Web Interface PA2

In this project you will be creating a web interface for your hotel reservation system from PA1. You will be utilizing the same MySQL database to store customer and reservation info as well as transactions to customer credit cards from PA1.

This is an individual or group(at most 2) project. You will need to version your project as a Github repo named "PA2". Please include a README file with your name and that of your group member. Please also include the username/pw of your database. You may use an export of your database (*.sql) from PA1 but you should still check to make sure tables are created. If you are working in a group you only need to maintain a single repo. The project due date is April 4th.

The structure of your html and javascript is up to you but please do not use any frameworks other than Twitter Bootstrap and/or jQuery. For this project you will have a web interface, servlet(s) to process commands, and the mysql database to persist data. The Mysql database will store all persistent data. The table structure is up to you but be sure to store each field in the nonfunctional requirements and take into account foreign key constraints (ie deleting a customer should delete all that customer's transactions).

Your web interface will be a single html page. You will be using ajax calls to send data back and forth. This data will be both in the form of json and html.

Nonfunctional Requirements

- Customer Information
  - First name, last name, phone number, billing address, billing city, billing state, billing zip, customer id(auto generated), checkin date, checkout date
- Room Information
  - Room type (Single, Double, Presidential), Room price, current occupant, room number.
  - Singles cost 100$, Doubles cost 150$ and Presidential costs 300$.
  - There are 40 Single rooms, 50 Double rooms, and 10 Presidential Rooms.
- Transactions
  - Transaction id, customer id, room id, amount, credit card number, expiration date

Functional Requirements

- A main menu will allow the customer service rep to choose which command to perform. This will be done via html buttons. For instance a rep presses the 'Create Customer' button. You will display the html so the rep can enter the customer information. Each of

these subforms will have a submit button to make an ajax call to send the customer data to the servlet that processes it.

- CREATE CUSTOMER - creates a new customer in the customer table. Gather all information for the customer. After the customer is created display the customer id generated (using auto-incremented id). For any errors display them.
- RESERVE ROOM - reserves a room for a given customer id. This will take the customer id as well as a room number. A success message is displayed when the room is successfully reserved else display an error.
- CREATE PAYMENT - creates a payment transaction for a given customer id and room id. The customer service rep will enter in all payment information. Upon success a transaction id is displayed else display an error. The amount of the transaction is entered by the customer service rep as well meaning that multiple transactions can be processed for the same customer and room.
- GET CUSTOMER [CUSTOMER_ID] - Gets the customer with the specified id and prints that customer's information. Note: you can display customer data in html inputs. jQuery also has an API command to disable editing those fields.
- GET CUSTOMERS BYNAME [CUSTOMER_NAME] - Returns a list of customers who have the same first or last name specified by the input parameter. This list only contains the customer last name, first name, id, and phone number.
- GET CUSTOMERS CURRENT - Returns a list of customers who are currently checked into the hotel with same output as above.
- GET TRANSACTIONS [CUSTOMER_ID] - Returns a list of transactions for a specified customer. The list contains the transaction id, amount, and customer first name, last name.
- GET VACANCIES - Returns a list of all vacant rooms including their room types.
- GET RESERVATIONS - Returns a list of all rooms currently occupied by a customer. Include the customer first name/last name in the output.

As with most requirements some things have been left obscure. Please ask questions in or outside of class if something is unclear.

jQuery has many functions that will help you here and I encourage you to peruse the jQuery API. Some notable functions are as follows.

$.ajax(...) -> makes an ajax call to an applications server.
$.click(...) -> attaches a function to the click event for a particular element.
$.hide / $.show -> can be used to show and hide html.
$.html -> returns or replace the html in the element.
$.val -> gets the value of an input.