GALGOTIAS UNIVERSITY

JAVA PROJECT

CAR RENTAL SYSYEM

TEAM-THE DEBUGGERS

1.YUSHRA UBAID(LEADER)

2.UTKARSH PANDEY

3.DEV KUMAR

4.VED SAHU

Purpose:

The Car Rental System is designed to simplify the process of renting vehicles by allowing users to view available cars, rent vehicles, return them, and track rental history. It aims to digitize the traditional car rental business for better efficiency, scalability, and user management.

Approach:

This project uses core OOP principles including Encapsulation, Inheritance, and Polymorphism. The main classes include:

Car: Represents a car with attributes like ID, brand, model, and availability.

Customer: Represents a customer with rental history.

RentalService: Handles the logic for renting and returning cars.

Main: Manages system interaction and simulates a basic console interface.

Expected Results:

GALGOTIAS UNIVERSITY

Users can list all available cars.

Rent and return vehicles.

Track which customer rented which car.

Proper management of car availability and history.

Workflow Steps (Process Flow):

GALGOTIAS UNIVERSITY

1. System Initialization:

RentalService creates a list of cars and customers.

2. Car Registration:

Car objects (with ID, brand, model) are added to the service.

3. Customer Registration:

Customer objects are created and stored by name.

4. View Available Cars:

System lists cars where isAvailable = true.

5. Rent a Car:

Customer selects a car by ID.

System checks availability.

If available, assigns the car and sets isAvailable = false.

6. Return a Car:

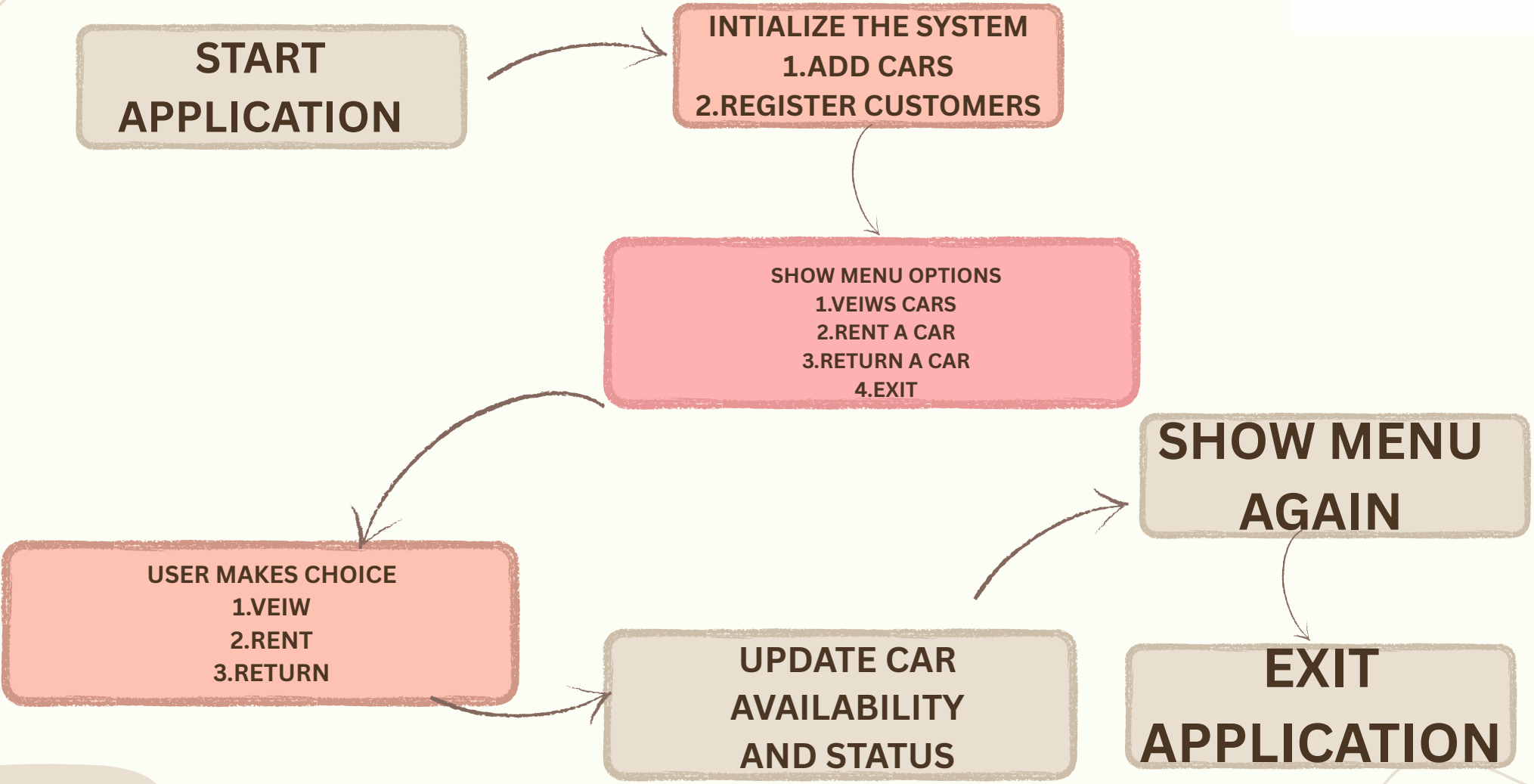
Customer returns the rented car.

System sets isAvailable = true.

7. Repeat or Exit:

User can rent/return more cars or exit.

FLOWCHART


START APPLICATION
INTIALIZE THE SYSTEM
1.ADD CARS
2.REGISTER CUSTOMERS
SHOW MENU OPTIONS
1.VEIWS CARS
2.RENT A CAR
3.RETURN A CAR
4.EXIT
USER MAKES CHOICE
1.VEIW
2.RENT
3.RETURN
UPDATE CAR AVAILABILITY AND STATUS
SHOW MENU AGAIN
EXIT APPLICATION

THANK YOU!