



UNIVERSITÀ DI PISA

Computer Engineering

Distributed Systems and Middleware Technologies

Project Documentation

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1 — Project Specifications

AuctionHandler is a distributed web-app in which users can sell their goods by creating some Online Auctions.

1.1 Use Cases

An *Unregistered User* can:

- Register to the service

A *Unlogged User* can:

- Login to the service

A *Logged User* can:

- View list of active Auctions
- Create a new Auction
- Join an Auction
- Logout
- After Joining an Auction:
 - Do an offer to an Auction
 - View list of Auction participant
 - View past history of offers
 - View Remaining time of the Auction
 - Wait until the end of the Auction and then exit
 - View Auction Result

The *System* must:

- Remember registered users
- Remember active auctions
- Remember auction participants
- Choose in a unique way the auction winner
- Remember offers history and solve possible conflicts by leveraging time
- Synchronize the remaining time for each auction

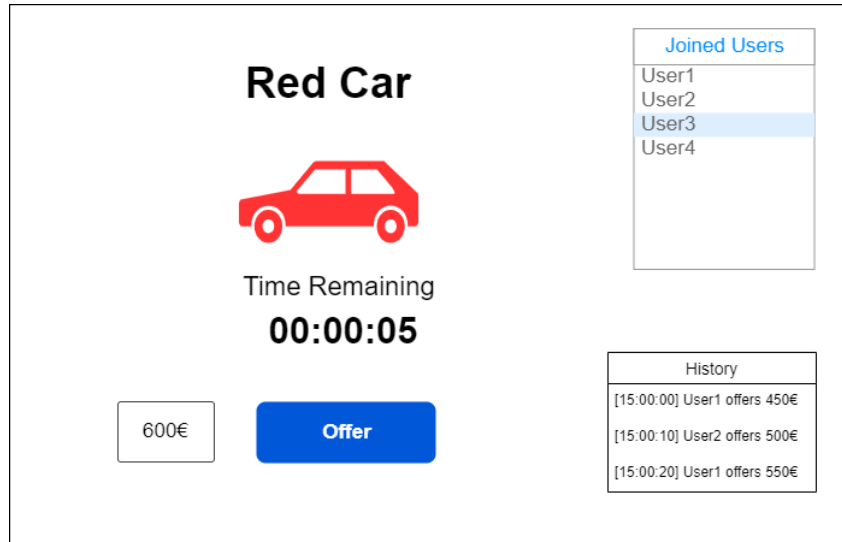


Figure 1: Mockup of the main interface

1.2 Design Ideas

We were thinking of implementing the system in the following way, following a 3-tier architecture:

- **Presentation Tier:** User Interface via HTML/CSS, generated via Java Servlets and JSP
- **Business Logic:** consists of data synchronization on nodes (information to synchronize regards the remaining time of an auction, joined users of an auction, auction history, list of available auctions) and auction winner election
- **Data Access/Storage:** through Erlang by using Mnesia