

MINI PROJECT IN ONLINE CAB BOOKING

Online cab booking simplifies the process of reserving a taxi through a digital platform or mobile app. Users register, input their current location and desired destination, and receive a fare estimate. The platform assigns a nearby driver, whose details are shared with the user. Real-time tracking ensures users can monitor the cab's location. Payment is seamlessly processed online, and after reaching the destination, users can rate and provide feedback. This mini project explores the essential functionalities of an online cab booking system, emphasizing user convenience and efficient transportation solutions."

PROGRAM:

```
import java.util.ArrayList;

import java.util.List;

import java.util.Scanner;

class User {

    private String name;

    private String phoneNumber;

    public User(String name, String phoneNumber) {

        this.name = name;

        this.phoneNumber = phoneNumber;

    }

    public String getName() {

        return name;

    }

    public static User getUserInput() {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter user name: ");

        String name = scanner.nextLine();

        System.out.print("Enter user phone number: ");

        String phoneNumber = scanner.nextLine();

        return new User(name, phoneNumber);

    }

}

class Cab {
```

```
private String cabNumber;
private String driverName;
private boolean isAvailable;
public Cab(String cabNumber, String driverName) {
    this.cabNumber = cabNumber;
    this.driverName = driverName;
    this.isAvailable = true;
}
public boolean isAvailable() {
    return isAvailable;
}
public void setAvailable(boolean available) {
    isAvailable = available;
}
public static Cab getCabInput() {
    Scanner scanner = new Scanner(System.in);
    System.out.print("Enter cab number: ");
    String cabNumber = scanner.nextLine();
    System.out.print("Enter driver's name: ");
    String driverName = scanner.nextLine();
    return new Cab(cabNumber, driverName);
}
}

class Booking {
    private User user;
    private Cab cab;
    private String pickupLocation;
    private String destination;
    private boolean isCompleted;
    public Booking(User user, Cab cab, String pickupLocation, String destination) {
        this.user = user;
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        this.cab = cab;

        this.pickupLocation = pickupLocation;

        this.destination = destination;

        this.isCompleted = false;
    }

    public User getUser() {
        return user;
    }

    public String getPickupLocation() {
        return pickupLocation;
    }

    public String getDestination() {
        return destination;
    }

    public Cab getCab() {
        return cab;
    }

    public void setCompleted(boolean completed) {
        isCompleted = completed;
    }

    public static Booking getBookingInput(User user, Cab cab) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter pickup location: ");
        String pickupLocation = scanner.nextLine();
        System.out.print("Enter destination: ");
        String destination = scanner.nextLine();
        return new Booking(user, cab, pickupLocation, destination);
    }
}

public class OnlineCabBookingSystem {
    private List<User> users = new ArrayList<>();

```

```

private List<Cab> cabs = new ArrayList<>();
private List<Booking> bookings = new ArrayList<>();
public void registerUser(User user) {
    users.add(user);
}
public void addCab(Cab cab) {
    cabs.add(cab);
}
public Booking bookCab(User user, String pickupLocation, String destination) {
    Cab availableCab = findAvailableCab();
    if (availableCab != null) {
        availableCab.setAvailable(false);
        Booking booking = new Booking(user, availableCab, pickupLocation, destination);
        bookings.add(booking);
        System.out.println("Cab booked for " + user.getName() + " from " + pickupLocation + " to " +
destination);
        return booking;
    } else {
        System.out.println("No available cabs at the moment. Please try again later.");
        return null;
    }
}
private Cab findAvailableCab() {
    for (Cab cab : cabs) {
        if (cab.isAvailable()) {
            return cab;
        }
    }
    return null;
}
public void completeBooking(Booking booking) {
    booking.getCab().setAvailable(true);
}

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```

        booking.setCompleted(true);

        System.out.println("Booking completed for " + booking.getUser().getName() + " from " +
booking.getPickupLocation() + " to " + booking.getDestination());
    }

    public static void main(String[] args) {

        OnlineCabBookingSystem system = new OnlineCabBookingSystem();

        Scanner scanner = new Scanner(System.in);

        // Register users

        System.out.println("User Registration:");

        User user1 = User.getUserInput();
        User user2 = User.getUserInput();

        system.registerUser(user1);
        system.registerUser(user2);

        // Add cabs

        System.out.println("Cab Registration:");

        Cab cab1 = Cab.getCabInput();
        Cab cab2 = Cab.getCabInput();

        system.addCab(cab1);
        system.addCab(cab2);

        // Book cabs

        System.out.println("Cab Booking:");

        User bookUser = User.getUserInput();

        System.out.print("Enter pickup location: ");

        String pickupLocation = scanner.nextLine();

        System.out.print("Enter destination: ");

        String destination = scanner.nextLine();

        Booking booking1 = system.bookCab(bookUser, pickupLocation, destination);

        // Complete a booking

        System.out.println("Complete Booking:");

        Booking completedBooking = Booking.getBookingInput(bookUser, booking1.getCab());

        system.completeBooking(completedBooking);
    }
}

```

OUTPUT

User Registration:

Enter user name: Alice

Enter user phone number: 123-456-7890

Enter user name: Bob

Enter user phone number: 987-654-3210

Cab Registration:

Enter cab number: ABC123

Enter driver's name: John

Enter cab number: XYZ789

Enter driver's name: Jane

Cab Booking:

Enter user name: Alice

Enter pickup location: Main Street

Enter destination: Central Park

Cab booked for Alice from Main Street to Central Park

Complete Booking:

Enter pickup location: Central Park

Enter destination: Times Square

Booking completed for Alice from Central Park to Times Square