

Student Originated Software
OO Analysis & Design (OOAD) Workshop Exercise 3
Fall 2001

Due Monday, Oct. 8

Develop the system's initial use cases

The system's uses cases further clarify the team's understanding of the scope and boundary of the system that was outlined in the proposal (*Statement of Scope and Objectives*). The use cases describe the core functionality expected of the system by its direct users (its *actors*).

Major Goals

- To use the business workflow for an understanding of the work processing flow and to use that understanding to identify the points in the flow where the system can/will provide support.
- To confirm the boundary of the system that you will be developing.
- To identify and describe the system actors -- the direct users of the system.
- To describe an initial set of use cases -- the functionality inside the system.

Refer to the background material you have for the "Surplus Stock Disposal" system (EU-Bid) and complete the steps outlined below. As you develop these new artifacts, also continue to capture new terms and their definitions in the system glossary -- and to improve on existing terms and definitions as you gain a better understanding of the system.

This workshop will be worked in two stages. After the first step, we will take a checkpoint.

Steps

- (1) **Understand the business workflow and identify the activities in the workflow that require system support.**
***** *checkpoint* *****
- (2) **Document your understanding of the system scope boundary and the actors that will interact with the system.**
- (3) **Describe the initial set of services ("use cases") provided by the system to the actors.**
- (4) **Refine the use cases by factoring out common and optional processing.**

Details

- (1) **Understand the business workflow and identify the activities in the workflow that require system support.**

The business workflow describes the activities and the interactions of the workers in the problem domain -- *how* the work is done -- without (yet) considering where technology can be employed. This can be shown visually as a "swimlanes" diagram, where the activities and major decision points of each worker are shown in a column (headed by the worker name). The description should be understandable by anyone within the problem domain. Once there is understanding of this flow, the team can discuss and agree on which of these problem domain activities fall inside the system scope. This agreement can be informally annotated on the diagram.

1a Examine the workflow of an existing business process.

A swimlanes diagram of one of EU-Rent's existing business processes (the Loyalty Program processing) has been provided as an example. Review it to understand how a workflow is drawn as a *swimlanes* diagram. The next page shows how some of these activities have been designated for system support.

- 1b Develop the business workflow for the new Surplus Stock Disposal processing.*
Develop a similar kind of workflow (*swimlanes*) diagram for the new Surplus Stock Disposal processing.
- 1c Identify the points in the workflow where EU-Bid will provide support.*
Annotate the activities you feel will fall within the scope boundary of EU-Bid.
Refer to prior materials or ask the system sponsors, as needed.

(2) Document your understanding of the system scope boundary and the actors that will interact with the system.

You have been provided a picture of the current EU-Rent system and three of the subsystems that we will be dealing with. Two of these subsystems are existing operational systems, and one (EU-Bid) is the new system that we will be developing. Documentation of some of EU-Rent's current actors is also provided.

- 2a Will any of the current actors be actors in the new EU-Bid system?*
If so, add this onto the diagram. Modify the actor description text, as needed.
- 2b Will there be new actors in the EU-Bid system?*
Give each new actor a name and write a brief description. Add the actor onto the diagram.

(3) Describe the initial set of services ("use cases") provided by the system to the actors.

Each automation point identified in step 1 will serve as an initial "use case" in the new system. You identified the actors in step 2. Refer to the example that has been provided that documents the use cases and actors of the Loyalty Program system.

- 3a Draw a Use-Case Diagram for EU-Bid.*
- 3b Write an initial description of each use case.*

(4) Refine the use cases by factoring out common processing and optional processing.

You cannot be expected to identify all common and exceptional processing at this time, but if you can identify any "obvious" processing that appears to be either common or optional you should capture that information at this time. Refer to the example that has been provided, showing how this has been done for the Inventory Management system

- 4a Document the common processing as a separate use case.*
Name and briefly describe the new (reusable) use case. Cross reference it to the *including* use cases, as illustrated. In the diagram, connect the *included* use case to the use cases that use it, annotating the connecting line with the <<include>> stereotype designation.
- 4b Document the optional processing as a separate use case.*
Name and briefly describe the new use case. Cross reference to the *extended* use case, as illustrated. In the diagram, connect the *extended* use case to the *extending* use case, annotating the connecting line with the <<extend>> stereotype designation.