



**TECHNO MAIN**  
S A L T L A K E

MAULANA ABUL KALAM AZAD  
UNIVERSITY OF TECHNOLOGY,  
WEST BENGAL



# **Inventory Management System**

**A Project Report for Minor Project  
Submitted By**

**Devanjana Ghosh (30901220147)  
Ananya Chatterjee (30901220149)  
Ayan Pradhan (30901220150)  
Deepsikha Santra (30901220166)**

***In partial fulfilment for the award of the degree*  
Of  
Bachelor of Computer Application**

**College Code: 309**

**Subject Code: BCAD581**

**Guide Name: Anindya Mukherjee**

**Session:2020-2023**

# **Techno Main Salt Lake**

## **Maulana Abul Kalam Azad University of Technology (MAKAUT)**

### **FACULTY OF MCA & BCA DEPARTMENT**

#### **Certificate of Recommendation**

This is to certify that all the group members have completed their project work titled “Minor Project on: Inventory Management System”, under the direct supervision and guidance of Anindya Mukherjee. We are satisfied with his work, which is being presented for the partial fulfillment of the degree of Bachelor of Computer Application (BCA), Maulana Abul Kalam Azad University of Technology (MAKAUT), Kolkata 70032.

---

(Name of the teacher in charge of project)

Date: 23/11/2022

---

Monalisa Banerjee

HOD

BCA

Techno Main Salt Lake

Date: 23/11/2022

# **Techno Main Salt Lake**

## **Maulana Abul Kalam Azad University of Technology (MAKAUT)**

### **FACULTY OF MCA & BCA DEPARTMENT**

#### **Certificate of Approval**

The foregoing Minor Project is hereby approved as a creditable study of Bachelor of Computer Application (BCA) and presented in a manner satisfactory to warrant its acceptance as a pre-requisite to the degree for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or any statement made, opinion expressed or conclusion therein but approve this Minor Project only for which it is submitted.

---

(Signature of the examiner)

Date: 23/11/2022

# CERTIFICATION

I hereby declare that the project work being presented in the project proposal entitled “**INVENTORY MANAGEMENT SYSTEM**” in partial fulfillment of the requirements for the award of the degree of **BACHELOR IN COMPUTER APPLICATION**. The matter embodied in this project work has not been submitted elsewhere for the award of any degree of our knowledge and belief.

Date: 23/11/2022

Name and roll number of the students:

1. Devanjana Ghosh – 30901220147
2. Ananya Chatterjee – 30901220149
3. Ayan Pradhan - 30901220150
4. Deepshika Santra – 30901220166

# ACKNOWLEDGEMENT

Success of any project depends largely on the encouragement and guidelines of many others. We take this sincere opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project work.

We highly indebted to our mentor Anindya Mukherjee Sir for his guidance and constant supervision as well as for providing necessary information regarding the project & also for his support in completing the project.

We would like to express our gratitude towards our parents & our university, college teachers for their kind co-operation and encouragement which helped us in completion of this project.

Our thanks and appreciations also go to the people who have willingly helped us out with their abilities.

Words are inadequate in offering our thanks to the other, for their encouragement and co-operation in carrying out this project work. The guidance and support received from all the members and who are contributing to this project, was vital for the success of this project.

# TABLE OF CONTENTS

<i><b>S. No</b></i>	<i><b>Name of the Topic</b></i>	<i><b>Page No.</b></i>
1	Introduction <ul style="list-style-type: none"> <li>• What is an Inventory Management System?</li> <li>• Scope</li> </ul>	7
2	SRS (Software Requirement Specification)	8
3	System Design <ul style="list-style-type: none"> <li>• COCOMO (Constructive Cost Model)</li> <li>• ERD (Entity Relationship Diagram)</li> <li>• DFD (Data Flow Diagram)</li> <li>• Use Case Diagram</li> <li>• Database Design</li> </ul>	9-10 11 12-13 14 15-17
4	Testing	18-20
5	System Design	21-41
6	Limitations	42
7	Future Scope and Further Enhancement	42
8	Conclusion	43
9	Bibliography	44

# Introduction

## What is Inventory Management System?

Inventory management systems control the process of managing all incoming and outgoing products in a departmental store. Inventory management system reduce time on stock management tasks.

Inventory management plays an important role to manage products, customer & supplier details for a departmental store.

### **IManager:**



IManager Departmental store software to manage and sell your daily essential Medicine, Food, Fashion & Garment, Footwears, Electronics. IManager is a “many problem one solution” software. By using this software, we can manage products, suppliers and customers details in an efficient and reliable manner.

### **Scope:**

- Easy to add and maintain records of available products.
- Easily add and maintain customer and supplier details.
- Generate and print invoice and bills in an efficient manner.
- Provides a convenient solution of billing pattern.

# **SRS (Software Requirements Specification)**

## ➤ Hardware Requirements:

- RAM: 2 GB or above
- Hard Disk: 10 GB
- Monitor: 14'' VGA
- Mouse
- Printer: To print Bill

## ➤ Software Requirements:

- Operating System: Windows 8.1 or above
- Back end: MySQL, Java SE 18

## **Technology used:**

- Swing,
- AWT,
- Java ( Java SE 18),
- JDBC(MySql-connector-java-8.0.31.jar),
- MySQL

## **System Interface**

The software is to be developed in J2SE environment using Swing, AWT and JDBC.

## **User Interface**

The client interacts with the system through Swing frames.

## **Communication Interface**

The communication between the front-end and the back-end is through JDBC.



# System Design

## COCOMO (Constructive Cost Model)

Boehm proposed COCOMO (Constructive Cost Estimation Model) in 1981. COCOMO is one of the most generally used software estimation models in the world. COCOMO predicts the efforts and schedule of a software product based on the size of the software.

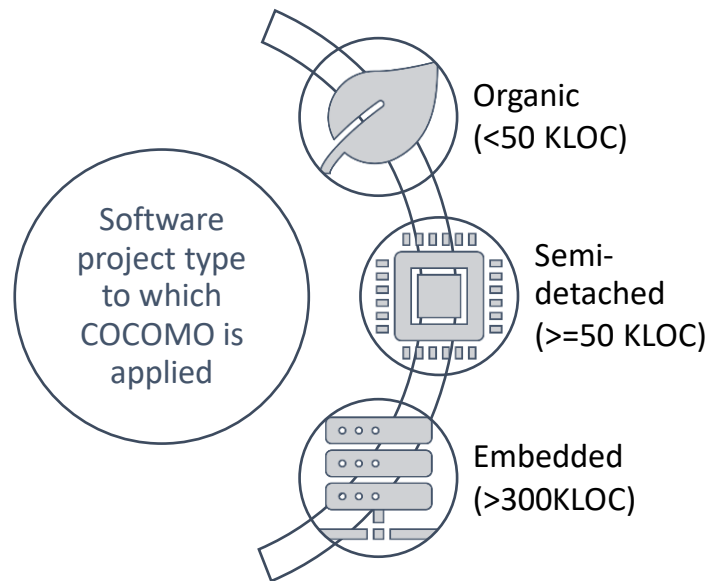
**In COCOMO, projects are categorized into three types:**

1. Organic
2. Semidetached
3. Embedded

**1.Organic:** A development project can be treated of the organic type, if the project deals with developing a well-understood application program, the size of the development team is reasonably small, and the team members are experienced in developing similar methods of projects. **Examples** of this type of projects are simple business systems, simple inventory management systems, and data processing systems.

**2. Semidetached:** A development project can be treated with semidetached type if the development consists of a mixture of experienced and inexperienced staff. Team members may have finite experience in related systems but may be unfamiliar with some aspects of the order being developed. **Example** of Semidetached system includes developing a new operating system (OS), a Database Management System (DBMS), and complex inventory management system.

**3. Embedded:** A development project is treated to be of an embedded type, if the software being developed is strongly coupled to complex hardware, or if the stringent regulations on the operational method exist. **For Example:** ATM, Air Traffic control.



Type of Software	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>
Organic	2.4	1.05	2.5	0.38
Semi-detached	3.0	1.12	2.5	0.35
Embedded	3.6	1.20	2.5	0.32

### **Basic COCOMO:**

Total lines of code = 2600  
 $= 2600/1000 \text{ KLOC}$   
 $= 2.6 \text{ KLOC}$

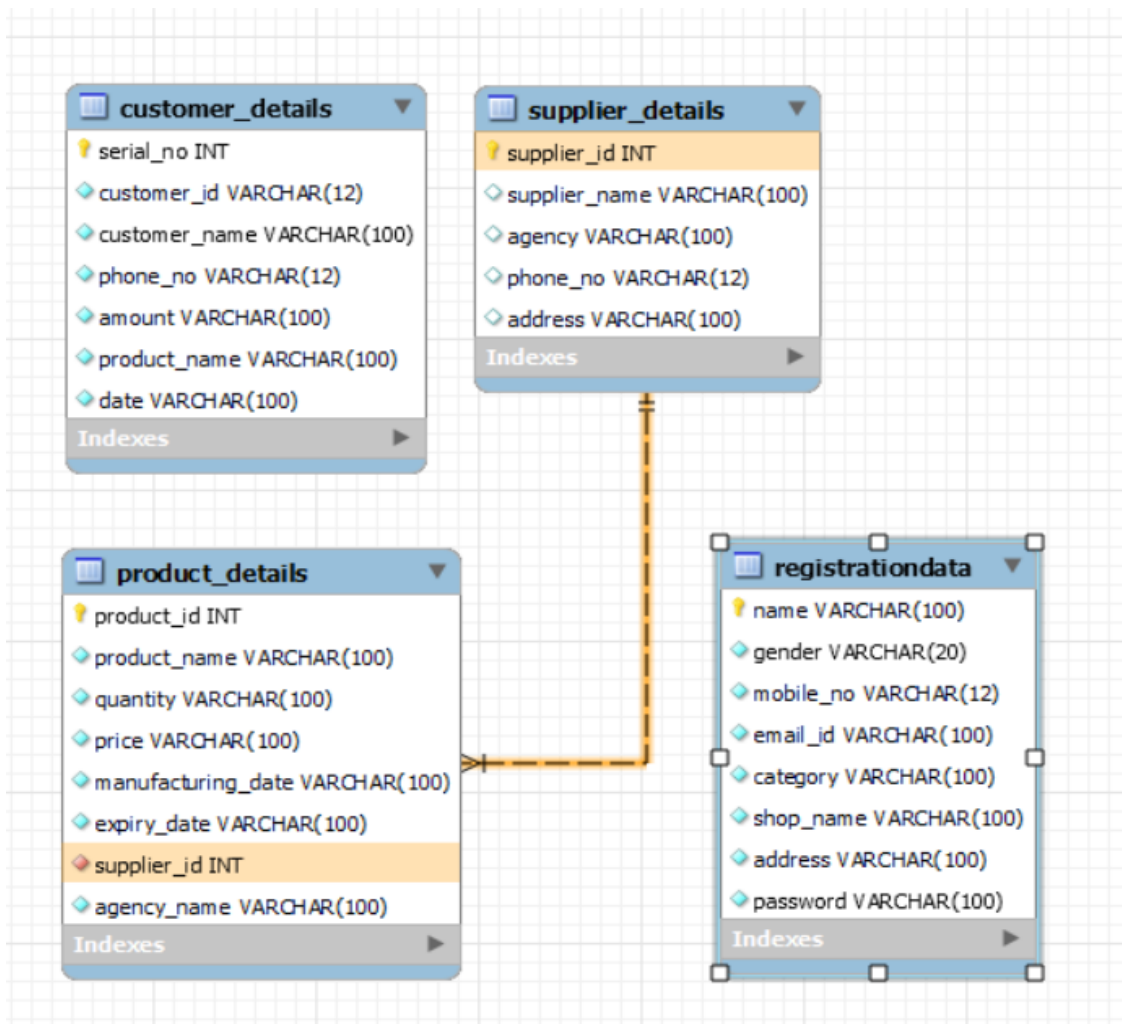
Hence, the software falls into the **Organic** type.

**Effort (EI) = a x (size of software in KLOC)<sup>b</sup> PM**  
 $= 2.4 \times (2.6)^{1.05} \text{ PM}$   
 $= 6.5 \text{ PM}$

**Development Time( T<sub>dev</sub>) = c x (EI)<sup>d</sup> Months**  
 $= 2.5 \times (6.5)^{0.38} \text{ Months}$   
 $= 5.1 \text{ Months}$

## ERD (Entity Relationship Diagram)

The collection of tables of data is called a database. Entity relationship model is used here to obtain in a conceptual model of data used in this case study. In software engineering, an ER model is commonly formed to represent things a business needs to remember in order to perform business processes. Consequently, the ER model becomes an abstract data model, that defines a data or information structure which can be implemented in a database, typically a relational database.



## DFD (Data Flow Diagram)

A data flow diagram is a graphical view of how data is processed in a system in terms of input and output. DFD is a graphical representation of the data. It identifies the path the data will take, what process will take place to it from one to another.

### 0 Level DFD:

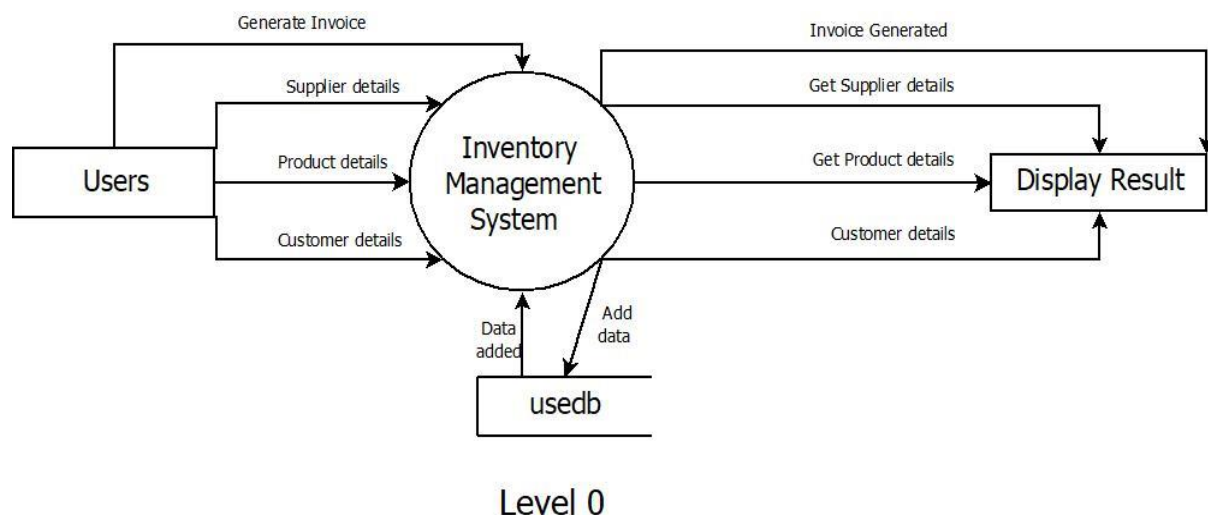
The 0 level DFD known as **context level** data flow diagram. The context level data flow diagram (DFD) is describe the whole system. The (o) level DFD describe the all user modules who run the system.

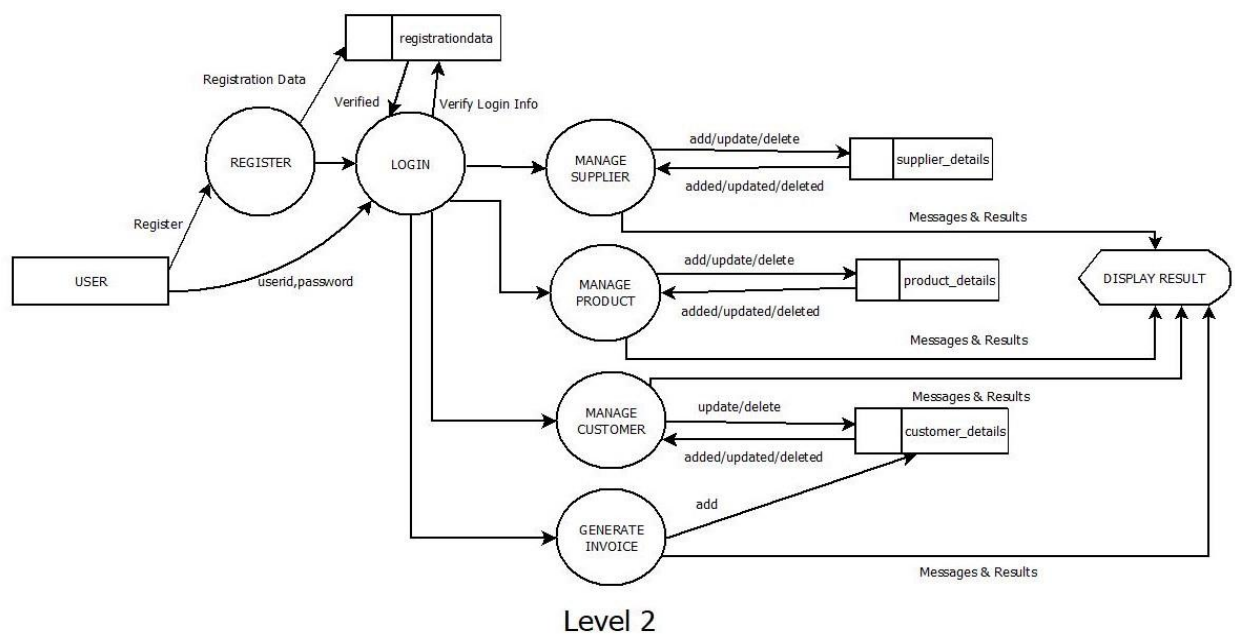
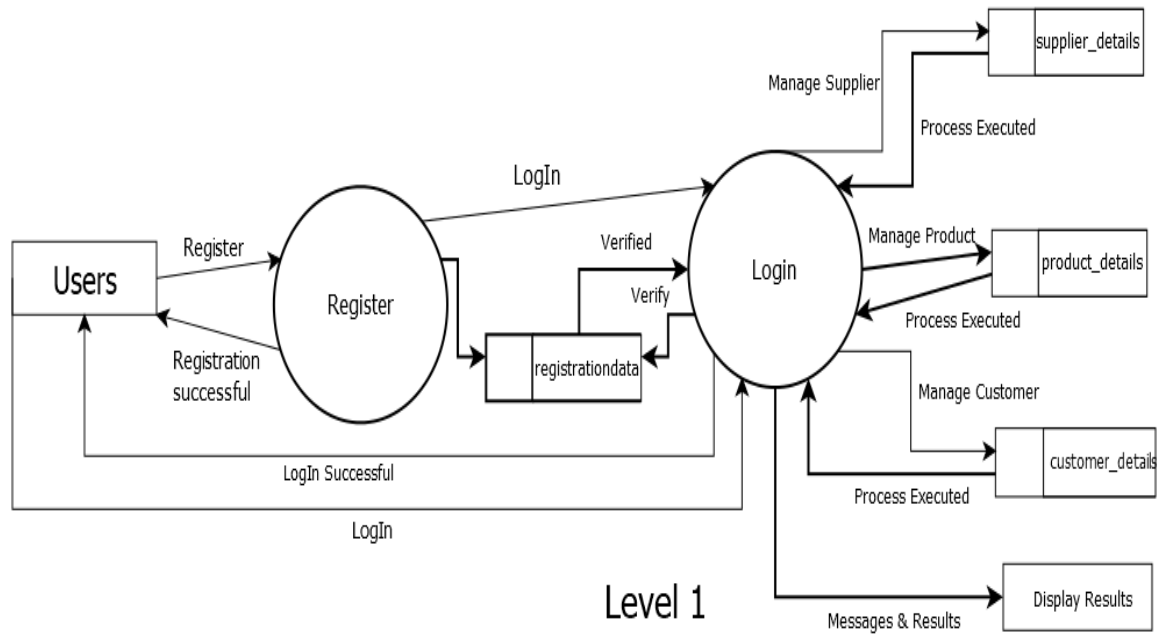
### 1-level DFD:

In 1-level DFD, the context diagram is decomposed into multiple bubbles/processes. In this level, we highlight the main functions of the system and breakdown the high-level process of 0-level DFD into subprocesses.

### 2-level DFD:

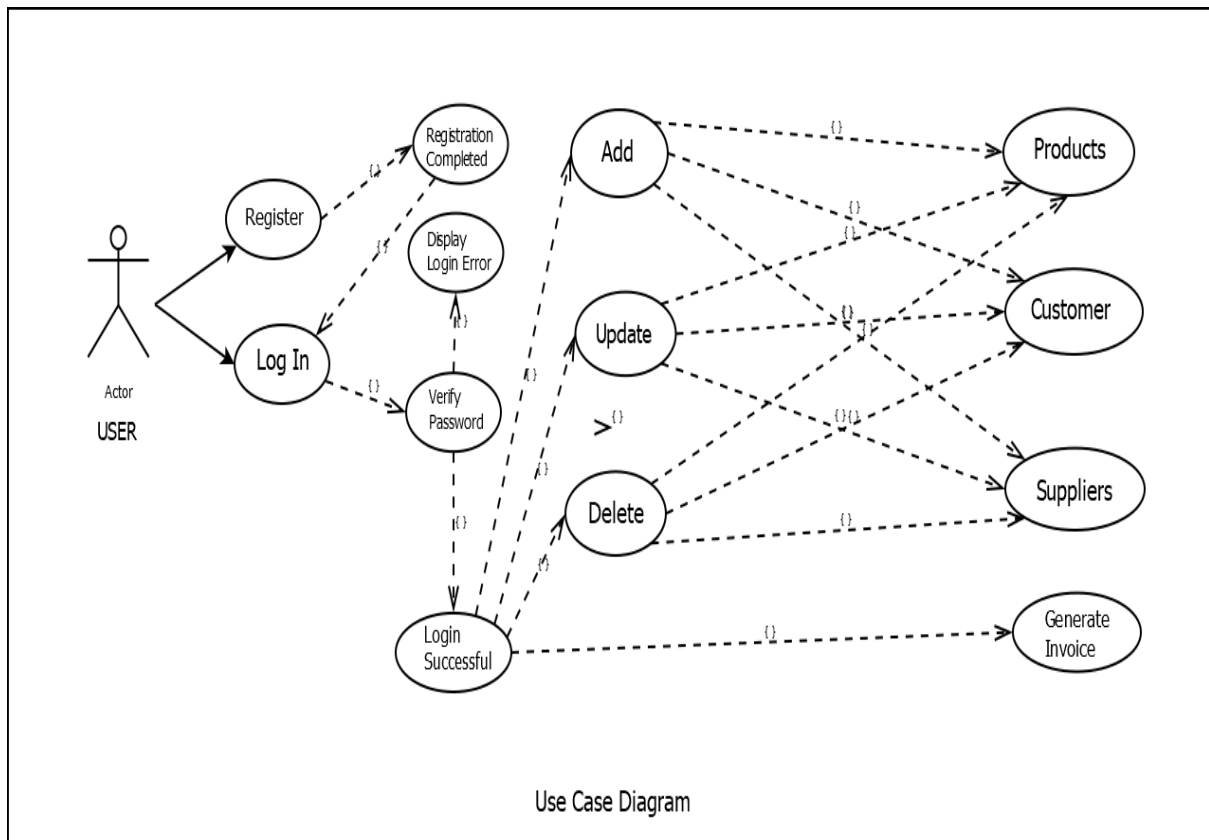
The 2-level goes one step deeper into parts of 1-level DFD. It can be used to plan or record the specific/necessary detail about the system's functioning.





# Use Case Diagram

A use case diagram is used to represent the dynamic behavior of a system. It encapsulates the system's functionality by incorporating use cases, actors, and their relationships.



## Database Design

Here is the database structure of this project: The name of the database is “usedb”.

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| usedb |
+-----+
5 rows in set (0.01 sec)
```

```
mysql> use usedb;
Database changed
mysql> show tables;
+-----+
| Tables_in_usedb |
+-----+
| customer_details |
| product_details |
| registrationdata |
| supplier_details |
+-----+
4 rows in set (0.01 sec)
```

‘usedb’ database has four tables; ‘registrationdata’, ‘supplier\_details’, ‘product\_details’ & ‘customer\_details’. Here, the table structures are shown below:

```
mysql> desc supplier_details;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| supplier_id | int | NO | PRI | NULL | |
| supplier_name | varchar(100) | NO | | NULL | |
| agency | varchar(100) | NO | | NULL | |
| phone_no | varchar(12) | NO | | NULL | |
| address | varchar(100) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> desc product_details;
```

Field	Type	Null	Key	Default	Extra
product_id	int	NO	PRI	NULL	
product_name	varchar(100)	NO		NULL	
quantity	varchar(100)	NO		NULL	
price	varchar(100)	NO		NULL	
manufacturing_date	varchar(100)	NO		NULL	
expiry_date	varchar(100)	NO		NULL	
supplier_id	int	NO	MUL	NULL	
agency_name	varchar(100)	NO		NULL	

```
8 rows in set (0.00 sec)
```

```
mysql> desc customer_details;
```

Field	Type	Null	Key	Default	Extra
serial_no	int	NO	PRI	NULL	auto_increment
customer_id	varchar(12)	NO		NULL	
customer_name	varchar(100)	NO		NULL	
phone_no	varchar(12)	NO		NULL	
amount	varchar(100)	NO		NULL	
product_name	varchar(100)	NO		NULL	
date	varchar(100)	NO		NULL	

```
7 rows in set (0.01 sec)
```

```
mysql> desc registrationdata;
```

Field	Type	Null	Key	Default	Extra
name	varchar(100)	NO	PRI	NULL	
gender	varchar(20)	NO		NULL	
mobile_no	varchar(12)	NO		NULL	
email_id	varchar(100)	NO		NULL	
category	varchar(100)	NO		NULL	
shop_name	varchar(100)	NO		NULL	
address	varchar(100)	NO		NULL	
password	varchar(100)	NO		NULL	

```
8 rows in set (0.00 sec)
```

```
mysql> select * from registrationdata;
```

name	gender	mobile_no	email_id	category	shop_name	address	password
Ayan Pradhan	male	7589634100	ayan67@gmail.com	Food	Food & Confectionery	Kolkata	pwd

```
1 row in set (0.00 sec)
```



```
mysql> select * from supplier_details;
```

supplier_id	supplier_name	agency	phone_no	address
32581	Devanjana Ghosh	Dey Ent.	7896321450	Andul
34013	Ananya Chatterjee	New Bikenery	7896451230	Balihalt

2 rows in set (0.00 sec)

```
mysql> select * from product_details;
```

product_id	product_name	quantity	price	manufacturing_date	expiry_date	supplier_id	agency_name
12405	Lays	2000	10	22/07/2022	17/05/2025	32581	Dey Ent.
14377	Kurkure	980	20	22/07/2022	12/05/2023	32581	Dey Ent.

2 rows in set (0.00 sec)

```
mysql> select * from customer_details;
```

serial_no	customer_id	customer_name	phone_no	amount	product_name	date
4	9679758412	Ayan Pradhan	9679758412	440.0	Kurkure,	17/11/2022

1 row in set (0.00 sec)

# Testing

Tests are frequently grouped by where they are added in the software development process, or by the level of specificity of the test.

- **Unit testing:**

Unit testing refers to tests that verify the functionality of a specific section of code, usually at the function level. In an object-oriented environment, this is usually at the class level, and the minimal unit tests include the constructors and destructors.

These types of tests are usually written by developers as they work on code (white-box style), to ensure that the specific function is working as expected. One function might have multiple tests, to catch corner cases or other branches in the code. building blocks the software uses work independently of each other.

Unit testing alone cannot verify the functionality of a piece of software, but rather is used to assure that the Unit testing is also called *component testing*.

<b>Tested By:</b>	Ayan Pradhan			
<b>Test Type:</b>	Unit Testing			
<b>Modules /Functionalities to be tested</b>	<b>Input</b>	<b>Output</b>	<b>Test Condition</b>	<b>Result</b>
Registration	Registration details such as name, gender, mobile no., email Id, category, shop name and password	<i>Registration Successful</i> message	An error message should be displayed if the any of the fields are incorrect empty/invalid mobile no. or name/password and confirm	Passed

			password not same: <i>Enter all the details/Enter wrong data/Password not matched</i>	
Login	Login details: User id and password	Login Successful message and log into the dashboard	An error message should be displayed if the any of the fields are incorrect or empty: <i>Invalid username or password</i>	Passed
Add Supplier details	Supplier info	Added Successfully message and shows in the table	An error message should be displayed if any of the fields are empty/contain invalid name or Phone no.: <i>Enter all details/Invalid name or mobile no.</i>	Passed
Add/Update Product Details	Product info	Added/Updated Successfully message and shows in the table	An error message should be displayed if any of the fields are empty/price and quantity are characters: <i>Enter all details/Price and quantity cannot be characters</i>	Passed
Update Supplier/ Customer Details	Supplier/ Customer info	Updated Successfully message and shows in the table	An error message should be displayed if any of the fields are empty/contain invalid name or phone no.: <i>Enter all details/Invalid name or mobile no.</i>	Passed
Delete Supplier/Product/	Supplier/Product /Customer info	Deleted Successfully		Passed

<b>Customer Details</b>		<b>message and deleted from the table</b>		
<b>Generate Invoice</b>	<b>Product details, quantity,tax, customer phone no and name</b>	<b><i>Invoice Generated</i> message and print option</b>	<b>An error message should be displayed if any of the fields are empty: <i>Enter all details</i></b>	<b>Passed</b>
<b>Printing Invoice</b>	<b>Click on the Print button</b>	<b><i>Invoice Printed</i> message and a pdf file will be created</b>		<b>Passed</b>
<b>Logout</b>	<b>Click on the Logout button in dashboard</b>	<b>Return to the Welcome page</b>		<b>Passed</b>

# Screen Design



## Source Code:

```
package minorProject;

import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.SwingConstants;

import java.awt.Color;
import java.awt.Font;
import java.awt.Image;
import java.awt.Toolkit;

import javax.swing.ImageIcon;

public class Welcome{

    JFrame wlcFrame;
    /**
     * Launch the application.
     */
}
```

```

public static void main(String[] args) {
    EventQueue.invokeLater(new Runnable() {
        public void run() {
            try {
                Welcome window = new Welcome();
                window.wlcFrame.setVisible(true);
            } catch (Exception e) {
                e.printStackTrace();
            }
        }
    });
}

/**
 * Create the application.
 */
public Welcome() {
    initialize();
}

/**
 * Initialize the contents of the frame.
 */
private void initialize() {
    Image icon = Toolkit.getDefaultToolkit().getImage("C:\\Users\\ayanp\\eclipse-
workspace for GUI\\InventoryManagementSystem\\src\\1668418175440.jpeg");
    wlcFrame = new JFrame();
    wlcFrame.setTitle("IManager");
    wlcFrame.getContentPane().setBackground(Color.WHITE);
    wlcFrame.setBounds(100, 100, 500, 350);
    wlcFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    wlcFrame.setResizable(false);
    wlcFrame.setIconImage(icon);
    wlcFrame.getContentPane().setLayout(null);

    JButton btnNewButton = new JButton("Login");
    btnNewButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            Login lg = new Login();
            lg.lgFrame.setVisible(true);
            wlcFrame.dispose();
        }
    });
    btnNewButton.setFocusable(false);
    btnNewButton.setBackground(new Color(242, 156, 111));
    btnNewButton.setFont(new Font("Times New Roman", Font.BOLD | Font.ITALIC,
22));

    btnNewButton.setBounds(42, 75, 130, 32);
    wlcFrame.getContentPane().add(btnNewButton);

    JButton btnNewButton_1 = new JButton("Register");
    btnNewButton_1.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            Register rg = new Register();
            rg.rgFrame.setVisible(true);

```

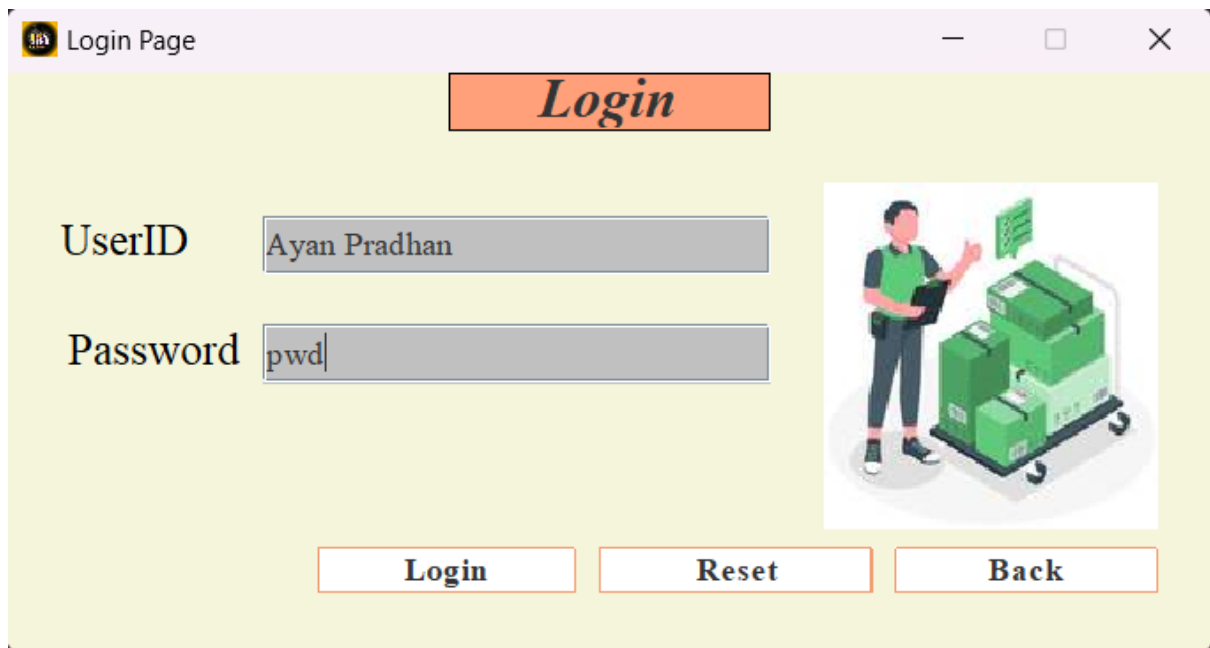
```

        wlcFrame.dispose();
    }
});
btnNewButton_1.setFocusable(false);
btnNewButton_1.setBackground(new Color(242, 156, 111));
btnNewButton_1.setFont(new Font("Times New Roman", Font.BOLD |
Font.ITALIC, 22));
btnNewButton_1.setBounds(42, 129, 130, 39);
wlcFrame.getContentPane().add(btnNewButton_1);

JLabel lblNewLabel_1 = new JLabel("");
lblNewLabel_1.setIcon(new ImageIcon("C:\\Users\\ayanp\\eclipse-workspace for
GUI\\InventoryManagementSystem\\src\\MinorProject.png"));
lblNewLabel_1.setBounds(211, 50, 250, 221);
wlcFrame.getContentPane().add(lblNewLabel_1);

JLabel lblNewLabel = new JLabel("Welcome To IManager");
lblNewLabel.setBounds(0, 0, 486, 30);
wlcFrame.getContentPane().add(lblNewLabel);
lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
lblNewLabel.setFont(new Font("Times New Roman", Font.BOLD, 25));
lblNewLabel.setBackground(Color.BLACK);
lblNewLabel.setForeground(Color.BLACK);
    }
}

```



## Source Code:

```
package minorProject;

import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.SwingConstants;
import java.awt.Font;
import java.awt.Image;
import java.awt.Toolkit;
import java.awt.Color;
import javax.swing.JPanel;
import javax.swing.JTextField;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.ImageIcon;
import javax.swing.border.LineBorder;

public class Login {

    JFrame lgFrame;
    private JTextField textField;
    private JTextField textField_1;

    /**
```



```

    * Launch the application.
    */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    Login window = new Login();
                    window.lgFrame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the application.
     */
    public Login() {
        initialize();
    }

    /**
     * Initialize the contents of the frame.
     */
    private void initialize() {
        Image icon = Toolkit.getDefaultToolkit().getImage("C:\\Users\\ayanp\\eclipse-
workspace for GUI\\InventoryManagementSystem\\src\\1668418175440.jpeg");
        lgFrame = new JFrame();
        lgFrame.setTitle("Login Page");
        lgFrame.getContentPane().setBackground(new Color(245, 245, 220));
        lgFrame.setBounds(100, 100, 560, 300);
        lgFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        lgFrame.setResizable(false);
        lgFrame.setIconImage(icon);
        lgFrame.getContentPane().setLayout(null);

        JPanel panel = new JPanel();
        panel.setBackground(new Color(255, 160, 122));
        panel.setBorder(new LineBorder(Color.BLACK, 1, true));
        panel.setBounds(200, 0, 146, 27);
        lgFrame.getContentPane().add(panel);
        panel.setLayout(null);

        JLabel lblNewLabel = new JLabel("Login");
        lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
        lblNewLabel.setBounds(39, 0, 66, 25);
        panel.add(lblNewLabel);
        lblNewLabel.setBackground(Color.PINK);
        lblNewLabel.setFont(new Font("Times New Roman", Font.BOLD | Font.ITALIC,
25));

        JLabel lblNewLabel_1 = new JLabel("UserID");
        lblNewLabel_1.setForeground(Color.BLACK);
        lblNewLabel_1.setBackground(new Color(255, 200, 0));

```

```

lblNewLabel_1.setFont(new Font("Times New Roman", Font.PLAIN, 20));
lblNewLabel_1.setBounds(25, 64, 81, 27);
lgFrame.getContentPane().add(lblNewLabel_1);

textField = new JTextField("Enter name");
textField.setFont(new Font("Times New Roman", Font.PLAIN, 15));
textField.setBackground(Color.LIGHT_GRAY);
textField.setBounds(116, 65, 230, 27);
lgFrame.getContentPane().add(textField);
textField.setColumns(10);

JLabel lblNewLabel_2 = new JLabel("Password");
lblNewLabel_2.setForeground(Color.BLACK);
lblNewLabel_2.setFont(new Font("Times New Roman", Font.PLAIN, 20));
lblNewLabel_2.setHorizontalAlignment(SwingConstants.CENTER);
lblNewLabel_2.setBounds(28, 113, 78, 27);
lgFrame.getContentPane().add(lblNewLabel_2);

textField_1 = new JTextField("Enter password");
textField_1.setBackground(Color.LIGHT_GRAY);
textField_1.setFont(new Font("Times New Roman", Font.PLAIN, 15));
textField_1.setBounds(116, 114, 230, 27);
lgFrame.getContentPane().add(textField_1);
textField_1.setColumns(10);

JButton btnNewButton = new JButton("Login");
btnNewButton.setFocusable(false);
btnNewButton.setBackground(Color.WHITE);
btnNewButton.setFont(new Font("Times New Roman", Font.BOLD, 15));
btnNewButton.setBorder(new LineBorder(new Color(242, 156, 111), 1, true));
btnNewButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        Validation val = new Validation();
        if(val.isValidUser(textField.getText(), textField_1.getText())) {
            DashBoard db = new DashBoard();
            db.dbFrame.setVisible(true);
            lgFrame.dispose();
        }
        else {
            JOptionPane.showMessageDialog(null, "Invalid Username
or Password!!!", null, JOptionPane.WARNING_MESSAGE);
        }
    }
});
btnNewButton.setBounds(141, 215, 117, 21);
lgFrame.getContentPane().add(btnNewButton);

JButton btnNewButton_1 = new JButton("Reset");
btnNewButton_1.setFocusable(false);
btnNewButton_1.setBackground(Color.WHITE);
btnNewButton_1.setFont(new Font("Times New Roman", Font.BOLD, 15));
btnNewButton_1.setBorder(new LineBorder(new Color(242, 156, 111), 1, true));
btnNewButton_1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        textField.setText("");
    }
});

```

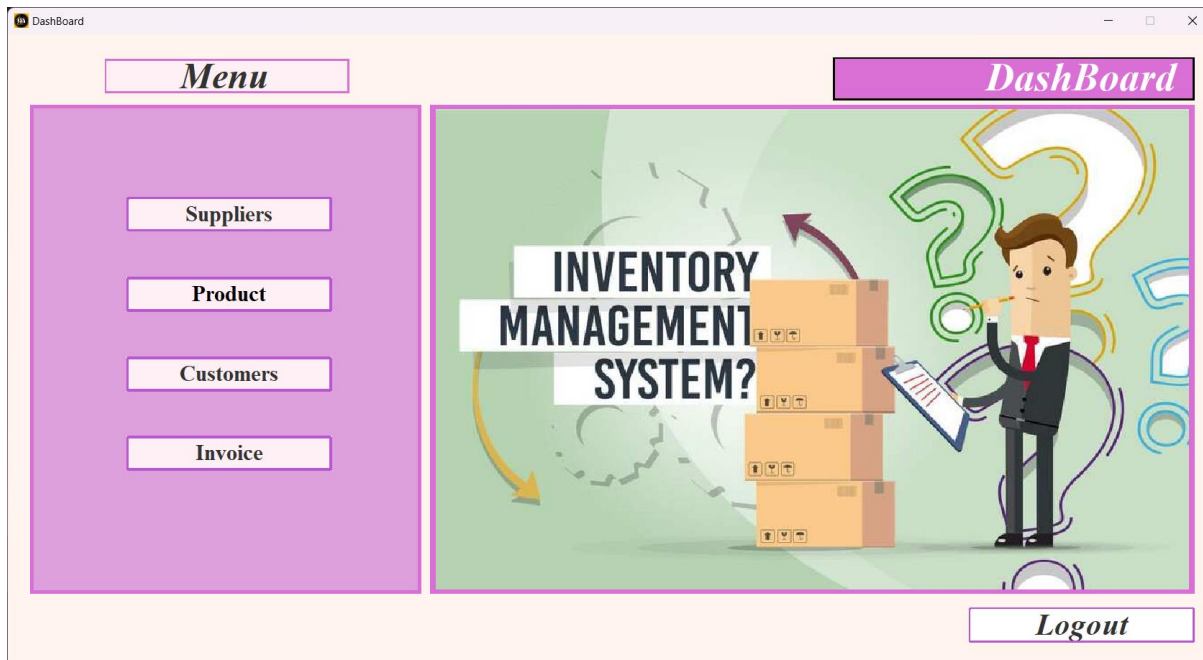
```

        textField_1.setText("");
    }
});
btnNewButton_1.setBounds(268, 215, 124, 21);
lgFrame.getContentPane().add(btnNewButton_1);

JButton btnNewButton_2 = new JButton("Back");
btnNewButton_2.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        Welcome wlc = new Welcome();
        wlc.wlcFrame.setVisible(true);
        lgFrame.dispose();
    }
});
btnNewButton_2.setBackground(Color.WHITE);
btnNewButton_2.setFocusable(false);
btnNewButton_2.setFont(new Font("Times New Roman", Font.BOLD, 15));
btnNewButton_2.setBorder(new LineBorder(new Color(242, 156, 111), 1, true));
btnNewButton_2.setBounds(402, 215, 119, 21);
lgFrame.getContentPane().add(btnNewButton_2);

JLabel lblNewLabel_3 = new JLabel("New label");
lblNewLabel_3.setIcon(new ImageIcon("C:\\Users\\ayanp\\eclipse-workspace for
GUI\\InventoryManagementSystem\\src\\IMS (1).jpg"));
lblNewLabel_3.setBounds(370, 50, 151, 157);
lgFrame.getContentPane().add(lblNewLabel_3);
}
}

```



## Source Code:

```
package minorProject;

import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.ImageIcon;
import javax.swing.JPanel;
import javax.swing.border.LineBorder;

import java.awt.Color;
import javax.swing.JButton;
import java.awt.Font;
import java.awt.Image;
import java.awt.Toolkit;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.SwingConstants;

public class DashBoard {

    JFrame dbFrame;

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
```

```

        DashBoard window = new DashBoard();
        window.dbFrame.setVisible(true);
    } catch (Exception e) {
        e.printStackTrace();
    }
}

});

}

/**
 * Create the application.
 */
public DashBoard() {
    initialize();
}

/**
 * Initialize the contents of the frame.
 */
private void initialize() {
    Image icon = Toolkit.getDefaultToolkit().getImage("C:\\Users\\ayanp\\eclipse-
workspace for GUI\\InventoryManagementSystem\\src\\1668418175440.jpeg");
    dbFrame = new JFrame("DashBoard");
    dbFrame.setResizable(false);
    dbFrame.getContentPane().setBackground(new Color(255, 245, 238));
    dbFrame.setBounds(100, 50, 1356, 742);
    dbFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    dbFrame.setIconImage(icon);
    dbFrame.getContentPane().setLayout(null);

    JPanel panel = new JPanel();
    panel.setBounds(470, 79, 850, 544);
    panel.setBackground(new Color(218, 112, 214));
    dbFrame.getContentPane().add(panel);

    JLabel lblNewLabel = new JLabel("");
    panel.add(lblNewLabel);
    lblNewLabel.setIcon(new ImageIcon("C:\\Users\\ayanp\\eclipse-workspace for
GUI\\InventoryManagementSystem\\src\\DashBoard.jpg"));

    JPanel panel_2 = new JPanel();
    panel_2.setBorder(new LineBorder(new Color(218, 112, 214), 4));
    panel_2.setBackground(new Color(221, 160, 221));
    panel_2.setBounds(25, 79, 435, 544);
    dbFrame.getContentPane().add(panel_2);
    panel_2.setLayout(null);

    JButton btnNewButton = new JButton("Product");
    btnNewButton.setBounds(107, 191, 229, 39);
    panel_2.add(btnNewButton);
    btnNewButton.setFocusable(false);
    btnNewButton.setForeground(new Color(0, 0, 0));
    btnNewButton.setBorder(new LineBorder(new Color(186, 85, 211), 3, true));
    btnNewButton.setBackground(new Color(255, 240, 245));
    btnNewButton.setFont(new Font("Times New Roman", Font.BOLD, 25));

```

```

btnNewButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        Products pr = new Products();
        pr.frame.setVisible(true);
        dbFrame.dispose();
    }
});

JButton btnNewButton_1 = new JButton("Customers");
btnNewButton_1.setBounds(107, 280, 229, 39);
panel_2.add(btnNewButton_1);
btnNewButton_1.setFocusable(false);
btnNewButton_1.setBorder(new LineBorder(new Color(186, 85, 211), 3, true));
btnNewButton_1.setBackground(new Color(255, 240, 245));
btnNewButton_1.setFont(new Font("Times New Roman", Font.BOLD, 25));
btnNewButton_1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        Customers cr = new Customers();
        cr.frame.setVisible(true);
        dbFrame.dispose();
    }
});

JButton btnNewButton_2 = new JButton("Suppliers");
btnNewButton_2.setBounds(107, 102, 229, 39);
panel_2.add(btnNewButton_2);
btnNewButton_2.setFocusable(false);
btnNewButton_2.setBorder(new LineBorder(new Color(186, 85, 211), 3, true));
btnNewButton_2.setBackground(new Color(255, 240, 245));
btnNewButton_2.setFont(new Font("Times New Roman", Font.BOLD, 25));
btnNewButton_2.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        Suppliers sr = new Suppliers();
        sr.frame.setVisible(true);
        dbFrame.dispose();
    }
});

JButton btnNewButton_4 = new JButton("Invoice");
btnNewButton_4.setBounds(107, 368, 229, 39);
panel_2.add(btnNewButton_4);
btnNewButton_4.setFocusable(false);
btnNewButton_4.setBorder(new LineBorder(new Color(186, 85, 211), 3, true));
btnNewButton_4.setBackground(new Color(255, 240, 245));
btnNewButton_4.setFont(new Font("Times New Roman", Font.BOLD, 25));
btnNewButton_4.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        Invoice invoice = new Invoice();
        invoice.ivFrame.setVisible(true);
        dbFrame.dispose();
    }
});

JButton btnNewButton_5 = new JButton("Logout");

```

```

        btnNewButton_5.setFocusable(false);
        btnNewButton_5.setBorder(new LineBorder(new Color(186, 85, 211), 2, true));
        btnNewButton_5.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                Welcome wlc = new Welcome();
                wlc.wlcFrame.setVisible(true);
                dbFrame.dispose();
            }
        });
        btnNewButton_5.setBackground(Color.WHITE);
        btnNewButton_5.setFont(new Font("Times New Roman", Font.BOLD |
Font.ITALIC, 34));
        btnNewButton_5.setBounds(1069, 638, 251, 39);
        dbFrame.getContentPane().add(btnNewButton_5);

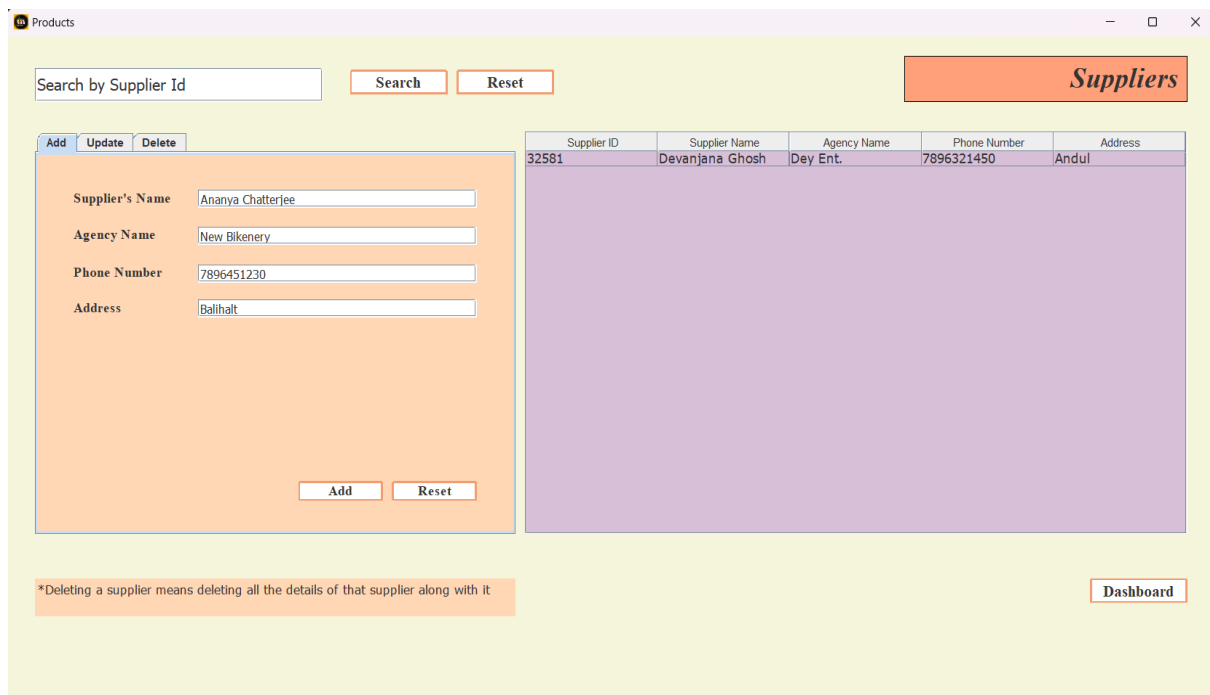
        JLabel lblNewLabel_1 = new JLabel("DashBoard");
        lblNewLabel_1.setForeground(new Color(255, 255, 255));
        lblNewLabel_1.setFont(new Font("Times New Roman", Font.BOLD | Font.ITALIC,
45));
        lblNewLabel_1.setBounds(1087, 28, 229, 40);
        dbFrame.getContentPane().add(lblNewLabel_1);

        JPanel panel_1 = new JPanel();
        panel_1.setBorder(new LineBorder(new Color(0, 0, 0), 2));
        panel_1.setBackground(new Color(218, 112, 214));
        panel_1.setBounds(918, 26, 402, 48);
        dbFrame.getContentPane().add(panel_1);

        JLabel lblNewLabel_2 = new JLabel("Menu");
        lblNewLabel_2.setBackground(new Color(255, 105, 180));
        lblNewLabel_2.setFont(new Font("Times New Roman", Font.BOLD | Font.ITALIC,
40));
        lblNewLabel_2.setHorizontalAlignment(SwingConstants.CENTER);
        lblNewLabel_2.setBounds(180, 28, 122, 38);
        dbFrame.getContentPane().add(lblNewLabel_2);

        JPanel panel_3 = new JPanel();
        panel_3.setBorder(new LineBorder(new Color(218, 112, 214), 2));
        panel_3.setBackground(new Color(255, 240, 245));
        panel_3.setBounds(108, 28, 272, 38);
        dbFrame.getContentPane().add(panel_3);
    }
}

```



## Source Code:

```
package minorProject;

import java.awt.EventQueue;

import javax.swing.JFrame;
import java.awt.Color;
import javax.swing.JTextField;
import javax.swing.border.LineBorder;
import javax.swing.table.DefaultTableModel;
import javax.swing.JButton;
import java.awt.Font;
import java.awt.Image;
import java.awt.Toolkit;

import javax.swing.JTabbedPane;
import javax.swing.JPanel;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.JTable;
import javax.swing.JScrollPane;
import java.awt.event.ActionListener;
import java.awt.event.MouseAdapter;
import java.awt.event.MouseEvent;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.awt.event.ActionEvent;
import javax.swing.JTextPane;
import javax.swing.SwingConstants;
import javax.swing.ListSelectionModel;

public class Suppliers {
```



```

JFrame frame;
private JTextField txtSearchById;
private JTextField textField_1;
private JTextField textField_2;
private JTextField textField_3;
private JTextField textField_4;
private JTextField textField_5;
private JTextField textField_6;
private JTextField textField_7;
private JTextField textField_8;
private JTextField textField_9;
private JTextField textField_10;
private JTable table;
Validation val = new Validation();
DBConnection dbconn = new DBConnection();
RandomNums rd = new RandomNums();
DefaultTableModel model = new DefaultTableModel();
/**
 * Launch the application.
 */
public void showData() {
    String [] cols = {"Supplier ID","Supplier Name","Agency Name","Phone
Number","Address"};
    String supplier_Name,agency,ph_no,supplier_address;
    int supplier_id;
    try {
        model.setColumnIdentifiers(cols);
        ResultSet rs = dbconn.showSupplier();
        while(rs.next()) {
            supplier_id = Integer.parseInt(rs.getString(1));
            supplier_Name = rs.getString(2);
            agency = rs.getString(3);
            ph_no = rs.getString(4);
            supplier_address= rs.getString(5);
            String [] rows =
{String.valueOf(supplier_id),supplier_Name,agency,ph_no,supplier_address};
            model.addRow(rows);
        }
    } catch (SQLException | ClassNotFoundException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
}

public static void main(String[] args) {
    EventQueue.invokeLater(new Runnable() {
        public void run() {
            try {
                Suppliers window = new Suppliers();
                window.frame.setVisible(true);
            } catch (Exception e) {
                e.printStackTrace();
            }
        }
    }
}

```

```

    });
}

/**
 * Create the application.
 */
public Suppliers() {
    initialize();
}

/**
 * Initialize the contents of the frame.
 */
private void initialize() {
    Image icon = Toolkit.getDefaultToolkit().getImage("C:\\Users\\ayanp\\eclipse-
workspace for GUI\\InventoryManagementSystem\\src\\1668418175440.jpeg");
    frame = new JFrame("Products");
    frame.getContentPane().setBackground(new Color(245, 245, 220));
    frame.setBounds(100, 50, 1344, 742);
    frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    frame.setIconImage(icon);
    frame.getContentPane().setLayout(null);

    txtSearchById = new JTextField("Search by Supplier Id");
    txtSearchById.setFont(new Font("Tahoma", Font.PLAIN, 17));
    txtSearchById.setBounds(31, 34, 316, 36);
    txtSearchById.setColumns(10);
    frame.getContentPane().add(txtSearchById);

    JButton btnNewButton = new JButton("Search");
    btnNewButton.setBackground(Color.WHITE);
    btnNewButton.setFont(new Font("Times New Roman", Font.BOLD, 17));
    btnNewButton.setBorder(new LineBorder(new Color(242, 156, 111), 2, true));
    btnNewButton.setBounds(377, 36, 107, 26);
    btnNewButton.setFocusable(false);
    btnNewButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            SearchResultSupplier sr = new SearchResultSupplier();
            sr.frame.setVisible(true);
            sr.showData(txtSearchById.getText());
        }
    });
    frame.getContentPane().add(btnNewButton);

    JButton btnReset = new JButton("Reset");
    btnReset.setBackground(Color.WHITE);
    btnReset.setFont(new Font("Times New Roman", Font.BOLD, 17));
    btnReset.setBorder(new LineBorder(new Color(242, 156, 111), 2, true));
    btnReset.setBounds(494, 36, 107, 26);
    btnReset.setFocusable(false);
    btnReset.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            txtSearchById.setText("");
        }
    });
}

```

```

frame.getContentPane().add(btnReset);

JTabbedPane tabbedPane = new JTabbedPane(JTabbedPane.TOP);
tabbedPane.setBounds(31, 101, 528, 426);
frame.getContentPane().add(tabbedPane);

// Add

JPanel panel = new JPanel();
panel.setBackground(new Color(255, 215, 181));
tabbedPane.addTab("Add", null, panel, null);
panel.setLayout(null);

JLabel lblProductName = new JLabel("Supplier's Name");
lblProductName.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblProductName.setBounds(40, 36, 113, 19);
panel.add(lblProductName);

JLabel lblQuantity = new JLabel("Agency Name");
lblQuantity.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblQuantity.setBounds(40, 75, 113, 19);
panel.add(lblQuantity);

JLabel lblPriceunit = new JLabel("Phone Number");
lblPriceunit.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblPriceunit.setBounds(40, 116, 113, 17);
panel.add(lblPriceunit);

JLabel lblManufacturingDate = new JLabel("Address");
lblManufacturingDate.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblManufacturingDate.setBounds(40, 153, 133, 17);
panel.add(lblManufacturingDate);

textField_2 = new JTextField();
textField_2.setHorizontalAlignment(SwingConstants.LEFT);
textField_2.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_2.setColumns(10);
textField_2.setBounds(177, 37, 306, 19);
panel.add(textField_2);

textField_3 = new JTextField();
textField_3.setHorizontalAlignment(SwingConstants.LEFT);
textField_3.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_3.setColumns(10);
textField_3.setBounds(177, 76, 306, 19);
panel.add(textField_3);

textField_4 = new JTextField();
textField_4.setHorizontalAlignment(SwingConstants.LEFT);
textField_4.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_4.setColumns(10);
textField_4.setBounds(177, 116, 306, 19);
panel.add(textField_4);

textField_9 = new JTextField();

```

```

textField_9.setHorizontalAlignment(SwingConstants.LEFT);
textField_9.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_9.setColumns(10);
textField_9.setBounds(177, 153, 306, 19);
panel.add(textField_9);

JButton btnNewButton_1 = new JButton("Add");
btnNewButton_1.setBackground(Color.WHITE);
btnNewButton_1.setFont(new Font("Times New Roman", Font.BOLD, 15));
btnNewButton_1.setBorder(new LineBorder(new Color(242, 156, 111), 2, true));
btnNewButton_1.setBounds(287, 345, 93, 21);
btnNewButton_1.setFocusable(false);
btnNewButton_1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {

        if(textField_2.getText().equals("")||textField_3.getText().equals("")||textField_4.getText().equals("")||textField_9.getText().equals("")) {
            JOptionPane.showMessageDialog(null, "Enter all details!!!",
            null, JOptionPane.WARNING_MESSAGE);
        }
        else
        if(!val.isValidName(textField_2.getText())||!val.isValidMobileNo(textField_4.getText())) {
            JOptionPane.showMessageDialog(null, "Invalid name or
            mobile number!!!", null, JOptionPane.WARNING_MESSAGE);
        }
        else {
            long random = rd.genSupplierId();
            dbconn.setSupplier_id(random);
            dbconn.setSupplier_Name(textField_2.getText());
            dbconn.setAgency(textField_3.getText());
            dbconn.setPh_no(textField_4.getText());
            dbconn.setSupplier_address(textField_9.getText());
            dbconn.addSupplier();

            String [] rows =
            {String.valueOf(random),textField_2.getText(),textField_3.getText(),textField_4.getText(),textField_
            9.getText()};

            model.addRow(rows);

            textField_2.setText("");
            textField_3.setText("");
            textField_4.setText("");
            textField_9.setText("");

            JOptionPane.showMessageDialog(null, "Added Successfully!!!",
            null, JOptionPane.INFORMATION_MESSAGE);
        }

    }
});
panel.add(btnNewButton_1);

JButton btnNewButton_1_1 = new JButton("Reset");
btnNewButton_1_1.setBackground(Color.WHITE);
btnNewButton_1_1.setFont(new Font("Times New Roman", Font.BOLD, 15));

```

```

btnNewButton_1_1.setBorder(new LineBorder(new Color(242, 156, 111), 2, true));
btnNewButton_1_1.setBounds(390, 345, 93, 21);
btnNewButton_1_1.setFocusable(false);
btnNewButton_1_1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        textField_2.setText("");
        textField_3.setText("");
        textField_4.setText("");
        textField_9.setText("");
    }
});
panel.add(btnNewButton_1_1);

// Update

JPanel panel_1 = new JPanel();
tabbedPane.addTab("Update", null, panel_1, null);
panel_1.setLayout(null);

JPanel panel_2 = new JPanel();
panel_2.setLayout(null);
panel_2.setBackground(new Color(255, 215, 181));
panel_2.setBounds(0, 0, 523, 399);
panel_1.add(panel_2);

JLabel lblNewLabel_1 = new JLabel("Supplier ID");
lblNewLabel_1.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblNewLabel_1.setBounds(40, 37, 86, 19);
panel_2.add(lblNewLabel_1);

JLabel lblSupplierName_1 = new JLabel("Supplier's Name");
lblSupplierName_1.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblSupplierName_1.setBounds(40, 77, 113, 19);
panel_2.add(lblSupplierName_1);

JLabel lblAgency = new JLabel("Agency Name");
lblAgency.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblAgency.setBounds(40, 116, 113, 19);
panel_2.add(lblAgency);

JLabel lblPhone_No = new JLabel("Phone Number");
lblPhone_No.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblPhone_No.setBounds(40, 157, 113, 17);
panel_2.add(lblPhone_No);

JLabel lblAddress = new JLabel("Address");
lblAddress.setFont(new Font("Times New Roman", Font.BOLD, 15));
lblAddress.setBounds(40, 194, 133, 17);
panel_2.add(lblAddress);

textField_5 = new JTextField();
textField_5.setEditable(false);
textField_5.setHorizontalAlignment(SwingConstants.LEFT);
textField_5.setFont(new Font("Tahoma", Font.PLAIN, 13));

```

```

textField_5.setColumns(10);
textField_5.setBounds(177, 38, 306, 19);
panel_2.add(textField_5);

textField_6 = new JTextField();
textField_6.setHorizontalAlignment(SwingConstants.LEFT);
textField_6.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_6.setColumns(10);
textField_6.setBounds(177, 78, 306, 19);
panel_2.add(textField_6);

textField_7 = new JTextField();
textField_7.setHorizontalAlignment(SwingConstants.LEFT);
textField_7.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_7.setColumns(10);
textField_7.setBounds(177, 117, 306, 19);
panel_2.add(textField_7);

textField_8 = new JTextField();
textField_8.setHorizontalAlignment(SwingConstants.LEFT);
textField_8.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_8.setColumns(10);
textField_8.setBounds(177, 157, 306, 19);
panel_2.add(textField_8);

textField_10 = new JTextField();
textField_10.setHorizontalAlignment(SwingConstants.LEFT);
textField_10.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_10.setColumns(10);
textField_10.setBounds(177, 194, 306, 19);
panel_2.add(textField_10);

JButton btnNewButton_1_1_1 = new JButton("Update");
btnNewButton_1_1_1.setFont(new Font("Times New Roman", Font.BOLD, 15));
btnNewButton_1_1_1.setBorder(new LineBorder(new Color(242, 156, 111), 2,
true));

btnNewButton_1_1_1.setBackground(Color.WHITE);
btnNewButton_1_1_1.setBounds(286, 345, 93, 21);
btnNewButton_1_1_1.setFocusable(false);
btnNewButton_1_1_1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {

        if(textField_6.getText().equals("")||textField_7.getText().equals("")||textField_8.getText().equ
als("")||textField_10.getText().equals("")) {
            JOptionPane.showMessageDialog(null, "Enter all details!!!",
null, JOptionPane.WARNING_MESSAGE);
        }
        else
if(!val.isValidMobileNo(textField_8.getText())||!val.isValidName(textField_6.getText())) {
            JOptionPane.showMessageDialog(null, "Invalid name or
phone number!!!", null, JOptionPane.WARNING_MESSAGE);
        }
        else {
            dbconn.setSupplier_Name(textField_6.getText());
            dbconn.setAgency(textField_7.getText());

```

```

        dbconn.setPh_no(textField_8.getText());
        dbconn.setSupplier_address(textField_10.getText());
        dbconn.updateSupplier(Integer.parseInt(textField_5.getText()));

        int i = table.getSelectedRow();
        model.setValueAt(textField_6.getText(), i, 1);
        model.setValueAt(textField_7.getText(), i, 2);
        model.setValueAt(textField_8.getText(), i, 3);
        model.setValueAt(textField_10.getText(), i, 4);

        textField_5.setText("");
        textField_6.setText("");
        textField_7.setText("");
        textField_8.setText("");
        textField_10.setText("");
        JOptionPane.showMessageDialog(null, "Updated Successfully!!!",
null, JOptionPane.INFORMATION_MESSAGE);
    }

    }

});
panel_2.add(btnNewButton_1_1_1);

JButton btnNewButton_1_1_3 = new JButton("Reset");
btnNewButton_1_1_3.setFont(new Font("Times New Roman", Font.BOLD, 15));
btnNewButton_1_1_3.setFocusable(false);
btnNewButton_1_1_3.setBorder(new LineBorder(new Color(242, 156, 111), 2,
true));

btnNewButton_1_1_3.setBackground(Color.WHITE);
btnNewButton_1_1_3.setBounds(390, 345, 93, 21);
btnNewButton_1_1_3.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        textField_5.setText("");
        textField_6.setText("");
        textField_7.setText("");
        textField_8.setText("");
        textField_10.setText("");
    }
});
panel_2.add(btnNewButton_1_1_3);

// Delete

JPanel panel_3 = new JPanel();
tabbedPane.addTab("Delete", null, panel_3, null);
panel_3.setLayout(null);

JPanel panel_2_1 = new JPanel();
panel_2_1.setLayout(null);
panel_2_1.setBackground(new Color(255, 215, 181));
panel_2_1.setBounds(0, 0, 523, 399);
panel_3.add(panel_2_1);

JLabel lblNewLabel_1_1 = new JLabel("Supplier ID");
lblNewLabel_1_1.setFont(new Font("Times New Roman", Font.BOLD, 15));

```

```

lblNewLabel_1_1.setBounds(40, 37, 86, 19);
panel_2_1.add(lblNewLabel_1_1);

textField_1 = new JTextField();
textField_1.setHorizontalAlignment(SwingConstants.LEFT);
textField_1.setFont(new Font("Tahoma", Font.PLAIN, 13));
textField_1.setEditable(false);
textField_1.setColumns(10);
textField_1.setBounds(177, 38, 306, 19);
panel_2_1.add(textField_1);

JButton btnNewButton_1_1_1_1 = new JButton("Delete");
btnNewButton_1_1_1_1.setFont(new Font("Times New Roman", Font.BOLD, 15));
btnNewButton_1_1_1_1.setFocusable(false);
btnNewButton_1_1_1_1.setBorder(new LineBorder(new Color(242, 156, 111), 2,
true));

btnNewButton_1_1_1_1.setBackground(Color.WHITE);
btnNewButton_1_1_1_1.setBounds(286, 345, 93, 21);
btnNewButton_1_1_1_1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        int sid = Integer.parseInt(textField_1.getText());
        dbconn.deleteSupplier(sid);
        int i = table.getSelectedRow();
        model.removeRow(i);
        textField_1.setText("");
        JOptionPane.showMessageDialog(null, "Deleted Successfully!!!",
null, JOptionPane.INFORMATION_MESSAGE);
    }
});
panel_2_1.add(btnNewButton_1_1_1_1);

JButton btnNewButton_1_1_3_1 = new JButton("Reset");
btnNewButton_1_1_3_1.setFont(new Font("Times New Roman", Font.BOLD, 15));
btnNewButton_1_1_3_1.setFocusable(false);
btnNewButton_1_1_3_1.setBorder(new LineBorder(new Color(242, 156, 111), 2,
true));

btnNewButton_1_1_3_1.setBackground(Color.WHITE);
btnNewButton_1_1_3_1.setBounds(390, 345, 93, 21);
btnNewButton_1_1_3_1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        textField_1.setText("");
    }
});
panel_2_1.add(btnNewButton_1_1_3_1);

JTextPane txtpndeletingAProduct = new JTextPane();
txtpndeletingAProduct.setText("*Deleting a supplier means deleting all the details of
that supplier along with it\r\n");
txtpndeletingAProduct.setToolTipText("");
txtpndeletingAProduct.setBackground(new Color(255, 215, 181));
txtpndeletingAProduct.setEditable(false);
txtpndeletingAProduct.setFont(new Font("Tahoma", Font.PLAIN, 14));
txtpndeletingAProduct.setBounds(31, 574, 528, 40);
frame.getContentPane().add(txtpndeletingAProduct);

```



```

JScrollPane scrollPane = new JScrollPane();
scrollPane.setBounds(569, 101, 728, 426);
frame.getContentPane().add(scrollPane);

showData();

table = new JTable();
table.setSelectionMode(ListSelectionModel.SINGLE_SELECTION);
table.setToolTipText("Supplier Details");
table.setModel(model);
table.setFillsViewportHeight(true);
table.setFont(new Font("Tahoma", Font.PLAIN, 15));
table.setBackground(new Color(216, 191, 216));
table.addMouseListener(new MouseAdapter() {
    @Override
    public void mouseClicked(MouseEvent e) {
        try {

textField_1.setText((String)table.getValueAt(table.getSelectedRow(), 0));

textField_5.setText((String)table.getValueAt(table.getSelectedRow(), 0));

textField_6.setText((String)table.getValueAt(table.getSelectedRow(), 1));

textField_7.setText((String)table.getValueAt(table.getSelectedRow(), 2));

textField_8.setText((String)table.getValueAt(table.getSelectedRow(), 3));

textField_10.setText((String)table.getValueAt(table.getSelectedRow(), 4));
                }
                catch(Exception e1) {
                    ;
                }

        }
    });
scrollPane.setViewportView(table);

JButton btnDashboard = new JButton("Dashboard");
btnDashboard.setFont(new Font("Times New Roman", Font.BOLD, 17));
btnDashboard.setFocusable(false);
btnDashboard.setBorder(new LineBorder(new Color(242, 156, 111), 2, true));
btnDashboard.setBackground(Color.WHITE);
btnDashboard.setBounds(1190, 574, 107, 26);
btnDashboard.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        DashBoard dashboard = new DashBoard();
        dashboard.dbFrame.setVisible(true);
        frame.dispose();
    }
});
frame.getContentPane().add(btnDashboard);

JPanel panel_5 = new JPanel();
panel_5.setBorder(new LineBorder(Color.BLACK));

```

```
        panel_5.setBackground(new Color(255, 160, 122));
        panel_5.setBounds(986, 21, 311, 49);
        panel_5.setLayout(null);
        frame.getContentPane().add(panel_5);

        JLabel lblNewLabel_3 = new JLabel("Suppliers");
        lblNewLabel_3.setHorizontalAlignment(SwingConstants.TRAILING);
        lblNewLabel_3.setFont(new Font("Times New Roman", Font.BOLD | Font.ITALIC,
30));

        lblNewLabel_3.setBounds(10, 10, 291, 29);
        panel_5.add(lblNewLabel_3);

    }
}
```

## Limitations

- **Single User System:** The major limitation of this system is that it's a *single user standalone* application. That means there can't be more than one user.
- **User Authentication:** If the user forgot his/her login credentials then he/she will not be able to access the application; hence all the data will be lost. Since there is no option for resetting the password, the user will need to uninstall the application and start over from the registration process.
- **Limited Functionalities:** Functionalities are limited in this application.
- **Complex UI Poor UX:** User interface is complex for new users; therefore user experience is hampered.

## Future Scope & Further Enhancement

- This software is a local database-based system. That means all the data of the user will be stored on a single client machine. If the user(manufacturer/retailer/other) has multiple shop on various locations/globally then this application will not help him/her for managing the inventory. So, a centralized /cloud database can be used in this software. That will make this application more practical and desired.
- A web version of this software will be more efficient.
- GST calculator, data back-up, quotation placing and various other functionalities can be embedded into the system.
- This application can be made collaborating with ERP systems. That will enable manufacturers and retailers to attain full visibility into their global inventory.

## Conclusion

Inventory management is a very complex but essential part of the supply chain. An effective inventory management system helps to reduce stock-related costs such as carrying and ordering costs. Inventory management helps companies identify which and how much stock to order at what time. It tracks inventory from purchase to the sale of goods. The practice identifies and responds to trends to ensure there's always enough stock to fulfill orders and proper warning of a shortage.

## Bibliography/Webliography

<https://www.java.com/en/>  
<https://www.eclipse.org/>  
<https://www.mysql.com/>  
<https://www.w3schools.com/>  
<https://docs.oracle.com/en/java/>  
<https://www.geeksforgeeks.org/>  
<https://www.slideshare.net/>  
<https://www.javatpoint.com/>  
<https://www.codewithharry.com/>  
<https://youtube.com/c/BroCodez>  
<https://youtube.com/@CSCORNERSunitaRai>  
<https://youtube.com/@Amit.Thinks>  
<https://www.wikipedia.org/>