
Software Requirements Specification

For

Online Shopping System

Version 3.0

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CSCI 45200

2015/4/27

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Revision History

Name	Date	Reason For Changes	Version
Zhihao Cao	Apr. 6 2015	Revise for midterm presentation.	2.0
Zhihao Cao	Apr. 27 2015	After implementing the system, some requirements need to be revised.	3.0

1. Introduction

The online shopping system is a secure and reliable online platform for customer to customer (C2C) business. Sellers can put their products for sale and buyers can purchase products through the Internet.

Our software is to be developed for automating the running of online shopping system. The system should be webpage in nature. Users have to login to access the system. The system will show registered products for users. The system allows users to place orders. And the system can generate record of users, products, and orders.

1.1 Purpose

The online shopping system (OSS) maintains product information, order information and account information of different type of accounts (Buyer, Seller and Administrator). Besides, buyer account user can place order with products; Seller account user can sell products; Administrator account user can maintain database.

1.2 Scope

Name of the software is Online Shopping System (OSS). The system will be referred as OSS in the rest of the SRS. The proposed OSS must be able to perform the following functions:

Dos

1. Offer membership account registration.
2. Authorize login action with login email and password.
3. Provide a search facility for finding expected products. (Being developing)
4. Place order and calculate total amount.

5. After completing placing order, redirect buyer to a third party transaction company to finish the payment transaction. (Being developing)
6. Maintain details of products.
7. Maintain details of seller account information.
8. Maintain details of buyer account information.
9. Maintain details of administrator account information.
10. Maintain details of order information.
11. Maintain details of cart information.
1. Generate the following reports: (Being developing)
 - a) List of products which selling by a seller.
 - b) List of products which purchased by a buyer.
 - c) List of orders among a day/month/year.
 - d) List of transaction among a day/month/year.
 - e) List of products sold.
 - f) List of available products in the system.

Don'ts

- 1) A seller's account cannot place order.
- 2) A buyer's account cannot sell products.
- 3) Digital products are not offered for sale.
- 4) Products are not offered for rent.

Benefits

The OSS provides the following benefits:

- 1) Efficient purchase and manage products.
- 2) Accurate price calculation.
- 3) Easy searching of products. (Being developing)
- 4) Reliable return police. (Being developing)
- 5) Secure environment to make payments. (Being developing)

1.3 Definitions, Acronyms, and abbreviations

SRS: Software Requirement Specification

OSS: Online Shopping System

System Administrator: User having all privileges to operate the system.

Seller: User having privileges to browse products, sell products, manage products and orders, receive money

Buyer: User having privileges to browse products, place orders, request return, and comment products.

1.4 References

IEEE Recommended Practice for
Software Requirements Specifications
– IEEE STD 830-1998.

ž Andy Harris, PHP 6/MySQL Programming for absolute beginner,
Course Technology Cengage Learning,2009

ž

ž Zak Ruvalcaba, Anne Boehm, Murach's HTML5 and CSS3ž ,
Mike Murach Association, 2012

1.5 Overview

The rest of the SRS document describes various system requirements, interfaces, features and functionalities.

2. Overall Description

The online shopping system (OSS) application enable vendors (sellers) to set up online shops, customers (buyers) to browse through the shops, and a system administrator to approve and reject requests, and maintain lists of shop categories. The OSS application enables the customers to purchase goods without having to visit the shop physically.

2.1 Product Perspective

The OSS shall be developed using client/server architecture and will be compatible with any Operation systems that are enable to run mainstream browsers such as IE, Chrome, Firefox, Safire, and Opera. The client side of the system will be developed using HTML5 language, and the server side of the system will be developed using PHP language and database will be developed using MS SQL Server 2012.

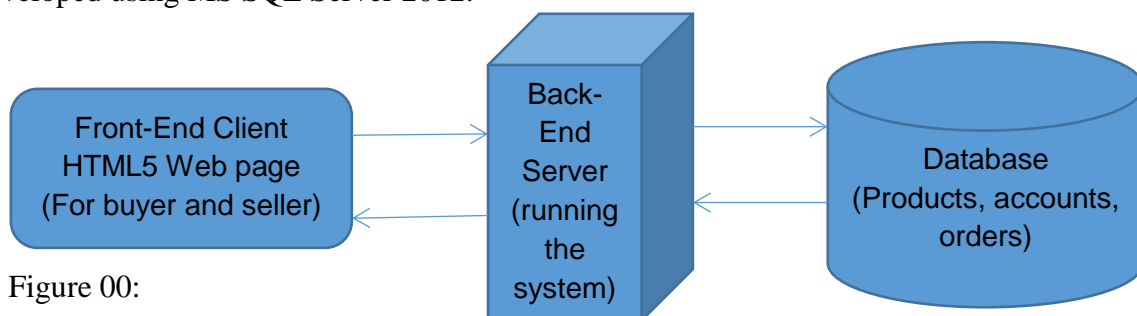


Figure 00:

2.1.1 System Interfaces

None

2.1.2 User Interfaces

Common interfaces

- a) Main page: Allows users to browser products on the system.
- b) Login: Allows users to input their account and password in order to get the authorization of the system.

Buyer interfaces

- a. Account manage page:
Allow users to manage their account information. (Update address, change password, manage debit/credit card, view order history)
- b. View order detail page:
Allow users to view the detail of an order. (Product information, payment, delivery, order created date)
- c. Shopping cart:
Allow users to view what is on the cart and manage the cart.
- d. Place Order page:
Allow users to place an order (select shipping information, delivery method, payment options).
- e. Request return page:
Allow users to send return request to buyer.

Seller interfaces

- a. Account manage page:
Allow users to manage their account information. (Update address, change password, manage debit/credit card, view order history)
- b. View order detail page:
Allow users to view detail of an order. (Product information, payment, delivery, order created date)
- c. Input product page:
Allow users to put products for sale. (Need to offer product detail information)
- d. Product information manage page:
Allow users to update product information.

Administrator interfaces

- a. Account manage:
Allow users to manage buyer and sellers account information
- b. Order manage:
Allow users to manage order information.
- c. Database manage:
Allow users to manage database
- d. Advertisement manage

Allow users to manage Advertisements on the system.

2.1.3 Hardware Interfaces

- a. Screen resolution of at least 640 x 480 or above

2.1.4 Software Interfaces

- a. MS-windows Operating System
Notepad++ for designing front-end
- b. Google Chrome, Mozilla Firefox, Internet Explorer, Safari and so on.
A code editor for developing back-end
A database editor for designing database

2.1.5 Communication Interfaces

In OSS, communication is via Internet.

2.1.6 Memory Constraints

At least 500 MB RAM, no hard disk space required.

2.1.7 Operations

Data operator needs to back up the back-end system and database once a week or immediately after updating.

2.1.8 Site Adaptation Requirements

Client side needs to be at least capable of running mainstream browsers such as IE, Chrome, Safari, and Firefox.

2.2 Product Functions

A summary of major functions that the OSS shall perform:

- **Account Registration**

The registration function shall allow users to create accounts to access the system. There are two types of accounts offered. Administrator account should be created by administrator.

- **Account Login**

The account login function shall allow users to enter their email and password. Once verified, user will be able to access the system. account history, update of the current purchase, and also update their account information.

- **Account Logout**

The account logout function shall allow account members to exit their account for security purpose.

- **Search (Being developing)**

The search function shall offer buyers the ability to search products by categories, models, brand name, or prices range.

- **Shopping Cart management**

- Add to shopping Cart**

- The function shall allow user to save products in the list that are being considered for purchase.

- Delete from Shopping Cart**

- The function shall remove any unwanted goods or items form shopping cart.

- **Input product**

- This function shall allow seller to put new products into system for sale.

- **Place Order**

- This function shall allow buyer to place an order. At the meantime, buyer should select payment method and delivery method.

- **Checkout** (Being developing)

- The checkout function shall collect buyer's payment information and redirect to Third Party Company to finish the transaction. Once the purchased is confirmed the order information will be update in the user's account.

- **Contact Us** (Being developing)

- The contact us function shall give users information regarding the online customer service supports, escalation contact person, and FAQs.

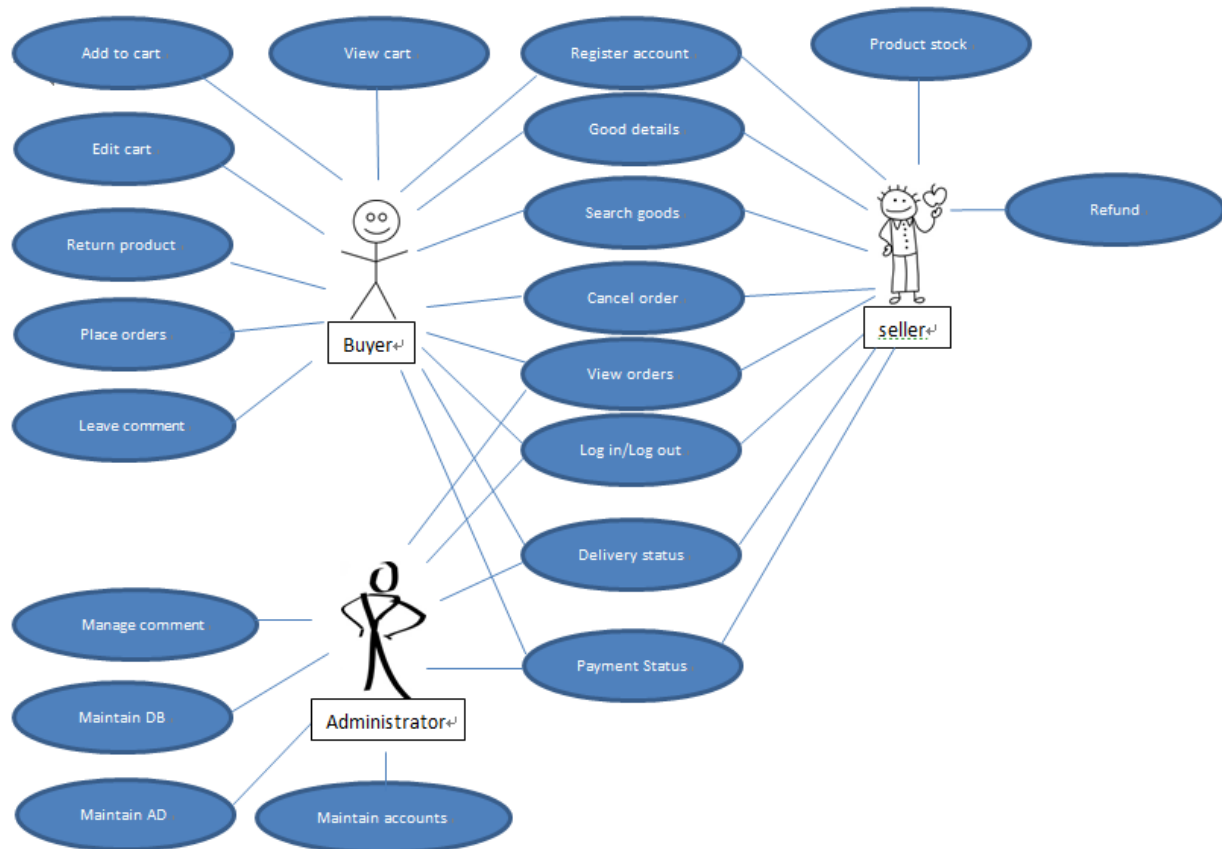


Figure 01:

2.3 User Characteristics

Qualification: Users who know English.

Experience: Users should be familiar with online shopping procedure. (Put product into cart, place order, pay with a debit /credit card)

Technical Experience: Elementary knowledge of computers

2.4 Constraints

- The Internet connection is a constraint for OSS since users have to access web pages with the connection of Internet. Also, OSS needs to fetch and update data from database under the environment of Internet.
- The web portal may be constrained by the capacity of the database. Since the database is shared by a lot of users who access the website at one time, it may be forced to queue incoming requests and therefore increase the time it takes to fetch data. Moreover, many of

products will be sold and purchased by sellers and buyers, so countless entries will be added, deleted or updated from database. A reliable database is needed.

- There are a great number of products showed on the website. In order to provide a comfortable shopping experience to buyers and make it easier for sellers to manage their products, the website is constrained to be a user-friendly design.
- In order to provide a secure environment for shopping, OSS shall be able to prevent user information from being exposed. Besides, No link can direct to outside of the system.

2.5 Assumptions and Dependencies

- One of our assumptions is that we have a reliable database and no conflict when many requests are concurrent. If there is a severe problem happens, the OSS shall be able to close the system temporarily and show users that the website is under maintenance.
- The other assumption is that all users are connecting with Internet to access to the OSS. It is also assumed that user has at least a web browser that is able to run the website.

2.6 Apportioning of requirements

We currently have no exactly apportioning of requirements; this may be updated in future version.

3. Specific Requirements

3.1 External Interfaces

3.1.1 System Interfaces:

1. **Product Inventory Database:** The system will interact with the inventory database via an ODBC connection.
2. **A credit card processing system:** The system will access the credit card processing system via its web services API.

The image displays two screenshots of an online shopping website interface.

Top Screenshot (Login Page):

- Browser title: Online shopping
- Address bar: www.shopping.com
- Message: welcome to online shopping website!
- Form fields: email, password
- Checkbox: ☐ remember me
- Buttons: login, forget password, Registration

Bottom Screenshot (Registration Page):

- Browser title: Online shopping
- Address bar: www.shopping.com/registration.php
- Section title: Registration
- Form fields: email, first name, last name, password, city, state (dropdown), zip code, credit card type (dropdown), credit card number, expiration date (calendar)
- Radio buttons: ☐ buyer, ☐ seller
- Checkbox: ☐ I agree
- Button: register


Online shopping

← → ↻ 🏠

www.shopping.com/registration.php

ipad iphone

search




ipad mini

\$325

★★★★☆

Add to cart



iphone 6

\$689

★★★★★

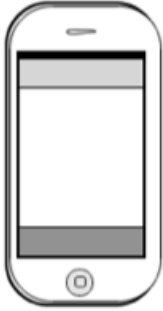
Add to cart

Online shopping

← → ↻ 🏠

www.shopping.com/registration.php

shopping cart



iphone 6

Color: gold

size: XXXX

Seller: Stephen

Description: XXXXXXXXXXXXXXXXXXXX

quantity: 1 ▼

delete items

total price:

\$689

Check out

Online shopping

← → ↻ 🏠 www.shopping.com/checkout.php

shipping method

☐ free shipping(5-7days)

☐ 2-days shipping (\$10)

payment method

☐ credit card

☐ Membership club card

shipping address

first name

email

last name

Address 1

Address 2

city

state ▼

zip code

billing address

☐ Same as shipping address

first name

email

last name

Address 1

Address 2

city

state ▼

zip code

credit card type ▼

credit card number

Name on card

expiration date 📅 ▼

☐ I agree

total price: \$711

Place Orders

3.2 Functions

3.2.1 Click “Register” Button: Account Registration

1. The system shall allow a non-registered user to create a secure account.
2. The system shall require the following information from the user: Name, Address, Phone Number, valid email, password, and membership.
3. The system shall ask the user for a username and password
4. The system shall confirm the username and password are acceptable.
5. The system shall store the information in the database.

3.2.2. Click “Login” Button: Account Login

1. The system shall allow registered users to log-in their account.
2. The system shall require username and password from the user.
3. The system will verify the username and password and user will be considered “logged-in”

3.2.3. Click “Search” Button: Search (Being developing)

1. The system shall allow a user to search for products.
2. The search results will list products with price, and details.

3.2.2. Click “Add to Shopping Cart” button: Add to Shopping Cart

1. The system shall allow users to products to a shopping cart associated with their account

3.2.3. Click “Remove Selected item from Shopping Cart” button: Remove item from shopping cart

1. The system shall allow users to remove any item from the cart associated with their account.
2. The system shall provide users a way to select one of the items in the user’s cart for deletion.
3. After an item has been selected for removal, the list associated with their account should be updated to only show the other items that are left in the cart.

3.2.4. Click “Checkout” button: Checkout (Being developing)

1. The system shall allow users to purchase items that are in their cart.
2. The system shall allow users to view their cart before continuing.
3. The system shall allow users to select payment method and delivery method for the items in the cart.
4. The system shall redirect payment information to Third Party Company to process the transaction.

5. Users shall receive a confirmation email, at the address attached to their account, with a list of the items purchased and the confirmation number.
- 3.2.5. Click “Contact us” button: Contact Us (Being developing)
 1. The system shall allow the user to view various methods of contacting the store.
 2. The system shall allow the user to click on the email address listed for the website and for a prompt to appear for the user to select which email to navigate to and populate the Sent To field.
 - 3.2.6. Click “Manage Account” button: Manage Account
 1. The system shall allow users to view information associated with the account: Name, Address, Phone Number, valid email, Credit Cards
 2. The system shall allow users to select a field for edit.
 3. The system shall allow users to enter new information in the field.
 4. The system shall add all updated information associated with the users into the database.
 - 3.2.6.1 Click “View Order History” button: View Order History
 1. The system shall allow users to view the past purchases associated with the account.
 2. The system shall allow users to view the past purchases associated with the account within a selected time frame.
 - 3.2.7. Click “Logout” button: Logout
 1. The system shall allow the users to end their sessions and exit their accounts.
 - 3.2.8 Click “View Cart” button: View Cart
 1. The system shall allow users to view their carts.
 - 3.2.9 Click “Put product for sale” button: Put product for sale
 1. The system shall allow seller users to enter information about products.
 2. The system shall allow users to confirm that the information about the product is correct.
 3. The system shall store all information that was entered about the products to the database.
 - 3.2.11. Click “Edit existing item” button: Edit existing item
 1. The system shall allow seller users to search for and select an item to be selected for edit.
 2. The system shall allow users to update the information associated with the products.

3. The system shall allow users to confirm the information entered is to be saved and overwrite the existing information.
4. The system shall save all the updated information about the product to the database.

3.2.2 Use case description

Introduction Purchase products
Actor Buyer
Precondition The user must login the system before the use case begin
Post Condition If the use case is successful, the items were deleted from the database and will not validate on the website anymore, or the quantity of items in the database will decrease.
Event flow Basic flow <ol style="list-style-type: none"> 1. The system shall allow a user to search for goods. 2. The system shall allow a user to save the selected items to his shopping cart. 3. The system shall allow a user to place order with items that are in his cart.
Alternative flow <ol style="list-style-type: none"> 1. The system shall allow a user to reset password if he forgets password. 2. The system shall close the transaction if a buyer cannot successfully finish the transaction. 3. Show “items are no longer exist” on uses’ shopping cart if items are sold out.

Introduction Put products for sale.
Actor Seller
Precondition The seller must be logged into the system before the use case begin
Post Condition If the use case is successful, the items will be added into the database and put items into the website.
Event flow Basic flow <ol style="list-style-type: none"> 1. The system shall allow a seller add items into the system. 2. The system shall allow a seller to edit the delivery methods for the items they add. 3. The system shall allow a seller to edit the payment method of the items they add. 5. The system shall add all the information into the database.
Alternative flow <ol style="list-style-type: none"> 1. The system shall allow a registered seller to reset password if he forgets password. 2. The system shall remind sellers to add or delete quantity directly instead of adding items by filling out information in the website.

Validation Checking:

First name and last name: alphabetic of length 4 to 30 characters. Special characters are not allowed. The system shall not allow the user to enter special characters and out of range values.

Password: Alphanumeric of length of 6 to 16 characters. No special characters allowed.

Date of Birth: should be strictly formatted as mm/dd/yyyy.

Zip code: numeric and has the length of 5.

City: alphabetic of length 2 to 15 characters. Special characters are not allowed. The system shall not allow the user to enter special characters and out of range values.

Description: Alphanumeric of length of 0 to 16 characters. No special characters allowed except space, comma and period.

3.3 Performance requirements

- Orders shall be processed within 10 seconds.
- System shall support 10,000 simultaneous users.
- Searches shall return results within 10 seconds.
- Transaction shall be remained active for 30 minutes.
- Transaction shall be redirected to a third party company within 10 seconds.

3.4 Logical Database Requirements

Entities	Attributes
Users	Name, email, password, shipping address, phone, credit card type, credit card number, expiration date, membership.
Products	Name, description, specification, seller, price, delivery method, size, quantity, category.
Orders	Order number, product information, order amount, order date, buyer information, seller information, delivery status, payment information.
Transaction	order number, buyer information, seller information, transaction amount, transaction date, refund confirmation, refund confirmed,
Cart	Buyer id, seller id, product name, product quantity.

Table 02:

3.5 Design Constraints

System supports mainstream browsers (IE, Firefox, Chrome, and safari)

3.6 Software System Attributes

3.6.1 Reliability

The average time to failure shall be 30 days. In the event that a server does crash, a backup server will be up and running within the hour.

3.6.2 Availability

It should be available 24/7, with the exception of being down for maintenance.

3.6.3 Security

User's personal information will be store in a secure server. Users will be able to access only their own personal information. Transactions will be handled by the third party transaction company.

3.6.4 Maintainability

Any updates shall be on the server side.

3.6.5 Portability

Any platforms that support mainstream browsers can access our system.