



## The Impact of E-Commerce Website in the Modern Era

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**Abstract:** E-commerce website is a site where people can buy and sell products through the digital communication technology which also provides us with various types of services. E-commerce websites have made everyone's life simpler in the present world.

There are now currently over 1.7 billion websites in existence. There are many different websites for different topics which attract millions of visitors every day. But then there are some exceptionally popular places which attract billions of visitors every day. Such as Amazon, eBay, Ali baba, Rakuten etc. These sites are becoming popular day by day for their unique and favorable services.

This paper will describe the development of an e-commerce website for electronic products. The whole development process is divided into two sections. The first section is about the design phase and the second section is about the logical phase. This website contains different types of unique and helpful features and discounts with dynamic systems which can attract the customer. They can browse and purchase the items easily. All the items that are in stock can be viewed easily and efficiently. It is a secure site where users' information is safe. Every buyer will get different types of facilities. For example, new customers will get a 10% discount, customers will get a 20% discount on purchasing products over 80k, many products like Earphones, Bluetooth speakers will be gifted occasionally ( New Year, Eid, Christmas, Puja etc.), inside Dhaka, customers will get free home delivery for their first order.

The main objective of the paper is to describe and develop a module that will be better in interaction with the customer for selling any electronic products

**Key words:** E-Commerce, HTML, Web Development, Database, Online-Shopping, Scripting, Software.

### Introduction

An E-Commerce website is an information technology system where merchants can sell products and customers can buy products on the website electronically using the internet on mobiles and computers. This means that an e-commerce website is an online store. E means electronic. Commerce means business. Website means group of HTML web pages and is created to sell products. In the early days, e-commerce was done partially through emails and phone calls. Now, with a single website, anything and everything required for a transaction can be executed online.

Friends Electronics is an interactive solution that provides users an opportunity to buy electronic goods such as mobile, computer, keyboard, headphone, ear-pods, television, Bluetooth device etc. As we can see there are hundreds of E-Commerce website because online shopping is a trend now. But in our website visitors can see publicly available features such as browse products, view details of products like size, color and cost and view other static contents of site. Registered user can view all publicly available features and in addition to this they can purchase the products by adding them into shopping cart. Our website will provide wide range of collection of products.

This website means the group of HTML web pages that is created to sell products or services. We understand the needs of customer desire and give our best to fulfill their demands. This is the largest section of electronic products. It has simple and secure processing system so that the customers will not be bothered while purchasing.

### **OBJECT**

The paper has following objects:

1. To explain the concept of E-Commerce.
2. To understand the present status and trends of E-Commerce.
3. To reveal the key variables influencing the increase usage of E-Commerce.
4. To design a online electronic E-Commerce site.
5. Provide a solution to reduce and optimize customer order management costs.
6. To create an avenue where people can shop for electronic products online.
7. To develop a database to store information on electronic products and services.

### **What is E-commerce**

E-Commerce is actually electronic commerce. It means dealing in products, goods and services through internet. Through an e-commerce website, a business can process orders, payments, manage shipping and provide customer service. However, E-commerce involves carrying on a business in internet. E-Commerce relates to a website of the seller on the Internet, who sells products or services directly to the customer from their web-page.

### **Web development**

Web development is the creation and maintenance of websites. It's the work that happens behind the scenes to make a website look great, work fast, and perform well with a seamless user experience. Web development skills are in high demand and well paid worldwide making development a great career option. This is one of the most easily accessible higher paying fields because you don't need a traditional university degree to qualify. The field of web development is generally divided into front-end (user-facing side) and back-end (server side). Front-end developing takes care of layout, design and interactivity using HTML, CSS and JavaScript. The back-end developer engineers what is going on behind the scenes. This is where the data is stored and without this data, there would be no front end.

### **Website**

A website is a collection of web pages, interlinked web pages that share a single domain name. Websites can be created and maintained by an individual, group, business or organization to serve a variety of purposes. Website has many functions and can be used in various fashions; a website can be a personal website, a commercial website for a company, a government website or a non-profit organization website. Websites are typically dedicated to a particular purpose. The web pages of the website are linked with hyper-links and hyper-texts and share a common interface and design. The website may contain some additional documents and files such as images, videos or other digital resources.

### **Web Page**

A web page is a document, usually written in HTML that is viewed in an Internet browser. A web page can be accessed by entering a URL address in the browser's address bar. A web page can contain text, graphics, and hyperlinks to other web pages and files.

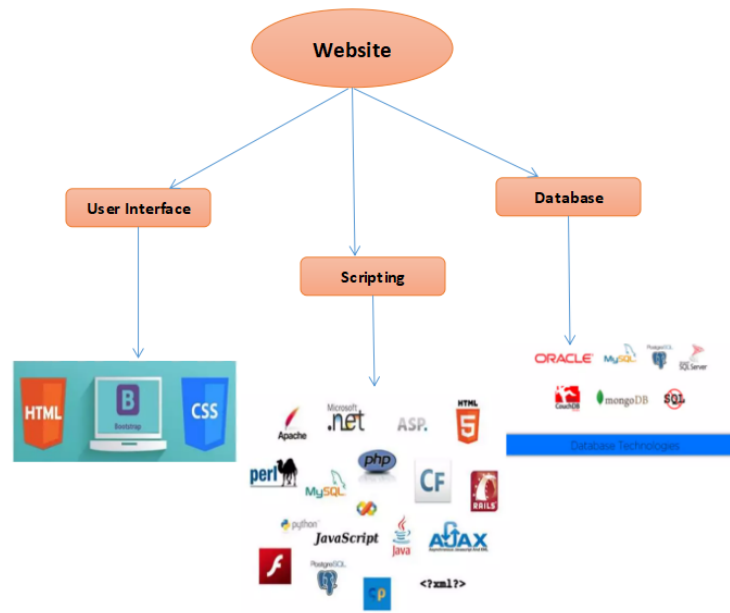
A web page is often used to provide information to visitors, including images or videos that help explain important points. A web page can also be used as a method of selling products or services to visitors. Multiple web pages make up a website, such as our Computer Hope website. Some of the Web pages are the currently viewing page, contact page, registration page, the home page etc.

## The steps to create a website

Creating a website requires multiple steps:

- ✓ Creating a user interface.
- ✓ Scripting (both client side and server side).
- ✓ Creating the database for the website.

**Fig 3.1**



## UL Development

For user interface (UI) we are using 3 technologies:

1. HTML
2. CSS
3. Bootstrap

### A.1. HTML

HTML (Hypertext Markup Language) is a markup language for the web. It defines the structure of web pages. It is a basic building block of every website, so it's crucial to learn for web development. It facilitates website creation. This language has code words and syntax just like any other language. But is relatively easy to comprehend and, as time goes on, increasingly powerful in what it allows someone to create. HTML is a series of short codes typed into a text-file at its core. These are the tags that power HTML's capabilities. The text is saved as an HTML file and viewed through different web browser. The browser reads the file and then they translate the text into a visible form. So as directed by the codes the author used to write what becomes the visible rendering. Writing HTML requires tags to be used correctly to create the perfect vision. Some html tags are `<h1></h2>`, `<img></img>`, `<u></u>`, `<b></b>` etc.

```

    Untitled - Notepad
    File Edit Format View Help
    <!DOCTYPE html>
    <html>
    <body>

    <h1>My First Heading</h1>

    <p>My first paragraph.</p>

    </body>
    </html>
    
```

## A.2. CSS

CSS is the language for describing the presentation of Web pages. It includes colors, layout, size, spacing and fonts. It also allows one to adapt the presentation to different types of devices, such as big screens, tiny screens, or printers. CSS is independent of HTML and can be used with any XML-based markup language. CSS handles the look and feel part of a web page. CSS saves time, pages load faster here. It has easy maintenance, it has multiple device compatibility. Some CSS functions are: attr(), blur(), brightness(), calc(), circle(), contrast().

```
<style type="text/css">
    .text span { color: red; }
    span { color: blue; }
    h1 { color: green; }
    h1 span { color: black; }
    p span { color: yellow; }
</style>

<h1>
    <p>
        <span class="text"><span>Text</span></span>
    </p>
</h1>
```

## A.3. BOOTSTRAP

Bootstrap is the most popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website or web page. It is absolutely free to download and use. It is very easy to learn. Bootstrap is a front-end framework used for easier and faster web development. It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many others. It can also use JavaScript plug-ins. It facilitates you to create responsive designs.

```
<div class="jumbotron text-center">
    <h1>My First Bootstrap Page</h1>
    <p>Resize this responsive page to see the effect!</p>
</div>

<div class="container">
    <div class="row">
        <div class="col-sm-4">
            <h3>Column 1</h3>
            <p>Lorem ipsum dolor..</p>
        </div>
        <div class="col-sm-4">
            <h3>Column 2</h3>
            <p>Lorem ipsum dolor..</p>
        </div>
        <div class="col-sm-4">
            <h3>Column 3</h3>
            <p>Lorem ipsum dolor..</p>
        </div>
    </div>
</div>
```

## SCRIPTING

There are two type of scripting methodologies:

1. Server side scripting.
2. Client side scripting.

Server side scripting is done at the server end and Client side scripting is done at the client end or the browser.

### B.1. SERVER SIDE SCRIPTING

Server-side scripting is a technique used in web development that involves using scripts on a web server to create a response tailored to each user's (client's) web page requests. An alternative is for the web server to deliver the static web page itself. Scripts can be written in any of the many available server-side scripting languages (see below). Server-side scripting differs from client-side

scripting, where embedded scripts such as JavaScript are executed on the client side of the web browser, but the two techniques are often used together. There are several languages that are used for server side programming.

1. PHP
2. C++
3. Python
4. Java and JSP

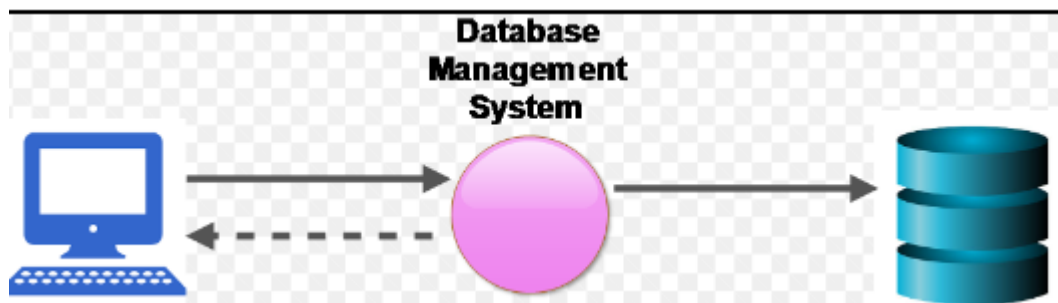
### ***B.2. CLIENT SIDE SCRIPTING***

Client-side scripting is the process in which the code along with the HTML web page is sent to the client by the server. Here the code refers to the script.

In other simple words, client-side scripting is a process in which scripts are executed by the browser without connecting to the server. A client-side script is a small program (or set of instructions) that is embedded (or embedded) in a web page. It is processed in the client browser instead of the web server. A client-side script is downloaded on the client side from the server along with the HTML web page in which it is embedded. The web browser interprets and executes the code and then displays the results on the monitor.

### ***DATABASE***

A database is a systematic collection of data. They support electronic storage and data manipulation. Databases make data management easy. A database is an organized collection of data, so that it can be easily accessed and managed. The main purpose of database is to manage large amount of information through data storage, retrieval and management. Modern databases are managed by the database management system (DBMS). There are many databases available like MySQL, Sybase, Oracle, MongoDB, Informix, Postgre SQL, SQL Server, etc.



### ***SQL***

The full form of SQL is Structured Query Language. It is a standardized programming language. SQL is used to manage relational databases and perform various operations on the data in them. It was initially created in the 1970s, SQL is regularly used not only by database administrators, but also by developers writing data integration scripts and data analysts looking to set up and run analytical queries.

SQL is used for many reasons.

1. Adding data.
2. Deleting data.
3. Updating data.
4. Modifying database table.
5. Modifying index structure.
6. Retrieving subsets of information.

SQL-compliant database server products include the following:

1. Microsoft SQL server.
2. Oracle Database.
3. IBM Db2.
4. SAPHANA.
5. SAP Adaptive Server.
6. Oracle MySQL.
7. Open Source PostgreSQL.

### ***QUERIES***

Queries are one of the most common operations in SQL. It makes use of the declarative SELECT statement. Queries allow the user to describe the desired data, leaving the database management system to plan, execute, and optimize the physical operations necessary to produce results.

Structured Query Language (SQL) is a specialized language for updating, deleting, and requesting information from databases. SQL is an ANSI and ISO standard, and is the de facto standard database query language. Several established database products support SQL, including Oracle and Microsoft SQL Server products. It is widely used in both industry and academia, often for large, complex databases.

SELECT \* Example

The following SQL statement selects all the columns from the "Customers" table:

Example

SELECT \* FROM Customers;

### **Software requirement specification**

#### ***HARDWARE REQUIREMENTS***

The selection of hardware is very important in the existence and proper working in any software. When we select any hardware, the size and requirement are also very important.

Processor	Intel Core i5
Ram	4.0 GB
Hard Disk Drive	500GB

#### ***SOFTWARE REQUIREMENTS***

List of the Software are given below:

1. Windows11.
2. HTML/CSS/BOOTSTRAP/PHP.
3. Apache Server/XAMPP Server.
4. MySQL.
5. Visual Studio Code.
6. Google Chrome, Firefox, Microsoft Edge.

### **Data flow diagram**

Data flow diagram show the flow of data from external entities into the system, and from one process to another process. There are four symbols for drawing a DFD (Data Flow Diagram).



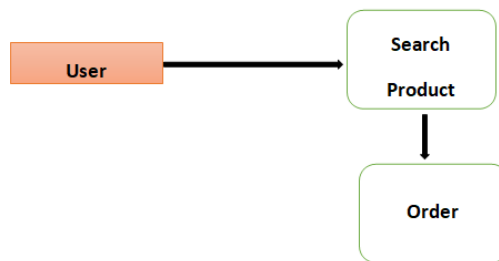
- I. The rectangle containing the external entity, which is the source or destination of the data.
- II. The ellipses representing the processes, which take data as input, validate and process it and output it.
- III. The arrows representing the data flows, which can either, be electronic data or physical items.
- IV. The disk symbols representing the data stores.

Figures below are the Data Flow Diagrams for the current systems.

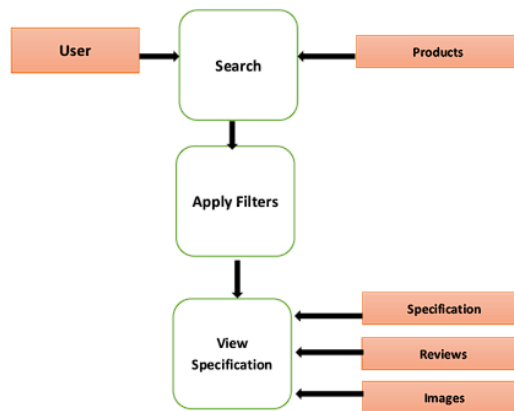
**CONTEXT LEVEL DIAGRAM**



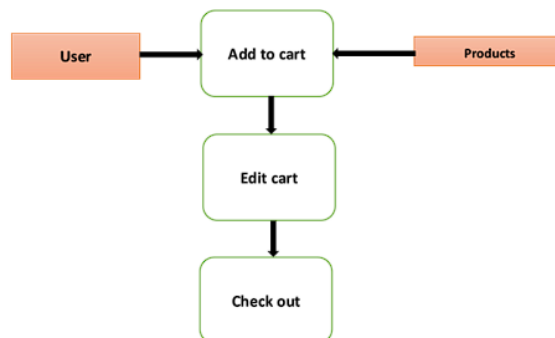
**FIRST LEVEL DFD**



**SECOND LEVEL DFD**



**THIRD LEVEL DFD**



## PROJECT

*PROJECT (Advanced Technologies)*

**Name:** Friends Electronics

### **TECHNOLOGIES USED**

We have used the following technologies:

1. HTML
2. CSS
3. Bootstrap
4. PHP
5. MySQL

Server: Apache (XAMPP)

Database: MySQL

Operating system: windows 8\9\10\11

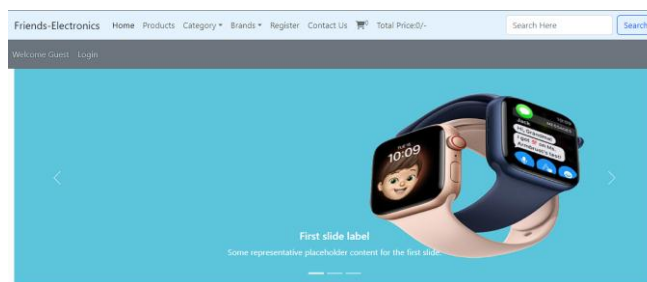
Browsing: Chrome, Firefox, Microsoft Edge, Internet explorer.

### **TECHNICAL DETAILS**

1. For the front end, we have use HTML, CSS and Bootstrap. For designing purpose these tools are familiar.
2. Backend is based on PHP.
3. MySQL is used for relational database model.
4. Server side scripting and client side scripting, for both we have used PHP.

## Screenshots

### FRONT PAGE



### REGISTRATION (USER)

#### New Account Registration

User Name <input type="text" value="Enter Your Name"/>	Email <input type="text" value="Enter Your Email"/>
Password <input type="text" value="Enter Your Password"/>	Confirm Password <input type="text" value="Confirm Your Password"/>
User Image <input type="button" value="Choose File"/> No file chosen	Mobile Number <input type="text" value="Enter Your Mobile Number"/>
House Address <input type="text" value="Enter Your House Address"/>	Post Code <input type="text" value="Enter Your Post Code"/>
District Name <input type="text" value="Enter Your District Name"/>	Division Name <input type="text" value="Enter Division Name"/>
<input type="button" value="Register"/>	
Already have an account? <a href="#">Login</a>	



## LOG IN (USER)

### Login Form

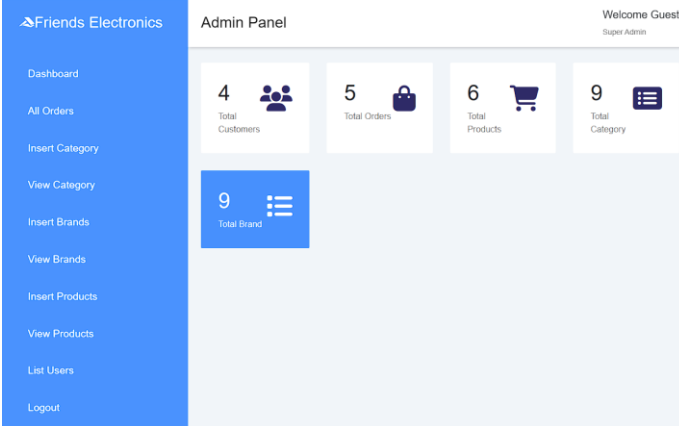
User Name

Password

[Login](#)

[Don't have an account? Register](#)

## ADMIN PANEL DASHBOARD



The screenshot shows an admin dashboard for 'Friends Electronics'. The left sidebar contains navigation links: Dashboard, All Orders, Insert Category, View Category, Insert Brands, View Brands, Insert Products, View Products, List Users, and Logout. The main content area, titled 'Admin Panel', displays a 'Welcome Guest Super Admin' message and four summary cards: 4 Total Customers, 5 Total Orders, 6 Total Products, and 9 Total Category. A larger card below shows 9 Total Brand.

## ADMIN REGISTRAION FORM

### Admin Registration Form

User Name

Email

Password

Confirm Password

[Register](#)

[Already have an account? Login](#)

## ADMIN LOG IN FORM

### Admin Login Form

Enter Username

Password

[Login](#)

[Don't have an account? Register](#)

## VIEW ALL PRODUCT (ADMIN)

Product Id	Product Title	Product Image	Product Price	Total Sold	Quantity	Edit	Delete
1	Star PC Intel Pentium Gold G6400 11th Gen PC		Tk 25000/-	1	10		
2	HP Pavilion Gaming 15-ec2706AX Ryzen 5 5600H 15.6		Tk 125000/-	1	12		
3	Dopah DTT-04 Portable Multimedia Projector		Tk 15000/-	0	14		
4	SJCAM S4000 Air Full Hd Hd Wi-Fi Waterproof Sports		Tk 35000/-	1	16		
5	XINJI COBEE C1 Waterproof Smart Watch		Tk 40000/-	0	18		

## PRODUCT DETAILS

**Product Details**

**HP Pavilion Gaming 15-ec2706AX Ryzen 5 5600H 15.6**  
Description: HP Pavilion Gaming 15-ec2706AX Ryzen 5 5600H RTX 3050 4GB Graphics 15.6  
Tk. 125000/-  
In Stock

[Add to Cart](#) [Go Home](#)

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## USER DASHBOARD

**akhi**

[Pending Orders](#)  
[Edit Profile](#)  
[My Orders](#)  
[Logout](#)

**All my orders**

Sl No	Amount Due	Total Products	Invoice Number	Date	Complete/Incomplete	Status
1	Tk. 125000/-	1	216417750	2022-12-17 20:38:25	Incomplete	<a href="#">Confirm</a>
2	Tk. 50000/-	2	860149936	2023-01-27 01:14:06	Incomplete	<a href="#">Confirm</a>
3	Tk. 40000/-	1	1832156937	2023-01-27 01:14:26	Incomplete	<a href="#">Confirm</a>

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## FEATURES AND FUNCTIONS

The purpose of this document is to define the features of the E-Commerce website. Here visitors can see publicly available features such as browse products, view details of products like size, color and cost and view other static contents of site. Registered user can view all publicly available features and in addition to this they can purchase the products by adding them into shopping cart. Admin can manage all the contents and orders from the backend. The one main thing that we are including in our project is auction system in which buyer can bid on a product and the highest bidder will get the product.

### A.1. WHY CHOOSE US?

- Largest selection of electronic products
- User friendly website for each device
- Helpful and detailed information
- All items in stock and ready to ship
- We are easy to reach
- Both Online and Offline payment methods

- Secure shopping
- Simple secure checkout

There's a question. In this advance era, there are thousands of website like us. Why a company or authority will choose our website? Because, comparing with most of the website, our website will be little bit different. Our service, browsing speed, products quality, customer care, everything will be better than other websites. Our aim is not just to sell but to satisfy the buyers with good products.

### **Conclusion**

Since it's an E-Commerce website, and it sells electronic products, this paper describes what features we have used and technology we have implemented. Here the whole ordering process is much easier than other websites. Any new user or regular user can order from this page. It has been developed through a common programming language (PHP). The design part is completed by HTML, CSS and Bootstrap as well. Database is connected through MySQL. In future, our website will be updated with new features. This website is capable enough to upgrade gradually according to market demand or customers desires or company policies.

### **References**

1. <https://www.researchgate.net/publication/320547139>
2. <https://www.slideshare.net/MudasirAhmadBhat/ecommerce-web-development-project-report-bookz-report>
3. I. S. Jacobs and C. P. Bean, "Fine particles, thin films and exchange anisotropy," in Magnetism, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271–350.