

COMPUTER PART INVENTORY SYSTEM

A Project Report

Submitted in partial fulfilment of the
Requirements for the award of the Degree of

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

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ULHASNAGAR- 421003

MAHARASHTRA

YEAR 2023-2024

COMPUTER PART INVENTORY SYSTEM

PNR No.: _____

Roll no: _____

- Name of the Student:

- Title of the Project:

- Name of the Guide:

- Teaching experience of the Guide: _____

- Is this your first submission? Yes ☐ No ☐

Signature of the Student

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COMPUTER PART INVENTORY SYSTEM

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CERTIFICATE

This is to certify that the project entitled, "**Computer Part Inventory System**", is bonafide work of _____ bearing Seat. No: _____ submitted in partial fulfilment of the requirements for the award of degree of BACHELOR OF SCIENCE in INFORMATION TECHNOLOGY from University of Mumbai.

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ABSTRACT

The "**COMPUTER PART INVENTORY SYSTEM**" is a comprehensive webstore designed to cater to the diverse needs of computer enthusiasts, gamers, PC builders, and customers with specific computer hardware requirements. In an increasingly digital age, where technology is at the forefront of daily life, this project aims to provide users with a unified, user-friendly, responsive, and secure interface to fulfil their computing hardware needs. It addresses the demands and preferences of various groups of computer users, all while respecting their budget constraints. This system is driven by a commitment to reduce the inconveniences, unnecessary toil, and labour often associated with computer hardware shopping, which can arise due to a lack of information and a cluttered marketplace.

ACKNOWLEDGEMENT

We are pleased to present my project “**Computer Part Inventory System**” and take the opportunity to express our gratitude to all those people who helped us in completion of this project.

We thank our college for providing us with excellent facilities that helped us to complete and present this project. We would also like to thank all the staff members and lab assistants for permitting us to use computers in the lab as and when required.

We are equally grateful to our project guide **Mr. Omkar Kulkarni** and advisor and incharge **Ms. Laxmi Jeswani**, for guiding and solving problems. We express gratitude towards our project guide **Mr. Omkar Kulkarni** for giving us valuable time and advice during the various phases of our project. We would also like to thank him/her for providing us with all the proper facilities and support as the project guide.

Finally, we would like to thank everyone who has helped me directly or indirectly in our project.

DECLARATION

I hereby declare that the project entitled “**Computer Part Inventory System**” done at “**Ulhasnagar,**” has not been in any case duplicated to submit to any other university for the award of any degree. To the best of my knowledge other than me, no one has submitted to any other university.

The project is done in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)** to be submitted as final semester project as part of curriculum.

Name: Om S. Mohit

Signature:

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Signature:

COMPUTER PART INVENTORY SYSTEM

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Chapter 1

INTRODUCTION

Introduction

PC hardware accessories market, specifically the online retail is much sparser & cluttered at the same time, gamers, users, computer enthusiasts visit several different sites for a specific accessory (e.g., PC headsets), be it websites or physical stores. Computer Part Inventory System project is a comprehensive e-commerce platform designed to provide computer enthusiasts, gamers, and PC builders with an intuitive online marketplace to purchase a wide range of PC components, pre-built PCs, and customize their gaming rigs. This project aims to create a user-friendly, secure, and feature-rich online store for a seamless shopping experience.

The purpose of this project is to develop a web-based platform that allows users to create, customize, and purchase their own gaming PCs, as well as browse and buy other PC-related products. This platform will aim to provide a user-friendly, responsive, and secure interface that can cater to the needs and preferences of different types of PC enthusiasts while implementing policy of quality assurance.

1.1 Background:

In the contemporary digital age, the practice of physically visiting a brick-and-mortar store for computer hardware shopping has often proven to be a cumbersome and time-consuming endeavor. The process involves navigating through traffic, jostling with crowds, and oftentimes encountering limited selections. It also necessitates a significant investment in terms of time and effort, making it less than ideal for modern users who seek convenience and efficiency & convenience in their purchasing experiences. The "Computer Part Inventory System" project recognizes this inconvenience and endeavours to address it by offering an online platform that brings the entire spectrum of computer hardware shopping to the fingertips of users. Through the project's comprehensive e-commerce features, users can explore, configure, and purchase PC components and peripherals without the need for physical store visits, thus providing them with a toil-free and user-centric solution.

The "Computer Parts Inventory System" project finds its roots in the ever-evolving landscape of PC gaming, computer hardware, and the increasing need for a specialized and user-centric online marketplace. To fully appreciate the significance of this project, it is essential to delve into the historical and contextual backdrop that has shaped its development. Over the past two decades, PC gaming has transcended its niche status to become a global phenomenon. With graphics and processing capabilities that continually push the boundaries of what's possible, PCs have become the go-to platform for gamers seeking immersive experiences, rich graphics, and unparalleled customization.

As gaming enthusiasts, developers, and hardware manufacturers collaborated to create cutting-edge technologies, the need for a dedicated marketplace that could keep pace with these advancements became evident. Gamers and PC builders sought a platform that would not only offer a diverse selection of high-quality components and peripherals but also provide a seamless, user-friendly experience. The "Computer Parts Inventory System" project was conceived to meet this demand

In the world of gaming, there is a growing trend toward do-it-yourself (DIY) PC building and customization. Gamers, professionals, and hobbyists now take pride in crafting unique and high-performance gaming rigs tailored to their specific needs and preferences.

1.2 Objectives:

- Implement a robust PC configurator tool that empowers users to design and customize their gaming rigs effortlessly.
- Foster user engagement & provide assurance to customer through interactive features like user reviews, ratings.
- Unify products & hardware brand wise under single webstore for seamless, shopping experience.
- Eliminating the need of physically visiting multiple stores for a specific hardware parts & accessory.
- To develop a system that will surely satisfy the customer service.

1.3 Purpose scope and Applicability:

1.3.1 Purpose: -

- The primary purpose of this project is to meet the diverse and dynamic needs of PC enthusiasts, gamers, and PC builders. As the demand for high-performance gaming rigs and customized PC configurations continues to grow, the "Computer Parts Inventory System" serves as a dedicated platform designed to fulfil these unique requirements.
- A fundamental aspect of the project's purpose is to simplify the process of customizing a gaming PC. The built-in PC or option to customize & build their own virtual desktop, a kind of configurator tool, empowers users to explore, select, and assemble components seamlessly, allowing them to build their dream gaming systems with confidence and ease. The project places a strong emphasis on user experience, with a commitment to user-friendliness, transparency, and responsiveness. Every aspect of the platform is designed with the user in mind, ensuring that visitors can navigate the store, customize PCs, and complete purchases with ease and satisfaction.
- Ensuring the authenticity and quality of PC components and peripherals is another crucial purpose of this project. In an environment where the authenticity of products is sometimes in question, the "Computer Parts Inventory System" is dedicated to featuring only genuine, reputable, and high-quality products, and ensures to provide maximum possible assurance from the features itself.

1.3.2 Scope: -

The application will provide users with the ability to build their own custom gaming PC by selecting specific hardware components, purchase other PC-related hardware parts, and directly buy pre-built PCs from the store's inventory. Additionally, the application will include an integrated inbuilt chatbot that will assist users with hardware-related queries.

The scope of the project is to develop a web-based application that allows users to:

- Browse and purchase various computer and PC parts, such as CPUs, Graphic cards, RAMs(memory), Motherboards, Cases, Cooling Systems, Storage devices, Monitors, Keyboards, Mice, Processors(CPUs), Graphic Cards(GPUs), Pre-built PCs Desktops etc.
- Build their own custom gaming PC by selecting compatible components from a list of available options and viewing the calculated price and performance of their configuration.
- Buy pre-built PCs that are designed for different purposes and budgets, such as gaming, work, entertainment, development & research etc.

1.3.3 Applicability: -

The project is primarily applicable to the following categories of users:

Happy to help customers: Customers can contact us online through the available contact forms in our website/app, so that we can resolve their queries immediately.

- For PC gamers: PC gaming enthusiasts who seek high-performance gaming rigs, customized configurations, and the latest PC hardware components will find the platform particularly relevant.
- For PC builders: Users who enjoy the process of building their gaming PCs will benefit from the project's PC configurator tool. It empowers them to create unique systems tailored to their preferences.
- For professional gamers: Casual gamers, professional gamers, and individuals who require high-performance computers for work or content creation are within the platform's target user base.
- From Geographical considerations wise, project's applicability is not limited to specific geographic regions. It aims to serve users in diverse locations, providing a global audience with access to high-quality PC hardware and components.

Chapter 2

SURVEY OF TECHNOLOGY

SURVEY OF TECHNOLOGY

A study of resource availability that may affect the ability to achieve an acceptable system. This evaluation determines whether the technology needed for the proposed system is available or not.

- Can the work for the project be done with current equipment existing software technology & available personal?
- Can the system be upgraded if developed?
- If new technology is needed then what can be developed?

This is concerned with specifying equipment and software that will successfully satisfy the user requirement. The technical needs of the system may include:

Front-end and back-end selection

An important issue for the development of a project is the selection of suitable front-end and back-end. When we decided to develop the project, we went through an extensive study to determine the most suitable platform that suits the needs of the organization as well as helps in development of the project.

The aspects of our study included the following factors.

Front-End selection

It must have a graphical user interface that assists employees that are not from IT background.

- Scalability and extensibility.
- Flexibility.
- Robustness.
- According to the organization requirement and the culture.
- Must provide excellent reporting features with good printing support.
- Platform independent.
- Easy to debug and maintain.
- Event driven programming facility.
- Front end must support some popular back end like MS Access.

Back-End Selection

- Multiple user support.
- Efficient data handling.
- Provide inherent features for security.
- Efficient data retrieval and maintenance.
- Stored procedures.
- Popularity.
- Operating System compatible.
- Easy to install.
- Various drivers must be available.
- Easy to implant with the Front-end.

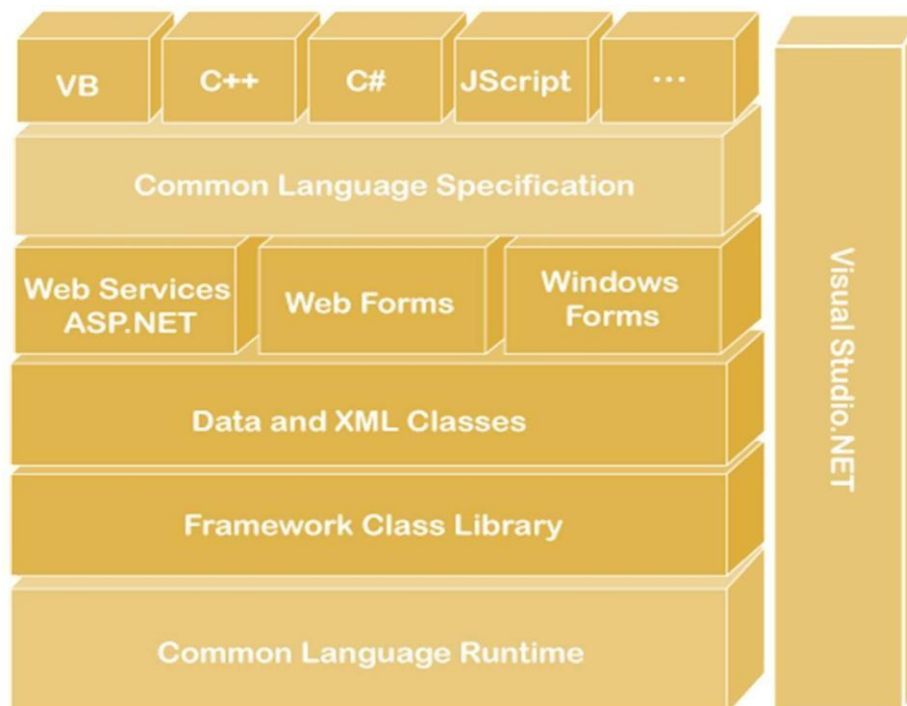
According to above stated features we selected **SSMS** as the backend.

The technical feasibility often proves to be the most challenging aspect encountered during this stage of development. It is imperative that the analysis and definition process occurs simultaneously with an evaluation of technical feasibility. This evaluation primarily revolves around the existing computer system, including its hardware and software components, and assesses the extent to which it can support the envisioned system.

Framework of Visual Studio:

The .NET Framework is a new and revolutionary platform created by Microsoft for developing applications

- It is a platform for application developers
- It is a Framework that supports Multiple Language and Cross language integration.
- IT has IDE (Integrated Development Environment).
- Framework is a set of utilities or can say building blocks of your application system.
- .NET Framework provides GUI in a GUI manner.
- .NET Framework provides interoperability between languages i.e. Common Type System (CTS).
- .NET Framework also includes the .NET Common Language Runtime (CLR), which is responsible for maintaining the execution of all applications developed using the .NET library.
- The .NET Framework consists primarily of a gigantic library of code.



Framework Of .Net

Framework of SSMS:

SQL Server Management Studio (SSMS) offers access to SQL Server objects and data, all within the familiar Visual Studio environment. As a purpose-built Visual Studio package, SSMS seamlessly integrates into Server Explorer, ensuring a smooth experience when configuring new connections and managing database objects. This tight integration allows developers to stay within Visual Studio while working with SQL Server databases.

Design Time Support

SQL Server Management Studio (SSMS) seamlessly integrates into Visual Studio 2008, 2010, and 2012, providing direct access to SQL Server databases. You can create, modify, or remove various database objects such as tables, views, stored procedures, triggers, indexes, and more right from within Server Explorer.

Visual object editors are available with comprehensive guidance to assist you during the editing process. Furthermore, standard data views are at your disposal to help you visualize and interact with your data seamlessly

Query Designer

The query design tool in Visual Studio is fully supported by SQL Server Management Studio. With this tool, you can easily construct and execute queries, retrieving and viewing data from your tables and views. It allows you to apply filters, group conditions, and set parameters to refine your queries. You can also query stored procedures, whether they have parameters or not

Stored Routine Debugging

SQL Server Management Studio offers robust debugging capabilities for stored procedures. Leveraging the familiar environment and controls you are already accustomed to, you can set breakpoints, add watches, and navigate through routines and calls by stepping into, out of, and over them. You can inspect local variables and use call stack navigation for effective debugging. To initiate debugging, simply select the routine in Server Explorer and choose the Debug option from the popup menu.

Entity Framework

SQL Server Management Studio also provides comprehensive support for Entity Framework. This includes templated-based code generation, as well as full support for model designers and wizards, making it easier to work with data in your applications.

Chapter 3

REQUIREMENTS AND ANALYSIS

3.1 Problem definition

The Computer Part Inventory project seeks to address the existing challenges in the online retail market for PC hardware accessories, with a specific focus on catering to the needs of gamers and PC enthusiasts. The current online shopping experience for PC accessories is marked by the following issues:

1. **Fragmented Access:** Gamers and PC users often must visit multiple websites to find specific PC hardware accessories, such as gaming headsets or graphic cards. This fragmented approach leads to a disjointed shopping experience.
2. **Inefficient Ordering:** Online shoppers frequently encounter long queues, even in the digital space. The ordering process can be time-consuming, particularly during peak hours, as users wait for their orders to be processed.
3. **Lack of Product Transparency:** Existing platforms may not provide users with comprehensive product information. Shoppers may be unable to access detailed product specifications, user reviews, and compatibility details, making it challenging to make informed decisions.
4. **Limited Customization:** Users who want to build their gaming desktops face constraints in customizing their systems according to their budget and preferences. This limitation hinders the personalization of gaming setups.

3.2 Preliminary Product Description

The **PC Hardware Inventory System** is a web platform aimed at addressing the challenges in the PC hardware accessories market. This system is designed to provide a comprehensive solution for gamers and users who often visit multiple websites to find specific PC accessories, such as PC headsets. The Computer Part Inventory offers a multifunctional website where users can explore and purchase a wide variety of PC-related hardware accessories from different companies and brands, all within a unified webstore.

3.3 Requirement Specifications

A. User requirements

The system will be designed to be user friendly. The user friendly and interactive interfaces design helps to achieve this by enabling customers to easily browse through the menus place orders with just a few clicks and allows restaurant employees to quickly go through the orders as they are placed and produce the necessary items with minimal delay and confusion. The system will be simple to use.

B. Functional requirements

Functional requirements define the capabilities and functions that a system must be able to perform successfully. The functional requirements of this webstore system include:

- The system shall allow users to browse the product catalogue, create an account, log in.
- Users should have the option to place the order for products.
- The system must display the selected PC hardware accessories, their individual prices, and calculate the total payment amount.
- Users will be prompted to confirm their order before finalizing it.
- The system shall provide managerial functions, allowing the manager to view, add and delete products from the inventory.
- The manager/admin can adjust the price for a particular product in the catalogue.

C. Nonfunctional requirements

A non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviours. Some of the non-functional requirements include:

- There should be sufficient network bandwidth
- Backup- provision for data backup
- Maintainability- easy to maintain

- Performance/ response time- fast response
- Usability by target user community- easy to use
- Expandability- needs to be future proof or upgradable
- Safety- should be safe to use

3.4 System requirements

These consist of the hardware and software components of a computer system that are required to install to use the software efficiently.

Software Requirements:

Web Technologies	:	Microsoft Visual Studio 2019
Code-Behind	:	C#, ASP.Net, Javascript
Database	:	SQL Server Management Studio (SSMS)
Operating System	:	Windows 10

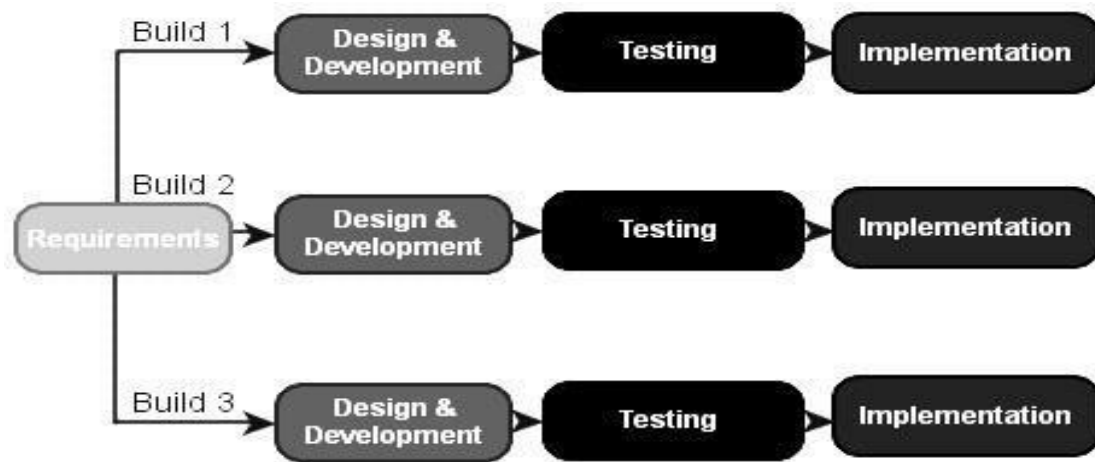
Hardware Requirements:

Processors	:	i5 5 th generations 2.30 Ghz
Installed memory (RAM)	:	2.0 GB/ 4.0 GB
System type	:	32/64- bit Operating System

3.5 Planning and Scheduling

In planning phase to develop a new system which is a first step to identify a need for the customer and plan how to develop the functional requirements of the system. This will include determining whether a business problem or opportunity exists, conducting a feasibility study to determine the developing of a project plan. Developing the project is not an easy task as we are learning stage, therefore we are going to use incremental model, and it allows debugging the system many times and enhancing functionalities of project.

3.6 Conceptual Models



An iterative life cycle model does not start with a full specification of requirements. In this model, the development begins by specifying and implementing just part of the software, which is then reviewed to identify further requirements. Moreover, in iterative model, the iterative process starts with a simple implementation of a small set of the software requirements, which iteratively enhances the evolving versions until the complete system is implemented and ready to be deployed. Each release of Iterative Model is developed in a specific and fixed time, which is called iteration. Furthermore, this iteration focuses on a certain set of requirements. Each cycle ends with a usable system i.e., a particular iteration results in an executable release. Iterative Model allows accessing previous phases, in which the changes are made accordingly. The final output of the product is revived at the end of the Software Development Life Cycle (SDLC). Typically, iterative development is used in conjunction with incremental development, in which a longer software development cycle is split into smaller segments that are built upon each other. Hence, iterative model is used in following scenarios:

- When the requirements of the complete system are clearly defined and understood.
- The major requirements are defined, while some functionalities and requested enhancements evolve with the process of the development process.

Chapter 4

SYSTEM DESIGN

4.1 Basic Modules

- Registration: - User needs to register first with basic registration details and need to create a valid login id and password.
- Login Page: - Student need to login using their valid login credentials to access most of the web application.
- Shopping Cart: - Single or multiple hardware products can be added to cart by selecting quantity.
- Search bar: - Products & Hardware items can be searched on the search bar.
- Feedback :- User can give feedback on website.
- Wishlist: - Add products or specific product to wish list.
- Category: - Products are sorted & presented in a categorical manner
- Order Summary: - User's order's information is summarized
- Invoice: - Order's Invoice is presented to user
- Contactus page: - User can contact the developers/managers for suggestion/feedback/query/complaint.

Admin:

- Login: - Admin can login their account using Id and Password.
- Product Management: - Admin can add Product too.
- Category Management: - Admin can also Delete Products.
- Manage Orders: - Admin can manage the added product's order status.
- User Management: - Admin can delete users
- Admin management: - Admin can also be deleted

Payment Module:

- The user will get the option whether to pay the bill with credit card/cash on delivery.
- This module will gather the order information and generate invoice for user to make payment and keep for their reference.

4.2 Data Design:

Database design is the organisation of data according to a database model. The designer determines what data must be stored and how the data elements interrelate. Database design involves classifying data and identifying interrelationships.

4.2.1 Schema Design, Data Integrity, and Constraints

- **Administrator:**

Attributes	Data Type	Size	Constraints	Description
UserID	Varchar	20	Primary key	It will store name of customer.
Password	Varchar	20	Not null	It will store email-id of user.

- **Customer:**

Attributes	Data Type	Size	Constraints	Description
UserID	char	15	Primary Key	Customer will enter User ID.
Full name	char	40	Not null	Customer will enter full name.
Email ID	Varchar	20	Not null	Customer will enter email id.
Contact No	Int		Not null	Customer will enter contact number.
Full address	Varchar	500	Not null	Customer will enter full address.
State	Char	20	Not null	Customer will enter State name
City	Char	20	Not null	Customer will enter City name.
Pin code	Int		Not null	Customer will enter Pin code.

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- **Orders:**

Attributes	Data Type	Size	Constraints	Description
Order_id	Int		Primary key	Customer will get order no to confirm their order.
user_id	Varchar	20	Foreign Key	Customer's ID will be used here
Phone_no	Varchar	50	Not null	Customer will cross check phone number.
First_name	Varchar	10	Not null	Customer's first name will be shown
Last_name	Varchar	50	Not null	Customer's last name will be shown
Address 1	Varchar	500	Not null	Customer will enter address.
Address 2	Varchar	500	null	Customer will enter alternate address.
Email	Varchar	50	Not null	Customer's Email will be entered
State	Varchar	50	Not null	Customer's state
City	Varchar	30	Not null	Customer's city
Zip	Varchar	30	Not null	Customer's zip code

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• Product:

Attributes	Data Type	Size	Constraints	Description
ProductID	Int		Primary key	Ordered product will get Product unique id.
ProductName	Varchar	300	Not null	Name of order Product will display.
Price	Int		Not null	Price of order will be display.
Quantity	Int		Not null	Quantity of Product.
Description	Varchar	500	Not null	Information about ordered Product.
Category	Char	20	Not null	Product category will be set
ImageUrl	Varchar	Max	Not null	Product image URL will be set

• Payment:

Attributes	Data Type	Size	Constraints	Description
Net Price	Int		Not null	Total price of ordered Product will display.
Payment ID	Varchar	15	Not null	Payment id will generate after order confirmation.
Transaction ID	Varchar	15	Primary Key	Transaction ID gives ID of the Transaction
Receipt ID	Varchar	15	Not null	Receipt ID gives ID of the Receipt generated for the transaction

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- **Wishlist:**

Attributes	Data Type	Size	Constraints	Description
Wishlist_ItemID	Int		Primary Key	Wishlisted product's ID
user_id	Varchar	50	Not null	User's ID is shown
ProductID	int		Foreign Key	Product ID is shown
ProductName	Varchar	200	Not null	Product name is displayed

- **Signup:**

Attributes	Data Type	Size	Constraints	Description
fullname	Varchar	50	Primary key	Customer's full name will be shown
dob	Varchar	50	Not null	Customer's DOB will be used here
contact_no	Varchar	50	Not null	Customer's contact no will be displayed
email	Varchar	50	Not null	Customer's email will be displayed
state	Varchar	50	Not null	Customer's state
Full address	Varchar	500	Not null	Customer will cross check full address.
city	Varchar	50	Not null	Customer's city will be shown
user_id	Varchar	50	Not null	Customer's user ID
password	Varchar	50	Not null	Customer's password

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- OrderedItem:**

Attributes	Data Type	Size	Constraints	Description
OrderedItemID	Int		Primary key	Ordered Item's ID will be shown
OrderID	Int		Foreign Key	Order's ID will be used here
Product_Name	Varchar	200	Not null	Ordered Product's name will be shown
Total_Price	Int		Not null	Product's ID total price will be shown
Ordered_date	Date	10	Not null	Date when the order was placed will be displayed
Order_Status	Varchar	10	Not null	Order's status will be shown
Quantity	Int		Not null	Items ordered quantity will be shown
Price	Int		Not null	Price of ordered will be displayed

- ProductsAll:**

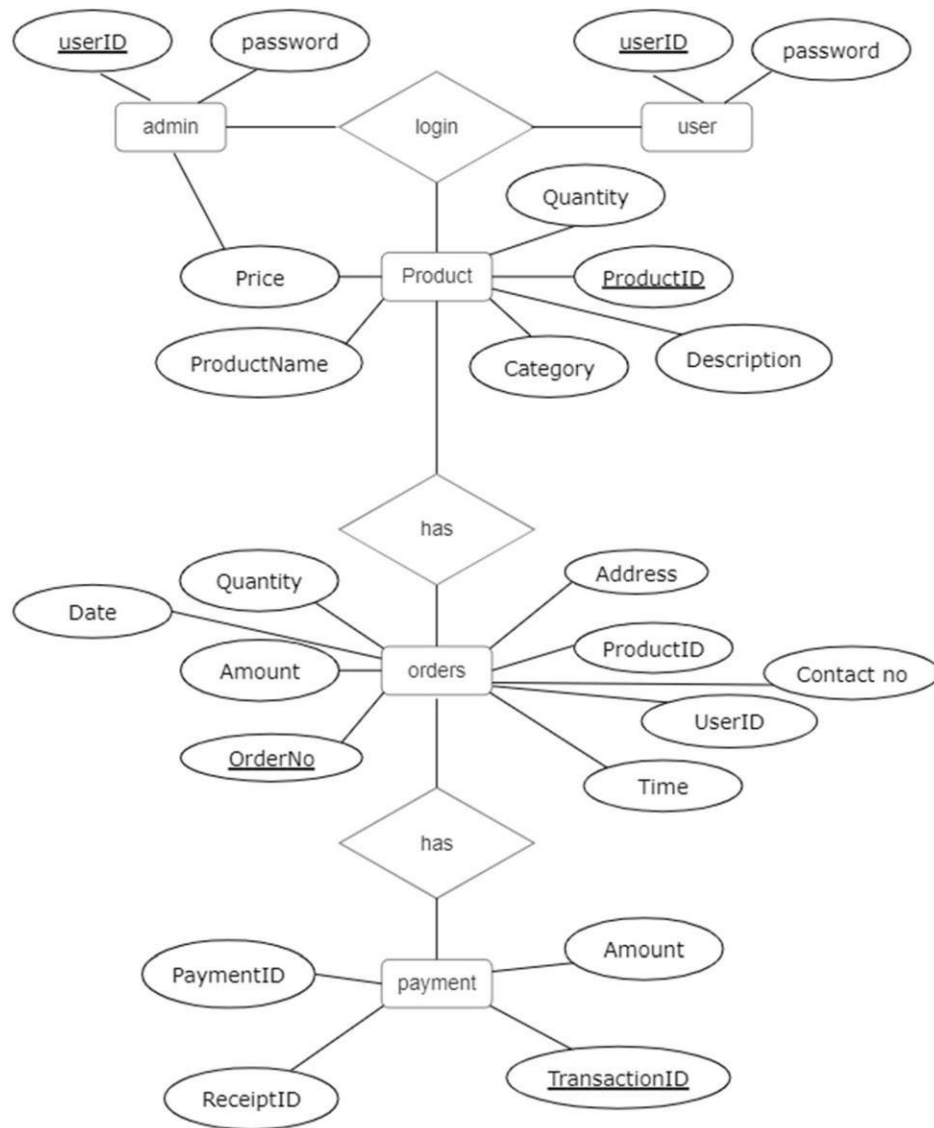
Attributes	Data Type	Size	Constraints	Description
ProductID	int		Primary key	Product's ID will be displayed
ProductName	Varchar	250	Not null	Product's name will be shown
ProductDesc	Varchar	250	Not null	Product's description will be shown
Price	Int		Not null	Product price will be displayed
Quantity	Int		Not null	Quantity of Product will be shown
ImageUrl	Varchar	500	Not null	Product's images url will be shown
category	Varchar	50	Not null	Product category will be shown

4.3 Procedural Design

Software Procedural Design (SPD) converts and translates structural elements into procedural explanations. SPD starts straight after data design and architectural design. This has now been mostly abandoned mostly due to the rise in preference of object-oriented programming and design patterns.

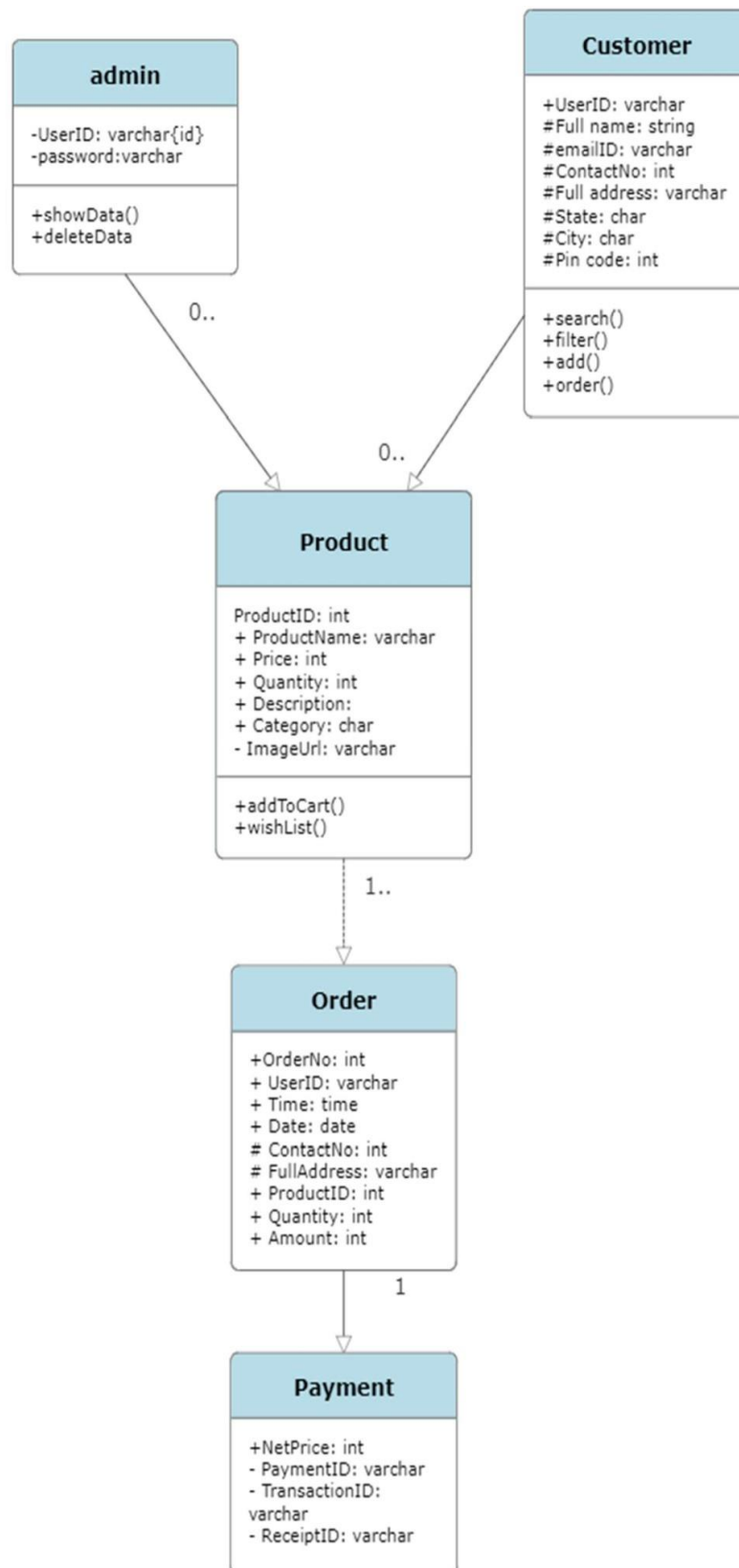
4.3.1 Logic Diagrams

- **Entity Relationship Diagram:**

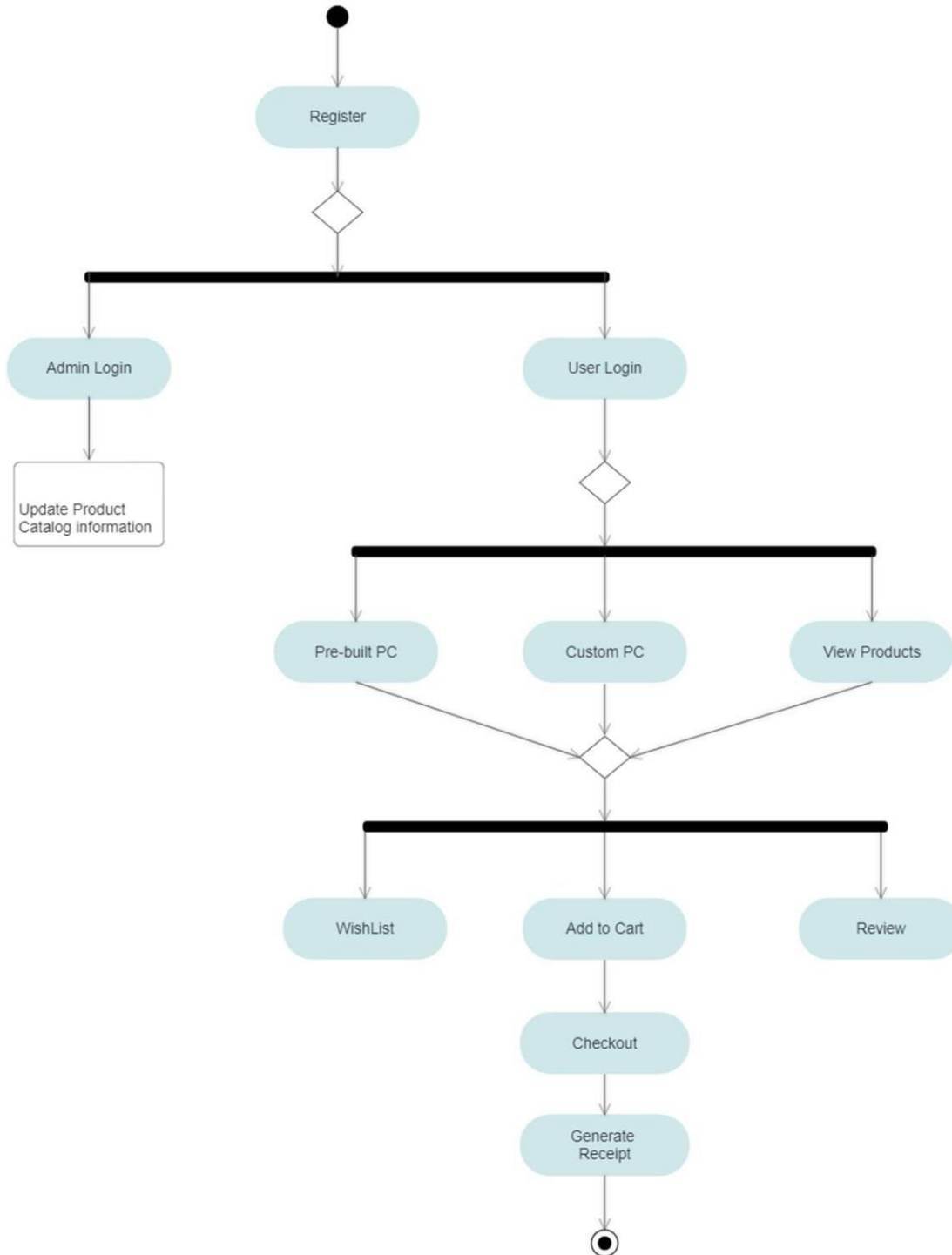


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- **Class Diagram:**

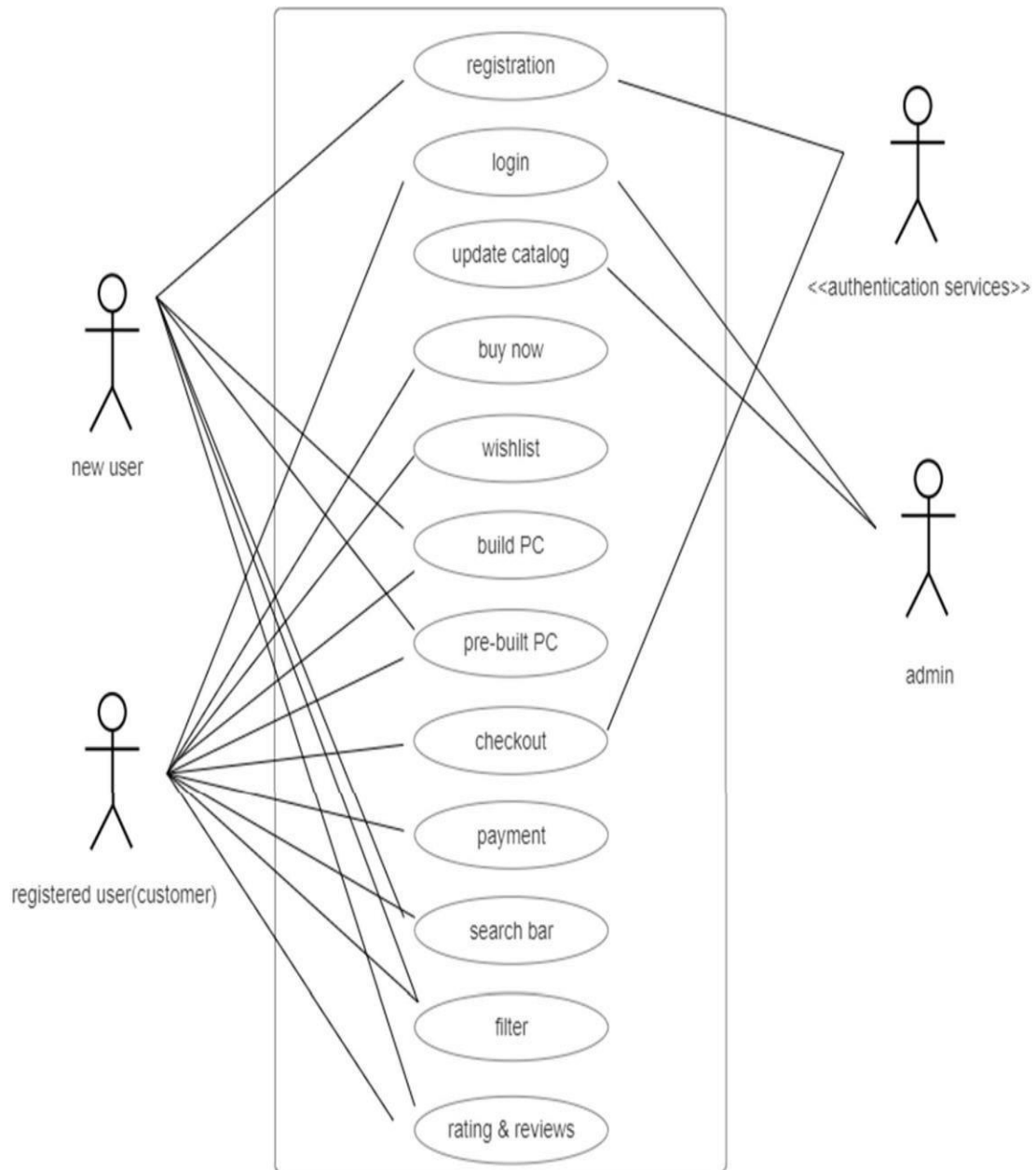


- Activity Diagram:



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- **Use Case Diagram:**



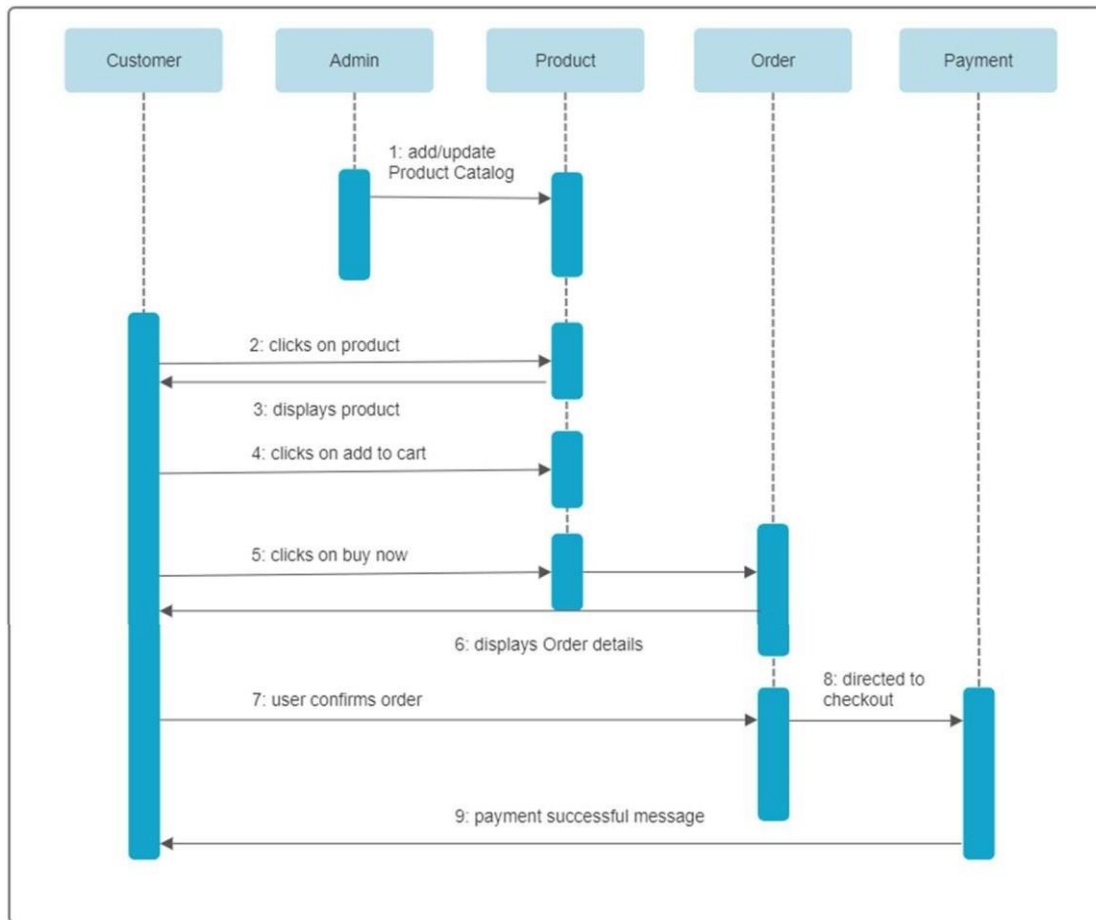
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- **Deployment Diagram:**

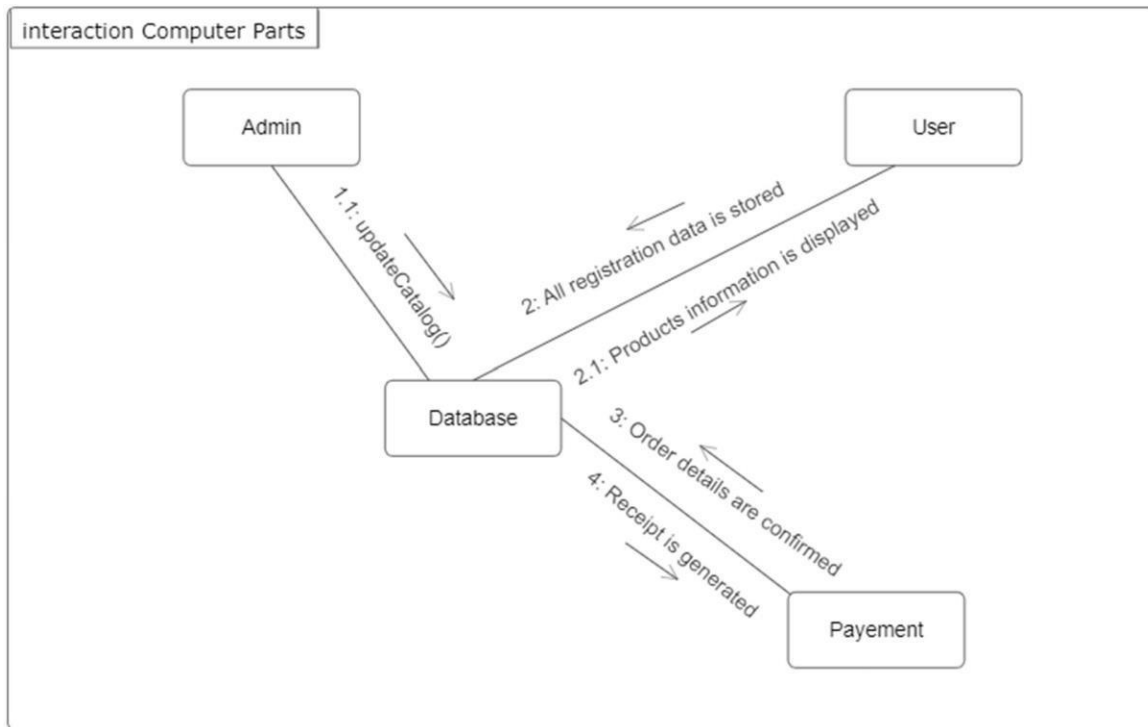


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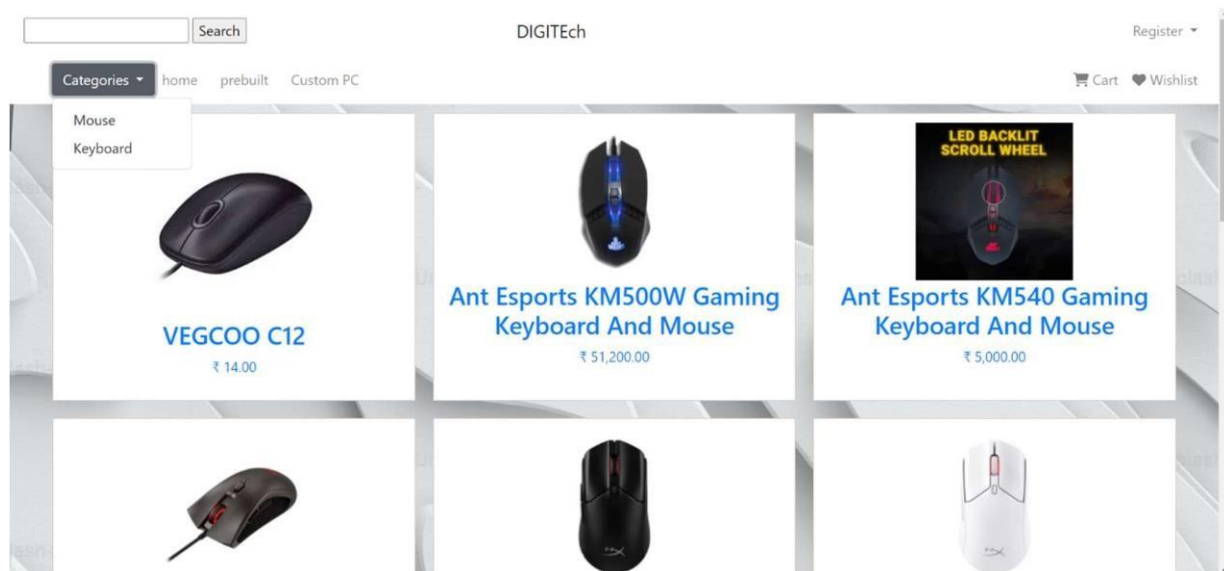
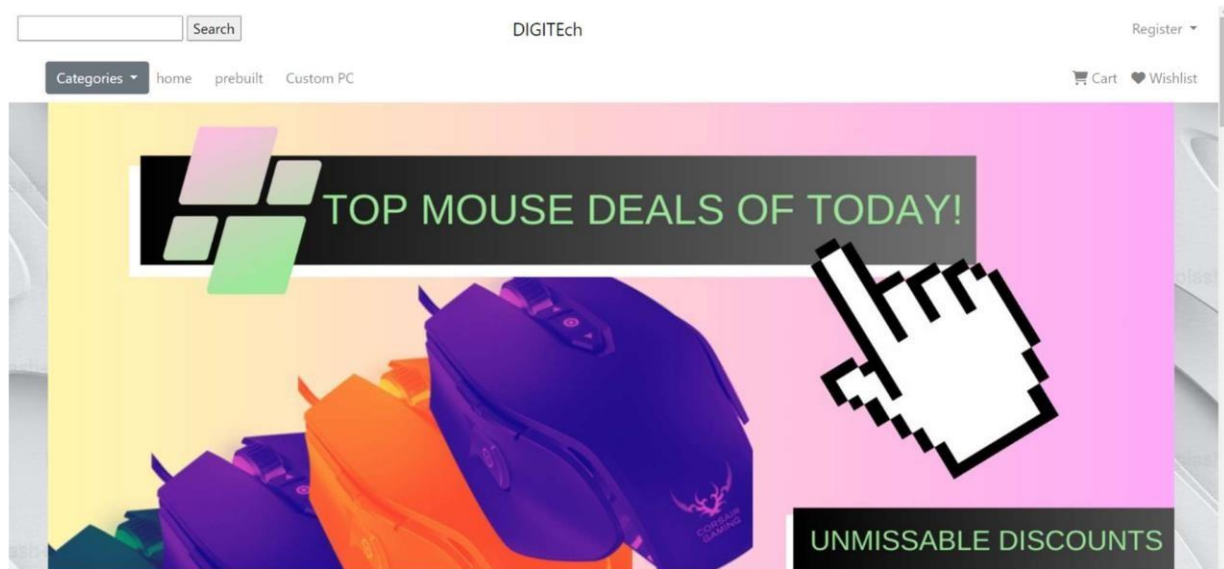
- **Sequence Diagram:**



- **Collaboration Diagram:**



4.4 Interface Design



COMPUTER PART INVENTORY SYSTEM

DIGITech

Register ▾

Categories ▾ home prebuilt Custom PC

Cart Wishlist

Your Profile

Account Status - Your status

Full Name

Contact No

Email ID

State

City

Pincode

Full Address

DIGITech

Register ▾

Categories ▾ home prebuilt Custom PC

Cart Wishlist

Contact Us

Name:

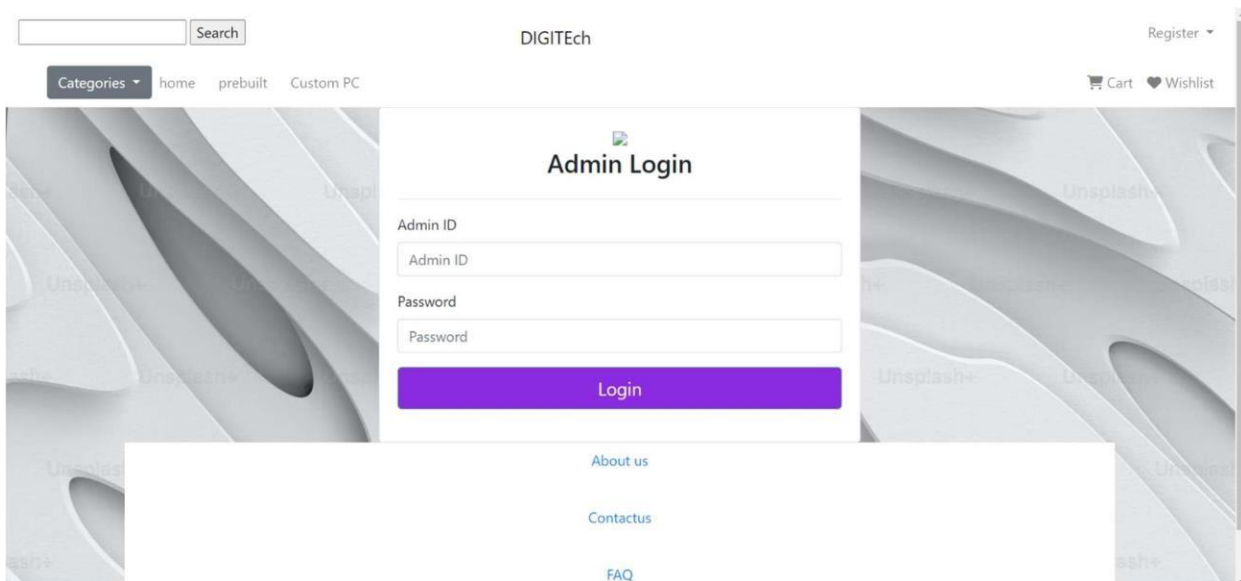
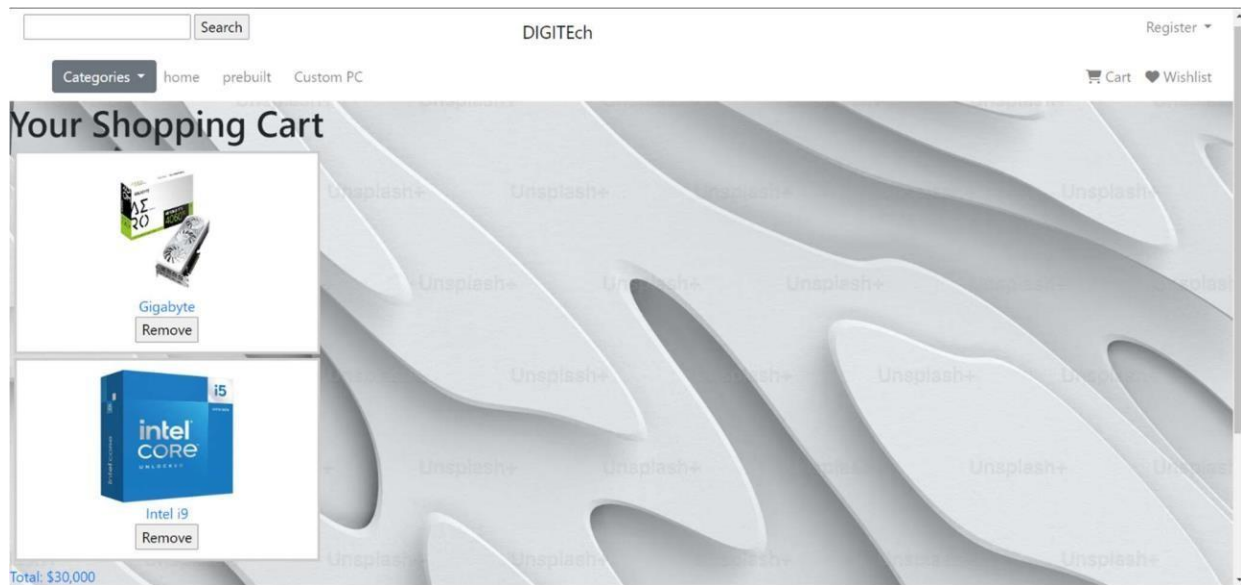
Email:

Message:

[About us](#)

[Contactus](#)

COMPUTER PART INVENTORY SYSTEM



4.5 Security Issues

In the context of the "Computer Part Inventory System," robust security measures are paramount to protect the sensitive information and transactions of our users. Given the vast array of customers with diverse computing needs, safeguarding their personal data, payment details, and browsing activities is of utmost importance. Security issues that concern us include fortifying our payment gateway to thwart potential breaches, implementing strict access controls to shield user information, and continually monitoring for any anomalies or suspicious activities. As we strive to simplify and streamline the computer hardware shopping experience, we are acutely aware of the need to ensure that our users can browse, purchase, and interact within our system confidently, knowing that their security and privacy are our top priorities.

CHAPTER 5:

IMPLEMENTATION AND TESTING

5.1 Implementation Approaches

- **Discovery & Planning**

This phase is the foundation upon which the entire project is planned and developed. It involves detailed requirement gathering, where in key pieces of information such as scope, objective, wireframes and functional requirements for the project are discussed and documented.

Discovery phase is the most important step in the whole application development process as it gives a clear understanding of the purpose, business goals, and target audience. Based on these inputs, a well thought out action plan comprising task breakdown, resource allocation, project timelines and milestones, is prepared.

- **Design & UI Coding**

Wireframes and guidelines gathered in the previous phase are used as guidelines to design the website. The look and feel of the website is very important for successful engagement and retention of target audience. Usually, the design team creates more than one prototype of the design, and it is further refined based on inputs from the client.

Aside from other things, an attractive site design is essential to ensure better traffic and conversion rate. After finalizing the design, the front-end code has been written.

- **Development**

In the development phase, functional elements of the website are built. While writing the backend code the features/functionalities that were finalized in the discovery phase. This involves coding the business logic, integrating user interface with the backend database.

- **Quality Control**

Before a newly built web application can be reviewed, it is essential to ensure that it has met rigorous quality standards. In this phase, a comprehensive quality assurance of the various developed features is performed. Browser responsive testing, regression testing, functional testing, smoke testing, load testing and performance testing are the main types of quality assurance tests performed here. Iterative process is done to guarantee the final product is bug free and smooth.

5.2 Coding Details and Code Efficiency

- **User login**

```
<% @ Page Title="" Language="C#" MasterPageFile="~/Site.Master" AutoEventWireup="true"
CodeBehind="UserLogin.aspx.cs" Inherits="Comp_peri_ecomm.UserLogin" %>
```

```
<asp:Content ID="Content1" ContentPlaceHolderID="Header" runat="server">
```

```
</asp:Content>
```

```
<asp:Content ID="Content2" ContentPlaceHolderID="MainContent" runat="server">
```

```
<style>
```

```
/* Background */
```

```
.color {
```

```
background-image: url('https://localhost:44343/imgs/geometric-crystal- background-
backgrounds.jpg');
```

```
background-size: cover;
```

```
padding: 50px 0; height:
```

```
100vh;
```

```
}
```

```
/* Card Styling */
```

```
.card {
```

```
background-color: #fff; border-
```

```
radius: 10px;
```

```
box-shadow: 0 0 20px rgba(0, 0, 0, 0.1); padding: 20px;
```

```
}
```

COMPUTER PART INVENTORY SYSTEM

```
/* Form Styling */
```

```
.form-group {
```

```
    margin-bottom: 20px;
```

```
}
```

```
.form-control {
```

```
    border: 1px solid #ccc;
```

```
    border-radius: 5px; padding:
```

```
    10px;
```

```
    width: 100%;
```

```
}
```

```
/* Button Styling */
```

```
.btn {
```

```
    border-radius: 5px; padding: 10px
```

```
    20px; cursor: pointer;
```

```
}
```

```
.btn-success {
```

```
    background-color: #28a745; color:
```

```
    #fff;
```

```
    border: none;
```

COMPUTER PART INVENTORY SYSTEM

```
}

.btn-success:hover { background-

    color: #218838;

}

.btn-info

    background-color: #17a2b8; color:

    #fff;

    border: none;

}

.btn-info:hover {

    background-color: #138496;

}

/* Link Styling */ a {

    color: #333;

}

a:hover {

    text-decoration: underline;

}

</style>

<div class="color">
```

COMPUTER PART INVENTORY SYSTEM

```
<div class="container">
```

```
<div class="row">
```

```
<div class="col-md-6 mx-auto">
```

```
<div class="card">
```

```
<div class="text-center">
```

```

```

```
</div>
```

```
<div class="text-center">
```

```
<h3>User Login</h3>
```

```
</div>
```

```
<hr>
```

```
<div class="row">
```

```
<div class="col">
```

```
<div class="form-group">
```

```
<label for="Txt_ID">User ID</label>
```

```
<asp:TextBox CssClass="form-control" ID="Txt_ID"
```

```
runat="server" placeholder="UserId"></asp:TextBox>
```

```
</div>
```

```
<div class="form-group">
```

COMPUTER PART INVENTORY SYSTEM

```
<label for="Txt_pass">Password</label>
```

```
<asp:TextBox CssClass="form-control" ID="Txt_pass" runat="server"
placeholder="Password" TextMode="Password"></asp:TextBox>
```

```
</div>
```

```
<div class="form-group">
```

```
<asp:Button CssClass="btn btn-success btn-block" ID="Login"
runat="server" Text="Login" OnClick="Login_Click" />
```

```
</div>
```

```
<div class="form-group">
```

```
<asp:Button CssClass="btn btn-info btn-block btn-lg" ID="signupbtn" runat="server" Text="SignUp"
OnClick="SignUp_Click"/>
```

```
</div>
```

```
</div>
```

```
a href="Default.aspx">&lt;&lt; Back to Home</a>
```

```
<</div>
```

```
d </div>
```

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i
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</div>
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</div>
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"
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```
</asp:Content>
```

```
>
```

```
<
```

- **Homepage**

```
<%@ Page Title="" Language="C#" MasterPageFile="~/Site.Master" AutoEventWireup="true"
CodeBehind="Default.aspx.cs" Inherits="Comp_peri_ecomm.Default" %>
```

```
<asp:Content ID="HeaderContent" ContentPlaceHolderID="Header" runat="server">
```

```
<style>
```

```
/* Updated carousel styles */
```

```
#carousel-slider {
```

```
height: 500px; /* Adjust the height as needed */
```

```
z-index:auto;
```

```
}
```

```
/* Updated product list styles */
```

```
.product-list {
```

```
display: flex;
```

```
flex-wrap: wrap;
```

```
justify-content: center;
```

```
margin-top: 30px; /* Add margin to separate carousel from product list */
```

```
}
```

```
.product-box {
```

```
width: 300px;
```

```
margin: 20px;
```

```
padding: 20px;
```

```
border: 1px solid #ccc;
```

```
text-align: center;
```

```
background-color: #f8f9fa; /* Change background color */
```

```
border-radius: 10px; /* Add border radius */
```

```
box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1); /* Add box shadow for depth */
```

```
}
```

```
.product-box img {
```

```
width: 200px;
```

```
height: 200px;
```

```
object-fit: cover; /* Ensure the image covers the container */
```

```
margin-bottom: 20px; /* Add margin below the image */
```

```
transition: box-shadow 0.3s, transform 0.3s; /* Add transition effect */
```

```
}
```

```
.product-box h4 {
```

```
color: black; /* Set product name color to black */
```

```
transition: color 0.3s; /* Add transition effect */
```

```
}
```

```
.product-box:hover img {
```

```
box-shadow: 0 8px 16px rgba(0, 0, 0, 0.2), 0 0 32px rgba(0, 123, 255, 0.5); /* Add glow effect on hover */
```

```
}
```


COMPUTER PART INVENTORY SYSTEM

```
product-box:hover h4 {  
  color: #007bff; /* Change product name color on hover */  
}
```

```
.No-underline:hover {  
  text-decoration: none !important; /* Remove underline on hover */  
}
```

```
</style>
```

```
</asp:Content>
```

```
<asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">
```

```
<center>
```

```
<br />
```

```
<%--<link href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.0/css/bootstrap.min.css" rel="stylesheet" />--%>
```

```
<script src="https://cdnjs.cloudflare.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
```

```
<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.0/umd/popper.min.js"></script>
```

```
<%--<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.1.0/js/bootstrap.min.js"></script>--%>
```

```
<div class="wrapper">
```

```
<div id="carousel-slider" class="carousel slide carousel-slider" data-ride="carousel" data-interval="7000">
```

```
<div class="carousel-inner" role="listbox">
```

```
<div class="carousel-item active">
```

```

```

```
</div>
```

```
<div class="carousel-item">
```

```

```

```
</div>
```

```
<div class="carousel-item">
```

```

```

```
</div>
```

```
<div class="carousel-item">
```

```

```

```
</div>
```

```
<div class="carousel-item">
```

```

```

```
</div>
```

```
<div class="carousel-item">
```

```

```

```
</div>
```

```
<div class="carousel-item">
```

```

```

```
</div>
```

COMPUTER PART INVENTORY SYSTEM

```
<div class="carousel-item">
  
</div>

<div class="carousel-item">
  
</div>

<!--/Tenth slide-->
<!--Eleventh slide-->
<div class="carousel-item">
  
</div>
<!--/Eleventh slide-->
<!--Twelfth slide-->
<div class="carousel-item">
  
</div>
<!--/Twelth slide-->
<!--Thirteenth slide-->
<div class="carousel-item">
  
</div>
<!--/Thirteenth slide-->
<!--Fourteenth slide-->
<div class="carousel-item">
  
</div>
<!--/Fourteenth slide-->
<!--Fifteenth slide-->
<div class="carousel-item">
  
</div>
<!--/Fifteenth slide-->
</div>
<a class="carousel-control-prev" href="#carousel-slider" role="button" data-slide="prev">
  <span class="carousel-control-prev-icon" aria-hidden="true"></span>
  <span class="sr-only">Previous</span>
</a>
<a class="carousel-control-next" href="#carousel-slider" role="button" data-slide="next">
  <span class="carousel-control-next-icon" aria-hidden="true"></span>
  <span class="sr-only">Next</span>
</a>
</div>
</div>
</center>
<div class="product-list">
  <asp:Repeater ID="rptProducts" runat="server">
    <ItemTemplate>
```

COMPUTER PART INVENTORY SYSTEM

```
<div class="product-box">
    <asp:HyperLink ID="lnkProductDetail" runat="server" NavigateUrl='<%# "product-
detail.aspx?productId=" + Eval("ProductID") %>' CssClass="No-underline">

        <asp:Image ID="imgProduct" runat="server" ImageUrl='<%# Eval("ImageUrl") %>'
AlternateText='<%# Eval("ProductName") %>' />
        <h4 style="text-align: left;"><%# Eval("ProductName") %></h4>
        <p style="font-weight: 600;">₹<%# string.Format("{0:C}", Eval("Price")) %></p>
    </asp:HyperLink>
</div>
</ItemTemplate>
</asp:Repeater>
</div>
</asp:Content>
```

• Register

```
<% @ Page Title="" Language="C#" MasterPageFile="~/Site.Master" AutoEventWireup="true"
CodeBehind="Signup.aspx.cs" Inherits="Comp_peri_ecomm.Signup" %>
<asp:Content ID="Content1" ContentPlaceHolderID="Header" runat="server">
</asp:Content>
<asp:Content ID="Content2" ContentPlaceHolderID="MainContent" runat="server">
<style>
    /* Background */
    .color {
        background-image: url('https://localhost:44343/imgs/geometric-crystal-background-backgrounds.jpg');
        background-size: cover;
        padding: 50px 0;
        height: 100vh;
    }
    /* Card Styling */
    .card {
        background-color: #fff;
        border-radius: 20px; /* Rounded corners */
        box-shadow: 0 0 20px rgba(0, 0, 0, 0.1);
        padding: 20px;
    }
    /* Form Styling */
    .form-group {
        margin-bottom: 20px;
    }
    .form-control {
        border: 1px solid #ccc;
        border-radius: 5px;
        padding: 10px;
```

```

width: 100%;
}
/* Button Styling */
.btn {
  border-radius: 5px;
  padding: 10px 20px;
  cursor: pointer;
}
.btn-success {
  background-color: #28a745;
  color: #fff;
  border: none;
}
.btn-success:hover {
  background-color: #218838;
}

/* Link Styling */
a {
  color: #333;
}
a:hover {
  text-decoration: underline;
}
</style>

<div class="container">
  <div class="row">
    <div class="col-md-8 mx-auto">
      <div class="card">
        <div class="card-body">
          <div class="row">
            <div class="col">
              <center>
                
              </center>
            </div>
          </div>
          <div class="row">
            <div class="col">
              <center>
                <h4>Member Sign Up</h4>
              </center>
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>
</div>

```

COMPUTER PART INVENTORY SYSTEM

```
</center>
</div>
</div>
<div class="row">
  <div class="col">
    <hr>
  </div>
</div>
<div class="row">
  <div class="col-md-6">
    <label>Full Name</label>
    <div class="form-group">
      <asp:TextBox CssClass="form-control" ID="TextBox1" runat="server" placeholder="Full
Name"></asp:TextBox>
    </div>
  </div>
  <div class="col-md-6">
    <label>Date of Birth</label>
    <div class="form-group">
      <asp:TextBox CssClass="form-control" ID="TextBox2" runat="server" placeholder="Dob"
TextMode="Date"></asp:TextBox>
    </div>
  </div>
</div>
<div class="row">
  <div class="col-md-6">
    <label>Contact No</label>
    <div class="form-group">
      <asp:TextBox CssClass="form-control" ID="TextBox3" runat="server" placeholder="Contact No"
TextMode="Number"></asp:TextBox>
    </div>
  </div>
  <div class="col-md-6">
    <label>Email ID</label>
    <div class="form-group">
      <asp:TextBox CssClass="form-control" ID="TextBox4" runat="server" placeholder="Email ID"
TextMode="Email"></asp:TextBox>
    </div>
  </div>
</div>
<div class="row">
  <div class="col-md-4">
    <label>State</label>
    <div class="form-group">
      <asp:DropDownList class="form-control" ID="DropDownList1" runat="server">
```

COMPUTER PART INVENTORY SYSTEM

```
<asp:ListItem Text="Select" Value="select" />
<asp:ListItem Text="Andhra Pradesh" Value="Andhra Pradesh" />
<asp:ListItem Text="Arunachal Pradesh" Value="Arunachal Pradesh" />
<asp:ListItem Text="Assam" Value="Assam" />
<asp:ListItem Text="Bihar" Value="Bihar" />
<asp:ListItem Text="Chhattisgarh" Value="Chhattisgarh" />
<asp:ListItem Text="Rajasthan" Value="Rajasthan" />
<asp:ListItem Text="Goa" Value="Goa" />
<asp:ListItem Text="Gujarat" Value="Gujarat" />
<asp:ListItem Text="Haryana" Value="Haryana" />
<asp:ListItem Text="Himachal Pradesh" Value="Himachal Pradesh" />
<asp:ListItem Text="Jammu and Kashmir" Value="Jammu and Kashmir" />
<asp:ListItem Text="Jharkhand" Value="Jharkhand" />
<asp:ListItem Text="Karnataka" Value="Karnataka" />
<asp:ListItem Text="Kerala" Value="Kerala" />
<asp:ListItem Text="Madhya Pradesh" Value="Madhya Pradesh" />
<asp:ListItem Text="Maharashtra" Value="Maharashtra" />
<asp:ListItem Text="Manipur" Value="Manipur" />
<asp:ListItem Text="Meghalaya" Value="Meghalaya" />
<asp:ListItem Text="Mizoram" Value="Mizoram" />
<asp:ListItem Text="Nagaland" Value="Nagaland" />
<asp:ListItem Text="Odisha" Value="Odisha" />
<asp:ListItem Text="Punjab" Value="Punjab" />
<asp:ListItem Text="Rajasthan" Value="Rajasthan" />
<asp:ListItem Text="Sikkim" Value="Sikkim" />
<asp:ListItem Text="Tamil Nadu" Value="Tamil Nadu" />
<asp:ListItem Text="Telangana" Value="Telangana" />
<asp:ListItem Text="Tripura" Value="Tripura" />
<asp:ListItem Text="Uttar Pradesh" Value="Uttar Pradesh" />
<asp:ListItem Text="Uttarakhand" Value="Uttarakhand" />
<asp:ListItem Text="West Bengal" Value="West Bengal" />
</asp:DropDownList>
</div>
</div>
<div class="col-md-4">
  <label>City</label>
  <div class="form-group">
    <asp:TextBox class="form-control" ID="TextBox6" runat="server"
placeholder="City"></asp:TextBox>
  </div>
</div>
<div class="col-md-4">
  <label>Pincode</label>
```

COMPUTER PART INVENTORY SYSTEM

```
<div class="form-group">
  <asp:TextBox class="form-control" ID="TextBox7" runat="server" placeholder="Pincode"
TextMode="Number"></asp:TextBox>
</div>
</div>
</div>
<div class="row">
  <div class="col">
    <label>Full Address</label>
    <div class="form-group">
      <asp:TextBox CssClass="form-control" ID="TextBox5" runat="server" placeholder="Full Address"
TextMode="MultiLine" Rows="2"></asp:TextBox>
    </div>
  </div>
</div>
<div class="row">
  <div class="col">
    <center>
      <span class="badge badge-pill badge-info">Login Credentials</span>
    </center>
  </div>
</div>
<div class="row">
  <div class="col-md-6">
    <label>Member ID</label>
    <div class="form-group">
      <asp:TextBox class="form-control" ID="TextBox8" runat="server" placeholder="User
ID"></asp:TextBox>
    </div>
  </div>
  <div class="col-md-6">
    <label>Password</label>
    <div class="form-group">
      <asp:TextBox class="form-control" ID="TextBox9" runat="server" placeholder="Password"
TextMode="Password"></asp:TextBox>
    </div>
  </div>
</div>
<div class="row">
  <div class="col">
    <div class="form-group">
      <div>
        <div>
```

COMPUTER PART INVENTORY SYSTEM

```

        <asp:Button class="btn btn-success btn-block btn-lg" ID="Button1" runat="server" Text="Sign Up"
OnClick="Button1_Click" />
    </div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
<a href="Default.aspx"><< Back to Home</a><br><br>
</div>
</div>
</div>
</asp:Content>

```


5.3 Code Efficiency:

- **ASP.NET is time-efficient:** ASP.NET reduces the amount of code necessary for building scalable applications and consequently accelerates project development on the whole, so our customers save their precious time.
- **Application development with security in mind:** Due to built-in Integrated Windows authentication and per-application configuration the level of ASP.NET-based application security increases dramatically. Windows Web server monitors web pages, components and application running on it and immediately reveals suspicious web app behaviours, like memory leaks, unbounded loops, etc.
- **ASP.NET means simplified deployment:** ASP.NET is quick and easy to deploy because of built-in configuration information allowing to avoid registration of all the components.
- **ASP.NET brings superior performance:** ASP.NET framework is known for its speed and stability. With early binding, JIT compilation, cache services, and native optimization support, web applications relying on ASP.NET technology won't be lacking in performance and robustness under any load. ASP.NET MVC as a lightweight, highly testable presentation framework integrated with existing ASP.NET features, provides a clean separation of the UI, Business Logic, Model or Data, and more control over HTML, JavaScript, and CSS than the traditional ASP.NET Web Forms development. Interested in hiring dedicated ASP.NET development team for your program.

5.3 Testing Approach

5.3.1 Unit Testing

UNIT TESTING is a level of software testing where individual units components of a software are tested. The purpose is to validate that each unit of the software performs as designed. A unit is the smallest testable part of any software. It usually has one or a few inputs and usually a single output.

In procedural programming, a unit may be an individual program, function, procedure, etc. In object-oriented programming, the smallest unit is a method, which may belong to a base.

5.3.2 Integrated Testing

INTEGRATION TESTING is a level of software testing where individual units are combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units. Test drivers and test stubs are used to assist in Integration Testing.

5.3.3 Beta Testing

BETA TESTING also known as user testing takes place at the end users site by the end users to validate the usability, functionality, compatibility, and reliability testing. Beta testing adds value to the software development life cycle as it allows the "real" customer an opportunity to provide inputs into the design, functionality, and usability of a product. These inputs are not only critical to the success of the product but also an investment into future products when the gathered data is managed effectively.

5.4 Modification and Improvements

Three Ways to Improve COMPUTER PART INVENTORY SYSTEM

1) Personalized Recommendations: Utilize machine learning algorithms to analyze user preferences and browsing history to provide personalized product recommendations. Implement a "Related Products" feature to suggest complementary items or alternatives based on the user's selected product.

2) Multi-platform Compatibility: Ensure compatibility across different web browsers and operating systems to reach a wider audience of users. Test the system on various devices and platforms to identify and address compatibility issues.

3) Continuous Performance Optimization: Regularly monitor and optimize the performance of the platform, including page load times, server response times, and overall system scalability. Conduct performance testing and implement caching mechanisms to improve site speed and responsiveness.

4) Robust Security Measures: Strengthen security measures to safeguard user data and transactions, including encryption protocols, secure authentication mechanisms, and regular security audits. Implement measures to prevent common security threats such as SQL injection, cross-site scripting (XSS), and data breaches.

CHAPTER 6

RESULTS AND DISCUSSION

6.1 USER DOCUMENTATION

1. Home Page of Computer Part Inventory System

Digitech Search [User Login](#) [User Signup](#)

[Categories](#) [Home](#) [Prebuilt](#) [Cart](#) [Wishlist](#) [Orders](#)

AMD RYZEN™ 7 7800X3D PROCESSOR

AMD RYZEN 7000 Series

ASUS ROG Strix GA35, 8 Cores 3rd Gen AMD Ryzen 7-3700X Gaming Desktop

₹174890

Zotac Gaming GeForce RTX 4070 12GB Spiderman Edition

₹71913

ASUS ROG Strix Z790-F Gaming ATX Motherboard

₹45099

Cooler Master ML360L Core ARGB CPU Liquid Cooler

₹8516

SP Silicon Power UD80 2TB NVMe M.2 SSD

₹39900

Seagate Barracuda 2TB Internal HDD

₹8449

GIGABYTE GP-P550B 80 Plus Bronze Power Supply

₹3499

Intel Core i7-9700F Processor


₹45000

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2. New user will do registration



[User Login](#) [User Signup](#)

[Categories](#) [Home](#) [Prebuilt](#) [Cart](#) [Wishlist](#) [Orders](#)


Member Sign Up

Full Name

Om Mohite

Date of Birth

05-11-2003

Contact No

981908793

Email ID

palanand@gmail.com

State

Maharashtra

City

Mumbai

Pincode

421005

Full Address

Room no 108, Wing B7, first floor Jainam residency, palegaon, Ambarnath east, Ambarnath, thane, mumbai

Member ID

chomu_123




Password

[Login Credentials](#)

Sign Up

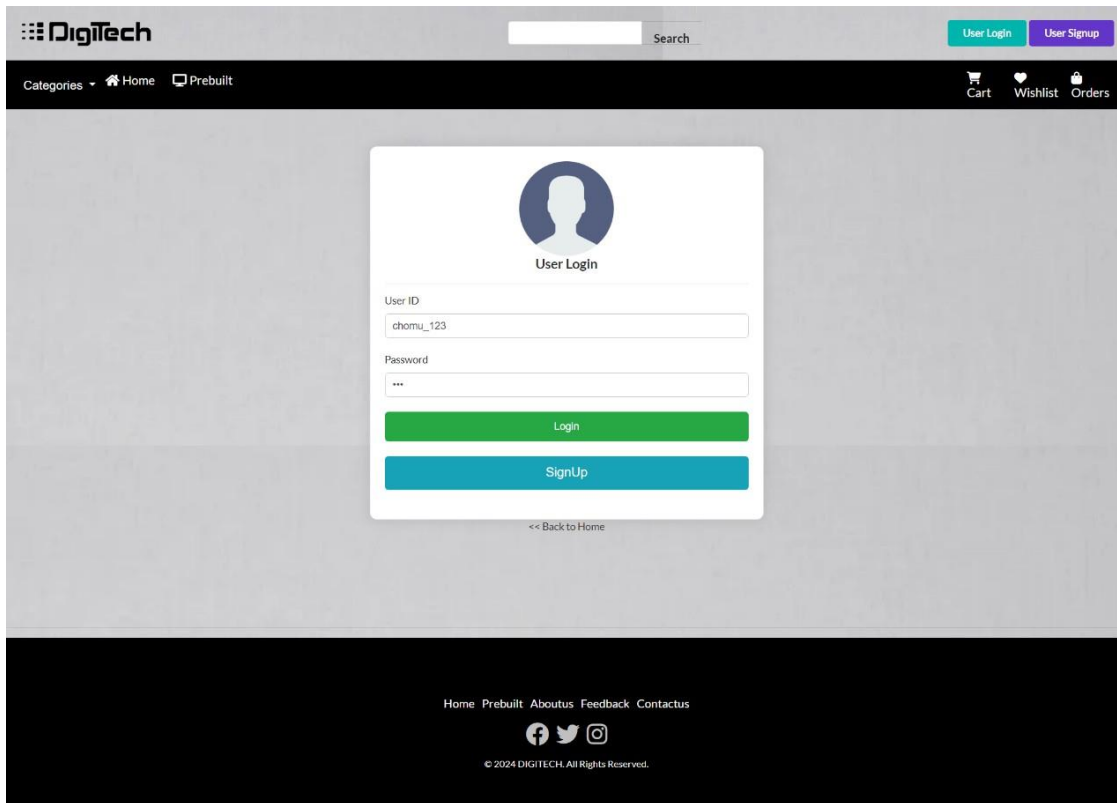
<< Back to Home

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3. After registration, user will login



The screenshot shows the 'User Login' form on the Digitech website. The form is centered on a light gray background. It features a user icon placeholder, a 'User Login' title, and two input fields: 'User ID' (containing 'chomu_123') and 'Password' (masked with '***'). Below the inputs are two buttons: a green 'Login' button and a blue 'SignUp' button. A '<< Back to Home' link is positioned below the buttons. The website's header includes the 'Digitech' logo, a search bar, and links for 'User Login' and 'User Signup'. The footer contains navigation links, social media icons, and a copyright notice for 2024.

Categories ▾ Home Prebuilt

User Login User Signup

Cart Wishlist Orders

User Login

User ID
chomu_123

Password

Login

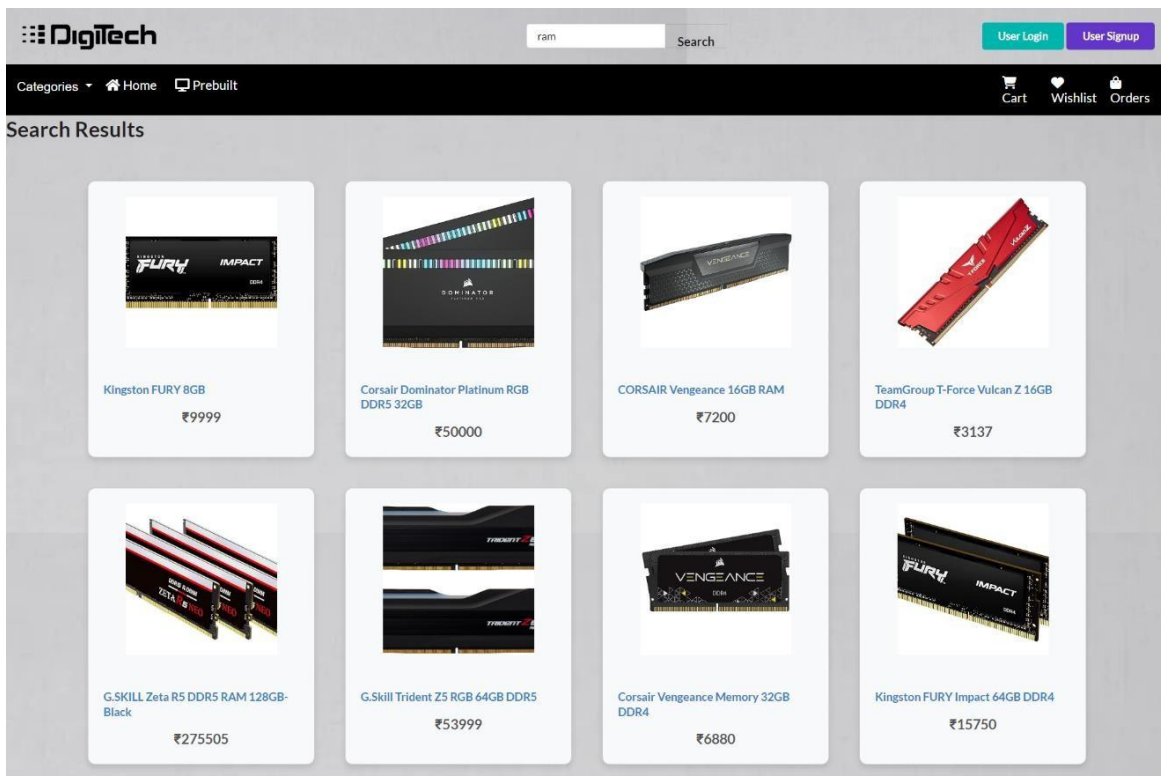
SignUp

<< Back to Home


Home Prebuilt Aboutus Feedback Contactus

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4. After login, user can search for products



5. After selecting the product, product details page would appear



Search

User Login

User Signup

Categories ▾

Home


Prebuilt

Cart

Wishlist

Orders

Product Detail



CORSAIR VENGEANCE 16GB RAM

CORSAIR VENGEANCE DDR5 optimized for Intel7 motherboards delivers the higher frequencies and greater capacities of DDR5 technology in a high-quality compact module that suits your system. Tightly-screened high-frequency memory chips power your PC through faster processing rendering and buffering than ever with onboard voltage regulation for easy finely controlled overclocking. CORSAIR iCUE software enables real-time frequency monitoring onboard voltage regulation and Intel XMP 3.0 profile customization. A distinctive solid aluminum heatspreader keeps your memory cool while ensuring wide compatibility with a huge range of motherboards and CPU coolers. With a limited lifetime warranty as your guarantee of reliability for years to come VENGEANCE DDR5 continues a long-standing legacy of memory performance.




CURRENT PRICE: ₹7200

Quantity:
1 ▾

ADD TO CART

Add to Wishlist


Home Prebuilt Aboutus Feedback Contactus



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6. Selected product will be added to the cart

The screenshot displays the Digitech website interface. At the top, the logo 'Digitech' is on the left, a search bar is in the center, and 'Logout Hello chomu_123' is on the right. Below the header, a navigation bar includes 'Categories', 'Home', and 'Prebuilt'. On the right of this bar are icons for 'Cart', 'Wishlist', and 'Orders'. The main content area features a table with the following columns: Product Image, Product Name, Quantity, Price, and Action. A single row is visible for 'CORSAIR Vengeance 16GB RAM' with a quantity of 1 and a price of 7200. To the right of the table, a summary box shows: Total price: ₹5,904.00; CGST (8%): ₹648.00; SGST (8%): ₹648.00; Total price (including taxes): ₹7,200.00. Below this summary are two buttons: 'Make Purchase' (green) and 'Back to shop' (white). The footer contains links for 'Home', 'Prebuilt', 'Aboutus', 'Feedback', and 'Contactus', along with social media icons for Facebook, Twitter, and Instagram, and a copyright notice: '© 2024 DIGITECH. All Rights Reserved.'

Product Image	Product Name	Quantity	Price	Action
	Product Name: CORSAIR Vengeance 16GB RAM	Quantity: 1	Price: 7200	Delete

Total price: ₹5,904.00

CGST (8%): ₹648.00

SGST (8%): ₹648.00

Total price (including taxes): ₹7,200.00

[Make Purchase](#)

[Back to shop](#)

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7. After confirming their order details, user adds billing details

Digitech

Search

LogoutHello chomu_123

Categories ▾HomePrebuilt

CartWishlistOrders

Billing address

First name

Om

Last name

Mohite

Phone

07666918910

Email

chomu@gmail.com

Address1

Room no 108, Wing B7, first floor Jainam residency, palegaon, Ambarnath east, Ambarnath, thane, m

Address 2 (Optional)

Apartment or suite

State

Maharashtra ▾

City

Kalyan ▾

Zip

421005

Payment

Cash on Delivery

Credit card

Name on card

Om Mohite

Credit card number

485613515349

Full name as displayed on card

Expiration

11/26

CVV

123

Continue to checkout

YOUR ORDER

CORSAIR Vengeance 16GB RAM

1 x 7200 INR


Total price:
(including taxes):₹7,200.00

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fTWIG

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8. Customer gets his invoice



Search

Logout Hello chomu_123

Categories ▾ Home Prebuilt

 Cart  Wishlist  Orders

Sale invoice

DIGITECH




Invoice #202404101212375276
Date: 2024-04-10

Invoice To:
Om Mohite
Room no 108, Wing B7, first floor Jainam residency, palegaon, Ambarnath east, Ambarnath, thane, mumbai
Kalyan
07666918910
chomu@gmail.com

Description	Price	Quantity	Total
CORSAIR Vengeance 16GB RAM	₹7200	1	₹7200
Total:			₹7,200.00


Send invoice

Home Prebuilt Aboutus Feedback Contactus

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9. Admin Login



Email

Password

Login

SignUp

COMPUTER PART INVENTORY SYSTEM

10. Admin product management

Admin Panel

Dashboard

Products

Users

Admins

Feedback

Categories

Manage Orders

Signup

Logout

Product Details

1

Go

Intel Core i7-9700F Proc

45000

10

https://m.media-amazon.com/images/I/7

Processor

Add

Update

Delete

Product List

ID	Name	Price	Quantity	ImageUrl	Category
1	Intel Core i7-9700F Processor	45000	10	https://m.media-amaz...	Processor
2	Intel Core i5 12400F	29999	10	https://m.media-amaz...	Processor
3	Intel Core i7 12700F	48000	10	https://m.media-amaz...	Processor
4	Intel Core i5-11400F	19430	10	https://m.media-amaz...	Processor

1

2

3

4

5

6

7

11. Admin dashboard

Admin Panel

Dashboard

Products

Users

Admins

Feedback

Categories

Manage Orders

Signup

Logout

Hello anand

Total Admins

ID	Name	Email
1	anand	anand@gmail.com
3	amulya	amulya@gmail.com
4	Prasad	test@gmail.com

CHAPTER 7

CONCLUSIONS

7.1 CONCLUSION

1. **Achievement of Milestone:** The COMPUTER PART INVENTORY SYSTEM marks a significant milestone in revolutionizing the computer hardware retailing industry.
2. **Seamless User Experience:** Through user-centric design and cutting-edge technology, the platform offers users a seamless, intuitive, and secure shopping experience.
3. **Addressing Diverse Needs:** The system successfully addresses the diverse requirements and preferences of computer enthusiasts, gamers, PC builders, and customers with specific hardware needs.
4. **Cutting the toil:** Customers shopping efforts & time is minimized by making the distance between them & their next hardware requirement purchase just few clicks away.
5. **Ease of Management:** Admin can easily & conveniently keep a track of inventory. Which in turn increased the efficiency of business.

7.1.1 SIGNIFICANCE OF THE SYSTEM

- 1) **Addressing Market Needs:** The COMPUTER PART INVENTORY SYSTEM addresses a critical need in the computer hardware retailing industry by providing a centralized platform for users to browse, compare, and purchase computer parts. With the increasing demand for specialized computer components and accessories, the platform serves as a one-stop solution for enthusiasts, gamers, and PC builders.
- 2) **Enhanced User Experience:** By offering a user-friendly interface, intuitive navigation, and comprehensive search functionality, the platform significantly improves the overall user experience. Users can easily find the products they need, access detailed information, and make informed purchasing decisions, leading to higher satisfaction and engagement levels.
- 3) **Streamlined Operations:** For businesses in the computer hardware retailing sector, the platform streamlines operations by automating inventory management, order processing, and customer support. This efficiency improvement results in cost savings, reduced manual effort, and increased productivity, allowing businesses to focus on growth and expansion.
- 4) **Future Scalability:** As the computer hardware industry continues to evolve and grow, the platform's scalable architecture and flexible design enable it to adapt to changing market dynamics and accommodate future expansion. This scalability ensures that the platform remains relevant, competitive, and sustainable in the long term, supporting ongoing innovation and growth initiatives.

7.2 LIMITATIONS OF THE SYSTEM

- 1) **Dependency on Internet Connectivity:** The effectiveness of the COMPUTER PART INVENTORY SYSTEM is contingent upon stable internet connectivity. Users may face limitations accessing the platform in areas with poor or unreliable internet connections, potentially impacting their browsing experience and hindering their ability to make purchases.
- 2) **Security Vulnerabilities:** Despite implementing robust security measures, the platform may still be susceptible to security breaches, data leaks, and cyber-attacks. Malicious actors could exploit vulnerabilities in the system to gain unauthorized access to user data, compromise sensitive information, or disrupt service availability, posing risks to user privacy and trust.
- 3) **Hardware and Software Compatibility Issues:** The platform may encounter compatibility issues with certain hardware configurations or software environments, leading to discrepancies in performance, functionality, or user experience. Ensuring seamless compatibility across a diverse range of devices, operating systems, and web browsers requires ongoing testing and optimization efforts.
- 4) **Geographical Constraints and Shipping Limitations:** The platform's reach may be limited by geographical constraints and shipping restrictions imposed by logistics providers. Users in remote or underserved areas may face challenges accessing the platform or receiving timely deliveries, potentially affecting their overall satisfaction and loyalty. Exploring partnerships with reliable logistics partners and optimizing shipping processes can help alleviate these limitations.
- 5) **Cost and Resource Constraints:** Developing, maintaining, and operating the COMPUTER PART INVENTORY SYSTEM requires significant investments in technology infrastructure, software development, marketing, and human resources. Limited financial resources, budget constraints, and resource allocation challenges may impact the platform's ability to pursue ambitious initiatives, scale operations, or address evolving user needs effectively.

7.3 FUTURE SCOPE OF THE PROJECT

1) **Integration with Emerging Technologies:** The COMPUTER PART INVENTORY SYSTEM has the potential to integrate with emerging technologies such as artificial intelligence (AI), machine learning (ML), and augmented reality (AR). By leveraging AI and ML algorithms, the platform can offer personalized product recommendations, predictive analytics, and inventory optimization. AR technology can enhance the user experience by allowing customers to visualize products in their physical environment before making a purchase.

2) **Implementation of Advanced Analytics and Business Intelligence:** Investing in advanced analytics and business intelligence tools can unlock valuable insights from user data, sales trends, and market dynamics. By leveraging these insights, the platform can optimize its marketing strategies, refine its product assortment, and identify new growth opportunities. Additionally, predictive analytics can help forecast demand, prevent stockouts, and minimize inventory holding costs.

3) **Enhancement of User Engagement and Loyalty Programs:** Implementing gamification elements, loyalty programs, and interactive features can enhance user engagement and foster customer loyalty. By rewarding users for their interactions, referrals, and purchases, the platform can incentivize repeat business and increase customer lifetime value. Additionally, fostering a sense of community through user forums, discussion boards, and social media integration can create a vibrant and active user community.

COMPUTER PART INVENTORY SYSTEM

REFERENCES

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<https://developer.mozilla.org/en-US/docs/Web/CSS/z-index>