Problem Analysis & Software Design

Group: 9

Names: Robbin de Groot **S-number:** s3376508
Oliver Strik s3100693
Nicu Ghidirimischi

Report: Iteration 1

Date: November 23, 2018

Prof. E.O. de Brock & Dr. R. Smedinga

Computing Science - Year 2

University of Groningen
Faculty of Science & Engineering

– marked for change –

Introduction

An auctioning company called "The AuctionHouse^{TM}" auctions provided goods to buyers. Currently, they auction and display the goods in a warehouse just outside of city limits. Owner John wants to automate the administration of auctions and other activities using an IT solution.

– marked for change –

Expectations Summary and Conclusion

John wants the sellers to be able to register their goods in the to-develop-system. These goods then need to be assessed and possibly removed if they lack the requirements. A couple of days before an auction, potential buyers must be able to view the goods. The goods are then auctioned at location (so not through the system).
Currently, regular customers get mail informing them of the goods on sale, rather than having to go and see the available goods in person.
Payments are done through cash or card, and not through credit cards. Bigger customers get offered a special billing procedure. The police is handed a list of goods on auctions, so they can identify any stolen goods. Once the system is completed, a system administrator should make sure every person has the right permissions for the system, and verify that it is operating properly.

Potential users and user wishes

Actors and Users

What follows is a list of user (groups) that need to interact with the system directly. The selection is derived from the above provided summary. Also is a brief description of the wishes in customer language.

- Owner of The AuctionHouse^{TM} (John)
  The owner needs to be able to manage the staff members and their access and permissions in the system.
- Private Individuals and Merchants (Owners of the goods)
  Sellers need to be able to present their goods to the purchasing agent so he/she can decide whether they can be auctioned.
- Purchasing agent
  The purchasing agent needs to evaluate the presented goods for possible sale, and if they will be auctioned, needs to make sure they are being stored in the storehouse (which does not necessarily have to be done through the system).
- Viewers
  Viewers want to see the products that are going to be auctioned, and therefore need to have access to the list of goods.
- System Administrator
  The system administrator is responsible for the system's behaviour and needs to monitor system activity.

Other Stakeholders

Below is the list of stakeholders; people who have interests in the development of the system, or are otherwise involved with it, while not having to interface with it directly or having additional needs compared to other user groups.

- Regular Customer
  Regular customers have no extra needs or wishes. However, due to their regular purchases, they receive a list of available items per mail.

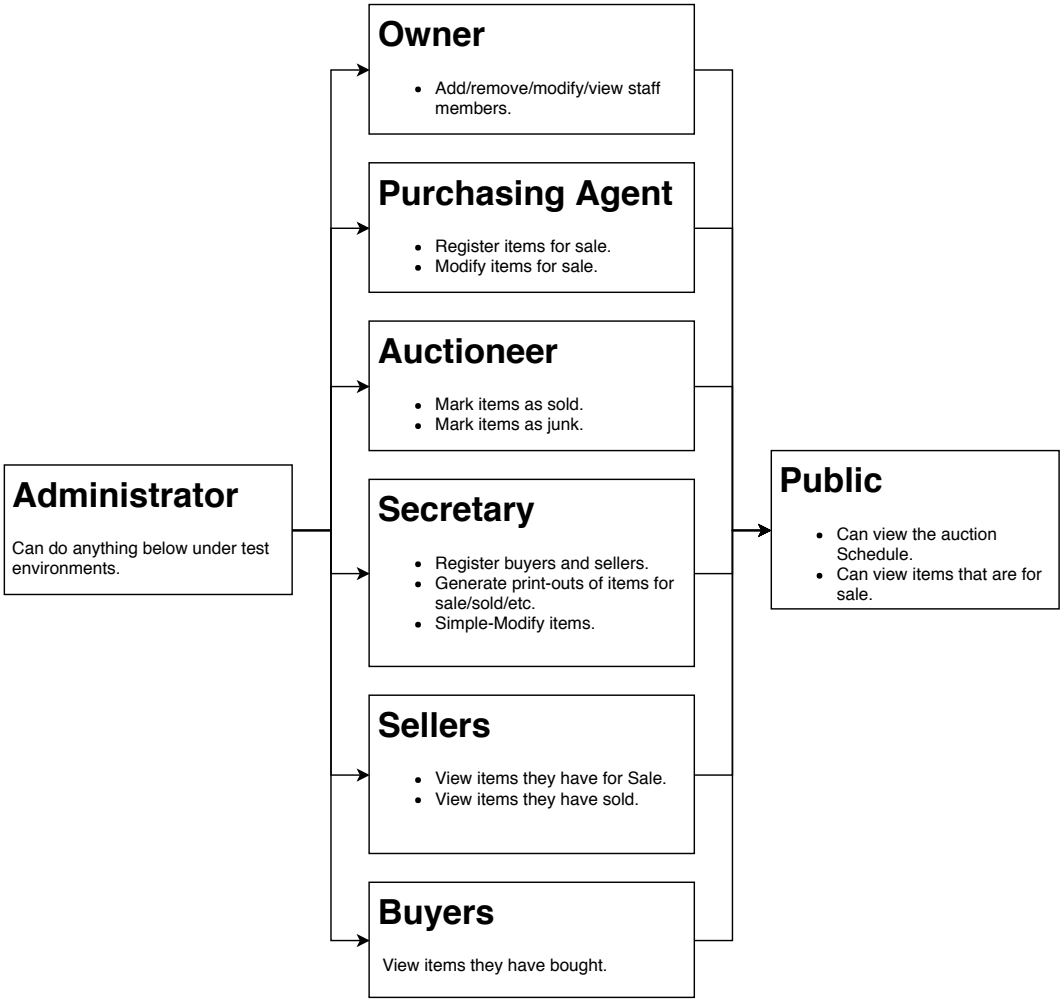
- Big Customer
  Big customers are essentially normal customers, but since their expenses are greater, they are offered a special billing procedure.
- Police
  The police has no need to directly access the system. However, they are offered a list (printout) of goods to follow potentially stolen goods.

User Wishes and Stories

Users and stakeholders need the system to be able to handle their requests. Below is a list of those wishes.

- Administrators: do everything below under test environments
- Owner: add/remove/modify/view staff members
- Purchasing Agent: register/modify items for sale
- Auctioneer: mark item as sold
- Secretary: Add registers buyers and sellers to the system
- Secretary: Generate printouts of items for sale/sold/etc.
- Seller: view items they have for sale
- Seller: view items they have sold
- Buyer: view items they have bought
- Public: view items that are for sale
- Public: view auction schedule

To visualize this, we made a diagram. This diagram is a “power tree” that shows how permissions are divided and who can do the same as another user group.



A power tree showing the relations between user groups and permissions. Arrows indicate what permissions are inherited

Use Cases

Create and add an item - Robbin de Groot

Analysis

Scope:	The AuctionHouse^{TM} automated administration system
Level:	User goal
Primary Actor:	Purchasing Agent
Stakeholders and Interests:	Purchasing Agent: wants to enter parameters easily and quickly Seller: wants his goods to be visible to potential buyers
Preconditions:	Purchasing agent is identified and authenticated.
Postconditions:	The item has been added to the system, or a failure was returned. The product has been registered for an upcoming auction. The item is (or will become) visible for potential buyers and the otherwise authorized.
Special requirements:	A list of categories and a list of future auction dates needs to available in the system
Frequency of occurence:	Depedent on the amount of sellers and auctions per month.

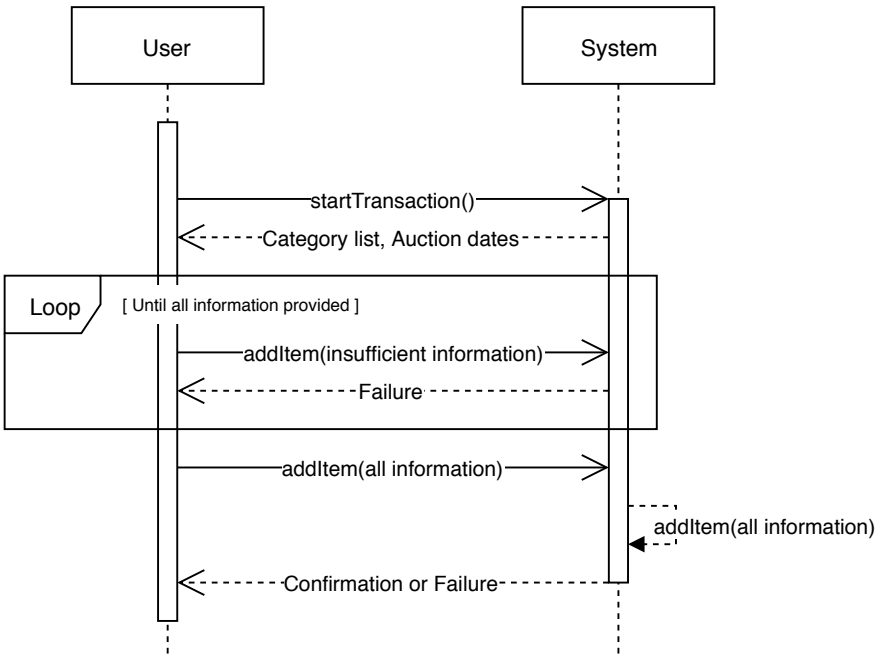
Main Success Scenario

1. The user starts the transaction.
2. The system provides the user with a list of categories to choose from, and a list of future planned aution dates.
3. The user provides all necessary information and chooses a category for the item, and an auction date. The information to provide is
   - The amount of the item available
   - The type of item
   - A description
   - If the item possesses any antiquarian value
   - A minimum price decided by the owner
   - The date when brought in
   - Name and address of the owner plus identification
   - Planned auction date
   - Distinguishing features
4. The system adds the item with all information to the list
5. The system returns to the user with a confirmation message or a failure

Extensions

- When a failure is returned, the system database remains unchanged; no item or other information was added.
- When not all required information was provided, the system will first ask the user to provide it until all information is provided.

System Sequence Diagram



Interactions displayed in a System Sequence Diagram in blackbox format

Design

Updating - Oliver Strik

Analysis

Design

Deleting - Nicu Ghidirimischi

Analysis

Design

Overall

References

About Possible Implementation (optional)