



Academic Year: 2023

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## Experiment No. 2

**Aim:** To develop Software Requirement Specification (SRS) document in IEEE format for the project.

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# Software Requirements Specification

for

# ShopIt

Version 1.0

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Date: 02/03/2023

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Revisions			
Version	Primary Author(s)	Description of Version	Date Completed
1.0	Sahej Jain, Varun Vekaria, Dhruv Bheda, Ayush Jain	A one stop shop ecommerce website for all your needs. Products ranging from essentials to luxury items, it is truly a product worthy of its name 'ShopIt'.	09/03/23



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# 1 Introduction

## 1.1 Document Purpose

This is a SRS Document for the project ShopIt. The goal of this document on software requirements specifications is to describe in detail the technical components of the product we plan to develop. It describes how the application's initial iteration will function. Along with the users, equipment, programmes, and other connecting applications, it outlines the specifications, technical details, and project constraints that will assist us make sure we make the greatest use of all the available resources, meet all needs for the product, and offer our users the finest possible product.

## 1.2 Product Scope

- The project scope is not limited to a specific city or a country but it has an extensive scope at a global level ShopIt will provide customers with a user-friendly platform to browse and purchase products online, while also providing businesses with a powerful tool to manage and fulfil those orders.
- The website will include a product catalogue with detailed information and images, a shopping cart and checkout process that is intuitive and secure, and a customer account management system that allows customers to track orders and manage their personal information.
- The website will also include features such as search functionality, product recommendations, and personalized promotions to enhance the customer experience and increase sales.
- The website will be accessible from desktop and mobile devices and will integrate with third-party systems such as payment gateways and shipping providers.

## 1.3 Intended Audience and Document Overview

The document includes a brief abstract of the product ShopIt. It is set up in a continuous progression. It first describes the features and present the issue statement followed by the summary of the project's users, surroundings, and constraints follows. The document continues by describing the various interfaces and project requirements. References to relevant research articles and other sources are also included in the paper. This is followed by an Overall description of the product and specific requirements and use cases. It concludes with functional, non-functional and all the other types of requirements.

The paper is meant for all users as well as the technical developers of the project. This may include the UI/UX designers, development team, Business analysts, Quality Assurance team, the stakeholders and the different types of end users. It also involves



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the database admin along with other supporting staff members and the future possible clients.

## **1.4 Definitions, Acronyms and Abbreviations**

1. **GUI** - Graphical User Interface.
2. **RAM** - Random Access Memory
3. **API** - Application Programming Interface
4. **GPS** - Global Positioning System

## **1.5 Document Conventions**

The following conventions were followed while creating the document:

- We have used the IEEE standards for document formatting.
- The font used is Arial, font size for title is 14 and font size for text is 12.
- Italics have been used for comments.
- 1" margin has been maintained throughout the document.
- The text is single spaced.

## **1.6 References and Acknowledgments**

- [1] Prof. Betty H.C. Cheng, "Homework 2", CSE 435, East Lansing, MI, September 2007.
- [2] Prof. Betty H.C. Cheng, "Requirements Assignment", CSE 435, East Lansing, MI, September 2007.
- [3] Mr. Borzoo Bonakdarpour, Elicitation Meeting, September 25th 2007.
- [4] IEEE-SA Standards Board, "IEEE Recommended Practice for Software Requirements Specifications", Software Engineering Standards Committee of the IEEE Computer Society, June 25th 1998

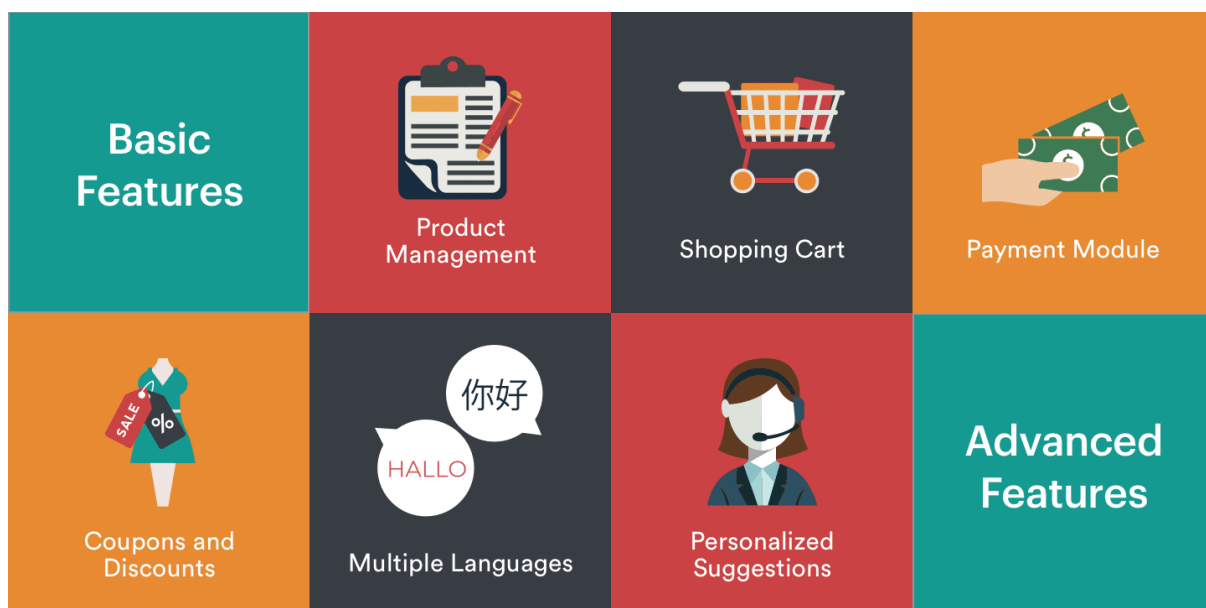


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## 2 Overall Description

### 2.1 Product Perspective

A platform that connects buyers and sellers, providing a robust product menu, search and navigation, detailed product pages, a seamless checkout process, and strong customer support. It enables transactions and facilitates the exchange of goods and services, allowing users to easily find and purchase products while providing sellers with tools for managing and fulfilling orders.

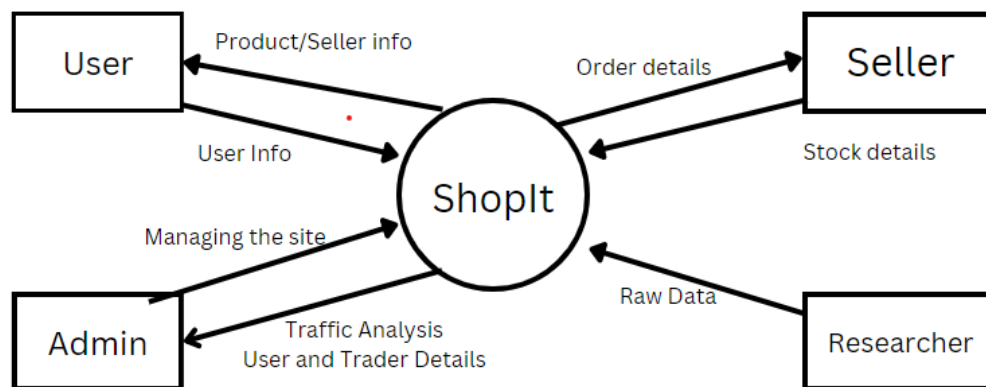


### 2.2 Product Functionality

1. Ecommerce website with user friendly UI/UX.
2. Complete details about product and the seller.
3. Assurance of legit sellers verified by company.
4. Regular updating category wise product.

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## DFD:



## 2.3 Users and Characteristics:

1. **Casual shoppers:** These users may use ShopIt occasionally to purchase products for personal use or as gifts. They may not be highly experienced with online shopping or have in-depth technical knowledge.
2. **Power shoppers:** These users may use ShopIt frequently to purchase a variety of products, ranging from groceries to electronics. They may have a high level of technical expertise and are comfortable using advanced features such as Alexa voice commands, subscriptions, and one-click ordering.
3. **ShopIt Prime members:** These users pay an annual fee to access exclusive benefits such as free two-day shipping, streaming of movies, TV shows and music, and early access to deals. They may be frequent shoppers who value convenience and speed.
4. **ShopIt Business users:** These are businesses that use ShopIt to purchase products and supplies for their operations. They may have specific requirements such as bulk ordering, tax-exempt purchases, and customized invoicing.
5. **Third-party sellers:** These users are independent sellers who use ShopIt's platform to sell their products to ShopIt customers. They may have different levels of experience and technical expertise, ranging from small-scale hobbyists to large-scale professional sellers.
6. **Educators and students:** These users may use ShopIt to purchase textbooks, educational resources, and other materials. They may have specific requirements such as discounted pricing, access to digital content, and support for academic research.

## 2.4 Operating Environment

- **Recommended browsers:** Chrome, Firefox, Safari, Edge and Brave.



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- **Recommended Operating systems:** Windows, MacOS, IpadOS, iOS, wear OS, watchOS, Android and Linux.

## **2.5 Design and Implementation Constraints**

The system is limited by its operating server in terms of the maximum number of users and queries it can support at a given time.

- Isn't compatible with devices without GPS.
- Network Connectivity issues
- Requires Large RAM.

## **2.6 User Documentation**

The user manual will contain all the guidelines for handling software as well as FAQ section for reference. Academic Year: 2023

- Contact us & support centres.
- Cultural differences.

## **2.7 Assumptions and Dependencies**

- For ShopIt, there are several assumed factors that could affect the requirements stated in the SRS. These include third-party or commercial components, development or operating environment issues, constraints, changes in technology, and dependencies on external factors such as software components reused from another project.
- Assumptions about the reliability, compatibility, and availability of these factors could impact the project's success, and changes or discrepancies in assumptions may lead to unexpected delays, additional costs, or changes in project direction. Therefore, it is important to identify and communicate assumptions clearly to ensure that they are validated and any necessary adjustments are made in a timely manner.
- If ShopIt assumes that they can reuse a certain piece of software from another project, but it turns out that the software is not compatible with the current project, this could cause delays or issues with the project.





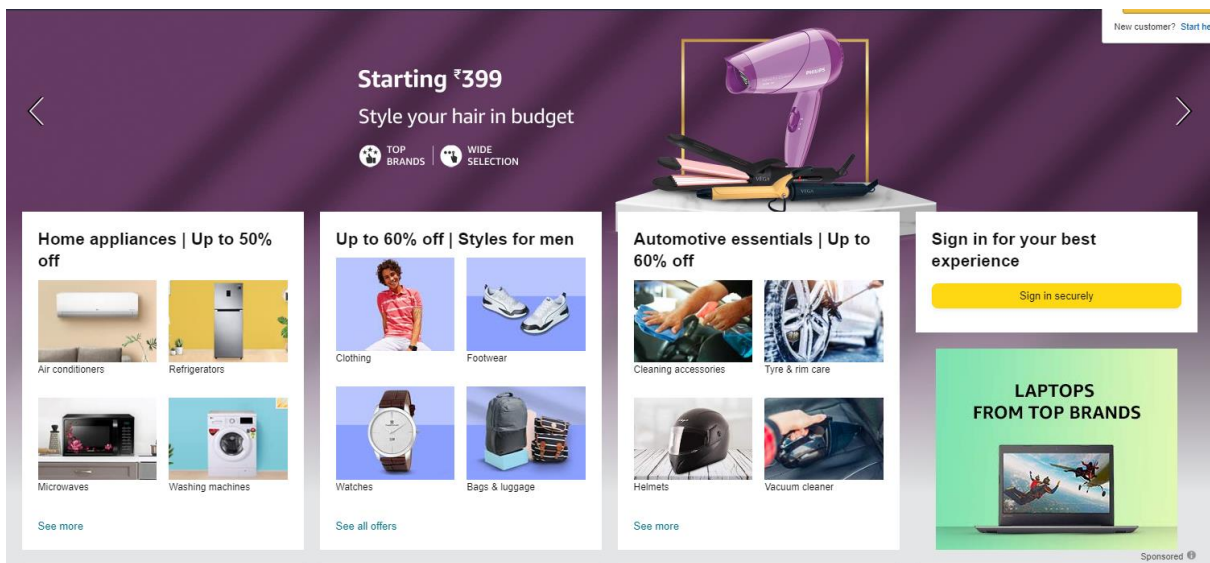
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## 3 Specific Requirements

### 3.1 External Interface Requirements

#### 3.1.1 User Interfaces

**Landing Page:** This will be the first page the users will see upon opening the webapp. It will give an introduction about our organization and will show the current trends.



## Create Account

**Your name**

First and last name

**Mobile number**

IN +91

Mobile number

**Email (optional)**

**Password**

At least 6 characters

*i* Passwords must be at least 6 characters.




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## 3.1.2 Hardware Interfaces

### Server:

RAM: 8 GB

Storage: 2TB SSD

Processor: Intel Pentium 4 processor or later that's SSE2 capable

GPU: NVidia GTX 1050

### User Device:

RAM: 500 MB

Storage: 4 GB Storage

GPS Sensor



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### **3.1.3 Software Interfaces**

**Browsers:** Chrome, Firefox, Safari, Edge and Brave.

**Operating systems:** Windows, MacOS, IpadOS, iOS, wear OS, watchOS, Android and Linux. Tools: Google Colab, Jupyter Notebook

### **3.1.4 Communications Interfaces**

1. Minimum 40 Kbps Internet Speed to ensure lossless connectivity.
2. HTTP protocols for servicing the requests and for transmission of data in JSON format.
3. AES protocol will be used to encrypt the sensitive data being transmitted.



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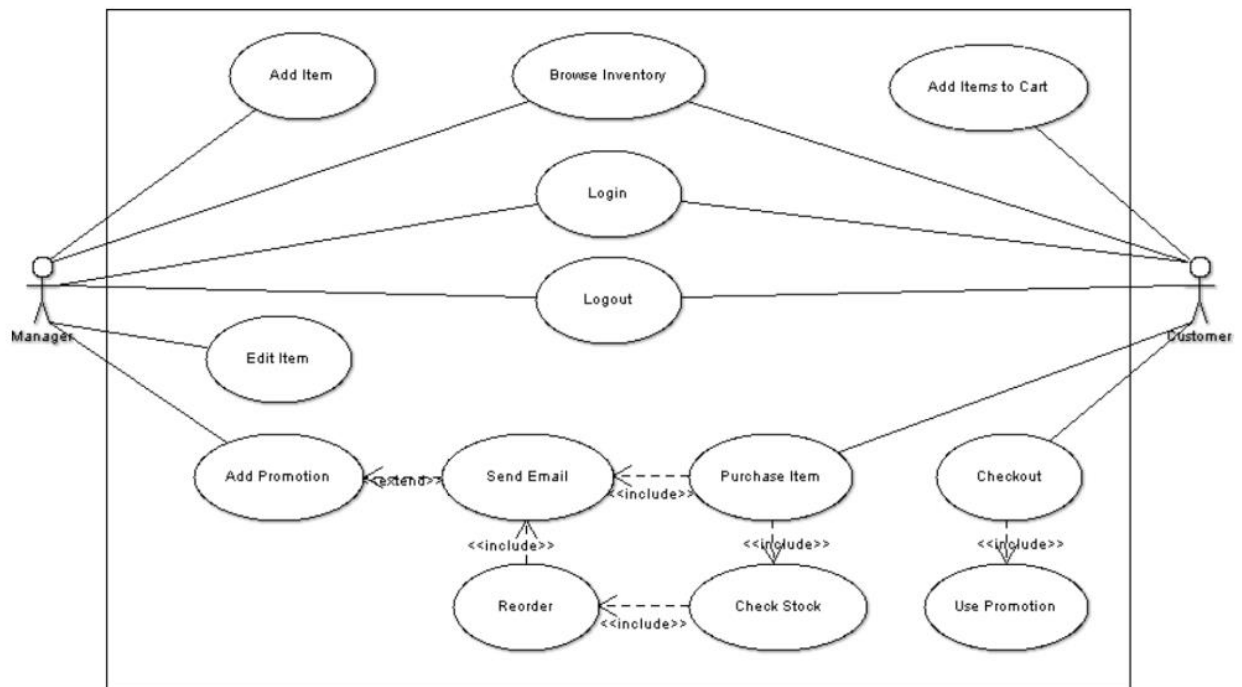
## 3.2 Functional Requirements

1. **Product search:** The system should allow customers to search for products based on keywords, categories, or other criteria. The search results should be relevant and provide customers with the ability to filter and sort the results as needed.
2. **Product recommendations:** The system should be able to recommend products to customers based on their browsing and purchase history, as well as other factors such as popularity and ratings.
3. **Shopping cart:** The system should allow customers to add items to their shopping cart, modify the quantities, and remove items as needed. The system should also calculate the total price of the items in the shopping cart and apply any applicable discounts or promotions.
4. **Checkout process:** The system should guide customers through the checkout process, collecting their shipping and billing information, and providing a summary of the order before it is placed. The system should also provide customers with various payment options and confirm the order once it has been placed.
5. **Order tracking:** The system should allow customers to track their orders, view the status, and receive updates on any changes or delays.
6. **Customer service:** The system should provide customers with the ability to contact customer service for assistance with their orders, returns, or other issues. The system should also provide a knowledge base or FAQ section to help customers find answers to their questions.

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### 3.3 Behaviour Requirements

#### 3.3.1 Use Case View





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## 4 Other Non-functional Requirements

### 4.1 Performance Requirements

- 1.If the transaction fails due to any reason, Amount deducted should be reversed to the Source account.
- 2.Inventory will be updated real-time, to avoid ordering of out-of-stock items.
- 3.The system should support concurrent users.
- 4.Customer support for solving any grievances of the customer.

### 4.2 Safety and Security Requirements

- System will use secured database. The safety, security, and privacy requirements for an ShopIt product are crucial to ensure user safety, protect against data breaches or unauthorized access, and comply with applicable regulations.
- Safety requirements may include compliance with safety regulations and designing the product to minimize risks of injury or harm.
- Security requirements may include appropriate user authentication measures and protection against cyber-attacks or data breaches.
- Privacy requirements may include compliance with privacy regulations and protecting the privacy of users' personal information. User identity authentication requirements may include unique usernames and passwords or limiting the number of login attempts.
- Safety certifications may also be necessary, and the product should be designed and tested to meet these requirements, with appropriate documentation provided to demonstrate compliance

### 4.3 Software Quality Attributes

**1. Reliability:** The ShopIt product should be designed to perform consistently and without errors or failures. Reliability can be measured by calculating the mean time between failures (MTBF) or the mean time to repair (MTTR), with a goal of achieving high MTBF and low MTTR values.

**2.Portability:** The ShopIt product should be designed to run on multiple platforms and devices, with minimal modifications required for each platform. Portability can be





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measured by testing the product on different platforms and devices and documenting any modifications required.

**3. Maintainability:** The ShopIt product should be designed to be easy to maintain and update, with clear documentation and modular code. Maintainability can be measured by tracking the time and effort required to make updates or fixes.

**4. Scalability:** The ShopIt product should be designed to handle increasing amounts of data and users without significant performance degradation. Scalability can be measured by testing the product with increasing loads of data and users and documenting any performance issues.

**5. Security:** The ShopIt product should be designed to protect against unauthorized access, use, or disclosure of data. Security can be measured by conducting security audits or penetration testing to identify vulnerabilities and ensuring that appropriate safeguards are in place.



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## 5 Other Requirements

- Maintenance of the application.
- Updating new functionalities.
- Security of database.
- Frequent updation of data by admin.

## Appendix A – Data Dictionary

Field Name	Data Type	Description	Example
User_name	Text	Name of each user	Ayush Jain
User_address	Text	Address of each user	Borivali, Mumbai
Product_details	List	Product_name, product_type, cost	Iphone 12, smartphones, 85000/-
Seller_details	List	Seller_name, seller_address	Yogesh, Panvel

## Appendix B - Group Log

Date	Actors	Work Done
28/02/2023	Sahej, Dhruv, Ayush, Varun	Analyze requirement
06/03/2023	Sahej, Dhruv, Ayush, Varun	Prepared SRS