

Project Narrative for CSC 440 : Database Management Systems

This is the description of the main project for CSC 440. The details are likely to change over time, so please visit the online version again.

Your group is to design and build the management system for **WolfVillas**, a popular hotel chain, with hotels in various cities across the country. The system will be used by the management of WolfVillas, and should maintain information on at least the following:

- Hotel Information: hotel ID, hotel name, hotel address, hotel phone number, ID of hotel manager;
- Staff Information: staff ID, SSN, name, age, gender, job title (Manager, Front desk representative, Room service staff, Billing Staff, Catering Staff, etc), department, contact information (phone and address), hotel currently serving;
- Room Information: room number, room category (Economy, Deluxe, Executive Suite, Presidential Suite, etc), max allowed occupancy, nightly rate, availability;
- Customer Information: customer ID, name, gender, contact information (phone number and address), email address;
- Billing Information: customer ID, SSN of the person responsible for the payment, billing address, payment information (payment method, card number, etc);
- Check-in Information: customer ID, hotel ID, room number, current occupancy, start date, end date, check-in time, check-out time, services availed.

By talking to the hotel operators, we have elicited for you the following information about the WolfVillas. (Note that in working on this project, you might discover that not every bit of the information has to be explicitly captured in the database. Part of the modeling effort is to decide what to keep and what to discard. In doing your project, *you will need to make additional assumptions as well as identify the potential inconsistencies and resolve them*. Any reasonable assumptions are fine, but they **must** be documented in your reports. You can consult with the TAs or instructor if you have questions about the assumptions.)

- Front desk representatives can register the customers, can process check-ins/check-outs, assign an available room and bill each customer.
- Room prices vary by the class of services offered. Rooms are classified as Economy, Deluxe, Executive Suite and Presidential Suite. Each room has a 1, 2, 3 or 4 member occupancy option. Not all classes of rooms may be available in all the hotels.
- At time of check-in, the presidential suite is assigned a dedicated room service staff as well as a catering staff.

- The final bill to be paid when the customer checks out - includes the price of the services availed during his/her stay (phone bills, laundry service, restaurant bills etc)

Tasks and Operations

The following are the four major kinds of tasks that need to be performed using your database. Each task potentially consists of a number of operations; an "operation" is something that corresponds to a separate action. For example, *Information processing* is considered to be one task, which involves separate operations such as entering and updating information about customers.

Each student should write about the same number of application programs, but it is up to each team to decide how to allocate the overall effort.

1. *Information processing*: Enter/update/delete basic information about staff, rooms and customers. Check available rooms, assign rooms to customers according to their requests and release rooms.
2. *Maintaining Service Availed Records*: Enter/update record for the services like phone bills, laundry service and restaurant bills.
3. *Maintaining billing accounts*. Generate/maintain billing accounts for every customer. Before generating an account, make sure there is a room in the hotel as desired by the customer.
4. *Reports*: report the occupancy by room type, date range, hotel. Report occupants and percentage of rooms occupied, return information on staff grouped by their role. Return information on all the customers of a given catering staff member or room service staff member.