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## **Project Introduction**

In today's fast-paced digital world, the demand for cutting-edge electronic gadgets has skyrocketed, making it essential to have a dedicated platform that caters to tech enthusiasts and casual shoppers alike. Tech Bazaar is an innovative e-commerce website designed to offer a seamless shopping experience for a wide range of electronic gadgets. This project report details the development and implementation of "Tech Bazaar," a comprehensive online store created using HTML, CSS, JavaScript, Bootstrap, PHP, and MySQL.

The primary objective of this project is to develop a user-friendly, efficient, and visually appealing web application that allows users to effortlessly browse, select, and purchase electronic gadgets. Leveraging PHP and MySQL for robust back-end development, Tech Bazaar ensures a secure and scalable environment for both customers and administrators. The front-end, crafted with HTML, CSS, and Bootstrap, is designed to provide a responsive and engaging interface, making Tech Bazaar a one-stop-shop for all electronic needs.

## **Project Advantages and Limitations**

### **Advantages :**

- **User-Friendly Interface:** Tech Bazaar offers an intuitive and easy-to-navigate interface, making it simple for users to browse and purchase electronic gadgets.
- **Responsive Design:** Built with Bootstrap, the website ensures a consistent and visually appealing experience across various devices, including desktops, tablets, and smartphones.
- **Scalable System:** The combination of PHP and MySQL provides a scalable solution, allowing the platform to efficiently manage a growing number of products and users.
- **Efficient Product Management:** Administrators can easily add, update, or remove products, manage inventory, and track sales through a straightforward back-end system.

### **Limitations :**

- **Limited Security Features:** While the website includes basic security measures, it may lack advanced protection against more sophisticated cyber threats, making it vulnerable to potential attacks.
- **No Offline Access:** The website requires an active internet connection, meaning users cannot browse or purchase products offline.
- **No Multi-language Support:** Tech Bazaar might support only one language, limiting its accessibility to a global audience who speaks different languages.
- **Basic Review Functionality:** The review system may be limited to simple text input, lacking advanced features such as rating systems or multimedia attachments, which could affect user engagement and feedback quality.

## **Project Applications**

- **E-Commerce Platforms:** Tech Bazaar serves as a foundational system for online stores specializing in electronic gadgets, allowing users to browse, select, and purchase products with ease.
- **Retailers and Vendors:** Provides a platform for electronic retailers and vendors to list and sell their products online, reaching a wider audience and expanding their market presence.
- **Multi-Vendor Marketplaces:** Acts as a versatile platform where multiple sellers can showcase and sell their electronic gadgets, offering users a diverse range of products from various brands.
- **Admin Panel:** Empowers administrators with the tools to efficiently manage product listings, inventory, user accounts, and order processing, ensuring smooth operation of the online store.
- **Order and Invoice Management:** Facilitates seamless order processing by generating invoices and tracking orders, providing users with essential documentation for their purchases.
- **User Reviews and Ratings:** Incorporates a review system that allows customers to provide feedback on products, helping other users make informed purchasing decisions and enabling vendors to improve their offerings.

## **Frontend and Back-end Technologies of project**

### ➤ **Frontend**

- **HTML:** Serves as the foundational structure of the Tech Bazaar website, providing the framework for content organization and layout.
- **CSS:** Used to style and design the website, ensuring a visually appealing and consistent user interface across all pages.
- **Bootstrap:** Enhances the website's responsiveness and mobile-friendliness, allowing it to adapt seamlessly to various screen sizes and devices.
- **JavaScript:** Adds interactivity to the website, enabling dynamic content updates, form validation, and improved user engagement.

### ➤ **Backend**

- **PHP:** Powers the server-side logic of Tech Bazaar, handling data processing, user authentication, and interaction with the database.
- **MySQL:** Manages the website's database, storing and retrieving data related to products, users, orders, and other essential information.
- **Browser:** Acts as the client interface where users interact with the website, executing front-end scripts and rendering the content delivered by the server.

## **Hardware and software requirements of project**

### ❖ Hardware

- Laptop or Computer

### ❖ Software

- Web server
- PHP
- Database
- VS Code or any other text editor

## **Functional and Non-Functional requirements of project**

### ❖ Functional requirements

- User Registration
- User Authentication
- Categorized Products
- Product Purchase
- Product Delivery Management
- User Review
- Admin Panel
- Reciept for Purchasing

### ❖ Non-functional requirements

- Performance
- Scalability
- Security
- Usability
- Availability
- Maintanibility
- Data Integrity

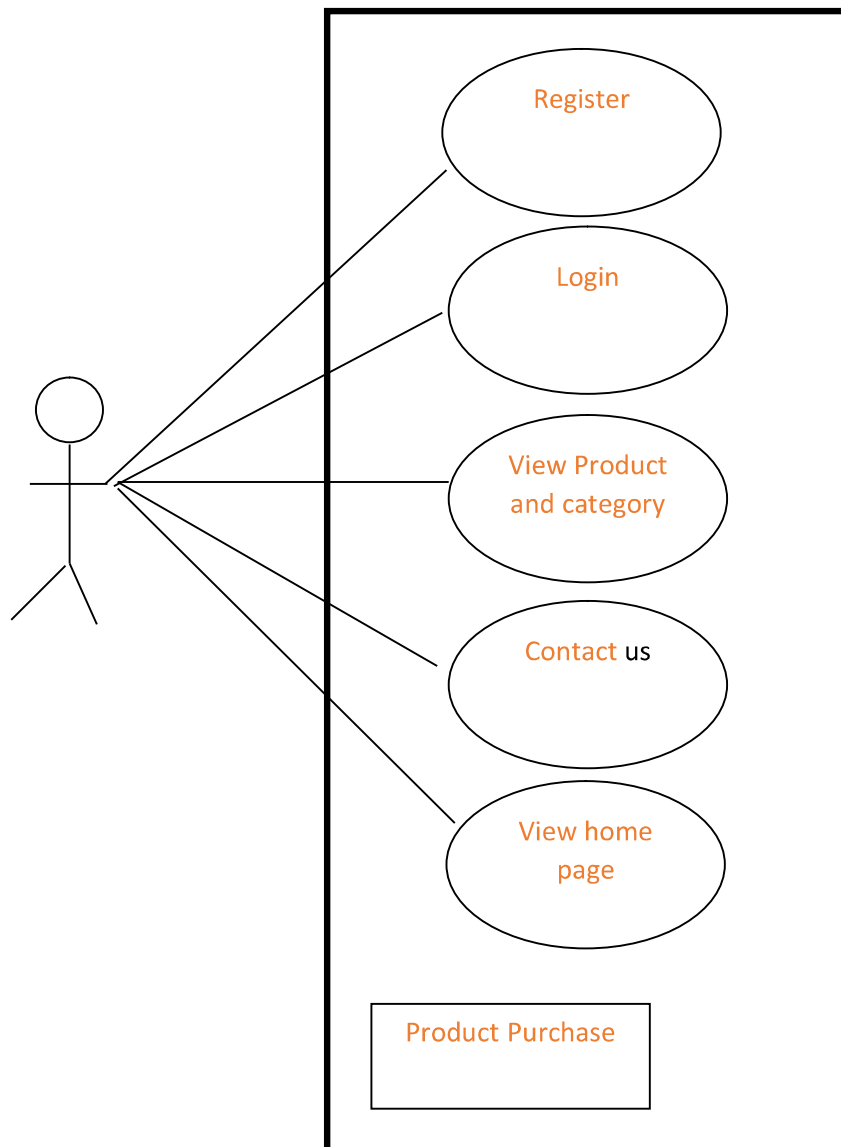
## List of Users and Use case Diagrams for each user of project

### ❖ Users

- Guest User
- Registered Users
- Admin

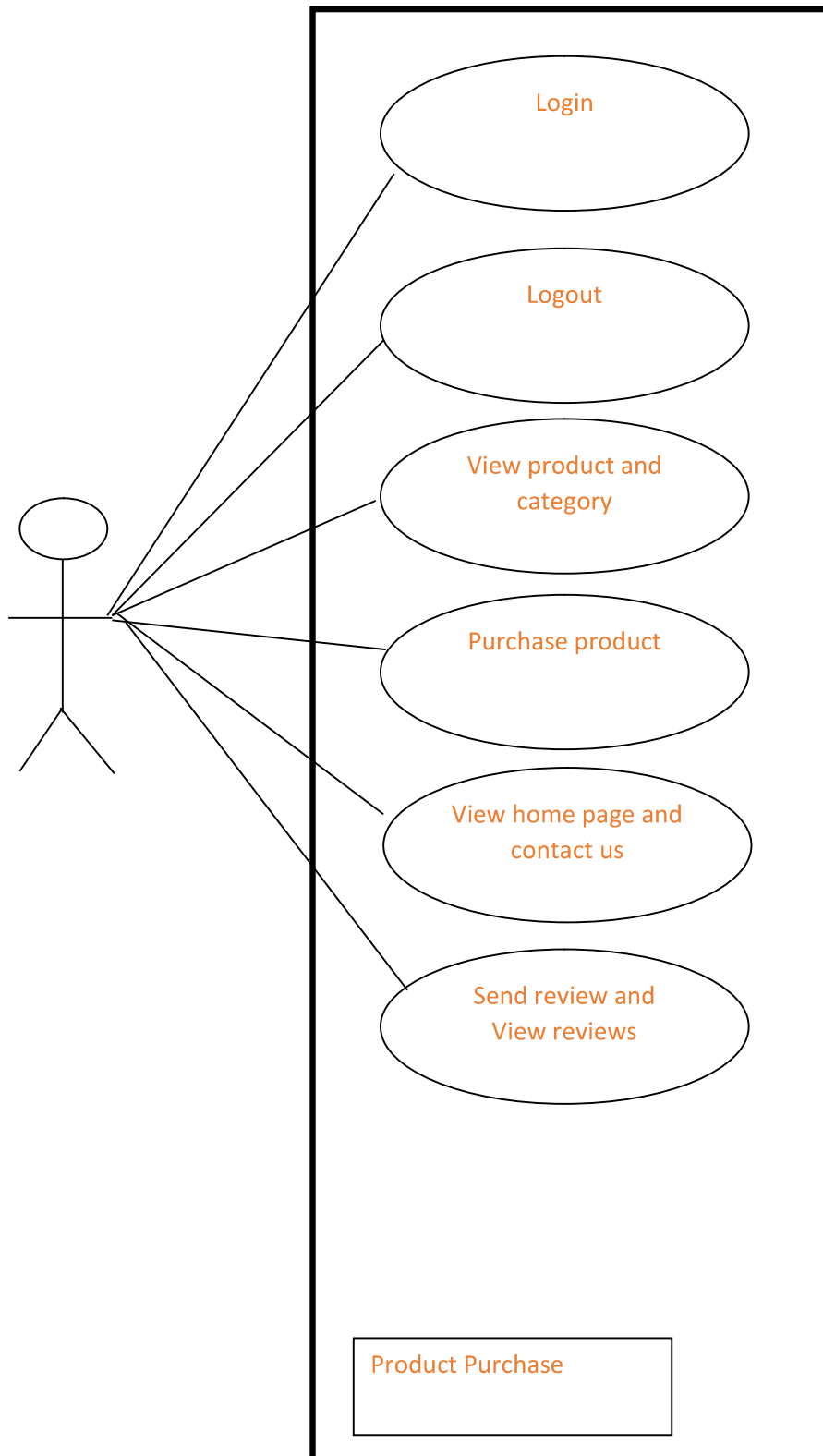
### USE CASE DIAGRAMS

#### • Guest User

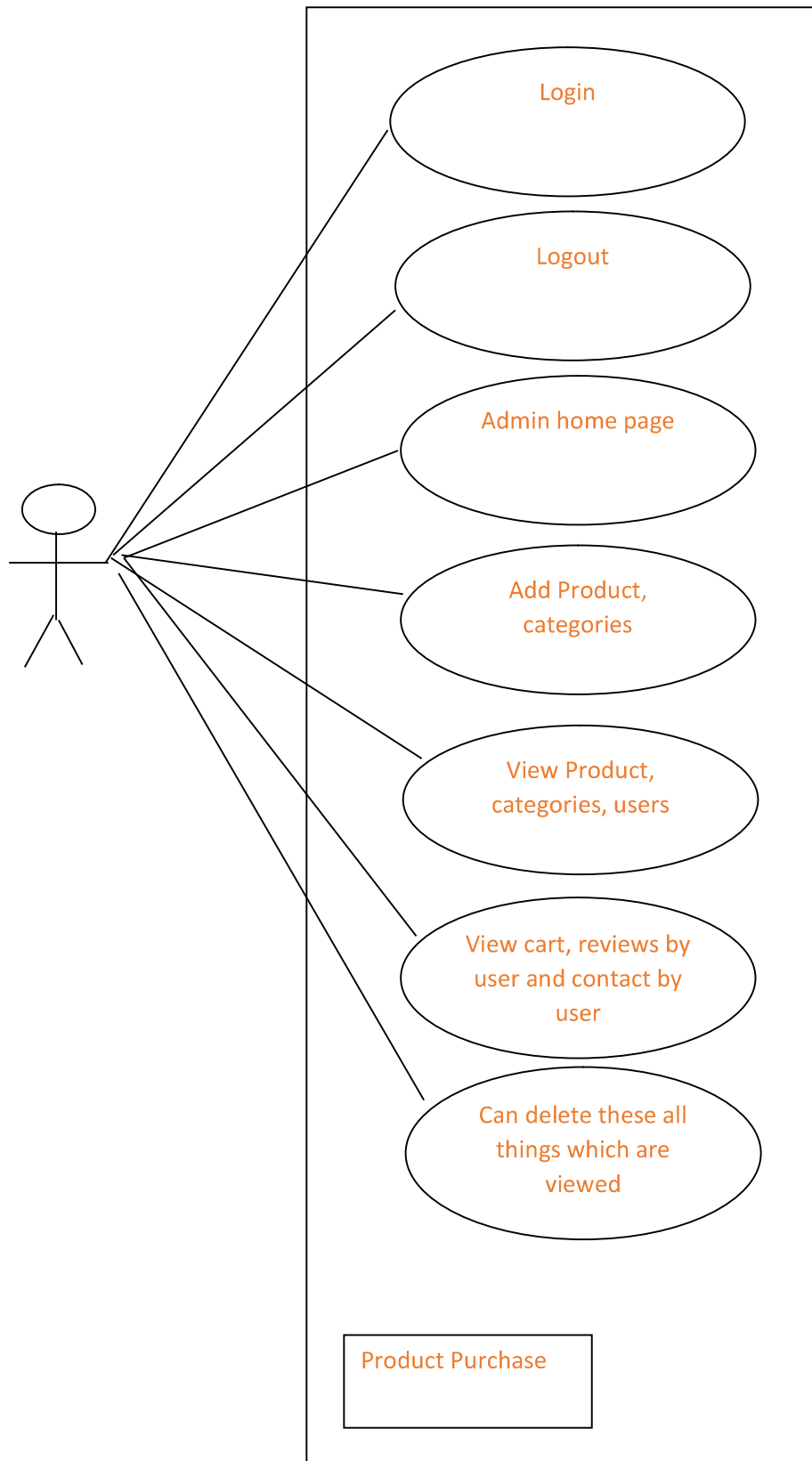




- Registered User



- Admin



## **Data Dictionary of project**

❖ Database Name :- project

➤ Table: admins

▪ Columns :-

- Column name: admin\_id, datatype: int (10), AUTO INCREMENT
- Column name: admin\_name, datatype: varchar (50)
- Column name: admin\_email, datatype: varchar (30)
- Column name: admin\_password, datatype: varchar (50)

➤ Table: users

▪ Columns :-

- Column name: user\_id, datatype: int (10), AUTO INCREMENT
- Column name: user\_name, datatype: varchar (50)
- Column name: user\_email, datatype: varchar (50)
- Column name: user\_password, datatype: varchar (50)
- Column name: user\_gender, datatype: varchar (50)
- Column name: user\_phone, datatype: varchar (50)
- Column name: user\_birth, datatype: date

➤ Table: category

▪ Columns :-

- Column name: cat\_id, datatype: int (10), AUTO INCREMENT
- Column name: cat\_name, datatype: varchar (50)

➤ Table: products

▪ Columns :-

- Column name: product\_id, datatype: int (10), AUTO INCREMENT
- Column name: name , datatype: mediumtext
- Column name: description , datatype: mediumtext
- Column name: img1, datatype: varchar (50)
- Column name: img2, datatype: varchar (50)
- Column name: img3, datatype: varchar (50)
- Column name: img4, datatype: varchar (50)
- Column name: img5, datatype: varchar (50)
- Column name: price, datatype: int (10)

- Column name: cat\_name, datatype: varchar (50)
- Column name: brand, datatype: varchar (50)
- Column name: color, datatype: varchar (50)
- Column name: specification, datatype: mediumtext
- Column name: special\_feature, datatype: varchar (255)
- Column name: graphics\_card, datatype: varchar (255)
- Column name: ram, datatype: varchar (50)
- Column name: cpu, datatype: varchar (50)
- Column name: screen\_size, datatype: varchar (50)
- Column name: operating\_system, datatype: varchar (100)
- Column name: model, datatype: varchar (50)
- Column name: storage, datatype: varchar (50)
- Column name: dprocessor, datatype: varchar (50)
- Column name: software, datatype: mediumtext
- Column name: dmemory, datatype: mediumtext
- Column name: screen\_resolution, datatype: varchar (50)
- Column name: front\_camera, datatype: varchar (50)
- Column name: rear\_camera, datatype: varchar (50)
- Column name: battery, datatype: varchar (50)
- Column name: output\_power, datatype: varchar (50)
- Column name: connectivity, datatype: varchar (50)
- Column name: playback\_time, datatype: varchar (50)
- Column name: speaker\_type, datatype: varchar (50)
- Column name: bluetooth\_version, datatype: varchar (50)
- Column name: drivers, datatype: varchar (50)
- Column name: buds\_weight, datatype: varchar (50)
- Column name: rating, datatype: varchar (50)

➤ Table: contact

▪ Columns :-

- Column name: name, datatype: varchar (50)
- Column name: email, datatype: varchar (50)
- Column name: phone, datatype: int (10)
- Column name: message, datatype: mediumtext

➤ Table: reviews

▪ Columns :-

- Column name: review\_id, datatype: int (10), AUTO INCREMENT
- Column name: product\_id, datatype: varchar(50)
- Column name: user\_id, datatype: varchar(50)
- Column name: rating, datatype: int (10)
- Column name: review, datatype: mediumtext
- Column name: review\_date, datatype: date
- Column name: name, datatype: varchar(50)
- Column name: phone, datatype: varchar(50)

➤ Table: cart

▪ Columns :-

- Column name: cid, datatype: int (10), AUTO INCREMENT
- Column name: user\_id, datatype: int (10)
- Column name: product\_id, datatype: int (10)
- Column name: quantity, datatype: int (10)

## Sample coding of project

```
<body class="main-layout">
  <!-- loader -->

  <!-- end loader -->
  <!-- header -->
  <?php include ('header.php'); ?>
  <br>
  <!-- end header -->
  <section class="slider_section">
    <div id="main_slider" class="carousel slide banner-main" data-ride="carousel">
      <div class="carousel-inner">
        <div class="carousel-item active">
          

          <div class="container">
            <div class="carousel-caption relative">
              <h1>Your <br> <strong class="black_bold">One Stop </strong><br>
                <strong class="yellow_bold">Electronic Shop </strong>
              </h1>
              <p><strong class="yellow_bold">
                <br>Discover the latest and greatest in electronics at Tech Bazaar
                where cutting-edge technology meets unbeatable prices!
              </strong>
            </p>
          </div>
        </div>
      </div>
    </div>
  </div>

  <div class="container">
    <div class="white_bg">
      <div class="row">
        <div class="col-xl-3 col-lg-3 col-md-6 col-sm-12">
          <div class="for_box">
            <div class="icon-container">
              
            </div>
            <h3>Laptop</h3>
          </div>
        </div>
        <div class="col-xl-3 col-lg-3 col-md-6 col-sm-12">
          <div class="for_box">
            <div class="icon-container">
              
            </div>
            <h3>Tablet</h3>
          </div>
        </div>
        <div class="col-xl-3 col-lg-3 col-md-6 col-sm-12">
          <div class="for_box">
            <div class="icon-container">
              
            </div>
            <h3>Speakers</h3>
          </div>
        </div>
        <div class="col-xl-3 col-lg-3 col-md-6 col-sm-12">
          <div class="for_box">
            <div class="icon-container">
              
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>
```

```

<body>
  <?php include ('header.php') ?>

  <div class="container">
    <form id="product-form" action="add_to_cart.php" method="POST">
      <div class="row mt-5 image-container">
        <div class="col">
          "
          />
        </div>
        <div class="col">
          <h2><b><?php echo htmlspecialchars($product['name']); ?></b></h2>
          <h2><b><strong>Price:</strong> ₹<?php echo htmlspecialchars($product['price']); ?></b></h2>
          <h3><b>About this item:</b></h3>
          <ul style="list-style-type:circle">
            <li>
              <h4>Processor: <?php echo htmlspecialchars($product['dprocessor']); ?></h4>
            </li>
            <li>
              <h4>Memory: <?php echo htmlspecialchars($product['dmemory']); ?></h4>
            </li>
            <li>
              <h4>Special feature: <?php echo htmlspecialchars($product['special_feature']); ?></h4>
            </li>
            <li>
              <h4>Storage: <?php echo htmlspecialchars($product['storage']); ?></h4>
            </li>
          </ul>
          <h3><b>Specification:</b></h3>
        </div>
      </div>

      <!-- our product -->
      <div class="product">
        <div class="container">
          <div class="row">
            <?php while ($row = mysqli_fetch_assoc($rs)) { ?>
              <div class="col-xl-3 col-lg-4 col-md-6 col-sm-12">
                <div class="product-card">
                  "
                  />
                  <div class="product-card-body">
                    <h3><?php echo $row['name']; ?></h3>
                    <button class="button button2"
                          onclick="window.location.href='demo.php?product_id=<?php echo $row['product_id']; ?>'>
                      View More
                    </button>
                  </div>
                </div>
              </div>
            </div>
          </div>
          <?php } ?>
        </div>
      </div>
    </div>
  </div>

```

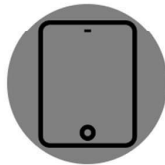
## Screen shot of various output pages of project

[HOME](#)[ABOUT](#)[PRODUCT](#)[CONTACT](#)[LOGIN](#)[SIGNUP](#)

## OUR PRODUCT CATEGORIES



Laptop



Tablet



Speakers



Earbuds

## DISCOVER PRODUCTS FROM TOP ELECTRONIC BRANDS



SAMSUNG





## What Customers Say?

*Ankit Patel*

02/04/2021

The product descriptions were detailed, and the high-quality images gave me a clear idea of what to expect.



### CONTACT US

7878787878  
8888888888

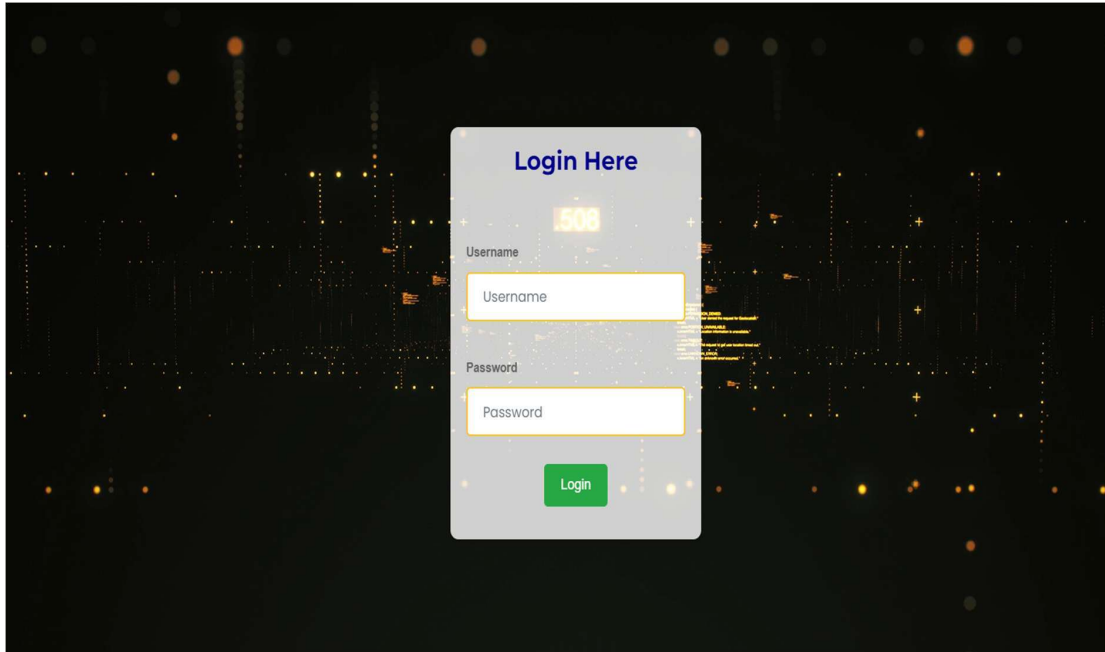
### ADDRESS

3<sup>rd</sup> Suite, 3<sup>rd</sup> Floor,  
Privilon in  
Ambli Bopal Road  
Ahmedabad-380058

### E-MAIL

samarthrojara2911@gmail.com

## CONTACT US



## Register

User Name

Email

Password

Mobile No.

Gender

☐ Male ☐ Female

Birth

## Testing strategies of project

### ☐ Black Box Testing:

- **Homepage:**
  - **Test:** Verify that the homepage loads correctly.
  - **Expected Result:** The homepage should display all elements such as product categories, featured products, and promotional banners without errors.
- **Product Page:**
  - **Test:** Navigate to a product category.
  - **Expected Result:** All relevant products should be displayed with options to view more details or add to the cart.
- **Product Details Page:**
  - **Test:** Click on a product to view its details.
  - **Expected Result:** The product details page should display the product description, price, specifications.
- **User Account Access:**
  - **Test:** Login to a user account.
  - **Expected Result:** The user should be able to access their account dashboard.
- **Add to Cart and Purchase:**
  - **Test:** Add products to the cart.
  - **Expected Result:** The system should allow users to review their cart.
- **Invalid Inputs:**
  - **Test:** Enter invalid data in forms (e.g., incorrect email format, incorrect password, empty required fields).
  - **Expected Result:** The system should display appropriate error messages and prevent form submission until valid data is entered.

### ☐ White Box Testing

- **Code Coverage Testing:**
  - **Objective:** Ensure that all lines of code, branches, and paths are executed during testing to achieve maximum coverage.
- **Control Flow Testing:**
  - **Objective:** Validate the logical flow of the program by analyzing the control flow graph to ensure the system behaves as expected.
- **Data Flow Testing:**
  - **Objective:** Track the flow of data within the system to detect anomalies such as uninitialized variables, incorrect variable usage, or potential data leaks.
- **Branch Testing:**
  - **Objective:** Ensure that every possible branch (true/false) in the code is executed at least once to verify all conditional statements function correctly.
- **Loop Testing:**
  - **Objective:** Focus on validating the behavior of loops within the code, ensuring they terminate as expected and handle different scenarios (e.g., zero iterations, single iteration, and multiple iterations).

## **Conclusion and Future work**

### ❖ Conclusion:-

The Tech Bazaar electronic gadgets shopping website project successfully delivers a robust and user-friendly platform for browsing, selecting, and purchasing a wide variety of electronic products. It effectively meets both functional and non-functional requirements, ensuring a seamless and secure shopping experience for users while providing administrators with the necessary tools to manage the platform efficiently. The use of technologies such as HTML, CSS, JavaScript, Bootstrap, PHP, and MySQL has resulted in a scalable and maintainable system that lays a strong foundation for future enhancements.

### ❖ Future work:-

- ❖ **Enhanced User Experience:** Further improve the responsive design to ensure an optimal experience across all devices and update the UI/UX to make the interface more intuitive and visually appealing.
- ❖ **Advanced Features:** Introduce features such as product comparison tools, customer wish lists, and personalized recommendations to enhance the shopping experience.
- ❖ **Personalization:** Implement advanced personalization algorithms to provide users with product recommendations based on their browsing and purchase history.
- ❖ **Payment Options:** Integrate additional payment gateways, support installment payment plans, and explore the inclusion of cryptocurrency payment options to cater to a broader audience.
- ❖ **Security:** Enhance the security of the platform by implementing two-factor authentication, conducting regular security audits, and upgrading encryption methods to protect user data.
- ❖ **Analytics:** Develop advanced analytics tools for administrators to track sales trends, customer behavior, and inventory management, enabling data-driven decisions to optimize the business strategy.

## **References**

- <https://www.w3schools.com/php/>
- <https://www.youtube.com/>
- <https://getbootstrap.com/>