

Experiment 1: Apply the knowledge of SRS and prepare Software Requirement Specification (SRS) document in IEEE format for the project

Learning Objective: Students will be able to List various hardware and software requirements, distinguish between functional and nonfunctional requirements, indicate the order of priority for various requirements, analyze the requirements for feasibility.

Tools: IEEE template and MS Word

Theory:

The srs should contain the following Table of Contents

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Prepared by,	

Software Engineering Software Requirements Specification (SRS) Document

on

amazon

(e-commerce website)

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
Final Draft	Team	All sections being Filled	08/03/2023

Review & Approval

Requirements Document Review History

Reviewer	Version Reviewed	Signature	Date


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1. Introduction

Introduction

The purpose of the Software Requirement Specification is to provide a clear, documented model of the requirements for the online shopping system, for a web customer making purchases online. The point-by-point prerequisites of the Amazon is given in this report.

Scope of this Document

It is basically a website to shop online. The customer and the user for the system are the people who use the internet and wish to shop online. The top view of the website will contain mainly options for user to register, purchase commodities online and payment and delivery of the purchased item.

Overview

The online shopping system allows the actor (web customer) to use the Amazon website to make purchases online. The top-level features are to allow the actor to browse the website as a guest user or log in as a registered user. The browse and search items can be used by the customer as a primary feature use case if the customer only wants to find and see some products.

Business Context

2. General Description

2.1 Product Functions

The online website will enable the user (buyer) who chooses to use the Amazon web services, to purchase things online on the internet. The user will be able to login and browse the vast variety of products and services on the website. There will be a search bar on the top which will make the user experience quite convenient.

2.2 Similar System Information

The product is being developed to be used on a web browser as well as an application for mobile devices. There exist similar web services for the users but the possible strength of our product will be the capacity to hold a larger number of users at the same time and its availability across all devices.

2.3 User Characteristics

This product will be used by all people who want to buy things from the internet. The primary users of this website will include people who are buyers and will be able to make purchases online and make payment using different payment modes. The user does not need to have proper knowledge of the system as the website will have quite an easy user interface. The user does not need any kind of training or specialization as the product is self-explanatory.

2.4 User Problem Statement

The user's system, currently, is slow and inefficient as it relates to the checkout process. The process involves various steps before the user can make the payment and place their orders.

2.5 User Objectives

The user wants a website which has an open user interface and does not feel cluttered. Also, the navigation between different pages on the website is quite easy. The new product required a quicker response and customer support to the user as they will be purchasing goods from the website.

2.6 General Constraints

Constraints include an easy to use interface for the program, a web browser with full time internet connectivity (minimum 3Mbps). Also, for the mobile applications, the device should have an operating system Android version of 5.1 or up.

3. Functional Requirements

There are various functional requirements for our product. Some of the requirements for Amazon are discussed below:

- 1) **Registration**, if a user wants to buy a product from our app/website, he/she must be a registered user with a working phone number (for SMS purposes). Users without registration cannot proceed to the shopping cart or make their wish list.
- 2) **Login**, customer logs in to their account using their email address/ phone number with a valid password that was set at the time of registration. For authentication purposes, users will receive an OTP to their registered mobile number/email address.
- 3) **Shopping cart**, the shopping cart feature allows users to add multiple products in their cart at once and checkout for all products at once. The shopping cart also has features like *delete, move to Wishlist, or skip* for products in the cart.
- 4) **Payment**, the user will have various methods of payment to choose from. For example, debit/credit cards, UPI, Amazon Wallet, Cash on Delivery(COD)
Note: The Cash on Delivery method is available for purchases of Rs 999 or more on a selected range of products only.
- 5) **Changes to Cart**, Changes to cart means the customer after login or registration can make an order or cancel the order of the product from the shopping cart.
- 6) **Logout**, After ordering or surfing for the product customer has to logout.

4. Interface Requirements

4.1 User Interfaces

4.1.1 GUI

1. Login or Signup Page.
2. Homepage containing products according to customer's interest.
3. There will be a screen displaying information about all products that user searches.
4. If the customers select any product, then it will open another tap about the product information.
5. After all transactions the system makes the selling report as a portable document file (pdf) and sent to the customer Email address.

4.2 Hardware Interfaces

This system can be used on Windows XP, Windows 7, Windows 10, android operating system and IOS etc. The system requires Database also for the store any transaction of the system like MYSQL etc. system also requires DNS (domain name space) for the naming on the internet. At the last user needs a web browser to interact with the system.

4.3 Communications Interfaces

Since the application must run over the internet, all the hardware required to connect to the internet will be hardware interface for the system. As for e.g., Modem, WAN - LAN, Ethernet Cross-Cable.

4.4 Software Interfaces

This application requires browsers, upgraded software versions of the same application.

5. Performance Requirements

We've made our application as accessible as possible for you, while maintaining the security of your data. The requirements to access our website are straightforward:

1. A broadband internet connection with at least 2 Mbps, to load the contents of the website.
2. An up-to-date web browser. We support recent versions of Google Chrome, Mozilla Firefox, Apple Safari, Microsoft Edge, Microsoft Internet Explorer, and iOS and Android mobile browsers.
3. An up-to-date operating system. We support Windows 7 or newer and Mac OS 10.8 or newer and for mobile phones Android version 4.1 or up and iOS. We recommend that you keep your computer up to date as far as operating system security patches and anti-virus software are concerned.

6. Other non-functional attributes

6.1 Performance

1. The product shall be based on the web and must be run from a web server.
2. The product shall take initial load time depending on internet connection strength which also depends on the media from which the product is run.
3. The performance shall depend upon hardware components of the client/customer.

6.2 Security

1. The customer's web browser shall never display a customer's password. It shall always be echoed with special characters representing typed characters.
2. The customer's web browser shall never display a customer's credit card number after retrieving from the database. It shall always be shown with just the last 4 digits of the credit card number.
3. The system's back-end servers shall never display a customer's password. The customer's password may be reset but never shown.
4. The system's back-end servers shall only be accessible to authenticated administrators.
5. The system's back-end databases shall be encrypted and within the company's perimeter.

6.3 Reliability

1. The system provides storage of all databases on redundant computers with automatic switchover.
2. The reliability of the overall program depends on the reliability of the separate components.
3. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes.

6.4 Maintainability

1. A commercial database is used for maintaining the database and the application server takes care of the site.
2. In case of a failure, a re-initialization of the program will be done.
3. Also the software design is being done with modularity in mind so that maintainability can be done efficiently

6.5 Portability

As it's basically an ecommerce website, it can be operated/logged in from anywhere using any device/medium.

7. Operational Scenarios

Scenario A: Initial Item Definitions

Scenario B: Customer Check-out

Scenario C: Database Maintenance

8. Preliminary Use Case Models and Sequence Diagrams

8.1 Use Case Model

8.2 Sequence Diagrams

9. Updated Schedule

10. Updated Budget

An updated budget is attached at the end of this document

11. Appendices

11.1 Definitions, Acronyms, Abbreviations

Learning Outcomes: Students should have the ability to

LO1: List various hardware and software requirements

LO2: Distinguish between functional and nonfunctional requirements
 LO3: Indicate the order of priority for various requirements

LO4: Analyze the requirements for feasibility Course

Course Outcomes: Upon completion of the course students will be able to prepare SRS document

Conclusion: We were able to prepare SRS document successfully

For Faculty Use

Correction Parameters	Formative Assessment [40%]	Timely completion of Practical [40%]	Attendance / Learning Attitude [20%]	
Marks Obtained				

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