**LYALLPUR KHALSA COLLEGE TECHNICAL CAMPUS,**

**JALANDHAR**

**SYNOPSIS**

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**Semester:** 8th

**Project Name:** Electro-Mart (Online Shopping Website)

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**ABSTRACT**

The proposed project aims to develop an online shopping website for electronics components using HTML, CSS, JavaScript, Bootstrap, Node.js, and Python. The website will offer a user-friendly platform for browsing, searching, and purchasing electronic components conveniently. Utilizing Bootstrap, the site will feature a responsive and visually appealing interface, ensuring compatibility across devices. Dynamic product catalog updates will be managed through Node.js and Python, providing customers with the latest information. Secure authentication and payment processing will be integrated for safe transactions, employing encryption and SSL technology. Comprehensive search and filtering options will enhance usability, allowing users to quickly find desired components.

**INTRODUCTION**

In an increasingly digital world, the demand for electronics components continues to rise, fueled by innovations in technology and a growing interest in DIY projects and electronic hobbies. To meet this demand and provide enthusiasts, hobbyists, and professionals with a convenient and reliable source for electronic components, we propose the development of an online shopping website. This website will serve as a one-stop destination for users to explore, discover, and purchase a diverse range of electronic components from the comfort of their homes. Leveraging modern web technologies such as HTML, CSS, JavaScript, Bootstrap, Node.js, and Python, our platform aims to deliver a seamless and engaging shopping experience, combining intuitive design, real-time updates, secure transactions, and personalized features to cater to the unique needs of our target audience. By embracing the digital age and harnessing the power of e-commerce, we seek to empower electronics enthusiasts worldwide to fuel their passion for innovation and creativity.

* **Key features:**
* **Comprehensive Product Catalog:**
* Our website will offer a wide selection of electronic components, including resistors, capacitors, circuits, sensors sourced from trusted manufacturers and suppliers.
* **Personalized User Account:**
* Registered users will have access to personalized accounts where they can manage their profiles and create wish lists for future purchases.
* **Responsive Design:**
* Our website boasts a responsive design, ensuring optimal browsing on desktops, laptops, tablets, and smartphones.

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| --- | --- | --- | --- | --- |
| **S No.** | **Year of Paper** | **Author’s Name** | **Paper Name** | **Techniques used** |
| 1 | 2022 | Rahul Semil | Web Page Desing using Html, Css and JavaScript [1] | Html, Css and JavaScript |
| 2 | 2022 | Manish Kumar, Neel Doshi | Ecommerce Website  [2] | Html, Css3, JavaScript, Bootstrap, Django |
| 3 | 2021 | Avnish Kumar | BIG BUY (E- Commerce website) by using Frontend Web Development  [3] | Html, Css and JavaScript |
| 4 | 2018 | Ashis Kumar Ratha1, Shibani Sahu | HTML5 in Web Development: A New Approach  [4] | Html and Html5 |

**Literature Review**

**PURPOSE AND OBJECTIVES**

The purpose of our website is to provide a comprehensive and convenient platform for users to explore, discover, and purchase a wide range of electronic components online. We aim to cater to the needs of electronics enthusiasts, hobbyists, and professionals by offering a diverse selection of high-quality components sourced from trusted manufacturers and suppliers. Our goal is to empower users to fuel their passion for innovation and creativity by providing them with easy access to the components they need for their projects.

**OBJECTIVES:**

* + - * To develop a comprehensive electronic components website utilizing HTML, CSS, and JavaScript.
      * To develop a responsive design for seamless shopping across various devices.
* To implement a feature where users can access relevant courses or books based on the product they intend to purchase when clicking on "buy new".
* To implement encryption and secure payment gateways to protect user data.
* Ensure scalability by considering future enhancements such as expanding e-commerce features, community engagement tools, and internationalization options to accommodate potential growth.

**REQUIREMENTS**

**Software Requirements:**

* **Operating System:**
* The application should be compatible with popular operating systems such as Windows, macOS, and Linux.
* **Web Server:**
* PhpmyAdmin to run the server-side code.
* Sql for the database backend.
* Bootstrap for building the user interface.
* Another CSS framework for styling.
* **Database:**
* Sql database to store user data, feedback submissions, and other application data.
* **Authentication Backends:**
* Configure user authentication settings and define a custom user model using Django’s built-in classes to manage user authentication and password management.
* Implement access control mechanisms by defining permissions setting up authentication backends, and configuring login/logout views to control user access to specific views or functionalities based on their roles and permissions.
* **Development Tools:**
* Visual Studio Code or another code editor for writing and debugging code.
* Git for version control.
* **Hosting Platform Integration:**
* Choose a suitable hosting platform such as GitHub, Gitlab, or Bitbucket to host your project.
* Create a repository on the chosen platform and push your project code to remote repository using Git commands.

**Hardware Requirements:**

* **Server:**
* A server capable of running Node.js and MongoDB/Sql
* Minimum CPU and RAM requirements will depend on the expected traffic and workload.
* **Client Devices:**
* The application should be accessible from various client devices, including desktops, laptops, tablets, and smartphones.
* Minimum hardware requirements for client devices will depend on the complexity of the application and the resources required to run modern web browsers.
* **Network:**
* Stable internet connectivity is required for accessing the application from client devices.
* The server should have sufficient bandwidth to handle incoming requests and data transfers.

**TECHNOLOGIES STACK**

* **Frontend:**
* **HTML/CSS/JavaScript:** The core technologies for structuring, styling, and adding interactivity to web pages.
* **Bootstrap or Material UI:** CSS frameworks for designing responsive and visually appealing UI components.
* **Backend:**
* **Database Management:** Django supports multiple databases, including PostgreSQL, MySQL, SQLite, and Oracle. You can choose the database backend that best suits your project requirements and configure Django settings accordingly. Django's ORM abstracts away the complexities of database interactions, allowing you to define database models using Python classes and perform database operations using high-level Python APIs.
* **Authentication and Authorization:**
* Django offers built-in authentication and authorization mechanisms for user authentication, session management, and access control. You can use Django's authentication middleware, user models, and permission classes to implement secure authentication and authorization workflows in your project.
* **Development Tools:**
* **Visual Studio Code:** A lightweight and powerful code editor with built-in support for debugging, syntax highlighting, and version control.
* **Git:** A distributed version control system for tracking changes in source code files and collaborating with other developers.

**FEASIBILITY STUDY**

Conducting a feasibility study is crucial in evaluating the practicality and potential success of launching an online electronics website. Here's how we can structure the feasibility study for "Online Shopping Website"

* **Project Overview:**
* The project aims to develop an online shopping website for electronics components using Django, HTML, CSS, JavaScript, and Bootstrap. It will provide users with a user-friendly platform to browse, search, and purchase electronic components conveniently. Key features include a dynamic product catalog, secure authentication, and personalized user accounts.
* **Technical Feasibility:**
* Evaluate the technical feasibility of implementing the project by assessing the availability of required technologies, tools, and expertise.
* **Economic Feasibility:**
* Conduct a cost-benefit analysis to determine the economic feasibility of the project. Estimate the initial investment required for development, including hardware, software, and personnel costs.
* **Operational Feasibility:**
* Evaluate the operational feasibility of implementing the project by assessing its impact on existing business operations and workflows.

**CONCLUSION**

In summary, our journey towards creating a user-friendly online shopping platform for electronics components marks just the beginning of our commitment to meeting the evolving needs of our community. By embracing modern technologies and listening closely to feedback, we've laid a strong foundation for future growth and innovation. As we move forward, we remain dedicated to delivering exceptional experiences, empowering enthusiasts, hobbyists, and professionals alike to explore, create, and connect in the vibrant world of electronics.

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