Project Scope

Note: This document is intentionally incomplete and is in non-standard format; as part of the course this document will be re-written.

Project Scope:

A startup airline company "Iowa Air" has come to Iowa with Cedar Rapids as it is Head quarters. Iowa Air seeks to build a Airline Passenger Reservation System (ARS). This airline is expected to attract Iowa and surrounding passengers in a big way. The Reservation system must be simple, easy to use and offer very high performance.

In Phase1, Iowa Air plans to operate only Non stop flights to 5 cities in the United States; passengers should be able to pay using Visa/Master Card, and thereafter be able to query the system about their reservation. The airline schedules can be altered at any time and must be easy to change. Details of Aircraft are also captured. Assume standard features of Aircraft and schedules. Passengers should be able to print a receipt and also receive it as email. Iowa Air allows the passenger to change their reservation free of cost till 24 Hours before flight departure time. After that penalties occur but it will be handled through over the counter and telephone support process.

Phase 2 will involve Direct Flights and the use of Hub system. Phase 3 will involve Frequent Flier Mileage program, Seat selection and Trans-Atlantic Flights. Iowa Air seeks that the design must cater to development of these capabilities without any modifications to the Phase 1 design.

Phase 1 needs to be implemented by summer of this year which means that a well tested demo system must be launched by first week of May.

Customer contacts will provide additional details of requirements, if requested by the Project team.

Airline Reservation System (ARS)

The key is to come up with a good architecture which can support both Mobile and Common Web browsers. Code needs to be layered and completely reused between the two. Design must be derived from analysis models.

Customer contacts: Raman and Aniket

Project Scope

General Requirements:

1. **Must use the principles of Software Engineering**
2. **The tool should be user friendly & require minimal data entry. The Software development team and the Business analysts are required to suggest the specific user friendly features while drafting the User Requirement Specifications. Some examples of user friendly features may be**
   a. **minimum data entry**
   b. **data transfer from context sensitive help screens**
   c. **Assume Common attributes of Airlines, tickets and reservations**

3. **The system must support user Id / Password based authentication and must offer the best security features. The software development team is required to identify (in URS) the specific security features to be incorporated in ARS. Some examples of such security features may be**
   a. **Data encryption techniques (128 bit)**
   b. **Invisible password**
   c. **Structure of Password**
   d. **Password change policy**
   e. **User Id / Password retrieval policy**

4. **The System must provide three levels of users**
   a. **Managers**
   b. **Passengers**
   c. **System Administrators**

5. **Objectives and capabilities of this tool are as follows:**
   a. **The user may search for an Airline schedule based on common features. Please suggest other features to use.**
   b. **Assume common attributes of Airline, Schedule etc but get them confirmation from Customers.**
   c. **Confidentiality of reservations must be maintained.**
   d. **Email Confirmation is required.**
   e. **Capability to Change or Cancel a Reservation is also required.**
   f. **Manager assigns user ids for users.**
   g. **Administrators assign user ids for Managers**
   h. **Manager can see only the Reservations made by users.**
   i. **Any normal user can make reservations.**
   j. **System Administrators can do any of the functions**
   k. **The user interface must be like Google maps providing multiple options from Location A to all its Non stop locations and in that manner to the final destination showing the final price to the final destination.**

Project Scope

6. Possible initial usecases

Basically provide for Search, Reserve, Cancel or Change reservation.

a. Authentication, Forgot password, Security Questions
b. Search for Flights also support Search - With just one city and find out all destinations and fares
c. Book Tickets - 1 way
d. Book Tickets - Round Trip
e. Book Tickets - Multi City travel (No need for Award travel)
f. Change reservation
g. Cancellation of reservation
h. Sys Administration tasks
i. Additional use cases are being defined.

(Raman, Aniket) wants the best of User Interface and new ideas from software developers.

Non Functional and Operational requirements from project team:

- **Each Team must pick a Team Leader and a corporation name**
- Process **maturity is our goal. All team members must code.**
- **Team work is very important.**
- **Team members must have a minimum of 2 meetings a week.**
- **Meetings should be well planned and should preferably be less than 30 minutes in each meeting.**
- **It is highly recommended that teams meet once right after class every week.**
- **Distributed teams are a matter of fact; technology should be used to meet from remote, if it is convenient.**
- **Team must submit more detailed schedule and get it approved.**
- **The team may choose programming tools get it approved.**
- **Use of tools and automation will be recognized. Automated testing is mandatory.**
- **The work done in each stage of software development must be acceptable to the customer**
- **All members of the team must assume specific responsibilities.**
- **The customer must be informed of the Roles and Responsibilities**
- **The tools required for the project will NOT be provided by the customer.**
- **Due to acute shortage of resources, the customer is able to meet with project teams only on a pre-arranged basis during regular office hours.**
- **The software should work in both mobile and browser setup. Customer**

Tools: The project team may select & use any tools required to deliver the functionality; but must require Customer approval.

ARS (Specific Deliverables continued):

The software needs to be implemented in 3 months. Customer prefers to have an interactive approach to software development and would like to see intermediate versions of the proposed software. Customer approval is required for document formats. An iterative development model is preferred with Screens, Navigation, and Architecture. *Customer contacts will provide additional details of requirements, if requested by the Project team.*

- **All documents must be delivered using ICON drop box.**
- **Teams must develop the Screens and demo the screen flow before developing the full software.**
- **Teams need to submit an Iteration plan identifying the functions to be delivered in each iteration.**

Define-Analyze-Design-Develop-Test-Implement

Specific Deliverable schedule:

#	Deliverable Description	Due on or before
Plan	**Documentation Guidelines (1-2 pages max)**	
Plan	**Project Plan** with Master Project Schedule, Estimation work sheet, Roles and Responsibilities, Risk Management Plan, Process Model Implementation, Collect Requirements for initial set of functions.	For whole project but revised for each iteration
Define	**User Requirement Specification (URS) – Use cases**	**For each iteration**
Test	**Test Plans**	**For each iteration**
Analyze	**Software Requirements Specification (SRS) Models, Analysis, Data Dictionary, Specific Requirements.**	**For each iteration**
Design	**High Level Design (screens, database, architecture)**	**For each iteration**
Develop, Test, Implement	**Working software deliverable Iteration #1**	**TBD**
	Working software deliverable Iteration #2	**TBD**
	Working software deliverable Iteration #3 - Final	**April 20**
Present	**Final Team Presentations**	Last week of class

Hint: Use www.aa.com as example or any airline User interface as you prefer – to prepare to gather requirements. Expand on the usecases by gathering requirements from Customer contacts