**Proj3**

**Descriptions**: Convert the following ER diagram into MySQL tables. Develop proper constraints and triggers to enforce database integrity. You will need to come up with your own data for testing purposes. You might find that it is more convenient to use OO-style for entity sets that are involved in ISA hierarchy (to avoid joins) but feel free to use ER-style if you prefer.

**Part 1: the following constraints should be created for the database in MySQL:**

1. All primary and foreign key constraints (20%)
2. The specialty of a doctor should be one of the following: “Family Practice”, “Internal Medicine”, “Pediatrics”, “Obstetrics & Gynecology”. (simple attribute-based check) (10%)
3. The degree that a director has must be one of the degrees of the doctors (attribute-based check using a sub query) (10%).
4. When a person is added to the database, check whether the person has a last name of “Smith” in the states of California or Texas (tuple-based check). (10%)
5. Audit all the additions of doctors using a trigger: when a doctor is added to the database, record his/her ssn and the date of addition (10%).

**Part 2 demonstrations of constraints (10% each):**

1. Insert a *person* record to demonstrate the utilization of the primary key constraint
2. Insert a *manages* record to demonstrate the utilization of the foreign key constraint

**Part 3: Study the SQL standard on triggers and implement the following constraints in SQL based on the standard. (10% each)**

**Note: paper-and-pencil based, no actual MySQL statements are required**.

1. No patients should have a same last name and date of birth and are treated by a same doctor (use an assertion)
2. When a doctor has more than 5 patients **after** a new treatment record is added, file report by inserting the doctor’s ssn into a doctor\_has\_too\_many\_patients table (use a trigger)

**Due Date**: 12**/23/2014 (Tu)**

**What to Submit**: (1) MySQL SQL statements for creating tables, inserting records and queries 1-2 (2) Standard-based SQL statements for the assertion/trigger in part 3.

**How to Submit**: Please submit your project through **Blackboard**.

# **Person**

isa

**Director**

isa

**Doctor**

isa

**Patient**

**Treats**

**Clinic**

**Manages**

**WorksFor**

**Has**