Online Shopping Cart

SOFT255SL
Software Engineering for the Internet Using JAVA

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NerdLK

WEB DESIGN & DEVELOPMENT SOLUTIONS

NerdLK is a young and dynamic web development group that interested in new web technologies. We are new comers to the web development sector and we anticipate to get an experience from this project. Furthermore, we have active and well-motivated members who willing to contribute.

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1.Introduction

1.1). Company Overview

Kumudu Bespoke-Sri Lankan's quality fashion offers clothing items for Men, Women and Children. We have branches located in strategic towns and cities across the Island. We offer free shipping on all orders within Sri Lanka. These modern company showrooms offer wide range of value for money products under one roof. Kumudu Bespoke is proud to offer customers a competent and disorderly shopping experience on our new and comprehensive website. If you are not 100% satisfied with your purchase, then this company will give the customer's free returns.

2.Synopsis

2.1). Title of the Project

The title of the project is an e-commerce solutions for a shop. The main target of "E-Commerce solutions" is to improve the services of customers and vendors. It manages the details of customer's payments, showing products, addition of new customers, products updating, deletion for same. It stores the invoices details generated by customer and payments made by them with whole payments details like credit card. The main feature of the project entitled "e-commerce solutions for a shop" are availability, design flexibility and high accuracy and high confidentiality It uses database model showing-up entities and relationships between entities.

2.2). Objective of the Project

The main concept of the application is to allow the customer to shop virtually using the Internet and allow customers to buy clothing items of their desire from the web store. Product information is stored in an RDBMS on the server side. The products display on some criteria provided by the user such as filtering based on price ranges, product category or user ranking. Session Management techniques is used for Shopping Cart. The shopping cart is designed for the customers. The database of clothing items is updated at the end of each transaction. Once the authorized personnel support the relevant data into the system, several reports would be generated as per the security.

2.3). Assumptions

- The system has only one Admin who is called shopkeeper, because of that no need to maintain a separate table for admin.

- If a clothing item is out of stock, customer cannot add the item to his or her cart.

- Shopping cart details will not save in the database.

- When customer is going to register with existing email, the system will not be provided to register of that customer.

3.System Study

3.1). Problem Definition

Most of people who generally wanted buy clothing items, have to go to the shops and that people abominate to walk around to buy clothing items. Nowadays the internet has dramatically affected to the shops and interact with business areas. Customers like to stay at home and do online shop. People who want to do some shopping all the time, can't do shopping as they wish because of that they feel uncomfortable.

3.2). Solution Outline

E-commerce gives the customers to ability to buy from Kumudu Bespoke without occurring any limitations affected by time and distance. Most of people use electronic devices like smartphones, tablets and other smart devices to do their online works through internet daily. A responsive exclusive e-commerce site gives advantage of the growing demand for user friendly shopping and mobile-friendly shopping.

3.3). Proposed Solution Description

Customer can browse the clothing items through website and add the items to the shopping cart. He can move to check out his shopping cart, if it is not empty. The customer will require to login to the system when he moves to checkout, and he can create an account if he has not an account. The order will be done to the credit card registered in customer's account. Customers who are going to register, need to provides full name, credit card details, phone number, email address and billing address details when creating a new account. Customer can maintain his account information, such as changing address, phone numbers and credit card details and check the status of orders that he did. If the customer ordered is out of stock, then add to card button will be disabled.

We used JSP and Servlets throughout the project and we mainly used MVC architecture. Further we used AJAX, HTML, JSON, CSS, and JQuery. We used NetBeans for the IDE. We used MySQL 10.1.21-MariaDB for database connection.

3.4). Software Requirements

- Operating System

    Widows OS (XP, Vista, 7,8,10)

- Browsers (client side):

    Internet Explorer 7.0 higher (Java enabled), Firefox 7.x higher (Java enabled), Google Chrome

- Rational Database (server side):

    MySQL 10.1.21-MariaDB

- Web application server (server side)

    GlassFish 4.1.1

- *JRE 1.7 or higher*

3.5). Hardware Requirements

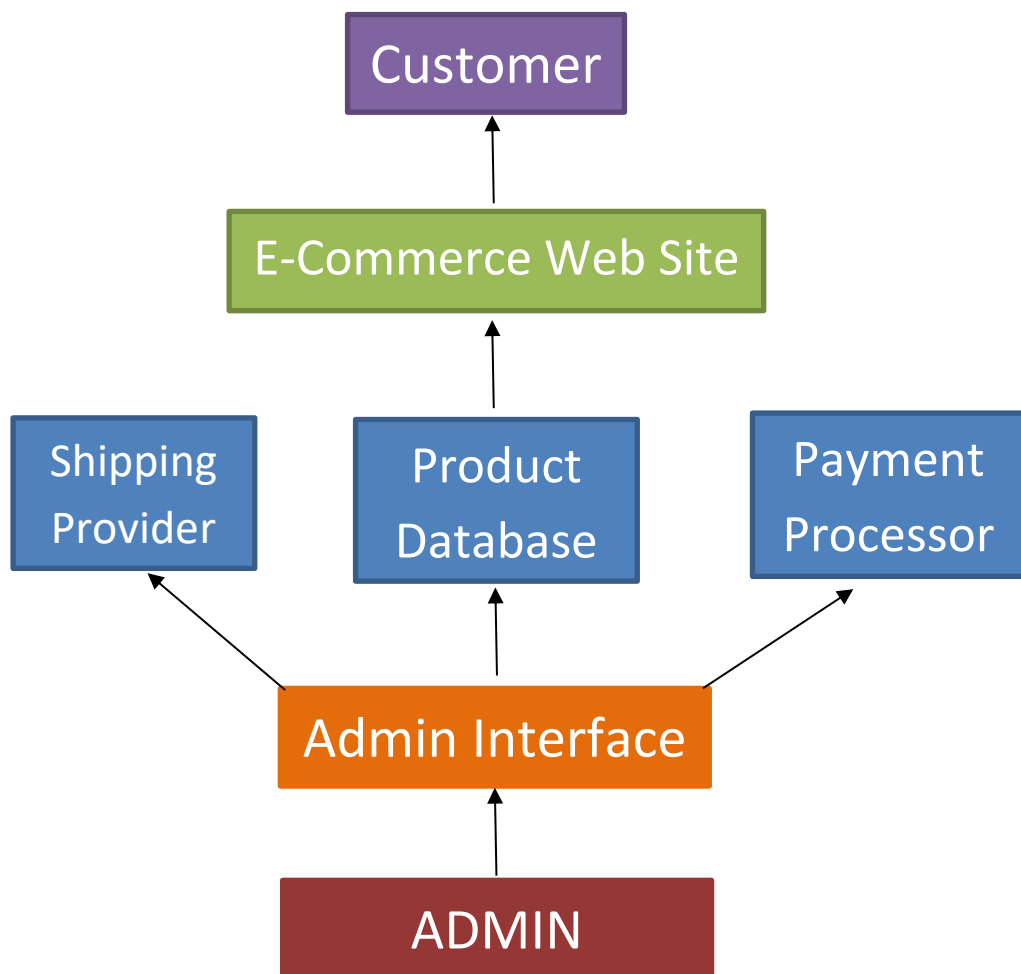| Component	Recommended
Processor	*2GHz<*
RAM	*4GB*
Network Connection *(Client to server)*	*1Mbps*
Disk	*1GB+*

4.Requirement Analysis

4.1). Introduction

      E-Commerce website allows to people from anywhere to purchase clothing items from you all the time of a day. It can be brought extra sales to the business and not cost you any more in salaries. If it will not happen, then it could help reduce your monthly cost of being online. Customers who needed to buy clothes usually have to go to the shop and most people don't like that.

4.2). Overall Description

```
                    ┌──────────────┐
                    │   Customer   │
                    └──────────────┘
                            ▲
                    ┌──────────────────────┐
                    │ E-Commerce Web Site  │
                    └──────────────────────┘
                            ▲
 ┌──────────┐      ┌──────────┐      ┌──────────┐
 │ Shipping │      │ Product  │      │ Payment  │
 │ Provider │      │ Database │      │ Processor│
 └──────────┘      └──────────┘      └──────────┘
        ▲                ▲                ▲
                ┌─────────────────┐
                │ Admin Interface │
                └─────────────────┘
                        ▲
                ┌─────────────────┐
                │     ADMIN       │
                └─────────────────┘
```

4.3). Functional Requirements

- **User Registration**

  Users must register and logged in to place an order.

- **Shopping Cart**

  All the items in an order which should be placed in the shopping cart so it would be easy to checkout.

- **Product Search by Name**

  Customers have ability to search the products by Name according to their needs.

- **Product Search by Category**

  Customers have ability to search the category by Category according to their needs.

- **Product Search by Price**

  Customers have ability to search the products by Price according to their needs.

- **Administrator Panel**

  The administrator has ability to maintain and view web site process.

- **Order Placement**

  Customers have ability to place their orders.

- **Order Management**

  Administrators have ability to view and manage all the placed orders.

- **Product Management**

  Administrators have ability to add, update and delete products.

- **Check-out**

  Customers have ability to check out the shopping cart.

4.4). Non-functional Requirements

- **Display Product Related Details**

  When selecting the products, system will be represented related product details.

- **User Friendly**

- **Usability**

  The website should be easy to use to customers and administrators. The website should be quickly accessible and in simple the way and displays all relevant data. The menus of the website should be easily navigable to the users with understandable buttons.

- **Security**

  The website consists with backup database. Website has password protections.

- **User Interface**

  System's interface should be friendly to user to handle everything.

6.Implementation and Testing

We are going to test the E-Commerce website as soon as one unit is done. The website is implemented and tested to ensure it performs properly.

6.1). Unit Testing

There are four main functions of our E-Commerce website.

     i. User Management
    ii. Shopping Cart
   iii. Order Management
   iv. Product Management

So as soon as one unit is finished, it's going to be tested as a one unit. And then combine one by one and test them and find errors and fix them. Finally, all four units are going to be combined as tested together.

Testing Features –

- Accessibility

- Coding Standards

- Compatibility

- Functional

- Form Validation

- Security

- Usability

7.Limitation of the System

7.1). Technical Limitation

- Lack of security concepts would be a mail limitation because there are possible security threats can be attacked the system.

- Sometimes It will be difficult to find new technologies because software industry is rapidly developing day by day.

- Sri Lanka has bandwidth issues since limited network bandwidths. Because of that the user will faced some troubles.

- Some operating systems are not support because there are software and hardware incompatibility for E-Commerce site.

7.2). Non-technical Limitation

- There will be security threats while doing online transaction.

- In the beginning, new users will not be trust the website to do any transaction. Because of that no profits in initial months.

- Website will not be able to access by the people who do not have internet because the internet is expensive.

- Since the items will not be able to physically touch, that lack of touch and feel will initially make uncomfortable to the customers.

- E-Commerce web sites are still developing rapidly because of that it will make limitations in the business.

8.Omissions from the System

Features available in the E-Commerce Sites	Available in the "Kumudu-Baspok" Site	Not-Available in the "Kumudu-Baspok" Site
Product Catalog	✔	
User Constraints	✔	
Admin Panel	✔	
User Login	✔	
Shopping Cart (Session Based)	✔	
Payment Gateway		✔
User Comment Sessions	✔	