COSC386 - Project Proposal Guidelines

- **Project Description**
  Give a discussion of your application. Consider questions such as:
  - What is your project about?
  - What's the motivation for developing this database application (from the perspective of the problem and need).
  - Who are your targeted clients?
  - How are your clients going to use the database that you developed?
  - Do you plan to publish your database online (which will be emphasized in class) or just desktop application?
- **Requirements**
  Think as much detail as possible from user perspectives: what kinds of data sets that your database must keep track of; what are the relationships among those data sets; what might be the possible constraints. In case of database administrators, what kind of interface layout are proper and convenient; what permission/privileges shall they have; how shall they modify the database? In case of ordinary users, how shall they query the database? Do you have proper user friendly interface for both ordinary users and database administrators? In addition, discuss any assumptions (e.g. storage) about your database if there is any. For your reference, an example requirements of an airline database is attached.
- **Database Prototype Design**
  - Draw an E/R Diagram for your database application.
  - Translate the E/R diagram to conceptual database schema.
- **Interface Sketch**
  Give a design of the web interface for publishing your database application online.
- **Team Work**
  Give a discussion how your project is going to be carried out by team work. Do you have regular meetings? How is the project divided up and how do you collaborate?

Example Requirements of An Airline Database

- The database keeps track of an **AIRPORT**, keeping its unique *AirportCode*, the AIRPORT *Name*, and the *City* and *State* in which the AIRPORT is located.

- Each airline **FLIGHT** has a unique *number*, the *airline* for the FLIGHT, and the *weekdays* on which the FLIGHT is scheduled (for example, every day of the week except Sunday can be coded as X7)..

- A FLIGHT is composed of one or more **FLIGHT LEGs** (for example, flight number CO1223 from New York to Los Angeles may have two FLIGHT LEGs: leg 1 from New York to Houston and leg 2 from Houston to Los Angeles). Each FLIGHT LEG has a **DEPARTURE AIRPORT** and *Scheduled Departure Time*, and an **ARRIVAL AIRPORT** and *Scheduled Arrival Time*.

- A **LEG INSTANCE** is an instance of a FLIGHT LEG on a specific *Date* (for example, CO1223 leg 1 on July 30, 1989). The actual **Departure** and **Arrival** AIRPORTs and *Times* are recorded for each flight leg after the flight leg has been concluded. The *Number of available seats* and the AIRPLANE used in the LEG INSTANCE are also kept.

- The customer **RESERVATIONs** on each LEG INSTANCE include the *Customer Name, Phone*, and *Seat Number(s)* for each reservation.

- Information on **AIRPLANEs** and **AIRPLANE TYPEs** are also kept. For each AIRPLANE TYPE (for example, DC-10), the *TypeName, manufacturing Company*, and *Maximum Number of Seats* are kept. The AIRPORTs in which planes of this type **CAN LAND** are kept in the database. For each AIRPLANE, the *AirplaneId, Total number of seats*, and **TYPE** are kept.