

# **Online Electronic Equipment's Management System**



Thesis submitted to the Institute of Information Technology, Quaid-I-Azam University, Islamabad, for the partial fulfillment of the degree of Master of Science in Information Technology

**By**

Muhammad Luqman

**Supervised by:**

**Dr: Khurram Gulzar Rana**

**Institute of Information Technology Quaid-I-Azam University Islamabad Session  
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# Statement of Submission

This is certifying that “Muhammad luqman” Registration No. “01161911023” has successfully completed the final project as “web base electronic equipment shop Management System” Quaid-I-Azam University, Islamabad to fulfill the partial requirement of the degree “Master of Science in Information Technology”.

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**External Examiner**

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**Dr. Khurram Gulzar Rana**

## DEDICATION

All praises are for Almighty Allah who had blessed me with knowledge and strength to complete this project. I am deeply thankful to my informants. Their information has helped me to complete my thesis.

I would pay my sincere gratitude to my supervisor **Dr. Khurram Gulzar Rana** for his motivation and invaluable support.

I would like to express the deepest appreciation to all my classmates who struggled together and helped me in my studies during the course work of 2 years.

Last but not the least my deepest gratitude goes to my beloved mom, my brother and my siblings for their endless love, prayers, and encouragement. To those who indirectly contributed to this research, your kindness means a lot to me.

• **Muhammad Luqman**

## **Acknowledgement:**

First of all, I praise to “Allah” almighty who gave me opportunity, capability, spirit, Energy and patience to complete this project.

It is my great pleasure to express my profound sense of gratitude to my supervisor

Dr: Khurram Gulzar Rana department of information technology Quaid-e-Azam University Islamabad. For his constructive academic advice, guidance, constant encouragement and Valuable suggestions and all other supports throughout this project work and preparing this project Report successfully. I am really benefited from his excellent supervision.

I would like to thanks all my friends all my classmates and all those who helped, inspired and gave me mental support at different stages in different movements in my project.

Again also thanks my dear “Allah” for helping me a lot in successfully ending this project work.

Thank you

## **Abstract:**

Now a day's number of people, using internet is increasing exponentially, so the use of web applications is also increasing. Also life style of people different. People feel uncomfortable and time consuming for going crowded markets.so it saves a lot of time of a customer. This is to facilitate all people who are busy with their works and have no time to get their desired goods. we are here to you provide all the best and good products. If once you register into our site, then you are benefited with our latest products.

The main goal is to provide the customer with various products just by sitting in front of a computer or a mobile. Customer can see the list of different products and selects a desire one.so the customer can purchase a product without moving one place to another place.

The admin module contains the access of admin on the application. The admin can change everything in the application. Who have the ability to add delete update any information regarding to the products and their prices.

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## Project in Brief:

<b>Project Title:</b>	Electronic equipment's shop Management system
<b>Undertaken By:</b>	Muhammad luqman-01161911023
<b>Supervised By:</b>	Dr Khurram Gulzar Rana
<b>Date Started:</b>	20-10-2020
<b>Date Completion:</b>	
<b>Language and Technology Used:</b>	<ol style="list-style-type: none"><li>1. HTML5</li><li>2. CSS</li><li>3. JavaScript</li><li>4. Bootstrap4</li><li>5. JSON</li><li>6. A JAX</li><li>7. MySQL</li><li>8. PHP</li></ol>
<b>Tools Used:</b>	Sublime Text Editor XAMP Local Server MS Visio Click chart MS word
<b>Operating System:</b>	Window 10
<b>System Used:</b>	Intel(R) Core (TM) m3- 7Y30 CPU @  1.00GHz 1.61 GHz

# **Chapter 1**

## **Introduction**

### **Electronic Equipment's shop Management System**

## 1: Introduction

Electronic Equipment's management system is a good application for buying your necessary electronic equipment's. In old days we do not have any technology so we should go to the nearest retailer but now a day we no need to go anywhere we can simply go the E commerce website check the product list and finely order the necessary product.

### 1.1 Objective

The main purpose of designing this website is to facilitate those people. Who are busy in their daily routine? Improve user accessibility and time flexibility. Create strong and secrete data base that allow for any connection in a secret way, to prevent any outside or inside attacks.

### 1.2 Scope

In these days covid-19 on its peak. People stay at home. That's why scope of that kinds of project increasing. In simple, people go to the site, login and see the product and its price and select's a desire one. In this way it will save time and money both.

### 1.3 Modules

A module is a separate unit of any software or hardware who can manage, control and use the system. Modules of the proposed project are

- **Admin**

Admin can add new products. Manage product request. Check selling products and also manage database of the system.

- **User**

User can login in the system can view all products and get information about products and its price and then selects products

## 1.6 Advantages of Online System over Physical System

- Online system opens 24/7 for purchasing products – it's nice for a customer.
- Time saved in online .in physical system u go to the market (full of crowd) a lot of time is wasted
- Purchase your necessary product when you need it from anywhere you are.
- It is responsibility of a manger to reach the product safely at your given location.
- Online system is stress-free
- Also gave the packages by giving extra products

## 1.7 Limitations of Proposed System

- It is good technique to purchasing a product online but there is a chance that the users' data may be hacked by someone.
- When we are using internet there is a chance that virus and worms may affect our system badly.
- It is depending on internet if our connection is failed, we will not get access to this site.
- May be quality of a product is not good as we want

**Chapter 2**  
**Requirements for**  
**Electronic equipment's shop management**  
**system**

## **2.1 Requirements:**

The main purpose of requirement gathering is to specify the requirements of the system. The requirements for a system are the descriptions of the services that a system should provide.

Different categories of Requirements are:

### **2.1.1 Requirements Elicitation:**

Requirements elicitation is the practice of researching and discovering the requirements of a system from users, customers, and other stakeholders. The practice is also sometimes referred to as "requirement gathering".

### **2.1.2 Requirements Analysis:**

Requirements analysis also called requirements engineering, is the process of determining user expectations for a new or modified product. Requirements must be quantifiable, relevant and detailed. Also the requirements should be documented, actionable, measurable and testable.

### **2.1.3 Requirements Specifications:**

Requirements specification is the process of writing down the user and system requirements in a requirements document. The user and system requirements should be clear, easy to understand, complete, and consistent. The user requirements for a system should describe the functional and nonfunctional requirements

### **2.1.4 Requirements Validations:**

It's a process of ensuring the specified requirements meet the customer needs. We also that, Requirements validation makes sure that the requirements written in software requirements specification must be complete and consistent and are according to the customer's needs. It overlaps with elicitation and analysis, as it is concerned with finding problems with the requirements.

## **2.2 Functional Requirements:**

A functional requirement defines a system or its component. Function requirements are that a developer must implemented in his project.

### **2.2.1 Registration**

Only registered users can purchase products.

### **2.2.2 Add**

Admin can add user data.

### **2.2.3 Delete**

Admin can delete user data

### **2.2.4 Update**

Admin can update or change user data.

### **2.2.5 Login**

By entering valid information user can login to system.

### **2.2.6 Logout**

After completing his/her task he/she will be log out from the system.

## **2.3 Non-Functional Requirements:**

A non-functional requirement defines the performance attribute of a software system. They are also known as quality attributes.

### **2.3.1 Reliability**

The system should provide storage of all databases with automatic switchover. All information should be reach to admin without an error.



### **2.3.2 Implementation**

Implementation of the system using different languages like HTML, CSS and PHP is used for database connectivity. Database is a part of MySQL.

### **2.3.3 Availability**

The system will be available according to proposed schedule so the user can access it easily.

### **2.3.4 Portability**

The end user is fully portable. The user can use this system on any OS using any web browser.

The system will be able to run on any device.

### **2.3.5 Usability**

The website is designed for user friendly environment and ease of use.

### **2.3.6 Security**

The system's confidential information is accessed and managed only by authenticated administrators on server side.

## **2.4 Interface Requirements:**

It specifies hardware, software, or database elements with which a system or component must interface.

### **2.4.1 Graphical User Interface**

- Login page
- There will be screen displaying information about all products as well as top selling product.
- User cart

If user selects the hotel reservation option, then another page with detail information of hotel will be appeared

### **2.4.2 Hardware Interface**

All hardware's that are required for system to connect internet will be hardware interface like MODEM, WAN and LAN.

- 1.61GHz Processor
- 8GB RAM
- 64-bit Operating System

### **2.4.3 Software Interface**

- Any browser like Chrome, Firefox etc.
- Sublime text Editor (PHP, HTML)
- SQL is used to store all information in database.
- Quires are used to retrieve data from database.

# **Chapter 3**

## **System Analysis and Design**

### **3.1 Introduction:**

Systems development is systematic process deal with understanding and specifying in detail what system should do and how the components of the system work together. It includes planning, analysis, design, deployment, and maintenance. Here, I will primarily focus on –

- Analysis
- Design

#### **3.1.1 Analysis:**

Analysis is the process of breaking a complex topic or substance into smaller parts to gain a better understanding of it. Analysis specifies **what the system should do**.

It is conducted to study a system or its parts to identify its objectives. It is a problem-solving technique which is used to improve the system and ensures that all the components of the system work efficiently to accomplish their purpose.

#### **3.1.2 Design:**

A design is a plan or specification for the construction of an object or system. or specification in the form of a prototype, product, or process. System Design focuses on how to accomplish the objective of the system.

It is used to create a new business system or replacing an existing system by defining its components or modules to satisfy the specific requirements.

### **3.2 Component Overview:**

It is an online site for electronic products where anyone can easily get access to their relevant products to save their time and money. The main functionality of the system is described in following UML diagrams.

### **3.3 UML Diagram:**

A UML diagram is a diagram based on the UML (**Unified Modeling Language**) with the purpose of visually representing a system along with its main actors, roles, actions, artifacts, or classes, to better understand, alter, maintain, or document information about the system.

There are two types of UML diagrams

- Behavioral Diagrams
- Structural Diagrams

### **3.3.1 Behavioral Diagrams:**

It shows how the system behaves and interacts with itself and other entities (users, other systems). They show how data moves through the system and how objects communicate with each other.

#### **3.3.1.1 Use Case Diagram:**

Use cases are a set of actions, services, and functions that the system needs to perform. Use case diagrams model the functionality of a system using actors and use cases. A "system" is something being developed or operated, and "actors" are people or entities operating under defined roles within the system.

#### **Use case Diagram Notations:**

##### **System**

It is a rectangular shape system boundary contains use cases in it and actors are place outside the system.

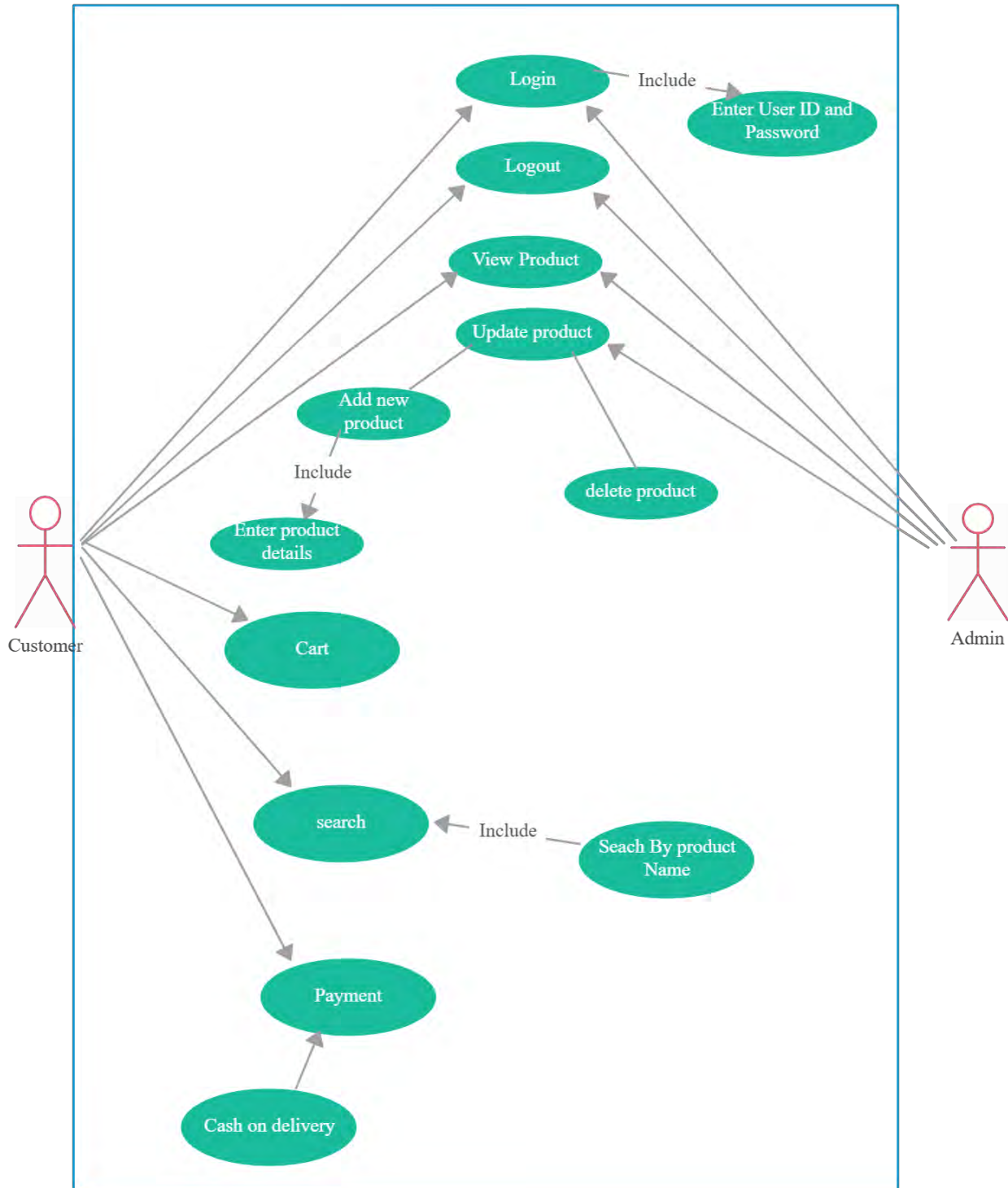
##### **Use Case:**

It is an oval shape which represents the functions of the system.

##### **Actor:**

Actors are the users of a system. They are represented with the actor stereotype.

**Use case diagram of electronic shop management system:**



**Figure:** use case diagram

**User panel Detail:****Table 1: Use Case for Registration**

<b>Use Case ID:</b>	UC-001
<b>Use Case Name:</b>	Registration
<b>Description:</b>	This use case describes the process by which users can sign up in case of purchasing product.
<b>Actors:</b>	Clients, Citizens, Visitors

**Table 2: Use Case for Login**

<b>Use Case ID:</b>	UC-002
<b>Use Case Name:</b>	Login
<b>Description:</b>	This use case describes the process by which user or visitor can login to the system for purchasing product.
<b>Actors:</b>	Clients, Citizens, Visitors
<b>Pre-condition</b>	Both should have an internet connection
<b>Post-condition</b>	Logged in
<b>Basic flow</b>	Admin and Employee should enter username, password and press login button, System validates username and password. User is logged into system
<b>Exceptional flow</b>	Admin and Employee cannot login to system if invalid data is entered

**Table 3: Use Case for Adding items**

<b>Use Case ID</b>	UC-003
<b>Use Case Name</b>	Add items
<b>Actor</b>	Admin
<b>Description</b>	Admin can add items to database
<b>Pre-condition</b>	Should be connected to internet
<b>Post-condition</b>	Admin should be able to add items
<b>Basic flow</b>	Admin logs in to the system He/she then fill in the necessary fields to add the items
<b>Exceptional Flow</b>	Invalid login details Internet connection error.

**Table 4: Use case for Delete items /update items**

<b>Use Case ID</b>	UC-004
<b>Use Case Name</b>	Delete items /update items
<b>Actor</b>	Admin
<b>Description</b>	Admin can Delete items/update items
<b>Pre-condition</b>	should be connected to internet
<b>Post-condition</b>	Admin is able to Delete the items/update items
<b>Basic flow</b>	Admin logs in, selects the items he/she wants to delete and deletes it
<b>Exceptional Flow</b>	Invalid login details Internet connection error.



**Table 5: Use case for view orders**

<b>Use Case ID</b>	UC-005
<b>Use Case Name</b>	View orders
<b>Actor</b>	Admin
<b>Description</b>	Admin is able to view the orders
<b>Pre-condition</b>	should be connected to internet
<b>Post-condition</b>	Admin can view the orders
<b>Basic flow</b>	Admin logs in, views the orders that have been placed
<b>Exceptional Flow</b>	Invalid login details Internet connection error.

**Table 6: Use case for Logout**

<b>Use Case ID</b>	UC-006
<b>Use Case Name</b>	Log Out
<b>Actor</b>	Admin/ Employee
<b>Description</b>	Both can log out by tapping the log out button
<b>Pre-condition</b>	Both should be connected to internet
<b>Post-condition</b>	Both are able to log out successfully
<b>Basic flow</b>	Admin/ Employee can log out by tapping the log out button
<b>Exceptional Flow</b>	Invalid login details Internet connection error.

Table 7: Use case for Add new products

<b>Use Case ID</b>	UC-007
<b>Use Case Name</b>	Add new products
<b>Actor</b>	Admin/Employee
<b>Description</b>	Admin can add new product
<b>Pre-condition</b>	Both should be connected to internet
<b>Post-condition</b>	Both are able to log in successfully
<b>Basic flow</b>	Admin/ Employee can add successfully new categories
<b>Exceptional Flow</b>	Invalid login details Internet connection error.

Table 8: Use case for add user's /view user's

<b>Use Case ID</b>	UC-008
<b>Use Case Name</b>	Add users/view users
<b>Actor</b>	Admin
<b>Description</b>	Admin can view users
<b>Pre-condition</b>	Both should be connected to internet
<b>Post-condition</b>	Both are able to log in successfully
<b>Basic flow</b>	Admin can add successfully view users
<b>Exceptional Flow</b>	Invalid login details Internet connection error.

**Table 09: Use case for Search products**

Use Case ID	UC-09
Use Case Name	Search products
Actor	Clients, Users
Description	Users can Search items in the search bar
Pre-condition	Users should Stable Internet Connection
Post-condition	Users is able to Search
Basic flow	Users log in, in search bar he/she type the item name he/she wants to search
Exceptional Flow	Invalid login details Incorrect spellings Internet connection error.

**Table 10: Use case for Select products**

Use Case ID	UC-010
Use Case Name	Select products
Actor	Customer/user
Description	Customer selects the product
Pre-condition	Stable Internet Connection
Post-condition	Customer is able to Select Category/ Sub Category
Basic flow	Customer can log in and select the product he wants
Exceptional Flow	Invalid login details Internet connection error.

### Activity Diagrams:

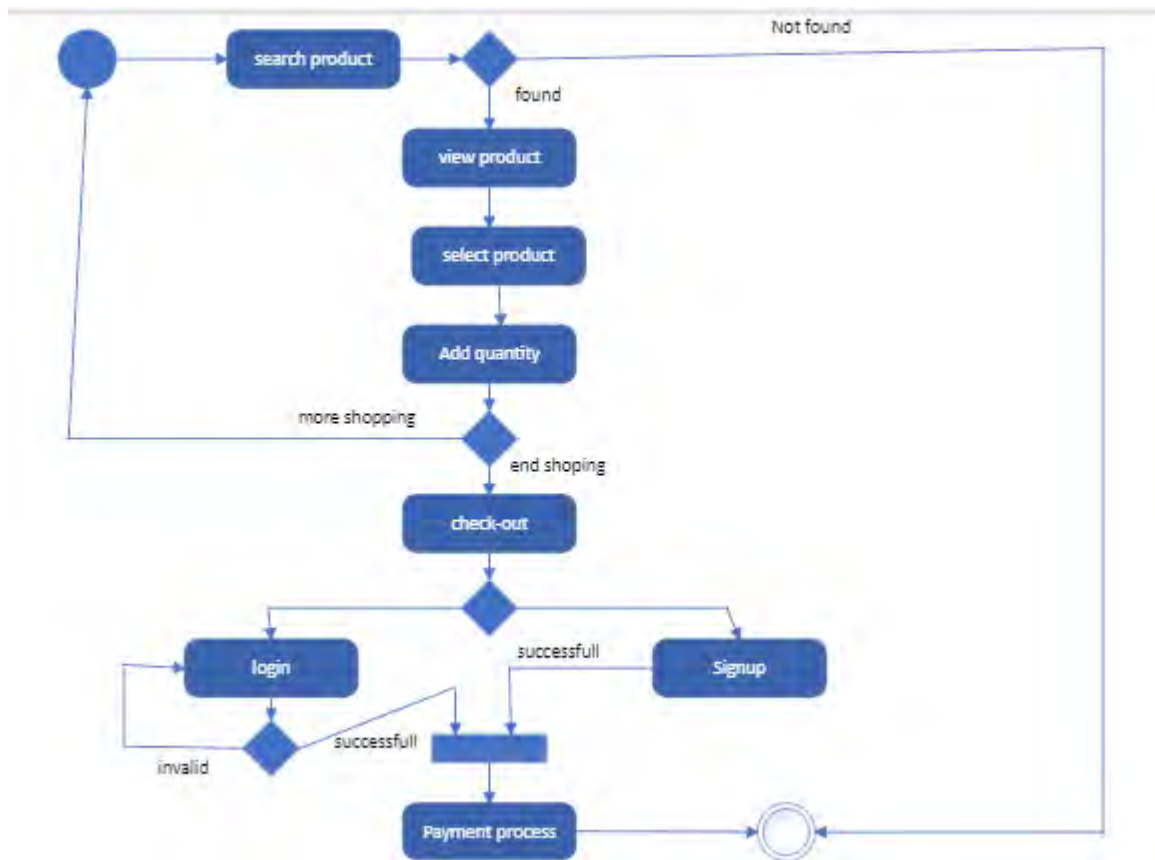
Activity Diagrams describe how activities are coordinated to provide a service which can be at different levels of abstraction. Typically, an event needs to be achieved by some operations, particularly where the operation is intended to achieve a number of different things that require coordination, or how the events in a single use case relate to one another, in particular, use cases where activities may overlap and require coordination.

### Activity Diagram for user Registration:



**Figure:** user registration

### Activity diagram for buy product:



**Figure:** Buy product

### Sequence diagram:

This sequence diagram shows the sequence of tasks taking place in placing order online. The customer will search the website and all the products related to search query will be shown to the customer, then customer will click on product he/she wants to buy and add product to shopping cart. After adding all the products in the cart he/she wants to buy, customer place an order and then redirected to payment section and chooses the payment method and proceed to checkout and will be shown a success message.

### Sequence Diagram Notation:

#### Actor:

It is a type of role played by an entity that interacts with the subject.

#### Lifeline:

A lifeline represents an individual participant in the Interaction.

**Activations:**

A thin rectangle on a lifeline) represents the period during which an element is performing an operation.

**Call Message:**

A message defines a particular communication between Lifelines of an Interaction.

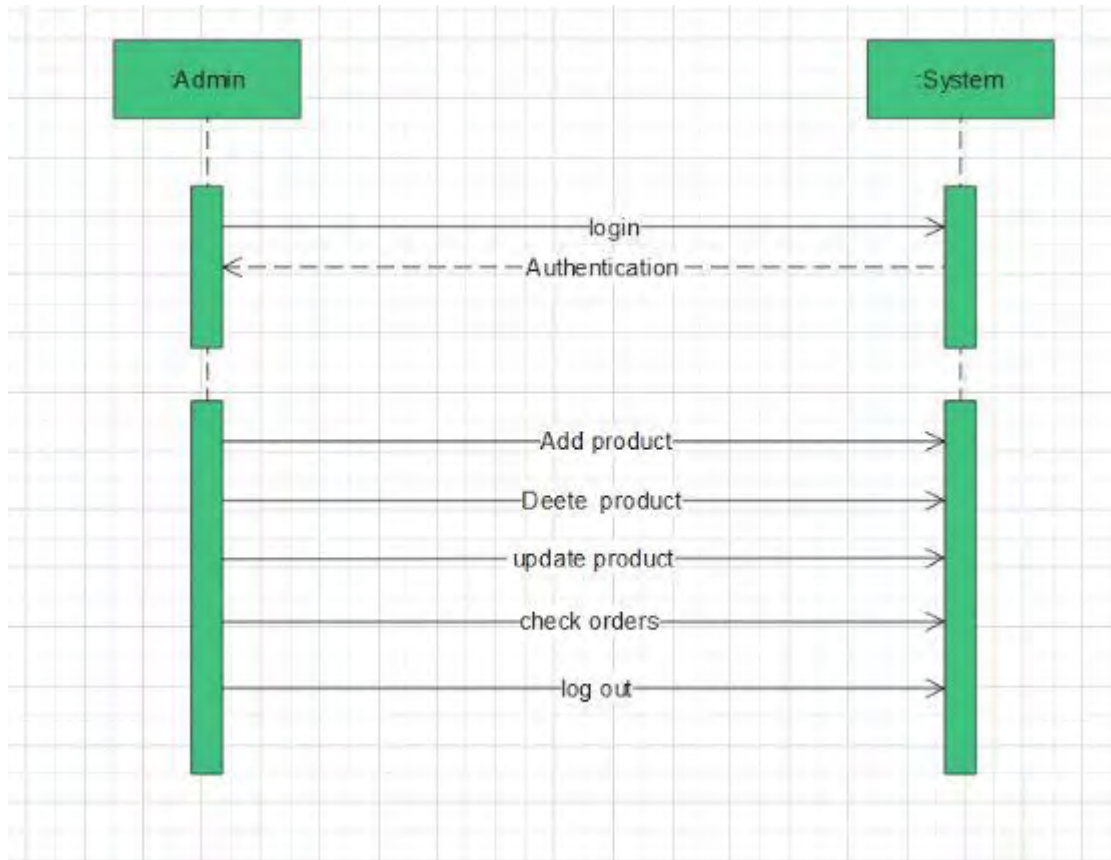
**Return message:**

Return message is a kind of message that represents the pass of information back to the caller of a corresponded former message.

**Destroy message:**

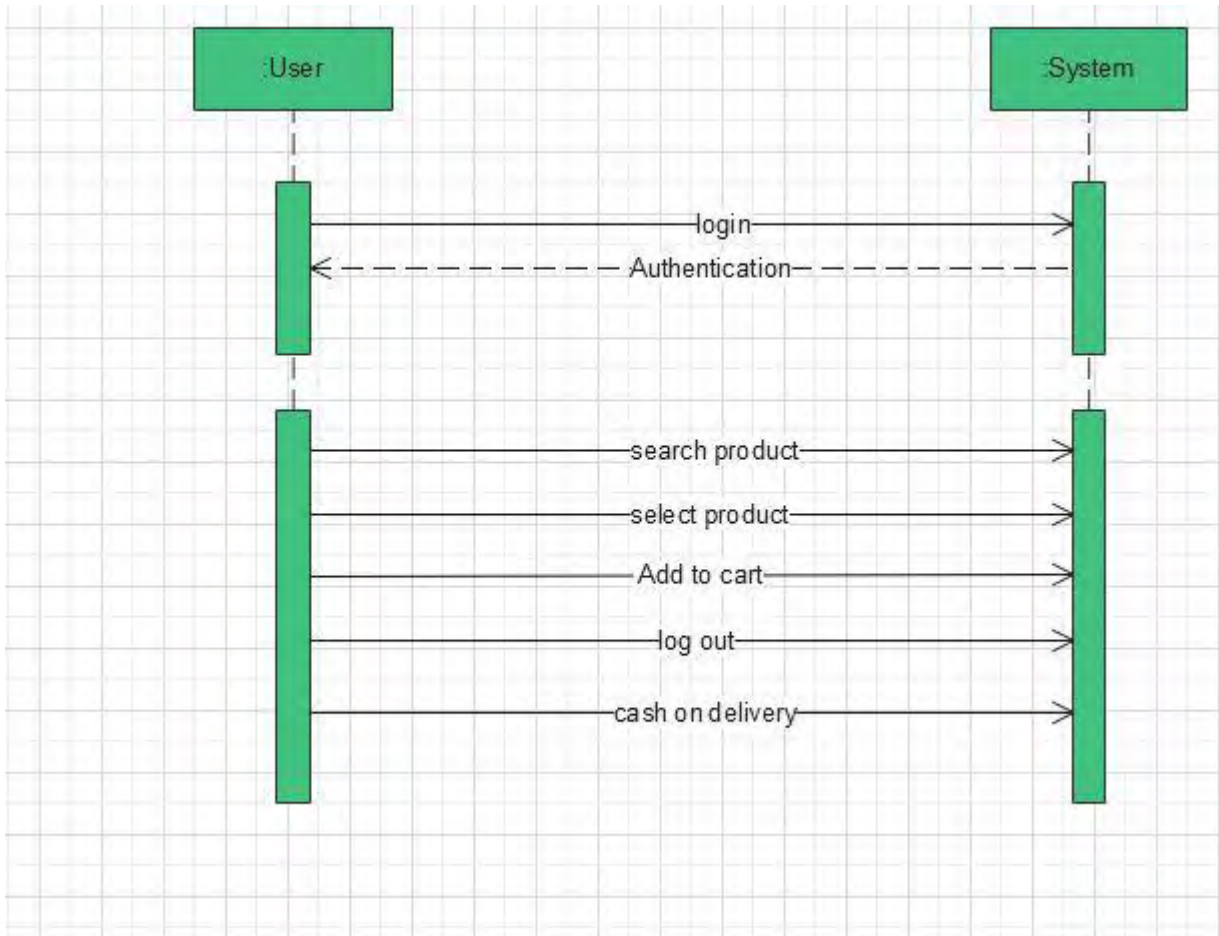
Destroy message is a kind of message that represents the request of destroying the lifecycle of target lifeline.

**Sequence diagram for admin:**



**Fig: Sequence Diagram for Admin:**

**Sequence diagram of customer /users:**



**Fig: Sequence Diagram for customer/user**

### 3.3.2 Structural Diagram:



It shows the things in the system classes, objects, packages or modules, physical nodes, components and interfaces.

### **3.3.2.1 Class Diagram:**

It is a type of static structure that describes the structure of a system by showing the system's classes, their attributes, operations or methods, and relationships among objects. The Class diagram describes the attributes and operations of a class. The purpose of the class diagram is to model the static view of a system. The class diagram shows a collection of classes, interfaces, associations, collaborations and constraints. It is also known as a structural diagram.

### **Class Diagram Notation:**

A class notation consist of three parts:

**1. Class Name:**

- The name of the class appears in the first partition.

**2. Class Attributes:**

- Attributes are shown in the second partition.

**3. Class Operations(methods):**

- Operations are shown in third partition. They are services the class provides.

### **Class Relationships:**

- **Inheritance or Generalization**
- **Aggregation**
- **Simple Association**
- **Composition**
- **Dependency**

## **Class Diagram**

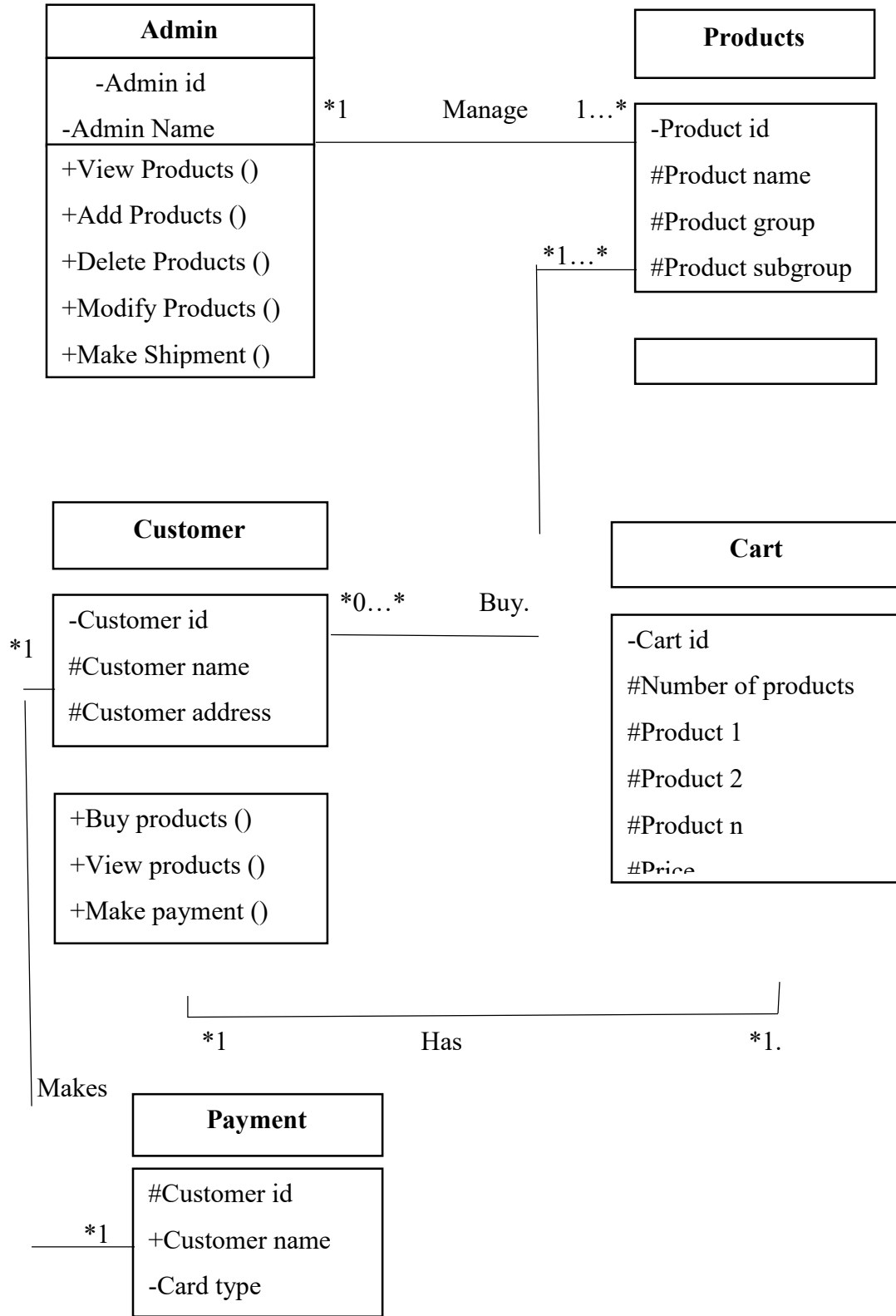


Figure :class diagram

# **Chapter 4**

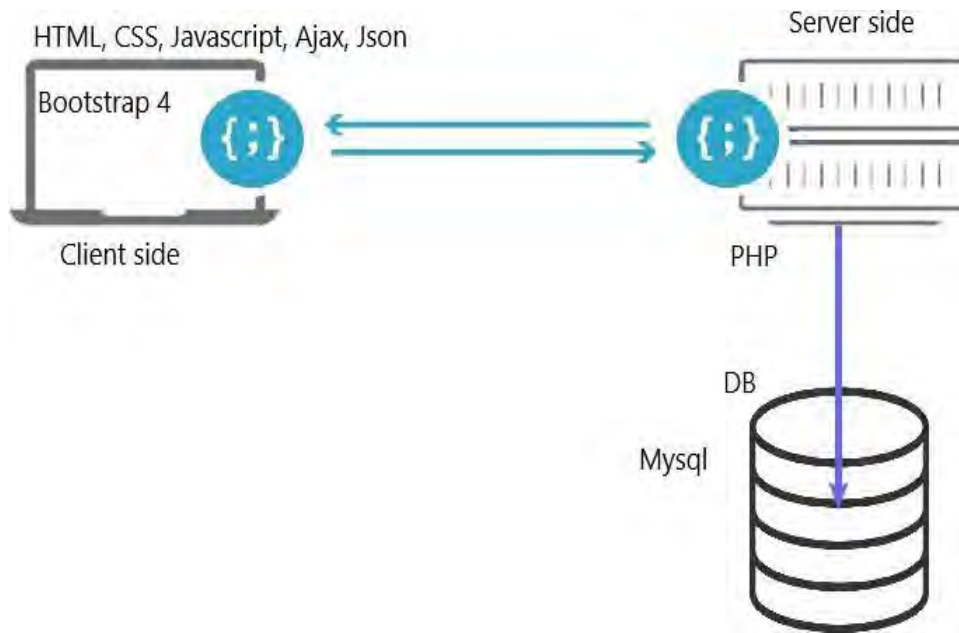
# **System Implementation**

## **System Implementation**

System implementation is the process of defining how the information system should be built ensuring that the information system is operational and used and meets quality standard. Implementation is the process of realizing the design as a program.

I have implemented online electronic equipment's shop management system using different modern technologies and techniques. The choice of the technologies used was based on the principle of modularity and performance. I choose bootstrap 4 for designing the front end of the system such as client side. I choose PHP language for the purpose of backend server-side implementation. After it, I use JavaScript language for handling the events in the front side theme. Furthermore, I choose jQuery language for performing the different types of functions in the project designing. In addition, the JSON is also used in the front side of project theme to perform the task without browsing. HTML (Hypertext Markup Language) is also used for the setting of text in the website front end. CSS (Cascading language) is also used for designing the project front end theme. In this project, the MySQL is used as database to store the data of the project.

Now with the technologies implemented the system design diagram shown below.



**Figure: System Design**

## 4.1 Details of implementation and tools

The details of the languages, tools and technologies we used are following.

### 4.1.1 Bootstrap 4

Get started with Bootstrap, the world's most popular framework for building responsive, mobile-first sites, with Bootstraps and a template starter page. Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. On January 31, 2012, Bootstrap 2 was released, which added built-in support for Glyph icons, several new components, as well as changes to many of the existing components. This version supports responsive web design, meaning the layout of web pages adjusts dynamically, considering the characteristics of the device used (whether desktop, tablet, or mobile phone).

### 4.1.2 HTML5

HTML5 is the latest version of Hypertext Markup Language, the code that describes web pages. It's actually three kinds of code: HTML, which provides the structure; Cascading Style Sheets (CSS), which take care of presentation; and JavaScript, which makes things happen.

HTML5 is the latest evolution of the standard that defines HTML. The term represents two different concepts. It is a new version of the language HTML, with new elements, attributes, and behaviors, and a larger set of technologies that allows the building of more diverse and powerful Web sites and applications. This set is sometimes called HTML5 & friends and often shortened to just HTML5. HTML5 is a programming language whose acronym stands for Hyper Text Markup Language. It is a system that allows the modification of the appearance of web pages, as well as adjusting their appearance. It also used to structure and present content for the web. With HTML5, browsers like Firefox, Chrome, Explorer, Safari and more, can know how to display a particular web page, know where the elements are, where to put the images and where to place the text. Apart from HTML5, there are other languages that are necessary to give format and interactivity to a site, but the basic structure of any page is first defined in the HTML5 language.

### **4.1.3 CSS (Cascading style sheet)**

CSS stands for Cascading Style Sheets with an emphasis placed on

“Style.” While HTML is used to structure a web document (defining things like headlines and paragraphs, and allowing you to embed images, video, and other media), CSS comes through and specifies your document’s style—page layouts, colors, and fonts are all determined with CSS. Think of HTML as the foundation (every house has one), and CSS as the aesthetic choices (there’s a big difference between a Victorian mansion and a mid-century modern home). You might be wondering how this CSS code is applied to HTML content,

though. Much like HTML, CSS is written in simple, plain text through a text editor or word processor on your computer, and there are three main ways to add that CSS code to your HTML pages. CSS code (o

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main ways to add that CSS code to your HTML pages. CSS code (or style sheets) can be external, internal, or inline. External style sheets are saved as .CSS files and can be

used to determine the appearance of an entire website through one file (rather than adding individual instances of CSS code to every HTML element you want to adjust).

#### **4.1.4 JavaScript ES6**

ECMAScript 6, also known as ECMAScript 2015, is a significant update to the language, and the first update to the language since ES5 was standardized in 2009.

Implementation of these features in major JavaScript engines is underway now [1].

There are many new and important features added to the language such as restructuring, arrow functions, let and cons, modules, classes which are a syntactical sugar for prototypal inheritance in JavaScript and other features which we used extensively throughout our project. However, ES6 JavaScript code still cannot run on all browsers therefore it needs to be converted to ES5 and it is done through a transpolar. I used Next.js which uses Babel-core and Web pack to convert ES6 code to ES5 code. We do

not need to do it ourselves Next.js or CRA (create-react-app, though I did not use it in my project) do it for us out of the box.

### **4.1.5 jQuery**

jQuery 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

### **4.1.6 Ajax**

JAX is an acronym that stands for Asynchronous JavaScript and XML, and it describes a set of development techniques used for building websites and web applications. According to web developer and Skill crush WordPress instructor Ann Cascara no, the best way to understand AJAX is to start with identifying its specific purpose in the web development process. AJAX's core function is to update web content asynchronously (the "A" of AJAX), meaning a user's web browser does not need to reload an entire web page when only a small portion of content on the page needs to change. One of the most ubiquitous examples of asynchronous updating is "Google Suggest" feature.

When you enter a search query into Google's search bar and the Google website automatically begins offering auto-complete options while you type, that's AJAX in action. The content on the page changes (in this case, the auto-complete options in the search bar) without having to manually refresh the page (something that would make Google Suggest impractical to use). Features like Google Suggest are a fundamental part of contemporary web browsing, which points to how essential AJAX is in web development. In addition to Google Suggest, Cascara no says that AJAX is commonly used to update features like status and notification bars, online forms, comments sections, and surveys and polls.

### **4.1.7 PHP**

PHP (PHP: Hypertext Preprocessor) is a scripting language that helps people make web pages more interactive by allowing them to do more intelligent, complex things. PHP code is run on the web server. It was originally created by Danish-Canadian programmer Rasmus Lerdorf in 1994.



There are different versions of PHP that have evolved with the passage of time. The standard PHP interpreter, powered by the `Get started with Bootstrap`, the world's most popular framework for building responsive, mobile-first sites, with Bootstrap and a template starter page. Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. On January 31, 2012, Bootstrap 2 was released, which added built-in support for Glyph icons, several new components, as well as changes to many of the existing components. This version supports responsive web design, meaning the layout of web pages adjusts dynamically, considering the characteristics of the device used (whether desktop, tablet, or mobile phone).

72% of PHP websites use discontinued versions of PHP, i.e. PHP 7.2 or lower no longer supported by The PHP Development Team; and large additional fraction is on PHP 7.3 that is by now "supported for critical security issues only." Over 40% of all PHP websites use version 5.6 or older, that not even Debian supports (Debian 9 supported version 7.0 and 7.1).

### 4.1.8 JSON

JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate. It is based on a subset of the JavaScript Programming Language Standard ECMA-262 3rd Edition - December 1999. JSON is a text format that is completely language independent but uses conventions that are familiar to programmers of the C-family of languages, including C, C++, C#, Java, JavaScript, Perl, Python, and many others. These properties make JSON an ideal data-interchange language.

JSON is built on two structures:

A collection of name/value pairs. In various languages, this is realized as an object, record, struct, dictionary, hash table, keyed list, or associative array.

An ordered list of values. In most languages, this is realized as an array, vector, list, or sequence.

These are universal data structures. Virtually all modern programming languages support them in one form or another. It makes sense that a data format that is interchangeable with programming languages also be based on these structures.

### 4.1.9 MySQL

MySQL, the most popular Open-Source SQL database management system, is developed, distributed, and supported by Oracle Corporation.

The original website provides the latest information about MySQL software.

- **MySQL is a database management system.**

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications

- **MySQL database are relational.**

A relational database stores data in separate tables rather than putting all the data in one big storeroom. The database structures are organized into physical files optimized for speed. The logical model, with objects such as databases, tables, views, rows, and columns, offers a flexible programming environment. You set up rules governing the relationships between different data fields, such as one-to-one, one-to-many, unique, required or optional, and “pointers” between different tables. The database enforces these rules, so that with a well-designed database, your application never sees inconsistent, duplicate, orphan, out of date, or missing data.

- **MySQL software is Open Source.**

Open-Source means that it is possible for anyone to use and modify the software. Anybody can download the MySQL software from the Internet and use it without paying anything. If you wish, you may study the source code and change it to suit your needs. The MySQL software uses the GPL (GNU General Public License), <http://www.fsf.org/licenses/>, to define what you may and may not do with the software in different situations. If you feel uncomfortable with the GPL or need to embed MySQL code into a commercial application, you can buy a commercially licensed version from us.

- **The MySQL database server is very fast, reliable, scalable, and easy to use.** If that is what you are looking for, you should give it a try. MySQL Server can run comfortably on a desktop or laptop, alongside your other applications, web servers, and so on, requiring little or no attention. If you dedicate an entire machine to MySQL, you can adjust the settings to take advantage of all the memory, CPU power, and I/O capacity available. MySQL can also scale up to clusters of machines, networked together.
- **MySQL server works in client/ server or embedded systems.** The MySQL Database Software is a client/server system that consists of a multithreaded SQL server that supports different back ends, several different client programs and libraries, administrative tools, and a wide range of application programming interfaces (APIs).

#### 4.1.10 Git hub

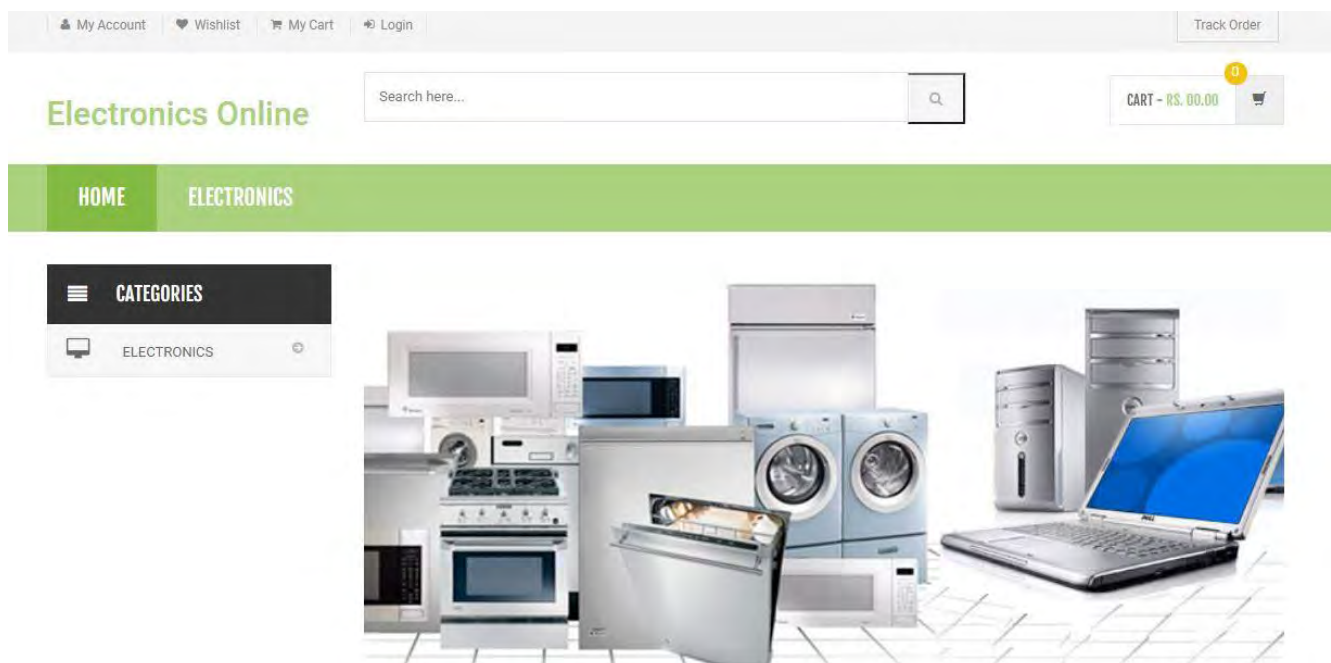
GitHub is a web-based Git repository hosting service. It offers all of the distributed version control and source code management (SCM) functionality of Git as well as adding its own features. It provides access control and several collaboration features such as bug tracking, feature requests, task management, and wikis for every project.

# **Chapter 5**

## **User Interface**

## 5 Introduction:

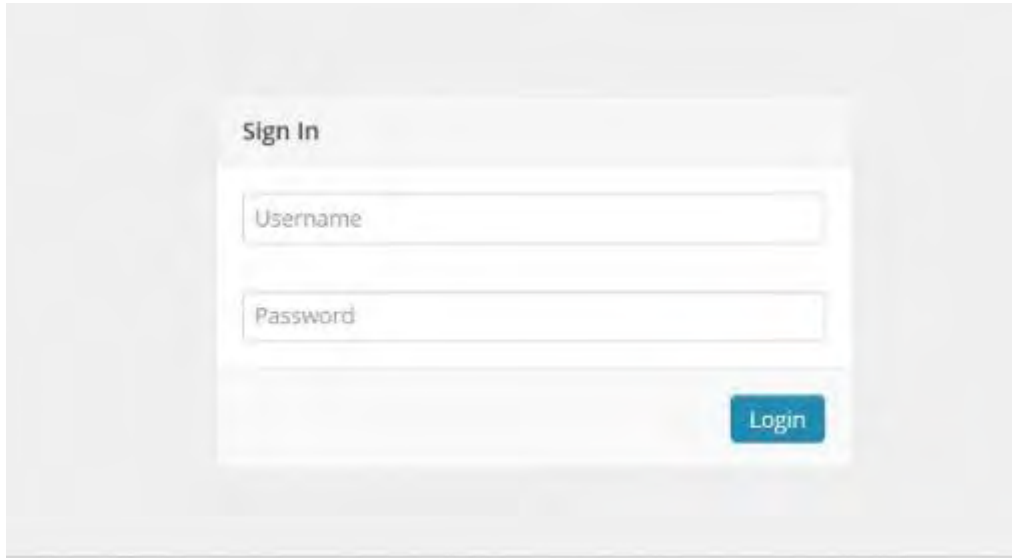
User interface (UI) is everything designed into an information device with which a human being may interact -- including display screen, keyboard, mouse, light pen, the appearance of a desktop, illuminated characters, help messages, and how an application program or a Web site invites interaction and responds to it. In early computers, there was very little user interface except for a few buttons at an operator's console. The user interface was largely in the form of punched card input and report output. Later, a user was provided the ability to interact with a computer online and the user interface was a nearly blank display screen with a command line, a keyboard, and a set of commands and computer responses that were exchanged. This command line interface led to one in which menus (list of choices written in text) predominated. And, finally, the graphical user interface (GUI) arrived, originating mainly in Xerox's Palo Alto Research Centre, adopted and enhanced by Apple Computer, and finally effectively standardized by Microsoft in its Windows operating systems. The user interface can arguably include the total "user experience," which may include the aesthetic appearance of the device, response time, and the content that is presented to the user within the context of the user interface. For the website design purpose, the user interface's framework can be shown below:



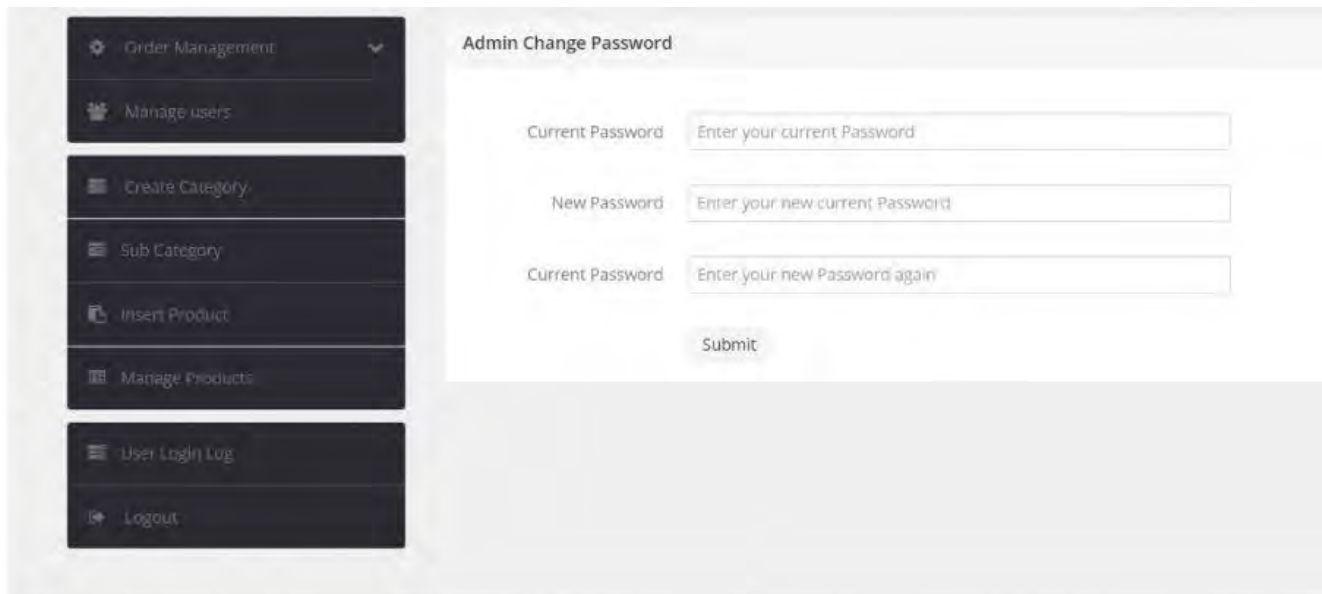
**Fig 5.1 Home Page:**

The image shows a user interface for a login page. It is divided into two main sections: 'SIGN IN' on the left and 'CREATE A NEW ACCOUNT' on the right. The 'SIGN IN' section includes a heading, a welcome message, and two input fields for 'Email Address \*' and 'Password \*'. Below these fields is a 'LOGIN' button and a link that says 'Forgot your Password?'. The 'CREATE A NEW ACCOUNT' section includes a heading, a message to create a shopping account, and four input fields: 'Full Name \*', 'Email Address \*', 'Contact No. \*', and 'Password \*'. Below the password field is a 'Confirm Password. \*' field. The entire form is set against a light gray background with a subtle grid pattern.

**Figure5.2: Login page**



**Figure: Admin login**



**Fig 5.4: Admin Dashboard**



# **Chapter 6**

## **System testing**

## System testing

### 6.1 Software Quality Assurance

A set of activities designed to evaluate the process by which products are developed or manufactured.

### 6.2 Software Quality Control

Software quality control is the set of procedures used by organizations to ensure that a software product will meet its quality goals at the best value to the customer, and to continually improve the organization's ability to produce software products in the future.

#### 6.2.1 Black Box testing

Black box testing is also known as specification-based testing. Black box testing refers to test activities using specification-based testing methods and criteria to discover program errors based on program requirements and product specifications. The major testing focuses:

- Specification-based function errors
- Specification-based component/system behavior errors
- Specification-based performance errors
- User-oriented usage errors
- Black box interface errors

### 6.3 Test Case

**Table:5.3.1** Registration

TC1: Registration	
Test Case ID:	UC-001
Wrote By:	Muhammad luqman
Test Type:	Black box testing
Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App
Documented Date:	01/01/2021

Test Suite:	1a
Version Number:	1.0
Test case description:	This test case is designed to successfully sign up
Operation procedure:	<ol style="list-style-type: none"> <li>1. Go to homepage of project</li> <li>2. Click on the create account</li> <li>3. Clicking on signup will open sign up page which allows users to sign up using email address.</li> <li>4. Credentials are then sent to server which save them into MySQL</li> <li>5. Web App redirects to email verification page.</li> <li>6. After verification Web App redirects to login page.</li> </ol>
Pre-conditions:	Internet is required and Web App must be running
Post-conditions:	The credentials are verified and stored in MySQL
Required test scripts:	No

Table: 5.3.2 Login

TC2: login	
Test Case ID:	UC-002
Wrote By:	Muhammad luqman
Test Type:	Black box testing
Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL
Documented Date:	01/01/2021
Test Suite:	1a

Version Number:	1.0
Test case description:	This test case is designed to successfully sign in
Operation procedure:	<ol style="list-style-type: none"> <li>1. Go to homepage of project</li> <li>2. Click on the login</li> <li>3. Clicking on login will open login page which allows option to login with Email address.</li> <li>4. The user is verified, and his credentials is sent to the Web App.</li> <li>5. Web App redirects to home page which then redirects to user's panel / dashboard.</li> </ol>
Pre-conditions:	Internet is required, User must have an account on project Platform.
Post-conditions:	Web App redirects to home page.
Required test scripts:	No

**Table: 5.3.3** Adding Items

TC3: Adding Items	
Test Case ID:	UC-003
Wrote By:	Muhammad luqman
Test Type:	Black box testing
Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL
Documented Date:	01/01/2021

Test Suite:	1a
Version Number:	1.0
Test case description:	This test case is designed to successfully for adding items in add cart.
Operation procedure:	<ol style="list-style-type: none"> <li>1. User will go to his app page.</li> <li>2. User can add items in add to cart.</li> <li>3. Web App will prompt for confirmation.</li> <li>4. User will click on confirm.</li> <li>5. Web App will update UI.</li> </ol>
Pre-conditions:	Internet is required, Web App must be running, and user must be logged in.
Post-conditions:	Adding Items successfully
Required test scripts:	No

**Table: 5.3.4** Delete Items/update items

TC4: Delete Items	
Test Case ID:	UC-004
Wrote By:	Muhammad luqman
Test Type:	Black box testing
Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL
Documented Date:	01/01/2021
Test Suite:	1a

Version Number:	1.0
Test case description:	This test case is designed to successfully delete the items from item cart.
Operation procedure:	<ol style="list-style-type: none"> <li>1. User will go to his app page.</li> <li>2. User will delete items.</li> <li>3. Web App will prompt for confirmation.</li> <li>4. User will click on confirm.</li> <li>5. Web App will update UI.</li> </ol>
Pre-conditions:	Internet is required, Web App must be running, and user must be logged in.
Post-conditions:	Delete Items

**Table: 5.3.5 View orders**

TC5: View orders	
Test Case ID:	UC-005
Wrote By:	Muhammad luqman
Test Type:	Black box testing
Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL
Documented Date:	01/01/2021
Test Suite:	1a
Version Number:	1.0

Test case description:	This test case is designed to successfully view orders
Operation procedure:	<ol style="list-style-type: none"> <li>1. admin will login his account.</li> <li>2. admin click on button and can view orders.</li> <li>3. System will show the updated data.</li> </ol>
Pre-conditions:	Internet is required, Web App must be fully loaded, user must be logged in and vision document's status must be "accepted for presentation"
Post-conditions:	View orders
Required test scripts:	No

Table: 5.3.6 Logout

TC6: Logout	
Test Case ID:	UC-006
Wrote By:	Muhammad luqman
Test Type:	Black box testing
Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL
Documented Date:	01/01/2021
Test Suite:	1a

Version Number:	1.0
Test case description:	This test case describes the process by which the user can logout his account after successfully shopping.
Operation procedure:	<ol style="list-style-type: none"> <li>1. User will login his account.</li> <li>2. User can click on logout button for logout account.</li> <li>3. System will return on login page.</li> </ol>
Pre-conditions:	Internet is required.
Post-conditions:	Logout from account successfully
Required test scripts:	No

**Table: 5.3.7 Add New products**

TC7: Add New products	
Test Case ID:	UC-007
Wrote By:	Muhammad luqman
Test Type:	Black box testing
Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL
Documented Date:	01/01/2021



Test Suite:	1a
Version Number:	1.0
Test case description:	This test case describes the process by which the admin can add shopping products of different categories.
Operation procedure:	<ol style="list-style-type: none"> <li>1. Admin will login his account.</li> <li>2. Admin click on Add category button and add different products.</li> <li>3. System will show the different added products.</li> </ol>
Pre-conditions:	Internet is required.
Post-conditions:	Add new products
Required test scripts:	No

**Table:3.8** Add Users/ View Users

TC8: Add Users/ View Users	
Test Case ID:	UC-008
Wrote By:	Muhammad luqman
Test Type:	Black box testing
Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL

Documented Date:	01/01/2021
Test Suite:	1a
Version Number:	1.0
Test case description:	This test case describes the process by which the admin can add different users and view users.
Operation procedure:	<ol style="list-style-type: none"> <li>1. Admin will login his account.</li> <li>2. Admin click on add user button and add different users.</li> <li>3. System will show the users information.</li> </ol>
Pre-conditions:	Internet is required.
Post-conditions:	Add users and view users
Required test scripts:	No

**Table: 5.3.9** search product

TC9: Search products	
Test Case ID:	UC-09
Wrote By:	Muhammad luqman
Test Type:	Black box testing

Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL
Documented Date:	01/01/2021
Test Suite:	1a
Version Number:	1.0
Test case description:	This test case describes the process by which the user can search product.
Operation procedure:	<ol style="list-style-type: none"> <li>1. User will login his account.</li> <li>2. User can search different products.</li> </ol>
Pre-conditions:	Internet is required.
Post-conditions:	Search products
Required test scripts:	No

**Table:5.3.10** select products

TC10: Search products	
Test Case ID:	UC-10
Wrote By:	Muhammad luqman
Test Type:	Black box testing

Product Name:	Online electronic equipment's shop Management System
Test Item:	Web App, MySQL
Documented Date:	01/01/2021
Test Suite:	1a
Version Number:	1.0
Test case description:	This test case describes the process by which the user can search product.
Operation procedure:	<ol style="list-style-type: none"><li>1. User will login his account.</li><li>2. User can select different products.</li></ol>
Pre-conditions:	Internet is required.
Post-conditions:	Select products
Required test scripts:	No

# **Chapter 7**

## **Future work and conclusion**

## **7 Future work**

The work I did in this project presents many opportunities for future work. The following is a list of ideas that can improve upon this project and provide a guideline in this heading.

### **7.1 SMS Notification Alert**

User can get alerts via SMS. User will first have to verify their telephone number to have access to this functionality.

### **7.2 New product Alert**

When launch a new product user would receive a message alert.

### **7.3 Added different shops/stores**

In future I will connect other different shops/stores and gave access to launch their products

### **7.4 Future Enhancement**

This functionally enhance the sales of products and user can get updates about product. There are different types of tools and technologies can enhance the progress of the system. Since this project was started with very little knowledge about the Inventory Management System, we came to know about the enhancement capability during the process of building it. Some of the scope we can increase for the betterment and effectiveness are listed below:

- Interactive user interface design.

- Manage Stock

- Use of Oracle as its database

- Online payment system can be added.

- Making the system flexible in any type

- Sales and purchase return system will be added in order to make return of products.

## 7conclusion:

To conclude, online electronic shop Management System is a simple Web application basically suitable for small shop management system. It has every basic product which are used for the small shops. Our team is successful in making the application where we can update, insert and delete the products as per the requirement.

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