# Escuela Técnica Superior de Ingenieria Informática Departamento de Lenguajes y Sistemas Informáticos

# Requirements Engineering

## **Exercise: Delivery Notes and Invoices**

November 2014

### **Problem statement**

The goal of the system to be developed is to manage delivery notes and invoices from providers of computer equipment of the Software Engineering and Databases Group of the Department of Computer Languages and Systems at the University of Seville. One of the business processes that need to be supported is described as follows:

- 1. The professor in charge of managing orders of computer-related supplies, after comparing several offers from different providers, decides to send an order to one of them. These orders are often sent by email and/or fax.
- 2. When computer supplies arrive at the Department, they come together with a delivery note (see Figure 1), of which the professor keeps a copy while accepting the supplies.
- 3. Once an order has been completely delivered, the provider sends an invoice detailing the billed supplies and the corresponding delivery notes (see Figure 2 on the back of this sheet).
- 4. The professor checks that the invoice details are correct and sends it to the University accounting service so they proceed to its payment.

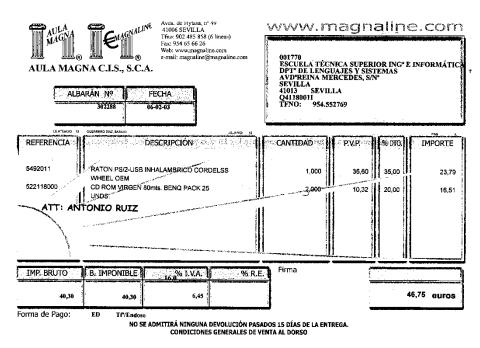


Figure 1: Delivery note

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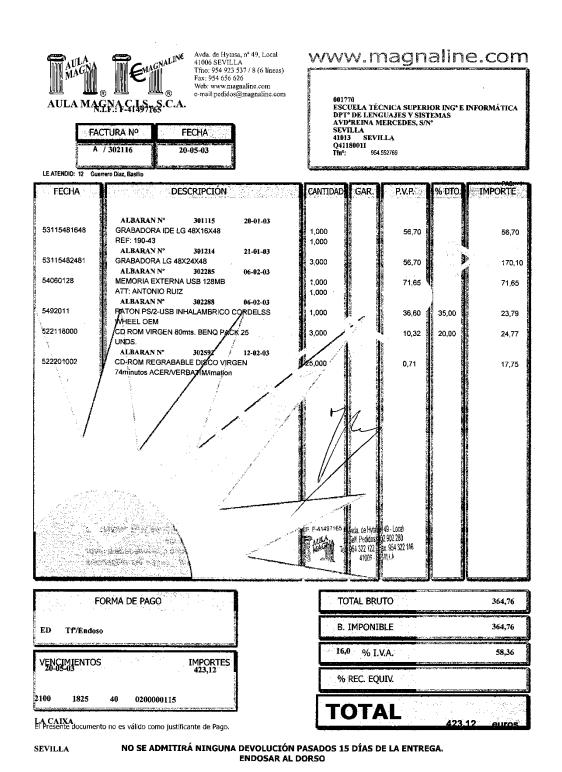


Figure 2: Invoice

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The system to be developed must meet the following business objectives:

- OBJ-1: Know what computer supplies have been accepted and which provider has supplied it.
- OBJ-2: Know which accepted computer supplies have been invoiced or not.
- OBJ-3: Know what invoices have been processed by the University accountability service.
- OBJ-4: Avoid invoices of non-accepted supplies to be paid.
- OBJ-5: Keep an address book with basic details of each provider.

### **Exercise**

Given the above problem statement and the two scanned documents, develop the following products:

- 1. A BPMN model of the described business process.
- 2. A list of information requirements and business rules, and a requirements/objectives traceability matrix. For requirements, use the following simplified template:

### IR <number>: Information about <relevant concept>

- <Specific data #1>
- ..
- <Specific data #n>

### BR <number>: <business rule name>

<bushless rule description>

- 3. One or more use case diagrams, and a use cases/objectives traceability matrix. It is not necessary to specify use cases textually.
- 4. A static model annotated with constraints in natural language and OCL, and diagram elements/requirements traceability matrix.
- 5. A list of problems to be solved in the requirements (if any is identified).