

02291 System Integration

Introduction to BPMN: Solutions to exercises

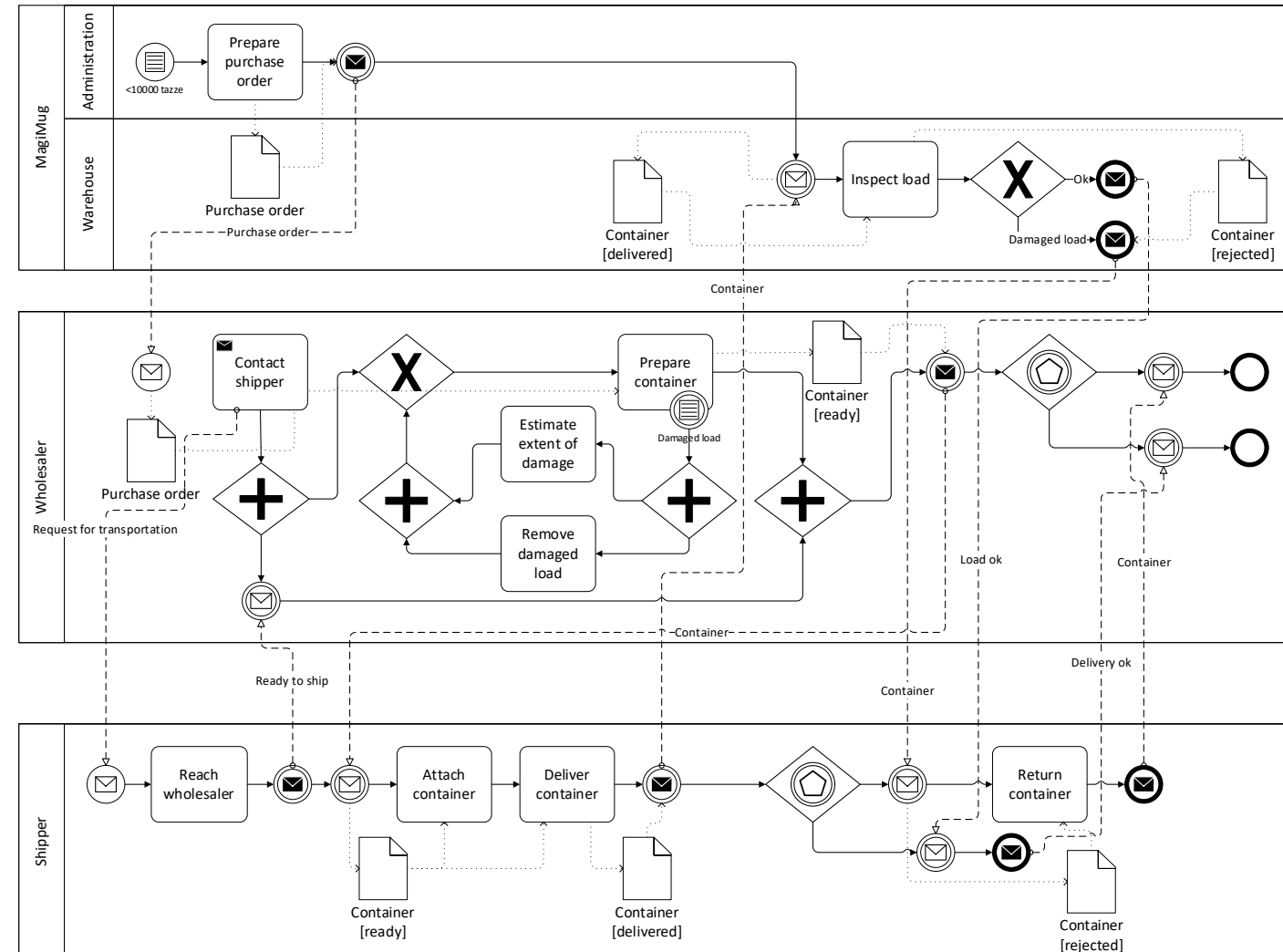
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Exercise 1 – MagiMug

MagiMug is a manufacturer of promotional mugs, which are sold to companies, universities, hotels, etc. In particular, MagiMug buys white ceramic mugs from a wholesaler and screen prints on them a picture provided by the customer.

When the number of cups in stock is less than 10000 units, MagiMug's administration prepares a purchase order and sends it to its wholesaler. Once the order has been received, the wholesaler contacts a shipper. Then, while waiting for the shipper to reach its premises, the wholesaler prepares a container to be shipped to MagiMug. If, while preparing the container, part of the load gets damaged, the activity is stopped, and the extent of the damage is estimated. At the same time, the damaged load is removed from the container. Once these two activities are complete, the container preparation is repeated. Once the container is ready and the shipper has reached the wholesaler's premises, the container is given to the shipper, who attaches it to his/her truck, and delivers it to MagiMug. Once the container is received, MagiMug's warehouse workers check the integrity of the load. If everything is in order, this is reported to the shipper, who in turn notifies the wholesaler of the success of the activity, and the process ends. If, on the other hand, part of the load is damaged, the shipper takes the container back to the wholesaler and the process ends."

Exercise 1 – BPMN collaboration diagram

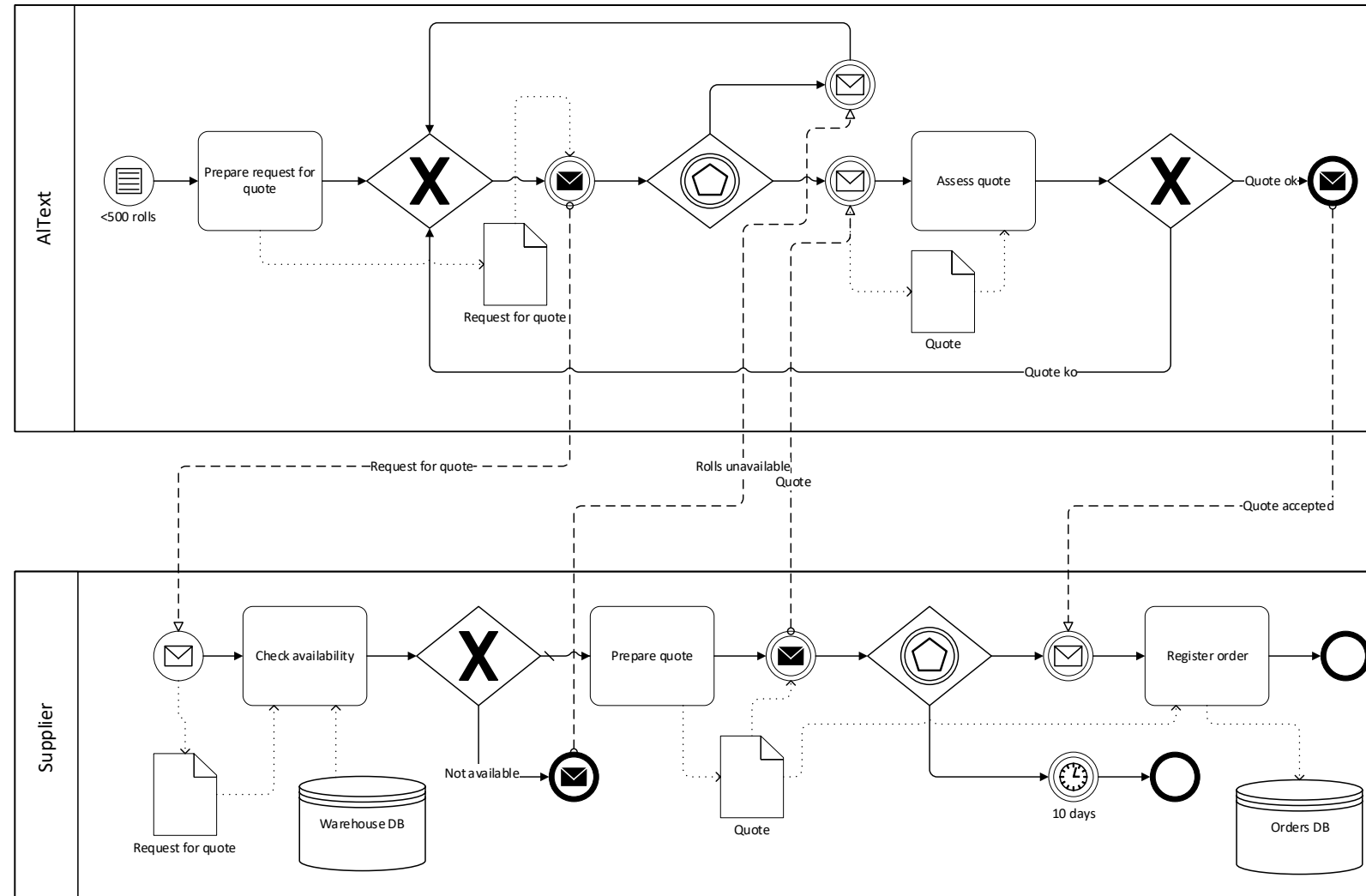


Exercise 2 – AlText

AlText is a publisher of printed academic textbooks and scientific journals.

When the paper rolls that AlText has in stock fall below 500 rolls, a request for a quote for 2000 rolls is prepared and sent to one of its supplier. The supplier, upon reception of the request, verifies if it has enough paper rolls in its warehouses. If the supplier does not have enough rolls, it terminates its process by informing AlText. AlText then sends the request for a quote again to another supplier. If a supplier has enough rolls available, it prepares a quote, which is sent to AlText. If, after assessing the quote, AlText is satisfied with it, AlText notifies the supplier that the quote has been accepted, the supplier registers the order, and the process ends on both sides. If AlText is not satisfied with the quote, it sends the request for a quote again to another supplier. If a supplier does not receive the notification within 10 days since the quote was sent, it ends the process.

Exercise 2 – Main process



Exercise 3 - CompGears

CompGears, a consumer electronics company, wants to model its helpdesk's technical support process.

The process begins when a customer contacts the company's helpdesk with a technical support request, communicating his/her identity. First, the helpdesk operator checks whether the customer is already present in the system and, if not, (s)he registers the customer. Then, the helpdesk operator asks the customer to provide the serial number of the product. Once this information is received, the helpdesk operator checks if that product is still under warranty. If not, the helpdesk operator ends the process by notifying the customer that the product is out of warranty. Otherwise, (s)he notifies the user that the request has been accepted and forwards it to an operator from the company's in-house technical department.

First, the technical operator asks the customer to describe the problem. Once this information is received, (s)he examines the symptoms and then looks for a possible resolution action, which is provided to the customer. The customer then verifies whether that resolution action solves his problem and communicates the outcome to the technical operator. If the resolution action is successful, the process ends on both sides. If not, the technical operator searches again for a resolution action. This is repeated until the problem is resolved. If the technical operator is busy for more than 30 minutes on a specific support request, the process ends by inviting the user to repeat the entire procedure again.

Exercise 3 – BPMN collaboration diagram

