

For this assignment, you will perform functional requirements analysis and develop an analysis class diagram/model for the RFQ system.

Use *Microsoft Word* or any document editor (that you can export to a .pdf file) to type your answers (single spacing.) Name your file using this format: [Course-Assignment #]-[your first initial and last name].doc

Example: CSCI567-IP2-RMarshall.doc or CSCI467-IP2-RMarshall.doc

Indicate "CSCI567" or "CSCI467" for the course name and "IP2" for Individual Assignment #2.

"RMarshall" in the example is the first initial of the student's first name, followed by his/her last name.

Also, please include the following information in your assignment file:

- Your first name, last name and student id
- Course number and assignment number
- Due date and time of the assignment

PART 1. (60 points) FOR **EACH** OF THE FUNCTIONAL REQUIREMENTS LISTED BELOW, PLEASE IDENTIFY THE FOLLOWING COMPONENTS:

- Use case(s)
- Boundary object(s)
- Business object(s)
- For each business object, indicate all properties/attributes for that object.

If you find multiple occurrences of the same business object, you do not need to re-list the attributes for that object. Simply indicate the object name, follow by "For attributes, refer to requirement #\_\_." Fill the blank with the requirement number from which the object was first identified and where you listed its attributes.

1. The RFQ system must allow an authorized GPS's sales manager to create a new customer account. Each account contains a unique system-assigned account number/id, the company name, complete address (street, city, state and zip code) for billing and shipping, first name, last name, email and phone number of the company's representative. The sales manager must be able to indicate whether the customer can be auto-quote or manual-quote, and his (the manager's) email address and phone number. After the new account is created, the system creates a unique password for each customer and notifies the customer's representative via an email of the account login information (company id and password.)
2. The RFQ System must allow an authorized sales manager to create a new airplane inventory part. Each inventory part contains a unique part number, part name, barcode, part description, quantity, listing/selling price (may be blank), manufacturer name, image(s) and comments. (*New*)
3. The RFQ system must allow an authorized customer representative, who has the customer id and password, to create a Request For Quote (create RFQ). The customer representative must be able to enter the part number, quantity, and require date for each requested part. The system must be able to accept one or more parts for a single RFQ.

If the customer's account was set up as auto-quote, the system calculates the quote and displays the results to the customer immediately.

If the customer's account was set up as manual-quote, then the system must notify the sales manager of the customer's generated RFQ.

4. The RFQ system must allow an authorized sales manager to create a sales quote for a selected customer with an RFQ with the "Created" status. The sales manager must be able to select an RFQ associated with the selected customer. For each part on the RFQ, the sales manager must be able to indicate the date GPS can provide the part and the price for that part. After the manager confirms to create the sales quote, the system generates the sales quote, which contains a unique sales quote number, the date the quote was created, the part number, part description, part image(s), the quantity, the date that GPS can provide the part, the price and the date the quote expires (30 days from the sales quote date.) The system also sets the sales quote status to "Created."
5. The RFQ system must allow an authorized sales manager to submit one or more sales quotes to a selected customer. Once submitted, the system sets the status of the selected sales quotes to "Submitted to Customer" and sends a notification to the associated customer.
6. The RFQ system must allow an authorized customer to accept one or more unexpired sales quotes. After accepting the quote, the system updates the sales quote status to "Accepted" and automatically generates a sales order based on the data associated with the sales quote and associates the sales order to the customer. The system also generates and sends notifications to GPS's Accounts Receivable (AR), Sales Order Management (SOM) and Inventory Management (IM) systems.

A sales order contains a unique order number, the order date (the date the sales quote was accepted), required date, the customer name and complete address where to send the invoice and where to ship the ordered parts (each order line contains part number, description, order quantity and unit price) and sales order total amount. After the sales order is generated, the system sends a copy of the sales order to the associated customer using the email address of the customer's representative.

**PART 2. (40 points)** BASED ON YOUR ANALYSIS IN PART 1 AND USING STANDARD UML NOTATION, DEVELOP A BUSINESS CLASS DIAGRAM. MAKE SURE EACH CLASS CONTAINS TWO COMPONENTS: THE CLASS NAME AND ATTRIBUTES FOR THAT CLASS. ALSO, REMEMBER TO INDICATE A RELATIONSHIP (ASSOCIATION, PART-OF OR TYPE-OF) BETWEEN CLASSES.



You may use the Shape tool of *Microsoft Word* to draw your diagram.

#### **WHAT TO SUBMIT FOR GRADING:**

Submit your Word or .pdf file on Blackboard by 9:30 a.m. on the due date.