**PARCELTRACKING SYSTEM**

package ParcelTrackingSystem;

import javax.swing.\*;

import javax.swing.table.DefaultTableModel;

import java.awt.\*;

import java.awt.event.\*;

import java.util.ArrayList;

public class ParcelTrackingSystem {

private static ArrayList<Parcel> *parcelList* = new ArrayList<>();

public static void main(String[] args) {

// Initialize with default parcels

*initializeDefaultData*();

// Login Screen

*loginScreen*();

}

private static void loginScreen() {

JFrame loginFrame = new JFrame("Parcel Tracking System - Login");

loginFrame.setDefaultCloseOperation(JFrame.***EXIT\_ON\_CLOSE***);

loginFrame.setSize(400, 250);

loginFrame.setLayout(null);

JLabel userIdLabel = new JLabel("User ID:");

JLabel passwordLabel = new JLabel("Password:");

JTextField userIdField = new JTextField();

JPasswordField passwordField = new JPasswordField();

JButton loginButton = new JButton("Login");

JLabel messageLabel = new JLabel("", SwingConstants.***CENTER***);

userIdLabel.setBounds(50, 50, 100, 25);

passwordLabel.setBounds(50, 90, 100, 25);

userIdField.setBounds(150, 50, 180, 25);

passwordField.setBounds(150, 90, 180, 25);

loginButton.setBounds(150, 130, 100, 30);

messageLabel.setBounds(50, 180, 300, 25);

loginFrame.add(userIdLabel);

loginFrame.add(passwordLabel);

loginFrame.add(userIdField);

loginFrame.add(passwordField);

loginFrame.add(loginButton);

loginFrame.add(messageLabel);

loginFrame.setVisible(true);

loginButton.addActionListener(e -> {

String userId = userIdField.getText().trim();

String password = new String(passwordField.getPassword()).trim();

// Admin Login

if (userId.equalsIgnoreCase("admin") && password.equals("password")) {

loginFrame.dispose();

*mainScreen*("Admin");

} else {

// Customer Login

boolean isCustomer = false;

for (Parcel parcel : *parcelList*) {

if (parcel.getRecipient().equalsIgnoreCase(userId) && parcel.getId().equals(password)) {

isCustomer = true;

loginFrame.dispose();

*mainScreen*("Customer");

break;

}

}

if (!isCustomer) {

messageLabel.setText("Invalid credentials!");

}

}

});

}

private static void mainScreen(String userType) {

JFrame frame = new JFrame("Parcel Tracking System - " + userType);

frame.setDefaultCloseOperation(JFrame.***EXIT\_ON\_CLOSE***);

frame.setSize(700, 500);

JPanel panel = new JPanel();

panel.setLayout(new BorderLayout());

String[] columnNames = {"Parcel ID", "Recipient", "Location", "Status"};

DefaultTableModel tableModel = new DefaultTableModel(columnNames, 0);

JTable parcelTable = new JTable(tableModel);

JScrollPane scrollPane = new JScrollPane(parcelTable);

panel.add(scrollPane, BorderLayout.***CENTER***);

JPanel controlPanel = new JPanel(new GridLayout(1, 3, 10, 10));

if (userType.equals("Admin")) {

JButton addParcelButton = new JButton("Add Parcel");

JButton updateStatusButton = new JButton("Update Status");

JButton showAllParcelsButton = new JButton("Show All Parcels");

controlPanel.add(addParcelButton);

controlPanel.add(updateStatusButton);

controlPanel.add(showAllParcelsButton);

addParcelButton.addActionListener(e -> *addParcel*(tableModel));

updateStatusButton.addActionListener(e -> *updateParcelStatus*(tableModel));

showAllParcelsButton.addActionListener(e -> *updateTable*(tableModel));

} else {

JButton showDeliveryLocationButton = new JButton("Show Delivery Location");

controlPanel.add(showDeliveryLocationButton);

showDeliveryLocationButton.addActionListener(e -> *showDeliveryLocation*(parcelTable));

}

panel.add(controlPanel, BorderLayout.***SOUTH***);

frame.add(panel);

*updateTable*(tableModel);

frame.setVisible(true);

}

private static void addParcel(DefaultTableModel tableModel) {

String id = JOptionPane.*showInputDialog*("Enter Parcel ID:");

String recipient = JOptionPane.*showInputDialog*("Enter Recipient Name:");

String location = JOptionPane.*showInputDialog*("Enter Delivery Location:");

String status = JOptionPane.*showInputDialog*("Enter Parcel Status:");

if (id != null && recipient != null && location != null && status != null) {

Parcel parcel = new Parcel(id, recipient, location, status);

*parcelList*.add(parcel);

*updateTable*(tableModel);

JOptionPane.*showMessageDialog*(null, "Parcel added successfully!");

} else {

JOptionPane.*showMessageDialog*(null, "Invalid input! Parcel not added.");

}

}

private static void updateParcelStatus(DefaultTableModel tableModel) {

String id = JOptionPane.*showInputDialog*("Enter Parcel ID to Update Status:");

if (id == null) return;

boolean found = false;

for (Parcel parcel : *parcelList*) {

if (parcel.getId().equalsIgnoreCase(id)) {

String newStatus = JOptionPane.*showInputDialog*("Enter New Status:");

if (newStatus != null) {

parcel.setStatus(newStatus);

*updateTable*(tableModel);

JOptionPane.*showMessageDialog*(null, "Status updated successfully!");

found = true;

}

break;

}

}

if (!found) {

JOptionPane.*showMessageDialog*(null, "Parcel not found!");

}

}

private static void showDeliveryLocation(JTable parcelTable) {

int selectedRow = parcelTable.getSelectedRow();

if (selectedRow == -1) {

JOptionPane.*showMessageDialog*(null, "Please select a parcel to view the location!");

} else {

String location = (String) parcelTable.getValueAt(selectedRow, 2);

JOptionPane.*showMessageDialog*(null, "Delivery Location: " + location);

}

}

private static void updateTable(DefaultTableModel tableModel) {

tableModel.setRowCount(0);

for (Parcel parcel : *parcelList*) {

tableModel.addRow(new Object[]{parcel.getId(), parcel.getRecipient(), parcel.getLocation(), parcel.getStatus()});

}

}

private static void initializeDefaultData() {

*parcelList*.add(new Parcel("P101", "JohnDoe", "New York", "Pending"));

*parcelList*.add(new Parcel("P102", "JaneSmith", "Los Angeles", "Dispatched"));

*parcelList*.add(new Parcel("P103", "SamWilson", "Chicago", "Delivered"));

}

static class Parcel {

private String id;

private String recipient;

private String location;

private String status;

public Parcel(String id, String recipient, String location, String status) {

this.id = id;

this.recipient = recipient;

this.location = location;

this.status = status;

}

public String getId() {

return id;

}

public String getRecipient() {

return recipient;

}

public String getLocation() {

return location;

}

public String getStatus() {

return status;

}

public void setStatus(String status) {

this.status = status;

}

}

}