
SOFTWARE REQUIREMENTS SPECIFICATION

for

E-COMMERCE WEBSITE

Version 1.0.0

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1 Introduction

1.1 Purpose

The purpose of this document is to build an online E-commerce website to act as medium between buyers and Sellers.

1.2 Intended Audience and Reading Suggestions

This project is a prototype for the E-Commerce Website and it is restricted within the college premises. This has been implemented under the guidance of college professor. This project is useful for the Sellers and as well as to the users.

1.3 Project Scope

The purpose of the E-commerce website is to minimize the gap between buyers and Sellers and to create a convenient and easy-to-use application for buyers,Sellers. The system is based on a relational database with its product management and . We will have a database server supporting major cities around the country as well as thousands of products by various Sellers from all around the globe . Above all, we hope to provide a comfortable user experience along with the best pricing available.

2 Overall Description

2.1 Product Perspective

A E-commerce database system stores the following information.

- User details:
It includes First name, Last name, Gender, Address, E-mail, Password, DOB, Mobile Number.
- Product details:
It includes product Name, Category, Available Quantity, Price, Review, Rating.
- Purchase History
It includes previously Shipped orders, On transit Orders.
- Cart
User can add more than 1 item to his cart and proceed to checkout enabling him to pay for multiple items in one payment.

2.2 User Classes and Characteristics

"E-commerce website" has basically 3 types of users.

- Buyer
 - Search Products
 - Add Products to Cart
 - Rate and Review a Product
 - Cancel Orders
 - Add Multiple Shipping Address.
- Seller
 - Add Different Products to the Warehouse.
 - Declare prices of Products.
 - View and remove Products from warehouse.
- Admin
 - ADD/REMOVE admins.

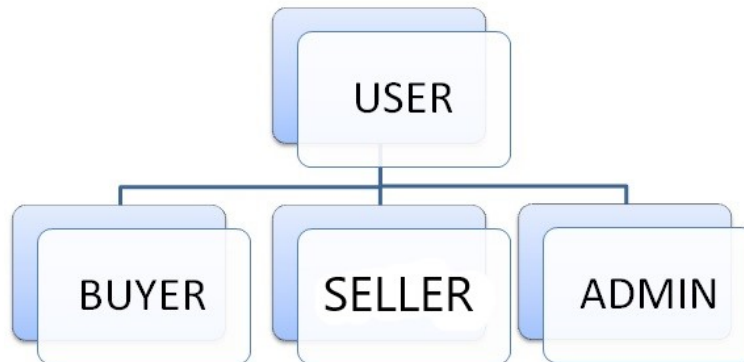


Figure 2.1: type of users

- Verify and Remove Sellers.
- Change Delivery Status.

2.3 Product Features

The major features of e-commerce website as shown in below entity–relationship model (ER model)

2.4 Operating Environment

The website will be operate in any Operating Environment and in any browser which supports JavaScript - Mac, Windows, Linux, android etc.

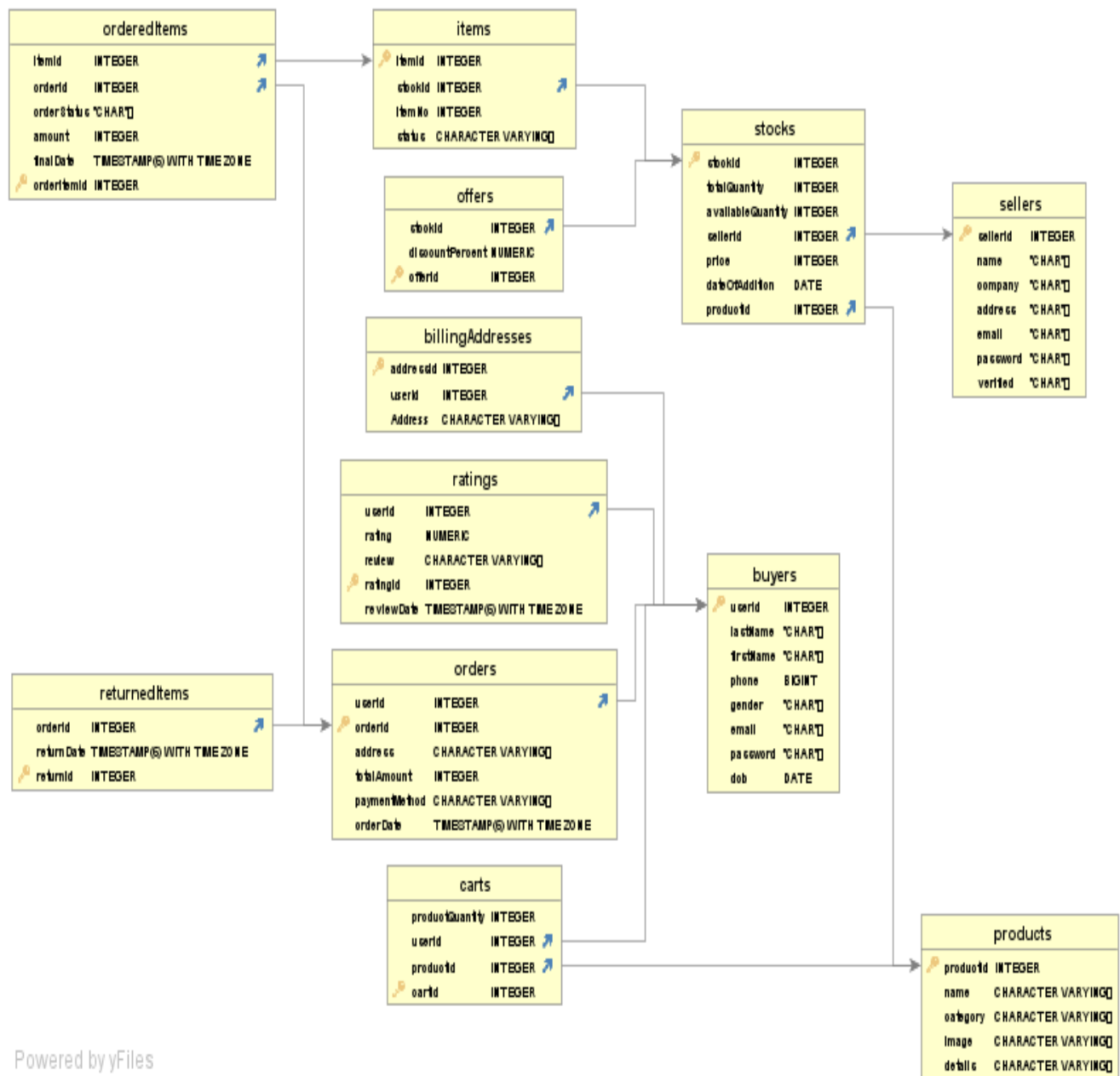


Figure 2.2: ER DIAGRAM

2.5 Design and implementation constraints

1. As the back-end framework for this website i.e Django has no official support for No-SQL databases, PostgreSQL is used as the default database management system.

2. Limitations due to SQL

2.6 User Documentation

1. User Manual

2.7 Assumptions and Dependencies

- As this is a college project real products cannot be bought or sold from this website.
- We operate under the assumption that the admin changes the delivery status of the product to **delivered**.

3 System Features

"E-Commerce Website" is a web software. So the main art of this product is to display products and establish trade.

3.1 Description and Priority

The e-commerce website maintains information on products, prices, ratings, reviews and previous purchases. Of course, this project has a high priority because in this pandemic times it is not possible for the buyer and the Seller to meet physically and sell or buy the goods.

- STIMULUS/RESPONSE SEQUENCES.

1. Search a Product by its Name/Category.
2. View Rating/Review to know the customer feedback on that product.
3. Add the product to Cart.
4. Login using E-mail id and Password.
5. Select the correct Shipping Address
6. Later On Proceed with Payment.
7. Check the Orders section to view on transit orders.

3.2 Functional Requirements

1. USER

- Search Product:
The User can Search a product by its name and view its rating/reviews price and discount(if any)and view its description.The user can also filter the products based on price of products.
- Add Cart:
User can select the product and the required quantity of the product and add to the cart.if the user is already logged in,then he is redirected to cart page else he is redirected to login page.
- Login/Sign-up:
If User has already registered in the website he can directly enter his email and password and log in to the website (or) else he can opt to go to sign up

page where he is asked to enter a few details and he can fill the form and register himself in the website.

- **Your Orders:**
This section displays the on transit orders, and delivered orders. This is useful if user want to locate a product in his purchase history.
- **Update Profile:**
This section allows user change any of his credentials such as name, address etc.

2. SELLER

- **Login/Sign-up:**
If seller has already registered in the website he can directly enter his email and password and log in to the website (or) else he can opt to go to sign up page where he is asked to enter a few details and he can fill the form. The seller details are verified by the admins and they approve or disapprove the sellers sign-up request.
- **Add Products:**
In this page the seller can add the total quantity of products the price of each product that he has supplied to the warehouse.
- **View Products:**
In this page the seller can view the total quantity of products the price of each product that he has supplied to the warehouse. He can also view the current status of the products.
- **Remove Products:**
The Seller can remove the products from the warehouse if he decides to retrieve all the goods he has sent to the Warehouse which will be updated in the website.

3. ADMIN

- **Login:**
Admin can log into the website by using his email and password.
- **Add/Delete Admin**
The admin has the ability to make the other users as admin or remove the already appointed admins.
- **Change Delivery Status**
The admin changes the delivery status from on transit to delivered when user receives the package.
- **Verify/Remove Sellers**
A admin has to verify a seller before he can add products to the Warehouse and admin can also remove a seller under necessary conditions.

4 External Interface Requirements

4.1 User Interfaces

1. **Front-End:** React JS,HTML,JavaScript,CSS,Bootstrap.
2. **Back-End:** Django framework.
3. **Database:** Postgre SQL Database.

4.2 Hardware Interfaces

1. Windows Operating System
2. A browser which supports CGI, HTML & JavaScript.

4.3 Software Interface

Software used	Description
Operating system	We have chosen Windows operating system for its best support and user-friendliness.
Database	To save the flight records, passengers records we have chosen Postgre SQL database.
React	To implement the project we have chosen react JS for its more interactive support.

Figure 4.1: Software Interfaces

4.4 Communication Interfaces

This project supports all types of web browsers. HTTP protocol is followed for fetching data from the back-end to the front-end of the project

5 Other Nonfunctional Requirements

5.1 Performance Requirements

“E-commerce Website” stores a lot of data including the information of all products, their prices, ratings, reviews total quantity of each product, seller of a particular product and information like name, email, phone number. A huge database is required for storing all such required data. The Entity Relationship Diagram is a way of representing the logical structure of a database in a pictorial manner. These Entity Relationship relationship diagrams should be normalized to increase the performance. The basic objective of normalization is to reduce redundancy which means that information is to be stored only once. Storing information several times leads to wastage of storage space and increase in the total size of the data stored. If a database is not properly designed it can give rise to modification anomalies. Modification anomalies arise when data is added to, changed or deleted from a database table. Similarly, in traditional databases as well as improperly designed relational databases, data redundancy can be a problem. These can be eliminated by normalizing a database. There are many normal forms like first normal form, second normal form, third normal form. The third normal form is considered sufficient for most practical purposes. In this way the performance of the software is increased.

5.2 Security Requirements

1. user password is stored in an encrypted format such that even the database owner cannot access the users' password.
2. No person without registering cannot add products to the cart in the website. One particular user of a section only can perform his/her particular actions.
3. A seller can add products in to the database only if the admin verifies and approves them as a seller.

5.3 Software Quality Attributes

- CORRECTNESS:
 1. Each Product must be displayed with correct price and rating/reviews so that user is not misguided by error in any of the following values.
 2. Each product bought by a buyer must be allocated to that particular buyer only.

- **MAINTAINABILITY:** Software is built such that it allows incorporating new requirements along with the growing needs of users.
- **AVAILABILITY:** The system is available 24/7 to all the customers without any problems for the users.
- **USABILITY:** Software is user friendly, easy to learn and operate. The product shall be self- explanatory and intuitive.
- In the development phase also testing and conferences of users is been continued. So that the quality of the software is been maintained and all the requirements are been fulfilled.
- Database, logical and also UI test is required.