

An Electronic Bidding System

We have developed a system such that allows users to sell and buy their own commodities easily through this platform. There are two types of users in this system: system administrator (SA) and ordinary users (OU). They all have their own unique account number and password in order to use the system. The overall framework that was implemented is stated below.

For new OUs:

- A new OU can input his/her preferred account name, first name, last name, address, city, state, zip code, email address, phone number, and a valid credit card number.
- If the preferred account name already existed in the system, the new OU is then asked to choose a new account number before s/he can finish the registration process. This information is then saved in a list waiting for the SA to check. Should the account be approved by the SA, the phone number is the default password for this OU.

For registered OUs:

- Can change his/her password, phone number and address.
- Can browse the items currently available.
- Can post item(s) s/he wants to sell.
- Can fill out a form indicating the name, picture file name, and a short description as the annotation. This information is not immediately available though: It is saved in another list waiting for the SA to check.
- Can post a bid on an item s/he wants to buy.
- Can choose to sell an item s/he posted before.
- Can choose to withdraw an item s/he posted before.
- Can file complaints regarding other OUs or items.
- Can browse his/her own transaction history.

For the SA:

- Can handle (admit or deny) new users in the waiting list.
- Can process (post or remove) the waiting list for items posted by OUs.
- Can maintain the posted items: remove items which have been sold or withdrawn by the owner, remove items that received no bid for certain duration.
- Can process complaints fielded by OUs: an OU receiving one complaint is warned. Three warnings will invalidate the targeted OU.
- Can collect stats regarding OUs and items.

Data structures necessary in this system:

- Information for each OU: a unique account number, a unique account name, real name, address, phone number, credit card number, item ids s/he posted, item ids s/he bought.
- Information for each bid: a unique bid number, OU's account number, price willing to pay, time.
- Information for each item: a unique item id, the owner id, info provided by the owner (name, picture file and a brief annotation), posting time, bids, winning bid and decision time.
- There is a waiting list for new users.
- There is a waiting list for posted items.