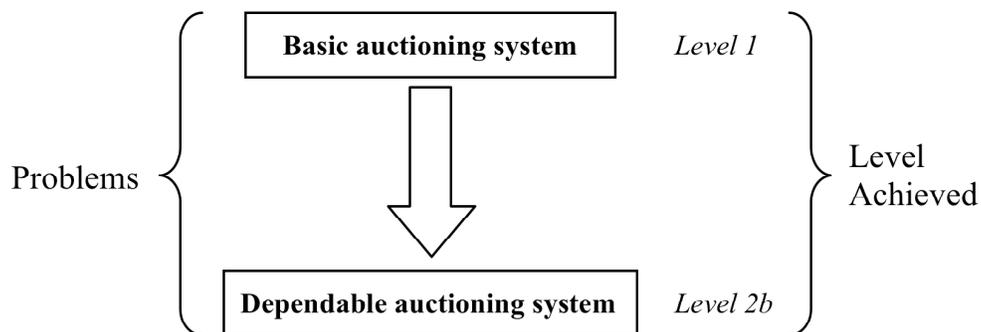


# ESIR SR – Projet Monitoré 2012

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## 1 Description of the Problem

You are asked to design and implement a simple *distributed auctioning system* with Java RMI. Crucially, this overall problem is organised into two sub-problems of increasing difficulty: basic auctioning system (level 1), and dependable auctioning system (level 2). Each problem builds on the previous one. The level you reach determines the maximum mark you can possibly obtain for the coursework. How well you reach a level determines your actual mark. Precise marking details are provided at the end of this document.



## 2 Basic Auctioning System (Level 1)

This auctioning system should consist of a central auctioning server and two separate client programs:

- The first client program should enable a seller to create a new auction for an item offered for sale. The seller should be able to provide a starting price and a minimum acceptable price (reserve price). Creating the auction will return an auction id. At some point in the future, the seller should be able to close the auction using the same client program, by quoting the auction id. When the seller closes an auction, the client program should either indicate who the winner is, along with her details (see below), or an indication that the reserve price has not been reached.
- The second client program should enable potential buyers to bid for auctioned items. Firstly, the program should enable buyers to browse the list of currently active auctions with their current highest bid (but not the reserve price, which is secret). The client program should then enable a buyer to bid for a selected item, by entering the buyer's detail (name and e-mail).
- The auctioning server should then deal with requests from the two client programs and maintain the state of the ongoing auctions.

### 3 Advanced Features for Auctioning System

Now, suppose this auctioning system is a big success, and attracts a dramatic increase in traffic. You are asked to *consider* and *implement* techniques to enhance the *scalability* and *availability* of your system using replication techniques. You are free to use either passive replication or active replication in your solution.

**Note:**

1. You are not expected to provide a sophisticated user interface for the two client programs (a simple text based interface will suffice).
2. Crucially, this overall problem is organised into two sub-problems of increasing difficulty: basic auctioning system (level 1), and dependable auctioning system (level 2).
3. Each problem builds on the previous one. The level you reach determines the maximum mark you can possibly obtain for the coursework. How well you reach a level determines your actual mark.

### 4 Deliverables and Marking Scheme

You are asked to work in pairs for this coursework. Each pair of students will be asked to **demonstrate** their solution during each marking session indicated below. In addition you are asked to write an **individual report** of roughly one page (~ 500 words) that you **should submit electronically** along with the **source code** of your solution.

Your final coursework grade will be calculated as follows:

Overall Component	Additional Information	Weighting (%)
<b>Basic Server (Level 1)</b>	<b>First Marking Session</b>	<b>50%</b>
	<i>Completion of clients and server as specified (demo, in pair)</i>	25%
	<i>Quality of the solution (demo, in pair)</i>	5%
	<i>Short report (1 page, individual)</i>	20%
<b>Dependable Server (Level 2)</b>	<b>Second Marking Session</b>	<b>50%</b>
	<i>Completion of clients and server as specified (demo, in pair)</i>	25%
	<i>Quality of the solution (demo, in pair)</i>	5%
	<i>Short report (1 page, individual)</i>	20%
<b>TOTAL</b>		<b>100%</b>

## 5 Deadline, marking, and submission:

### IMPORTANT:

The marking sessions for the coursework will take place on **Friday 25/01/2013 for level 1 and by Friday 15/02/2013 for level 2.**

Your solution (source code + individual report) should be **submitted electronically** through moodle **by midnight the day before each marking session** (one submission per student).

You will be asked to demonstrate your work from your submission.

4. You need to demonstrate your work during the relevant marking session, failing to do so will result in a grade of 0.
5. You need to come to the marking session with your exercise completed. We will not be able to provide support during marking sessions.
6. You should be able to explain what you have done clearly, to show that you understand the concepts introduced.
7. Checks for plagiarism and collusion between pairs of students will be carried out on all work.