Website Development on Electro – Online Market Place for Buying & Selling

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ABSTRACT

*Electronic commerce or e-commerce refers to a wide range of online business activities for products and services. It is usually associated with online buying and selling over the internet or conducting any transaction involving the transfer of ownership or rights to use goods or services through a computer mediated network. Our project title "**Electro- Online market place for buying & selling Electroni**cs" is a web-based e-commerce project. Basically, this project deals with the all type of electronic products buy and sell. The main features of our website are an end user can perform free online registration. Can search a specific product of his/her interest. Can order online the payment method is currently the "Cash on delivery" method. The administrator possesses the only right to add any product, update its price or delete any product can promote small or big advertisements and delete any specific advertise as well. Customers can update their personal information at any time. After logging in to the system the customers can order whatever they want without giving their billing information again and again. In this website products are organized based on categories and brands. Customer can enjoy the detail view of any product by just panning cursor over the product image in the product details section. Our goal was to develop a web application that would be attractive enough, have a professional look and user friendly. So that people of all age groups would be its end users. The entire development process has been subdivided into two: the front-end development and the backend development. The front end comprises of the visually visible parts such as the home page, admin panel, contact page, shopping cart page etc. The back end contains the database and its interaction with the front-end.* The front end was initially raw coded using JavaScript. JavaScript is a client-side scripting language which is a dedicated language for web development. The Database Management System (DBMS) provides support for the back end.

Keyword*: E-Commerce, Market, Online, Customer, Front-end, Back-end, database.*

1. Introduction

In this modern life, people don't like to go to the market to buy products because it's wasting time and terrible and sometimes long-distance. But if they go to get this then most of the time, they don't get pure products. Because mainly the electronic products come from the abroad. Third-party vendors brought the electronic products from the actual owner then they stock them into their warehouse. City seller brings electronic products from them and keep electronic products into their shop and sell them to the customers.

But if a customer communicates with the actual owner and gets them within 1-3 days then must be better than the previous process [1]. We will make a system to overcome this problem. So, we decide to make a multivendor

ecommerce online store website where we solve all the problems whose I mentioned on the top. We are going to build system where actual owner can upload their products after verifying our process than customer can directly buy the electronic products and within 1-3 days, we will deliver the electronic products to the customer's house [1].
We can use this site for business purposes because we are the medium between the customers and sellers. We will take a small percentage when they buy and sell. through our website. Shopping has long been considered a recreational activity by many. Shopping online is no exception. The goal of this application is to develop a web-based interface for online retailers. The system would be easy to use and hence make the shopping experience pleasant for the users. The goal of this application is to develop an easy-to-use web-based interface where users can search for products, view a complete description of the products and order the products. A user can view the complete specification of the product along with various images and also view the customer reviews of the product. They can also write their own reviews.

The rest of the project is organized as follows. section 2 gives the foundation conditions of our venture. We additionally talk about the related work, correlation with other competitor frameworks the extent of the issue and difficulties of undertaking. Section 3 gives the necessities like business process demonstrating. the prerequisite accumulation and examination, the utilization case model of the undertaking and their depiction the intelligent social database display and the structure necessities. Section 4 gives plan of the task Front-end configuration, back-end plan connection structure, UX, and the usage necessities. Section 5 gives the discussion the usage of database front end plans, communication and test about the task. Section 6 finally conclusion and future scope.

2. Requirement Specification

2.1 Business Process Modeling

The motivation behind the report is to gather and break down every single grouped thought that have come up to characterize the framework, its necessities regarding customers. Likewise, we will anticipate and deal with how we trust this item will be utilized so as to pick up a superior comprehension of the undertaking, plot ideas that might be grown later, and record thoughts that are being considered [5], yet might be disposed of as the item creates. business process models assume a focal job in depicting, breaking down, improving, executing, and observing business forms.

2.2 Waterfall Model

The waterfall model is critical procedure which is well ordered in life cycle. It is streaming such like water since this progression isn't back to past advance. The period of prerequisite social occasion, structure &development, testing and usage.

Figure 2.1: Waterfall Model process

2.3 Use Case Modeling and Description

Use case displaying is a helpful device for necessities elicitation. It gives a graphical portrayal of the product framework's necessities. The key components in a utilization case show are performing artists, and the utilization cases themselves [6]. We are utilizing for headway of an undertaking or complex structure. Use case portrayals list the fragments of our endeavor gradually.

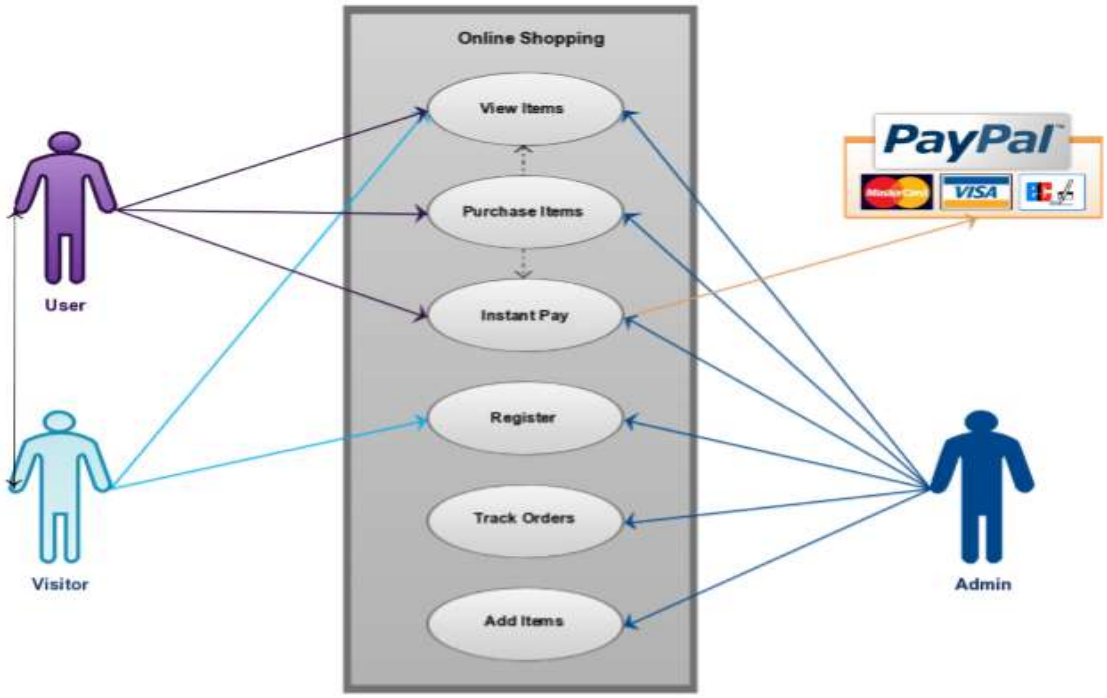

Figure 2.2:UI case Diagram

2.4 Use Case Description

A utilization case is a methodology used in structure analysis to perceive, clear up and mastermind system need. The utilization case diagram portrays in the table from 3.1 to table 3.4. Login and view product table are shown below.

Use Case	Login
Actors	Seller, Customer, Admin
Precondition	Login
Structure	name & password
Post-condition	Successfully or failure.

Table 3.1: Login

Use Case	View Product
Actors	Customer, Seller, Admin
Precondition	Null
Description	Anyone can see the products who visit the site.
Structure	See all products

Table 3.2: View products

3. Design Requirements

3.1 Bootstrap

It is a system which centers on rearranging improvement useful site. It is automatic worked to size of text, style shading for the websites. In that capacity, the essential factor is whether the designers in control discover those decisions to their preferring [7]. Once added to an undertaking, Bootstrap gives fundamental style definitions to all HTML components. The final product is a uniform appearance for composition, tables and structure components crosswise over internet browsers.

3.2 React

React is a speedy, little, and feature rich JavaScript library. It is used for building user interfaces specially for single page applications. It is used for handling view layer for web and mobile apps. It uses Virtual Dom instead of Real Dom considering that Real Dom manipulations are expensive. It's support server-side rendering. It is reusable and composable. React maintained uni-directional data flow which very helpful for debugging code.

3.3 Node JS

Node.js is a platform built on Chrome's JavaScript runtime for easily building fast and scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices. It's is an open source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux. Node.js also provides a rich library of various JavaScript modules which simplifies the development of web applications using Node.js to a great extent [8].

3.4 Firebase Authentication

Most apps need to know the identity of a user. Knowing a user's identity allows an app to securely save user data in the cloud and provide the same personalized experience across all of the user's devices.

Firebase Authentication provides backend services, easy-to-use SDKs, and ready-made UI libraries to authenticate users to your app. It supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook and Twitter, and more.

3.5 Express JS

Express is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications. It is an open-source framework developed and maintained by the Node.js foundation. Express provides a thin layer of fundamental web application features, without obscuring Node.js features that you know and love.

3.5 MongoDB

MongoDB is a document database designed for ease of development and scaling. The Manual introduces key concepts in MongoDB, presents the query language, and provides operational and administrative considerations and procedures as well as a comprehensive reference section.

4. Design Specification

4.1 Front-end Design

This is the homepage in this page we have created different menu like shop, home, Order, Admin, Deals, Login, logout and search button. A front-end web engineer is likely what a great many people consider as a "web designer". A front-end web designer is in charge of executing visual components that clients see and interface with in a web application. They are generally upheld by back-end web engineers [9], who are in charge of server-side application rationale and coordination of the work front- end designers do.

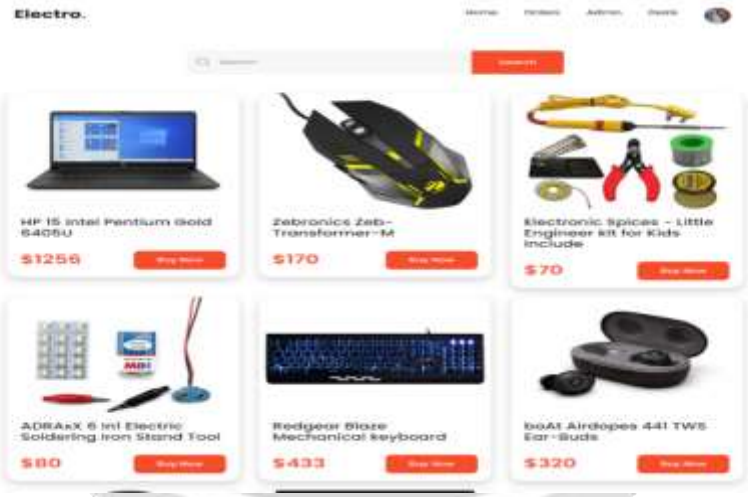

Figure 4.1: Home Page

4.2 Admin Portal

The admin controls all the system. This is admin login part. The admin can see the all information.

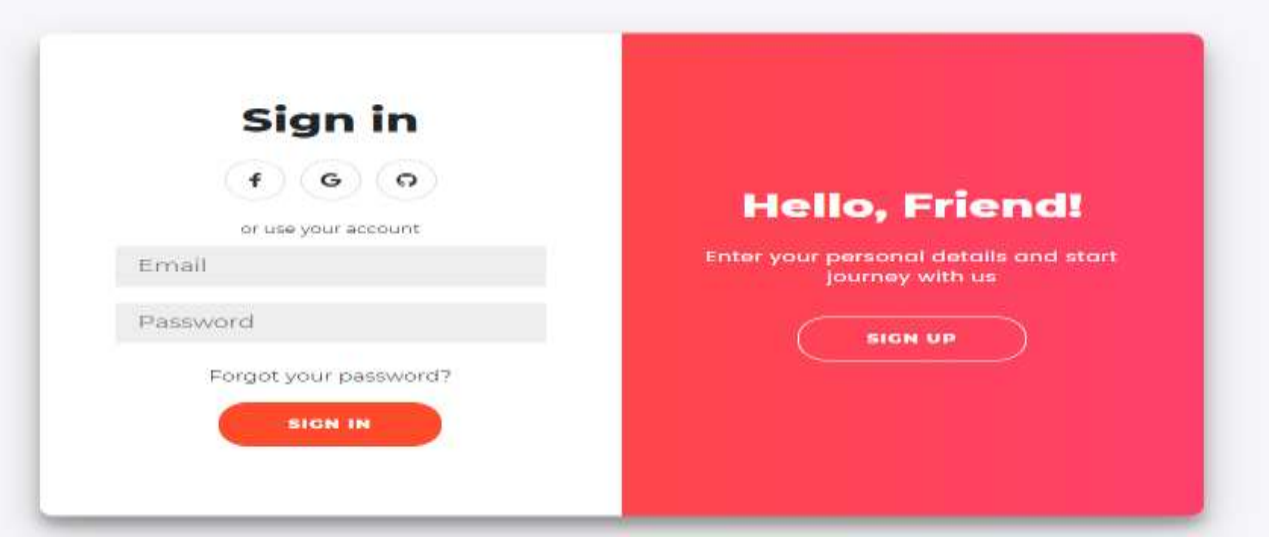

Figure 4.2: Admin Page

4.3 Back-end Design

A back-end web engineer is in charge of server-side web application rationale and combination of the work front-end web designers do. Back-end engineers as a rule compose web administrations and APIs utilized by front-end designers. All information is controlled by admin. This article centers around the equipment and programming on the server-side that make this conceivable [10]. The back-end is the majority of the innovation required to process the approaching solicitation and create and send the reaction to the customer.

4.4 Interaction Design and UX

Interaction design can be comprehended in basic (however not improved) terms: it is the structure of the collaboration among clients and items. All things considered, UX configuration is tied in with molding the experience of utilizing an item, and most piece of that experience includes some association between the client and the item.

4.5 Implementation Requirements

To actualize this undertaking, programming for internet techniques framework, utilize distinctive with dialects as like as HTML, CSS, BOOTSTRAP, JAVASCRIPTS, REACT, NODE JS, MONGODB, EXPRESS JS, FIREBASE AUTHENTICATION. Here some are using for design and some are for development our full sites. These are very important for our websites. Nonfunctional necessity characterizes the requirements as far as execution, intelligent database prerequisite structure contains and unwavering quail quality accessibility, security, viability and movability to usage plane.

5. Implementation of Database

To create and execute site framework with informal community season where clients can purchase or include things for exchanging at the solace of their homes without obstructions of stress, place and land area through the web. By and large, the execution of a framework alludes to the change of the framework determination planned from the initially acquired prerequisite into program codes. A database is a gathering of data that is sorted out so it very well may be effectively gotten to, oversaw and refreshed. Numerous databases the executives' apparatuses are accessible at this point. There I used Non-Relational Database MongoDB [10]. These are extremely useful for our own. High highlights and we can seek numerous data at an early occasion.

5.1 Implementation of Front-end Design

It structures initial introduction for client. The early introduction individuals can't overlook effectively. That is the reason we will attempt to make front-end plan simple, gorgeous and client amicable. We face a few issues on the grounds that each gadget show is not same. We fixed our application for responsive each gadget's showcase. Extremely that was testing. We make our application client responsive which is simple and known to each client. We make these highlights of assistance HTML, CSS and Java Script.

5.2 Implementation of Interactions

The important part of the project is admin. Admin section controls the whole system. In our project, the seller can buy fruits with directly connect to the buyer. The buyer can get many kinds of fruits using this website. They can payment money by online. Here is a blog site where people can discuss about fruits. The buyer and seller have to register for buying and selling fruits. The customer review system is included. The guest user also visits this website.

5.3 Testing Implementation

To find errors we design a series of test case. We use software techniques to solve the error. The test implementation is given below in table 5.1.

Test case	Test input	Expected outcome	Actual output	Results
1.Screen	Browsers: Chrome, Mozilla, Safari. UC browsers	Correctly show the screen	Correctly show the screen	Done
2. Home Page	Press the home button	Showing the homepage	Showing the homepage of Electro correctly	Done
3.Login	Blanked or incorrect	Warn to submit	Showing blanked or incorrect	Done
4.Password	Wrong or limitation password	Warn to submit carefully	Showing the wrong or limitation	Done
5. Email	Valid email	Don't input invalid email	Showing the warning	Done
6.Seller portal	To sale fruits and get payment	Filled to require options	Confirm successfully sale fruits and get payment	Done
7. Buyer portal	Require personal information	Will confirm to buy	Successfully buy with sure payment	Done

Table 5.1: The implementation of testing our project

5.4 Test Result and Report

When the customers want to buy electronic products in this website, they have to must login. If the customers new for this site, they will have to create account. After creating account, they will get user name and password for this website and also you can login with google account. Any old customer is directly login by using their user's name and password. The seller also need login as like as the customers. When the customers successfully login then they order

5.5 Implementation of Front-end Design

It structures initial introduction for client. The early introduction individuals can't overlook effectively. That is the reason we will attempt to make front-end plan simple, gorgeous and client amicable. We face a few issues on the grounds that each gadget show is not same. We fixed our application for responsive each gadget's showcase. Extremely that was testing [11]. We make our application client responsive which is simple and known to each client. We make these highlights of assistance HTML, CSS and Java Script.

6. Conclusion

The web has turned into a noteworthy asset in present day business, along these lines online market has picked up centrality from the business visionary's as well as from the client's perspective. For the business visionary, web-based showcasing produces another business opening. It ought to be advantageous for the client to see the substance of their truck and to have the capacity to evacuate or add fruits to their truck. The quantity of highlights that are intended to make the client progressively agreeable. This undertaking helps in understanding the formation of an intelligent website page and advances client to execute it. Throughout the task, we have over the wide assortment of issues and challenges. We have taken in the suitable unpredictable working behind the dynamic site, how precarious information control can be happened now and then yet we have done everything. Effectively, the framework has been planned in light of the framework investigation. All conceivable blunders in the program have been killed. Important approval strategies have been utilized and ordinary, irregular and very information was utilized to test the framework.

Scope for Further Developments

We have our project but we have planned to more develop in the future.

- To store information, we will need huge storage database. We will attach big database as like Oracle or SQL server.
- We will deliver the electronic products outside our country through our websites.
- We will add many other payment systems.

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