Camera Rental Application Program

//User class

public class User {

private String username;

private String password;

private double walletBalance;

public User(String username, String password) {

this.username = username;

this.password = password;

this.walletBalance = 500;

}

public String getUsername() {

return username;

}

public String getPassword() {

return password;

}

public double getWalletBalance() {

return walletBalance;

}

public void depositToWallet(double amount) {

walletBalance += amount;

System.***out***.println("Amount deposited successfully. Current wallet balance: " + walletBalance);

}

}

//Camera class

import java.util.\*;

class Camera {

private int cameraId;

private String brand;

private String model;

private double rentalPricePerDay;

private boolean rented;

public Camera(int cameraId, String brand, String model, double rentalPricePerDay) {

this.cameraId = cameraId;

this.brand = brand;

this.model = model;

this.rentalPricePerDay = rentalPricePerDay;

this.rented = false;

}

public int getCameraId() {

return cameraId;

}

public String getBrand() {

return brand;

}

public String getModel() {

return model;

}

public double getRentalPricePerDay() {

return rentalPricePerDay;

}

public boolean isRented() {

return rented;

}

public void setRented(boolean rented) {

this.rented = rented;

}

}

//Main class

import java.util.ArrayList;

import java.util.List;

import java.util.Scanner;

public class CameraRentalApp {

private static Scanner *scanner* = new Scanner(System.***in***);

private static List<Camera> *cameraList* = new ArrayList<>();

private static User *currentUser*;

public static void main(String[] args) {

*populateCameraList*(); // Populate some initial camera data

boolean running = true;

while (running) {

System.***out***.println("+---------------+----------------+");

System.***out***.println("|Welcome to the Camera Rental App!|");

System.***out***.println("+---------------+-----------------+");

if (*currentUser* == null) {

*displayLoginMenu*();

int choice = *scanner*.nextInt();

*scanner*.nextLine(); // Consume the newline character

switch (choice) {

case 1:

*registerUser*();

break;

case 2:

*loginUser*();

break;

case 3:

running = false;

break;

default:

System.***out***.println("Invalid choice. Please try again.");

}

} else {

*displayUserMenu*();

int choice = *scanner*.nextInt();

*scanner*.nextLine(); // Consume the newline character

switch (choice) {

case 1:

*displayCameras*();

break;

case 2:

*rentCamera*();

break;

case 3:

*listCameras*();

break;

case 4:

*displayWalletBalance*();

break;

case 5:

*logoutUser*();

break;

default:

System.***out***.println("Invalid choice. Please try again."); }

}

}

}

private static void displayLoginMenu() {

System.***out***.println("---------------------------");

System.***out***.println("1. Register");

System.***out***.println("2. Login");

System.***out***.println("3. Exit");

System.***out***.println("---------------------------");

System.***out***.print("Enter your choice: ");

}

private static void displayUserMenu() {

System.***out***.println("Welcome, " + *currentUser*.getUsername() + "!");

System.***out***.println("---------------------------");

System.***out***.println("1. My Cameras");

System.***out***.println("2. Rent a Camera");

System.***out***.println("3. View All Cameras");

System.***out***.println("4. Manage Wallet");

System.***out***.println("5. Exit");

System.***out***.println("---------------------------");

System.***out***.print("Enter your choice: ");

}

private static void displayCameras() {

while (true) {

System.***out***.println("---------------------------");

System.***out***.println("1. Add a Camera");

System.***out***.println("2. Remove a Camera");

System.***out***.println("3. Go back to Previous Menu");

System.***out***.println("---------------------------");

System.***out***.print("Enter your choice: ");

int choice = *scanner*.nextInt();

*scanner*.nextLine(); // Consume the newline character

switch (choice) {

case 1:

*addCamera*();

break;

case 2:

*removeCamera*();

break;

case 3:

return; // Go back to the previous menu

default:

System.***out***.println("Invalid choice. Please try again.");

}

}

}

private static void registerUser() {

System.***out***.print("Enter username: ");

String username = *scanner*.nextLine();

System.***out***.print("Enter password: ");

String password = *scanner*.nextLine();

*currentUser* = new User(username, password);

System.***out***.println("Registration successful! You can now login with your credentials.");

}

private static void loginUser() {

System.***out***.print("Enter username: ");

String username = *scanner*.nextLine();

System.***out***.print("Enter password: ");

String password = *scanner*.nextLine();

if (*currentUser* != null && *currentUser*.getUsername().equals(username) && *currentUser*.getPassword().equals(password)) {

System.***out***.println("Login successful! Welcome, " + *currentUser*.getUsername() + "!");

} else {

System.***out***.println("Invalid username or password. Please try again.");

*currentUser* = null;

}

}

private static void logoutUser() {

*currentUser* = null;

System.***out***.println("Logout successful!");

System.***out***.println("+-------------------------------------------------+");

System.***out***.println("| Thank you for using the Camera Rental App! |");

System.***out***.println("+-------------------------------------------------+");

}

private static void populateCameraList() {

*cameraList*.add(new Camera(1, "Canon", "EOS R", 500.0));

*cameraList*.add(new Camera(2, "Nikon", "D850", 600.0));

*cameraList*.add(new Camera(3, "Sony", "Alpha A7 III", 700.0));

*cameraList*.add(new Camera(4, "Apple", "Camera1", 20000.0));

*cameraList*.add(new Camera(5, "Samsung","Cmera2", 700.0));

}

private static void listCameras() {

if (*cameraList*.isEmpty()) {

System.***out***.println("No Data Present at This Moment.");

} else {

System.***out***.println("======Available cameras:======");

// for (Camera camera : cameraList) {

System.***out***.println("============================================================");

System.***out***.println("cameraId Brand Model Rent per Day status");

System.***out***.println("============================================================");

for (Camera camera : *cameraList*) {

System.***out***.printf("%-5s %-7s %-13s $%-12.2f %-10s \n",

camera.getCameraId(),camera.getBrand(), camera.getModel(), camera.getRentalPricePerDay(),(camera.isRented() ? "Rented" : "Available"));

}

System.***out***.println("=============================================================");

}

}

private static void addCamera() {

System.***out***.print("Enter camera ID: ");

int cameraId = *scanner*.nextInt();

*scanner*.nextLine(); // Consume the newline character

System.***out***.print("Enter camera brand: ");

String brand = *scanner*.nextLine();

System.***out***.print("Enter camera model: ");

String model = *scanner*.nextLine();

System.***out***.print("Enter rental price per day: ");

double rentalPricePerDay = *scanner*.nextDouble();

*scanner*.nextLine(); // Consume the newline character

Camera camera = new Camera(cameraId, brand, model, rentalPricePerDay);

*cameraList*.add(camera);

System.***out***.println("Camera added to the main display.");

}

private static void removeCamera() {

System.***out***.print("Enter camera ID to remove: ");

int cameraId = *scanner*.nextInt();

*scanner*.nextLine(); // Consume the newline character

boolean found = false;

for (Camera camera : *cameraList*) {

if (camera.getCameraId() == cameraId) {

*cameraList*.remove(camera);

found = true;

System.***out***.println("Camera removed successfully.");

break;

}

}

if (!found) {

System.***out***.println("Camera not found.");

}

}

private static void rentCamera() {

System.***out***.print("Enter camera ID to rent: ");

int cameraId = *scanner*.nextInt();

*scanner*.nextLine(); // Consume the newline character

Camera selectedCamera = null;

for (Camera camera : *cameraList*) {

if (camera.getCameraId() == cameraId) {

selectedCamera = camera;

break;

}

}

if (selectedCamera != null) {

if (selectedCamera.isRented()) {

System.***out***.println("Camera is already rented.");

} else {

if (*currentUser*.getWalletBalance() >= selectedCamera.getRentalPricePerDay()) {

*currentUser*.depositToWallet(-selectedCamera.getRentalPricePerDay());

selectedCamera.setRented(true);

System.***out***.println("Camera rented successfully!");

} else {

System.***out***.println("+----------------------------------------------------------------+");

System.***out***.println("| Insufficient balance in your wallet to rent this camera. |");

System.***out***.println("+----------------------------------------------------------------+");

}

}

} else {

System.***out***.println("Camera not found.");

}

}

private static void displayWalletBalance() {

while (true) {

System.***out***.println("---------------------------");

System.***out***.println("1. Deposit Money");

System.***out***.println("2. Show Available Balance");

System.***out***.println("3. Go back to Previous Menu");

System.***out***.println("---------------------------");

System.***out***.print("Enter your choice: ");

int choice = *scanner*.nextInt();

*scanner*.nextLine(); // Consume the newline character

switch (choice) {

case 1:

*depositToWallet*();

break;

case 2:

*showAvailableBalance*();

break;

case 3:

return; // Go back to the previous menu

default:

System.***out***.println("Invalid choice. Please try again.");

}

}

}

private static void depositToWallet() {

System.***out***.print("Enter the amount to deposit: ");

double amount = *scanner*.nextDouble();

*scanner*.nextLine(); // Consume the newline character

*currentUser*.depositToWallet(amount);

System.***out***.println("Amount deposited successfully!");

// Ask if the user wants to deposit more money

System.***out***.print("Do you want to deposit more? (y/N): ");

String choice = *scanner*.nextLine().toLowerCase();

if (choice.equals("y")) {

*depositToWallet*(); // Recursively call the depositToWallet() method

}

}

private static void showAvailableBalance() {

double balance = *currentUser*.getWalletBalance();

System.***out***.println("Available Balance: $" + balance);

}

}