SOFTWARE REQUIREMENT SPECIFICATION

for

Online Portal for Exporters for Different Commodities

Version 1.0

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1. Introduction

This Software Requirements Specification is designed to document and describe the agreement between the customer and the developer regarding the specification of the software product requested. Its primary purpose is to provide a clear and descriptive "statement of user requirements" that can be used as a reference in further development of the software system.

This document is broken into a number of sections used to logically separate the software requirements into easily referenced parts. This Software Requirements Specification aims to describe the Functionality, External Interfaces, Attributes and Design Constraints imposed on Implementation of the software system described throughout the rest of the document. Throughout the description of the software system, the language and terminology used should be unambiguous and consistent throughout the document.

1.1 Purpose

The purpose of this SRS document is to provide a detailed overview of our software product, its parameters and objectives and to specify the requirements of the web based software application, which is an E-Commerce trading Webportal. The system helps in buying of goods, products and services online by choosing the listed products from the website.
This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality.

1.2 Scope

The Scope of this SRS document is to define the functional requirements for E-Commerce Web Portal and its components like User management, Content management. The document is the one that describes the requirements along with interfaces for the system. It is meant for use by the developers and will be the basis for validating the final delivered system.

1.3 References

Michigan State University

Relevant Soft Blog

1.4 Overview

The remaining sections of this document provide a general description, including characteristics of this project, like the product's hardware, and the functional and data requirements of the product.

Section 2: General description, Constraints, Assumptions, and Dependencies of the project is discussed. It gives a product perspective.

Section 3: discusses the external interface requirements and gives a detailed description of functional requirements. It also talks about System interfaces, User interfaces, Hardware and Software interfaces, and User Characteristics.

Section 4: discussion about system features, validity checks, sequencing information

Section 5: gives the other non-functional requirements, and data requirements made while designing the Web Portal.

Section 6: is for other requirements.

2. The Overall Description

2.1 Product Perspective
- The proposed system is a solution to carry out selling products online.
- It is aimed towards the vendors who want to reach out to the maximum cross-section of customers and common people who can be potential customers.
- This project envisages bridging the gap between the seller, the retailer and the customer.

2.2 Product Functions

- The main purpose of this project is to make conventional offline wholesale retailing more efficient by bringing it online.
- The system allows the user to sell products online across internet connections globally.

2.3 User Characteristics

There are 2 kinds of users for the proposed system.
- **Administrators:**
  Administrators are the ones who add or administer the categories for the products, categories, sub-categories, etc.
- **Customers:**
  The end-user will be the one who visits the website and buys products online from the ones added by the Vendors/Sellers.

2.4 Constraints

- The main constraint here would be checking the genuineness of the buyer, which is not always possible. There can be security risks involved.
- The developed system should run under any platform that contains a web browser that supports PHP, JavaScript, and AJAX.

2.5 Assumptions and Dependencies

- The details related to the product, customer, payment, and service transaction are provided manually.
- An administrator is created in the system already.
- Roles, responsibilities, and tasks are predefined.

3. External Interface Requirements

3.1 User Interface Requirements

The interface provided to the client has to be user-friendly and easy to use and it should provide optional interactive help for each of the services listed. The interface given is a menu-driven one and the accompanying screens will be given :

- A Sign-up page is provided at the beginning where the user is asked to enter their username, email address, and password or they can log in through their Google account.
- After a successful login, the user is asked to enter their mobile number where an OTP is sent to their phones via SMS.
- After successful login, our Home Page will display you varieties of products from other sellers based on your location.
- The user can also search for the products that they want to buy or can search a particular seller from the search tab.
- If the user wants to sell their products then we have an option of selling your items.
- For selling or listing your item through our web application, the user has to enter the details of their product like the quantity they are selling, product description, shell life, etc.
- The user can also interact with the buyer/seller by chatting from our application.

The following details will be saved after the session is dealt with in the machine:
- The login with the user's credentials is registered in the software's database.
- The chat will be saved between the user and buyer/seller and the transaction between them will be stored in the database.
- Various changes in the user's account after the sessions, if any, are reported in the database.
- Product receipt is generated and stored in the database.

3.1.2 Hardware Interface Requirements

Since our product is software-based that runs as a web application, hence there aren't any hardware requirements except the device in which the user will be logged in.

3.1.3 Software Interface Requirements

In order to perform various different functions, this software needs to interact with various other software. Certain software interface requirements that need to be fulfilled are listed as follows:-
- Since our software application is entirely web-based, hence we'll be using Django for web framework, with HTML, CSS, and Javascript(ES6) in Visual Studio code.
- The database used to keep a record of user accounts shall be NoSql with MongoDB and REST API.
- Apart from that random OTP generator will be programmed in Python 3 using the Tkinter GUI toolkit.

3.1.4 Communication Interface Requirements

The software needs to communicate with the main branch for each session for various functions such as login verification, account access etc. so the following are the various communication interface requirements that are needed to be fulfilled in order to run the software successfully:-
- The communication protocol used shall be Hypertext Transfer Protocol Secure (HTTPS).
- Protocol used for data transfer shall be File Transfer Protocol. (FTP)

4. System Features

Description

The system is designed to export various commodities to other users on the internet through our software. The functioning of the system is as follows:-

A user can opt to buy or sell an item. They have to first log in with their credentials or register with our system. The login credentials are verified after which they are redirected to another screen. An OTP is sent

to the user who has to enter the OTP which is then verified. If all the information verified comes out as true, the user is redirected to the home page. Thereafter, he can place an order, or host his own commodities.

Unique Hosting Setup

Our software's main aspect is to accumulate buyers who wish to export their commodities and manage them. For users interested in hosting their commodities for sale on our interface, we provide various options and choices regarding the way they decide on hosting as well as the levels of protection they would like to opt for. One can choose to simply have a single level of protection, where there's a simple email and password verification, or can choose for a secondary level of protection through an OTP generation and verification.

Validity Checks

In order to gain access to one's account, one should be able to successfully log in. For this, the user is required to enter the correct email/password failing which their account will be suspended.
Also, if the user is a seller, they are required to enter their login credentials in order to access and change the details of their commodities.

Sequencing Information

The information about the users should be entered into the database prior to any transactions or activity by the users. Any purchases, transactions, and transaction details should be updated into the database immediately after transactions. A backup of all this information should be maintained.

Error Handling/Response to Abnormal Situations

In case of any problems with the validation/sequence flow, the appropriate error messages should be displayed accordingly prompting the user to do the needful.

2. Receipt Generation

After each successful purchase or transaction, an electronic receipt should be generated and sent to the user via email. A backup of these electronic receipts should be maintained as well. The format of the electronic receipt is as shown as below:-

Receipt #: XXX-XXX-XXX
Date: DD-MM-YYYY
Time: H:mm:ss

Customer Name: <Name>
Customer Email ID: <Email ID>
Transaction ID: <Transaction ID>

Quantity	Product	Description	Amount

Subtotal: <XX.XX>
GST:< 18% of XX.XX>
Commission : <4% of XY.XX> (To our web application)
Total: <XX.XX>

5. Other Non-Functional Requirements

5.1 Performance Requirements

The following list provides a brief summary of the performance requirements for the software:

5.1.1 Capacity

- Our software shall provide a 24-hour service every day.

5.1.2 Dynamic Requirements

- Touch screen and button response time must not exceed 5000ms.
- Screen refresh time must not exceed 4000ms.
- Registration time must not exceed 0.3-sec normal server workload and 0.5 sec. under peak server workload.
- OTP generation and verification time must not exceed 0.3 sec normal server workload and 0.5 sec. under peak server workload.0.3-sec

5.1.3 Quality

Our primary aim is to create high-quality software. Since quality cannot be measured quantitatively, hence we will be judging the quality of our software via the following attributes :
- Consistency: All codes will be consistent with respect to the style.
- Test cases – All functionality will be tested rigorously.

5.2 Software System Attributes

5.2.1 Reliability
- The data communication protocol will be in a secure manner such that the reliability and quality of data will be ensured in a mobile environment.
- The memory system shall be of a non-volatile type.

5.2.2 Availability
- The flexible service-based architecture will be highly desirable for future extensions.
- Any abnormal activities shall result in the termination of the software.

- After abnormal termination of the software, the user will have to start the software again manually.
- User action consistency shall be maintained even after an abnormal termination.

5.2.3 Security
- Secure access to confidential data (user's data) shall be provided.
- The software will have two-phase protection following anti-piracy protocols, password login and OTP login.
- The user password shall be 6 to 14 characters long with at least one alphanumeric character.
- The user will be allowed to enter the correct password four times, after which an email will be sent to the user's registered e-mail ID.

5.2.4 Maintainability
- The software should be easily serviceable if required.
- The software should have the mechanism of self-monitoring periodically in order to detect any fault.
- If any fault is found, the main branch should be contacted.

5.3 Business Rules

The business rules for the software are mentioned below:
- Our software will charge commission whenever a successful export occurs between buyers and sellers.
- The charged commission will be a standard of 4%.
- The tasks to be performed by the staff are as follows:
  - Making the entries in the system about user details and credentials.
  - Updating the user account whenever any changes are made.
  - Blocking a user account if requested by the user or if any suspicious activity is tracked.
  - Handling complaints made by the user.
  - Constantly monitor the software to check for faults.
  - Instantly correct a fault is detected.
  - Keep the backup of all accounts to ensure reliability.

- ○ Rollback all the changes made in an account during whose session the software got abnormally terminated.
- A log of the following annexures is generated by the system:
  - ○ User account details
  - ○ Updations made in the user account with date, time, and changes made.