UNIVERSITY OF PLYMOUTH

PUSL3122 HCI, COMPUTER GRAPHICS and VISUALISATION

Final Report (Group 24)

Online Furniture Store

Supervisor: Dr Alaa Alkhafaji

Degree Program: BSc (Hons)Software Engineering

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1. Introduction

This is the era of all the home appliances getting from online stores, the main aim of this online furniture web application is to understand the needs of the customers and have designs based on that.

This allows the customers to show the wide range of furniture that is provided in the market, and they can predict how this furniture item would be matched to their living spaces. that made everything easy for human beings so people don't have to go to shops and do time-consuming things they can order their needs to their doorsteps. So that's the reason for creating this furniture store online. This furniture is made from their individual preferences and their favorite colors and shapes.

This is a virtual showroom where customer can buy their dream customized items.

Through this app, customer can customize their furniture. The main aim of this online store is to bring their dream furniture to life. Using this online store user can visualize their own desired items within a few more clicks through this web application.

In this online furniture store customers can use 2D shapes to make their designs and with this app can make those shapes into 3D shapes. That makes it easier for the customers to design their own desired furniture items.

Using this app customer can customize their app to their favorite colors, shapes, and sizes. Users can see the same furniture prototype before purchasing.

This app provides customers with special tools to customize their furniture. It will make all the things easy for the customers.

2. Background of the project

This web-based application was created by using Java Swing to make customers do their shopping easier and customers don’t have to waste their time doing physical shopping. In this online furniture store, the main goal is to make customers' owned furniture dreams come true. And make this web application user-friendly.

Challenges on this web application include making the visualized furniture the same thing as the real furniture and the customers every time facing problems because customers didn’t get the same furniture that they saw in the online store, because of those issues customers might get unsure about this online store so firstly have to build their trust about this online furniture store.

All over this online furniture store, the main thing is to help the customers to choose the correct furniture design for the customer.

3. Data Gathering

This online furniture store must make sure that this application is user-friendly and also implemented successfully.

1. Research of the market

When doing the online store have to check the new trends in the market and have to change according to the trending items.

2. Testing the prototype

The main idea of this is to make sure the created prototype is working correctly and can get to know what we must improve in this. Also, the most important thing is to make sure this is user-friendly or easy to use.

3. Analyzing the existing web application

In this web application must study all software tools that are being used in this furniture industry and have to study the drawbacks and advantages that can be changed to this web application

4. Design

4.1 Wireframe of the Application

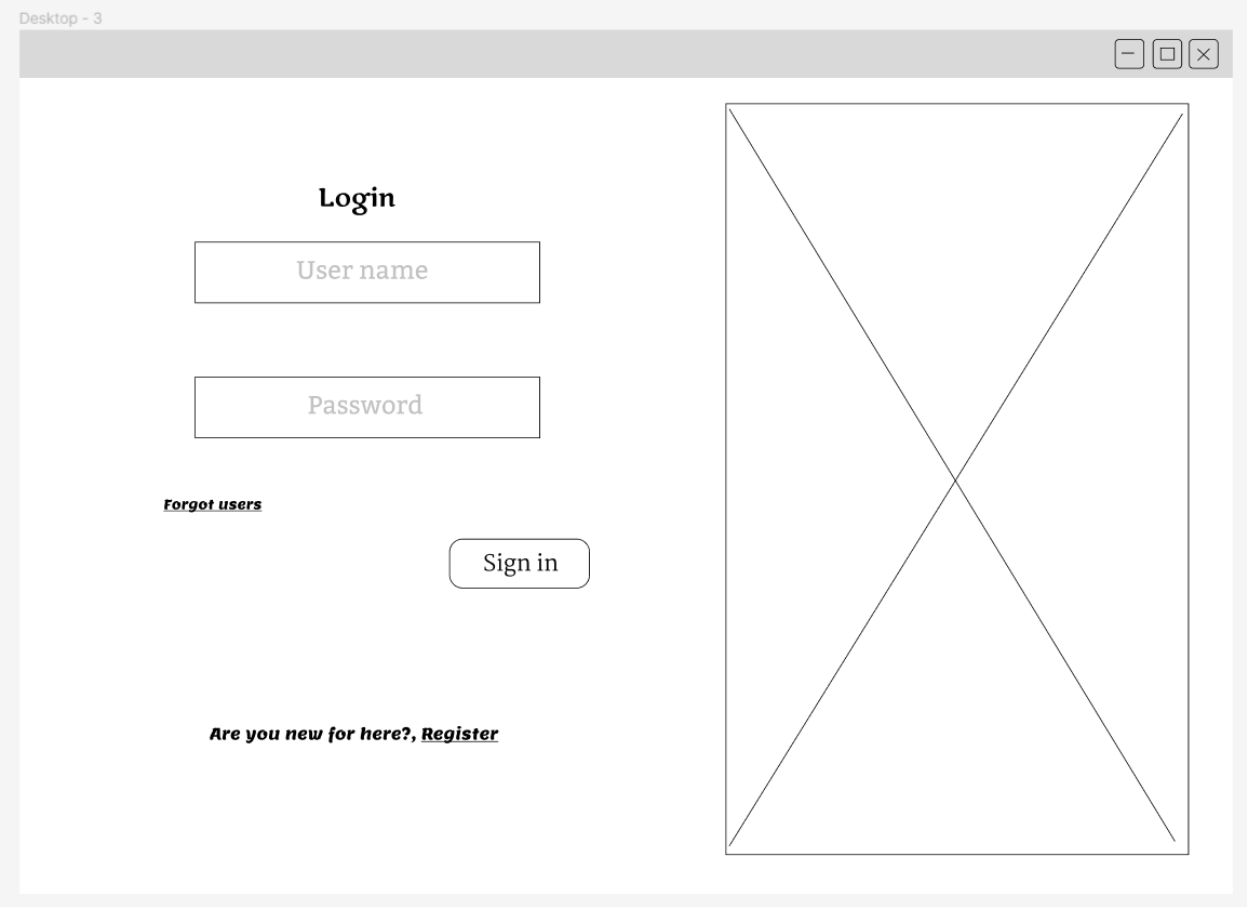


Figure 1

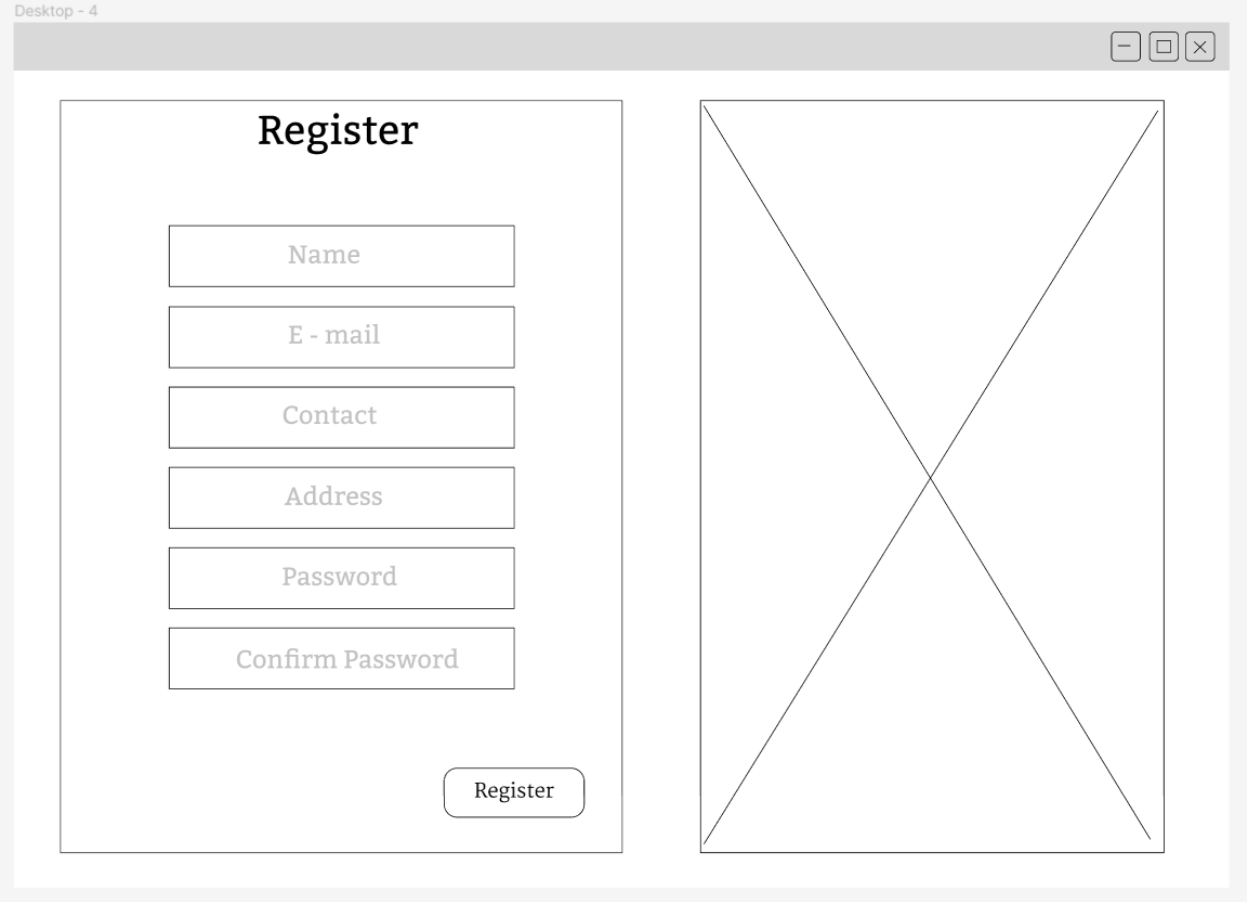

Desktop - 4
Register
Name
E - mail
Contact
Address
Password
Confirm Password
Register

Figure 2

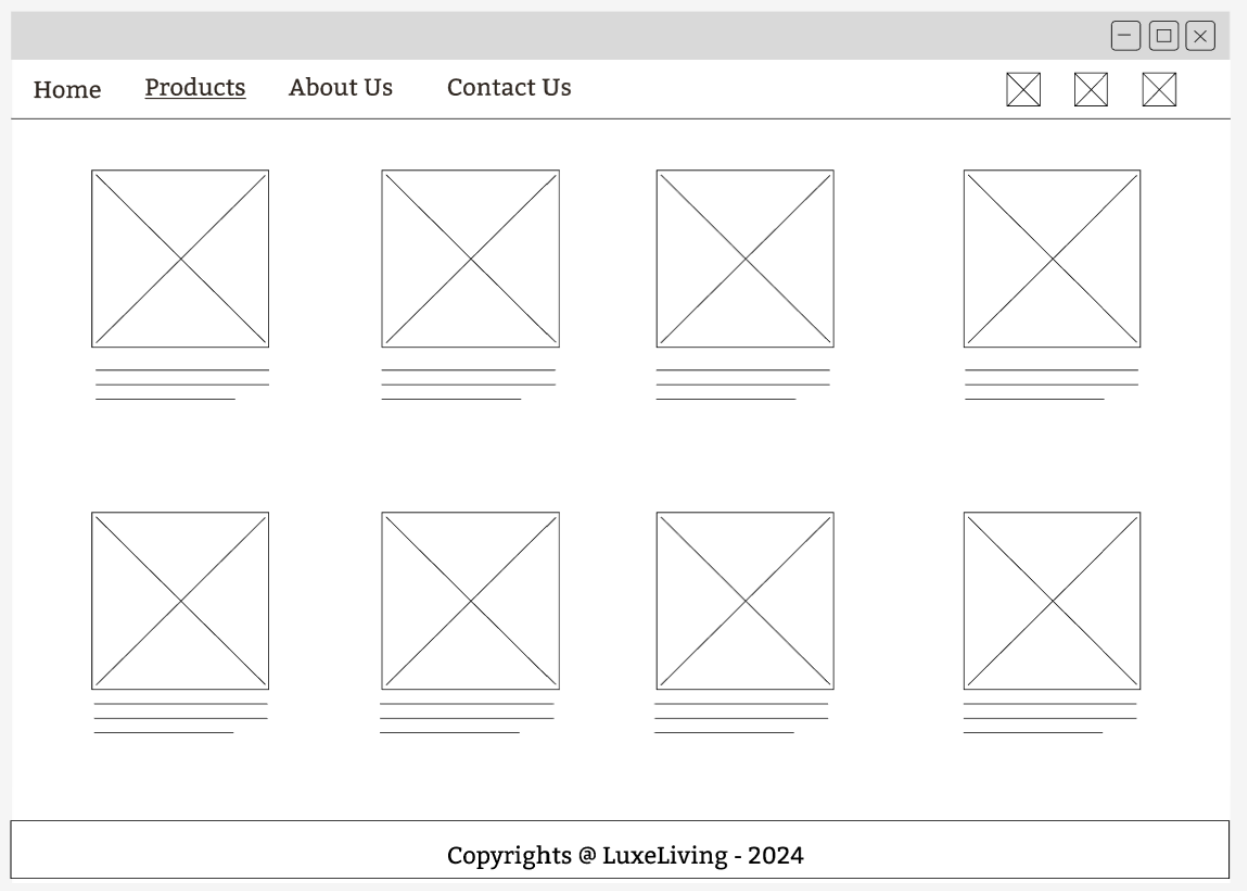

Home
Products
About Us
Contact Us
Copyrights @ LuxeLiving - 2024

Figure 3

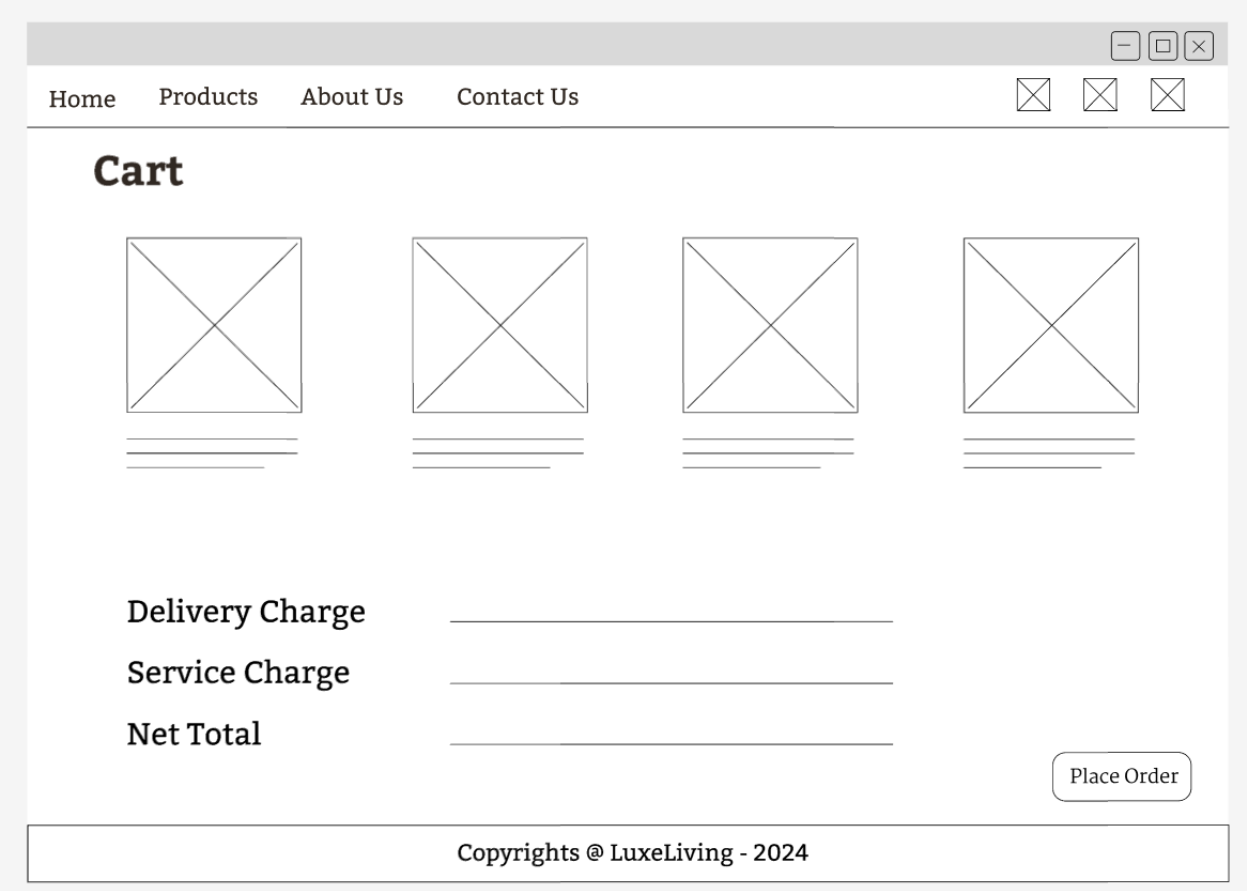

Home
Products
About Us
Contact Us
Cart
Delivery Charge
Service Charge
Net Total
Place Order
Copyrights @ LuxeLiving - 2024

Figure 4

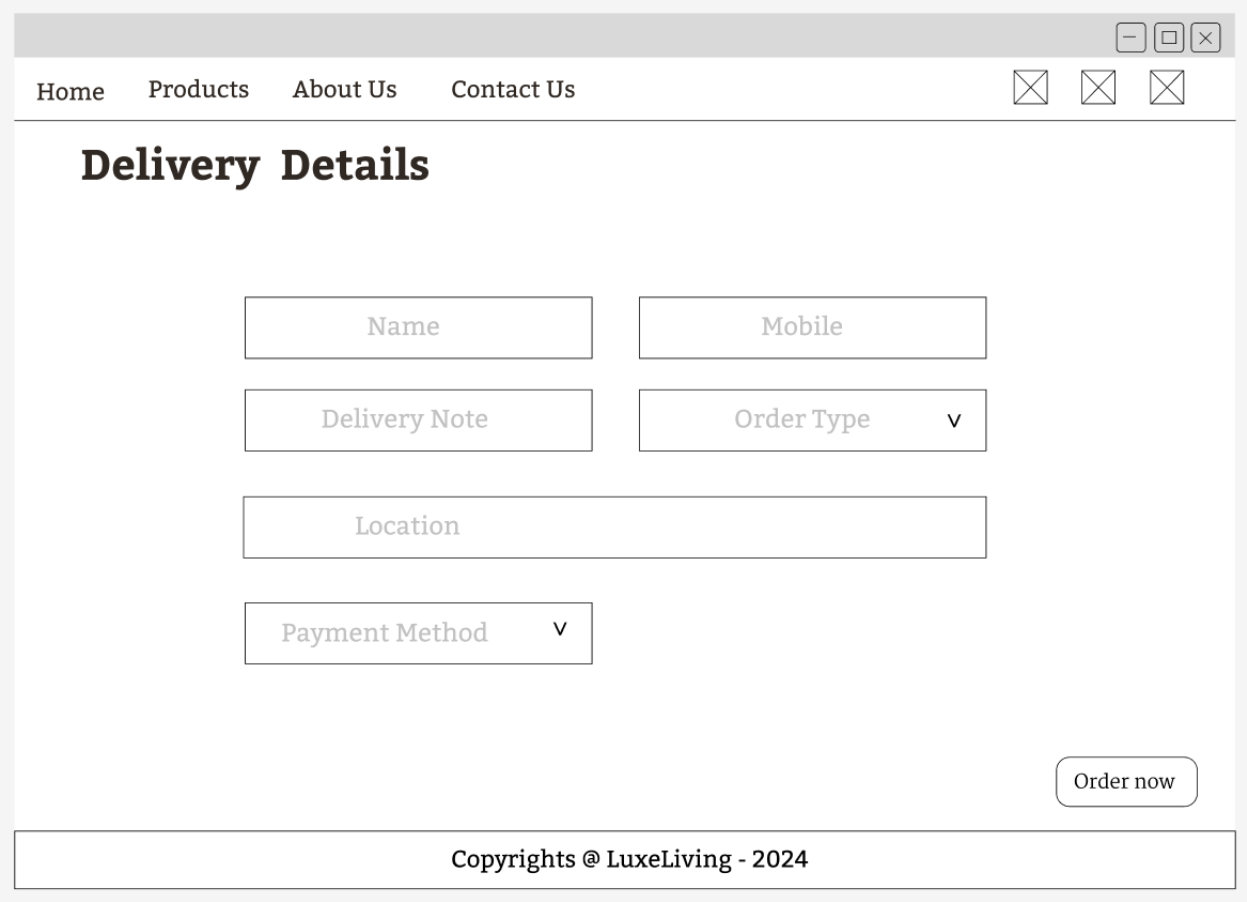

Home
Products
About Us
Contact Us
Delivery Details
Name
Mobile
Delivery Note
Order Type
Location
Payment Method
Order now
Copyrights @ LuxeLiving - 2024

Figure 5

4.2 UI of the Application

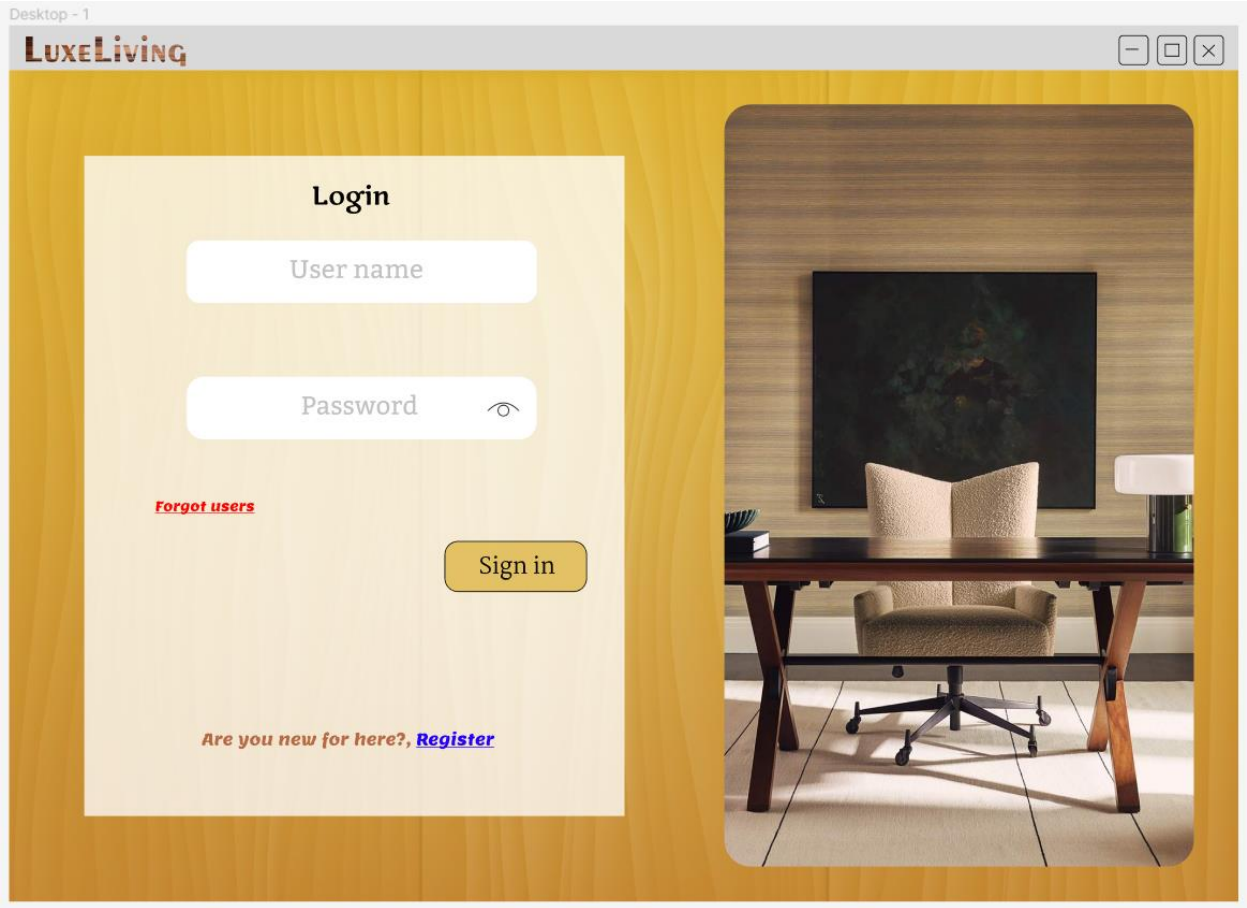


Figure 6: Login

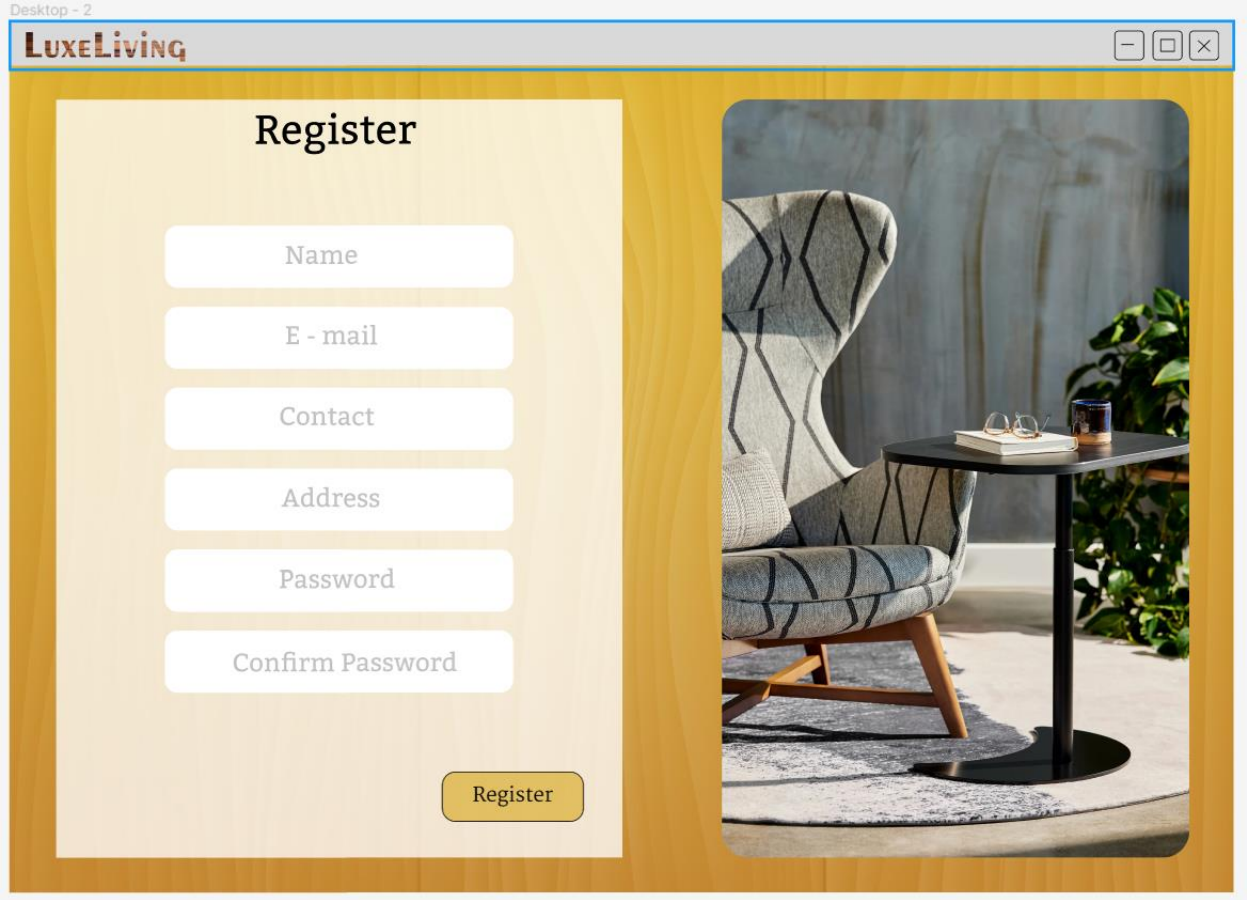


Figure 7: Register Page

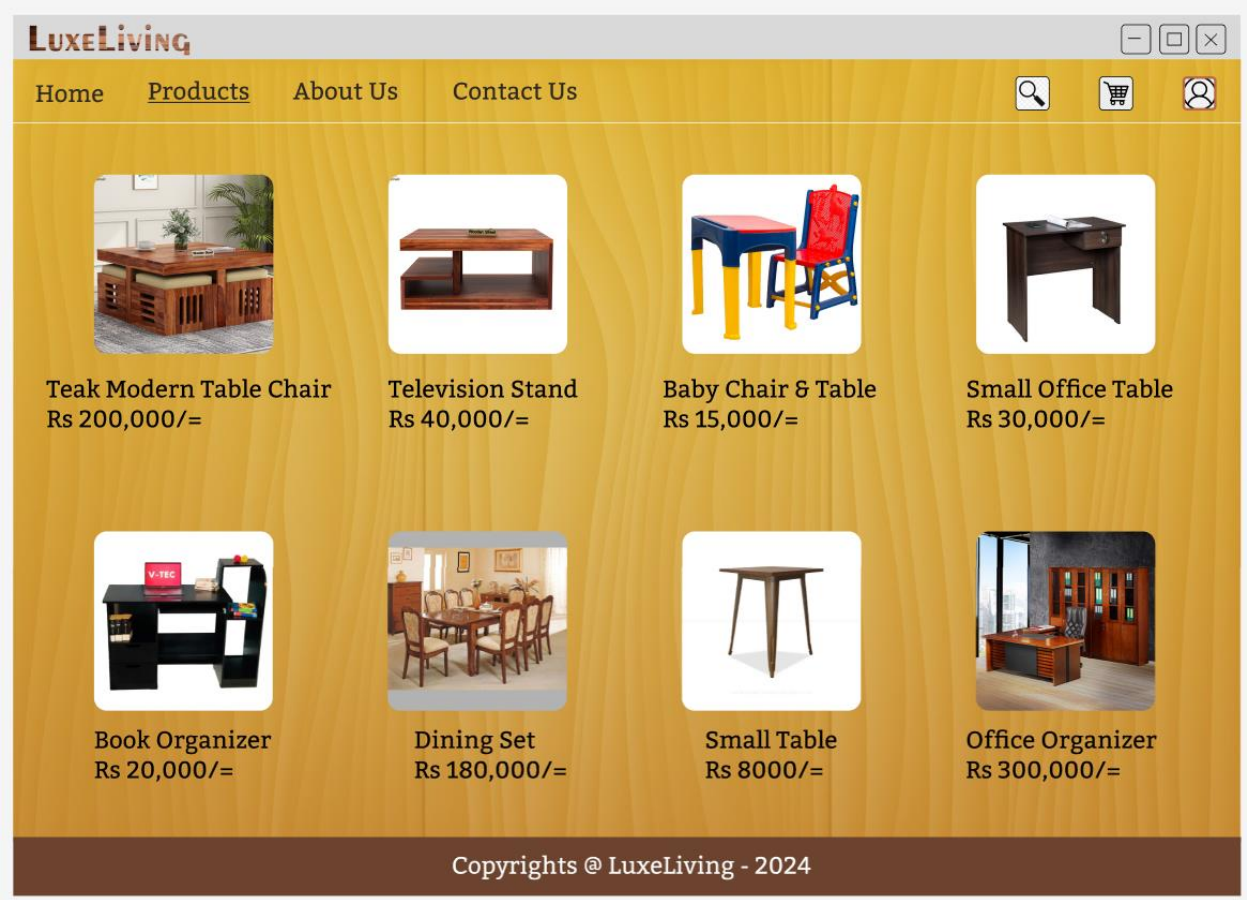


Figure 8: Menu

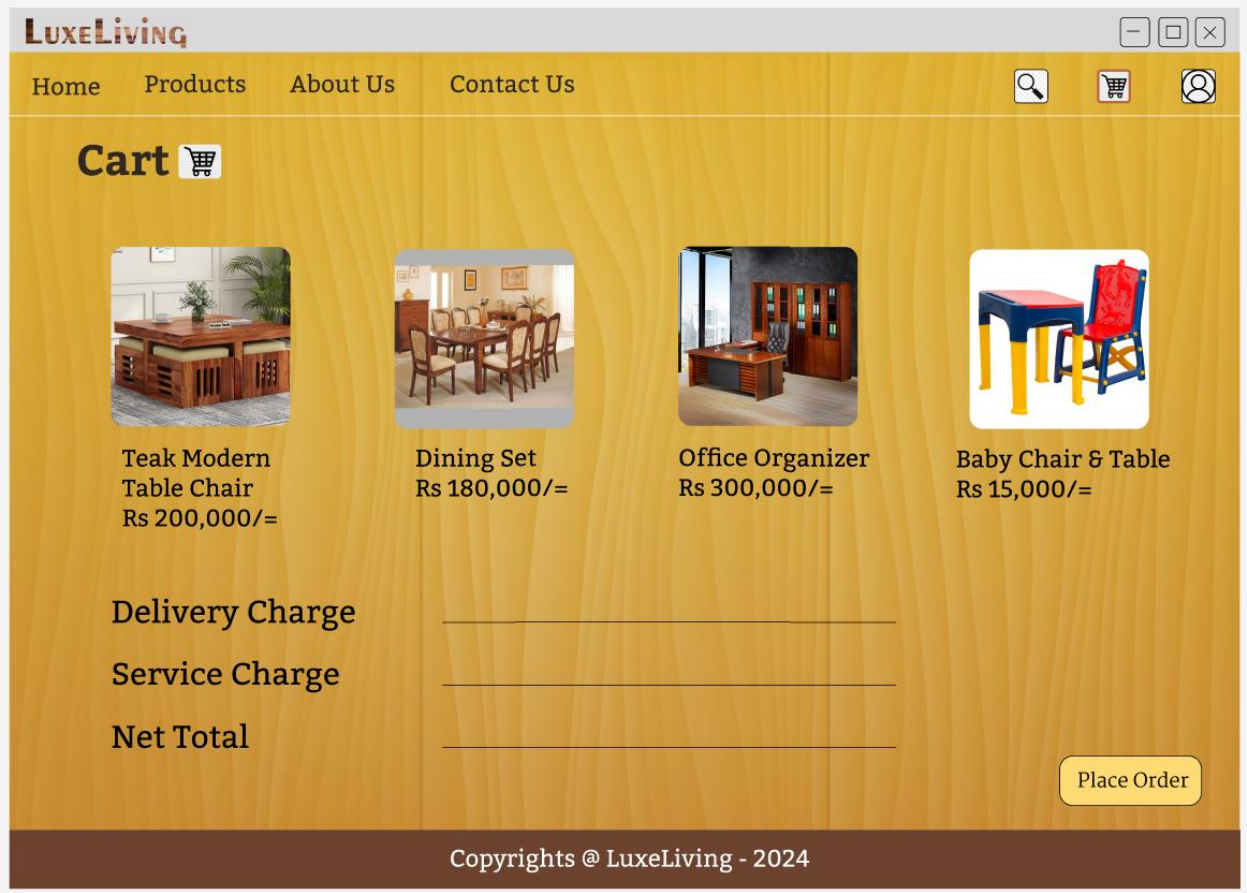


Figure 9: Cart

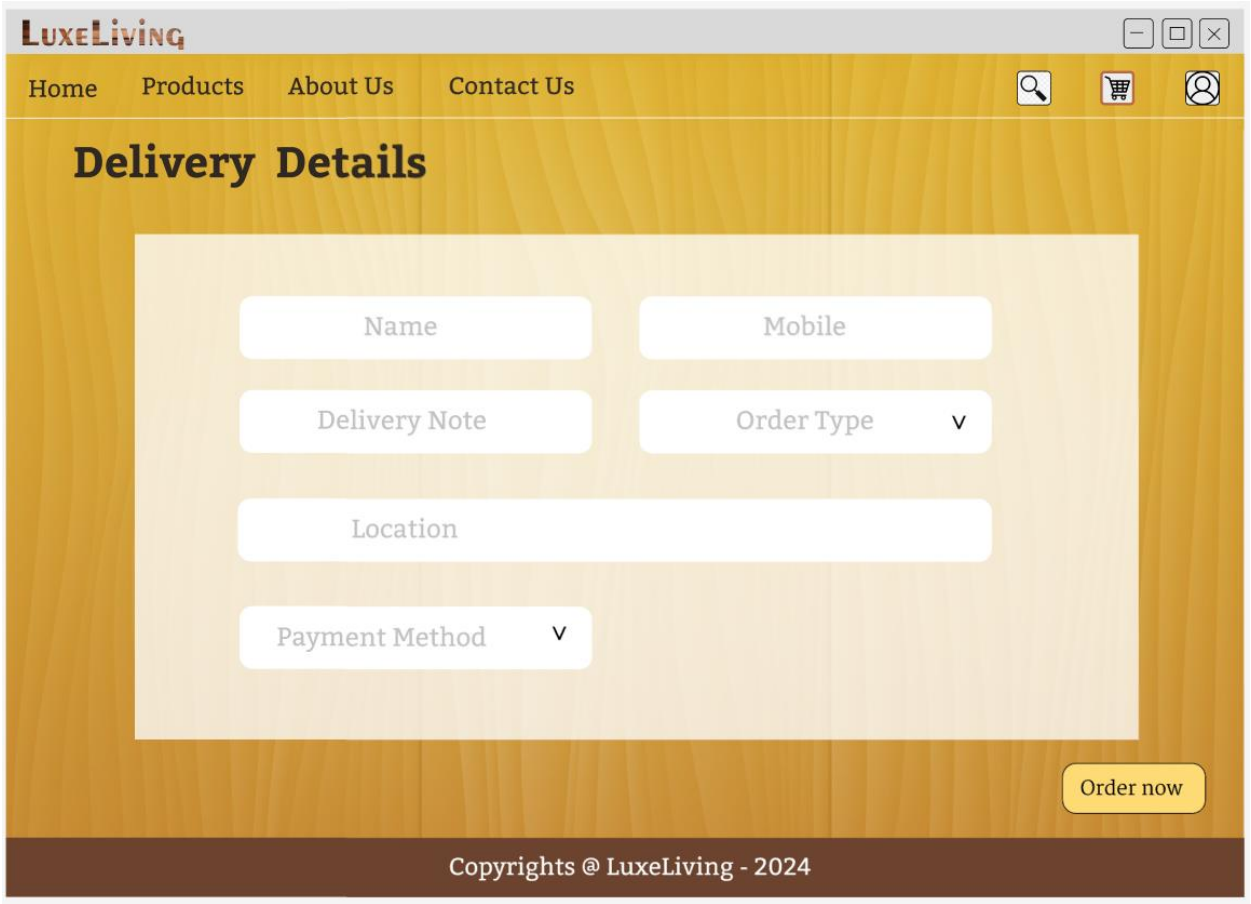


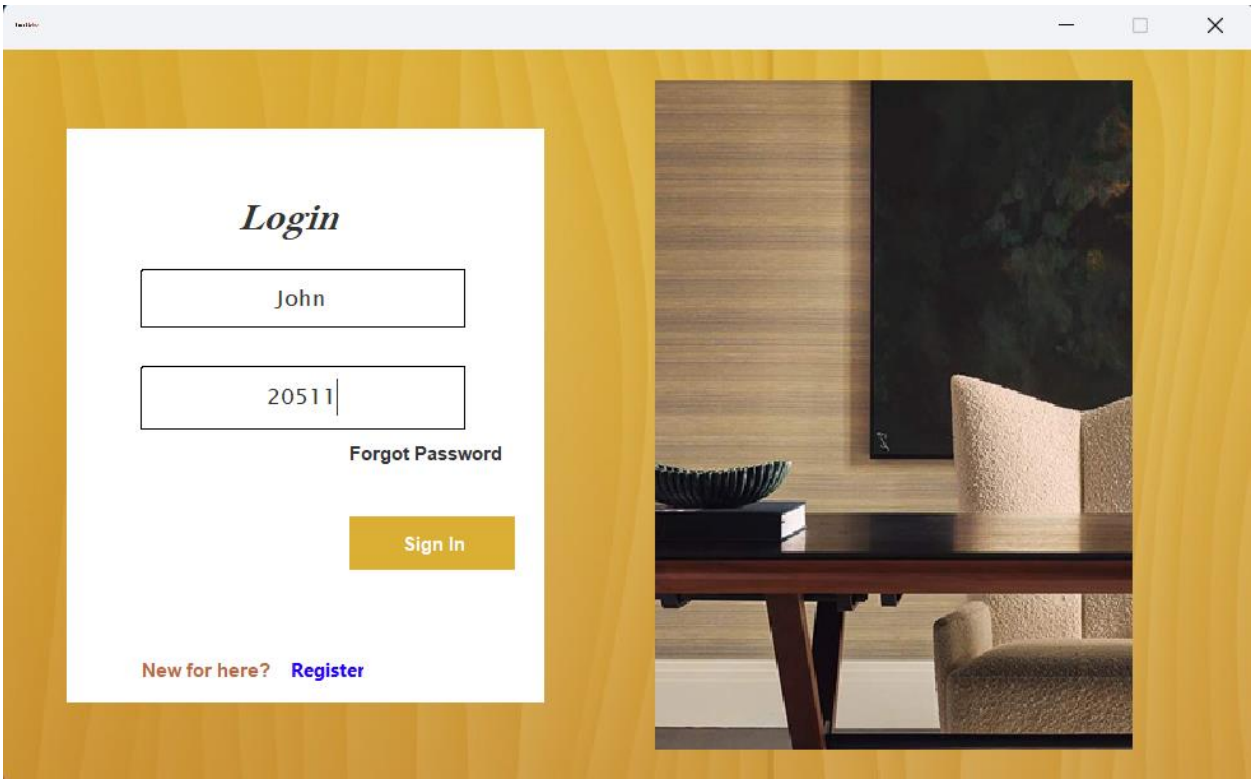
Figure 10: Delivery

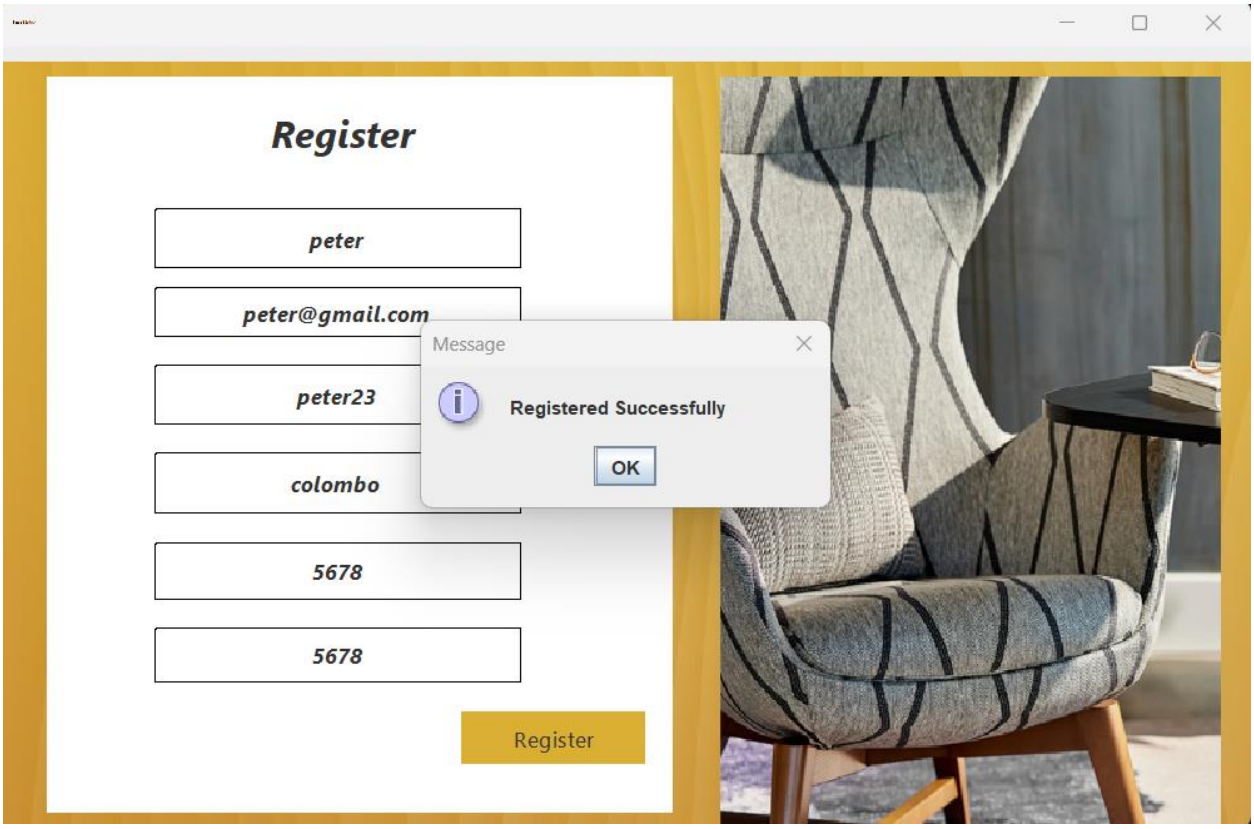
5. Implementation

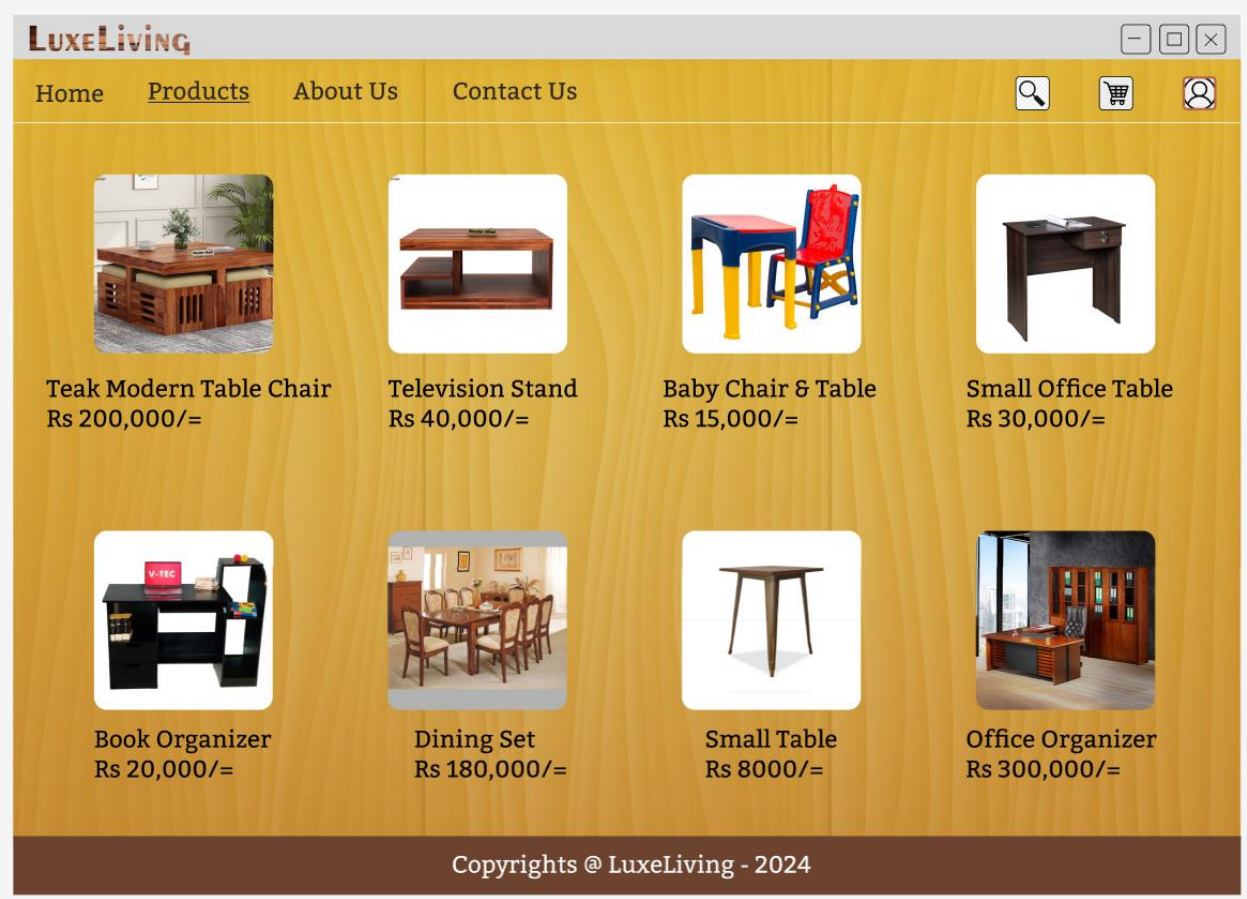
GitHub Link: https://github.com/Plymouth-University/main-assessment-group-24.git

YouTube Link: https://youtu.be/251iFrATZgU?si=Rgob6fuf5j2QN_r2

Java swing is a Java GUI toolkit that was used in the development of the Furniture Shop Management system named LuxeLiving. This application's main goal is to make furniture stores run more smoothly by giving them an effective platform to manage their inventory, sales, and client information.




Register
peter
peter@gmail.com
peter23
colombo
5678
5678
Register
Message
Registered Successfully
OK


LuxeLiving
Home
Products
About Us
Contact Us
Teak Modern Table Chair
Rs 200,000/=
Television Stand
Rs 40,000/=
Baby Chair & Table
Rs 15,000/=
Small Office Table
Rs 30,000/=
Book Organizer
Rs 20,000/=
Dining Set
Rs 180,000/=
Small Table
Rs 8000/=
Office Organizer
Rs 300,000/=
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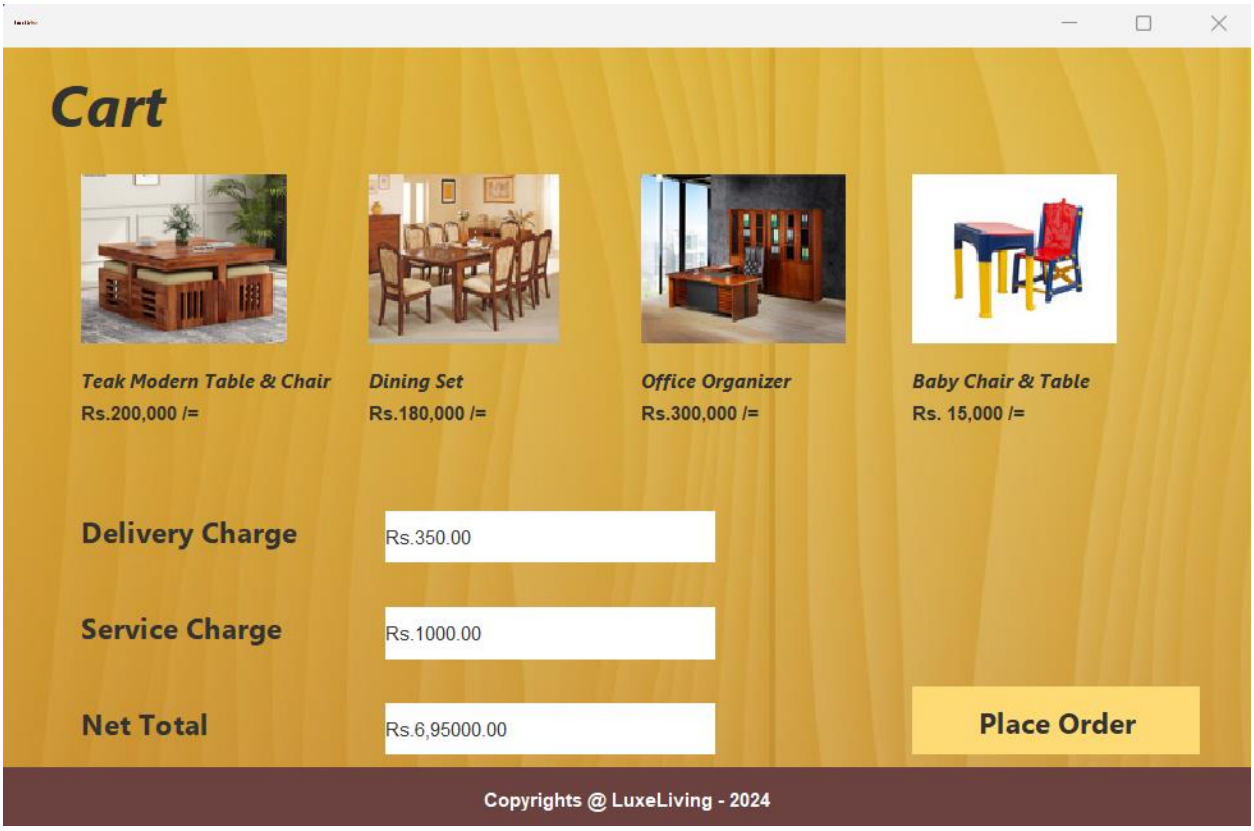
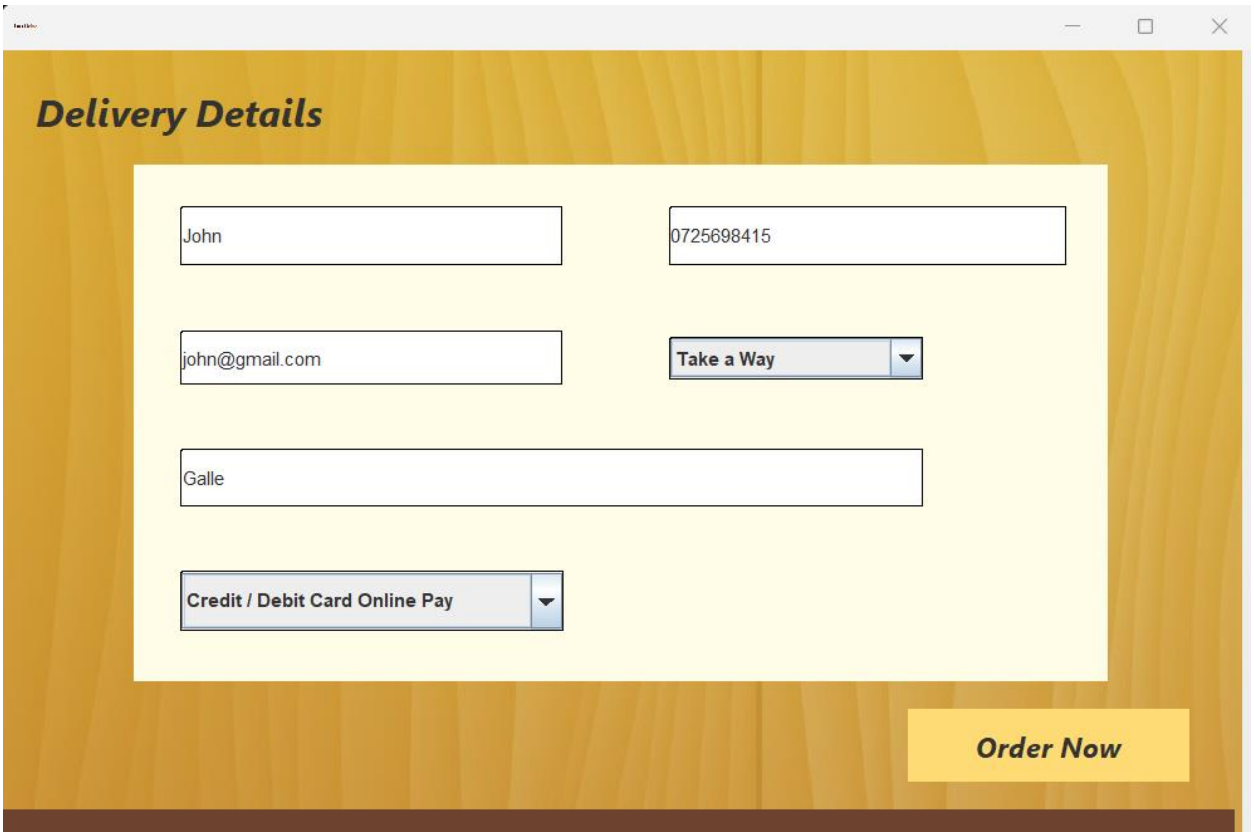
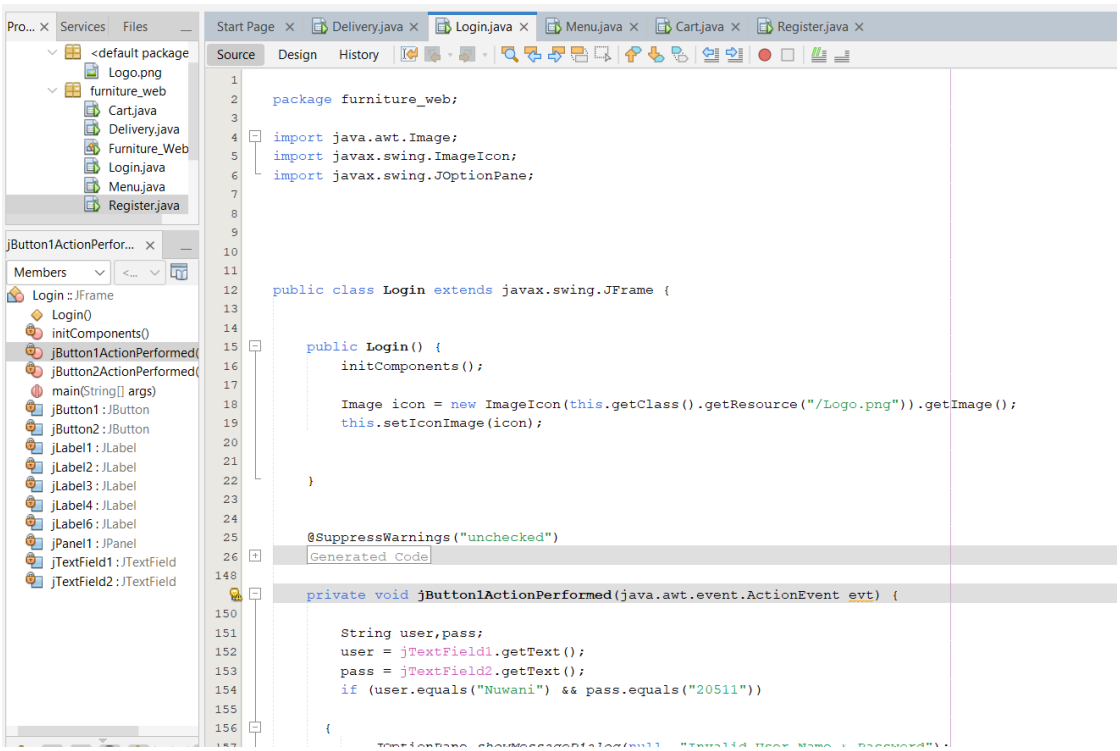
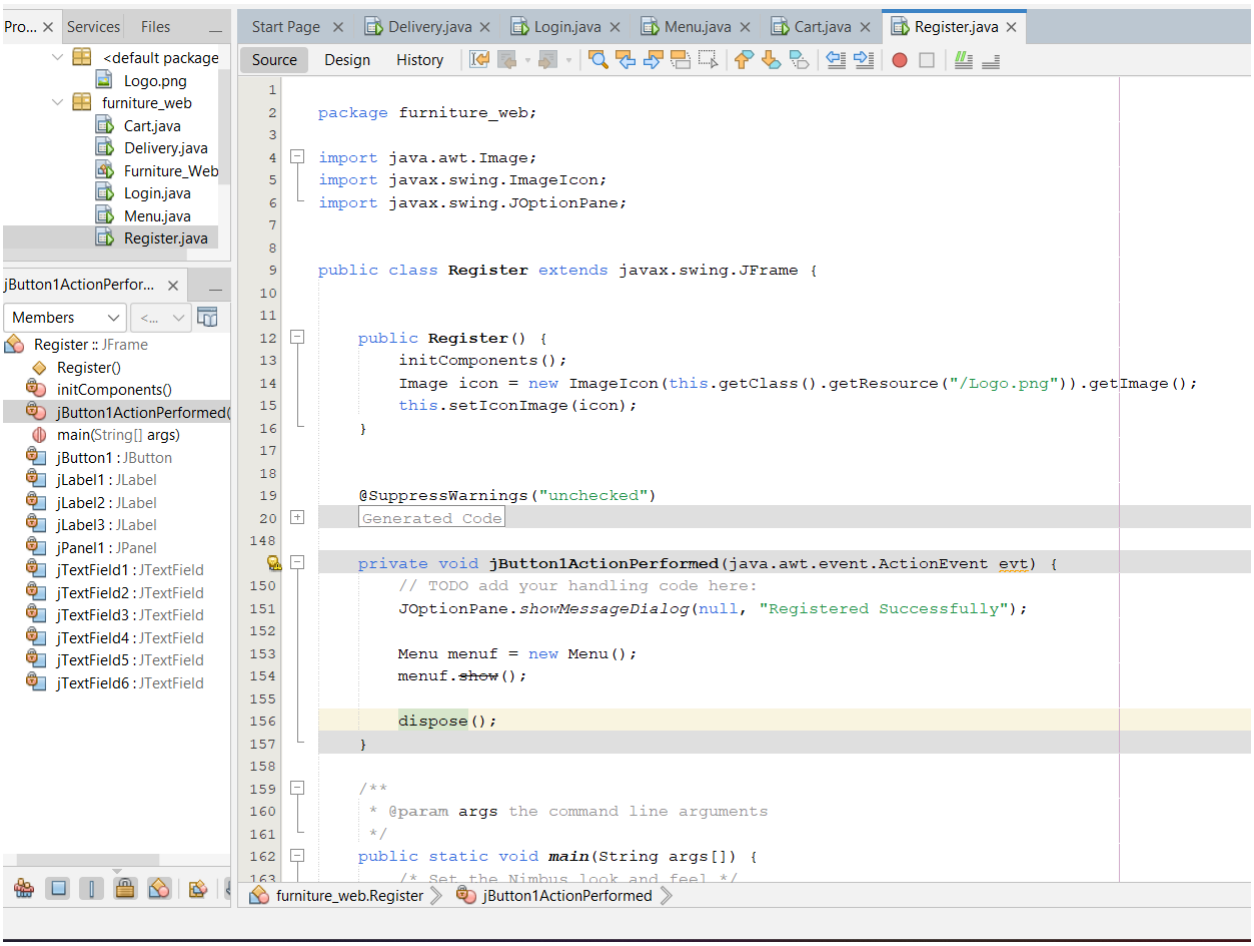

Cart
Teak Modern Table & Chair
Rs.200,000 /=
Dining Set
Rs.180,000 /=
Office Organizer
Rs.300,000 /=
Baby Chair & Table
Rs. 15,000 /=
Delivery Charge
Rs.350.00
Service Charge
Rs.1000.00
Net Total
Rs.6,95000.00
Place Order
Copyrights @ LuxeLiving - 2024


Delivery Details
John
0725698415
john@gmail.com
Take a Way
Galle
Credit / Debit Card Online Pay
Order Now


Delivery Details
John
0725698415
john@gmail.com
Message
Order Successful
OK
Galle
Credit / Debit Card Online Pay


Pro... Services Files
<default package
Logo.png
furniture_web
Cart.java
Delivery.java
Furniture_Web
Login.java
Menu.java
Register.java
jButton1ActionPerfor...
Members
Login :: JFrame
Login()
initComponents()
jButton1ActionPerformed(
jButton2ActionPerformed(
main(String[] args)
jButton1 : JButton
jButton2 : JButton
jLabel1 : JLabel
jLabel2 : JLabel
jLabel3 : JLabel
jLabel4 : JLabel
jLabel6 : JLabel
jPanel1 : JPanel
jTextField1 : JTextField
jTextField2 : JTextField
Start Page
Delivery.java
Login.java
Menu.java
Cart.java
Register.java
Source
Design
History
package furniture_web;
import java.awt.Image;
import javax.swing.ImageIcon;
import javax.swing.JOptionPane;
public class Login extends javax.swing.JFrame {
public Login() {
initComponents();
Image icon = new ImageIcon(this.getClass().getResource("/Logo.png")).getImage();
this.setIconImage(icon);
}
@SuppressWarnings("unchecked")
Generated Code
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
String user,pass;
user = jTextField1.getText();
pass = jTextField2.getText();
if (user.equals("Nuwani") && pass.equals("20511"))
{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<default package
Logo.png
furniture_web
Cart.java
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Furniture_Web
Login.java
Menu.java
Register.java
jButton1ActionPerfor...
Members
Register :: JFrame
Register()
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main(String[] args)
jButton1 : JButton
jLabel1 : JLabel
jLabel2 : JLabel
jLabel3 : JLabel
jPanel1 : JPanel
jTextField1 : JTextField
jTextField2 : JTextField
jTextField3 : JTextField
jTextField4 : JTextField
jTextField5 : JTextField
jTextField6 : JTextField
Start Page
Delivery.java
Login.java
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Cart.java
Register.java
Source
Design
History
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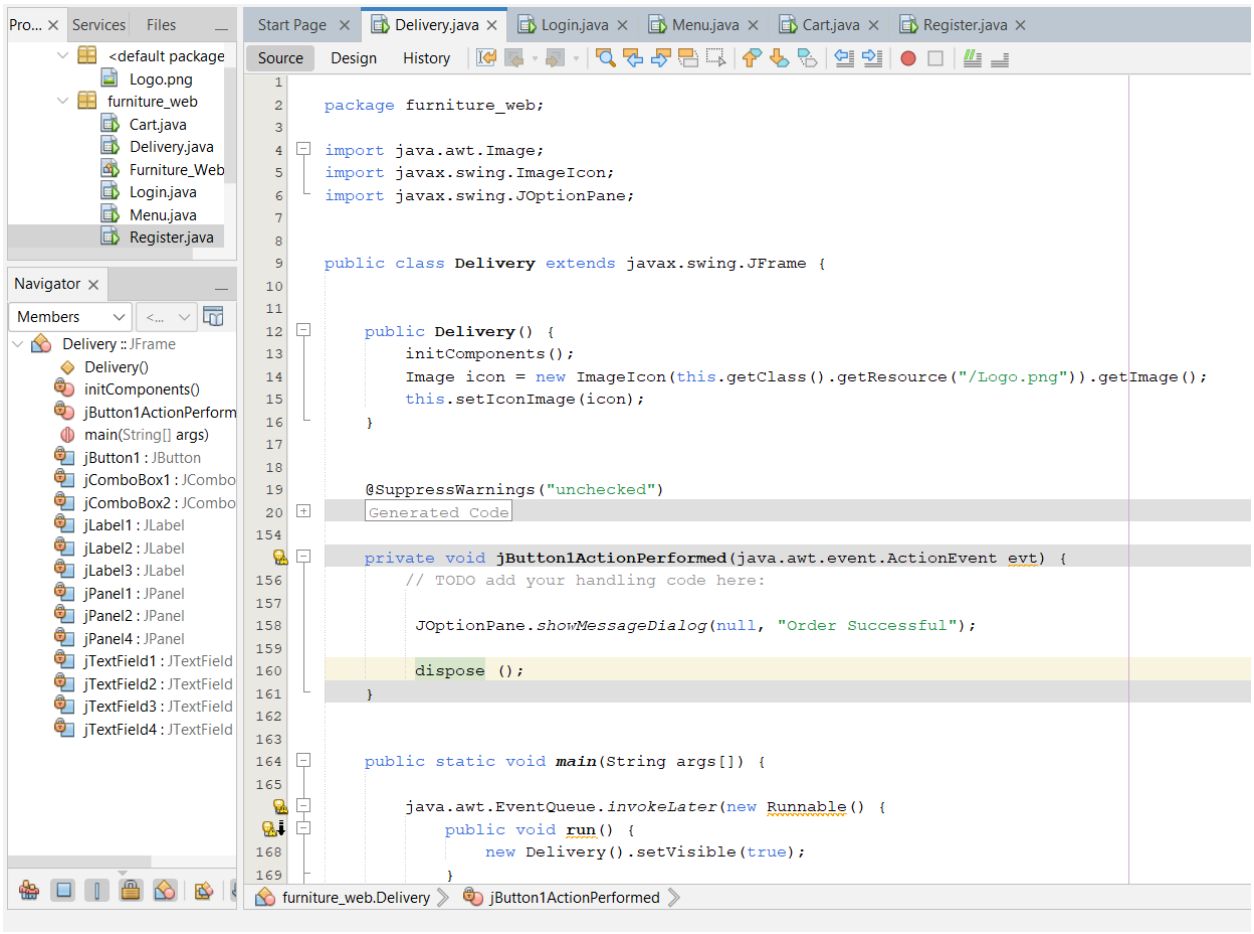
import javax.swing.ImageIcon;
import javax.swing.JOptionPane;
public class Register extends javax.swing.JFrame {
public Register() {
initComponents();
Image icon = new ImageIcon(this.getClass().getResource("/Logo.png")).getImage();
this.setIconImage(icon);
}
@SuppressWarnings("unchecked")
Generated Code
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
JOptionPane.showMessageDialog(null, "Registered Successfully");
Menu menuf = new Menu();
menuf.show();
dispose();
}
/**
* @param args the command line arguments
*/
public static void main(String args[]) {
furniture_web.Register
jButton1ActionPerformed


Pro... Services Files
<default package
Logo.png
furniture_web
Cart.java
Delivery.java
Furniture_Web
Login.java
Menu.java
Register.java
Navigator
Members
Delivery :: JFrame
Delivery()
initComponents()
jButton1ActionPerform
main(String[] args)
jButton1 : JButton
jComboBox1 : JCombo
jComboBox2 : JCombo
jLabel1 : JLabel
jLabel2 : JLabel
jLabel3 : JLabel
jPanel1 : JPanel
jPanel2 : JPanel
jPanel4 : JPanel
jTextField1 : JTextField
jTextField2 : JTextField
jTextField3 : JTextField
jTextField4 : JTextField
Start Page
Delivery.java
Login.java
Menu.java
Cart.java
Register.java
Source
Design
History
package furniture_web;
import java.awt.Image;
import javax.swing.ImageIcon;
import javax.swing.JOptionPane;
public class Delivery extends javax.swing.JFrame {
public Delivery() {
initComponents();
Image icon = new ImageIcon(this.getClass().getResource("/Logo.png")).getImage();
this.setIconImage(icon);
}
@SuppressWarnings("unchecked")
Generated Code
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
JOptionPane.showMessageDialog(null, "Order Successful");
dispose ();
}
public static void main(String args[]) {
java.awt.EventQueue.invokeLater(new Runnable() {
public void run() {
new Delivery().setVisible(true);
}
furniture_web.Delivery
jButton1ActionPerformed

6. Evaluation

Java Swing was used in the development of the Furniture Shop Management System, a Java application designed to optimize workflows in a furniture store.

The UI provides a simple and easy-to-use interface for interaction and navigation. It was created with Java Swing.
Clear labels, tooltips, and instructions improve usability, and visual cues efficiently communicate critical information.

Because of its responsiveness, the design remains consistent across all screens and devices.

In conclusion, the Furniture Shop Management System provides a reliable and easy-to-use way to manage sales, inventory, and customer information in a retail setting for furniture. The furniture store owners and workers may benefit from the system's functional capabilities, user-friendly interface, and emphasis on security and customization. These features help to increase everyday operations' efficiency and productivity.

7. Requirements.

7.1 Functional Requirements

1. Real time supply

   In these customers must be able to see their furniture look like in their room.

2. User Authentication

   In this web application customers should be able to log into their accounts and must access features and the design tool.

7.2 Non-Functional Requirements

1. User interface

   This web application must have a user-friendly interface that makes things easy for customers.

2. Security

   In this app make sure that this has security to secure the customer's data and prevent unauthorized access.

3. Performance

   This online furniture store should be able to handle the 2D and 3D graphics smoothly.

4. Scalability

   This web-based application should be able to handle many customers at one time.

5. Compatibly

   This application should be able to adjust various screen sizes.

8. Version controlling and project management.

In this project management and version controlling must ensure that the web-based application for the online furniture store is successfully developed. In every project, this version of controlling and project management is an essential thing.

1. Project management tools.

This must ensure that main project management tools are included and used in this project like Asana, Trello, and task management and milestones. These project management tools help to break this system into simple parts into manageable tasks and also using these tools can assign team members to their parts.

2. Agile Methodology

This system was created using the agile methodology to do the developments in this online furniture store. This helps to break the hall projects into small sprints that help to make this project easier. Using this can change and improve this system. The main aim of using this methodology is to make sure that the outcome meets the customer's expectations for this system.

3. Collaboration of the team

When making the system most essential thing is teamwork, good communication, and collaboration for the project. That makes a successful outcome. To get the outcome successfully have to make sure that the teammates have arranged meetings both virtual and online, and also have to discuss and make changes to the trending things.

4. Version control system

In this use GitHub is the hosting service that enables the changes to collaborate and also maintain the current code in the source code this can make sure that all the members are working on this project.

5. Strategy of brunching

When creating this system with the brunching strategy using the version control system that can manage the different systems in this and also it easy to fix the bugs and errors in the system earlier. Because of this can easily find the errors and bugs before merging to the main file.

When making the project the main aim to use this version control and project management is to maintain the quality of the code and also the successful product to customers.

9. Summary

A Java application called the Furniture Shop Management System was created with Java Swing to streamline business processes in a furniture store. It has modules for client service, sales management, inventory control, and reporting. The system has an easy-to-use UI, strong security features, customizable choices, and smooth module interaction. In general, it improves productivity and efficiency in handling the inventory of furniture, sales, and contacts with customers inside the store.

10. Conclusion

Modernizing and streamlining processes in furniture retail enterprises has advanced significantly with the creation of the Furniture Shop Management System. Using Java technology and the user-friendly Java Swing architecture, this system offers a complete inventory, sales, customer, and reporting management solution.

The system equips users with tools for effective inventory management, smooth sales transactions, and analytical reporting capabilities by paying close attention to functionality. Sensitive data is protected by strong security measures, and the user-friendly interface improves usage.

Furthermore, the system's scalability guarantees that it can be adjusted to accommodate future growth and development, and its flexibility permits adaptation to meet the requirements of various furniture stores.

To sum up, furniture dealers may benefit greatly from the Furniture Shop Management System, which provides a unified platform.

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