Name: _____

Student ID#: _____

Unit 2 Homework
CSC 3287 Database Systems Concepts
Due by 1/30/2014, Before class starts.
Email your pdf drawing to debra.parcheta@ucdenver.edu

Now that you have seen the 3-schema architecture from Chapter 2, can you apply this architecture to a database description? (This one might take up to two hours.) You are required to use a drawing program for this and any other drawing assignments that require drawing. You will find such a tool helpful in Chapter 3 when we draw ER Diagrams because you will be able to move and apply text to shapes as you design. From now on in this course, if you find something to be vague or to need more definition, be sure to make assumptions in your design and then follow your assumptions in the model. State your assumptions on the page. Every student can make their own assumptions about the problems given. If they are valid assumptions and your design follows your assumptions, you will get credit for your answer even if it is different from someone elses.

Incorporate all of these parts into one 3 schema architecture diagram.
1.   **Based on the description of the database at the end of this assignment, define the schema for the database. What objects are here and what are their attributes?**
2.   **Design the views mentioned in the requirement.**

3.   **Define what you know or want about the physical deployment of this database.**

Use your drawing program. Display the formal shapes and words and diagram layers in the same way that was shown in class. (This is how the model is started for any database.)

Database Description
This database is a mobile attendance keeper for Ki Martial Arts Centers students and instructors. It facilitates student to register their attendance on mobile phones, and attendance records are stored in back-end database and instructors can view them from Web Interface or export to Excel file. It also provides students an easy way to post their attendance status to school Facebook wall at the time they register for attendance. In addition, attendance records can be sent to any instructor or school administrator automatically, with attached Excel file, based on a scheduled date.

Purpose:
Ki Martial Arts Centers, a martial arts studio requires database software for tracking student attendance via the use of a Quick Response (QR) Code. This software must be able to accomplish the following:
1.   Students need to check-in to class by scanning QR code posted at the school location from their mobile phone
2.   Check-ins shall post to student Facebook wall with premission
3.   Student must be able to check-in without having smart phones. (can check in from other mobile phone)
4.   Instructor is able to view attendance record of his/her own student or all students if he/she is allowed
5.   Attendance records are sent via email automatically based on a scheduled date

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6.   Attendance records of each student must have a summary showing percentage of hours spent at different school locations as well as the total hours spent in a reporting period.

Requirements
Mobile Applications (Windows, Android, IPhone)
1)   Students are able to create an account to register attendance via mobile application
2)   Students are able to sign in for attendance via mobile application
3)   Students are able to sign in for attendance via mobile application from different school locations
4)   Student without a mobile phone will be able to sign in for attendance from another student's mobile phone
5)   Students will use KiMac mobile application to scan QR code and sign in for attendance
6)   KiMac mobile application will have to enable student to post message/attendance status to their Facebook wall
7)   Quick Response Code (QR code) is generated based on the name of the school location where students sign in for attendance

Web Application
1)   Web Interface for instructors to view students' attendance records and output them to Excel file
2)   Web service for communicating between mobile application/web interface and database9
3)   Web Interface for admin to remove/add school location, student, instructor when they are no longer with the school, set up email sender to automatically sending email with attendance record in an attached Excel file to any instructor/school administrator, set up Facebook app ID, and for instructor/student to make change to their profile

Database
1)   Store student attendance records
2)   Store student's information
3)   Store instructor's information
4)   Store admin account and password
5)   Store registration codes for instructor and student required when creating a new account
6)   Store Facebook app ID

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