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**COURSE:** SOFTWARE ENGINEERING

**SECTION:** W-4

**Assignment :1**

***PROJECT:*** *Online Shopping System*

**Project Overview**

An online shopping platform enabling users to browse products, make purchases, and securely complete transactions. It supports product search, user accounts, order tracking, and secure payment options.

**Problem**  
Current e-commerce solutions often lack user-friendliness and efficient tools for managing orders, inventory, and payments, resulting in customer dissatisfaction and operational inefficiencies for vendors.

**Objective**  
To create a robust and user-centric online shopping system that streamlines the shopping experience and simplifies vendor operations.

**Goals**

* Facilitate easy shopping with smooth navigation and secure checkout.
* Provide vendors with simple tools for managing products, orders, and inventory.

**Stakeholders**

1. **Customers**: Browse, purchase, and review products.
2. **Admins**: Manage products, orders, and users.
3. **Vendors**: Supply and manage product inventory.
4. **Payment Providers**: Process secure transactions.

.**Functional Requirements**

1. **User Authentication**: Secure login, registration, and password recovery.
2. **Product Search & Filters**: Fast search and filter options.
3. **Shopping Cart**: Easy add/remove items with auto-updates.
4. **Secure Payments**: Quick, secure transaction processing.
5. **Order Tracking**: Real-time order status and history.
6. **Product Reviews**: Simple review system with moderation.
7. **Admin Dashboard**: Efficient management of products, users, and orders.

**Non-functional requirements**:

1. **Performance**:
   * Pages load in <3 seconds.
   * Support 1,000 concurrent users.
2. **Availability**:
   * 99.9% uptime.
   * Auto recovery within 5 minutes.
3. **Reliability**:
   * <0.1% error rate.
   * ACID compliance for transactions.
4. **Security**:
   * SSL/TLS encryption.
   * Multi-factor authentication.
   * GDPR, PCI-DSS compliance.
5. **Usability**:
   * Intuitive, mobile-friendly design.
   * WCAG 2.1 accessibility.

## ****Implementation Plan****

Here’s a **Implementation Plan** for project:

### 1. ****Planning:****

* scope, features, and timeline.
* Gather requirements
* Choose technologies
* Create a project schedule and assign tasks.

### 2. ****Development:****

* **User Authentication**: Implement secure login, registration, and password recovery.
* **Product Search & Filters**: Add fast search and filter options.
* **Shopping Cart**: Enable easy add/remove items with real-time updates.
* **Secure Payments**: Integrate secure payment processing.
* **Order Tracking**: Show real-time order status and history.
* **Product Reviews**: Implement a review system with moderation.
* **Admin Dashboard**: Develop an admin panel for managing products, users, and orders.

### 3. ****Testing:****

* Perform unit and integration tests to ensure functionality.
* Conduct User Acceptance Testing (UAT) to validate the user interface.
* Test security (e.g., authentication, payment).

### 4. ****Deployment:****

* Deploy the application on a live server.
* Perform post-deployment testing to ensure everything works.
* Monitor system performance and user feedback for improvements.