SOFTWARE REQUIREMENTS SPECIFICATION

System to Buy or Sell Used Goods and Services

Version 1.0

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1 Introduction

Earlier, we faced difficulty finding authentic and reliable buyers and sellers; C2C platforms have solved this by providing them a ground for fast, reliable, and transparent transactions. We aim to design a real-time system that will ease NITC students to buy or sell used goods and services such as electronics, books, fashion items, furniture, cycles, and much more. Our platform connects various buyers and sellers without any hassle. Here, the students can sell items they no longer need and/or strike a great deal on something they need by bargaining.

1.1 Purpose

Our platform's primary objective is to sell used products and services. When a student shops online, they are connected directly to the seller's electronic store. Users can access the website from anywhere to buy or sell used goods and services. Before purchasing, purchasers had to examine the needed item in person. Our system addresses this by assisting the buyers in making online purchases of goods and services and by offering details about the items listed on the website, such as product images, description (such as product age, physical condition, defects) etc. The buy-sell process is completed electronically. Payments are made in person after a personal product inspection.

In any economic market, there is always some kind of bargaining that takes place between buyers and sellers. This is because each side is trying to get the best possible deal for themselves. There are a few different ways that this can happen, but it usually comes down to either negotiating a price or finding some kind of middle ground that both parties can agree on. One of the most common forms of bargaining is negotiating a price. This is when buyers and sellers try to agree on how much something is worth. This can be a challenging process, but our system achieves it by encapsulating the seller's final price. When the buyer is prepared to haggle over the maximum retail price, our system accepts the negotiation when the offered price is higher than or equal to the seller's final price.

1.2 Intended Audience and Reading Suggestions

While the Software Requirement Specification (SRS) document is written for a more general audience, this document is intended for individuals directly involved in the development of project. This includes software developers, testers, project consultants,

and team managers. This document does not need to be read sequentially; users are encouraged to jump to any section they find relevant.

1.3 Project Scope

The goal of the project is to create an online marketplace where users can buy and sell goods and services.The site will need to be robust so that users can find the products and services they are looking for. The website must also have a user-friendly interface and be simple to use.The system will also be created with the following characteristics:

- **Reach out to the world:** With the help of our site, students can buy or sell their used products or services easily online. Moreover, your service reaches to every single customer without having any geographical limitation.
- **Fulfill your customer needs:** Our system is developed in such a way that all our customer needs are fulfilled, by providing A to Z categories for purchase.
- **Detailed information about products:** Each product or service information is provided in a detailed manner.
- **Round-the-clock purchase:** Our system is designed in such a way that anytime you can order on the respective web or mobile app and purchase products of your desire.

1.4 Definitions, Acronyms and Abbreviations

C2C	Customer to Customer
CSS	Cascading Style Sheets
DB	Database
DFD	Data-flow diagram
ER	Entity–relationship model
HTML	Hyper Text Markup Language
MVC	Model-View-Controller
NIC	Network Interface Card

1.5 References and Acknowledgments

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- www.overleaf.com/learn/latex/Table

2 Overall Description

2.1 Product Overview

This project aims to develop a web application for the online buying and selling of used products. Such an application can save time and benefit people in multiple ways. First, it will become easy to access the system from anywhere and anytime by avoiding buying new things altogether. Second, in online selling and buying, the customer can purchase any used product at an affordable rate. This is a huge advantage for those who have financial issues. Third, it applies to buyers who want to sell the products they no longer need. Furthermore, it allows buyers and sellers to negotiate and come to a fair reasoning. A web app has an added advantage over a smartphone app because it is platform-agnostic.

2.2 Product Functionality

An online database system to buy and sell used goods & services.

Customer description: It includes the customer code, name, address, email ID and phone number. This information may be used for keeping the records of the customer for any emergency or for any other kind of information.

Seller description: It includes the seller code, name and phone number. This information may be used for keeping the records of the seller for any emergency or for any other kind of information.

Product details: It includes the product name, price, the number of days/years the product has been used and the category of the product. This information may be used by the customer to buy the product.

Order details: It includes the order code, order price and seller information.

2.3 Design and Implementation Constraints

Because the main functionality of the application is the online buying and selling of used products, it is necessary that the web app implementation takes minimal time to load and that it is highly responsive. A delayed response might turn out to be a waste of time for the user making the request and for those who genuinely need the product.

• To provide a platform to buyer and seller to communicate well.

• The information of all buyers and sellers willing to buy and sell items must be stored in the database that is accessible by the website.

• The products must be available at an affordable rate.

• Buyer and seller must have their correct username and password to enter into their online accounts.

• Product developed using Ruby on Rails technology in MVC architecture.

• For database "SQLite3" version 3.39.4 or higher must be used.

2.4 Operating Environment

Supported Operating System:

- Windows (95 or NT or Superior)
- Mac OS (MAC OS X 10.0 or Superior)
- Linux (Ubuntu 4.10 or Superior)/any other Linux based OS Software Components
- Google Chrome (2.0.172 or higher)
- Microsoft Edge (0.11.10252 or higher)

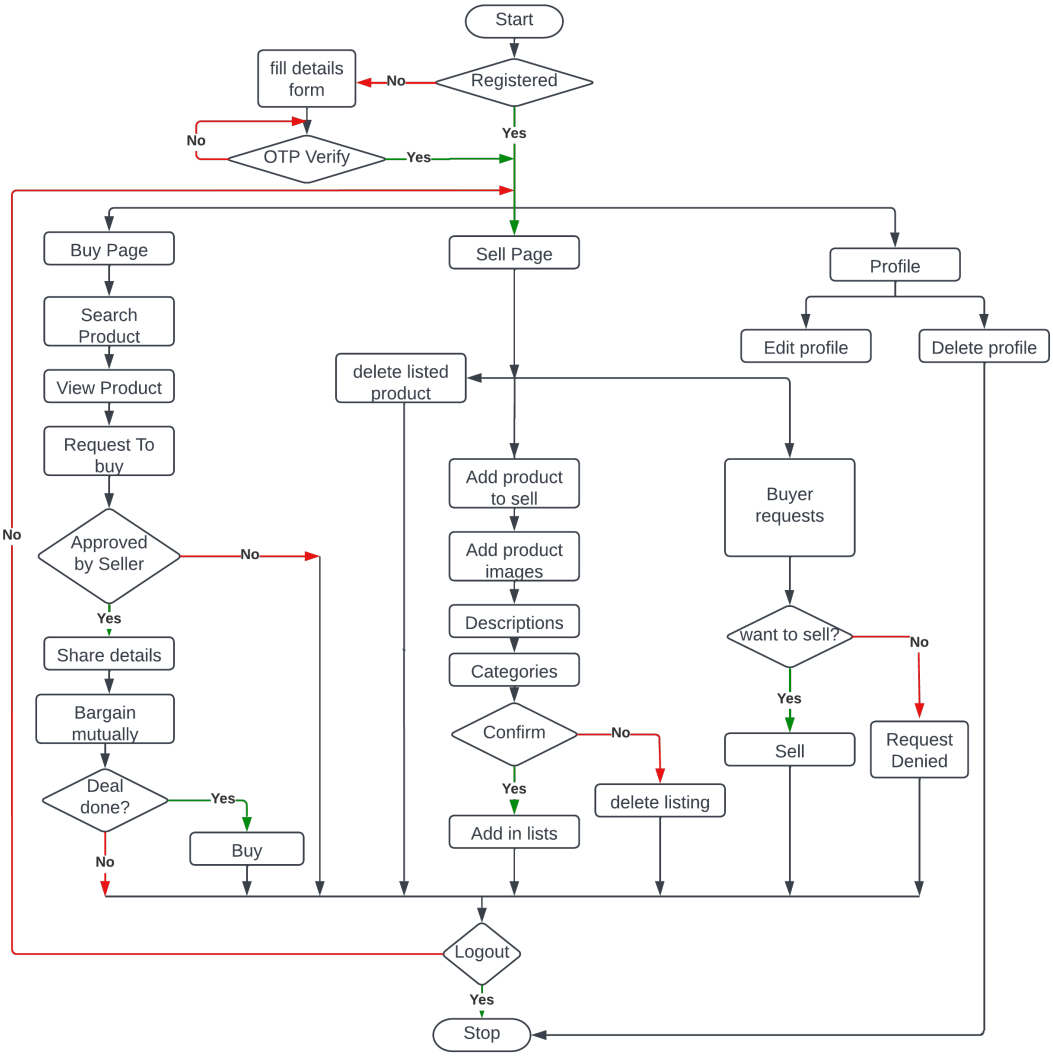

Figure 2.1: Flow Chart

3 Specific Requirements

3.1 External Interface Requirements

- Keyboard
- Mouse
- Monitor

3.2 User Interfaces

Screen Name	Description
Home Page	View Products available in the site
Registration Page	Register into the system as a Buyer/Seller
Login Page	Log into the system as a Buyer/Seller or Admin
Buy or Sell Page	User given the option to be Buyer/Seller depending on the need
Add Item Page	Seller can add the details of the item he wants to sell
View Item Page	Buyer can view necessary item needed and can search through categories given
Bargain Item Page	Buyer can input an offer price to the item available for negotiation
Offer Acceptance Page	Seller can view the price offered by the potential buyer and accept/decline the offer
Buy Item Page	Once the price deal is agreed on, the buyer is given the seller information

3.3 Hardware Interfaces

- Processor: Dual Core
- RAM: 8GB
- NIC: For each party

3.4 Software Interfaces

This system is compatible with all operating systems i.e Windows, Linux, Debian, Mac. It is web based so the software needs to have a web browser as well as good internet connection. It contains the databases for the sales of used goods management system that consists of:

- Seller DB: includes seller information (such as College ID, Name, Password, Contact Number etc) that can be modified by seller
- Buyer DB: includes buyer information (such as College ID, Name, Password, Contact Number etc) that can be modified by buyer
- Products DB: includes product information(such as Product Name, Category, Fixed Price, Product Age, Description etc) that can be modified by seller

3.4.1 Software requirements (Web Based Application):

- Ruby On Rails
- Any Operating System
- Ruby on Rails Server
- SQLite3 Database
- HTML, CSS, JavaScript
- Any Web Browser

3.5 Functional Requirements

This section provides a requirement overview of the system. Various functional modules that can be implemented by the system will be:

- **REGISTRATION FOR USER:** A user must register first and then log in to the system in order to buy or sell used goods or services. However, he/she can view the items offered in the site without registration. Registration form contains College ID, Name, Password, Contact Number, email address etc.
- **LOGIN FOR USER:** Once the user registered successfully, they should login with a valid username and password access facilities offered in the site.
- **ADD ITEM:** The seller can add the information of the item he wants to sell and upload the photos for the respective item. Here the seller is given an option to choose if the item price can be negotiable or not.

- **VIEW ITEM:** The buyer can view the item along its photos and description. He/She can further decide whether to buy/bargain the item or to look for other options.
- **BARGAINING OPTION:** The registered buyer interested in an item is given a platform to put forth a offer price for negotiation.
- **BUYING OPTION:** The interested buyer is given the contact details of the seller after the seller settles the deal in price of the item he's willing to sell.
- **LOGOUT:** A logged in user is recommended to log out of the system.

3.6 Use Case Model

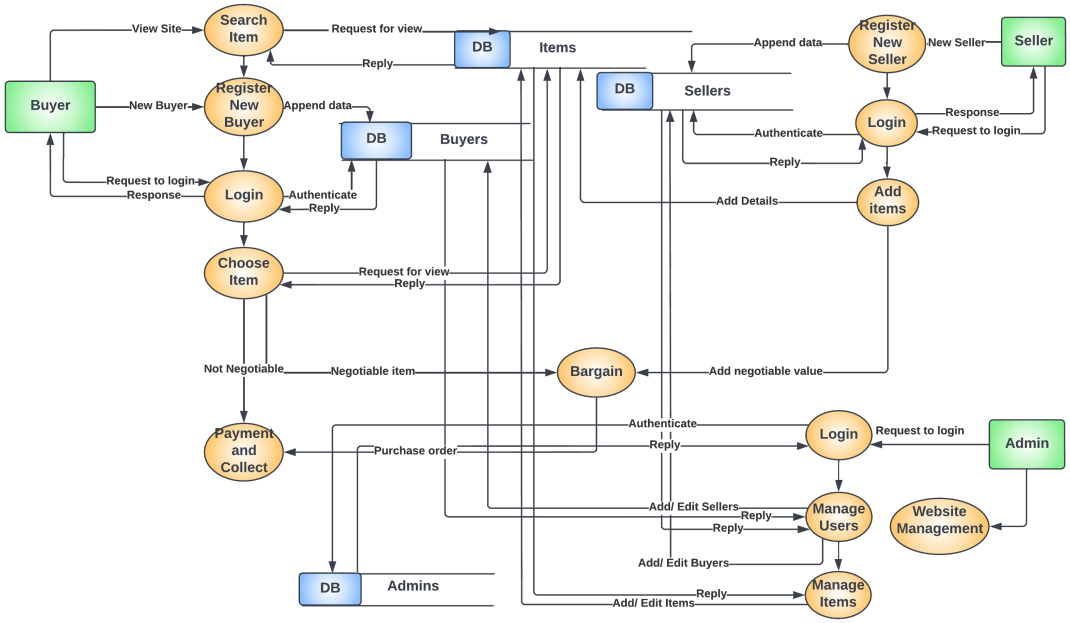

Figure 3.1: Data Flow Diagram

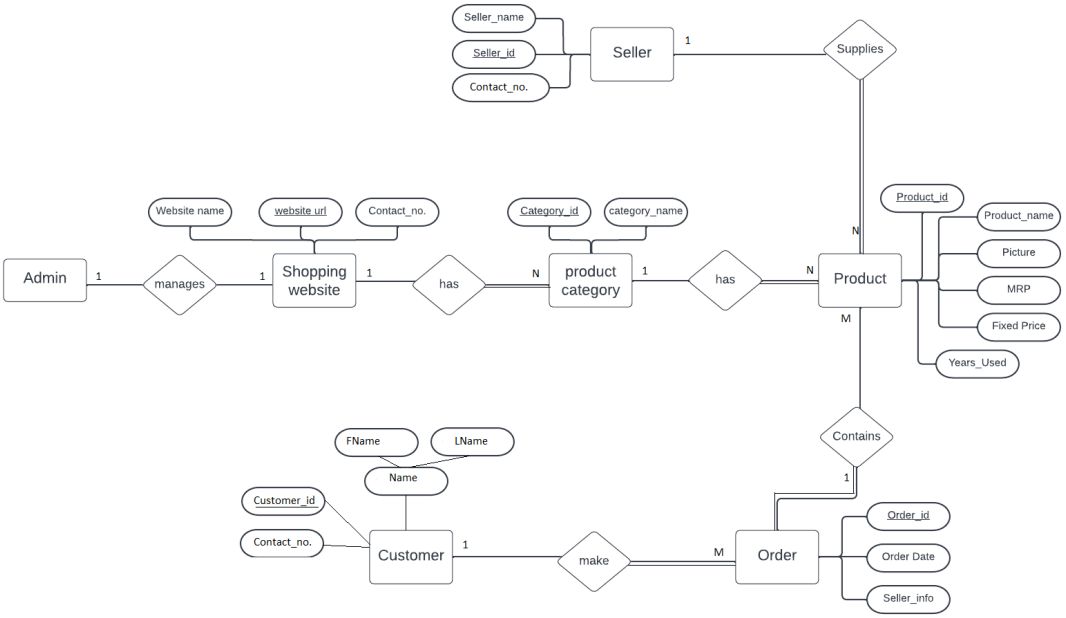

Figure 3.2: ER Diagram

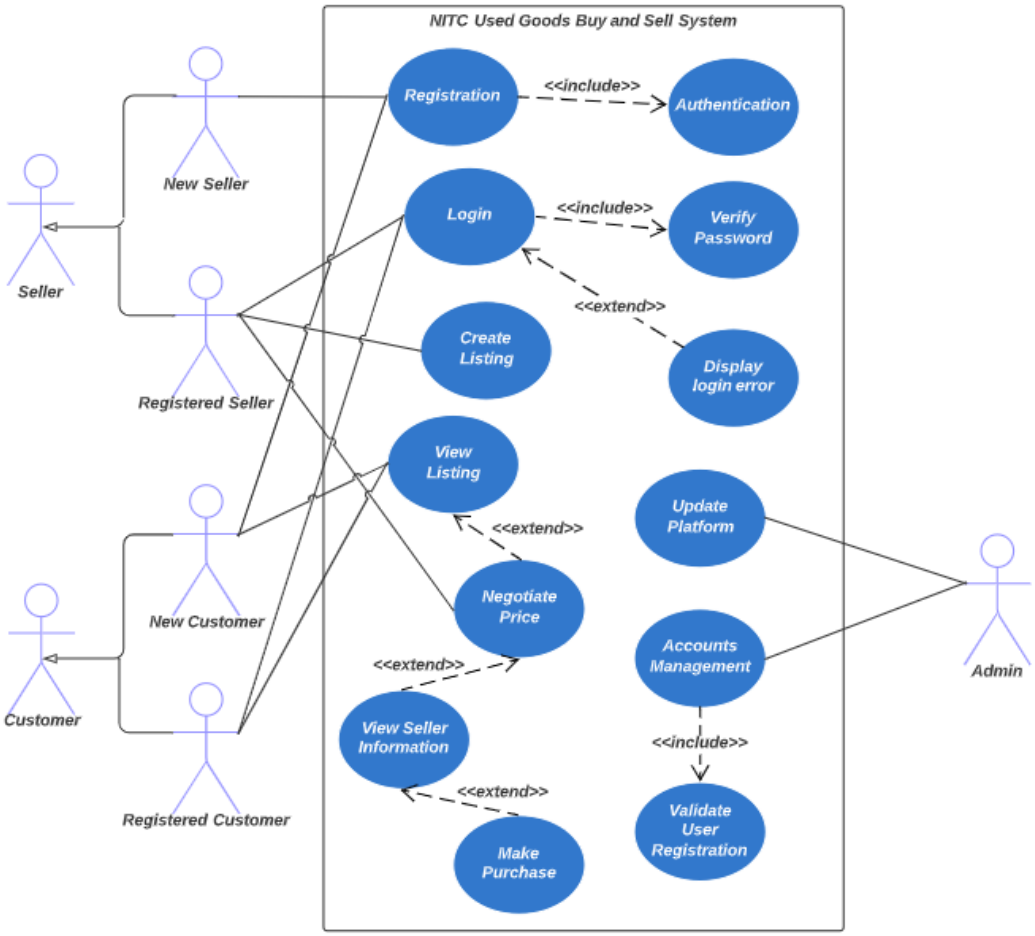

Figure 3.3: Use Case Diagram

4 Other Non-Functional Requirements

4.1 Performance Requirements

Compress Assets: Resizing images, minifying assets, and compressing client-side assets are all great ways to improve performance by reducing the number and size of files that a browser must download to display the application.
Client-side Processing: Technology has made it possible to move a lot of heavy processing tasks from the server –responsible for every client– to the browser where it can be executed much more quickly and in a scalable way.
Caching Strategies: Server-side caching further eliminates the need for servers to engage in time-consuming and resource-intensive processing tasks by storing unchanged data in a static format.

4.2 Safety and Security Requirements

- **Authentication**
  Authentication ensures that each entity involved in using a Web service—the requester, the provider, and the broker (if there is one)—is what it actually claims to be. Authentication involves accepting credentials from the entity and validating them against an authority.

- **Authorization**
  Authorization determines whether the service provider has granted access to the Web service to the requester. Basically, authorization confirms the service requester's credentials. It determines if the service requester is entitled to perform the operation, which can range from invoking the Web service to executing a certain part of its functionality.

- **Data Protection**
  Data protection ensures that the Web service request and response have not been tampered with en route. It requires securing both data integrity and privacy. It's worth mentioning that data protection does not guarantee the message sender's identity.

4.3 Software Quality Attributes

- Reliability
- Usability
- Security
- Availability
- Scalability

5 Other Requirements

The online buying and selling of used products must be on a server with high speed internet capability. The speed of the buyer's connection will depend on the hardware used rather than characteristics of this system.

6 Appendix A - Activity Log

Ritika - Section 4, Figure 3.2
Saloni - Section 2,5, Figure 2.1
Sharon - Section 3, Figure 3.3
Shashank - Section 1, Figure 3.1