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|  | National University  of Computer and Emerging Sciences  Chiniot-Faisalabad Campus | A blue logo with white background  Description automatically generated |

**CS3004-Database Lab**

Project Deliverable I

**FALL 2024**

**Group Members**

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**Submitted To**

“Ms. Amna Waheed”

# E-Commerce Store:-

# Graphical User Interface:-

Question:- 01

Code:-

using System;

using System.Collections.Generic;

using System.Linq;

using System.Windows.Forms;

namespace ECommerceStore

{

public class Program

{

static void Main()

{

Application.EnableVisualStyles();

Application.SetCompatibleTextRenderingDefault(false);

Application.Run(new MainForm());

}

}

public class MainForm : Form

{

private Button btnLogin, btnRegister;

public MainForm()

{

InitializeComponents();

}

private void InitializeComponents()

{

this.Text = "E-Commerce Store";

btnLogin = new Button { Text = "Login", Location = new System.Drawing.Point(50, 50), Width = 200 };

btnRegister = new Button { Text = "Register", Location = new System.Drawing.Point(50, 100), Width = 200 };

btnLogin.Click += BtnLogin\_Click;

btnRegister.Click += BtnRegister\_Click;

Controls.Add(btnLogin);

Controls.Add(btnRegister);

}

private void BtnLogin\_Click(object sender, EventArgs e)

{

LoginForm loginForm = new LoginForm();

loginForm.ShowDialog();

}

private void BtnRegister\_Click(object sender, EventArgs e)

{

RegisterForm registerForm = new RegisterForm();

registerForm.ShowDialog();

}

}

public class LoginForm : Form

{

private TextBox txtUsername, txtPassword;

private Button btnLogin;

private Label lblUsername, lblPassword;

public LoginForm()

{

InitializeComponents();

}

private void InitializeComponents()

{

this.Text = "Login";

this.Size = new System.Drawing.Size(300, 250);

lblUsername = new Label { Text = "Enter Username:", Location = new System.Drawing.Point(30, 30), Width = 120 };

lblPassword = new Label { Text = "Enter Password:", Location = new System.Drawing.Point(30, 80), Width = 120 };

txtUsername = new TextBox { Location = new System.Drawing.Point(150, 30), Width = 100 };

txtPassword = new TextBox { Location = new System.Drawing.Point(150, 80), Width = 100, PasswordChar = '\*' };

btnLogin = new Button { Text = "Login", Location = new System.Drawing.Point(100, 130), Width = 100 };

btnLogin.Click += BtnLogin\_Click;

Controls.Add(lblUsername);

Controls.Add(lblPassword);

Controls.Add(txtUsername);

Controls.Add(txtPassword);

Controls.Add(btnLogin);

}

private void BtnLogin\_Click(object sender, EventArgs e)

{

string username = txtUsername.Text;

string password = txtPassword.Text;

var user = UserController.Authenticate(username, password);

if (user != null)

{

MessageBox.Show("Login successful!");

if (user.Role == UserRole.Customer)

{

CustomerDashboard customerDashboard = new CustomerDashboard();

customerDashboard.ShowDialog();

}

else if (user.Role == UserRole.Manager)

{

ManagerDashboard managerDashboard = new ManagerDashboard();

managerDashboard.ShowDialog();

}

this.Close();

}

else

{

MessageBox.Show("Invalid credentials.");

}

}

}

public class RegisterForm : Form

{

private TextBox txtUsername, txtPassword, txtConfirmPassword;

private ComboBox cmbRole;

private Button btnRegister;

private Label lblUsername, lblPassword, lblConfirmPassword, lblRole;

public RegisterForm()

{

InitializeComponents();

}

private void InitializeComponents()

{

this.Text = "Register";

this.Size = new System.Drawing.Size(300, 350);

lblUsername = new Label { Text = "Enter Username:", Location = new System.Drawing.Point(30, 30), Width = 120 };

lblPassword = new Label { Text = "Enter Password:", Location = new System.Drawing.Point(30, 80), Width = 120 };

lblConfirmPassword = new Label { Text = "Confirm Password:", Location = new System.Drawing.Point(30, 130), Width = 120 };

lblRole = new Label { Text = "Select Role:", Location = new System.Drawing.Point(30, 180), Width = 120 };

txtUsername = new TextBox { Location = new System.Drawing.Point(150, 30), Width = 100 };

txtPassword = new TextBox { Location = new System.Drawing.Point(150, 80), Width = 100, PasswordChar = '\*' };

txtConfirmPassword = new TextBox { Location = new System.Drawing.Point(150, 130), Width = 100, PasswordChar = '\*' };

cmbRole = new ComboBox { Location = new System.Drawing.Point(150, 180), Width = 100 };

cmbRole.Items.AddRange(new string[] { "Customer", "Manager" });

btnRegister = new Button { Text = "Register", Location = new System.Drawing.Point(100, 230), Width = 100 };

btnRegister.Click += BtnRegister\_Click;

Controls.Add(lblUsername);

Controls.Add(lblPassword);

Controls.Add(lblConfirmPassword);

Controls.Add(lblRole);

Controls.Add(txtUsername);

Controls.Add(txtPassword);

Controls.Add(txtConfirmPassword);

Controls.Add(cmbRole);

Controls.Add(btnRegister);

}

private void BtnRegister\_Click(object sender, EventArgs e)

{

string username = txtUsername.Text;

string password = txtPassword.Text;

string confirmPassword = txtConfirmPassword.Text;

string roleString = cmbRole.SelectedItem.ToString();

if (password != confirmPassword)

{

MessageBox.Show("Passwords do not match.");

return;

}

UserRole role = roleString == "Customer" ? UserRole.Customer : UserRole.Manager;

bool isRegistered = UserController.RegisterUser(username, password, role);

if (isRegistered)

{

MessageBox.Show("Registration successful! Please login.");

this.Close();

}

else

{

MessageBox.Show("Registration failed.");

}

}

}

public class CustomerDashboard : Form

{

public CustomerDashboard()

{

this.Text = "Customer Dashboard";

Button btnBrowseProducts = new Button { Text = "Browse Products", Location = new System.Drawing.Point(50, 50), Width = 200 };

Button btnViewCart = new Button { Text = "View Cart", Location = new System.Drawing.Point(50, 100), Width = 200 };

btnBrowseProducts.Click += BtnBrowseProducts\_Click;

btnViewCart.Click += BtnViewCart\_Click;

Controls.Add(btnBrowseProducts);

Controls.Add(btnViewCart);

}

private void BtnBrowseProducts\_Click(object sender, EventArgs e)

{

ProductForm productForm = new ProductForm();

productForm.ShowDialog();

}

private void BtnViewCart\_Click(object sender, EventArgs e)

{

CartForm cartForm = new CartForm();

cartForm.ShowDialog();

}

}

public class ManagerDashboard : Form

{

public ManagerDashboard()

{

this.Text = "Manager Dashboard";

Button btnManageProducts = new Button { Text = "Manage Products", Location = new System.Drawing.Point(50, 50), Width = 200 };

btnManageProducts.Click += BtnManageProducts\_Click;

Controls.Add(btnManageProducts);

}

private void BtnManageProducts\_Click(object sender, EventArgs e)

{

ManageProductsForm manageProductsForm = new ManageProductsForm();

manageProductsForm.ShowDialog();

}

}

public class ProductForm : Form

{

private ListBox lstProducts;

private Button btnAddToCart;

private List<Product> products;

public ProductForm()

{

InitializeComponents();

}

private void InitializeComponents()

{

this.Text = "Browse Products";

this.Size = new System.Drawing.Size(300, 400);

lstProducts = new ListBox { Location = new System.Drawing.Point(30, 30), Width = 250, Height = 200 };

btnAddToCart = new Button { Text = "Add to Cart", Location = new System.Drawing.Point(30, 250), Width = 250 };

btnAddToCart.Click += BtnAddToCart\_Click;

Controls.Add(lstProducts);

Controls.Add(btnAddToCart);

LoadProducts();

}

private void LoadProducts()

{

products = UserController.GetAvailableProducts();

lstProducts.DataSource = products.Select(p => p.Name).ToList();

}

private void BtnAddToCart\_Click(object sender, EventArgs e)

{

string selectedProductName = lstProducts.SelectedItem.ToString();

var product = products.First(p => p.Name == selectedProductName);

UserController.AddProductToCart(product);

// Refresh the product list

products = UserController.GetAvailableProducts();

lstProducts.DataSource = products.Select(p => p.Name).ToList();

}

}

public class CartForm : Form

{

private ListBox lstCart;

public CartForm()

{

this.Text = "Cart";

lstCart = new ListBox { Location = new System.Drawing.Point(30, 30), Width = 250, Height = 200 };

Controls.Add(lstCart);

LoadCart();

}

private void LoadCart()

{

var cart = UserController.GetCart();

lstCart.DataSource = cart.Select(p => p.Name).ToList();

}

}

public static class UserController

{

private static List<User> users = new List<User>();

private static List<Product> products = new List<Product>();

private static List<Product> cart = new List<Product>();

static UserController()

{

// Seed some users and products for demo

users.Add(new User("customer1", "password", UserRole.Customer));

users.Add(new User("manager1", "password", UserRole.Manager));

products.Add(new Product("Product A", 10));

products.Add(new Product("Product B", 20));

}

public static User Authenticate(string username, string password)

{

return users.FirstOrDefault(u => u.Username == username && u.Password == password);

}

public static bool RegisterUser(string username, string password, UserRole role)

{

if (users.Any(u => u.Username == username)) return false;

users.Add(new User(username, password, role));

return true;

}

public static List<Product> GetAvailableProducts()

{

return products.Where(p => !cart.Contains(p)).ToList();

}

public static void AddProductToCart(Product product)

{

cart.Add(product);

}

public static List<Product> GetCart()

{

return cart;

}

// New method to add a product (for Manager)

public static void AddProduct(Product product)

{

products.Add(product);

}

}

public class User

{

public string Username { get; set; }

public string Password { get; set; }

public UserRole Role { get; set; }

public User(string username, string password, UserRole role)

{

Username = username;

Password = password;

Role = role;

}

}

public enum UserRole

{

Customer,

Manager

}

public class Product

{

public string Name { get; set; }

public decimal Price { get; set; }

public Product(string name, decimal price)

{

Name = name;

Price = price;

}

}

public class ManageProductsForm : Form

{

private TextBox txtProductName, txtProductPrice;

private Button btnAddProduct;

public ManageProductsForm()

{

InitializeComponents();

}

private void InitializeComponents()

{

this.Text = "Manage Products";

this.Size = new System.Drawing.Size(300, 200);

txtProductName = new TextBox { Location = new System.Drawing.Point(50, 50), Width = 200 };

txtProductPrice = new TextBox { Location = new System.Drawing.Point(50, 80), Width = 200 };

btnAddProduct = new Button { Text = "Add Product", Location = new System.Drawing.Point(50, 110), Width = 200 };

btnAddProduct.Click += BtnAddProduct\_Click;

Controls.Add(txtProductName);

Controls.Add(txtProductPrice);

Controls.Add(btnAddProduct);

}

private void BtnAddProduct\_Click(object sender, EventArgs e)

{

string productName = txtProductName.Text;

decimal productPrice;

if (decimal.TryParse(txtProductPrice.Text, out productPrice))

{

Product newProduct = new Product(productName, productPrice);

UserController.AddProduct(newProduct);

MessageBox.Show("Product added successfully.");

}

else

{

MessageBox.Show("Invalid price.");

}

}

}

}

Output:-

























































