**CHAPTER FOUR**

**SYSTEMIMPLEMENTATION AND TESTING**

**4.1 Introduction**

This chapter document the project’s implementation and testing phases, as well as some key aspects of the project. As a result, it is formatted as follows: system implementation, system tools and environment, system requirements, system description and system testing

**4.2 System Implementation**

The implementation process is an essential step in any project or program. It refers to the process of putting plans into action, ensuring that the desired outcomes are achieved. The implementation process involves a series of steps that must be carefully planned and executed to ensure success. The process involves the allocation of resources, including time, money, and personnel, to ensure that the project is implemented effectively.

The implementation process starts with the identification of objectives and goals. This is followed by the development of an implementation plan, which outlines the steps that must be taken to achieve the desired outcomes.

**4.2.1 Implementation Tools and Environments**

**4.2.1.1 MySQL Database**

MySQL is an open-source relational database management system (RDBMS) that is widely used for storing and managing structured data. It is one of the most popular databases in the world and is known for its reliability, performance, and ease of use.

MySQL provides a robust and scalable platform for storing, organizing, and retrieving data in various applications and systems. It uses a client-server architecture, where client applications can connect to the MySQL server to perform database operations such as querying, inserting, updating, and deleting data.

Some key features of MySQL include:

Data Security: MySQL offers robust security features to protect data from unauthorized access, ensuring confidentiality and integrity. It supports user authentication, access control, and encryption of sensitive information.

Scalability and Performance: MySQL is designed to handle large volumes of data and high concurrent user traffic efficiently. It provides optimization techniques, indexing mechanisms, and caching strategies to enhance performance and scalability.

Replication and High Availability: MySQL supports replication, allowing data to be replicated across multiple database servers for increased availability and fault tolerance. This enables load balancing and failover capabilities.

Flexibility and Compatibility: MySQL supports multiple platforms and operating systems, making it highly versatile and compatible with various development environments. It is compatible with standard SQL and supports numerous programming languages and APIs.

**4.2.1.2 Coding**

The objective of coding phase for a given design is to implement the design in best way possible.

In this phase design of the system is translated into code in a programming language. The coding phase effects the maintenance and testing phase of the system development life cycle process. Testing and maintenance effort reduces if the code is well written. Since the testing and maintenance cost of software are much expensive than the coding cost, the goal of coding should be to reduce the testing and maintenance effort. Hence, during coding the emphasis must be in on developing programs which are easy to write. Simplicity and clarity should be achieved, during the coding phase.

In this project HTML, CSS, PHP, Microsoft Office and JavaScript are used.

* HTML: It is basically used to format text as titles and headings, to arrange graphics on this system and also used to link different pages within a system.
* CSS: In this system CSS is used for development sites structure by creating design or outline the html element and describing the presentation to different pages, including colors, layout and fonts. •
* PHP: PHP code is embedded into HTML for making website dynamic and used for connecting website to database. In this system PHP version 7.3.11 is used.
* Microsoft Office: The Microsoft office word document is used for softcopy documentation of the project. All the document design and numeration are done by using Microsoft Office Word 2019
* JavaScript: In this project JavaScript is used for creating some animation in page content.

**4.4.2 System Requirements**

**4.4.2.1 Software Requirements**

|  |  |
| --- | --- |
| **Software** | **Minimum System Requirements** |
| Operating system | Windows 7, 8, 10, and linux |
| Database | MYSQL |
| Web server | Xampp |
| Code editor | Visual Studio |
| Browser | Chrome, Internet Explorer, Mozilla Firefox |

**Table 4.1: Software requirement**

**4.2.2.2 Hardware minimum requirements**

|  |  |
| --- | --- |
| **Hardware** | **Minimum System Requirements** |
| RAM | 1 GB |
| Processor | 1.0GHz |
| ROM | 4GB |

**Table 4.2: Hardware minimum requirements**

**4.2.3 System Modules and Interfaces.**

**4.2.3.1 Admin Login Page**

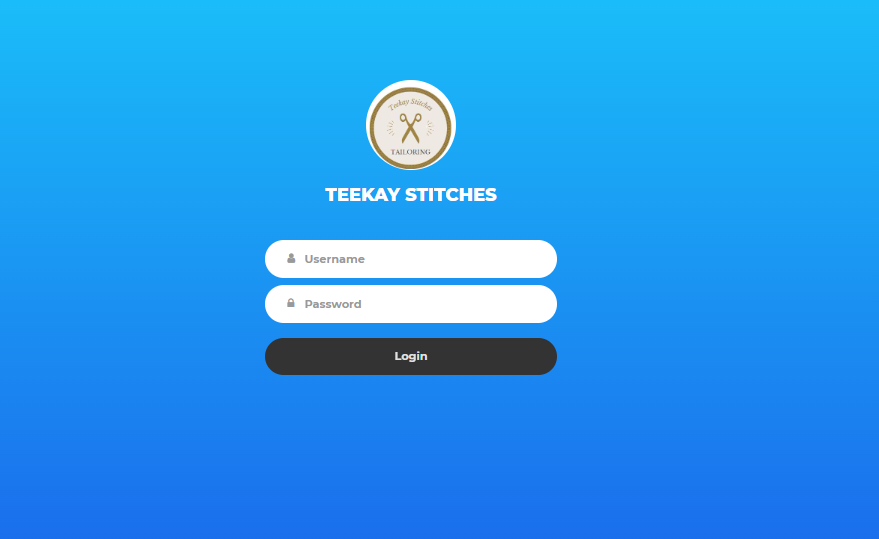
The Admin login page serves as the primary interface through which administrators can securely access the system by providing their valid login credentials. This dedicated page ensures that only authorized personnel with the necessary administrative privileges can gain entry into the system.

Upon reaching the Admin login page, administrators are prompted to enter their username and password, which acts as a verification mechanism to authenticate their identity. By utilizing valid login credentials, administrators can proceed to gain access to the system and perform administrative tasks.

The Admin login page employs robust security measures to protect against unauthorized access, safeguarding sensitive information and ensuring the integrity of the system. This may include encryption protocols, password complexity requirements, and other security measures to prevent unauthorized access.

Once authenticated, administrators are granted access to the administrative functionalities and controls provided by the system. This may include managing user accounts, overseeing system settings, monitoring and analyzing data, generating reports, and performing other administrative tasks as required.

The Admin login page acts as a gatekeeper, ensuring that only authorized individuals with valid credentials can access the administrative features of the system. This helps maintain the security and confidentiality of sensitive data and allows administrators to effectively carry out their roles and responsibilities within the system..



**Figure 4.1: Admin Login page**

**4.2.3.2 Oders Page**

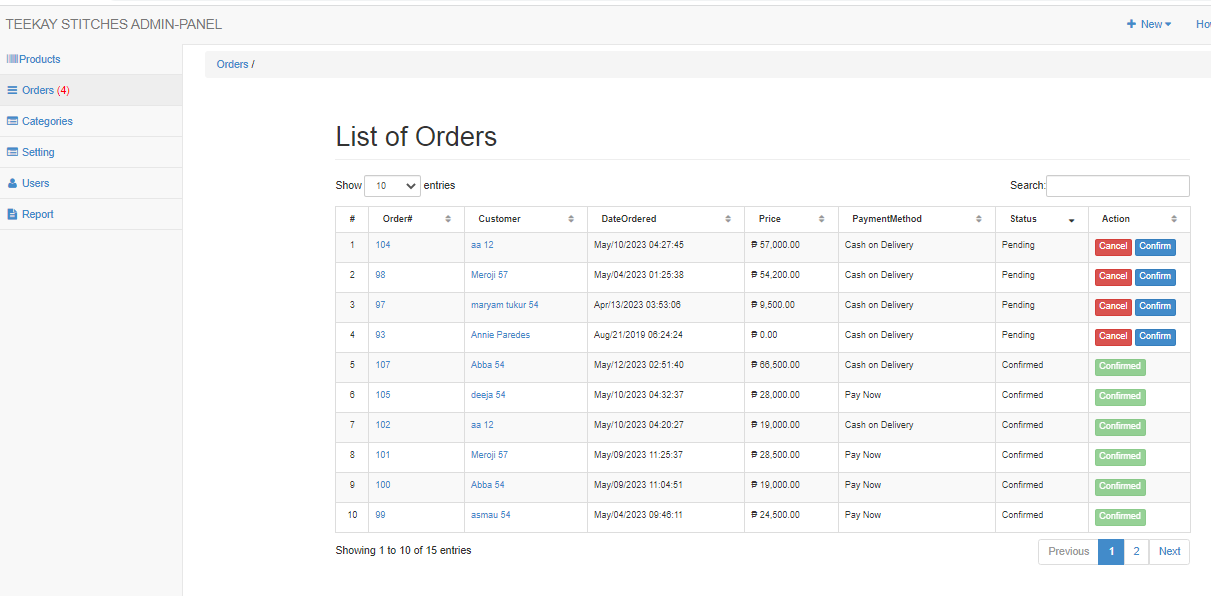
This page serves as a centralized hub that displays all the order requests submitted by customers. It provides administrators with an overview of the pending orders within the system and grants them the privilege to take further action, such as confirming or canceling the orders based on specific circumstances.

When administrators access this page, they are presented with a comprehensive list of order requests, including relevant details such as customer information, order items, quantities, and any additional notes or special instructions provided by the customers.

Administrators have the authority to review each order request and make informed decisions regarding their status. They can confirm orders that meet the necessary criteria and proceed with the fulfillment process, ensuring that the products or services are prepared and dispatched to the customers accordingly.

Alternatively, administrators also have the capability to cancel orders if deemed necessary. This may occur in situations where there are stock unavailability issues, logistical constraints, or other circumstances that prevent the successful completion of the order.

By having access to this page, administrators can efficiently manage the order fulfillment process, maintaining clear communication with customers and ensuring their satisfaction. They can promptly address any inquiries or concerns related to the orders and take appropriate actions to facilitate a smooth and seamless customer experience.

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**Figure 4.2: order page**

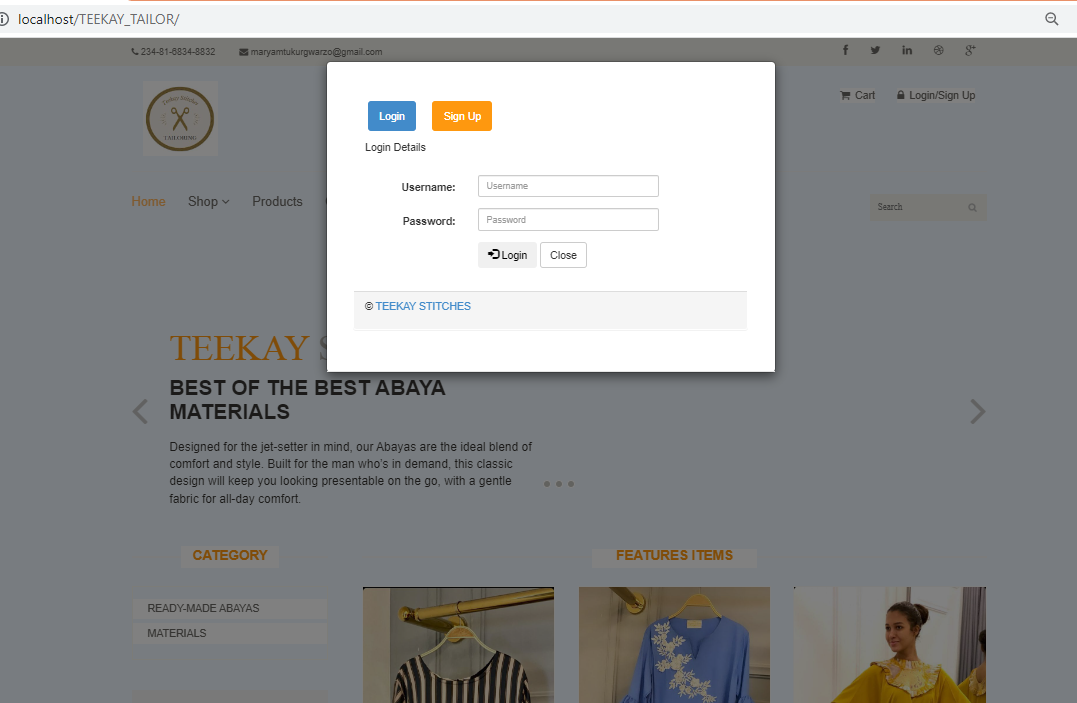
**4.2.3.3 Customer login**

This interface serves as the gateway for customers once they have provided valid login credentials. It acts as the entry point into the system, granting customers access to a range of features and functionalities tailored to their needs.

Upon logging in, customers are presented with a user-friendly and intuitive interface that is designed to enhance their experience. The interface provides a centralized hub where customers can conveniently navigate through various sections and perform specific actions based on their requirements.

From this interface, customers can access their personalized account information, including their profile details, order history, and any relevant preferences they have set. They can also update their personal information, such as contact details or shipping address, ensuring that their account remains accurate and up to date.

Furthermore, the interface enables customers to explore and browse available products or services. They can view detailed information, such as product descriptions, pricing, and images, allowing them to make informed decisions about their purchases. In addition, customers can add items to their cart or create wishlists for future reference.

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**Figure 4.3: Customer login page**

**4.2.3.4 Customer dashboard**

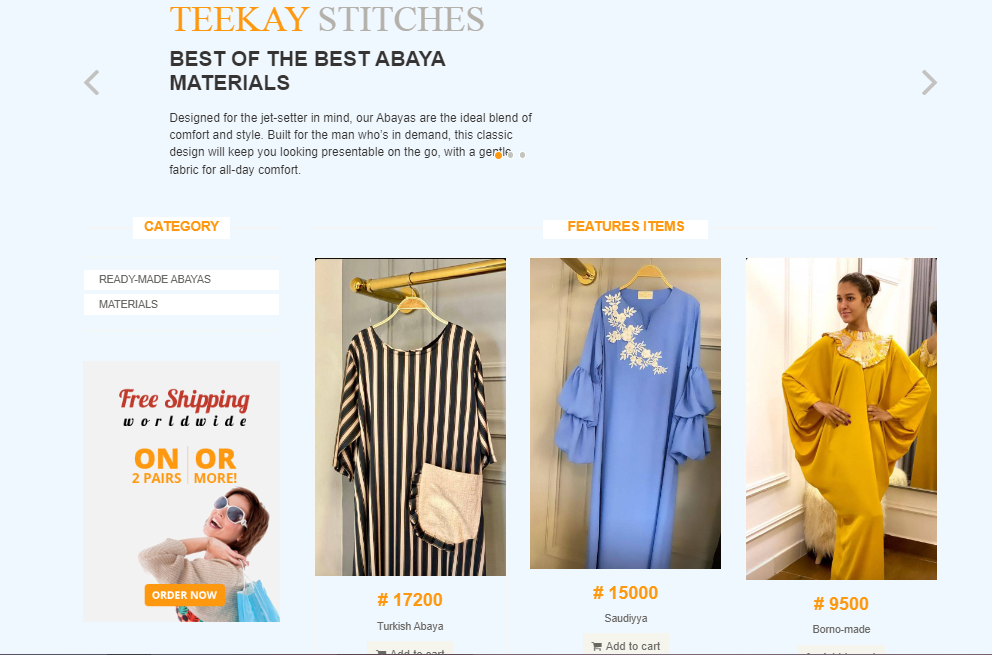
Upon successful login, this page functions as the designated landing page for customers, providing them with a comprehensive range of functionalities to facilitate their interactions with the system. From this page, customers can access various features, including viewing products, placing orders, and making payments, all in a seamless and convenient manner.

The primary purpose of this landing page is to offer customers an intuitive and user-friendly interface to navigate through the system's offerings. By presenting a visually appealing layout and well-organized product display, customers can easily browse and explore the available products. They can view detailed descriptions, images, pricing information, and any other relevant product details, enabling them to make informed purchase decisions.

In addition to product browsing, the landing page also facilitates the order placement process. Customers can select desired products, specify quantities, and add them to their cart directly from this page. The system ensures a smooth checkout experience, guiding customers through the necessary steps to finalize their orders.

Furthermore, the landing page incorporates secure payment options, allowing customers to make payments conveniently and securely. Whether through integrated payment gateways, electronic transfers, or other approved payment methods, customers can confidently complete their transactions directly from this page.

By consolidating these essential functionalities into a single landing page, the system optimizes the customer experience, promoting efficiency and user satisfaction. Customers can seamlessly transition from product exploration to order placement and payment, all within the same intuitive interface. This streamlined process enhances convenience and facilitates a seamless journey for customers, ultimately fostering a positive and engaging user experience.



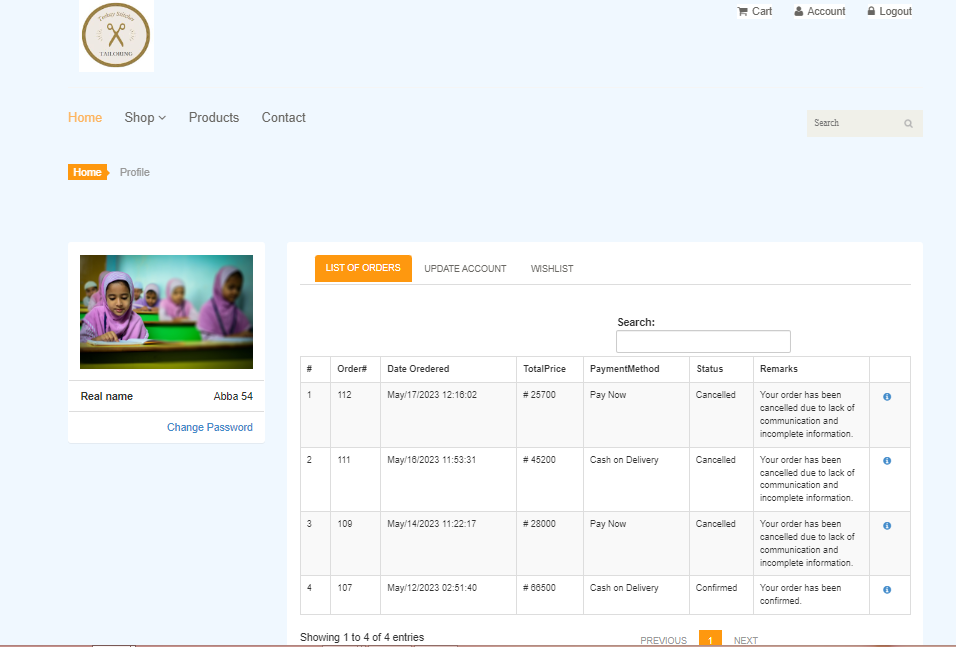
**Figure 4.4: customer dashboard**

**4.2.3.5 Customer Account page**

This web page is designed to offer a convenient and secure platform for customers to access and manage their personal data within the system. It grants customers the privilege to both view and edit the private information they have previously supplied. These personal details encompass various essential aspects, including but not limited to their full name, residential address, phone number, and other pertinent data relevant to their account.

By facilitating such access and control, the system ensures that every customer is empowered to maintain the accuracy and relevance of their personal information. This level of autonomy guarantees those customers can keep their profiles up to date, reflecting any changes in their contact details or other relevant particulars. Furthermore, it offers a personalized experience tailored to each customer's preferences, enhancing user satisfaction and facilitating seamless interactions with the system.

By incorporating this feature, the web page demonstrates a commitment to data privacy and customer-centricity. It not only fosters transparency by granting customers visibility into their stored data but also promotes data accuracy and empowers individuals to exercise control over their own information. This customer-oriented approach ultimately contributes to a more robust and trustworthy system, instilling confidence and peace of mind among users.



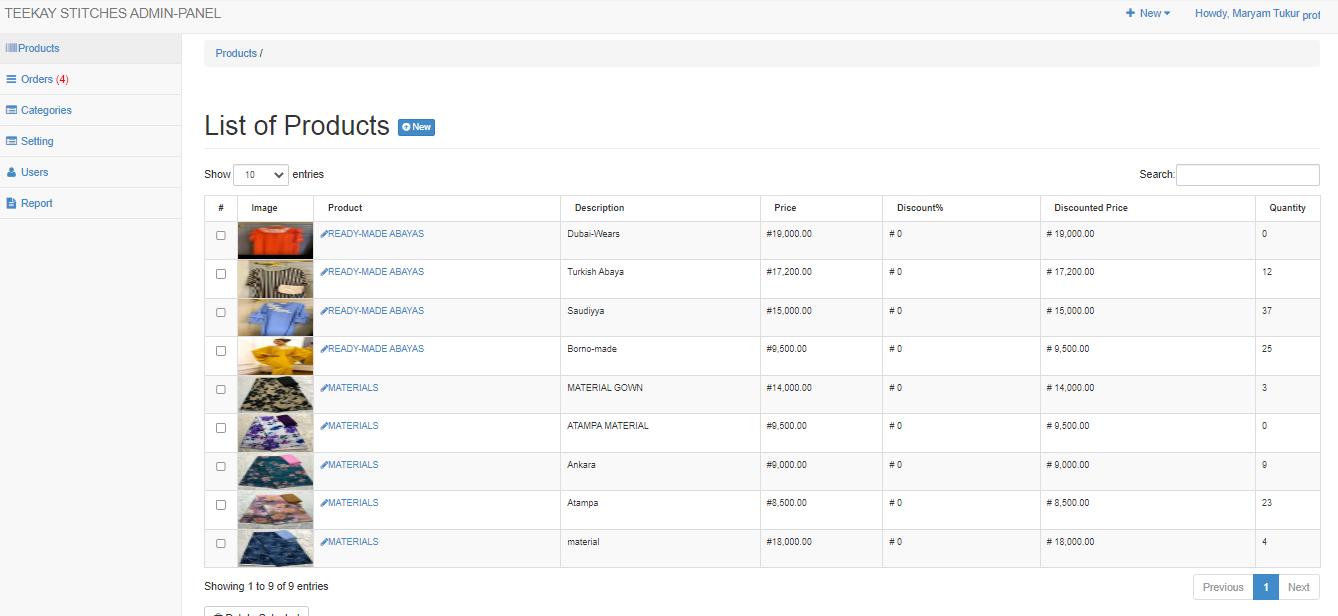
**Figure 4.5: customer Account page**

**4.2.3.6 Products page**

This web page serves as a dedicated interface for administrators, providing them with comprehensive functionality to manage products within the system. Administrators have the capability to view the existing products stored in the system, as well as upload new products. Moreover, they possess the authority to edit and delete products as necessary, ensuring efficient product management.

By incorporating these features, the web page empowers administrators to maintain an accurate and up-to-date inventory of products. The ability to view existing products grants administrators a holistic overview of the available offerings, enabling them to make informed decisions and take appropriate actions. Additionally, the capability to upload new products facilitates the expansion of the product catalog, ensuring that the system stays current and relevant.

The edit and delete functionalities provide administrators with control over the product information. Should any modifications be required, administrators can readily update the product details, such as pricing, descriptions, or availability. Similarly, the ability to delete products ensures the removal of outated, discontinued, or no longer relevant items from the system, optimizing the user experience and maintaining data integrity.

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**Figure 4.4: products page**

**4.2.3.7 System testing**

This was done through deployment of the developed OCS with an intention of discovering its weaknesses and strengths, thereby concluding about its compliance with its intended specification and functionality. The following testing strategies were deployed:

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**4.6.2 Unit testing**

System testing was done after the system was coded. Individual units or components of the system were checked to ensure they are fully functional units before integrating them. This was done by examining each unit and that it performed as exactly intended.

**4.6.2.1 Test Case**

**Title: Online Tailoring management system**.

**System Description:** The system should be able to have the characteristics of Login functionality.

**Precondition:** The system's database has username="admin" and password="admin"

**Assumption:** The login U/I has text field to enter username and password.

**Test Steps:**

1. Open login file
2. Enter username and password
3. Press Login button

**Expected Result:** Entered username and password must validate with database's username and password. And after validation success it is expected to locate for landing page or dashboard.

**Post Condition:** System should able to store the activity done by the user after he/she successfully login into the system.

**Table 1: Test Case**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Case** | **Test Scenario** | **Test Data** | **Expected Result** | **Status** |
| **1** | Check response when invalid username and password is entered. | Username= username Password= password | Message Display "Either username or password is incorrect" | Pass |
| **2** | Check response with blank username and blank password is submitted | Username=  Password= | Message display "Username and Password cannot be blank" | Pass |
| **3** | Check response when correct username and incorrect password is entered | Username= Admin Password= admin12 | Message Display "Either username or password is incorrect" | Pass |
| **4** | Check Response when incorrect username and correct password is entered | Username= user Password= Admin | Message Display "Either username or password is incorrect" | Pass |
| **5** | Check response when valid username and password is entered. | Username = admin Password = admin123 | Redirect to Admin Panel | Pass |

**4.6.2 System validation**

System validation is concerned with ensuring that data entered into an application meets predefined formats with defined input criteria. It was done to ensure that data entered and retrieved is valid.