



Research Paper on E-commerce website

Vishal Pareek, Vaibhav, Rohit, Deepika
 Department of Artificial Intelligence & Data Science
 Jaipur Engineering College & Research Centre
vishalpareek.ai25@jecrc.ac.in

Abstract

In this project, we focused on developing an E-commerce website, applying fundamental concepts of Full Stack development, Python programming, functions, and Databases. Our primary goal was to design a comprehensive program that facilitates the creation and management of an E-commerce platform while securely storing all relevant data..

Keywords: Web development, HTML,CSS , node.js, backend,frontend,

Article Status

2024 Pratibodh Ltd. All rights reserved.

Available online :

1. Introduction

In the digital era, the internet has profoundly impacted how individuals access information and engage with various services. Full stack web development is the scenario of acting on each, the front-end and back-end of a program. It is a term largely used for those operating in web development. The developers have background on making program and user expertise for front-end, and even have robust information in an exceedingly programming language that's used for handling the logic of the application, therefore back-end. Full stack developers are also termed as "developer generalists", as they will produce any complicated application from scratch, provided they have understood how each and every technical layer ought to act with the other. As Full stack web development refers to the both of each front-end and back-end of an online application, web application, the development method contains 3 layers, i.e., the logic layer (back-end layer), the presentation layer (frontend layer) and the information layer (database layer).

2. Related Work

An e-commerce website is a platform that allows businesses to sell their products and services online. It is an essential tool for businesses that want to expand their reach and increase their sales.

E-commerce is made for customers to shop from the comfort of their own homes, at any time of the day or night. They can help businesses reach customers beyond their local area, even beyond their country. E-commerce websites can be less expensive to operate than traditional brick-and-mortar stores, and can provide valuable insights into customer behavior. By expanding

reach, increasing convenience, lowering overhead costs, and gaining better customer insights, an e-commerce website can help businesses increase their sales.

3. Components of E-commerce website

The components of Full stack web development are front end development, back end development and Database Management.

1. Front end development- it deals with the user interface and User experience of the web application. It is responsible for creating a visual representation of the application and how it interacts with users.

2. Back end development- it is responsible for server side programming which includes business logic, data

3. Database Management -it is responsible for Storing, accessing and managing data of all the application deals with the creation maintenance and optimisation of database. Database management is the new in tools like MySQL, Oracle and MongoDB.

4. DFD diagram

● Level 0 DFD :- As shown in figure 1 the user requests for login from the admin server in order to get logged in the database and buy things or look out to the products selling online.



Fig1. Level 0 DFD

- Level 1 DFD :- As shown in the figure 2 input is taken from the user in the form of searching and related results are provided on the basis of the search the user made .

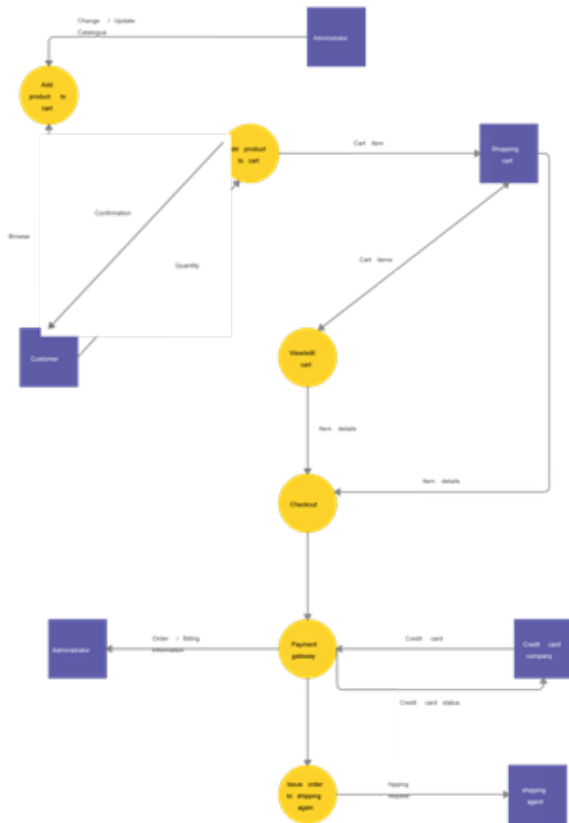


Fig2. Level 1 DFD

5. Libraries and modules used

HTML and CSS are the fundamental building blocks of any website, including e-commerce websites. Some popular libraries and frameworks used in web development for e-commerce websites include:

Bootstrap: A popular front-end framework that provides a set of pre-built CSS and JavaScript components for creating responsive, mobile-first websites . Bootstrap is a powerful, extensible, and feature-packed frontend toolkit for building fast, responsive sites.

jQuery: It is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.

React :It is an open source javascript library used to create user interfaces in a declarative and efficient way.

It is a component based front end library responsible only for the view layer of a Model view controller (MVC) architecture . React is used to create modular user interfaces and promotes the development of reusable UI components that display dynamic data

Google Fonts: (formerly known as Google Web Fonts) is a computer font and web font service owned by Google. This includes free and open source font families, an interactive web directory for browsing the library, and APIs for using the fonts via CSS and Android.

6. Working of the E-commerce website

Website setup: The first step is to set up the website by selecting a domain name, hosting provider, and e-commerce platform.

Product listing: Once the website is set up, the next step is to list the products or services that you want to sell.

Customer browsing: Customers can browse the products on your website and add them to their cart.

Checkout process: When customers are ready to purchase, they can proceed to checkout. They will be asked to provide their shipping and payment information.

Payment processing: The payment information is sent through a payment processor that validates the payment and collects the funds.

Order fulfillment: Once the payment is processed, the order is fulfilled by shipping the product to the customer.

Customer support: After the product is shipped, you can provide customer support by answering questions and resolving issues.

7. Flow chart

The following picture depicts the working of the e-commerce website

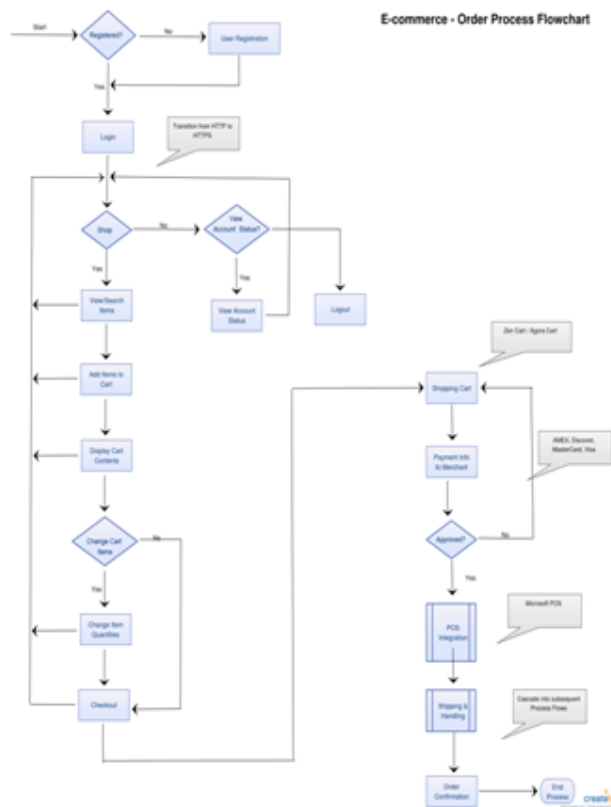


Figure 3

8. Conclusion

E-commerce has revolutionized the way we shop and do business. It has opened up a world of opportunities for entrepreneurs and customers alike. With the advent of e-commerce websites, people can now buy and sell products and services from the comfort of their homes. E-commerce websites have made it easier for small businesses to reach a wider audience and compete with larger corporations. They have also made it easier for customers to compare prices, read reviews, and make informed decisions.

In conclusion, e-commerce websites have transformed the way we do business. They have made it easier for people to buy and sell products and services online.

9. References

- [1] International Research Journal of Engineering and Technology (IRJET). Volume:09 Issue:04 | April 2022.
- [2] Anuj Adhikari Full Stack JavaScript: Web Application Development with mean Helsinki Metropolia University of Applied Sciences Bachelor of Engineering Information Technology Thesis July 10, 2016.
- [3] Web Development and performance comparison of Web Development Technologies in Node.js and Python 10.1109/ictai53825.2021.9673464
- [4] International journal for research in Applied Science and Engineering Technology, vol 10, (2022)
- [5] Web development and performance comparison of web development technology in node js vs python, vol 10, (2021).
- [6] Website Development Technologies: a review, vol 10, issue 1, (2022)