SQL statements. This SQL file must have *sql* as its extension. You must also use ORACLE SQL Developer 4.1.3 to save your output to a text file with *txt* as its extension.

SUBMISSION:

- All your text and graphics solutions must be generated using computer. No hand-written descriptions or hand-drawn diagrams will be accepted, except for the Schema Diagram solution for Problem 1 part c ;
- Submit your solutions for Problem 1 in ONE single PDF file to the class website using the file name convention GP2_Problem1_Group X where X is your group number;
- Submit your solutions for Problem 2 in TWO files: one SQL file (extension *sql*) containing all your DDL and DML SQL statements and one TEXT file (extension *txt*) containing the execution results of your SQL statements. Use the file name convention GP2_Problem2_Group X where X is your group number. Similarly are the submission requirements for Problem 3 (the English descriptions of the queries should be given as comments to the corresponding SQL queries in the SQL file). We will be using your submitted SQL files to test your solutions.
- Within 24 hours after the due time, you must submit the grades you give to your group members in a text file (file extension *.txt*; file name GP2_Group Grading_Your First name_Your Last name) to the Dropbox of Group Project 2 (**do not use Email**). In this file, include your name, 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.**

NOTES:

- Instructions for accessing Oracle SQL Developer 4.1.3 are available on the class website.
- If you have questions concerning your Oracle account, contact Mr. James M. Cassidy (The System Administrator of the School of Computer Science) (jmcassidy@ou.edu).
- If you have questions concerning Oracle SQL Developer 4.1.3, see your TA, Jacob Anderson, during his office hours or email him at Jacob.W.Anderson-1@ou.edu.
- Start this project early to avoid last minute system problems.