Fall 2007 CS186 Discussion Section: Week 2, 09/03 - 09/07

Your friendly TAs

September 4, 2007

1 Discussion Exercise

1. Develop a simple model of a flight reservation system. The model should include:

   - A plane (with a unique ID) is assigned to each flight. The assignment can be different each day. A flight that flies on Monday and Wednesday can be using different planes on each day.
   - Planes have a bunch of seats, usually identified by a seat number.
   - A particular flight number can only be used once a day.
   - A particular fight number can have different Source/Destination on a different date. For example, flight number "UA111" can be assigned to "Los Angeles to Oakland" on Monday and then changed to "San Francisco to Boston" on Tuesday.

   Include a few key attributes for each entity and relationship as you think is necessary (be creative). Some ideas to consider could include:

   - Plane type, manufacturer.
   - Source/Destination of a flight.

2. How to construct the ER model? Translate the model into relational tables using SQL commands.

3. How will the ER model and relational tables change if:

   - Every flight has a fixed "Source/Destination".
   - A flight uses the same plane each day.

2 Take Home Exercise

Try to add the following to the model:

- A passenger reserves a seat for a particular flight.
- Some passengers are frequent flyers, and therefore have account numbers and accumulated miles.
- Flights are assigned to a gate which is located in one terminal.
- A gate can handle multiple flights each day, and different flights on various days.
- There are terminals (usually identified by letters) which contain the gates (usually identified by numbers).