Software Requirements Specification

For

<On-line Sales Portal>

Version 1.0 approved

Prepared by <Swapnil Agrawal(12CS10052)>
<Sudhanshu Bahety(12CS10063)>

<IIT Kharagpur>

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Table of Contents

1. Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the On-line Sales Portal. It will explain the purpose and features of the Portal, the interfaces of the Portal, what the Portal will do, the constraints under which it must operate and how the Portal will react to external stimuli. This document is intended for both the stakeholders and the developers of the Portal and will be proposed to the ABC Company for its approval.

1.2 Document Conventions

The document has been written in Arial font with font size of 11. Important points and heading are indicated in bold and font size of 13. Some of the important points regarding the software are also italicized and underlined. In some cases mentioned below, the managers and administrators are meant to be same persons, and so are shopkeepers and sellers.

1.3 Intended Audience and Reading Suggestions

This document is intended for Software Companies that build software to run on the web, also for the Companies who are involved in setting up of a platform where people can buy or sell product like in eBay. The document includes detailed description of how the software works along with some diagrams so that it becomes clearer to the reader.

1.4 Product Scope

This software system will be an On-Line Sales Portal for ABC Company. This system is designed to make an online platform on the web where different persons can buy or sell products to each other. There is an option for Customer Login where different person can login to buy or sell their product. The customers who are involved in buying and selling, can negotiate the price for an item between

them and buy products. There is also an option for online money transaction if the deal is confirmed. Moreover, there is a scope for manager login which is restricted to specific persons. Manager is responsible for the control of the entire buy sell systems. There are various categories of items that can be bought or sold. Moreover, the manager have the right to add or remove these categories. The manager can also remove the product of poor categories. If manager suspects any customer to be a fraud, he can remove his items, he has uploaded to sell online and delete his account. The system also contains a relational database containing a list of customers, buyers, sellers and items.

1.5 References

- The basic template idea for this document is taken from the PowerPoint presentation of Professor. Partha Pratim Das, Professor of Computer Science and Engineering, IIT Kharagpur.
- IEEE. *IEEE Standard 830-1998 IEEE Recommended Practice for Software Requirements Specifications.* IEEE Computer Society, 1998.
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2. Overall Description

2.1 Product Perspective

This system is designed to make an online platform on the web where different persons can buy or sell products to each other. There is an option for Customer Login where different person can login to buy or sell their product. The customers who are involved in buying and selling, can negotiate the price for an item between them and buy products. There is also an option for online money transaction if the deal is confirmed. Moreover, there is a scope for manager login which is restricted to specific persons. Manager is responsible for the control of the entire buy sell systems. There are various categories of items that can be bought or sold. Moreover, the manager have the right to add or remove these categories. The manager can also remove the product of poor categories. If manager suspects any customer to be a fraud, he can remove his items, he has uploaded to sell online and delete his account. The system also contains a relational database containing a list of customers, buyers, sellers and items. The system contains four actor namely-unregistered users, registered users, managers and online payment options. All of them can communicate through online portal.

2.2 Product Functions

- A customer can buy or sell an item over the platform.
- To upload an item, customer has to give specifics about the items, discussed later (Section 3), and a price for the item.
- If a buyer is interested in purchasing an item, he can raise a request and his bid price.
- The raised price is negotiable and if both groups come into terms, item can be purchased.
- Manager can help in bridging the gap between customers.
- Payment mode for the shopping is online.
- Manager have certain powers which is described later (Section 3).

2.2.1 for Users

- Basic Account features are required for both Customers and Sellers.

This includes

❑ Registering

❑ Login

❑ Forgot/change passwords

❑ “Account Details” section containing contact details

❑ Browse and Search:

❑ User should be able to browse through the entire items list by modifying certain selection criteria's such as: Item category, Price range selection, and Item/Seller Rating based selection

❑ In addition to providing the above mentioned search feature, user should also be able to search for a particular product

❑ This is applicable to all stakeholders (Guests, Customers, Sellers and Administrators)

❑ Shopping:

❑ Add / remove items to their shopping cart/list

❑ Customer should have the option to buy desired item(s) sold by one or more sellers.

❑ Customer will have access to finalize product lists of items she wishes to buy and make the final payment

❑ The website should support all popular credit cards and make sure that the transaction happens securely

❑ History

❑ Shopping history: List of items previously shopped

❑ Item View history : List of recently viewed items

❑ Search history: Recent search criteria used by a customer

2.2.2 For Sellers

❑ Account Setting

❑ The requirements specified in the Accounts section in user requirements

❑ Shop installation request

❑ Sellers should get authorization from Administrator before selling products/installing shop(s) in the mall.

❑ Transaction history

❑ Status of all the transactions for a seller.

2.2.3 For Administrators

- Account Setting
- Authorizing shop installation requests
- Updating product information
- Monitoring transactions and keeping track of its status
- Update Seller/Customer/transaction information (In case of system errors/complaints)

2.3 User Classes and Characteristics

The user classes that will use this product are people who are interested in buying and selling product online. It may also include second hand product buying and selling. Such people will be most frequently using this system. Also people who want to start their business similar to Flipkart or eBay may also use this system to a great extent, where they can only sell their products.

2.4 Operating Environment

Since it is an online portal software, it requires internet connection and a background server as only hardware platform to operate. Also there should be database system available to keep the record of different customers and products.

2.5 Design and Implementation Constraints

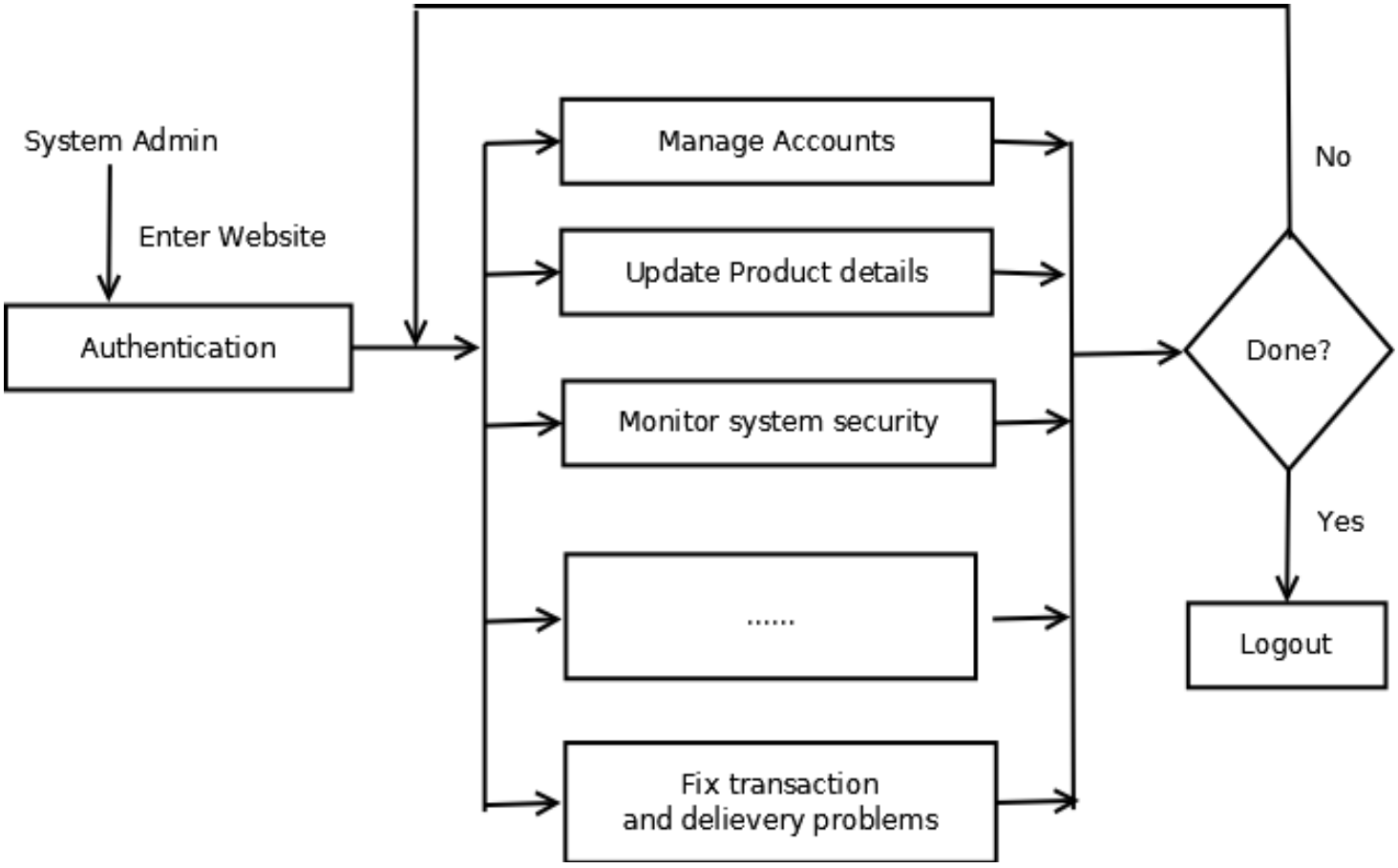
In order to create good software, design constraints and other contingencies need to be addressed. In this section we will enumerate any and all considerations that must be made when creating this project.

- Must be coded efficiently enough to run well on provided server hardware
- Client side code and/or web pages must be able to run efficiently on low end hardware
- The database will be created and maintained in a way that makes it of reasonable and manageable size.

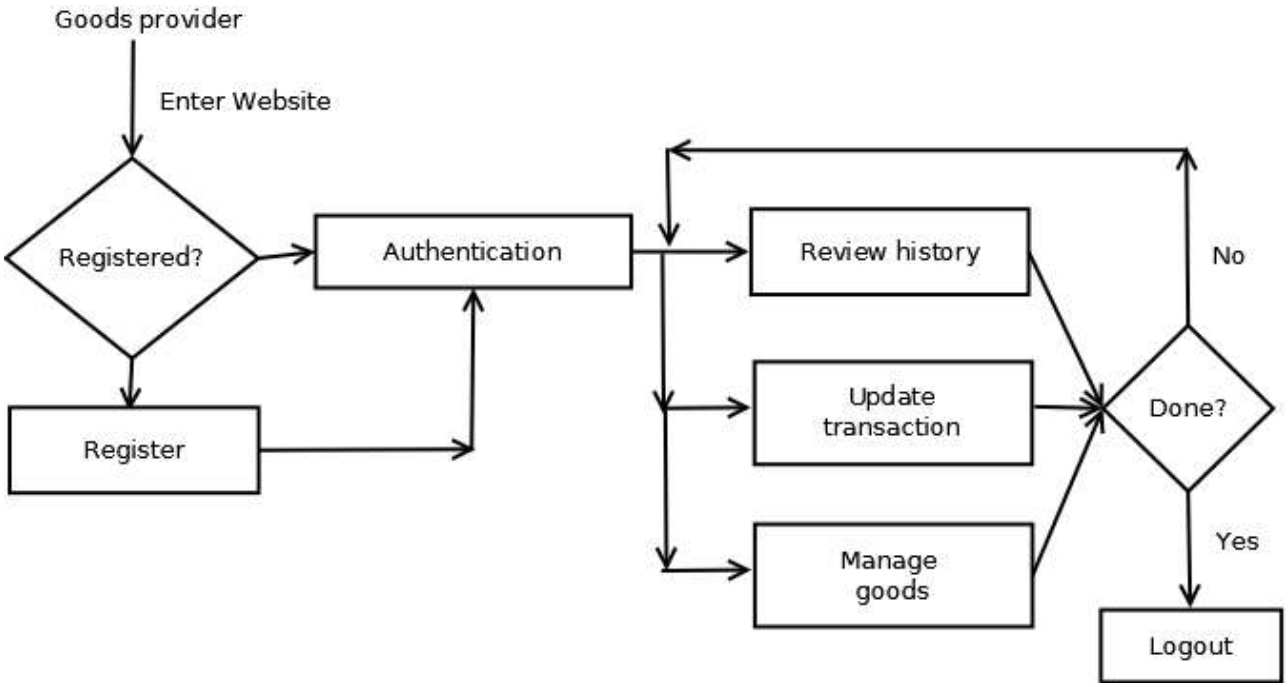
3. External Interface Requirements

3.1 User Interfaces

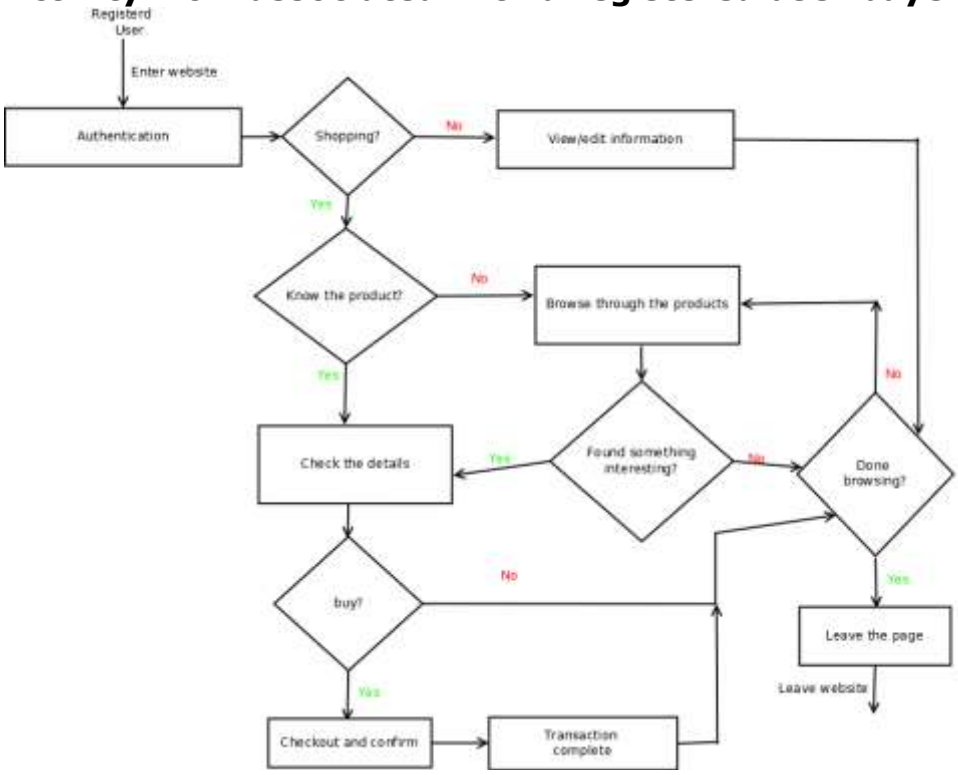
Activity Flow associated with the system manager.



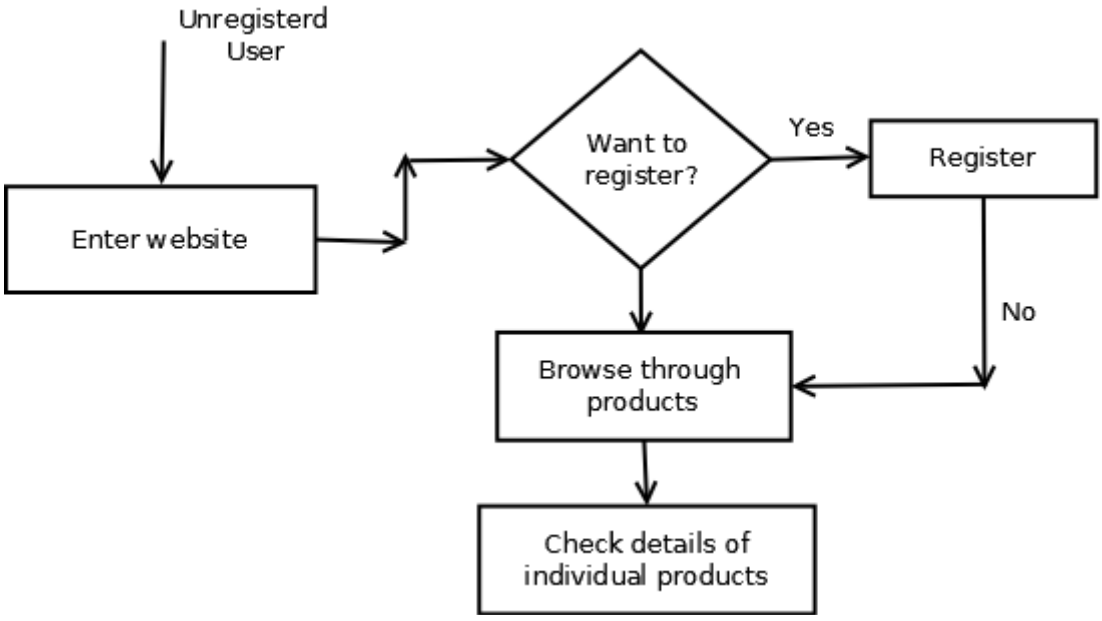
Activity Flow associated with a seller.



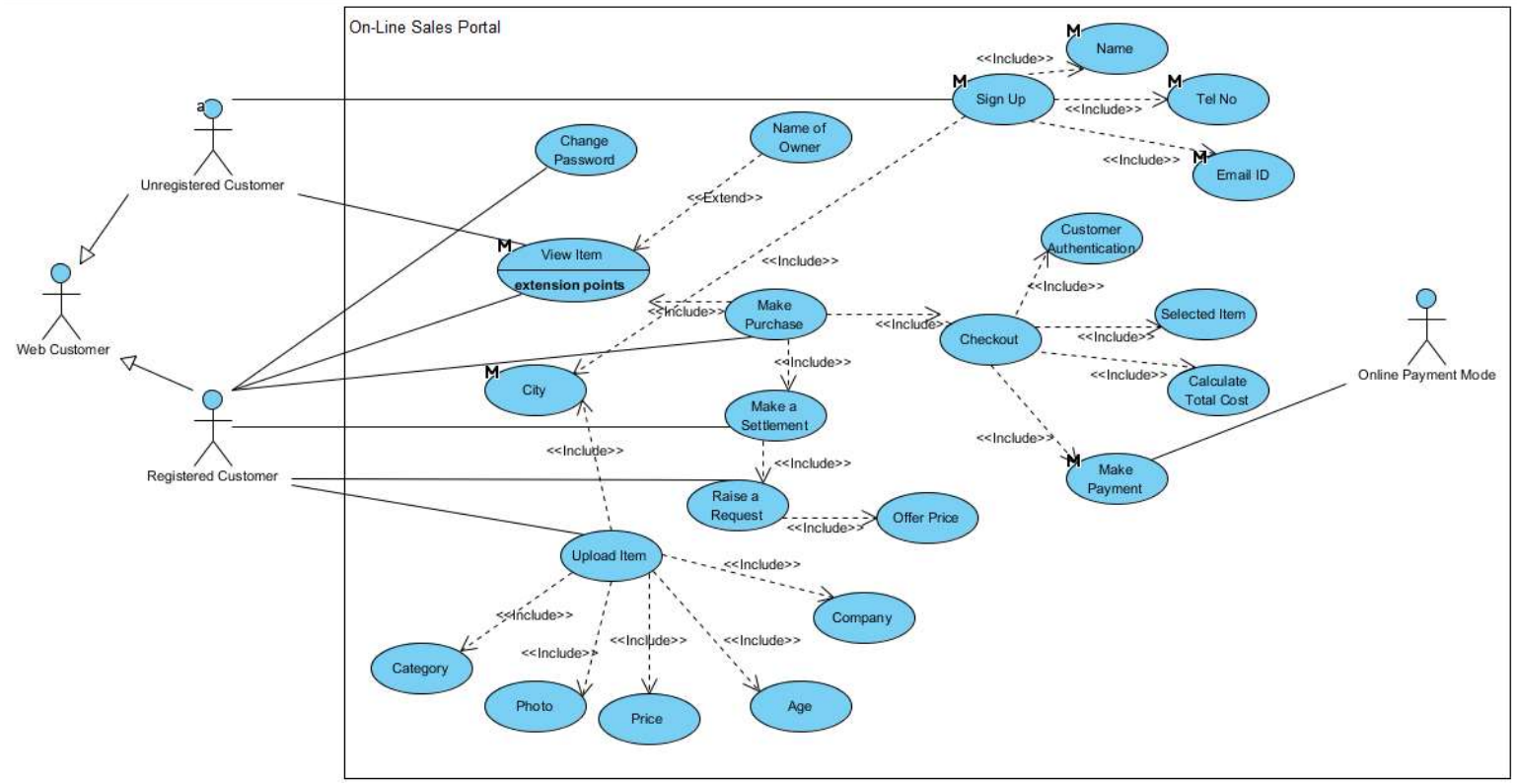
Activity Flow associated with a registered user buyer.

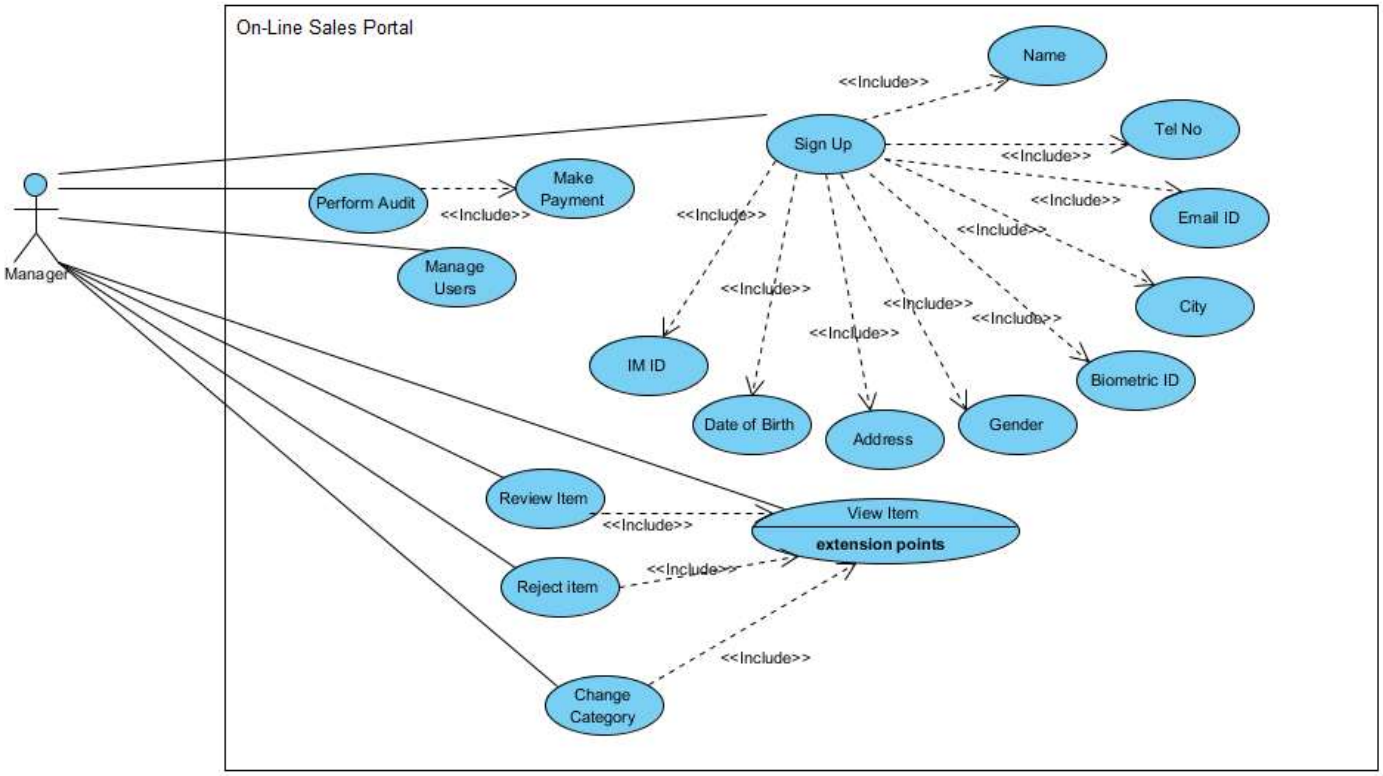


Activity Flow associated with an unregistered user.



Use Case Diagram for the System.





3.2 Hardware Interfaces

The Software is supported on any web based browser. Apart from that a hardware is required in the server side to support database software like MySQL, which is required to store all the information regarding sales and purchase of products. All the data entered by the different users are stored in the server of the company, using SQL as an intermediate software.

3.3 Software Interfaces

Initially the user can register as a Customer or as a Manager

For seeing the List of Items along with the category Login is not required

but in order to make a request for buying Login is necessary.

User can now Login as a Customer or as Manager, for this he had to provide UserId and Password
This userid and password will be validated from the database by validateCustomer() and validateManager() functions
which return a bool value.

If the returned value from the above two function is "true" then the account exists hence a Customer/Manager
Object will be created accordingly.
If the returned value is "false" then no object will be created.

Database is a class whose only one object will exist which would be made when the software opens. Any change in the Database will be made in this single object and it will be updates in the file when software closes (i.e. in case of online when the window tab closes then file will be updated centrally).

As soon as Customer Object is created then database object will be passed then listItem variable field will be updated in the constructor.
Customer can edit (add/remove) his added items in the database, these functions will be performed in the database file when the customer object is being destroyed.
Hence deleteItem() and addItem() won't use Database object.

Now,

1. When Customer wants to see his own items

He Obviously cannot buy his own item hence purchase option won't be called.
he can view his items uploaded which will call showItem() function, in which he can do following operations
a).He can delete the item hence deleteItem() will be called
b).He can press the back button hence showListItem() will be called

c).He can see the bid price which is set by any interested buyer, it's up to seller whether he wants to lower the price pf item or not

If he agrees then he will update the current price of item, then setprice() will be called and he can change the status of item in setprice() function only

Suppose If he don't want to negotiate with the price of the item then he can set status of the item to "NotNegotiable" In such cases

Buyer wont be able to bid on the price of the item he can only purchase the item.

2. When Customer wants to see searched Item then search() function in database will be called

and it will return the list of items matched

now call showitemList(), there user will click on specific item

this item id will be returned and now showItem function will be called which will again return an int value stating {back,buy}

now if return value corresponds to buy then system will check whether status is Negotiable or not if yes then buyer can set bid price,

if not then he cannot set the bid price and he will have to either buy that item or go back in the previous menu.

When Manager Object is created (on the case of successful Login) he can send a request to the database Object to

1.remove Customer

2.add/remove categories

3.change categories.

4.review/remove item.

Manager can also send email to a Customer by making an object of class Email, by this he can send any email

to any of his Customer email.

Manager can also see the list of purchased items by calling the function of PurchaseBill.
He can also delete any purchased item in the history through removePurchase() function in the Database.

In addition to above all functions the Customer and Manager can delete their accounts respectively through member functions deleteAccount()
which will send request to removeCustomer()/removeManager() function in Database class and hence Database function will be updated.

Item is a class whose object is created for each and every object listed in the database.
Each item will have a price which is fixed by the seller
Each item will have a bid price which will be decided by the buyer.
The buyer will set the bid price and corresponding emaill notification will be send to the seller
Now, its upto seller whether he want to negotiate with the price of the item or not
Accordingly he can status of item as negotiable and non-negotiable.
If seller agrees with the bid price of the item then he can reduce the cost of the item for that buyer, and a corresponding email notification will be send to the buyer on his email address.

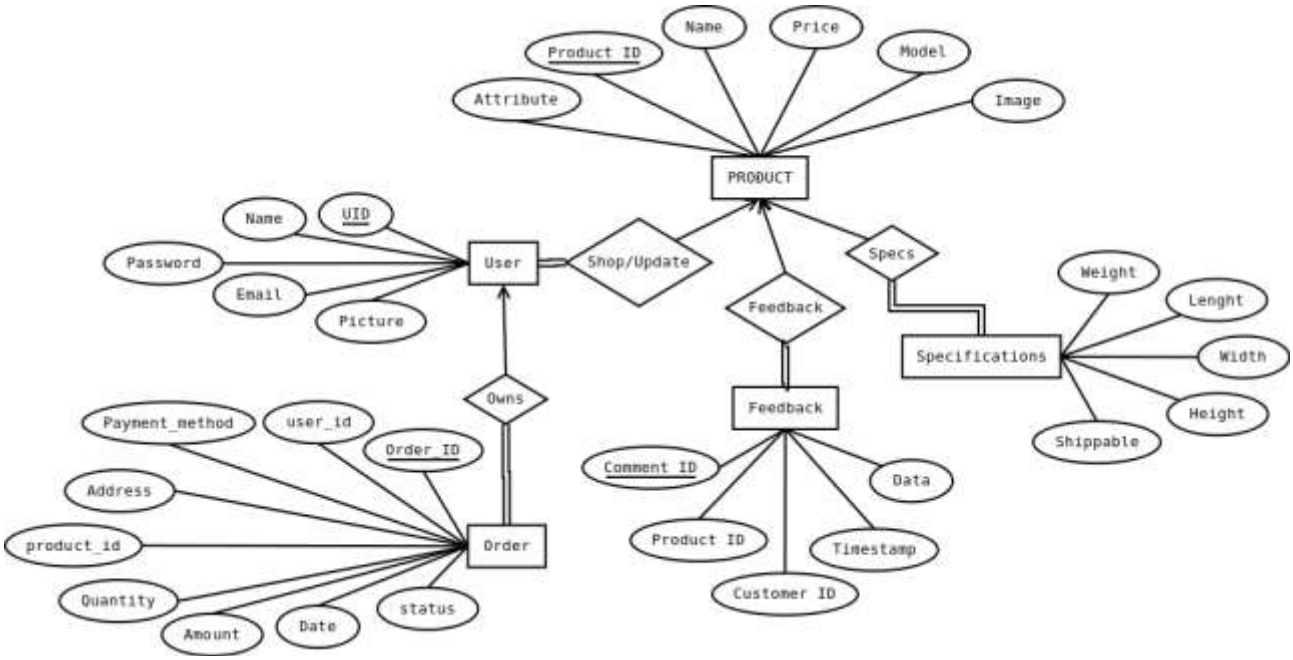
When Buyer and seller both agrees on some price then buyer can pay the money through
Pay class which will have function that will open a secure gateway for the transaction of money,
Corresponding notification of payment will be sent to the seller so that he can arrange for
the delivery of item.

Each item will store separately its buyer and seller respectively.

4. System Features

Various system features are implemented below.

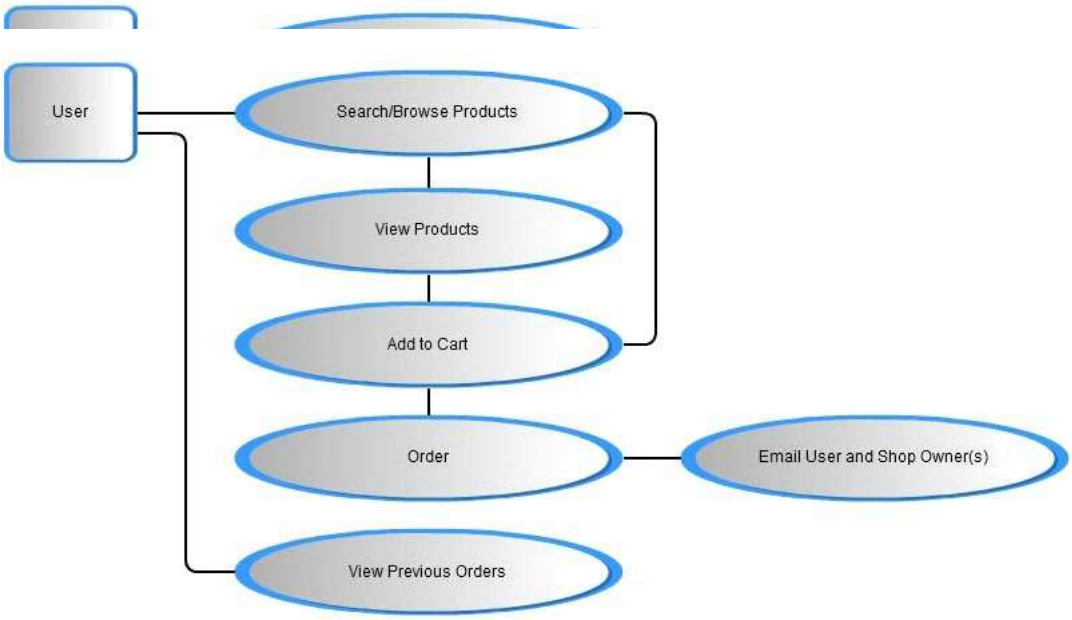
4.1 ER Diagram



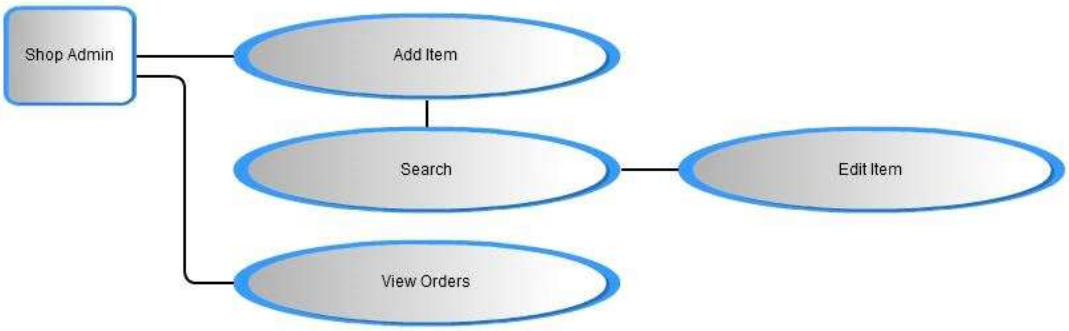
4.2 Data flow diagrams

These data flow diagrams represent the how information is moved from action to action for each user group. They show how information flows for each user and the paths they take as they complete various actions specific to their workflow.

Users:



Shop Admins:



Administrators:

Other Nonfunctional Requirements

4.3 Software Quality Attributes

The system is adaptable and can run on any web based platform. The software is very robust in the sense that the manager has the power to change the software from On-line sales portal to shopping portal like Flipkart and Snap Deal, just by removing all the sellers and selling branded products. The system is also thoroughly tested for various situations. The manager can add and remove item categories from the portal, which makes it flexible too.

4.4 Business Rules

The manager of the system can manage buyers and sellers of the system. If he finds somebody corrupt, that is, if someone is selling fake items (items that don't even exist), or someone is involved in fake money transaction, the manager has the power to remove such customers from the system and block them permanently.

5. Conclusion

The application can be used for any E-commerce application. It is easy to use, since it uses the GUI provided in the user dialog. User friendly screens are provided. The application is easy to use and interactive making online shopping a recreational activity for users. It has been thoroughly tested and implemented.
The 'Online Shopping' is designed to provide a web based application that would make searching, viewing and selection of a product easier. The search engine provides an easy and convenient way to search for products where a user can search for a product interactively and the search engine would refine the products available based on the user's input. The user can then view the complete specification of each product. They can also view the product reviews and also write their own reviews.