**IMPLEMENTATION OF E-COMMERCE WEBSITE**

**WITH VIRTUAL TRY-ON**

**A PROJECT REPORT**

***Submitted by***

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**BONAFIDE CERTIFICATE**

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**ABSTRACT**

The implementation of this e-commerce website involves the use of HTML, CSS, and JavaScript to create a dynamic and visually appealing online shopping platform. The HTML markup structures the content, defining the layout and components of each webpage. CSS is utilized for styling and layout adjustments, ensuring a consistent and user-friendly design across multiple devices and screen sizes. JavaScript is employed to enhance user interactivity, enabling features such as dynamic product displays, real-time updates of shopping carts, and responsive navigation. The website is designed to be responsive, adapting to various screen sizes, providing an optimal viewing experience for users on desktops, tablets, and smartphones. A well-organized navigation structure ensures users can easily explore product categories, locate items of interest, and access essential pages such as the shopping cart and user profile. JavaScript is employed to dynamically load and display product information. Secure user authentication is implemented to enable features like account creation, login and enhancing the overall user experience. Interactive elements are incorporated to allow users to provide feedback, ratings, and reviews on products, fostering a sense of community and trust. By utilizing HTML, CSS, and JavaScript, this e-commerce website aims to deliver a user-friendly, visually appealing, and feature-rich online shopping experience, meeting the needs of both customers and administrators.

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**CHAPTER 1**

**INTRODUCTION**

**1.1 INTRODUCTION TO THE DEVELOPMENT OF E-COMMERCE WEBSITE**

In the contemporary digital landscape, the development of E-Commerce websites plays a pivotal role in reshaping the way businesses operate and consumers engage in commerce. E-Commerce, short for electronic commerce, refers to the buying and selling of goods and services over the internet. The significance of E-Commerce lies in its ability to transcend geographical boundaries, providing businesses with a global reach and consumers with unprecedented convenience.

The primary objective of developing an E-Commerce website is to create an online platform that seamlessly facilitates transactions, allowing users to browse, select, and purchase products or services with ease. This digital storefront not only serves as a virtual marketplace but also opens up new avenues for businesses to connect with a diverse customer base, enhance brand visibility, and optimize their sales channels.

The development process involves leveraging a combination of web technologies such as HTML, CSS, and JavaScript to create an intuitive and visually appealing user interface. Database management systems, secure payment gateways, and robust back-end infrastructure are integrated to ensure the functionality, security, and reliability of the platform.

As technology continues to advance, E-Commerce websites evolve to incorporate innovative features like personalized recommendations, real-time inventory tracking, and seamless mobile experiences. The development of E-Commerce websites is not merely about creating an online store but building a dynamic ecosystem that adapts to changing consumer preferences and technological advancements.

This section will delve into the multifaceted aspects of E-Commerce website development, exploring the key features, technologies, and considerations involved in creating a robust and user-centric online shopping experience. From responsive design principles to secure payment integrations, the development journey of an E-Commerce website is a dynamic process that seeks to enhance the digital commerce landscape.

**CHAPTER 2**

**LITERATURE SURVEY**

A literature survey for an E-Commerce website encompasses a review of existing studies, research papers, and articles related to various aspects of E-Commerce, including technology, user experience, security, and business strategies. Here is a brief overview of key themes and topics that might be covered in a literature survey for an E-Commerce website: Explore literature on the technologies used in E-Commerce website development, such as HTML, CSS, JavaScript, server-side scripting languages, and content management systems. Survey literature on E-Commerce security measures, including SSL encryption, secure payment gateways, and user data protection. Explore studies on building trust in online transactions, addressing concerns related to fraud, data breaches, and online privacy. Investigate research on different payment methods and systems used in E-Commerce, including credit cards, digital wallets. Explore the challenges and opportunities associated with integrating secure payment gateways. Review literature on various E-Commerce business models such as B2B, B2C, and C2C. Explore strategies for customer acquisition, retention, and the use of analytics for data-driven decision-making.

Examine studies on the integration of social media platforms with E-Commerce websites for marketing, customer engagement, and brand building. Investigate the impact of social commerce on consumer behavior and purchasing decisions.

Review literature on E-Commerce logistics, fulfillment, and supply chain management, including last-mile delivery challenges and innovations. Explore studies on the implementation of technologies like RFID and IoT in supply chain optimization. Investigate research on legal and ethical issues in E-Commerce, such as consumer rights, privacy regulations, and compliance with international laws. Explore literature on the challenges and opportunities of E-Commerce in emerging markets, including factors like infrastructure, payment systems, and cultural considerations. Review studies on the impact of the COVID-19 pandemic on E-Commerce trends, consumer behavior shifts, and the acceleration of digital transformation.

By conducting a comprehensive literature survey on these and related topics, you can gain valuable insights into the current state of E-Commerce, identify gaps in knowledge, and inform the development of a robust and informed E-Commerce website.

**CHAPTER 3**

**HARDWARE AND SOFTWARE REQUIREMENTS**

This chapter provides brief description about the requirements essential for our project.

**HARDWARE REQUIREMENT**

Operating system : Windows 7

Hard disk : 40 GB

RAM : 2 GB (minimum)

**SOFTWARE REQUIREMENT**

Simulator : Network Simulator2 (NS2)

Operating system : Windows

Version Control : Git, GitHub

Integrated Development

Environment (IDE) : Visual Studio Code

Web Browser : Google Chrome, Microsoft Edge

**CHAPTER 4**

**PROJECT DESCRIPTION**

This chapter aims at making easy online shopping and virtual try on of clothes while shopping.

**4.1 AIM**

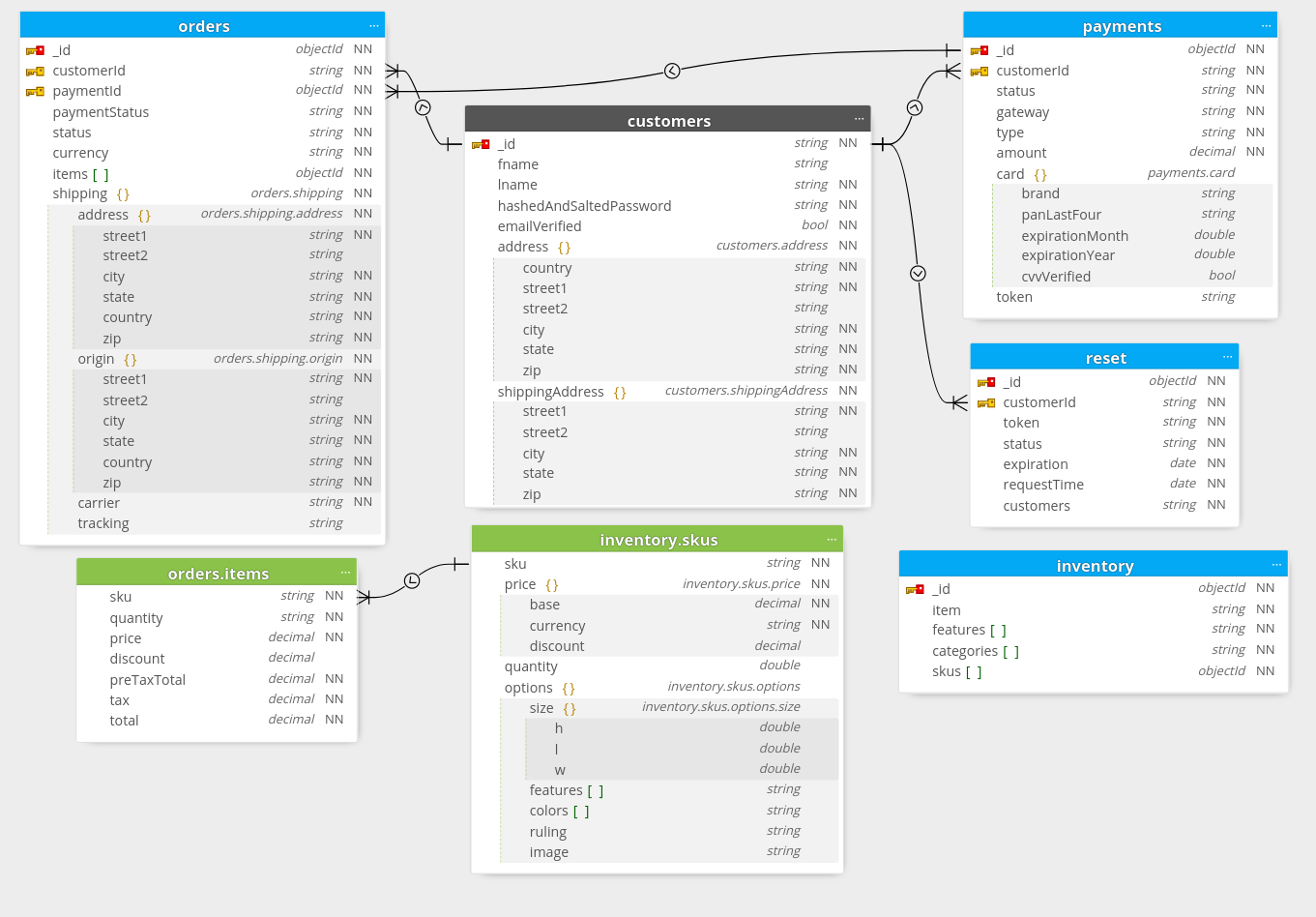
The aim of building an E-Commerce website with a virtual try-on feature is to enhance the online shopping experience by providing customers with a simulated and interactive way to try on products before making a purchase. The virtual try-on feature uses technology to overlay or integrate digital representations of products onto real-world images or videos of users, allowing them to visualize how the products will look on themselves. Here are some key objectives and benefits of incorporating virtual try-on in an E-Commerce platform.

**4.2 PROJECT DESIGN**

The design of our E-Commerce project is centered around delivering a seamless and user-centric online shopping experience. The website will feature an intuitive and aesthetically pleasing user interface crafted with HTML, CSS, and JavaScript to ensure responsiveness across various devices. The homepage will provide easy navigation to product categories, highlighting featured and new items to capture user attention.A crucial component of our design is the integration of a virtual try-on feature, allowing users to visualize how clothing items look on themselves before making a purchase. This feature will be implemented using computer vision and image processing technologies, enhancing user engagement and boosting confidence in product selections. Additionally, the website will incorporate secure and efficient payment gateways to facilitate smooth transactions.

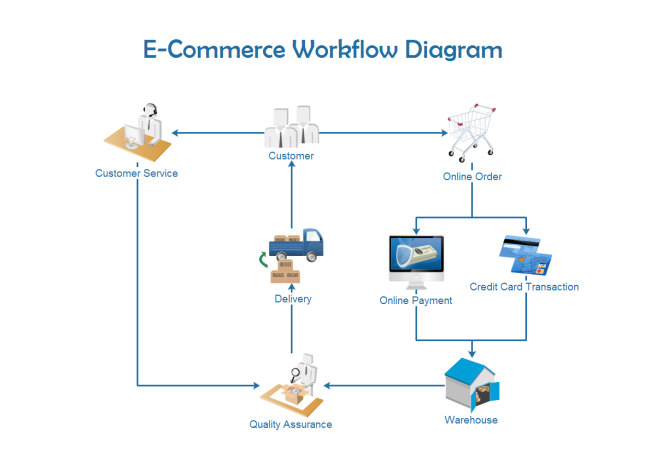
The product pages will showcase high-quality images, detailed descriptions, and customer reviews to assist users in making informed decisions. A user-friendly shopping cart and checkout process will streamline the purchase journey. Furthermore, the website will implement personalized recommendations based on user preferences and past purchases, enhancing the overall customer experience. To ensure a robust and scalable system, the project will leverage a relational database for inventory management, user profiles, and order tracking. The use of version control, such as Git, will enable collaborative development, and regular testing will be conducted to identify and address any potential issues. The E-Commerce project aims to not only provide a platform for buying and selling but to create a dynamic and engaging online marketplace. It will continuously evolve through data-driven insights, user feedback, and the integration of emerging technologies, positioning itself as a cutting-edge and customer-focused E-Commerce destination.

**4.2.1 DATA MODEL**



**Figure 4.2.1 DATA MODEL**

**4.3 PROCESS MODEL**



**Figure 4.2 PROCESS MODEL**

**4.3.1. SETUP PHASE**

The setup phase for an e-commerce website involves several crucial steps that lay the groundwork for a successful online store. These steps encompass planning, designing, and implementing the essential components of the website to ensure a seamless user experience and efficient business operations.

Here's a comprehensive breakdown of the setup phase for an e-commerce website:

**1. Define Business Objectives and Target Audience** :

- Clearly outline your e-commerce business goals, whether it's generating sales, increasing brand awareness, or expanding market reach.

- Identify your target audience, their preferences, and online behavior to tailor your website and product offerings accordingly.

**2. Choose an E-commerce Platform:**

- Select a suitable e-commerce platform that aligns with your business needs, technical expertise, and budget.

- Consider factors like scalability, features, ease of use, and customer support when making your choice.

- Popular e-commerce platforms include Shopify, WooCommerce, BigCommerce, and Magento.

**3. Secure a Domain Name and Hosting:**

- Register a domain name that reflects your brand and is easy to remember for customers.

- Choose a reliable hosting provider that offers sufficient storage, bandwidth, and security for your e-commerce website.

**4. Design and Customize Your E-commerce Store:**

- Create a visually appealing and user-friendly website design that aligns with your brand identity.

- Ensure the website is optimized for mobile devices, as a significant portion of online shoppers use their smartphones.

- Customize the website's layout, navigation, and product pages to enhance user experience and encourage purchases.

**5. Set Up Payment Processing and Shipping Methods:**

- Integrate secure payment gateways like PayPal, Stripe, or Braintree to facilitate online transactions.

- Choose reliable shipping carriers and offer various shipping options to cater to different customer preferences.

- Clearly display shipping costs and estimated delivery times to ensure transparency and customer satisfaction.

**6. Add Products and Manage Inventory:**

- Create detailed product descriptions with high-quality images and videos to showcase your offerings.

- Categorize products effectively to make them easily discoverable by customers.

- Implement an inventory management system to track stock levels, prevent overselling, and ensure product availability.

**7. Establish Marketing and Promotional Strategies:**

- Develop a marketing plan to attract visitors to your e-commerce website and drive sales.

- Utilize search engine optimization (SEO) techniques to improve your website's ranking in search results.

- Utilize social media marketing to engage with potential customers and promote your products.

- Consider running email marketing campaigns to nurture leads and drive repeat purchases.

**8. Test and Launch Your E-commerce Website:**

- Thoroughly test the website's functionality, including navigation, payment processing, and checkout processes.

- Gather feedback from beta testers or conduct user testing to identify and address any issues before launch.

- Create a launch plan that includes promotional activities, social media engagement, and press releases.

- Monitor website traffic, user behavior, and conversion rates after launch to make data-driven improvements.

**9. Establish Customer Support Channels:**

- Implement a responsive customer support system to address customer inquiries, resolve issues, and provide assistance.

- Provide multiple support channels, such as email, live chat, and phone support, to cater to different customer preferences.

- Actively monitor customer feedback and incorporate it into your website's development and customer service processes.

**10. Continuously Monitor and Optimize Your E-commerce Store:**

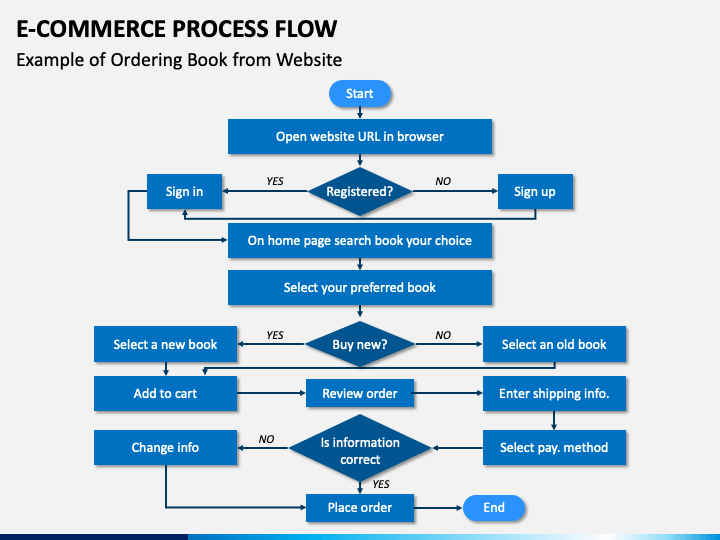
- Regularly review website analytics to understand user behavior, identify popular products, and optimize marketing campaigns.

- Monitor customer feedback and address any recurring issues or areas for improvement.

- Stay updated with e-commerce trends, technology advancements, and changing customer preferences.

- Implement ongoing website updates, security patches, and feature enhancements to maintain a competitive edge.

**FLOW GRAPH**



**Figure 4.3.1 FLOW GRAPH**

**4.3.2 FUNCTIONAL DECOMPOSITION OF THE MODEL AND IT’S DIAGRAM**

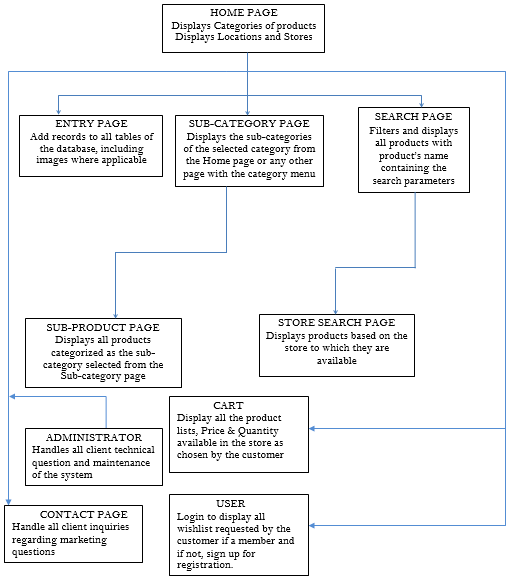
Functional decomposition for an E-Commerce website involves breaking down the system into smaller, manageable functions or modules, each responsible for specific functionalities.

The E-Commerce website can be functionally decomposed into several key modules, each contributing to the overall functionality of the platform. The product management module handles inventory and product details, allowing administrators to add, update, or remove products from the catalog. The user management module is responsible for user authentication, registration, and account management, ensuring secure and personalized interactions.

The shopping cart module facilitates seamless product selection and order creation, allowing users to add, edit, and remove items before proceeding to checkout. The order processing module manages transactions, verifies payment information, and generates order confirmations. Additionally, the search and navigation module enhances user experience by enabling efficient product discovery and category browsing.

The virtual try-on module integrates computer vision technologies to enable users to virtually try on clothing items, enhancing the interactive and immersive nature of the platform. The content management module allows administrators to update website content, such as banners and promotional information, ensuring the website remains dynamic and up-to-date. The reviews and ratings module allows users to share feedback on products and helps build a sense of trust within the community. Finally, the analytics module gathers and analyzes user data, providing insights into customer behavior, popular products, and overall site performance. By breaking down the E-Commerce website into these functional modules, we can systematically design, develop, and maintain a robust and user-friendly online shopping platform.

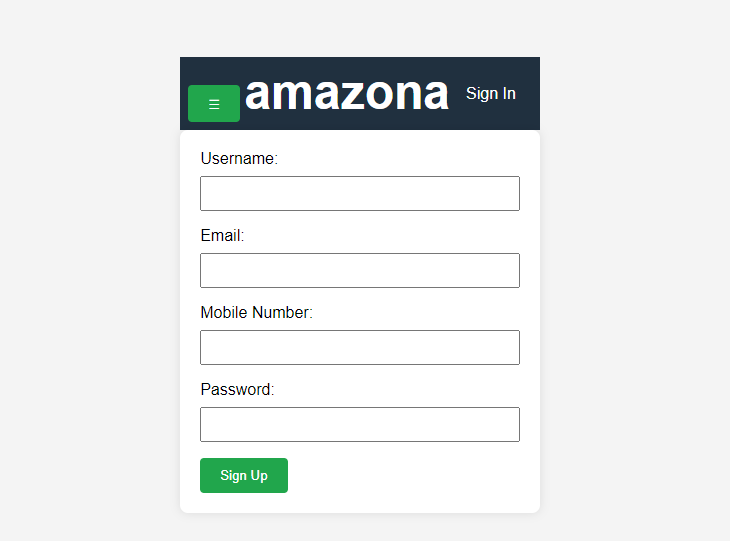
**FLOW GRAPH**

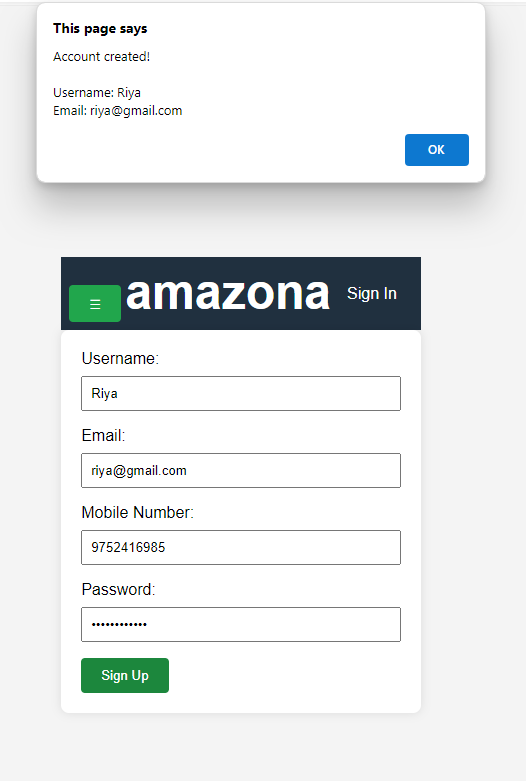


**Figure 4.3.2 FLOW CHART FOR FUNCTIONAL DECOMPOSITION DIAGRAM**

**4.4 USER INTERFACE DESIGN**

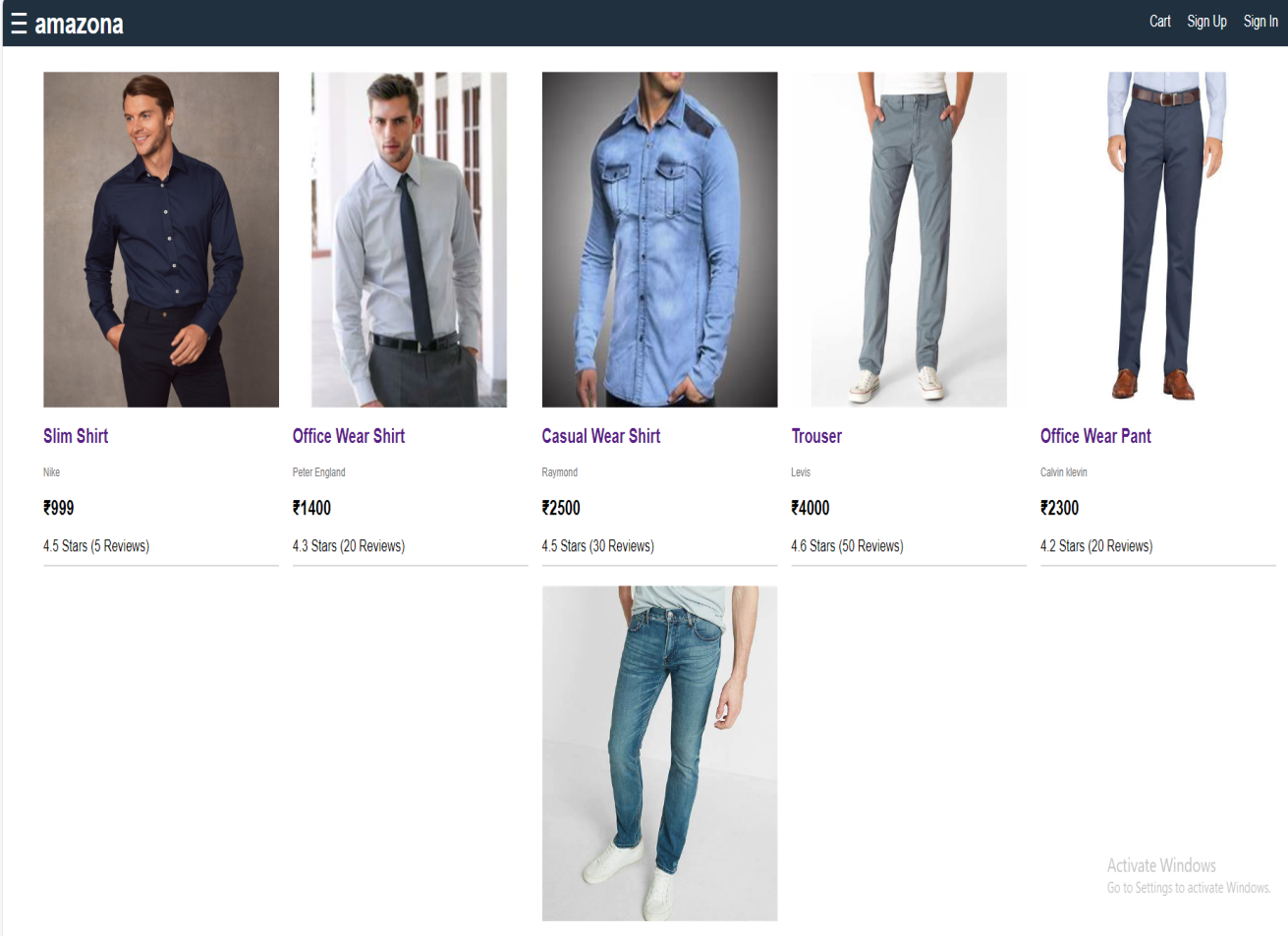
**4.4.1 SIGN UP PAGE**

****

****

**Account created Successfully!!**

**4.4.2 HOME PAGE**

****

****

**4.5 SCOPE OF THE PROJECT**

The scope of the E-Commerce website encompasses a comprehensive range of features and functionalities aimed at creating a dynamic and user-centric online shopping platform. The website will serve as a virtual marketplace, allowing users to browse, select, and purchase a diverse array of products conveniently. The primary scope includes an intuitive and responsive user interface, facilitating seamless navigation and ensuring a positive user experience across various devices. Key features such as user registration, authentication, and personalized user profiles will be implemented to enhance engagement and provide a tailored shopping experience.

**CHAPTER -5**

**IMPLEMENTATION OF TECHNOLOGIES**

**5.1 HYPERTEXT MARKUP LANGUAGE**

Hypertext Markup Language (HTML) serves as the foundational language for structuring and presenting content on an E-Commerce website. In the context of online retail, HTML plays a pivotal role in creating a structured and visually appealing interface that effectively communicates information to users.

HTML provides the structural framework for the website's layout, allowing developers to define the hierarchy of elements such as headers, paragraphs, images, and links. In the context of an E-Commerce platform, these elements are strategically utilized to organize product listings, create navigation menus, and present essential information like product descriptions and pricing. The semantic nature of HTML tags ensures that search engines can understand and index the content accurately, contributing to the website's discoverability in search results.

It supports multimedia elements, enabling the seamless integration of images, videos, and interactive content to showcase products in a visually compelling manner. The inclusion of semantic elements like `<article>`, `<section>`, and `<nav>` allows developers to create a more meaningful and accessible document structure, improving the overall user experience.

Furthermore, HTML forms the backbone for implementing crucial functionalities such as user registration, login, and interactive elements like shopping carts and checkout forms. Input fields, buttons, and validation mechanisms are constructed using HTML, facilitating smooth and secure transactions. HTML, in conjunction with JavaScript, enables dynamic updates, ensuring that users receive real-time information on product availability, pricing, and order status.

In essence, HTML is the fundamental building block that empowers developers to create a structured, accessible, and visually appealing E-Commerce website. Its versatility and compatibility with other web technologies make it an indispensable tool for crafting an engaging and efficient online shopping platform.

**5.2 CASCADING STYLE SHEET**

Responsive design, a crucial aspect of modern E-Commerce, is achieved through HTML and CSS collaboration. HTML specifies the document structure, while CSS (Cascading Style Sheets) controls the presentation and layout, ensuring a consistent and user-friendly experience across various devices.

CSS (Cascading Style Sheets) plays a crucial role in designing and formatting reports for web applications. When creating reports using HTML, CSS helps enhance the presentation, layout, and overall aesthetics of the content. Here's how CSS can be utilized effectively for reports:

**1. Typography:** Define fonts, sizes, line heights, and styles for headings, paragraphs, and other text elements in the report.

**2. Color and Background**: Set color schemes, backgrounds, and gradients to improve readability and visual appeal.

**3. Layout:** Use CSS to structure the layout of the report, positioning elements in columns, grids, or sections. Employ CSS frameworks like Flexbox or Grid for responsive and adaptable layouts.

**4. Borders and Box Shadows:** Add borders, box shadows, or outlines to separate sections and emphasize certain elements in the report.

**5. Tables and Lists:** Style tables, lists, and data tables for better readability by adjusting borders, backgrounds, and spacing.

**5.3 JAVASCRIPT**

JavaScript, a dynamic and versatile scripting language, plays a crucial role in enhancing the interactivity and functionality of an E-Commerce website. In the context of online retail, JavaScript contributes to creating a seamless and engaging user experience. One of its primary functions is to facilitate client-side scripting, allowing developers to implement features that respond to user actions without requiring page reloads.

For an E-Commerce website, JavaScript is instrumental in creating dynamic and responsive user interfaces. It enables the implementation of interactive elements such as image sliders, product carousels, and real-time updates to product information. By harnessing JavaScript's event-driven nature, functionalities like product filtering, sorting, and live search can be seamlessly integrated, empowering users to efficiently navigate through a vast catalog of products.

Shopping cart management and checkout processes are also significantly enhanced by JavaScript. It enables the implementation of features like asynchronous data retrieval, ensuring that users can add products to their cart and update quantities without refreshing the entire page. Validation of user inputs in forms, especially during the checkout process, is efficiently handled through JavaScript, providing a smooth and error-free experience.

Moreover, JavaScript enables the integration of secure and user-friendly payment gateways. It facilitates the handling of sensitive information, such as credit card details, by establishing secure connections and validating inputs before transmitting data to the server. This ensures that the transaction process is not only secure but also user-friendly and responsive.

In the context of asynchronous requests, JavaScript supports the implementation of AJAX (Asynchronous JavaScript and XML), allowing the website to retrieve and send data to the server in the background without requiring a full page reload. This is particularly beneficial for implementing features like user reviews, product ratings, and real-time updates on product availability.

In summary, JavaScript is a fundamental component in the development of a modern and efficient E-Commerce website. Its capabilities extend beyond mere webpage scripting to empowering developers to create dynamic, responsive, and feature-rich interfaces, contributing significantly to the overall success and user satisfaction of an online retail platform.

**5.4 VIRTUAL TRY-ON**

Virtual try-on using deep learning and computer vision involves creating a system that allows users to virtually try on clothing before making a purchase. This technology can be applied in various industries, including fashion, retail, and e-commerce. Here's a general overview of how such a system might work:

Virtual try-on using deep learning and computer vision involves creating a system that allows users to virtually try on clothing before making a purchase. This technology can be applied in various industries, including fashion, retail, and e-commerce.

Steps in Implementing Virtual Try-On Using Deep Learning and Computer Vision:

**Data Collection:**

Gather a diverse dataset of images with people wearing different types of clothing items or accessories.

Annotate the dataset with information about the location of key points on the body, such as joints and facial features.

**Deep Learning Model for Pose Estimation:**

Use a deep learning model for pose estimation to identify and track key points on the user's body. This helps in understanding the user's pose and positioning of body parts.

**Segmentation Model:**

Employ a segmentation model to separate the clothing or accessory item from the background. This helps in isolating the item and ensures that it appears natural when superimposed on the user.

**Virtual Rendering:**

Use a 3D rendering engine or a realistic 2D rendering approach to display the virtual try-on. This involves aligning the virtual item with the user's pose and appearance.

**Texture Mapping:**

Apply texture mapping techniques to ensure that the virtual item looks realistic and aligns properly with the user's body contours.

**Real-Time Interaction:**

Implement real-time interaction to allow users to move and see how the virtual item behaves dynamically with their movements. This may involve continuous pose estimation and rendering adjustments.

**User Feedback:**

Gather user feedback to improve the system. This can include feedback on the realism of the virtual try-on, ease of use, and overall user experience.

**Integration with E-commerce Platforms:**

Integrate the virtual try-on system with e-commerce platforms, allowing users to seamlessly transition from trying on virtual items to making a purchase.

**Technologies,Tools and Pose Estimation Models:**

OpenPose, PoseNet, or custom deep learning models for accurate pose estimation.

**Machine Learning Frameworks:**

TensorFlow, PyTorch, or other frameworks for training and deploying deep learning models.

**Web or Mobile Application Development:**

Use web or mobile development frameworks for creating user-friendly interfaces and integrating the virtual try-on system.

**CHAPTER -6**

**WEB PAGE PROGRAMMING LANGUAGE**

**6.1 SERVER SIDE PROGRAMMING:**

Server-side programming is the backbone of an E-Commerce website, responsible for handling complex business logic, managing data, and ensuring secure and efficient communication between the user's browser and the server. In the context of online retail, server-side programming languages such as Python, PHP, Ruby, or Node.js play a pivotal role in creating dynamic and data-driven web applications.

One primary function of server-side programming is to manage the website's database. This involves storing and retrieving product information, user data, and transaction details securely. Server-side scripts interact with the database to dynamically generate product pages, handle user authentication, and manage the inventory in real-time. This ensures that users see accurate and up-to-date information as they browse through the E-Commerce platform.

Furthermore, server-side scripts are responsible for handling asynchronous requests, allowing for dynamic updates without requiring a full page reload. This facilitates real-time features such as live chat support, order tracking, and product availability updates, enhancing user engagement and satisfaction.

In conclusion, server-side programming is the engine that powers the functionality and security of an E-Commerce website. It manages data, ensures secure transactions, and creates a responsive and dynamic user experience, ultimately contributing to the success and efficiency of the online retail platform.

**6.2 CLIENT-SIDE PROGRAMMING:**

Client-side programming is a crucial aspect of building a modern and interactive E-Commerce website, responsible for creating a dynamic user interface and enhancing the overall user experience. Typically executed in the user's browser, client-side programming relies on languages such as JavaScript, HTML, and CSS to deliver a seamless and responsive web application.

JavaScript, in particular, is a key player in client-side programming for E-Commerce websites. It enables the implementation of interactive features that users can directly engage with, enhancing the visual appeal and functionality of the platform. Client-side scripts facilitate dynamic updates without requiring the entire page to reload, contributing to a more fluid and engaging user experience.

In summary, client-side programming is essential for creating an interactive, visually appealing, and responsive E-Commerce website. It empowers users to engage with the platform effortlessly, fostering a positive user experience and contributing to the overall success of the online retail venture.

**CHAPTER -7**

**WEB BASED APPLICATION DEVELOPMENT**

Web-based application development forms the core framework for the creation of a dynamic and accessible E-Commerce website. Leveraging a combination of client-side and server-side technologies, this development approach ensures that the platform is responsive, interactive, and capable of delivering a seamless user experience.

Client-side technologies such as HTML, CSS, and JavaScript are instrumental in crafting the visual and interactive elements of the E-Commerce website. HTML provides the structure for organizing content, CSS is employed for styling and layout, and JavaScript enables dynamic and real-time user interactions. These technologies collectively contribute to the creation of a visually appealing and intuitive user interface, allowing customers to navigate through product catalogs, view detailed descriptions, and engage with interactive features such as image sliders and product previews.

Server-side technologies, on the other hand, manage the behind-the-scenes operations critical for E-Commerce functionality. Programming languages like Python, PHP, or Node.js handle tasks such as user authentication, database management, and transaction processing. Server-side scripts interact with the database to dynamically retrieve and update product information, manage user accounts, and ensure secure payment processing during transactions.

Additionally, web-based application development enables the implementation of features essential for E-Commerce success. The shopping cart functionality, powered by server-side scripting and managed through client-side interactions, allows users to add, remove, and review selected items before proceeding to checkout. Integration with secure payment gateways ensures that financial transactions are handled safely, instilling confidence in users to complete purchases.

Responsive design principles are incorporated into web-based application development, ensuring that the E-Commerce website is accessible across various devices and screen sizes. This adaptability enhances the user experience and accommodates the diverse ways customers engage with the platform, whether through desktops, tablets, or smartphones.

In conclusion, web-based application development serves as the foundational framework for building a feature-rich and user-friendly E-Commerce website. By combining client-side and server-side technologies, developers can create a robust platform that meets the demands of modern online retail, providing customers with a secure, interactive, and visually engaging shopping experience.

**CHAPTER -8**

**DASHBOARD**

**8.1 ADMIN DASHBOARD:**

The administrative dashboard for an E-Commerce website serves as a centralized hub for managing and monitoring various aspects of the online retail platform. This feature-rich interface is designed to empower administrators with tools and insights necessary for efficient day-to-day operations and strategic decision-making.

The admin dashboard typically provides a comprehensive overview of key performance indicators (KPIs) such as sales trends, order fulfillment status, and customer engagement metrics. Through intuitive data visualizations, administrators can quickly assess the health of the E-Commerce business, identify popular products, and track revenue trends, allowing for informed decision-making.

User management functionalities are also integrated into the admin dashboard, providing administrators with the ability to manage user accounts, track user behavior, and address customer-related issues. This includes features for adding or removing user accounts, resetting passwords, and reviewing customer feedback.

Marketing and promotional activities can be orchestrated through the admin dashboard, allowing administrators to create and manage promotional campaigns, discount codes, and special offers. This functionality contributes to customer retention and acquisition efforts.

Security features are paramount in the admin dashboard, ensuring that sensitive information, such as user data and transaction records, is protected. Access controls, encrypted connections, and audit logs are commonly implemented to fortify the security of the administrative interface.

In summary, the admin dashboard for an E-Commerce website acts as the nerve center for managing the business operations. By consolidating essential functionalities related to sales, inventory, customer service, and marketing, administrators can efficiently oversee the entire E-Commerce ecosystem, making data-driven decisions and ensuring a seamless experience for both customers and stakeholders.

**8.2 USER DASHBOARD:**

The user dashboard in an E-Commerce website serves as a personalized and interactive space for customers, providing them with a comprehensive overview of their activities, preferences, and transactions. This user-centric interface is designed to enhance the overall shopping experience, offering convenience and customization.

One of the key features of the user dashboard is order tracking and history. Users can view the status of their current orders, track shipments in real-time, and access a detailed history of their past purchases. This transparency in the order fulfillment process contributes to customer satisfaction and builds trust.

A central part of the user dashboard is the management of payment methods. Customers can add, edit, or remove credit cards or other payment options, providing flexibility and convenience during the checkout process. This feature streamlines the payment experience and ensures that users have control over their preferred payment methods.

In summary, the user dashboard in an E-Commerce website is a user-friendly and personalized space that empowers customers with control over their account, orders, and preferences. By incorporating features such as order tracking, account management, wishlists, and personalized recommendations, the user dashboard enhances the overall shopping journey and fosters a positive and engaging relationship between customers and the E-Commerce platform.

**CHAPTER-9**

**RESULTS**

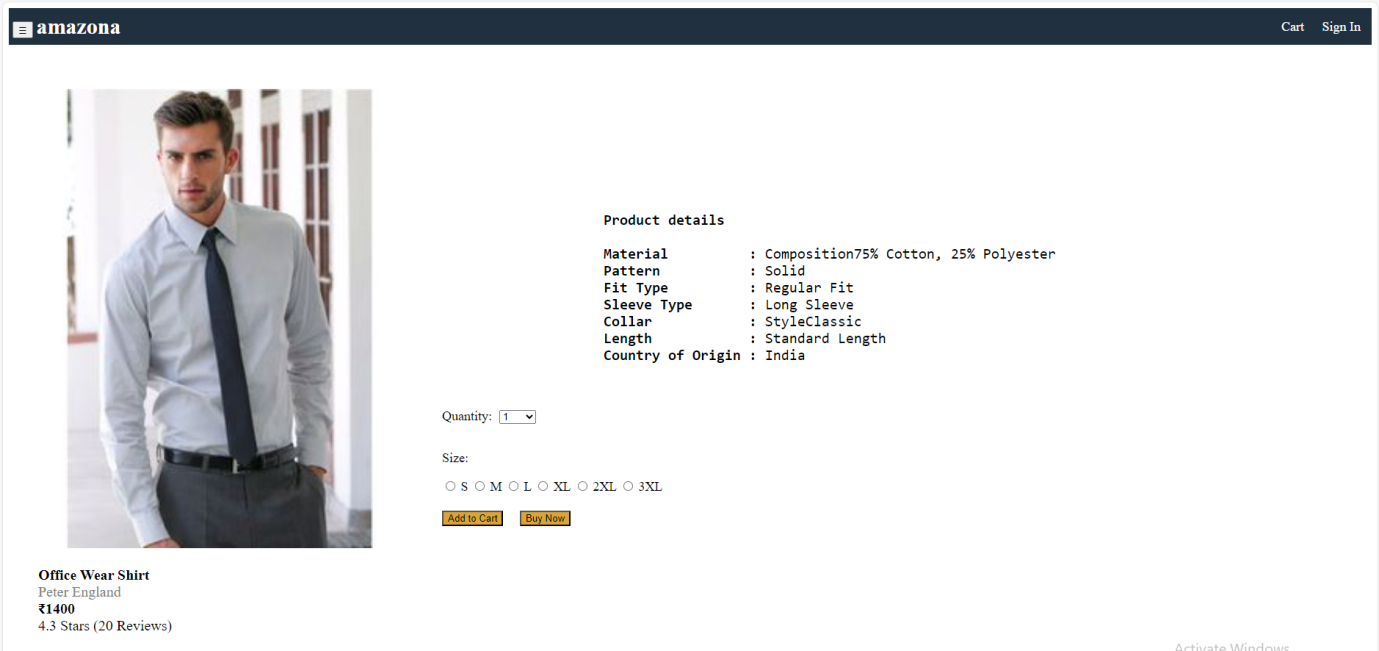
The success of an E-Commerce website is often measured by various key performance indicators (KPIs) that reflect its effectiveness in attracting, engaging, and satisfying users while driving business growth. One critical metric is conversion rate, indicating the percentage of website visitors who make a purchase. A high conversion rate suggests that the platform effectively converts user interest into actual sales. Additionally, average order value (AOV) provides insights into the average amount spent by a customer in a single transaction, contributing to overall revenue

User engagement metrics, including bounce rate, time spent on the site, and the number of pages viewed per session, offer insights into the website's attractiveness and usability. A low bounce rate and increased time spent on the site indicate that users find the content and shopping experience compelling. Furthermore, the platform's mobile responsiveness is measured through mobile conversion rates and user interactions on various devices.

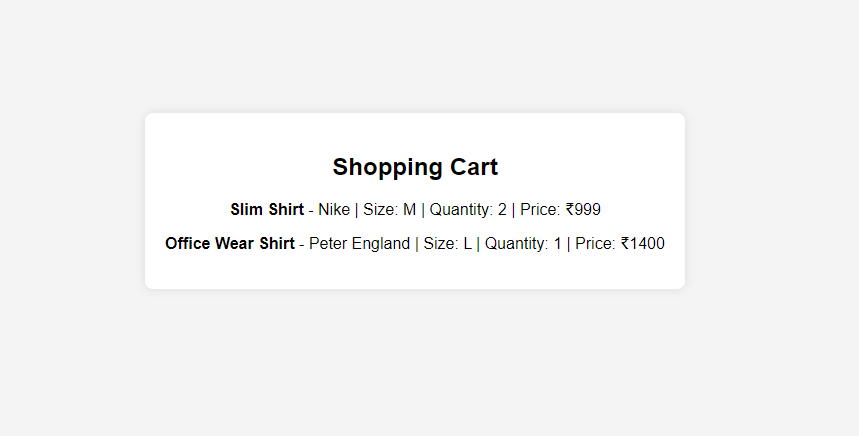
In conclusion, the success of an E-Commerce website is a multifaceted evaluation that considers both quantitative and qualitative metrics. By analyzing conversion rates, AOV, user engagement, customer satisfaction, and technical performance, businesses can gain a comprehensive understanding of the website's impact on users and its overall effectiveness in achieving business objectives. Regular monitoring and optimization based on these metrics are essential for continuous improvement and long-term success in the competitive E-Commerce landscape**.**

****

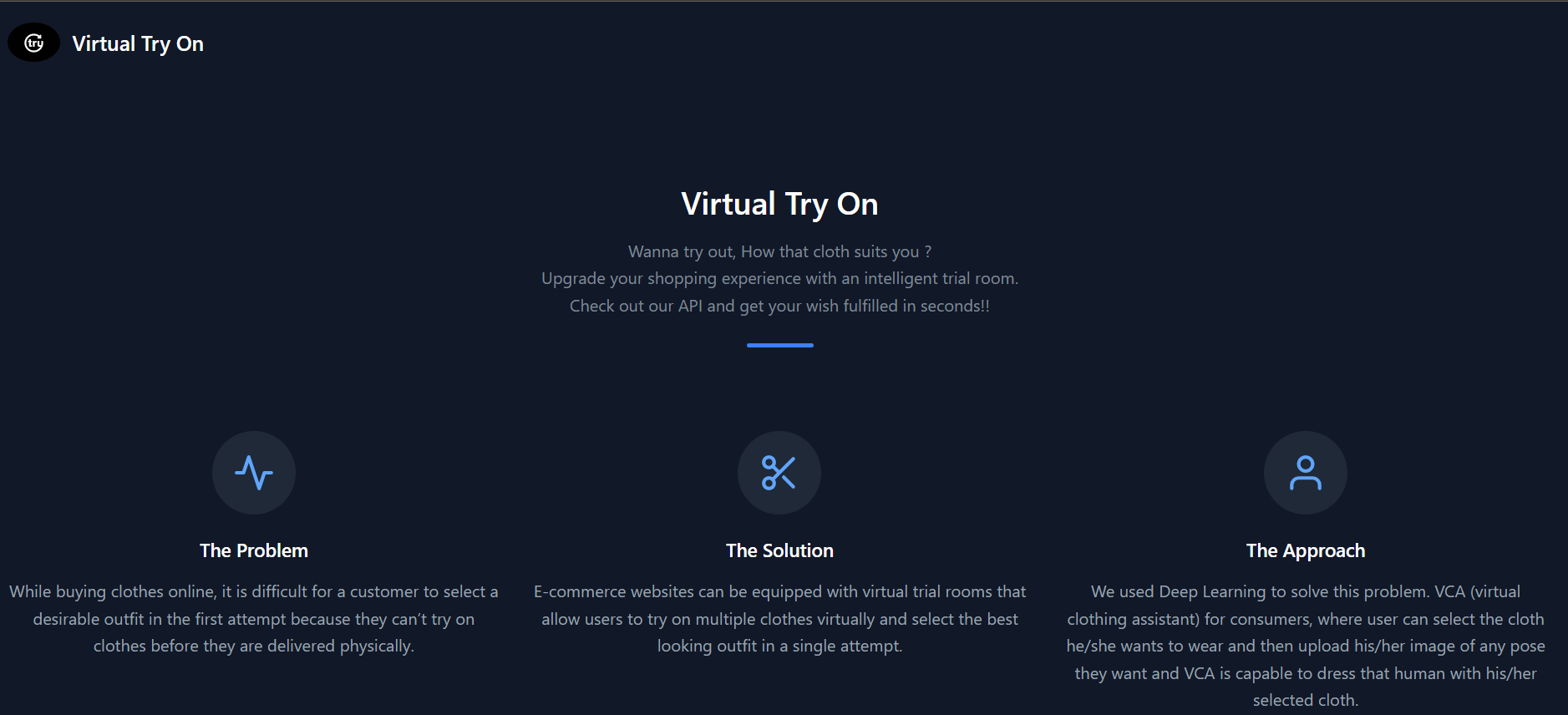
**Product Selection of Slim Shirt…**

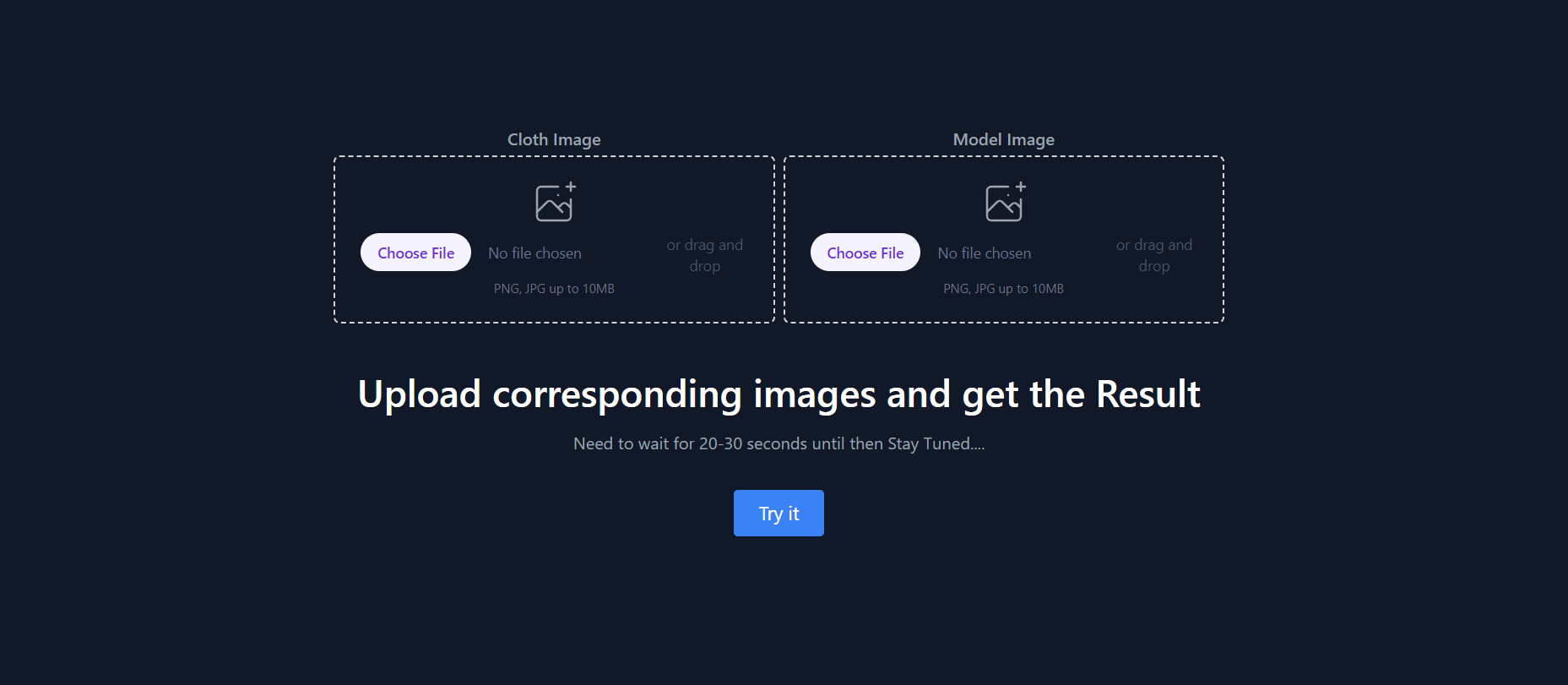
****

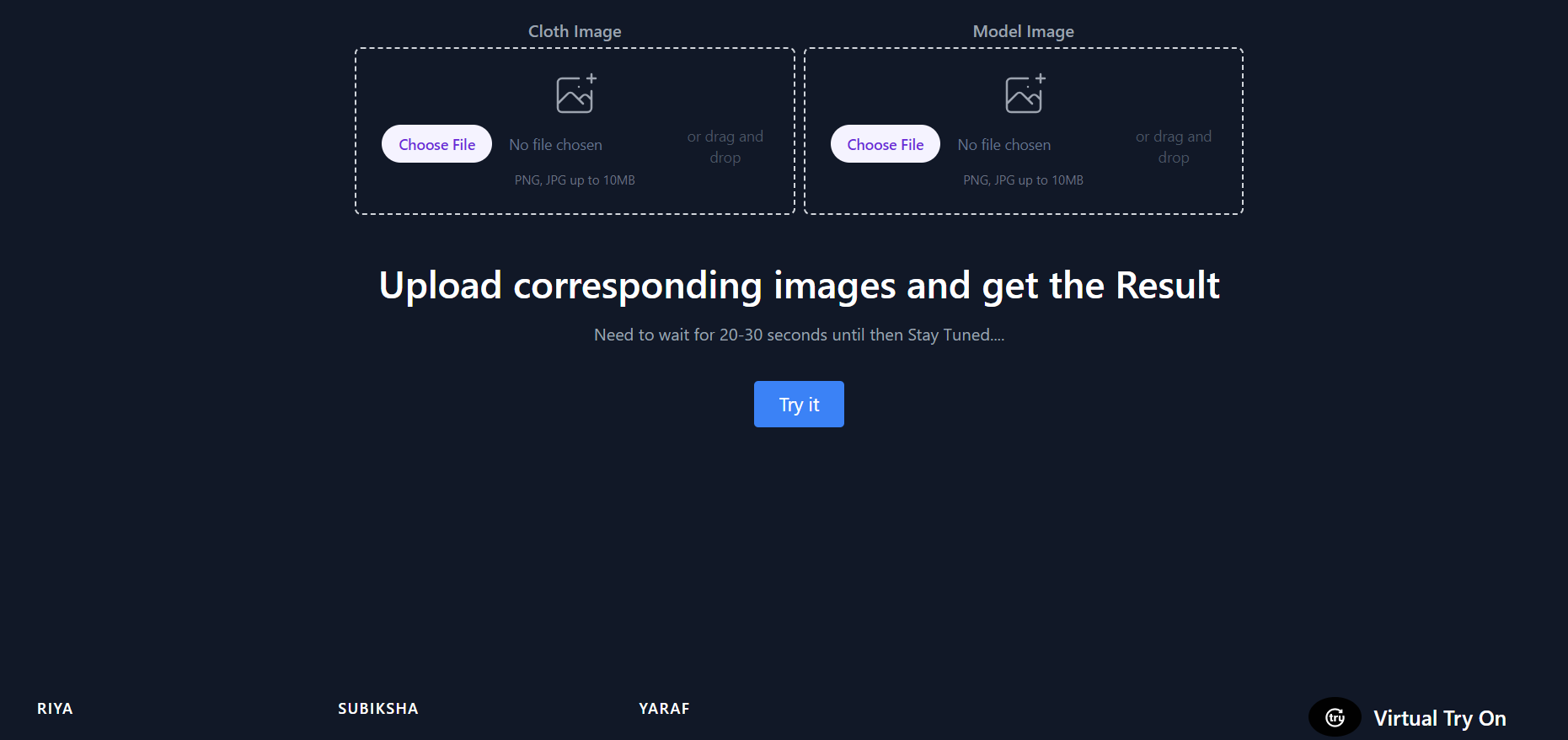
**Product Selection of Office Wear Shirt…**

****

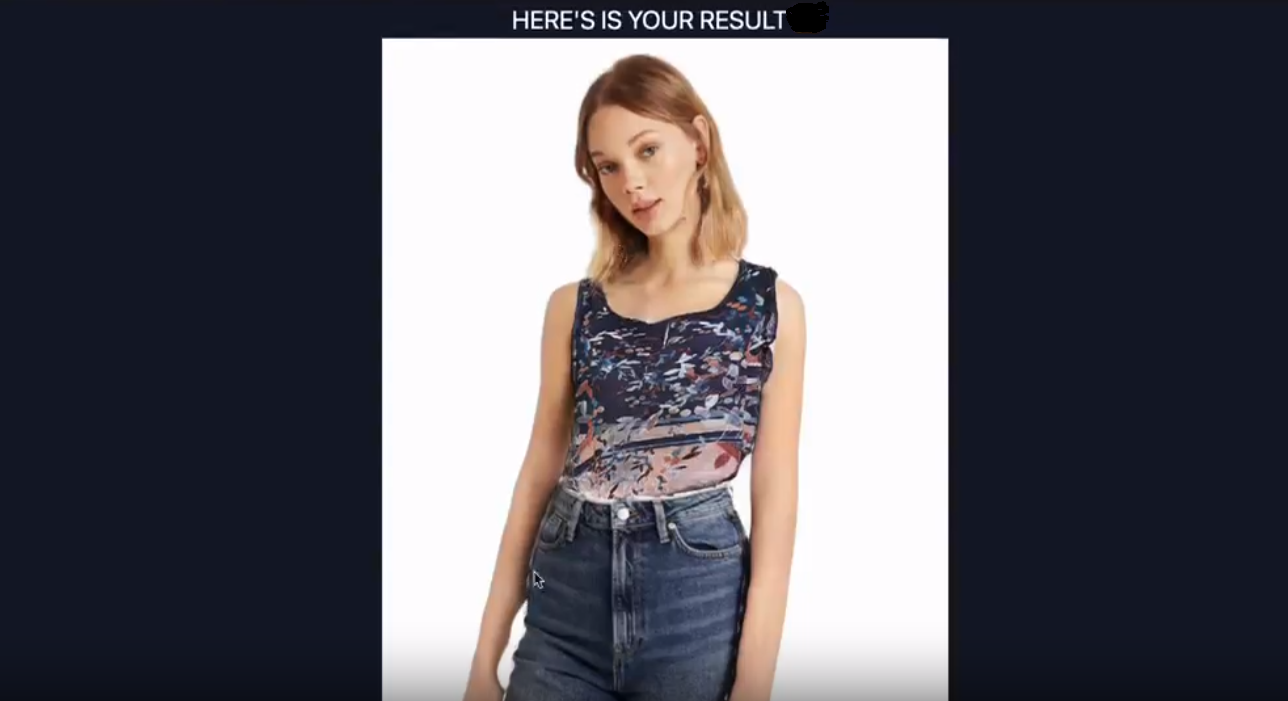
**Cart Details…**

 **Virtual Try-On…**





**Selection of Cloth & Model..**

****

**CHAPTER-10**

**APPENDIX**

**CODE**

**Index.html**

<!-- <!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8" />

<link rel="icon" href="%PUBLIC\_URL%/favicon.ico" />

<meta name="viewport" content="width=device-width, initial-scale=1" />

<meta name="theme-color" content="#000000" />

<meta

name="description"

content="Web site created using create-react-app"/>

<link rel="apple-touch-icon" href="%PUBLIC\_URL%/logo192.png" />

<link rel="manifest" href="%PUBLIC\_URL%/manifest.json" />

<link

rel="stylesheet"

href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css"

/>

<title>React App</title>

</head>

<body>

<noscript>You need to enable JavaScript to run this app.</noscript>

<div id="root"></div>

</body>

</html> -->

<DOCTYPE html>

<html>

<head>

<link rel="stylesheet" href="style.css">

<title>Amazona </title>

</head>

<body>

<div class="grid-container">

<header class="header">

<div class="brand" >

<button onClick="openMenu()" >

&#9776;

</button>

<a href="index.html">amazona</a>

</div>

<div class="header-links">

<a href="cart.html">Cart</a>

<a href="signup.html">Sign Up</a>

<a href="signin.html">Sign In</a>

</div>

</header>

<aside class="sidebar">

<h3>This is sidebar menu</h3>

<button class="sidebar-close-button" onClick="closeMenu()" >X</button>

<ul>

<li>

Shirts

</li>

<br>

<li>

Pants

</li>

</ul>

</aside>

<main class="main">

<div class="content">

<ul class="products">

<li>

<div class="product">

<img class="product-image" src="images/d1.jpg" alt="product" />

<div class="product-name" >

<a href="product-name1.html">

Slim Shirt</a></div>

<div class="product-brand">Nike</div>

<div class="product-price">₹999</div>

<div class="product-rating">4.5 Stars (5 Reviews)</div>

</div>

</li>

<li>

<div class="product">

<img class="product-image" src="images/d2.jpg" alt="product" />

<div class="product-name" >

<a href="product-name2.html">

Office Wear Shirt</a></div>

<div class="product-brand">Peter England</div>

<div class="product-price">₹1400</div>

<div class="product-rating">4.3 Stars (20 Reviews)</div>

</div>

</li>

<li>

<div class="product">

<img class="product-image" src="images/d3.jpg" alt="product" />

<div class="product-name" >

<a href="product-name3.html">

Casual Wear Shirt</a></div>

<div class="product-brand">Raymond</div>

<div class="product-price">₹2500</div>

<div class="product-rating">4.5 Stars (30 Reviews)</div>

</div>

</li>

<li>

<div class="product">

<img class="product-image" src="images/p1.jpg" alt="product" />

<div class="product-name" >

<a href="product-name4.html">

Trouser</a></div>

<div class="product-brand">Levis</div>

<div class="product-price">₹4000</div>

<div class="product-rating">4.6 Stars (50 Reviews)</div>

</div>

</li>

<li>

<div class="product">

<img class="product-image" src="images/p2.jpg" alt="product" />

<div class="product-name" >

<a href="product-name5.html">

Office Wear Pant</a></div>

<div class="product-brand">Calvin klevin</div>

<div class="product-price">₹2300</div>

<div class="product-rating">4.2 Stars (20 Reviews)</div>

</div>

</li>

<li>

<div class="product">

<img class="product-image" src="images/p3.jpg" alt="product" />

<div class="product-name" >

<a href="product-name6.html">

Slim Jean</a></div>

<div class="product-brand">Rebook</div>

<div class="product-price">₹3400</div>

<div class="product-rating">4.5 Stars (30 Reviews)</div>

</div>

</li>

</ul>

</div>

</main>

<footer class="footer">

All rights reserved.

</footer>

</div>

<script>

function openMenu() {

document.querySelector(".sidebar").classList.add("open") ;

}

function closeMenu() {

document.querySelector(".sidebar").classList.remove("open") ;

}

</script>

</body>

</html>

</DOCTYPE>

**Product-name1.html**

<!DOCTYPE html>

<html lang="en">

<head>

<link rel="stylesheet" href="product-name1.css">

<title>Amazona</title>

</head>

<body>

<div class="grid-container">

<header class="header">

<div class="brand">

<button onClick="openMenu()">

&#9776;

</button>

<a href="index.html">amazona</a>

</div>

<div class="header-links">

<a href="cart.html">Cart</a>

<a href="signin">Sign In</a>

</div>

</header>

</div>

<div class="product">

<figure>

<img class="product-image" src="images/d1.jpg" alt="product" />

<div class="product-name">

<figcaption><br>Slim Shirt</figcaption>

</div>

<div class="product-brand"><figcaption>Nike</figcaption></div>

<div class="product-price"><figcaption>₹999</figcaption></div>

<div class="product-rating"><figcaption>4.5 Stars (5 Reviews)</figcaption></div>

</figure>

<div class="column-left">

<div class="product-details">

<pre style="font-size: x-large;">

<b>Product details</b>

<b>Product Dimensions :</b> 20.3 x 4 x 18 cm; 150 Grams

<b>Date First Available :</b> 12 April 2022

<b>Manufacturer :</b> NIKE INDIA PVT LTD

<b>ASIN :</b> B09XR8CTLF

<b>Item model number :</b> DM6856

<b>Country of Origin :</b> Vietnam

<b>Department :</b> Men

<b>Item Weight :</b> 150 g

<b>Dimensions LxWxH :</b> 20.3 x 4 x 18 Centimeters

<b>Generic Name :</b> Shirt

</pre>

<div class="column-right">

<div class="quantity-section">

<p>Quantity:</p>

<div style="text-align: left;">

<select id="qtn">

<option>1</option>

<option>2</option>

<option>3</option>

<option>4</option>

<option>5</option>

</select>

</div>

</div>

</div>

<div class="btn-group">

<p id="size">Size:</p>

<label><input type="radio" name="size" value="S"> S</label>

<label><input type="radio" name="size" value="M"> M</label>

<label><input type="radio" name="size" value="L"> L</label>

<label><input type="radio" name="size" value="XL"> XL</label>

<label><input type="radio" name="size" value="2XL"> 2XL</label>

<label><input type="radio" name="size" value="3XL"> 3XL</label>

</div>

<br><button type="button" class="btn" onclick="addToCart()">Add to Cart</button> &nbsp; &nbsp;

<button type="button" class="btn" id="buynow" onclick="productDetails()">Buy Now</button>

</div>

</div>

</div>

<script>

function addToCart() {

var quantity = document.getElementById("qtn").value;

var size = document.querySelector('input[name="size"]:checked');

if (size) {

size = size.value;

} else {

alert("Please select a size");

return;

}

var productDetails = {

name: "Slim Shirt",

brand: "Nike",

price: "₹999",

quantity: quantity,

size: size

};

alert("Added to Cart:");

console.log(productDetails);

}

</script>

</body>

</html>

**Product-name1.css**

html {

font-size: 62.5%; /\* 16px \* 62.5 = 10px = 1rem \*/

box-sizing: border-box;

}

.header {

grid-area: header;

background-color: #203040;

color: #ffffff;

display: flex;

justify-content: space-between;

align-items: center;

padding: 0.5rem;

font-size: large;

}

.header-links a {

color: #ffffff;

text-decoration: none;

padding: 1rem;

}

.header-links a:hover {

color: #ff8000;

}

.main {

grid-area: main;

}

.footer {

grid-area: footer;

background-color: #203040;

color: #ffffff;

display: flex;

justify-content: center;

align-items: center;

}

.product {

display: flex;

align-items: center;

/\* padding: 10px; \*/

}

.column-left,

.column-right {

width: 48%; /\* Adjust the width as needed \*/

}

.quantity-section {

display: flex;

align-items: center;

text-align: left;

}

.quantity-section p {

margin-right: 10px; /\* Adjust the margin as needed \*/

}

.quantity-section select {

width: 50px; /\* Adjust the width as needed \*/

}

.btn-group{

text-align: auto;

}

.product-name {

font-size: 2rem;

font-weight: bold;

flex-direction: column;

}

.product-brand {

font-size: 2rem;

color: #808080;

}

.product-price {

font-size: 2rem;

font-weight: bold;

}

.product-rating {

font-size: 2rem;

}

.product-image {

width: 500px; /\* Set the width as needed \*/

margin-right: 10px;

}

.content{

font-size: 18px;

font-family: 'Times New Roman', Times, serif;

}

.product-details {

text-align: auto;

font-size: large;

font-family: 'Times New Roman', Times, serif;

}

.grid-container {

display: grid;

grid-template-areas:

'header'

'main'

'footer';

grid-template-columns: 1fr;

grid-template-rows: 5rem 1fr 5rem;

height: 100%;

}

.header {

grid-area: header;

background-color: #203040;

color: #ffffff;

display: flex;

justify-content: space-between;

align-items: center;

padding: 0.5rem;

}

.brand a {

color: #ffffff;

font-size: 3rem;

font-weight: bold;

text-decoration: none;

}

.header-links a {

color: #ffffff;

text-decoration: none;

padding: 1rem;

}

.header-links a:hover {

color: #ff8000;

}

.btn{

background-color:goldenrod;

}

**Virtual Try On**

**Index.html**

<!doctype html>

<html>

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<script src="https://cdn.tailwindcss.com"></script>

</head>

<body>

<!-- <h1>Welcome to your own virtual clothing assistant</h1>

<form action="{{ url\_for('submit') }}" method="post" enctype="multipart/form-data">

<input type="file" name="cloth">

<input type="file" name="model">

<button type="submit">Submit</button>

</form> -->

<header class="text-gray-400 bg-gray-900 body-font">

<div class="container mx-auto flex flex-wrap p-5 flex-col md:flex-row items-center">

<a class="flex title-font font-medium items-center text-white mb-4 md:mb-0">

<img src="{{url\_for('static', filename='images/tryonlogo.jpg')}}" height="50" width="50" style="border-radius: 50%;"/>

<span class="ml-3 text-xl">Virtual Try On</span>

</a>

</div>

</header>

<section class="text-gray-400 bg-gray-900 body-font">

<div class="container px-5 py-24 mx-auto">

<div class="text-center mb-20">

<h1 class="sm:text-3xl text-2xl font-medium title-font text-white mb-4">Virtual Try On</h1>

<p class="text-base leading-relaxed xl:w-2/4 lg:w-3/4 mx-auto text-gray-400 text-opacity-80">Wanna try out, How that cloth suits you ?

<br>

Upgrade your shopping experience with an intelligent trial room.

<br> Check out our API and get your wish fulfilled in seconds!!</p>

<div class="flex mt-6 justify-center">

<div class="w-16 h-1 rounded-full bg-blue-500 inline-flex"></div>

</div>

</div>

<div class="flex flex-wrap sm:-m-4 -mx-4 -mb-10 -mt-4 md:space-y-0 space-y-6">

<div class="p-4 md:w-1/3 flex flex-col text-center items-center">

<div

class="w-20 h-20 inline-flex items-center justify-center rounded-full bg-gray-800 text-blue-400 mb-5 flex-shrink-0">

<svg fill="none" stroke="currentColor" stroke-linecap="round" stroke-linejoin="round"

stroke-width="2" class="w-10 h-10" viewBox="0 0 24 24">

<path d="M22 12h-4l-3 9L9 3l-3 9H2"></path>

</svg>

</div>

<div class="flex-grow">

<h2 class="text-white text-lg title-font font-medium mb-3">The Problem</h2>

<p class="leading-relaxed text-base">While buying clothes online, it is difficult for a customer to select a desirable outfit in the first attempt because they can’t try on clothes before they are delivered physically.

</p>

</div>

</div>

<div class="p-4 md:w-1/3 flex flex-col text-center items-center">

<div

class="w-20 h-20 inline-flex items-center justify-center rounded-full bg-gray-800 text-blue-400 mb-5 flex-shrink-0">

<svg fill="none" stroke="currentColor" stroke-linecap="round" stroke-linejoin="round"

stroke-width="2" class="w-10 h-10" viewBox="0 0 24 24">

<circle cx="6" cy="6" r="3"></circle>

<circle cx="6" cy="18" r="3"></circle>

<path d="M20 4L8.12 15.88M14.47 14.48L20 20M8.12 8.12L12 12"></path>

</svg>

</div>

<div class="flex-grow">

<h2 class="text-white text-lg title-font font-medium mb-3">The Solution</h2>

<p class="leading-relaxed text-base">E-commerce websites can be equipped with virtual trial rooms that allow users to try on multiple clothes virtually and select the best looking outfit in a single attempt.

</p>

</div>

</div>

<div class="p-4 md:w-1/3 flex flex-col text-center items-center">

<div

class="w-20 h-20 inline-flex items-center justify-center rounded-full bg-gray-800 text-blue-400 mb-5 flex-shrink-0">

<svg fill="none" stroke="currentColor" stroke-linecap="round" stroke-linejoin="round"

stroke-width="2" class="w-10 h-10" viewBox="0 0 24 24">

<path d="M20 21v-2a4 4 0 00-4-4H8a4 4 0 00-4 4v2"></path>

<circle cx="12" cy="7" r="4"></circle>

</svg>

</div>

<div class="flex-grow">

<h2 class="text-white text-lg title-font font-medium mb-3">The Approach</h2>

<p class="leading-relaxed text-base">

We used Deep Learning to solve this problem. VCA (virtual clothing assistant) for consumers, where

user can select the cloth he/she wants to wear and then upload his/her image of any pose they want and VCA is capable to

dress that human with his/her selected cloth.

</p>

</div>

</div>

</div>

<!-- <button

class="flex mx-auto mt-16 text-white bg-blue-500 border-0 py-2 px-8 focus:outline-none hover:bg-blue-600 rounded text-lg">Button</button> -->

</div>

</section>

<section class="text-gray-400 bg-gray-900 body-font">

<form action="{{ url\_for('submit') }}" method="post" enctype="multipart/form-data">

<div class="container mx-auto flex flex-col px-5 py-24 justify-center items-center">

<div class="flex flex-wrap -m-2">

<div class="p-1 xl:w-1/2 md:w-1/2 w-full">

<center><label class="block text-lr font-medium text-white-700"> Cloth Image </label></center>

<div

class="mt-1 flex justify-center px-6 pt-5 pb-6 border-2 border-gray-300 border-dashed rounded-md">

<div class="space-y-1 text-center">

<svg class="mx-auto h-12 w-12 text-gray-400" stroke="currentColor" fill="none"

viewBox="0 0 48 48" aria-hidden="true">

<path

d="M28 8H12a4 4 0 00-4 4v20m32-12v8m0 0v8a4 4 0 01-4 4H12a4 4 0 01-4-4v-4m32-4l-3.172-3.172a4 4 0 00-5.656 0L28 28M8 32l9.172-9.172a4 4 0 015.656 0L28 28m0 0l4 4m4-24h8m-4-4v8m-12 4h.02"

stroke-width="2" stroke-linecap="round" stroke-linejoin="round" />

</svg>

<div class="flex text-sm text-gray-600">

<!-- <label for="file-upload"

class="relative cursor-pointer rounded-md font-medium text-indigo-600 hover:text-indigo-500 focus-within:outline-none focus-within:ring-2 focus-within:ring-offset-2 focus-within:ring-indigo-500">

<span>Upload a file</span> -->

<input class="block w-full text-sm text-slate-500

file:mr-4 file:py-2 file:px-4

file:rounded-full file:border-0

file:text-sm file:font-semibold

file:bg-violet-50 file:text-violet-700

hover:file:bg-violet-100" id="file-upload" type="file" name="cloth" class="sr-only">

</label>

<p class="pl-1">or drag and drop</p>

</div>

<p class="text-xs text-gray-500">PNG, JPG up to 10MB</p>

</div>

</div>

</div>

<div class="p-1 xl:w-1/2 md:w-1/2 w-full">

<center> <label class="block text-lr font-medium text-white-700"> Model Image </label></center>

<div

class="mt-1 flex justify-center px-6 pt-5 pb-6 border-2 border-gray-300 border-dashed rounded-md">

<div class="space-y-1 text-center">

<svg class="mx-auto h-12 w-12 text-gray-400" stroke="currentColor" fill="none"

viewBox="0 0 48 48" aria-hidden="true">

<path

d="M28 8H12a4 4 0 00-4 4v20m32-12v8m0 0v8a4 4 0 01-4 4H12a4 4 0 01-4-4v-4m32-4l-3.172-3.172a4 4 0 00-5.656 0L28 28M8 32l9.172-9.172a4 4 0 015.656 0L28 28m0 0l4 4m4-24h8m-4-4v8m-12 4h.02"

stroke-width="2" stroke-linecap="round" stroke-linejoin="round" />

</svg>

<div class="flex text-sm text-gray-600">

<!-- <label for="file-upload"

class="relative cursor-pointer rounded-md font-medium text-indigo-600 hover:text-indigo-500 focus-within:outline-none focus-within:ring-2 focus-within:ring-offset-2 focus-within:ring-indigo-500">

<span>Upload a file</span> -->

<input class="block w-full text-sm text-slate-500

file:mr-4 file:py-2 file:px-4

file:rounded-full file:border-0

file:text-sm file:font-semibold

file:bg-violet-50 file:text-violet-700

hover:file:bg-violet-100" id="file-upload" type="file" name="model" class="sr-only">

</label>

<p class="pl-1">or drag and drop</p>

</div>

<p class="text-xs text-gray-500">PNG, JPG up to 10MB</p>

</div>

</div>

</div>

</div>

<br>

<br>

<div class="w-full md:w-2/3 flex flex-col mb-16 items-center text-center">

<h1 class="title-font sm:text-4xl text-3xl mb-4 font-medium text-white">Upload corresponding images

and get the Result</h1>

<p class="mb-8 leading-relaxed"> Need to wait for 20-30 seconds until then Stay Tuned....

</p>

<div class="flex w-full justify-center items-end">

<button type="submit"

class="inline-flex text-white bg-blue-500 border-0 py-2 px-6 focus:outline-none hover:bg-blue-600 rounded text-lg">Try

it</button>

</div>

</button>

</div>

</div>

<div>

{% if op %}

<center style="color: white; font-size: x-large;">HERE'S IS YOUR RESULT </center>

<center>

<div class="sm: w-3/4 mb-10 lg:mb-0 rounded-lg overflow-hidden">

<img alt="output" class="object-cover object-center h-2/4 w-2/4"

src="data:image/png;base64,{{ op }}">

</div>

</center>

{% endif %}

</div>

</form>

</section>

<footer class="text-gray-400 bg-gray-900 body-font">

<div

class="container px-5 py-24 mx-auto flex md:items-center lg:items-start md:flex-row md:flex-nowrap flex-wrap flex-col">

<div class="w-64 flex-shrink-0 md:mx-0 mx-auto text-center md:text-left md:mt-0 mt-10">

<a class="flex title-font font-medium items-center md:justify-start justify-center text-white">

<img src="{{url\_for('static', filename='images/tryonlogo.jpg')}}" height="50" width="50" style="border-radius: 50%;"/>

<span class="ml-3 text-xl">Virtual Try On</span>

</a>

</div>

<div class="flex-grow flex flex-wrap md:pr-20 -mb-10 md:text-left text-center order-first">

<div class="lg:w-1/4 md:w-1/2 w-full px-4">

<h2 class="title-font font-medium text-white tracking-widest text-sm mb-3">RIYA</h2>

</div>

<div class="lg:w-1/4 md:w-1/2 w-full px-4">

<h2 class="title-font font-medium text-white tracking-widest text-sm mb-3">SUBIKSHA</h2>

</div>

<div class="lg:w-1/4 md:w-1/2 w-full px-4">

<h2 class="title-font font-medium text-white tracking-widest text-sm mb-3">YARAF</h2>

</div>

<!-- <div class="lg:w-1/4 md:w-1/2 w-full px-4">

<h2 class="title-font font-medium text-white tracking-widest text-sm mb-3"></h2>

</div> -->

</div>

</div>

</footer>

</body>

</html>

**app.py**

from flask import Flask, request, jsonify, render\_template

from PIL import Image

import requests

from io import BytesIO

import base64

app = Flask(\_\_name\_\_)

@app.route('/')

def home():

return render\_template("index.html")

@app.route("/preds", methods=['POST'])

def submit():

cloth = request.files['cloth']

model = request.files['model']

## replace the url from the ngrok url provided on the notebook on server.

url = "http://7b72-34-141-219-91.ngrok.io/api/transform"

print("sending")

response = requests.post(url=url, files={"cloth":cloth.stream, "model":model.stream})

op = Image.open(BytesIO(response.content))

buffer = BytesIO()

op.save(buffer, 'png')

buffer.seek(0)

data = buffer.read()

data = base64.b64encode(data).decode()

return render\_template('index.html', op=data)

# return render\_template('index.html', test=True)

if \_\_name\_\_ == '\_\_main\_\_':

app.run(debug=True)

**CHAPTER-11**

**SUMMARY**

An E-Commerce website with a virtual try-on feature revolutionizes the online shopping experience by incorporating cutting-edge technology to enhance customer engagement and satisfaction. The virtual try-on functionality leverages computer vision and augmented reality to enable users to visualize products, particularly clothing items, in a real-world context before making a purchase. This immersive feature allows customers to virtually "try on" different products, ensuring a more personalized and confident shopping experience.

The virtual try-on component typically involves the integration of facial and body recognition technologies, allowing users to see how clothing items fit and look on their own bodies. This addresses one of the key challenges of online shopping — the inability to physically try on products before buying. Users can interact with the virtual try-on feature, exploring various styles, colors, and sizes without leaving the comfort of their homes.

The technology behind virtual try-on also contributes to reducing the rate of product returns, as customers gain a better understanding of how the items will appear on them. Moreover, it adds an element of fun and interactivity to the shopping process, enhancing user satisfaction and increasing the likelihood of successful transactions.

In summary, integrating a virtual try-on feature into an E-Commerce website represents a forward-thinking approach that not only addresses common consumer concerns but also provides a unique and enjoyable shopping experience. It reflects the intersection of technology and retail, empowering customers to make more informed and confident purchasing decisions in the evolving landscape of online commerce.

**CHAPTER-12**

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**Virtual Try-On Clothes**

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