Business policies for Case study E -- Car Rental Agency: What happens at car return time?

Return rental car

When a customer drives the car to a rental location for return. The vehicle VIN will be used to find the latest transaction.

If the agreed return location on the transaction is different than the rental location the customer at, the return will not be accepted.

Early returns are acceptable, but the customers need to call the company 24 hours in advance to change their contract, otherwise, they will be charged the price that is listed on their contract. Late returns are also acceptable, but the customers need to call the company 24 hours in advance to change their contract, otherwise, the customers need to pay the late fee for each delayed day.

When a customer picks up the car, the employee needs to examine the car and make sure the vehicle condition needs to be good and the fuelOut needs to be full. When a customer returns the car, the employee will examine the vehicle and input information into the rental car system to calculate any additional charge.

Total charge is

At the end of a return, the customer may pay by cash, or by a credit card other than the one used to guarantee the rental, or they can use the credit card on file.

Pseudocode for Case study E -- Car Rental Agency: What happens at car return time?

Input:

The vehicle VIN,

Return Datetime,

Gas level (FuelIn),

Vehicle status,

Miles In,

ReturnLocation,

(PaymentMethod)

Process:

Use the VIN and time information to get the transaction detail (Car Make/ Model, Car Color, Car License Number, Car State, FuelOut, Customer Name, Pickup Location, Pickup Datetime, AgreedReturnDatetime. AgreedReturnLocation).

Check if transaction exist

If not, show “Can’t find transaction with this number” message. End process.

Check if AgreedReturnLocation equal to ReturnLocation

If not, show AgreedReturnLocation address. End process

Check if the Return Datetime is earlier than the AgreedReturnDatetime.

If not, calculate the charge for late fee using the late days and late rate.

Check if the FuelIn is full.

If not, check if purchased pre-purchased fuel

If yes, void fuel charge

else, calculate the charge for fuel fee using the fuel price and gas level.

Check if the vehicle status is not damaged.

If not, Check if purchased insurance coverage

If yes, void damage estimate

else, calculate the damage estimate

Get the RentalPrice

Calculate the TotalCharge by sum the RentalPrice, late fee, fuel fee and damage estimate.

Get PaymentMethod

Charge TotalCharge to Payment Method

Print out receipt

Output:

“Can’t find transaction with this number” or “The AgreedReturnLocation address” or the final receipt of the retail transaction.

Use case narrative(s) for Case study E -- Car Rental Agency: What happens at car return time?

|  |  |
| --- | --- |
| Name: Return rental car | |
| Goal: Rental car center received the car back. Need to charge customer. Need to update inventory to include returned car. | |
| Actors: Employee, Rental car System | |
| Preconditions: There must be a transaction in the system. System must have run the confirm rental pickup use case. | |
| Postcondition:  This use case is a success if we have charged the customer everything we expected and can update the inventory into the system. | |
| **Employee** | **Rental car System** |
| 1. Clicks on “car return” button |  |
| 2. Scan/Input the vehicle VIN, ReturnDateTime, ReturnLocation |  |
|  | 3. Return transaction detail |
|  | 4. Compare the ReturnLocation with the AgreedReturnLocation |
|  | 5. Compare the Return Datetime with the AgreedReturnDatetime. |
|  | 6. Ask for Gas level, Vehicle status, MilesIn |
| 7. Input Gas level, Vehicle status, MilesIn |  |
|  | 8. Check if the FuelIn is full. |
|  | 9. Check if the vehicle status is not damaged. |
|  | 10. Calculate total charge |
|  | 11. Display TotalCharge. |
| 12. Confirm TotalCharge |  |
|  | 13. Display payment method |
| 14. Select payment method |  |
|  | 15. Charge Payment method |
|  | 16. Print out receipt |
| Alternatives and Exceptions |  |
| Step 3: VIN number isn’t valid. Show “can’t find transaction with this number” message. Return to Step 2 to get new VIN number.  Step 4: If the ReturnLocation and AgreedReturnLocation is different. Show “the right Return Location”. End use case.  Step 5: If the Return Datetime is later than the AgreedReturnDatetime. Calculate the charge for late fee using the late days and late rate.  Step 8: If the FuelIn is not full. Check if purchased pre-purchased fuel. If yes, void fuel charge.  Else, calculate the charge for fuel fee using the fuel price and gas level.  Step 9: If the vehicle status is damaged. Check if purchased insurance coverage. If yes, void damage estimate. Else, calculate the damage estimate  Step 15: If the payment doesn’t go through, return to step 14. | |