


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.



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ALBARÁN Nº	FECHA
302288	06-02-03

REFERENCIA	DESCRIPCIÓN	CANTIDAD	P.V.P.	% DTO.	IMPORTE
5492011	RATON PS/2-USB INHALAMBRICO CORDELESS	1,000	38,60	35,00	23,79
522118000	WHEEL OEM CD ROM VIRGEN 80mts. BENQ PACK 25 UNDS	2,000	10,32	20,00	18,51

ATT: ANTONIO RUIZ

IMP. BRUTO	B. IMPONIBLE	% I.V.A.	% R.E.	Firma
40,30	40,30	16,0	6,45	

46,75 euros

Forma de Pago: ED TP/Endoso

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CONDICIONES GENERALES DE VENTA AL DORSO

Figure 1: Delivery note




Escuela Técnica Superior
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Requirements Engineering

Exercise: Delivery Notes and Invoices

November 2014



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FACTURA Nº	FECHA
A / 302116	20-05-03

LE ATENDIO: 12 Guerrero Diaz, Basilio

FECHA	DESCRIPCIÓN	CANTIDAD	GAR.	P.V.P.	% DTO.	IMPORTE
53115481648	ALBARAN Nº 301115 20-01-03 GRABADORA IDE LG 48X16X48 REF: 190-43	1,000 1,000		56,70		56,70
53115482481	ALBARAN Nº 301214 21-01-03 GRABADORA LG 48X24X48	3,000		56,70		170,10
54060128	ALBARAN Nº 302285 06-02-03 MEMORIA EXTERNA USB 128MB ATT: ANTONIO RUIZ	1,000 1,000		71,65		71,65
5492011	ALBARAN Nº 302289 06-02-03 PATON PS/2-USB INHALAMBRICO CORDELSS WHEEL OEM	1,000		36,60	35,00	23,79
522118000	CD ROM VIRGEN 80mts. BENQ PACK 25 UNDS.	3,000		10,32	20,00	24,77
522201002	ALBARAN Nº 302592 12-02-03 CD-ROM REGRABABLE DISCO VIRGEN 74minutos ACER/VERBATIM/Imation	25,000		0,71		17,75

LA CAIXA

El presente documento no es válido como justificante de Pago.

FORMA DE PAGO

ED TF/Endoso

VENCIMIENTOS	IMPORTES
20-05-03	423,12

2100 1825 40 0200000115

TOTAL BRUTO	364,76
B. IMPONIBLE	364,76
16,0 % I.V.A.	58,36
% REC. EQUIV.	
TOTAL	423,12 euros

SEVILLA

NO SE ADMITIRÁ NINGUNA DEVOLUCIÓN PASADOS 15 DÍAS DE LA ENTREGA.
ENDOSAR AL DORSO

Figure 2: Invoice

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>

<business 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).