

**CNG 352: DATABASE MANAGEMENT SYSTEMS**

**Term Project Step – 3**

**“Alacritas”**

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# Requirement Analysis

A family getaway, self-adventure, romantic trip, expeditions or weekend run away are all have connection with traveling. Traveling to a new country involves new experience and fun adventures but sometimes it can lead to unexpectable cases like a long flight can you risk of sick, or new food can cause stomach problems and etc. That’s why depending on our traveler experience we decided to make “Alacritas” application, which will be helpful for tourist abroad to find a best suitable treatment in foreign Hospitals. Our application will contain hospital information, ratings, available doctors, etc. Hospitals will divided according to theirs type like branches, public, main and research hospitals. Doctors also will be divided according their professions. System will provide comfortability and ease of usability both for clients and for hospitals.

# Data Requirements

**User**

User entity will store necessary data about person who will travel. It will contain user ID, gender, number of trips, username and password. User ID will be primary key, because it should be unique for each user. Number of trips will be derived data.

**Trip**

The data required here is trip id, starting-ending dates and location to where user will travel. Depends on location user will be allow to see which hospitals he/she can visit during the trip. Trip id will be primary key in the database table.

**Country**

Trip entity will consists of countries entity, where country name will be stored. Country name will be unique here.

**City**

City entity which connected to country entity will require data like city name and city id. City id will be primary key, while city name will be normal attribute.

**Hospital**

Hospital entity will store data like hospital id, hospital name, and rating and foundation year. Hospital id will be unique and rating will be derived attribute which will be changed depends on user rating options.

Hospital will be divided into Branch, Research Hospital and Public Hospital. Disjoint will be used here. In addition to Hospital data Public Hospital type will store department and Research Hospital entity will store research topic and number of researches

**Consists of**

Relationship between Trip and Hospital entities, which will store rating data. Users will be allowed to rate all hospitals they visit during the trip.

**Doctor**

Data required here is employee id, age, first and last name, years of experiences and multivalued attribute languages that doctors know. Employee id will be primary key. Doctor will consists of two types: Practitioner or Surgeon. Disjoint diagram will be used here. In addition to doctor data, surgeon will store data like specialty and number of surgeries surgeon done.

# Admin Transaction Requirements

**Data Integration**

* Enter data of new country
* Enter data of new city
* Enter data of new practitioner
* Enter data of new surgeon
* Enter data of new branch
* Enter data of new research hospital
* Enter data of new public hospital

**Data Update/Delete**

* Update/delete data of integrated trip
* Update/delete data of integrated country
* Update/delete data of integrated city
* Update/delete data of integrated practitioner
* Update/delete data of integrated surgeon
* Update/delete data of integrated branch
* Update/delete data of integrated research hospital
* Update/delete data of integrated public hospital

**Admin View Queries**

* List all of the trips’ info according to trip dates that all user added to system.
* List all of the travelers’ info according to their IDs.
* List all of the hospitals’ info according to their rates.
* List all of the countries’ info on the alphabetically.
* List all of the cities’ info on the alphabetically.
* List all of the doctors’ info on the alphabetically.

# User Transaction Requirements

**Data Integration**

* Enter data of new user.
* Enter data of new trip.

**Data Update**

* Update data of integrated rate of a hospital.
* Update data of own user info.

**User View Queries**

* List all of the trips’ info according to trip dates that he/she added to system.
* List all of the hospitals’ info according to their rates.
* Filter hospitals according to their rates or departments. (Example).
  + Filter all of the hospitals according to the rate which is greater than 4.
  + Filter all of the hospitals according to department which is cardiology.
* List all of the countries’ info on the alphabetically.
* List all of the cities’ info on the alphabetically.
* List all of the doctors’ info on the alphabetically.
* Filter all of the surgeons’ info according to their specialty. (Example).
  + Filter all the surgeons according to their specialty which is cardiologist.