COMP5111 DATABASE SYSTEM AND MANAGEMENT

Group Assignment

Restaurant Management System

Deadline

Part 1: Oct 24, 2016 (23:59pm)

Part 2: Dec 1, 2016 (23:59pm)

Size of Group: 2/3 students per group

(Remark*: We strongly encourage each group to include 2 or 3 students. The abilities of communication and group cooperation are also considered as an evaluation criteria for the whole project.)

Project Objectives:

In this group project, you need to complete the development of a Restaurant Management System (RMS). The main purpose to develop this system is to help restaurant managers to manage their restaurant business.

Previous manual ordering method is difficult for waiters to keep the correct information. Besides, it is also difficult for managers to understand the total income for a certain period of time. The RMS offers the function of menu management, order placement, checking out automatically and so on.

System Scenarios:

1. *Manu and table management*

The restaurant menu is organized by categories (appetizers, soups, salads, entrees, sides and drinks) of menu items**.** Each menu item has a name (e.g., fried rice), price, quantity, code and the other information needed. The manager could add a new menu item or menu category, and he could also delete existing ones. Besides, the information of the menu item and menu category could be edited. The system also records the table information of the restaurant and the manager could add or delete the tables.

2. *Order placement*

Placing order is one of the most common functions in RMS. When new customers come, a waiter assigns a new table to them and takes orders using RMS. RMS should provide some functions for the ease of waiters, e.g., allowing waiters to search the menu items by using simplified code (e.g., FR for Fired Rice). In addition, the waiter could easily see all of menu items and quantities of the items that customers have already ordered.

3. *Check out automatically*

When a waiter selects a table number, the system will automatically calculate how much money customers need to pay. After the waiter input the actual payment amount of customers, the system will calculate the change automatically.

4. *Report generation*

RMS could generate the daily report according to all bills within a day. Besides, the monthly and yearly report could also be generated. The report at least needs to include the total number of bills, the total income, and the number of the times that each menu item is ordered.

5. *User management*

The system must have the ability to manage the information of system users. It should at least include their name, age, contact number, and their roles). Each user has individual account and password to login the systems. Users with different roles have different permissions to use the system. For example, the waiter cannot change the menu information, but the manager can.

Part 1 Requirements:

Basic Requirements

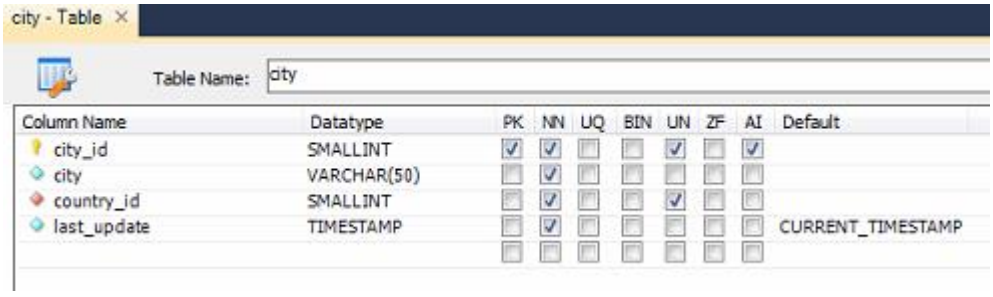
- Design and create the E-R Diagram using "ER Assistant" (Remark*: the hand-drawing ERD is not acceptable)
- Transform the ERD to the database model and generate the database structure using MySQL Workbench.

Submission

You need to submit a report file which includes the following three things. Please name the file as "yourStudentID_part1.pdf".

- A document containing the following parts
  a) Screenshot of E-R Diagram
  b) Screenshot of the Database model developed by MySQL Workbench
  c) Screenshots of database table structures

  An example:



- The original file of the E-R Diagram (*.erd)
- Reverse the database model to a real database and export the database by using MySQL Workbench. The exported file is required to submit. (*.sql)

Part 2 Requirements:

Basic Requirements

- Design and implement the SQL statements to accomplish the functions

required in the project scenarios.

Advanced Requirements (Two directions)

- **User interface**: Develop a user-friendly interface of the system.
- **Database Design:** The scenarios provided in Part 1 is the basic ones. You could add more functions to the system, like recording customer information, etc. Bonus points will be awarded for advanced database functions, such as index, views, and stored procedures.

(Remark*: The details of requirements for Part 2 will be given after the deadline of Part 1.)
Here is an example of the UI for RMS

Grading Scheme:

At last, you will give us a 10 minute demo of your project, and we will grade your project according to the following schemes:

1. 30% Database modeling in Part 1
2. 40% System Evaluation in Part 2
3. 20% Report
4. 10% Group cooperation and presentation