The project may be carried out by a team of 1-3 members. Please let me know who the members of your team are in advance.

A travel agency that has offices in several cities across US needs a secure distributed system for their operations. Customers may call-in or walk into the travel agent’s offices to request for information, to make/cancel/confirm reservation. At the time of confirmation, they also need to make a payment. Customers who make a reservation at one location may cancel/confirm it at any other location. They can also make changes to unconfirmed reservation. A customer may make a travel reservation request for any combination of airlines/hotel/car rentals. For example, one may ask only for airline tickets, while other may want all three. The customer requests are handled by travel agents who use the interface that your system offers to accomplish their task.

The travel agency handles airline/hotel/car reservations. For simplicity, assume that there are 4 airlines (United, Northwest, Delta, USAir), 4 hotels (Holiday Inn, Day Inn, Sheraton, Comfort Inn), and 3 car rentals (Hertz, Avis, Enterprise). Each of these maintain their own web services for queries, reservations, and cancellations. The web services are secure and hence allow only valid travel agents to access them.

(i) Design a system that is secure and flexible. Describe the design in a separate document. The design considers the requirements, identifies communication paths, and possible security threats and solutions (as in practices and patterns document of Microsoft)

(ii) Identify different entities in the system (administrator, travel agent, etc.) and design interfaces for each of them.

(iii) Implement the system in .Net. Make sure to include the following features:
(a) Forms authentication
(b) Accessing database using ADO.Net
(c) Authorization
(d) Transactions
(e) Web services (including authentication for web services)
(f) Calendar feature and integrating it with the application (e.g., the travel dates are entered by clicking on the calendar)
(g) Encryption/SSL for sending payment information etc.

Project Grading
Submit a project report that describes: (a) The system design (ii) Security threats considered and how they are addressed (iii) Implementation details (iv) Screen shots etc. A demo of the project should be given prior to August 1, 2009.

Each team will be asked to evaluate members of its own team. This helps in assigning individual project grades to students.