Introduction to Project

1.1 Introduction

Develop this application system for maintain Hardware equipment stocks, inventory records, sales, order, payment records for daily and monthly basis. This web-based application system software used in any kind of shop like hardware accessory shop.

Hardware shop is the place where the Hardware equipment is sold. But sometimes you may not able to get the needed material in particular hardware shop. This may feed to some inconvenience. So keeping track of all the equipments and the hardware items in the particular shop in the particular region is very important. The hardware shop equipment management system application helps in managing Hardware equipments in a well-organized way. This will be very useful project if the hardware shop has a lot of equipments to manage so that it can be managed in an easy way through this application.

The user interface must be simple and easy to understand even by the common man. The database can be strong enough which will be capable of holding all the details or the information related to the Hardware shop.

There are five menus or sub module in our Hardware equipment management system.

1. User
2. Stock
3. Sales
4. Suppliers
5. Contact Form
6. Feedback form
7. Report

The Product menu used to manage the hardware details, supplier details, product details and customer details. The Order menu is used to purchase and sales transactions and also maintain stock details.

1.2 Existing System

- ✓ The existing system is completely Book keeping and ledgers based.
- ✓ Inconsistency was the major problem in the existing system as there is no proper facility was provided to update the data.
- ✓ Maintenance is a huge problem in billing and calculation.
- ✓ Updating, changes in details is a tedious task.
- ✓ Large storage space is required to keep to the files and register in proper coordination's.
- ✓ Performance is not achieved up to the requirements.
- ✓ Existing System was not time consuming & manually.

1.3 Need and Scope of System

- ➢ Application for Hardware Shop Management System is time consuming and records are computerized.
- ➢ Our new application system reduce paper work.
- ➢ Our system application reduce man power.
- ➢ Our system application maintain properly.
- ➢ Hardware Shop Management system easy accessibility
- ➢ Our system to gives better service to customer.

1.4 Organization Profile

A new system was proposed to overcome the futures and limitation of existing system. The aim of development this proposed system to provide quick services and managing the data to easy reduce, the work of existing system. Data is centralized which has overcome the Sharing problem in proposed system.

As data is maintained electronically, it's easy for a person to update the details, which has overcome the tedious updating in system. Proposed system Maintenance is easy. The Proposed system has fully automate. Customers to approach directly to purchase the products.

Chapter 2
Proposed System

Proposed System

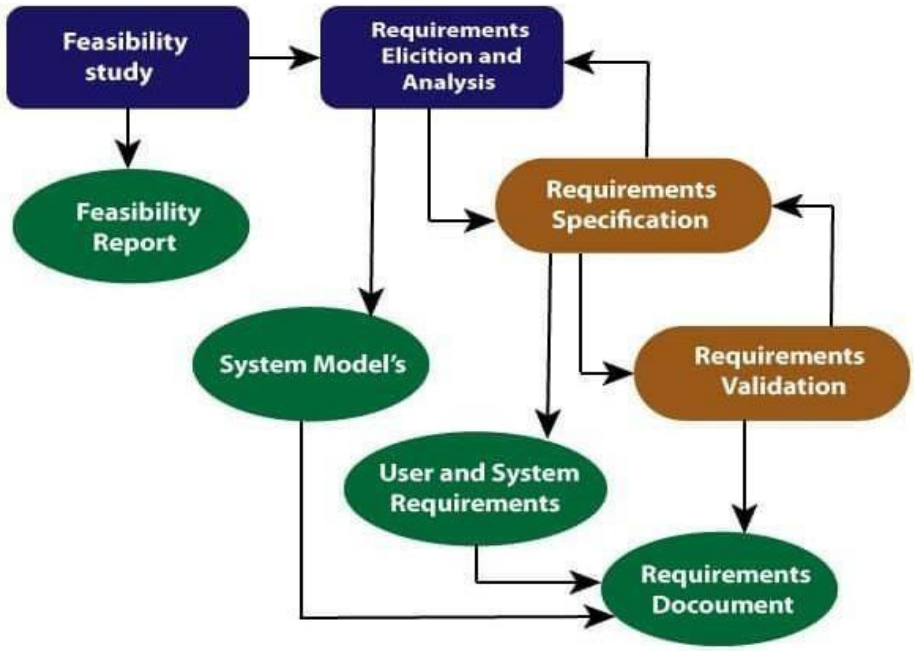
2.1 Objectives

In the system, we are mentioned the admin login, purchase, sales and update stock. The admin can change and add new equipment, delete the equipment, edit the equipment details, generate the reports.

Hardware shop is the place where the hardware equipment is sold. But sometimes you may not able to get the needed material in particular sports shop. This may lead to some inconvenience. So keeping track of all the equipments and the hardware items in the particular shop in the particular region is very important. The hardware equipment management system application helps in managing sports equipments in a well-organized way. This will be very useful project if the hardware shop has a lot of equipments to manage so that it can be managed in an easy way through this application.

2.2 Requirement Engineering:

Requirements Engineering (RE) refers to the process of defining, documenting, and maintaining requirements in the engineering design process. Requirement engineering provides the appropriate mechanism to understand what the customer desires, analyzing the need, and assessing feasibility, negotiating a reasonable solution, specifying the solution clearly, validating the specifications and managing the requirements as they are transformed into a working system. Thus, requirement engineering is the disciplined application of proven principles, methods, tools, and notation to describe a proposed system's intended behavior and its associated constraints.



Requirement Engineering Process

Feasibility Study:

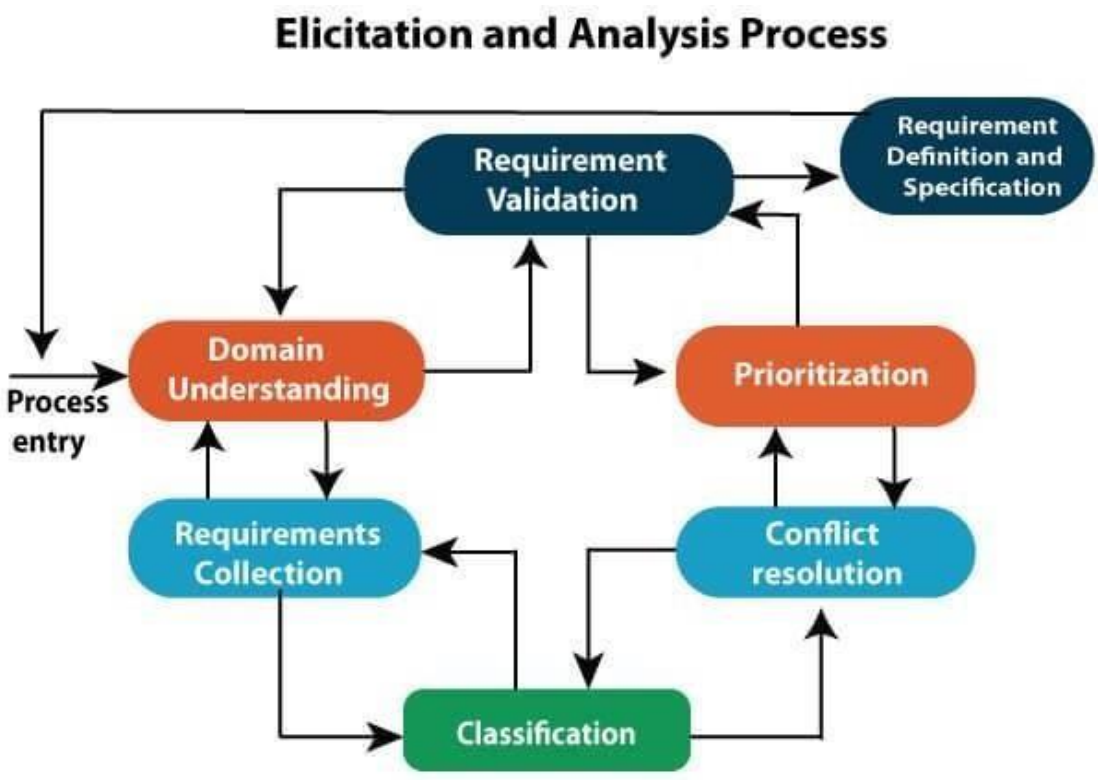
The objective behind the feasibility study is to create the reasons for developing the software that is acceptable to users, flexible to change and conformable to established standards.

• **Technical Feasibility** - Technical feasibility evaluates the current technologies, which are needed to accomplish customer requirements within the time and budget.

• **Operational Feasibility** - Operational feasibility assesses the range in which the required software performs a series of levels to solve business problems and customer requirements.

• **Economic Feasibility** - Economic feasibility decides whether the necessary software can generate financial profits for an organization.

Requirement Elicitation and Analysis:



This is also known as the gathering of requirements. Here, requirements are identified with the help of customers and existing systems processes, if available. Analysis of requirements starts with requirement elicitation. The requirements are analyzed to identify inconsistencies, defects, omission, etc. We describe requirements in terms of relationships and also resolve conflicts if any.

Problems of Elicitation and Analysis:

- Getting all, and only, the right people involved.
- Stakeholders often don't know what they want
- Stakeholders express requirements in their terms.
- Stakeholders may have conflicting requirements.
- Requirement change during the analysis process.
- Organizational and political factors may influence system requirements.

Software Requirement Specification:

Software requirement specification is a kind of document which is created by a software analyst after the requirements collected from the various sources - the requirement received by the customer written in ordinary language. It is the job of the analyst to write the requirement in technical language so that they can be understood and beneficial by the development team.

•**Data Flow Diagrams:** Data Flow Diagrams (DFDs) are used widely for modeling the requirements. DFD shows the flow of data through a system. The system may be a company, an organization, a set of procedures, a computer hardware system, a software system, or any combination of the preceding. The DFD is also known as a data flow graph or bubble chart.

•**Data Dictionaries:** Data Dictionaries are simply repositories to store information about all data items defined in DFDs. At the requirements stage, the data dictionary should at least define customer data items, to ensure that the customer and developers use the same definition and terminologies.

•**Entity-Relationship Diagrams:** Another tool for requirement specification is the entity-relationship diagram, often called an "E-R diagram." It is a detailed logical representation of the data for the organization and uses three main constructs i.e. data entities, relationships, and their associated attributes.

Software Requirement Validation:

After requirement specifications developed, the requirements discussed in this document are validated. The user might demand illegal, impossible solution or experts may misinterpret the needs.

Requirements can be the check against the following conditions -

- If they can practically implement
- If they are correct and as per the functionality and specially of software
- If there are any ambiguities
- If they are full
- If they can describe

Software Requirement Management:

Requirement management is the process of managing changing requirements during the requirements engineering process and system development. New requirements emerge during the process as business needs a change, and a better understanding of the system is developed. The priority of requirements from different viewpoints changes during development process. The business and technical environment of the system changes during the development.

2.3 Requirement Gathering:

To gather your requirements, use the following six-step process. Once you're finished, you should have a comprehensive requirements document outlining the resources you need to move forward through the project phases.

Step 1: Assign Roles

The first step in requirements gathering is to assign roles in your project. This is when you identify your project stakeholders. A stakeholder is anyone invested in the project, whether they're internal or external partners. For example, a customer is an external stakeholder, while a department manager or board member is an internal stakeholder. Identifying these roles first will help you determine who should analyze your project scope later on. Other roles include the project manager, project administrator, designers, product testers, and developers. These people can help you identify the requirements and resources you need in order to hit your project goals.

While you may feel tempted to jump headfirst into your project and start listing all the things you know you'll need, this can be a mistake. Slow down and stick to the process and you'll have a better chance of preventing project risk.

Step 2: Meet with stakeholders

Once you've identified your project stakeholders, meet with them to get an idea of what they are hoping to get out of the project. Understanding what stakeholders want matters because they're ultimately the ones you're creating your deliverables for.

Some questions you can ask include:

- What is your goal for this project?
- What do you think would make this project successful?
- What are your concerns about this project?
- What do you wish this product or service would do that it doesn't already?
- What changes would you recommend about this project?

The stakeholders are the people you're ultimately developing the project for, so you should ask them questions that can help you create your list of requirements.

Step 3: Gather and document

Step three in the process happens at the same time as step two. You'll gather information as you ask your stakeholders questions. The goal is to document everything you can, so have all of the answers you need to start your project.

Use a project management tool to collect and document this information. That way, you can keep your project plan, project requirements, and project communication all in one place.

Some examples of what you might document include:

- Stakeholder answers to interview questions
- Stakeholder questions
- Stakeholder requests
- Stakeholder comments
- Questions and comments that arise during interviews

You don't have to use every answer you receive, but having everything documented can help you see all of your stakeholders' perspectives, which will help you with requirements management.

Step 4: List assumptions and requirements

Now that you've completed the intake process, create your requirements management plan based on the information you've gathered. Consider the questions you initially set out to answer during the requirements gathering process. Then, use them to create your requirements goals, including:

- **Length of Project Schedule:** You can map out your project timeline using a Gantt chart and use it to visualize any project requirements that depend on project milestones. Some requirements will apply for the full duration of the project, whereas others may only apply during distinct project phases. For example, you'll need a specific budget for team member salaries throughout the entire project, but you may only need specific material during the last stage of your project timeline.

- **People Involved In The Project**: Identify exactly which team members will be involved in your project, including how many designers, developers, or managers you'll need to execute every step. People are part of your project requirements because if you don't have the team members you need, you won't be able to complete the project on time.

- **Project Risks:** Understanding your project risks is an important part of identifying project requirements. Use a risk register to determine which risks are of highest priority, such as stakeholder feedback, timeline delays, and lack of budget. Then, schedule a brainstorming session with your team to figure out how to prevent these risks. Like smart goals, your project requirements should be actionable, measurable, and quantifiable. Try to go into as much detail as possible when listing out your project budget, timeline, required resources, and team.

Step 5: Get approval

Once you formalize your project requirements, you'll need approval from stakeholders to ensure you're meeting user needs. Encouraging clear communication can also prevent scope creep by ensuring your stakeholders know the limits of the project from the beginning. You can then proceed with your implementation plan, which may include acquiring resources and assembling a team.

Step 6: Monitor progress

The last part of the process is monitoring the progress of your project. You can use project management software to track your project budget and other requirements as you move through project execution. The benefit of project management software is that you can see changes to your project in real-time and take immediate action when things go away.

2.4 SRS

Frontend Features:

1. Semantic Structure:

HTML provides a structured way to organize content on web pages, using elements like `<header>`, `<nav>`, `<section>`, `<article>`, `<footer>`, etc., which enhances accessibility and SEO.

2. Text and Media:

It allows the inclusion of text content, images, videos, audio files, and other media types using appropriate tags (`<img>`, `<video>`, `<audio>`).

3. Forms:

HTML enables the creation of interactive forms for user input, including input fields, checkboxes, radio buttons, dropdown menus, and submit buttons.

4. Hyperlink:

HTML supports hyperlinks (`<a>` tags) to navigate between web pages or sections within the same page.

5. Accessibility:

HTML provides features for improving accessibility, such as alt attributes for images, tab index for defining the tab order, and ARIA attributes for enhancing accessibility for users with disabilities.

6. Styling:

CSS allows developers to apply styles to HTML elements, controlling aspects like color, typography, spacing, layout, and visual effects.

7. Selectors:

CSS provides a wide range of selectors to target HTML elements based on their type, class, ID, attributes, or relationships with other elements, enabling precise styling.

8. Layout:

CSS offers layout techniques like Flex box and Grid to create responsive and flexible layouts that adapt to different screen sizes and orientations.

9. Media Queries:

CSS media queries allow developers to apply different styles based on the characteristics of the user's device, such as screen width, height, resolution, and orientation, enabling responsive design.

10. Libraries and Frameworks: JavaScript has a rich ecosystem of libraries and frameworks like J Query, React.js, Angular, Vue.js, and Bootstrap, which provide pre-built

components, utilities, and tools to streamline front-end development and enhance productivity.

Backend Features:

PHP (Hypertext Preprocessor):

1. Server-Side Scripting:

PHP is a server-side scripting language used to generate dynamic web content and interact with databases, executing code on the server before sending the result to the client's browser.

2. Database Connectivity:

PHP provides built-in functions and extensions for connecting to and interacting with various database management systems (DBMS), including MySQL, PostgreSQL, SQLite, MongoDB, and others.

3. Data Processing:

PHP enables developers to process form submissions, handle file uploads, manipulate strings, parse XML or JSON data, and perform other data processing tasks on the server side.

4. Session Management:

PHP supports session management to maintain user state across multiple page requests, allowing for the storage and retrieval of session variables, user authentication, and access control.

5. Server-Side Includes:

PHP allows developers to include other PHP files or scripts within a page using server-side includes (SSI), enabling code reuse, modularization, and easier maintenance.

MySQL:

1. Relational Database Management:

MySQL is a popular open-source relational database management system (RDBMS) that stores and organizes data in tables with predefined relationships, supporting features like transactions, ACID properties, and referential integrity.

2. SQL (Structured Query Language):

MySQL uses SQL as its query language for performing operations such as data retrieval, insertion, updating, and deletion, enabling developers to interact with the database programmatically.

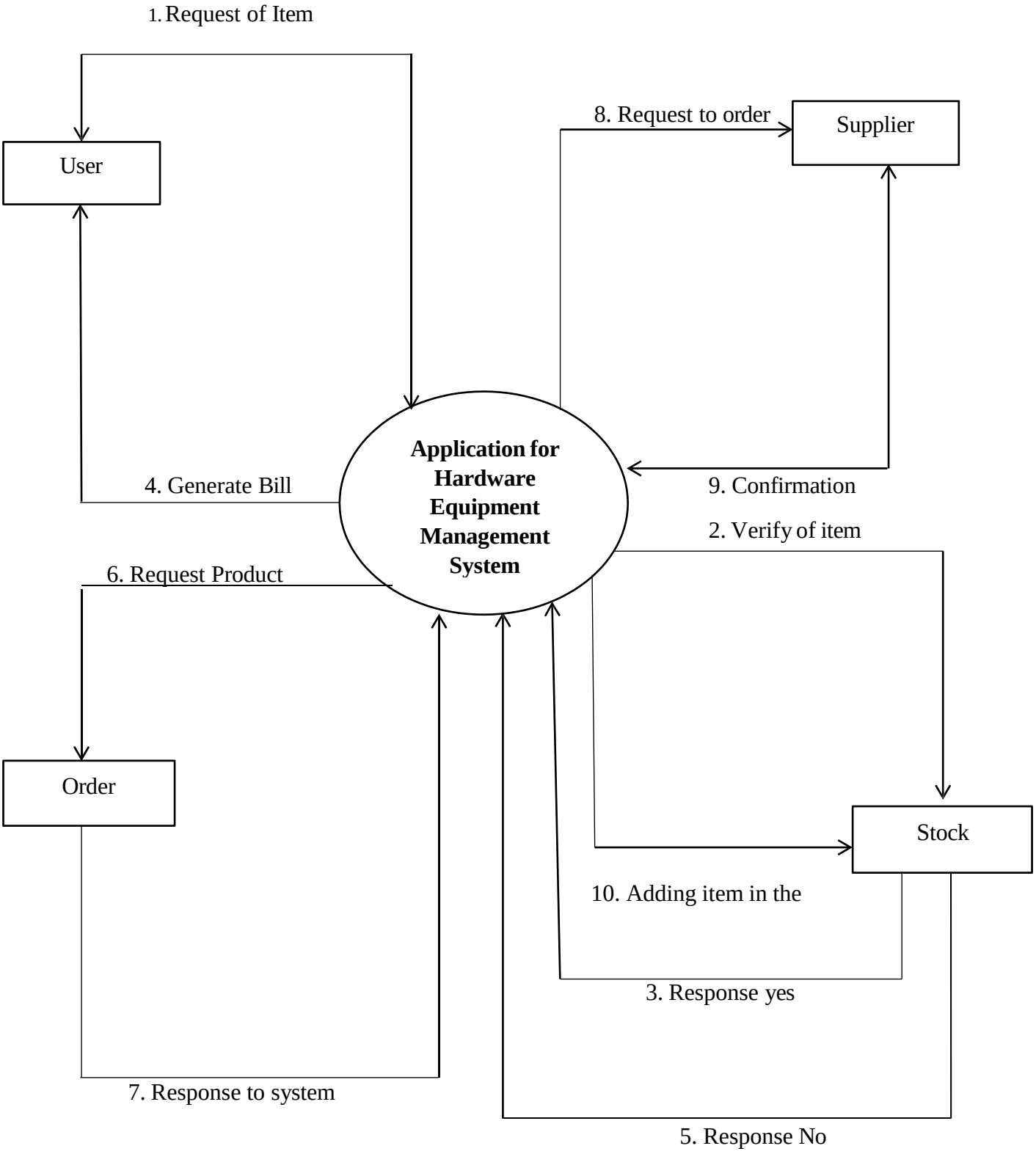
3. Data Types:

MySQL supports various data types for storing different types of data, including integers, floats, strings, dates, times, binary data, and spatial data types for geographic information.

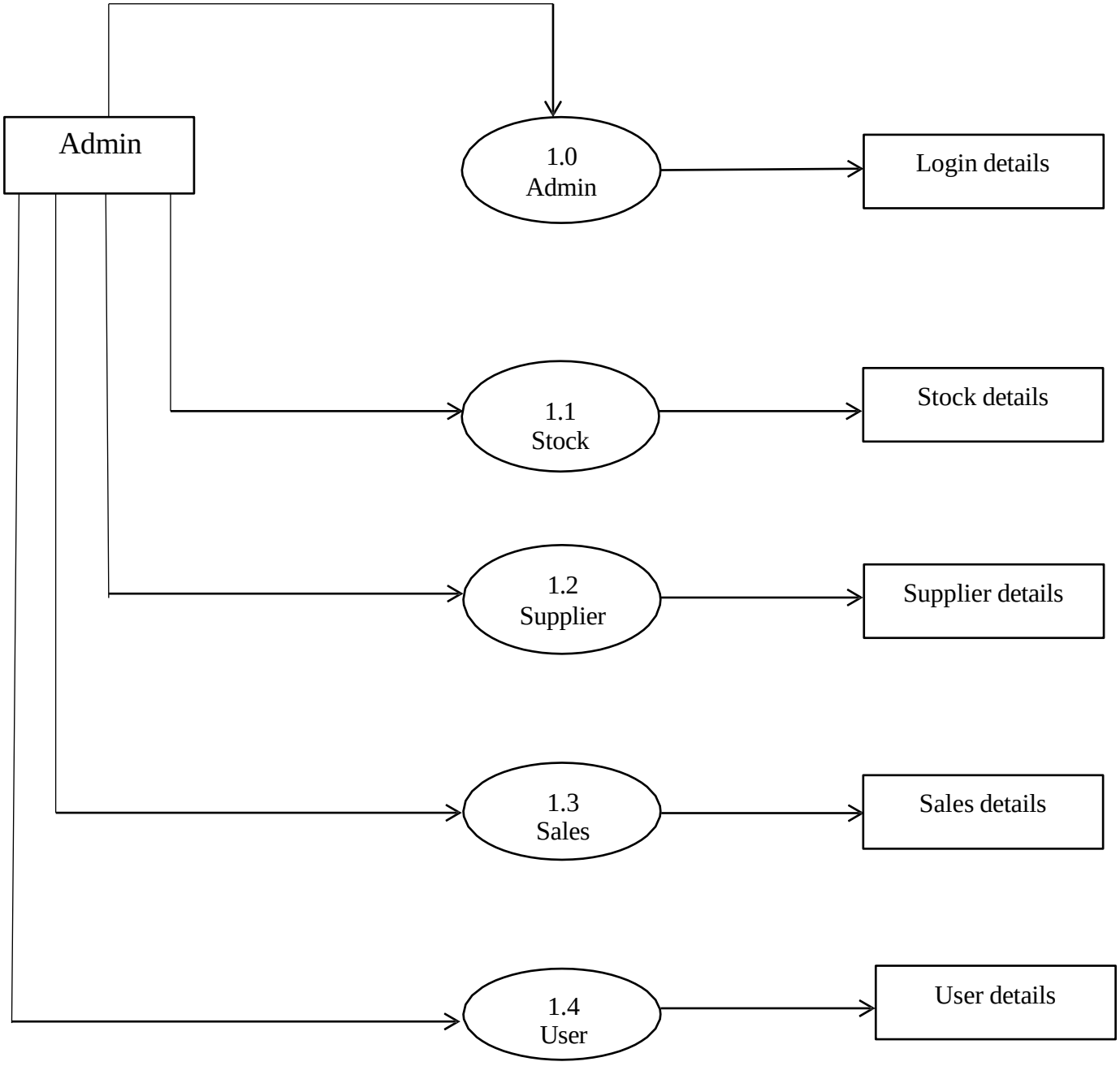
Chapter 3
System Diagrams

System Diagrams

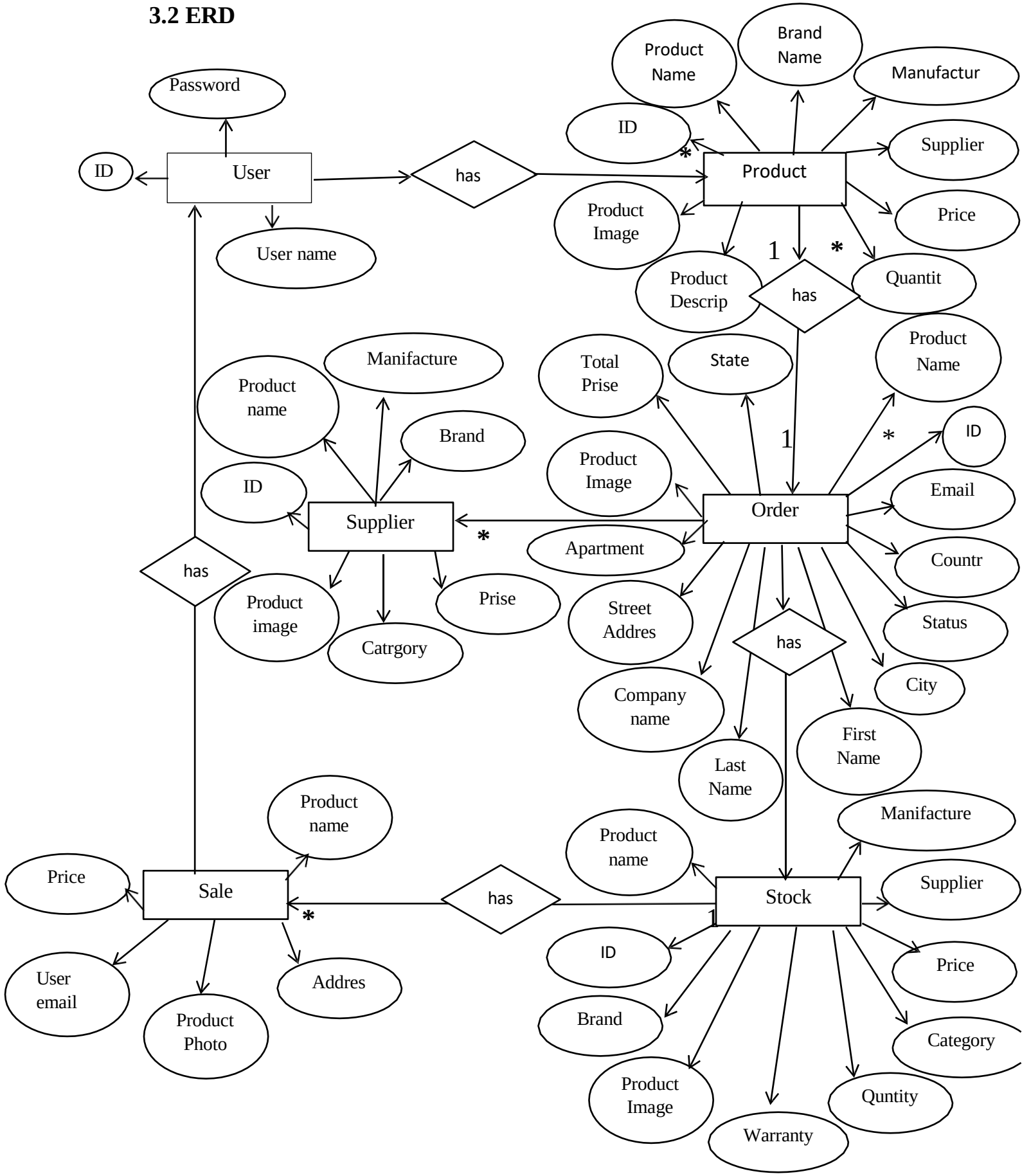
3.1 DFD



First Level DFD



3.2 ERD


Password
ID
User
User name
has
Product
Product Name
Brand Name
Manufactur
ID
Supplier
Price
Product Image
Product Descrip
Quantit
1
*
has
Product Name
ID
Email
Countr
Status
City
Order
Total Prise
State
Product Image
Apartment
Street Addres
Company name
Last Name
First Name
Manifacture
Product name
Brand
ID
Supplier
Product image
Prise
Catrgory
has
*
1
*
Product name
Manifacture
Supplier
Price
Category
Quntity
Warranty
Stock
ID
Brand
Product Image
Price
User email
Product Photo
Addres
Sale
has
*
1
Product name

3.3 Hardware Requirement:

Processor: Intel Core 2

Ram: 4 GB

Keyboard: Standard keyboard

Mouse: Standard quality mouse

Monitor: Color monitor

3.4 Software Requirement:

Operating System: Windows 7, Windows 10, Windows 11, XP

Web Browser: Internet Explorer, Firefox, Chrome etc.,

Text Editor: Visual Studio Code

Server: xampp server.

Chapter 4
System Design

System Design

4.1 Database Design

User Registration:

System Name – Application for Hardware Equipment Management System				
Table Name – users				
Sr.No	**Field Name**	**Data type**	**Size**	**Description**
1	id	int	-	To store users id.
2	username	varchar	50	To store users name.
3	password	varchar	255	To store users password.
4	created_at	date	-	To store created date.

Product Details:

System Name – Application for Hardware Equipment Management System				
Table Name – products				
Sr.No	**Field Name**	**Data type**	**Size**	**Description**
1	id	int	-	To store product id.
2	product_name	varchar	255	To store product name.
3	brand_name	varchar	255	To store brand name.
4	manufacturer	varchar	255	To store manufacturer.
5	supplier	varchar	255	To store supplier.
6	price	varchar	10,2	To store price.
7	category	varchar	100	To store category.
8	quantity	varchar	255	To store quantity.
9	warranty	varchar	100	To store warranty.
10	product_desc	varchar	5000	To store product description.
11	product_image	varchar	255	To store product image.
12	created_at	date	-	To store created date.

Order Details:

System Name – Application for Hardware Equipment Management System				
Table Name – orders				
Sr.No	**Field Name**	**Data type**	**Size**	**Description**
1	id	int	-	To store id.
2	email	varchar	255	To store email id.
3	first_name	varchar	100	To store first name.
4	last_name	varchar	100	To store last name.
5	company_name	varchar	100	To store company name.
6	country	varchar	100	To store country.
7	Street_address	varchar	255	To store street address.
8	apartment	varchar	100	To store apartment.
9	city	varchar	100	To store city.
10	state_country	varchar	100	To store state country.
11	postcode_zip	varchar	20	To store postcode zip.
12	phone	varchar	20	To store phone.
13	payment_method	varchar	50	To store payment method.
14	product_names	varchar	255	To store product names.
15	total_price	varchar	10,2	To store total price.
16	status	varchar	50	To store status.
17	created_at	date	-	To store created date.

Add to cart details:

System Name – Application for Hardware Equipment Management System				
Table Name – cart				
Sr.No	**Field Name**	**Data type**	**Size**	**Description**
1	id	int	-	To store id.
2	user_id	varchar	50	To store users id.
3	product_id	int	-	To store product id.
4	quantity	int	-	To store quantity.
5	created_at	date	-	To store created date.

Contact details:

System Name – Application for Hardware Equipment Management System				
Table Name – contactform				
Sr.No	**Field Name**	**Data type**	**Size**	**Description**
1	id	int	-	To store id.
2	full_name	varchar	100	To store full name.
3	phone_number	varchar	15	To store phone number.
4	email	varchar	100	To store email id.
5	subject	varchar	100	To store subject.
6	created_at	date	-	To store created date.

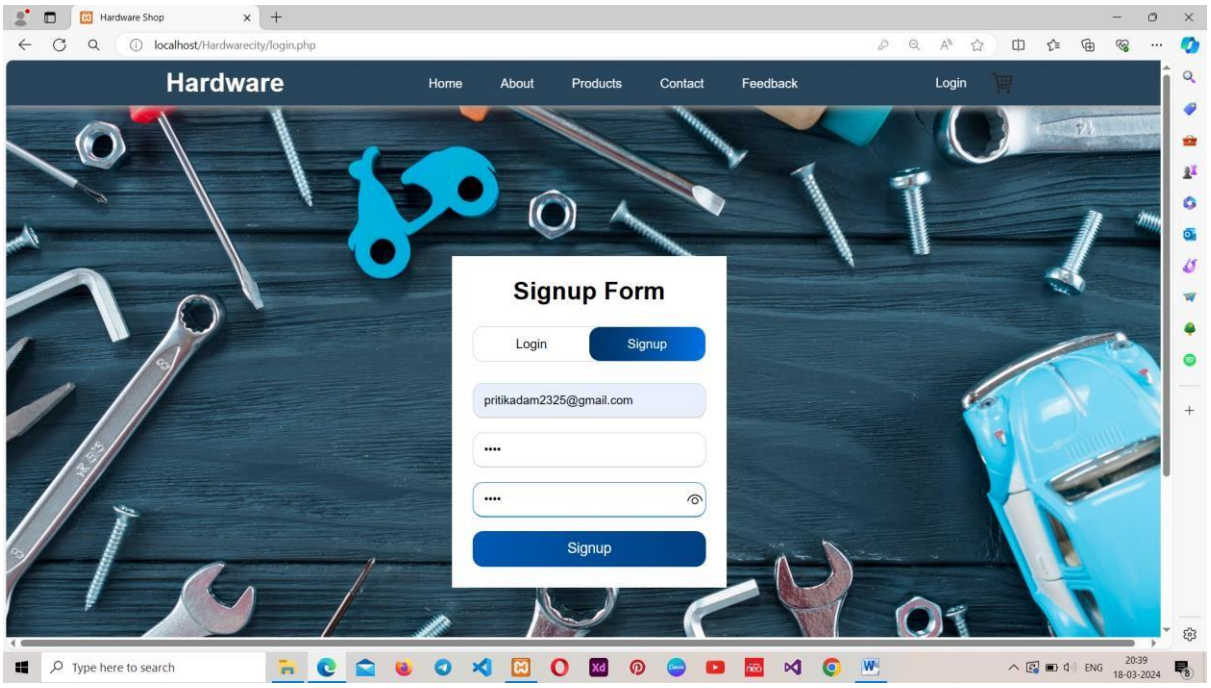
Feedback details:

System Name – Application for Hardware Equipment Management System				
Table Name – feedbacktform				
Sr.No	**Field Name**	**Data type**	**Size**	**Description**
1	id	int	-	To store id.
2	full_name	varchar	100	To store full name.
3	phone_number	varchar	15	To store phone number.
4	email	varchar	100	To store email.
5	opinion	varchar	100	To store opinion.
6	created_at	date	-	To store created date.

4.2 Input Design

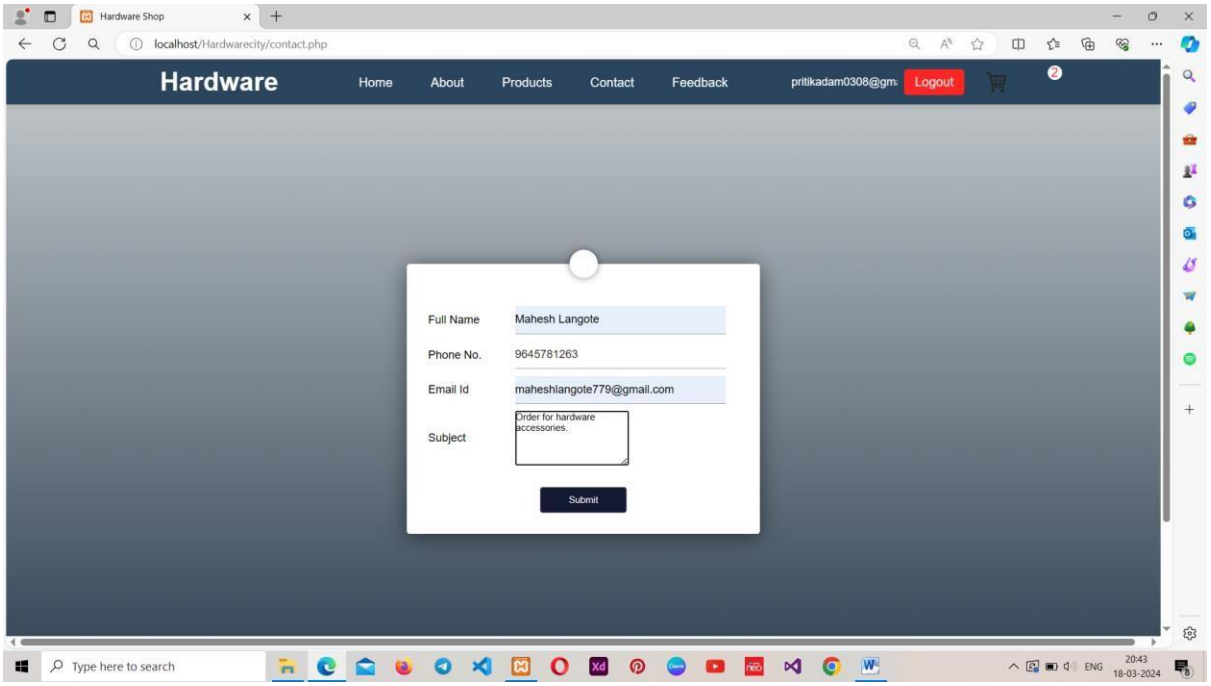
User Registration:

Description: In this page user signup the form.



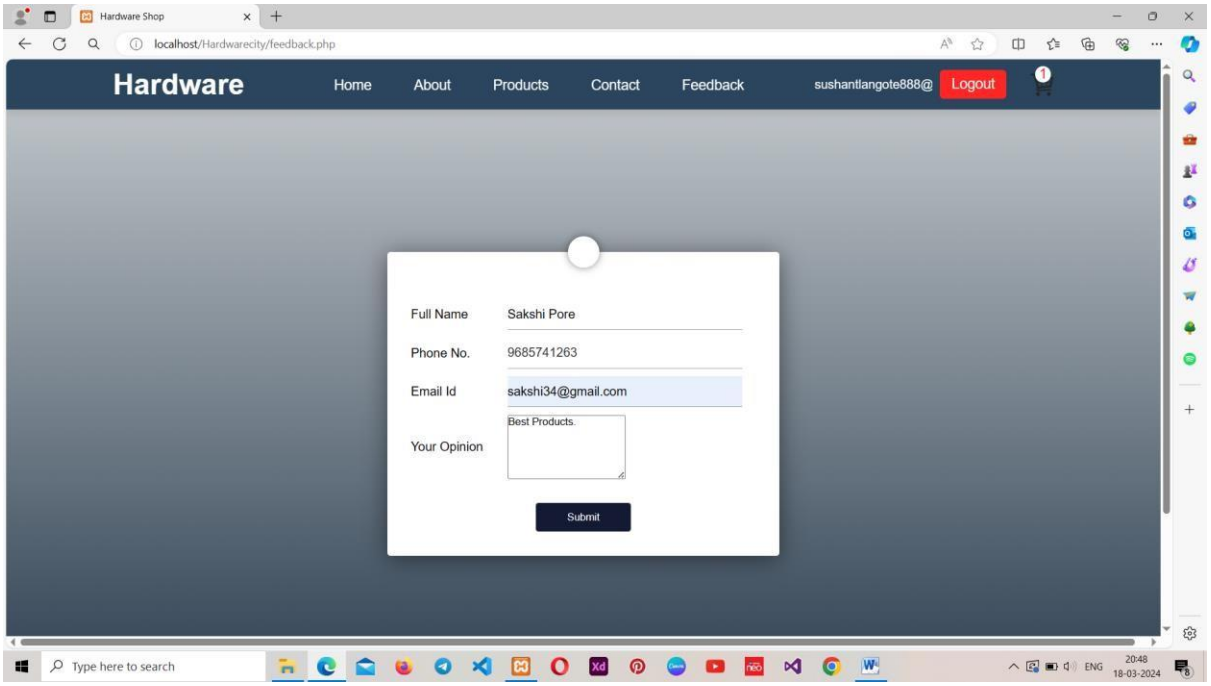
Contact:

Description: In this page user contact the form.



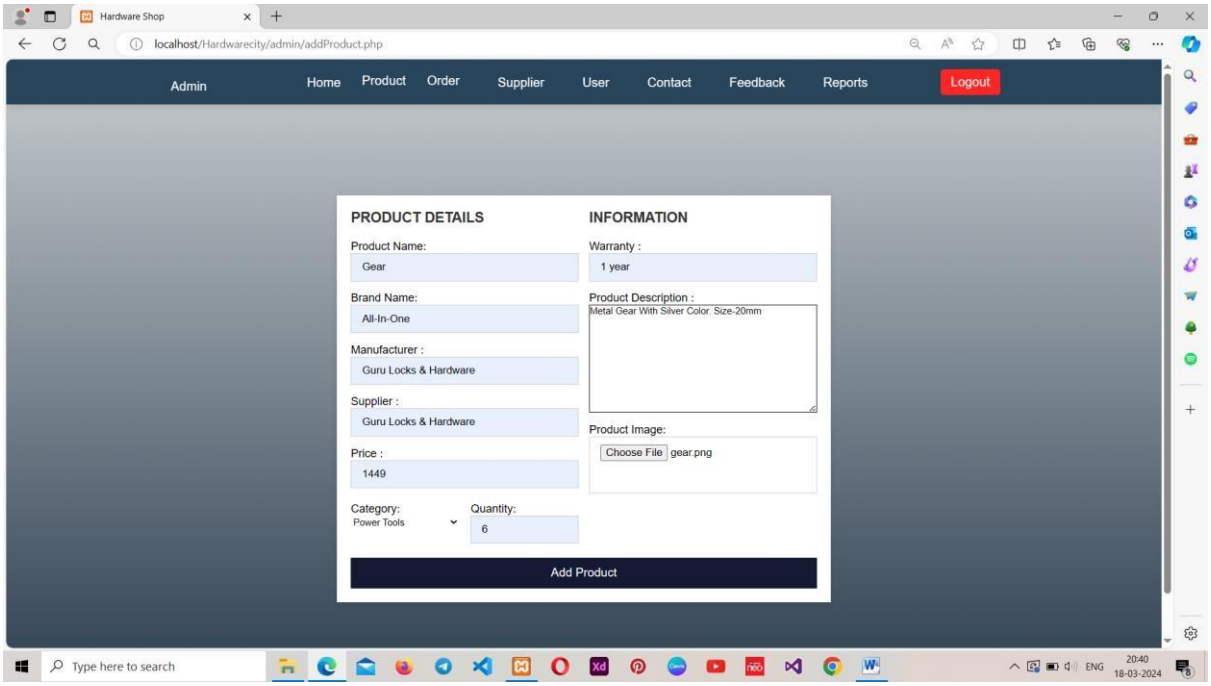
Feedback:

Description: In this page user feedback the form.



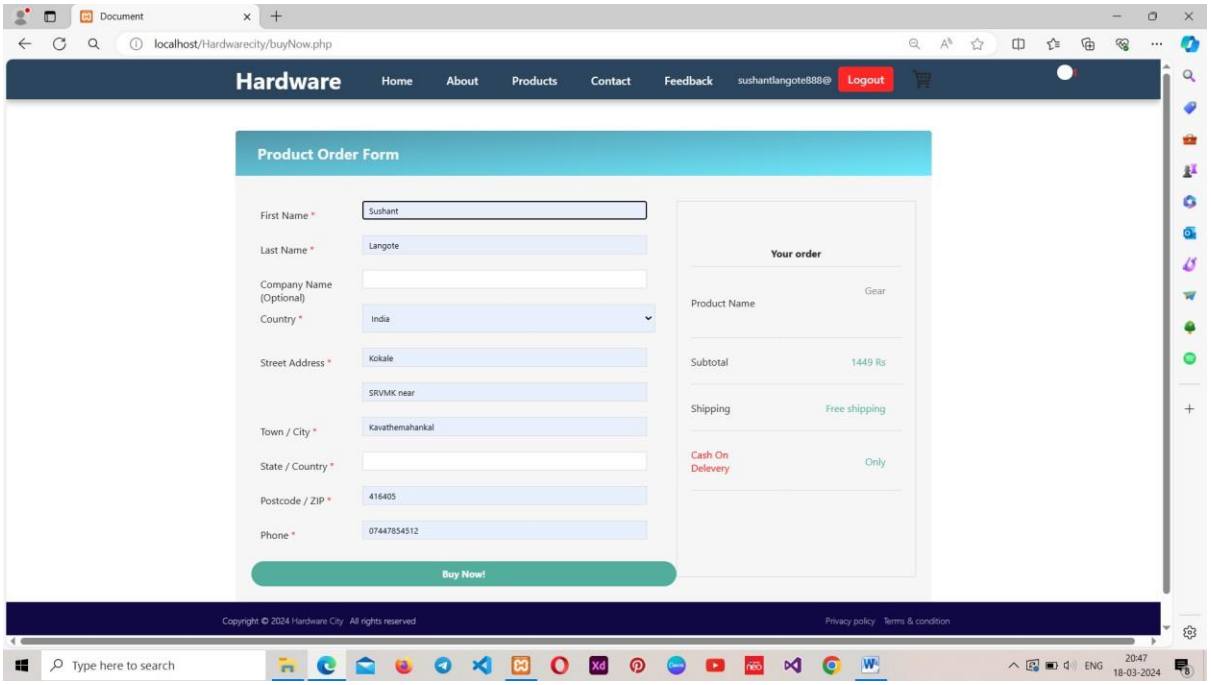
Product details:

Description: In this page product details form.



Product Order form:

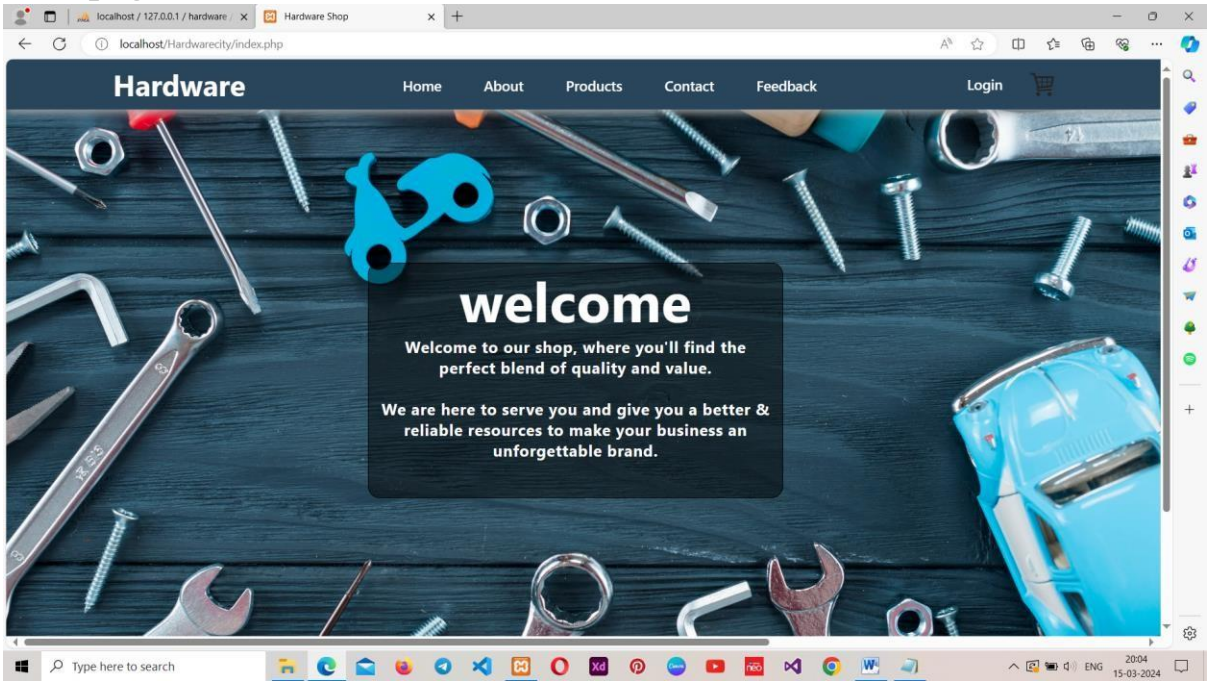
Description: In this page product order form.



4.3 Output Design

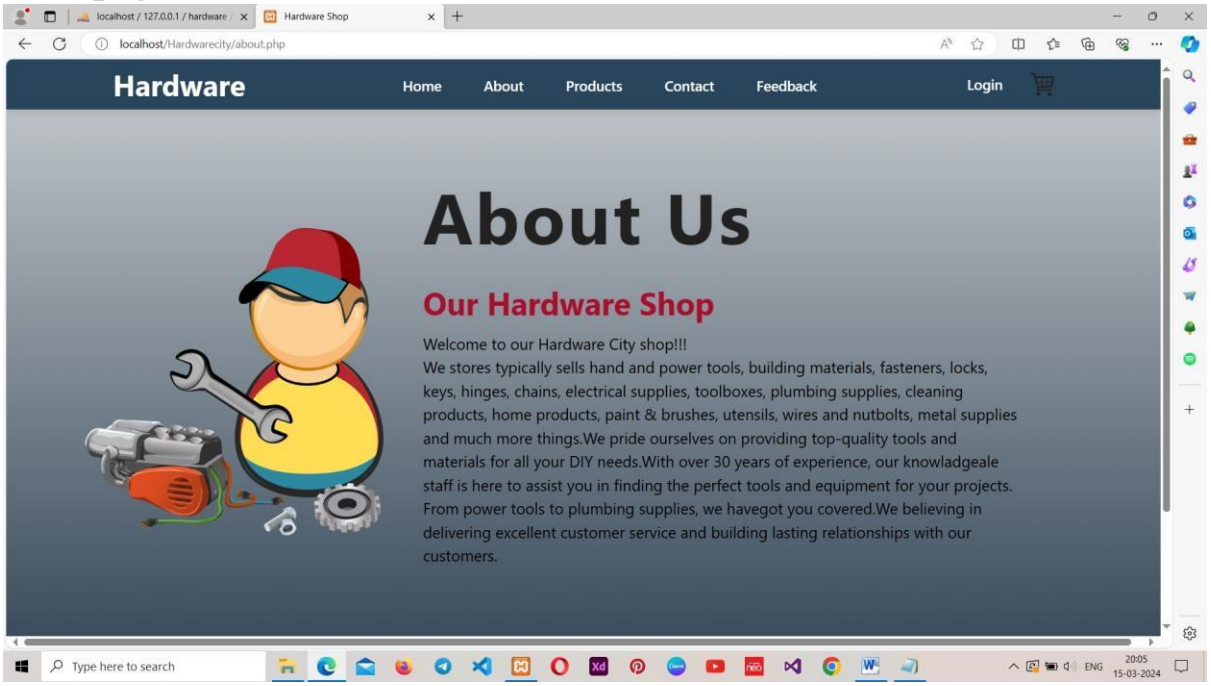
Homepage:

When user click to homepage to display all information about the homepage.



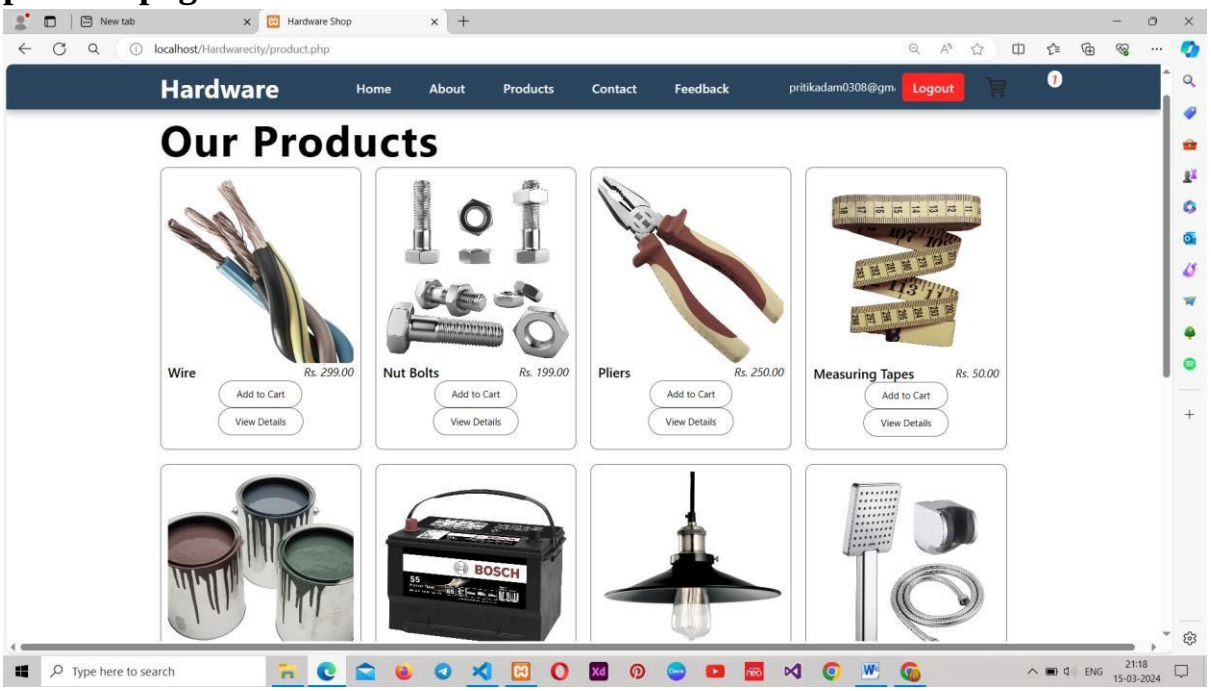
About Page:

When user click to about page to display all information about the aboutpage.



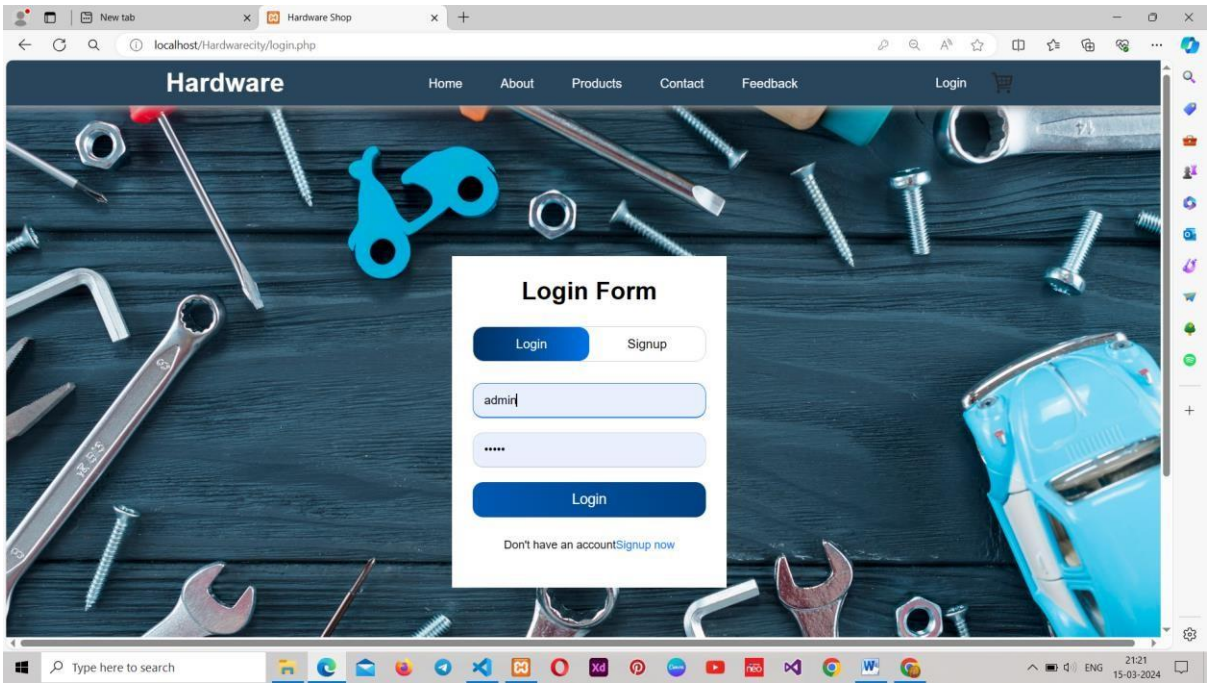
Products:

When user click to product page to display all information about the product page.



Login Form:

When user click to login page to display all information about the login page.



Chapter 5
User Guideline

User Guideline

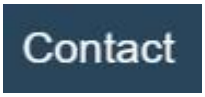
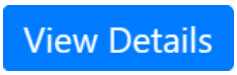
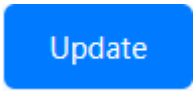
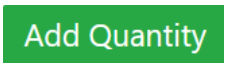
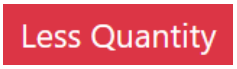
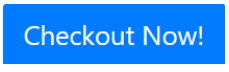
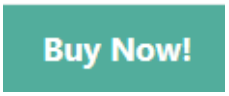
5.1 Installation Process (User Manual):

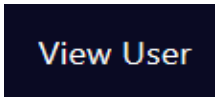
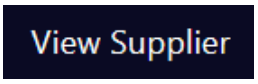
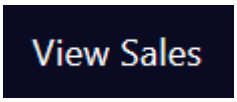
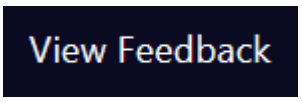
User Manual:

Our system is Hardware Equipment Management System, before using our system provide user guidelines you how to handle a system.

The project contains some main pages Button and menus are as follows.

Tab/Button Name	Description/Use
Login	When you click on this menu to display the login page.
Logout	When you click on this button Log in window will exit automatically.
Admin	When you click on this menu display the admin dashboard.
Home	When you click on this menu to display the homepage of Hardware Equipment Management System.
About	When you click on this menu to display the about page of Hardware Equipment Management System.
Product	When you click on this menu to display the products of Hardware Equipment Management System.
Order	When you click on this menu to display the product order form of Hardware Equipment Management System.
Supplier	When you click on this menu to display the supplier details of Hardware Equipment Management System.
User	When you click on this menu to display the user details of Hardware Equipment Management System.

	When you click on this menu to display the contact form.
	When you click on this menu to display the feedback form.
	When you click on this menu to display the reports of Hardware Equipment Management System.
	After click on this button item is added in the products.
	After click on this button then display the product details.
	After click on this button then selected product is deleted.
	After click on this button then update the product details.
	After click on this button then add the quantity of product.
	After click on this button then less the quantity of product.
	After click on this button item is added in the cart.
	After click on this button display the order form and checkout the shopping cart page.
	After click on this button then buy the products.

	After click on this button display the user report.
	After click on this button display the stock report.
	After click on this button display the supplier report.
	After click on this button display the sales report.
	After click on this button display the contact report.
	After click on this button display the feedback report.

Chapter 6

Source Code

Source Code:

Homepage:

```
<?php
session_start();
if (isset($_SESSION['username'])) {
$username = $_SESSION['username']; }
?>
<!DOCTYPE html>
<html lang="en" dir="ltr">
<head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<title>Hardware Shop</title>
<link rel="stylesheet" href="Css/style.css" />
<link rel="stylesheet" href="Css/home.css" />
</head>
<body>
<? phpinclude("header.php"); ?>
<div class="homepage">
<div class="img"></div>
<div class="welcome">
<h1 id="wel"><b>welcome </b>
<p id="lorem"> Welcome to our shop, where you'll find the <br /> perfect blend of quality and value.<br />
<br /> We are here to serve you and give you a better &<br /> reliable resources to make your business an <br /> unforgettable brand.<br /></p> </div> </div>
<?php
include("footer.php");
?>
</body>
</html>
```

Products:

```
<?php
session_start();
if (isset($_SESSION['username'])) {
$username = $_SESSION['username'];}
?>
<!DOCTYPE html>
<html lang="en" dir="ltr">
<head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
<title>Hardware Shop</title>
<link rel="stylesheet" href="Css/style.css" />
<link rel="stylesheet" href="Css/prod.css" />
</head>
<body>
<?php include("header.php"); ?>
<div class="container">
<div class="heading">
<h1>Our Products</h1>
</div>
<div class="product-list">
<?php
include("config.php");
$sql = "SELECT id,product_name, price, product_image FROM products";
$result = $conn->query($sql);
if ($result->num_rows > 0) {
while($row = $result->fetch_assoc()) {
$productId = $row["id"];
$productName = $row["product_name"];
$price = $row["price"];
```

```
$product_image = $row["product_image"];
echo '<div class="product" data-price="' . $price . '">';
echo '<div class="image">';
echo '<img class="itm-img" src="product/' . $product_image . '" alt="' . $productName . '"/>';
echo '</div>';
echo '<div class="info">';
echo '<h3>' . $productName . '</h3>';
echo '<p>Rs. ' . $price . '</p>';
echo '</div>';
echo '<form action="controller/addToCart.php" method="post" onsubmit="addToCart(this); return false;">';
echo '<input type="hidden" name="product_id" value="' . $productId . '">';
echo '<input type="hidden" name="quantity" value="1">';
echo '<button type="submit" id="addToCartButton">Add to Cart</button>';
echo '</form>';
echo '<a href="singleProduct.php?id=' . $productId . '"><button>View Details</button></a>';
echo '</div>'; }
} else {
echo "0 results";
}
$conn->close();
?>
</div>
</div>
<?php include("footer.php"); ?>
</body>
</html>
```

Chapter 7

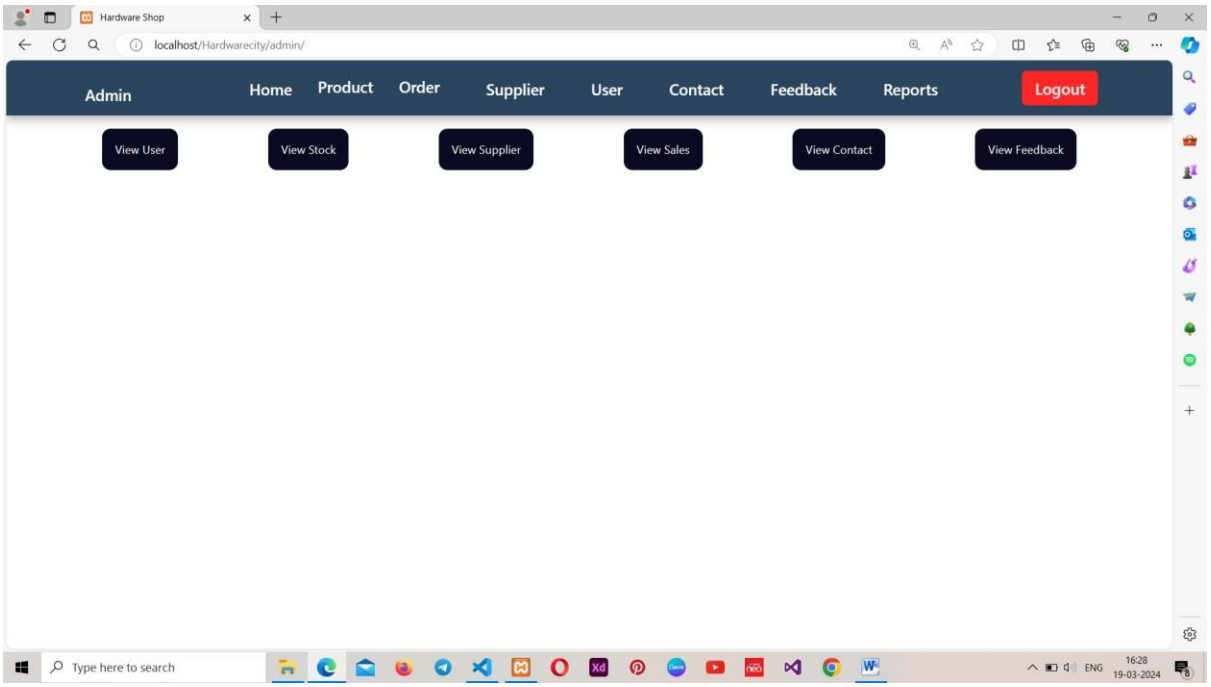
Output

Output

7.1 Input screen and reports

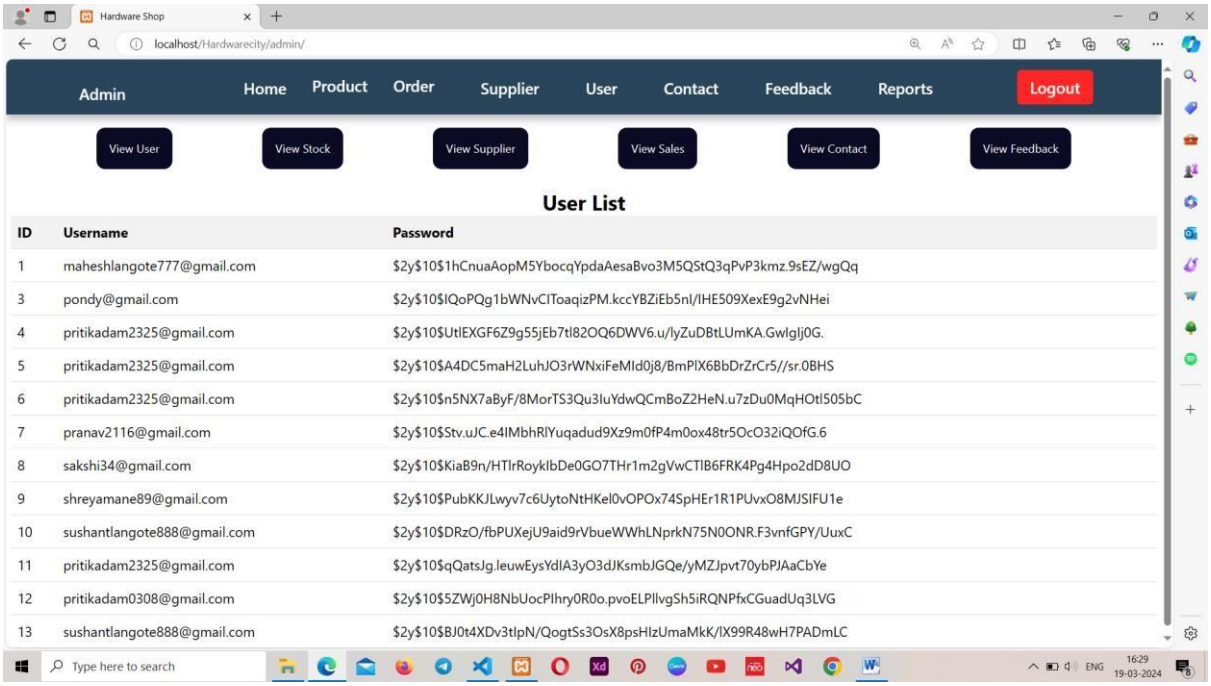
Report:

When click on the report button then display the all reports.



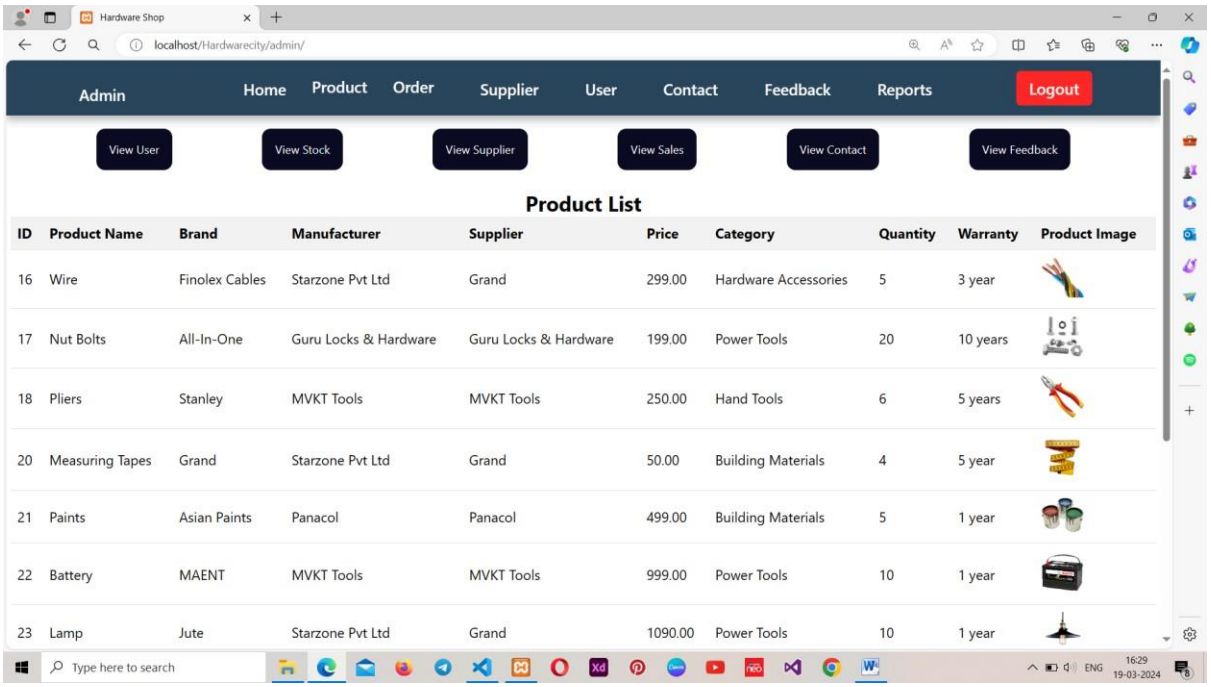
User:

When click on the user button then display the user report.



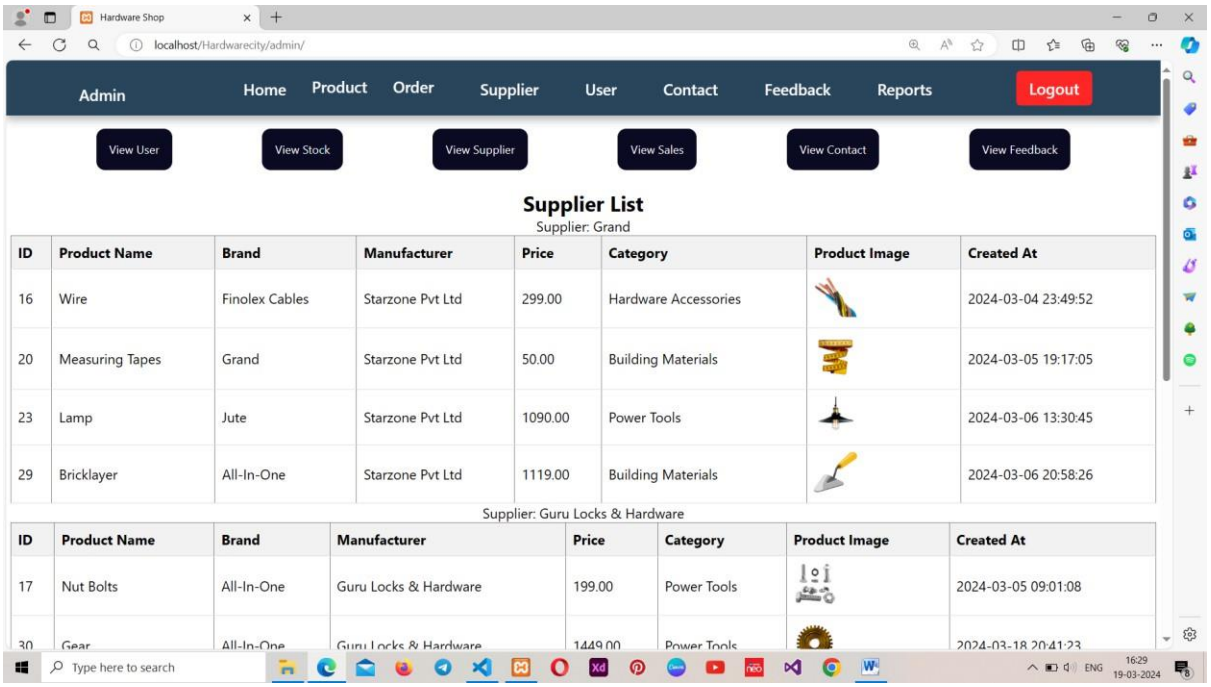
Stock:

When click on the stock button then display the stock report.



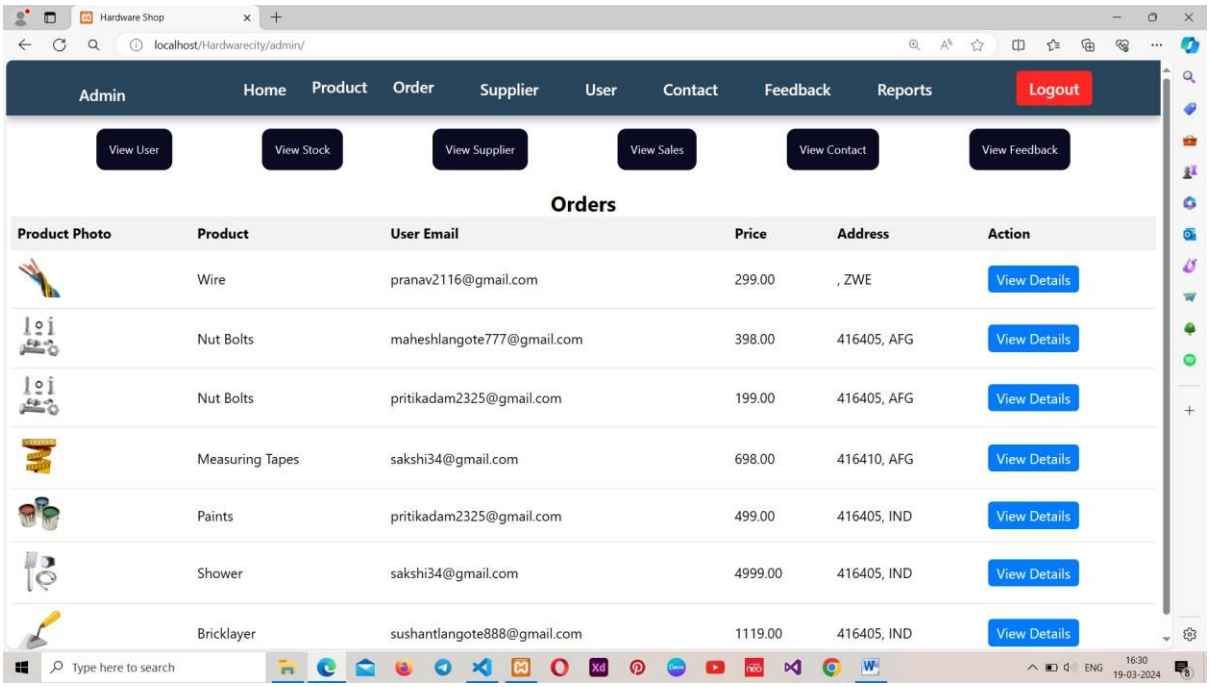
Supplier:

When click on the supplier button then display the supplier report.



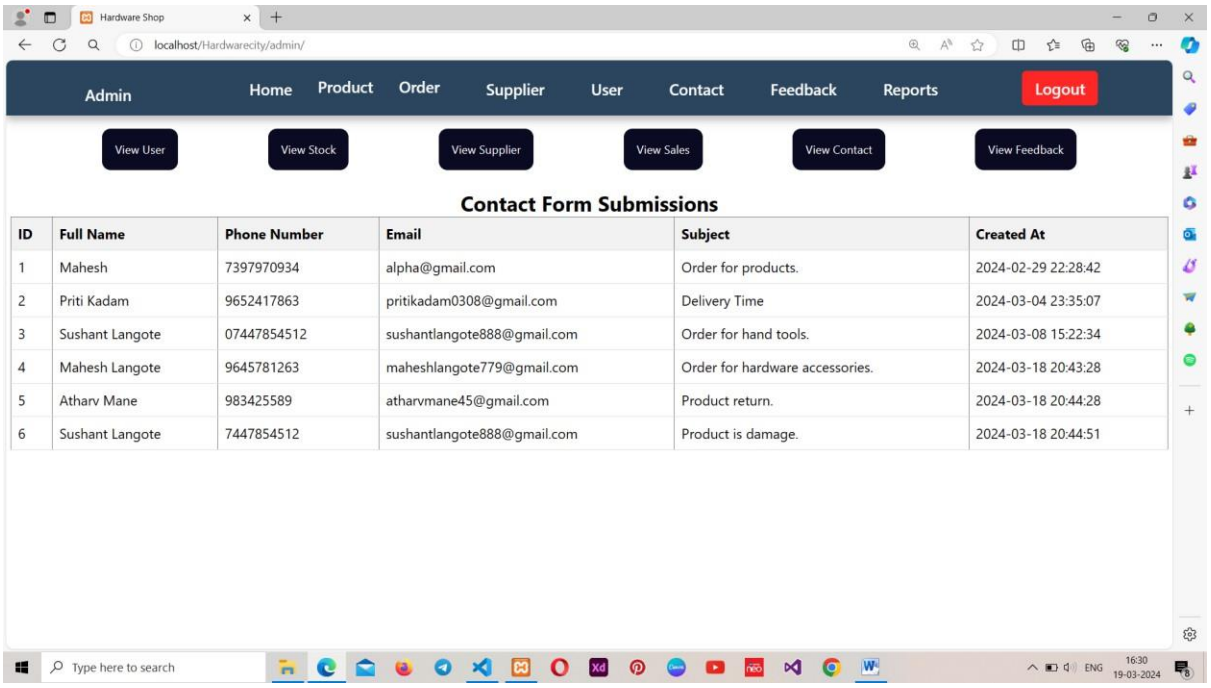
Sales:

When click on the sales button then display the sales report.



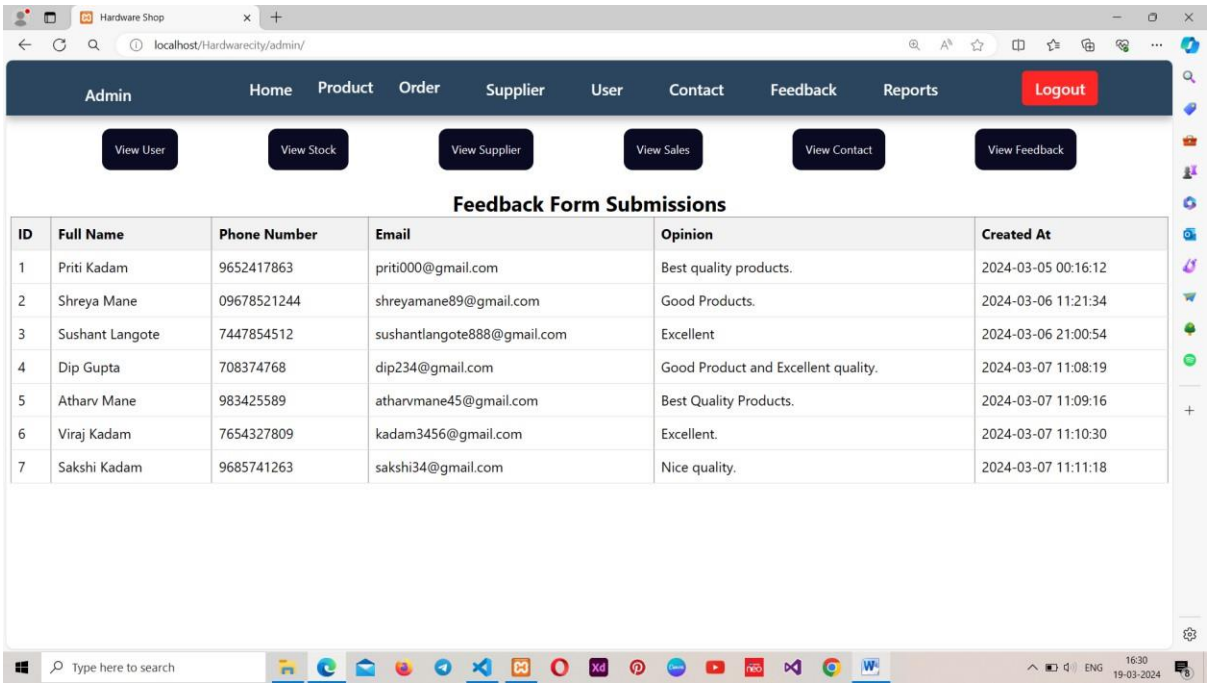
Contact:

When click on the contact button then display the contact report.



Feedback:

When click on the feedback button then display the feedback report.



Chapter 8
Conclusion and Suggestion

Conclusion and Suggestions

8.1 Conclusion and Suggestions

The system was mainly designed to reduce the manual work for updating and make it easier for the user or admin of the application system. "Application for Hardware Equipment Management System" is useful for administrator to keep the records of Users, feedback, Sales, suppliers, stock, contact etc., Reports are One of the best advantages of Hardware Management System application development. It provides detail information at any time through all over the world. Due to this advantage, anyone can access information related to subject.

Additionally, having a user-friendly interface and the ability to generate reports will provide valuable insights for better decision-making.

8.2 Future Enhancement

We will make up our corrections and try to develop more accurate for our application system.

- Implement online payment method.
- Product tracking system.
- Product replacement policy for defect products.
- We will try to make it more responsive.

Chapter 9
Bibliography

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1. **Book Name:** Database Management System.
2. **Author:** Raghunath Ramkrishnan
3. **Edition:** Third
4. **ISBN:** 0072465638
5. **Publication:** MC Graw Hill.

PHP & MySQL Web Development

1. **Book Name:** PHP & MySQL Web Development
2. **Author:** Laura Thomson, Luke Welling
3. **Edition:** Fifth
4. **ISBN:** 027596759X
5. **Publication:** Addison Wesley

HTML, CSS & JavaScript Web Plublishing

1. **Book Name:** HTML, CSS & JavaScript Web Plublishing
2. **Author:** Laura Lemay, Rafe Colbum
3. **Edition:** First
4. **ISBN:** 9788183335157
5. **Publication:** BPB Publications

B] Reference Websites:

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www.codeproject.com