Software Requirements Specification (SRS) Document

A web based order processing system for a computer store

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Version 0.1

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Change History

Date	Version	Description	Updated By
7th April 2018	0.1	Initial Draft	Group 2

1 Introduction

1.1 Purpose

Computerization of any type of transaction or event in a firm will provide a better performance.
It reduces the degree of time consumption to a great extent. When the existing manual system is computerized then,

1. Time and Labor is saved
2. Accurate calculation can be done
3. Human tensions and risks can be overcome
4. Report generation at ease
5. Hi-fed status to the firm
6. Search of information at ease
7. Wastage of resources can be saved

The purpose of this document is to build a web based order processing system for a computer store so that placing orders , maintaining accounting information and storing stock & inventory details will be easier for customers , accountants and store owners respectively

1.2 Document Conventions

Conventions and Notations followed	**Explanation**
SRS	Software Requirement Specification
DB	Database
ER	Entity Relationship model
S/W	Software
&	And
Ie	That is
H/W	Hardware

1.3 Project Scope

PRIMARY OBJECTIVES

To design and develop a web based order processing system for a computer store

SECONDARY OBJECTIVES

To develop a system that is user friendly
To develop a system to analyze the yarn requirements
To develop a system to produce internal order sheet
To develop a system to produce purchase order

ANTICIPATED ADVANTAGE

The process becomes faster.
The calculation becomes accurate.
Reports can be taken quite easily than it was in the previous system.

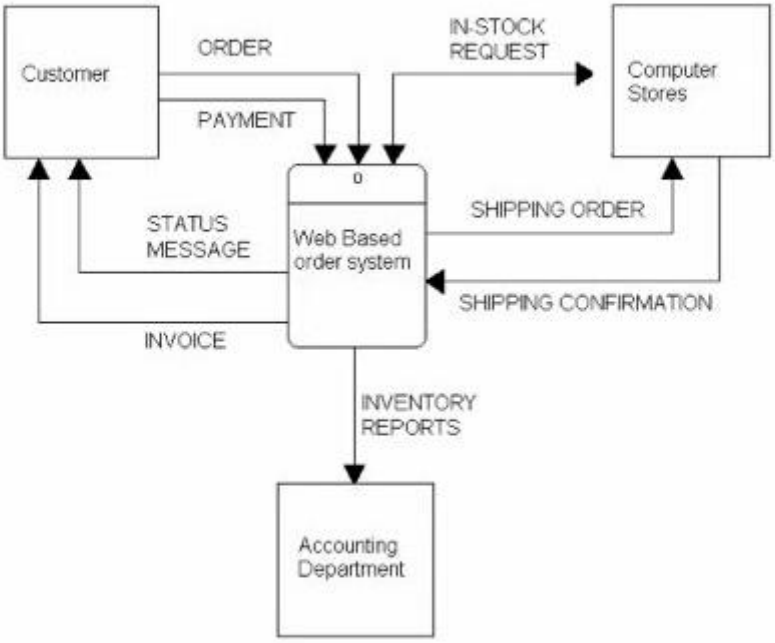
SCOPE

Planning is done to identifying the scope and boundary of the problem. Feasibility study is conducted to determine whether the new order processing system economically, technically and operationally feasible. The user base for the product will be customers of the computer store , accountants , store-owners , inventory managers , third-parties involved in shipping etc . In future versions , learning systems can be incorporated to give user recommendations. Also , database should be designed to accommodate future growth . The scope also lies in advancing security considerations of the system . Real time tracking of orders and status of packages could be achieved in future versions of the software .Above all, we hope to provide a comfortable user experience .

1.4 References

I. Fundamentals of database systems by Ramez Elmasri and Shamkant B.Navathe
II. Software Engineering by Roger Pressman
III. https://www.wikipedia.org
IV. https://github.com
V. https://www.cse.msu.edu/~cse435/Handouts/SRSExample
VI. https://www.computer.org/web/standards

2 System Description



Eliminating manual intervention makes order processing more reliable and accelerates order cycles instantly. Customer service representatives can save up to 95% of their time by switching to sales order automation. Automating the flow of information is not only faster, but creates lower error rates. Manually re-keying order information opens the door to unavoidable human errors and customer frustration. Improving order performance starts with removing unnecessary steps. Automating sales order processing means no more printing or archiving of email and fax orders. It means no more time consuming data entry and re-entry. It means no more costly keying errors. And it means fewer headaches.

The software converts faxed and emailed purchase orders into automated sales orders. When customer purchases, orders are printed or arrive by email. All order details in the PO are extracted and transformed automatically into a sales order in the system with 100% accuracy. It eliminates the challenge of dual entry for customers as no longer do they need to request. They re-key their purchase orders into a web order system once they have created the PO in their own system. It integrates with existing ERP or inventory management systems and doesn't require hardware, software licenses or extra fees for setup or support.

3 Functional Requirements

This system requirements followed by various requirement models which can be used for detailed design are

3.1 System Features

1.Save Time Processing Orders

One of the most time consuming issues sales people and customers face is the vast amount of paperwork necessary to close a sale and ensure the best customer service. With an online order processing system, set up your customers and sales people with their own automatic order form.

2. Increase Customer Service

Since the order processing software is tied to QuickBooks, the sales rep has instant access to all important customer account information. They do not have to make phone calls to office staff when on a sales call.

3. Create a Sense of Ownership for Customers
Always having to call a sales rep or customer service center for basic questions and ordering can take up valuable time with everyone involved. Your customers want to know what is happening with their order right now, or want to make changes to the order without having to jump through an insane amount of hoops.

4. Reduce Accounting Costs

Data entry takes time. In the case of employees, time is literally money. It costs money for someone to manually transfer information from sales sheets and order forms into QuickBooks and your warehouse management software. Automatic integration between quality order processing software and your QuickBooks account reduces the time necessary for manual entry

5. Increase Data Control

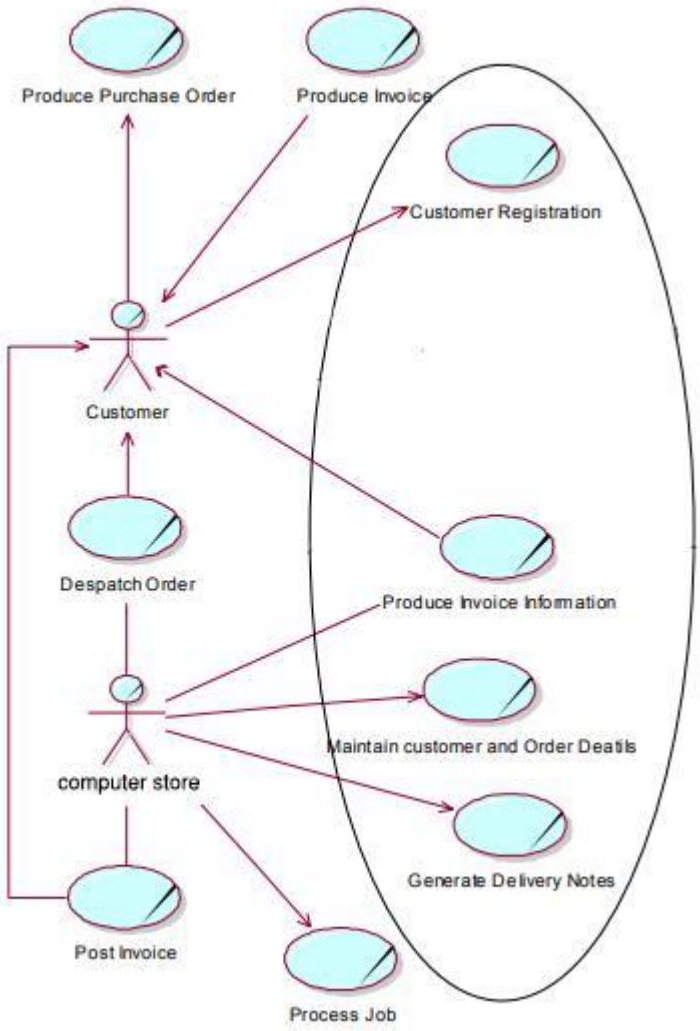
As the old saying goes, to err is human. When you have employees manually entering information into QuickBooks, mistakes will happen. When you have sales reps manually entering and holding order forms until they hand them in to the office, mistakes will happen. When customers expect one thing, but cannot review their order until the information has been transferred from the sales rep into the accounting system, misunderstandings will happen.

6. Faster Shipping

A good order processing system will give you the ability to easily send orders straight to your warehouse without needing to rekey the order. With this ability you are able to reduce errors, decrease warehouse costs and increase order to ship time.

3.2 Use Cases

3.2.1 Use Case Diagrams



USE CASE UC1: BROWSE CATALOG

Description: This use case describes how the User can search/browse the e-store catalog.

Primary Actor: User

Stakeholders and Interests:

- User: Wants user-friendly interface and fast browsing speed.
  Wants to browse the catalog and add items to the cart successfully.
- Company: Wants to satisfy user interests.

Preconditions: None

Success Guarantee (Post Conditions):

- 'Product Screen' displays items and corresponding list prices for a chosen product.
- Item Screen' displays detailed information about an individual item for sale, including a photo, if one is available.
- 'Cart Screen' displays the various items added to the cart, the quantity and list price of each item and the Subtotal.

Basic flow:

1. User opens a web browser, gives the URL for the 'electronic store' website in and clicks on 'Go' button.
2. System launches the web site.
3. User clicks on any product link in the 'Product' list given in top-left corner.
4. System displays 'Category Screen' with the products available for the category chosen in Step 3.
5. User clicks on any product link in 'Products for this Category' list.
6. System displays 'Product Screen' with list of all of the items for the product chosen in Step 5 along with the price of each item and a link labeled 'Add to Cart' in right column of the list.
7. User clicks on any item link in 'Items for this Product' list.
8. System displays 'Item Screen' for the item chosen in Step 7, including a photo if one is available and an 'Add to Cart' link.

Extensions (Alternate Flow):

3a. User navigates to category page of a particular type of product by clicking on any product in the image map located in the center of the page.

4a. User views the next few items from the list of all products in category by clicking on 'Next' link in the bottom right corner of product list and then navigates to 'Product Screen' of a particular product by clicking on that product link in 'Products for this Category' list.

USE CASE UC2: SEARCH CATALOG

Description: This use case describes how the User can search the e-store catalog.

Primary Actor: User

Stakeholders and Interests:

- User: Wants user-friendly interface and fast searching speed.
  Wants to find some specific product in catalog and add items to the cart successfully.
- Company: Wants to satisfy user interests.

Preconditions: None

Success Guarantee (Post Conditions):

- 'Product Screen' displays items and corresponding list prices for the searched product.
- Item Screen' displays detailed information about an individual item for sale, including a photo, if one is available.
- 'Cart Screen' displays the various items added to the cart, the quantity and list price of each item and the Subtotal.

Basic flow:

1. User opens a web browser, gives the URL for the 'electronic store' website in and clicks on 'Go' button.
2. System launches the web site.
3. User enters text in text box next to Search button and clicks on Search button.
4. System displays the matching text products.
5. User clicks on the desired link. User can navigate back to the earlier pages if wishes.

Extensions (Alternate Flow):

3a If search returns no results, System displays the message "No matches found for the entered text".

USE CASE UC3: Create New Account

Description: This use case describes how a new User can register with e-store

Primary Actor: User

Stakeholders and Interests:

- User: Wants user-friendly interface and fast searching speed.
  Wants to register and create the account with ease and within a short time.
  Company: Wants to satisfy user interests and validate user information.

Preconditions: E-store website main page is loaded.

Success Guarantee (Post Conditions):

- 'Account verification Screen' lets the user review his/her account details and then successfully register as a user of this site.

Basic flow:

1. The new use click on new 'create new Account link'.
2. The user is at Account Information screen.
3. The new use enters the following details in the Account Information Screen.

Contact Information:

a. First Name
b. Last Name
c. Street Address
d. City
e. State of Province
f. Country
g. Postal Code
h. Telephone Number
i. E-Mail Credit Card Information
j. Card Number
k. Card Type
l. Card Expiry Date

4. The user clicks on Update and the system validates all the user information and

displays the signing information page.

1. User enters the new Username and Password.
2. System validates that the Username is already in use. If not, system displays the

new account confirmation page.

1. System sends an e-mail notification about new account creation to User.

USE CASE UC4: Maintain Shopping Cart

Description: This use case describes how an actor can modify items in the shopping cart.

Primary Actor: User

Stakeholders and Interests:

User: Wants to browse/purchase electronic items from the Store.

electronic store Owner: Every user who visits the site or makes a purchase has a direct bearing on the revenue and hence the profitability of the store owner.

Pre-Condition: The actor is on the Cart Screen and have already logged in.

Post-Condition: The user successfully modifies existing items in the cart or adds new items to the cart.

Basic Flow

1. The user clicks on one of the category in the left frame of the screen and navigates to the item he wishes to add to the cart and clicks on the "Add to Cart" link.
2. The system displays the Cart Screen with the all the old items and the newly added item. The subtotal field displays the total cost of the shopping cart.
3. The user repeats steps 3 and 4 for all the items he wants to add to the cart.
4. The user modifies the item quantity for one or multiple items and clicks "Update Cart".
5. The system updates the new quantity and displays the modified line item totals and sub-total to the user.
6. The user clicks the "Remove" link to remove any of the items in the cart.
7. The system deletes the item from the cart and adjusts the sub-total accordingly.

Extensions (or Alternative Flows):

a. User proceeds to adding Items to cart and modifying cart without logging in.

b. If the user enters a non-positive or non-integer quantity the system displays an appropriate error message.

c. If user closes the window without proceeding for payment, the cart is stored in the system for a pre-decided number of days, before getting flushed, so that the user can return to the cart in the future.

d. 'Refresh cart' feature is available for resetting the cart.

Special Requirements:

1. Multiple users should be able to add items to cart simultaneously.

Technology and Data Variation List:

None

Frequency of Occurrence:

There is a possibility that multiple users will add an item to the same cart simultaneously from different locations.

USE CASE UC5: Maintain Database

Description: This use case describes how the administrator of the system can add and delete items from the catalog and also manage the system users.

Stakeholders and Interests:

Administrator: Wants to add/modify items in the product catalog.

User: Wants updated product catalog.

Owner: Every user who visits the site or makes a purchase has a direct bearing on the revenue and hence the profitability of the store owner.

Pre-Condition: The electronic store product web page is loaded. The administrator is logged into the system.

Post-Condition: The user successfully manages the users and the catalog.

Basic Flow

1. The system prompts the user to select one of the following two options:
    - Manage Catalog

- Manage Users

2. If the user selects the "Manage Catalog" option, the system prompts the user to select one of the following two options:

· Add new item

· Modify existing item, i.e., update or remove item.

2A. If the user selects the "*Add new item*" option,

2a. The system prompts the user to select an appropriate category and product (or create a new category/product if one does not exist) to place the item)

2b. The user select the appropriate category and product.

2c. The system prompts the user to enter the item details like Item Name, Quantity Available, Price and Item Image.

2d. The user keys in the requested item details and clicks "Submit".

2e. The system updates the item in the selected category/product in the database.

2B. If the user selects the "*Modify Existing Item*" option,

2a. The system prompts the user to navigate to the appropriate item.

2b. The user navigates to the item that he wants to modify.

2c. The user either removes the item from the catalog by clicking "Remove Item" or modifies the Item Name, List Price, Quantity or Item Image and clicks Update.

2d. The system updates the information in the database.

1. If the user selects the "Manage Users" option, the system prompts the user to select one of the following two options:

· Add User

· Modify User

3A. If the user selects the "Add User" option,

3a. The system displays the "Add new user" page to the user.

3b. The user enters the user details like name, address, etc and selects the access right (normal user/ administrator) of the user and clicks Submit.

3c. The system updates the new user details in the database.

3B. If the user selects the "Modify User" option,

3a. The system prompts the admin to search for the user.

3b. The user searches for the user he wants to modify.

3c. The system displays the user details to the admin.

3d. The admin modifies any of the user details like name, address, card details, access rights and clicks Update.

3e. The system updates the details in the database.

Extensions (Alternative Flows):

2A. 2d 1 Incomplete Item Information

If the user fails to enter any of the mandatory item information like Item Name, Quantity and Price then the system displays an appropriate error message to the user.

3A. 3b.1 Incomplete User Information

If the user fails to enter any of the mandatory user information like user Name or Password then the system displays an appropriate error message to the user.

3 Incomplete Selection

If the user does not select any of the options add user or modify user then the system displays an appropriate error message to the user.

USE CASE UC6: Make Online Payments

Description: This use case describes how the User of the system can make payments.

Primary Actors: User

Stakeholders and Interests:

User: Wants better payment options.

Wants to pay for the loan online.

Company: Wants to satisfy user interests.

Preconditions: 'electronic store' page should be loaded.

Success Guarantee (Post Conditions):

- User is able to pay online successfully.
- A Confirmation Id is generated by the system.
- Confirmation e-mail is sent by the system to the User.

Basic flow:

1. User clicks on “Financing link”.
2. System displays the “Financing” main page.
3. User clicks on ‘Make Payments’ link in the Screen.
4. System displays the ‘Payment Screen’.
5. User enters the following information.

Applicant Information:

- First Name
- Last Name
- Mode of Payment

If mode of payment debit/credit card

- Credit card number
- Credit expiry Date
- Card Type

If mode of payment is cheque

- Cheque Number
- Routing Number
- Bank Name
- Account Number

6. User clicks on ‘Submit’ button.
7. System displays ‘Confirm the payment information again’ to the User.
8. User click on 'Confirm'.
9. System sends a confirmation e-mail to the User.

Special Requirements

1. If payment is done through the credit/debit card, there is a requirement of consulting the credit/debit company for confirming the account and payment.

USE CASE UC7: Login/Registration

Description

This use case describes how users gain access to the e-Store system through the login/registration (account creation) process.

Primary Actors

Users (Customers, Administrators)

Stakeholders and Interests

1. User: wants to gain access to the system for any number of reasons (e.g., maintain personal account, check order status, purchase items, administer system, etc.).
2. electronic store Owner: wants to ensure security of system.
3. Pre-Condition: the user is on the "Sign In" screen.
4. Post-Condition: the user is either logged in or failed to log in and is appropriately notified.

Basic Flow (Returning User, Valid Username/Password)

1. The user browses to the "Sign In" page.
2. The user enters his/her username and password in the returning user section of the "Sign In" screen.
3. The system validates the username and password (successfully) and displays the user's account information page.

Extensions (Alternative Flows):

1. The user browses to the "Sign In" page.
2. The user enters his/her username and password.
3. The system determines that the username or password is invalid and informs the user to try again.

Returning User, Forgotten Username or Password

1. The user has forgotten his/her username, password, or both, and clicks the "Forgot Username/Password?" link
2. The system resets the users account and sends an e-mail notification with the new information
3. The user utilizes the new username/password information to log in following the basic flow

New User

1. The user browses to the "Sign In" page.
2. The user chooses the "New User" link on the "Sign In" page.
3. The user enters his/her account information and chooses a username and password
4. The system validates the information entered
5. The system sends the user an e-mail invitation
6. The user must confirm their new account by clicking the link in the e-mail
7. The user is logged in and his/her account information page is displayed.

System Administrator

System administrators follow the basic flow for this use case when logging in to the system.

Special Requirements

- After three consecutive unsuccessful login attempts, the user's account will be locked and must be reset by a system administrator.
- Users may not login from multiple different computers simultaneously. If this condition is detected, the user will be notified with appropriate warning/error messages.

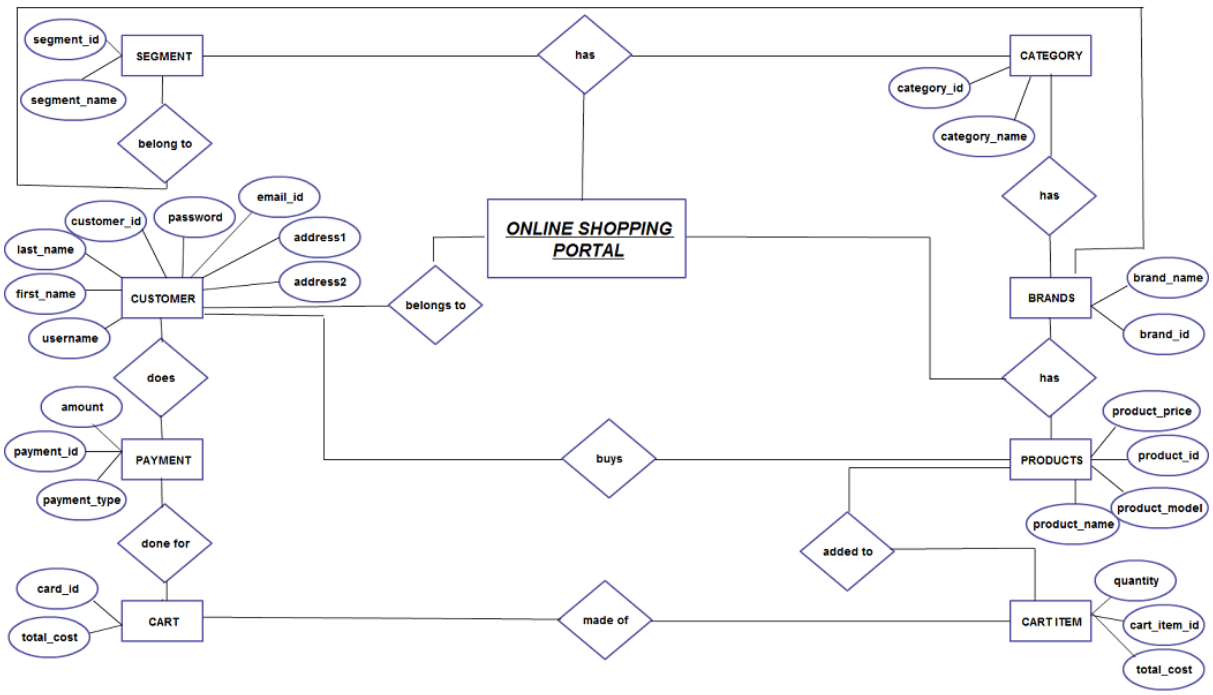
Technology and Data Variation List

None

Frequency of Occurrence

Users must log in to access their account information, to process a return request, and, optionally, to place an order. The system administrator must log in to administer the system.

3.3 Entity Relationship Diagrams



3.4 Data Dictionary

3.4.1 Entity 1

Column Name	Data Type	Description and Recommendations
CUSTOMER_ID	VARCHAR(20)	A unique identifier for the customer. This field is the table's primary key and cannot be NULL. All other fields in the WLCS_CUSTOMER table can be NULL.
CUSTOMER_TYPE	VARCHAR(20)	A label for the customer (such as preferred, standard, or business).
FIRST_NAME	VARCHAR(30)	The customer's first name.
LAST_NAME	VARCHAR(30)	The customer's last name.
MIDDLE_NAME	VARCHAR(30)	The customer's middle name.
TITLE	VARCHAR(10)	The customer's preferred title, such as Mr., Mrs., or Ms.
SUFFIX	VARCHAR(10)	The customer's preferred suffix, such as Jr.or Sr.
EMAIL	VARCHAR(80)	The customer's email address.
HOME_PHONE	VARCHAR(15)	The customer's home phone number.
BUSINESS_PHONE	VARCHAR(20)	The customer's business phone number.
FAX	VARCHAR(15)	The customer's fax number.
MAILING_GEOCODE	VARCHAR(2)	The code used by the TAXWARE system to identify taxes for the order based on jurisdiction.
MAILING_STREET1	VARCHAR(30)	The first line in the customer's street address.
MAILING_STREET2	VARCHAR(30)	The second line in the customer's street address.
MAILING_CITY	VARCHAR(30)	The city in the customer's address.
MAILING_STATE	VARCHAR(40)	The state in the customer's address.
MAILING_COUNTRY	VARCHAR(40)	The country in the customer's address.
MAILING_POBOX	VARCHAR(30)	The post office box in the customer's address.
MAILING_COUNTY	VARCHAR(50)	The county in the customer's address.
MAILING_POSTAL_CODE	VARCHAR(10)	The postal (ZIP) code in the customer's address.
MAILING_POSTAL_CODE_TYPE	VARCHAR(10)	Format or type of postal code, generally determined by country (such as ZIP code in the United States).

Column Name	Data Type	Description and Recommendations
CREDIT_CARD_ID	NUMBER(15)	A unique identifier for the credit card. This field is the table's primary key and cannot be NULL. All other fields in the WLCS_CREDIT_CARD table can be NULL.
CC_NUMBER	VARCHAR(200)	The customer's credit card number. This is encrypted if is.encryption.enable is set to true in the weblogiccommerce.properties file.
CC_TYPE	VARCHAR(20)	The customer's credit card type, such as VISA or MasterCard.
CC_EXP_DATE	DATE	The expiration date on the customer's credit card.
CC_NAME	VARCHAR(50)	The credit card holder's name.
CC_DISPLAY_NUMBER	VARCHAR(20)	The version of the credit card number that is displayed (all Xs except last 4-digits).
CC_COMPANY	VARCHAR(50)	The name of the credit card company.
BILLING_GEOCODE	VARCHAR(2)	The code used by the TAXWARE system to identify taxes for the order based on jurisdiction.
BILLING_STREET1	VARCHAR(30)	The first line in the customer's billing address.
BILLING_STREET2	VARCHAR(30)	The second line in the customer's billing address.
BILLING_CITY	VARCHAR(30)	The city in the customer's billing address.
BILLING_STATE	VARCHAR(40)	The state in the customer's billing address.
BILLING_COUNTRY	VARCHAR(40)	The country in the customer's billing address.
BILLING_POBOX	VARCHAR(30)	The post office box in the customer's billing address.
BILLING_COUNTY	VARCHAR(50)	The county in the customer's billing address.
BILLING_POSTAL_CODE	VARCHAR(10)	The postal (ZIP) code in the customer's billing address.
BILLING_POSTAL_CODE_TYPE	VARCHAR(10)	Format or type of postal code, generally determined by country (such as ZIP code in the United States).
CUSTOMER_ID	VARCHAR(20)	A unique identifier for the customer.
MAP_KEY	VARCHAR(20)	Key that maps multiple credit cards with a single customer.

4 External Interface Requirements

4.1 User Interfaces

* References to GUI standards or product family style guides that are to be followed.

* Standards for fonts, icons, button labels, images, color schemes, field tabbing sequences, commonly used controls, and the like.

* Screen layout or resolution constraints.

* Standard buttons, functions, or navigation links that will appear on every screen, such as a help button.

* Shortcut keys.

* Message display conventions.

* Layout standards to facilitate software localization.

* Accommodations for visually impaired users.

5 Technical Requirements (Non functional)

5.1 Performance

- Enables the customer to request using website with minimal difficulty.
- System should be easy to use and easy to learn
- Users should not face any difficulty in using system after proper training.
- Stl file should be uploaded in minimal time.
- System should be usable by fairly IT illiterate person.
- User friendly interfaces without minimal complexities.
- Easy to add, update.
- Easy navigation through various screens.
- Response to mouse click should be minimal.

5.2 Security

- Enables the users to Login to website, with a username and password.
- Administrator and owner should be given full rights to view Stl File, Add, Delete and Update Order Details.
- Power Users should be able to only add and update the Order Details.

5.3 Multi lingual Support

System supports American and british english, Hindi,Malayalam,Espanol, Japanese,Russian

5.4 Business Rules

- System Owner and Administrator should have extra privileges.
- Only Information needed to generate invoice is to be produced whereas, department generates actual invoice.
- One user cannot have more than one registration.
- The system should be accessible to users.
- An external user can place an order only after logging onto website using valid username and password.
- Invoice Information is generated after the order is dispatched.
- The dispatched order should have delivery notes sent along.

6 Open Issues

1. MySQL is an open source database , it was difficult to find a GUI . Many GUI's were available but not supported by this application in particular
2. Enhance interfacing to support different devices
3. Accuracy with respect to real time order tracking
4. Closing security loopholes while using payment gateways
5. Provide user authentication
6. Developing admin panel for better control for the store owner