# A REPORT ON E-Store

## PROJECT REPORT

# SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF

## **BACHELOR OF TECHNOLOGY**

(Computer Science & Engineering)

## **SUBMITTED BY**

Jasjit Singh Rudra, 1802061, 5 X1

DECEMBER 2020

#### **ABSTRACT**

Today, most of products, commodities, and even daily household items are bought online. This has led to emergence of various e commerce sites and rise of popular e commerce giants such as Flipkart and Amazon. However, there are many concerns raised among shoppers such as genuineness of the product, storage of user data and data mining and security of payment portal. Online purchase of products such as mobile phones often has many uncertainties and in many cases, only the better aspects of phone is shown and the negative points are hidden. There are also cases of fake reviews and ratings on many online shopping websites.

Taking these scenarios and problems into consideration, E commerce website project was made for ease in purchasing of mobile phones. This website actively employees HTML 5/CSS 3 and Bootstrap 3.4.1 for its front end design. PHP has been used at the backend to implement various features in the website such as sessions, sign-up/login, settings and payment portal. The website is hosted using WAMP local server and WAMP database is used for storage of data. MySQL queries have been used for operations on data. These technologies are defined below:

HTML stands for Hypertext Markup Language. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms can be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items.

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web

development. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

Bootstrap, originally named Twitter Blueprint, was developed by Mark Otto and Jacob Thornton at Twitter as a framework to encourage consistency across internal tools. Before Bootstrap, various libraries were used for interface development, which led to inconsistencies and a high maintenance burden.

**PHP** is a popular general-purpose scripting language that is especially suited to web development. PHP code is usually processed on a web server by a PHP interpreter implemented as a module. On a web server, the result of the interpreted and executed PHP code — which may be any type of data, such as generated HTML or binary image data — would form the whole or part of a HTTP response. Various web template systems, web content management systems, and web frameworks exist which can be employed to orchestrate or facilitate the generation of that response.

**MySQL** is an open-source relational database management system (RDBMS). It organizes data into one or more data tables in which data types may be related to each other; these relations help structure the data. MySQL uses Structured Query Language to perform specific operations on the database.

E Store project has been divided into different modules and each module has its own functionality. Following are the modules on which website is based upon:

Header and Footer Module: Changes according to whether user has logged in or not. Has links to Sign-Up and Login, About us and Contact us.

Sign-up and Login Modal: To buy a mobile phone on this website, the user has to Sign-Up or Login first. The Sign-Up credentials get stored on the localhost's database and Login modal compares entered credentials with one stored in the table.

Sessions: This is one of the most important part of this website that defines its functionality as an e commerce site. Thorough sessions, unless the user is logged in, he cannot go to the home page, the confirm page, the success page or the settings page. When he/she isn't logged in and he tries to navigate

to the above pages, he/she if redirected to the index page of the website. In this case, clicking on the logo from any page redirects the user to the index page.

Once the user is logged in, he/she cannot navigate to either the index page or the login page and is redirected to the home page. In this case, clicking on the logo from any page redirects the user to the home page.

Payment: After a user chooses the product he/she wants to purchase, he/she can click on add to cart through which they are directed to payments and place their order.

Settings: This module is used to change a user's password.

# **List of Figures**

Fi	gure	Page Number
• Fl	owchart	4
• Da	ata Flow Diagram	4
• Er	ntity Relationship Diagram	5
• Co	ode Snippets for Testing	8
• Oı	utput Figures	14

## **CONTENTS**

	Candidate's Declaration Abstract Acknowledgement List of Figures	Page No. i ii v v
1.	INTRODUCTION* Problem Definition Project Overview/Specifications* (page-1 and 3) Hardware Specification Software Specification .3.1 .3.2	1
2.	LITERATURE SURVEY Existing System Proposed System Feasibility Study	<b>2</b> 2 3 3
3.	SYSTEM ANALYSIS & DESIGN  Requirement Specification* (page-2) Flowcharts / DFDs / ERDs  Design and Test Steps / Criteria  Algorithms and Pseudo Code  Complaints  Sign-Up  Log-in  Settings  Transaction  Testing Process	4 4 5 6 6 7 7 8 9
4.	RESULTS / OUTPUTS	14
5.	CONCLUSIONS / RECOMMENDATIONS	18
	REFERENCES	19

#### 1. Introduction

**Problem Definition** 

Today, most of products, commodities, and even daily household items are bought online. This has led to emergence of various e commerce sites and rise of popular e commerce giants such as Flipkart and Amazon. However, there are many concerns raised among shoppers such as genuineness of the product, storage of user data and data mining and security of payment portal. Online purchase of products such as mobile phones often has many uncertainties and in many cases, only the better aspects of phone is shown and the negative points are hidden. There are also cases of fake reviews and ratings on many online shopping websites.

Taking these scenarios and problems into consideration, E Store website project was made for ease in purchasing of mobile phones. Many people avoid purchasing phones online because of issues regarding quality of product/ fake products or phishing. To counter this, E Store offers top of line phones from mobile companies and provides an easy to use user interface.

**Project Overview and Specifications** 

E-Store actively employees HTML 5/CSS 3 and Bootstrap 3.4.1 for its front end design. PHP has been used at the backend to implement various features in the website such as sessions, sign-up/login, settings and payment portal. The website is hosted using WAMP local server and WAMP database is used for storage of data. MySQL queries have been used for operations on data.

Detailed Specifications are given below:

Software Requirements:

- Mozilla Firefox\*, Google Chrome\* or any other desktop web browser\* \*(versions released after 2014)
- Any modern 32/64 bit operating system

Hardware Requirements:

- Intel Pentium or above processor
- 512 Mb RAM or higher
- Mouse and Keyboard for inputs

## 2 Literature Survey

## **Existing System**

There are some e commerce websites with interface and design similar to this project. Two among them are listed below:

## a) Amazon.com



Amazon is an American multinational technology company based in Seattle, Washington. Amazon focuses on many services and one of the most famous service of it is e commerce. Amazon is one of the most influential economic and cultural forces in the world" as well as the world's most valuable brand. Amazon.com provides its users ease of shopping and purchase from verified sellers and provides all the basic features required in an e commerce website. It however tracks activities of its users to change shopping interface.

## b) Flipkart.com



Flipkart is an Indian e-commerce company based in Bangalore, Karnataka, India. Flipkart initially focused on book sales, before expanding into other product categories such as consumer electronics, fashion, home essentials & groceries, and lifestyle products. Flipkart "neck and neck" with Amazon in the sale of electronics and mobile phones. Flipkart too provides a similar user interface however uses its own events and promotions to attract users.

These however are the most popular e-commerce websites. There are many other sites, such as Aliexpress.com or Wish.com were there are several issues regarding genuineness of products, delivery services, customer service, etc.

### Proposed System

E Store website project is designed for ease in purchasing of mobile phones. Many people avoid purchasing phones online because of issues regarding quality of product/ fake products or phishing. To counter this, E Store offers top of line phones from mobile companies and provides an easy to use user interface.

The website is designed using PHP at backend, which allows fast processing. Passwords entered by users (md5) are encoded to prevent stealing of information. To prevent SQL injections, parameterized queries have been used.

E Store relies on general popularity of products to stock, rather than using sensitive user data, unknowingly taken from users.

## Feasibility Study

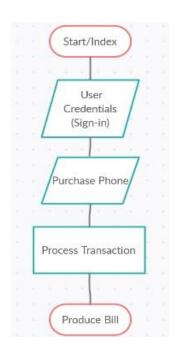
- a) Technical Feasibility: E Store can run on any modern browser, whose versions are released in/after 2014, as they can support HTML 5 and its features. There are no specific hardware requirements, but RAM higher than 512 Mb and Intel Pentium/Similar or above processor is recommended. A keyboard and Mouse is required for input purposes, and monitor to display output
- b) Operational Feasibility: E Store has a self-explanatory user interface and should face minimum resistance from users.
- c) Economic Feasibility: There are minimal hardware and software costs for E Store as it is not system heavy. Cost of training for website maintenance would be average.
- d) Legal Feasibility: E Store follows all W3 standards of website design and thus should pass required quality tests/standards for software design.
- e) Schedule Feasibility: A team size of 5 professionals for design/updates, 3 for maintenance and 10 for customer relations would be required during launch of project.

## 3. System Analysis/ Design

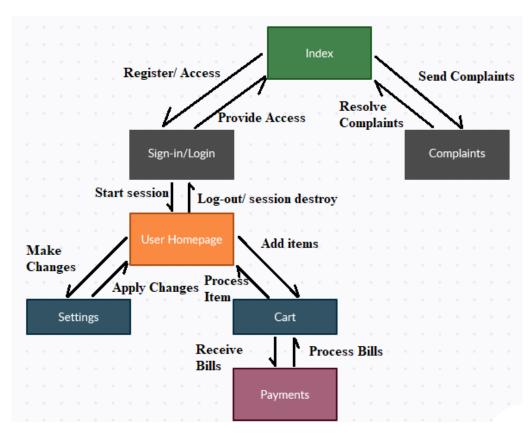
Requirement
SpecificationPlease
refer to page 2

## Flowcharts / DFDs / ERDs

## 1) Flowchart

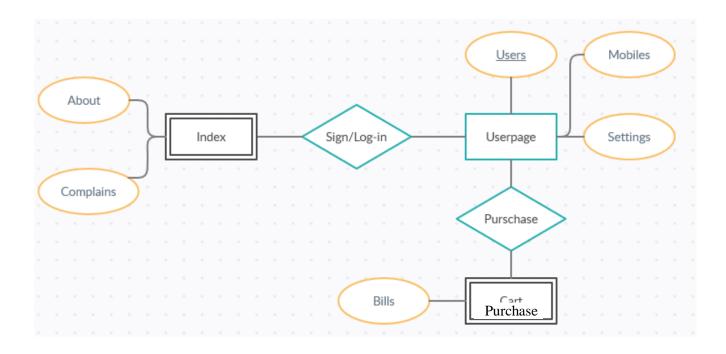


## 2) DFD



DFD Python App

## c) ERD



Design and Test Steps / Criteria

E-Store was designed using HTML 5, CSS 3 and Bootstrap framework for frontend and PHP for backend processes. Data of website was stored using MySQL database.

#### Test Steps for website included:

- a) Verification of Input- Under this step, form inputs were tested, and it was checked whether form action was correct and required input field were being used properly. Input fields such as phone number were checked upon that they can only have length of 10 characters.
- b) Database verification- Under this step, inputs inserted into the tables was checked. For example: checking of primary keys, whether two users can have same e-mail id, etc.)
- c) Testing of SQL queries: Whether correct MySQL queries have been used.

### Algorithms and Pseudo Code

#### Complaints

- a) Algorithm
  - 1) Start
  - 2) Get USER credentials
  - 3) Get USER message
  - 4) Register message to database.
  - 5) Exit.

#### b) Pseudo Code

```
Input (Name,Email);
Input (Message);
If (Name OR Email OR Message == NULL)
      { Print("Please enter all credentials"); }
Else
{
Get mysqli_connection ("localhost","root","","estore");
Insert into table(Name,Email,Message);
```

```
Print ("Your query/complain has been registered");
    }
     Sign-up
a) Algorithm
    1) Start
   2) Get USER credentials
   3) Register USER credentials to database.
   4) Exit
b) Pseudo Code
   Input Credentials;
   If (Credentials == NULL)
       { Print("Please enter all credentials"); }
   Else
   Get mysqli_connection ("localhost", "root", "", "estore");
    Insert into table(Credentials);
    Goto userpage;
                      }
     Log-in
    1) Start
   2) Get USER credentials
   3) Apply linear search and get matching credentials.
   4) If, no credentials match, display Wrong Credentials
   5) Else, 'Log-in'
   6) Exit
b) Pseudo Code
   Input Credentials;
```

```
If (Credentials == NULL)
       { Print("Please enter all credentials"); }
   Else
   Get mysqli_connection ("localhost", "root", "", "estore");
   Select credentials where credentials == Credentials;
              if(Selected rows == 1)
                      Start Session;
              Goto userpage;
              Else
              { Print ("Invalid Credentials"); }
     Settings
   1) Start
   2) Get USER password
   3) Apply linear search and get matching password.
   4) If, no password match, display Wrong password
   5) Else, GET new password
   6) Replace password with new password.
   7) Exit
b) Pseudo Code
   Input Password;
   If (Password == NULL)
       { Print("Please enter all credentials"); }
   Else
   Get mysqli_connection ("localhost", "root", "", "estore");
   Select password where password == Password;
              if(Selected rows == 1)
```

```
{ Input new password;
   Password = new password;
Return;}
Else
{ Print ("Invalid Credentials"); }
```

Transaction

- a) Algorithm
  - 1) Start
  - 2) GET user choice
  - 3) Select value of choice from database
  - 4) Display value
  - 5) Exit
- b) Pseudo Code

Input choice;

```
Get mysqli_connection ("localhost","root","","estore");
Select phone where phone == choice;
Print (Phone_Value);
Return;
```

## **Testing Process**

- a) For verification of Input- Different types of inputs, such as alphabets in phone numbers, not using '@' in mail addresses, etc. were used in order to prevent unwanted inputs by users.
- b) For database verification- Insertion of NULL values, duplicate values (for primary key), etc. were inputted to achieve desired stored results in tables.

c) SQL queries: To check whether correct MySQL queries have been used, output statements were inserted in various parts of code to check out whether each query gets the desired result.

Detailed Testing Processes on various pages are as follows:

A) Index Page

```
K?php
   session_start();
   <!DOCTYPE html>
<html>
<head>
     <title>Index</title>
    10
   </head>
<body>
<php
   if(!isset($_SESSION['id'])){
      require 'header_logout.php';
```

Use of sessions, correct links and correct opening and closing of tags and '{' and '}' in PHP statements were tested

B) Sign-in

```
class=" col-sm-5 col-xs-12 " style="margin-bottom: 100px;">
         E> SIGN UP</
    m method="POST" action="sign.php">
   <div><?php //echo
              <div class="form-group">
     <input type="email" class="form-control" name="email" placeholder="Email" required="true" pattern="[
     a-z0-9._%+-]+@[a-z0-9.-]+\.[a-z]{2,3}$">
              <div class="form-group">
                        type="Password" class="form-control" name="password" placeholder="Password" required="true" pattern=".{1,}
              <div class="form-group">
     <input type="text" class="form-control" name="contact" placeholder="Contact" required="true" pattern=".{10}">
              <div class="form-group">
     <input type="text" class="form-control" name="address" placeholder="Address" required="true" pattern=".{1,}">
     </div>
                     utton class="btn btn-primary" type="submit" value="Submit" name="button">Submit</button>
<br/>dr>Aleady Registered? <a data-toggle="modal" data-target="#pz">Login</a>
```

Form credentials and actions were tested under various inputs.

```
$com_mysqli_connect("localhost","root","","estore") or die(mysqli_error($con));
$session_start();
if (isset($_POST['button'])) {

$name_mysqli_real_escape_string($con, $_POST['ramai']);
$semail_mysqli_real_escape_string($con, $_POST['remail']);
$contact_mysqli_real_escape_string($con, $_POST['contact']);
$contact_mysqli_real_escape_string($con, $_POST['contact']);
$contact_mysqli_real_escape_string($con, $_POST['contact']);
$contact_mysqli_real_escape_string($con, $_POST['contact']);
$contact_mysqli_real_escape_string($con, $_POST['contact']);
$address_mysqli_real_escape_string($con, $_POST['contact']);
$address_mysqli_real_escape_string($con, $_POST['contact']);
$address_mysqli_real_escape_string($con, $_POST['contact']);
$fosin_l_pattern="[a-2co-9_%+-]+e[a-2e-9.-]+\.[a-z](2,3)$*;

$queryl="select * from signin where email = '$email'";
$result_mysqli_query($con, $queryl) or die(mysqli_error($con));

$total_s=mysqli_num_rows($result1);

if($total_s == 0)
{

$user_reg="insert into signin(name,email,password,contact,city,address) values('$name','$email','$pass','$contact','$city','$address');

$result=mysqli_query($con, $user_reg) or die(mysqli_error($con));

$session("amail"]=$email;
$session("name']=$name;
$session("name')=$name;
```

SQL queries used were also tested by observing their results using echo statements.

## C) Log-In

```
class="modal fade" id="pz" role="dialog">
<div class="modal-dialog">
  <div class="modal-content">
     <div class="modal-header">
            ton type="button" class="close" data-dismiss="modal">×</button>
        <h4 class="modal-title">LOG IN</h4>
     </div>
<div class="modal-body">
        <form method="post" action="log.php">
           <button class="btn btn-primary" type="submit" value="submit" name="button">Login</button>
     </div>
     <div class="modal-footer">
        New User? <a href="signin.php">Sign Up</a>
     </div>
  </div>
</div>
```

Log-In form was tested in process similar to Sign-in

Backend of Log-In was tested as similar to Sign-in

#### D) Contact

Messages entered through contact form were checked in database and verified.

## E) Settings

```
$con=mysqli_connect("localhost","root","","estore") or die(mysqli_error($con));
session_start();
$old_password=mysqli_real_escape_string($con, $_POST['oldpass']);
$new_password=mysqli_real_escape_string($con, $_POST['newpass']);
$re_password=mysqli_real_escape_string($con, $_POST['repass']);
$old_pass=md5($old_password);
$new_pass=md5($new_password);
$re_pass=md5($re_password);
$user_id= $_SESSION['id'];
$user_pass= $_SESSION['password'];
  f($old_pass == $user_pass)
       f($new_pass == $re_pass)
          $update_query="update signin set password = '$new_password' where id = '$user_id'";
          $update_result=mysqli_query($con, $update_query) or die(mysqli_error($con));
          $_SESSION['password']= $new_pass;
echo "Password Updated Successfully<br>";
?>
<a href="index.php">Continue Shopping.</a>
<?php
          echo "Re-Entered password didn't match the newly entered password.";
     echo "Old Password doesn't match.";
```

With form credentials being tested like in other pages, it was tested that this page in not accessible if a user is logged out. Moreover, SQL queries where displayed and observed to confirm they are correct.

F) Cart

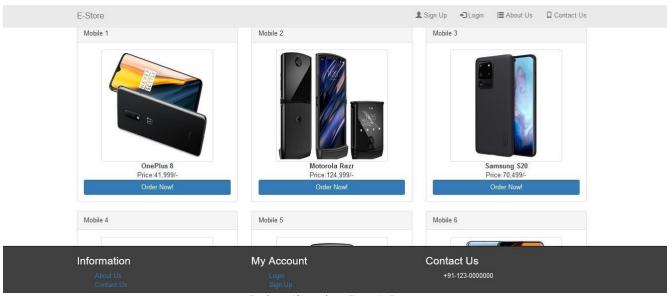
```
$con=mysqli_connect("localhost","root","","estore") or die(mysqli_error($con));
session_start();
   if(isset($_SESSION['id']))
   {
require 'header_login.php';
   $name=0;
   $name=mysqli_real_escape_string($con, $_POST['btn']);
<html> <head>
  <title>Cart</title>
  <div class="container" style="margin-top: 80px; ">
      <diy class="row">
         <div class=" col-xs-offset-4 col-xs-2 " style="border-bottom: 1px solid #ddd;">
           <h3>Item Number</h3>
         <div class=" col-xs-2" style="border-bottom: 1px solid #ddd;">
           <h3>Price</h3>
      </div>
      <div style=""></div>
         </div>
<?php
   Stotal=0;
   $total=$total=$name;
```

With same testing procedure as followed before, here emphasis was laid that the order total matches the prices displayed and whether the functionality is working correctly.

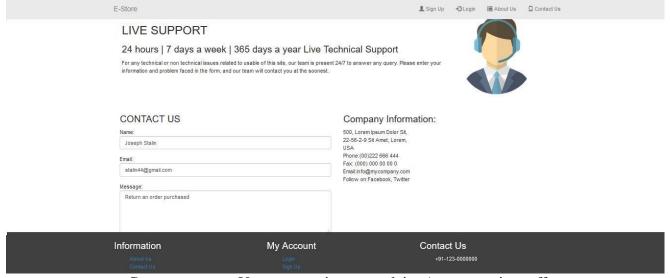
#### G) Log-Out

When a user logs out, by testing is was confirmed that the user sessions are destroyed and they can no longer access features available only when they are logged in

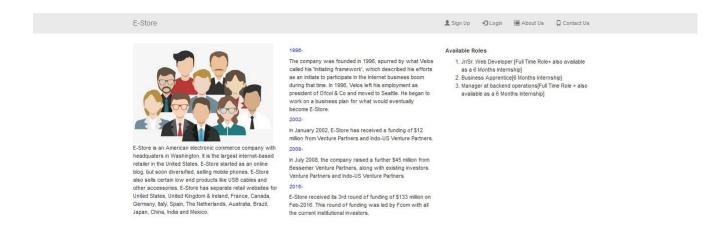
## 4 Results/Outputs

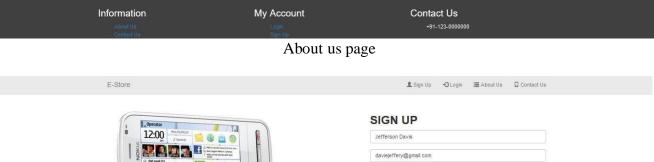


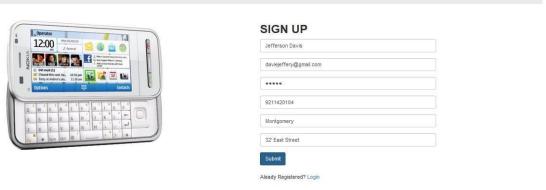
Index (Starting Page) Page



Contact us page: Users can register complaints/ message site staff







Information My Account Contact Us

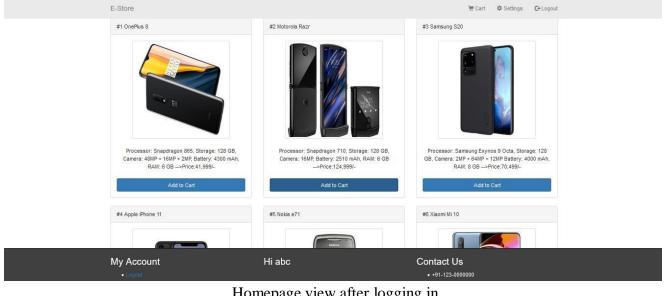
About Us Login +91-123-000000
Contact US

Sign-in Page: To register new users

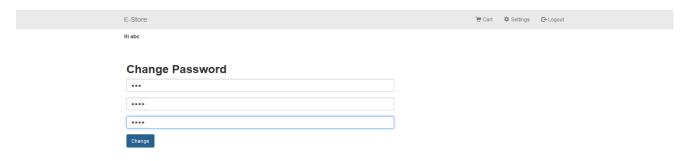


New User? Sign Up

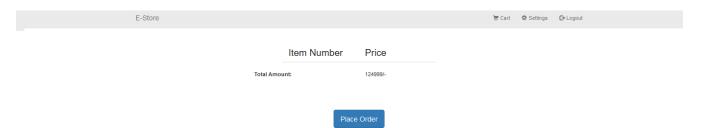
Login modal



Homepage view after logging in



Settings page: To change user's password



Cart Page: Price of selected phone(s) is displayed as bill

Thank You for ordering from E-store. Your order shall be delivered to you shortly.

Order some more Electronic items here.

Order Confirmation page

#### **5.** Conclusions / Recommendations

E commerce is a rising field which is replacing traditional shopping methods at a very fast pace. Advancement in a field often leads to exploitation unless security is provided and certain standards/rules are proposed.

As a website grows, there are often problems on type on content and that is true, even for E commerce websites. Popular E commerce sites with their current system could impose stricter instructions/conditions which might cause problems in long terms or affect profits.

By having simpler, easy to manage system, it not only decreases maintenance costs but also leaves positive impact on users. By having products directly from manufacturers, chances of having the product genuine rises significantly.

E- Store uses following technologies, which allows it to achieve faster loading speed and ease of use. These technologies are as follows:

- 1) HTML: It provides a mean to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items.
- 2) CSS: It enables the separation of presentation and content, including layout, colors, and fonts.
- 3) Bootstrap: Bootstrap framework allows the website to be responsive, meaning it can be viewed easily in mobile phones as well as desktop computers, which allows users to access the site from any platform.
- 4) PHP: Use of PHP allows us to make a website dynamic. It allows us to process forms and run programs on server side.
- 5) MySQL: It provides an open-source relational database management system.

Use of these technologies are recommended as they serve many advantages over the others. Thus, by having a simpler, easy to maintain system, initial success and customer satisfaction can be achieved, and the website itself can serve as framework for future projects.

## References

- I. PHP Documentation (https://www.php.net/docs.php)
- II. MySQL Documentation (https://dev.mysql.com/doc/)
- III. HTML/CSS Documentation (https://www.w3schools.com/)
- IV. Bootstrap Documentation (https://getbootstrap.com/docs/3.3/)
- V. Internshala: Web Development Training (https://trainings.internshala.com/webdevelopment-training)
- VI. W3 Schools (https://www.w3schools.com/)
- VII. StackOverflow (https://stackoverflow.com/)
- VIII. GeekforGeeks (https://www.geeksforgeeks.org/)
  - IX. Google Images
  - X. YouTube (https://www.youtube.com/)