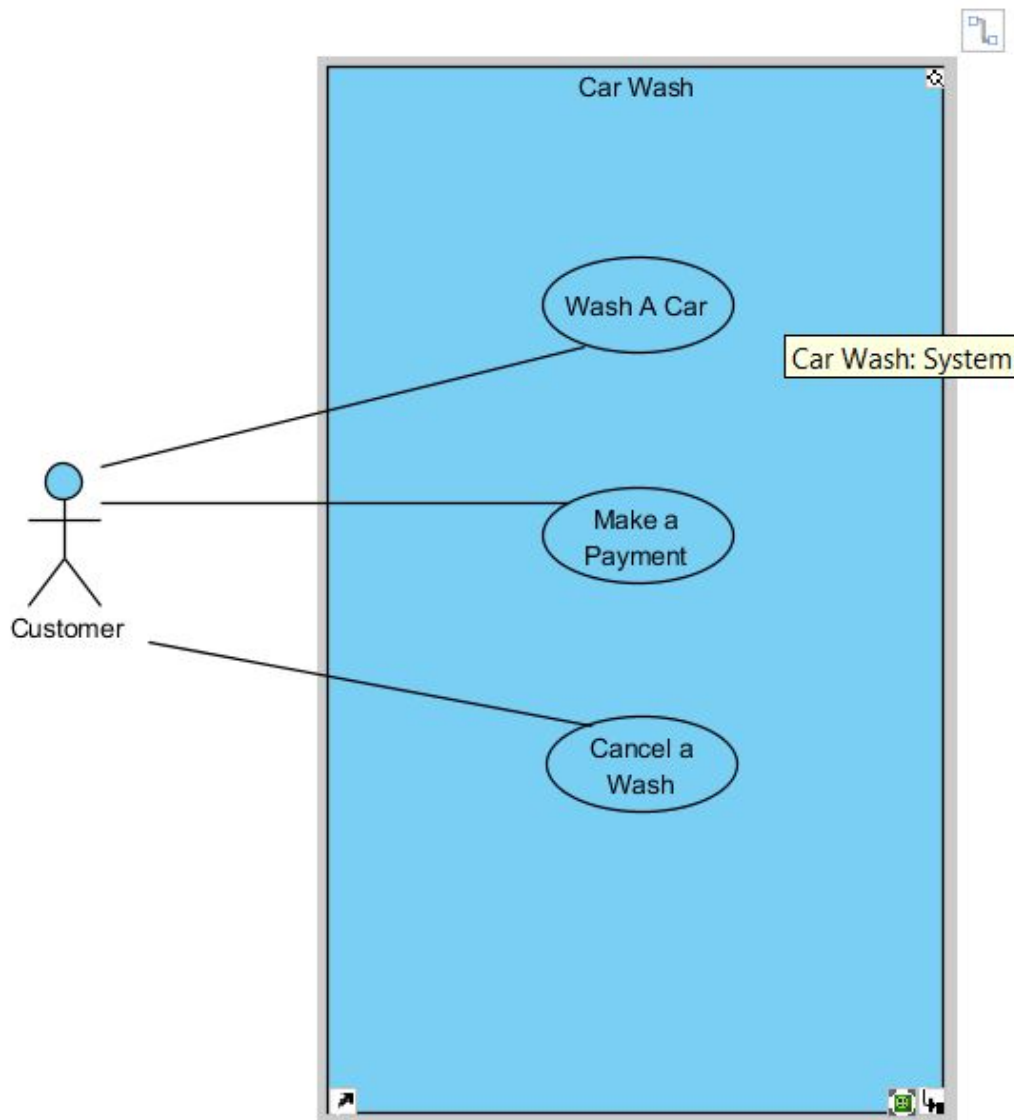# Actors and use cases

Actors:
Customers og Owner

Use cases:

Use case diagram

UC1; Brief: Cancel car wash

Main success scenario: Customer inserts a WashCard, enters the pin code, chooses a wash and pays for it. After the wash is started customer wants to cancel the wash. He goes to the machine and cancels the wash. The wash is stopped and customer can remove car from the wash.

UC2; Casual: Wash a car and get receipt

Main success scenario:
Customer inserts a WashCard, enters the pin, chooses a washtype and pays for it. After a transaction is complete he receives a receipt for the wash, where the price and the type of wash is described. He can also see the amount of money left on his WashCard.

Alternate flow:
Customer gets the receipt printed, but the WashCard machine has withdrawn more money than the customer paid for the wash.

UC3; Fully Dressed: Wash a Car

Scope: Car Wash Management System
Level: User goal
Primary Actor: Customer
Stakeholders and interests:
   - Owner: Wants the statistics of the washes and accurate transactions. He wants less possible errors and crashes on the machine and quick reparation if an error or crash is occurred. He is also interested in giving a customer good service, so he will return to his wash again.
   - Customer: Wants good service, quick and unproblematic wash and safe payment. He is also interested in getting receipt for the wash

Preconditions: System should be able to start a wash and accept the payment.

Success guarantee: Payment is accepted and car is washed.

Main success scenario: Customer comes to the machine, inserts the card into the WashCard machine, enters the pin, then he chooses a washtype and machine completes the operation, the car gets washed.

Alternate flow
   1. The customer doesn't have enough money for that specific wash, so he chooses the one that is cheaper, so it fits the amount of money he has on the WashCard, and then the car gets washed.
   2. The customer doesn't have any money on his WashCard, so he chooses to recharge his WashCard, by inserting both his credit card and his WashCard into the machine.

The transaction from the credit card to the WashCard is successful, so now he can pay for a wash.

3. Customer chooses a wash and wants to pay, but transaction isn't complete because of a crash or error in the system of the WashCard machine.
4. Customer enters a card, but system cannot recognize it.
5. Customer chooses a wash and pays for it, but wash doesn't start.
6. Customer enters both his WashCard and credit card to pay from one to another, but when money is withdrawn from the credit card, it doesn't come to WashCard.

Special Requirements
The WashCard machine should have a touchscreen.

Nouns list and conceptual classes:

Nouns:
Customer
Owner
Transaction
Wash
Credit card
WashCard
System
Car
Receipt
Price
Machine
Money
Operation
Account
Statistics
Crash
Error
Amount
Washtype
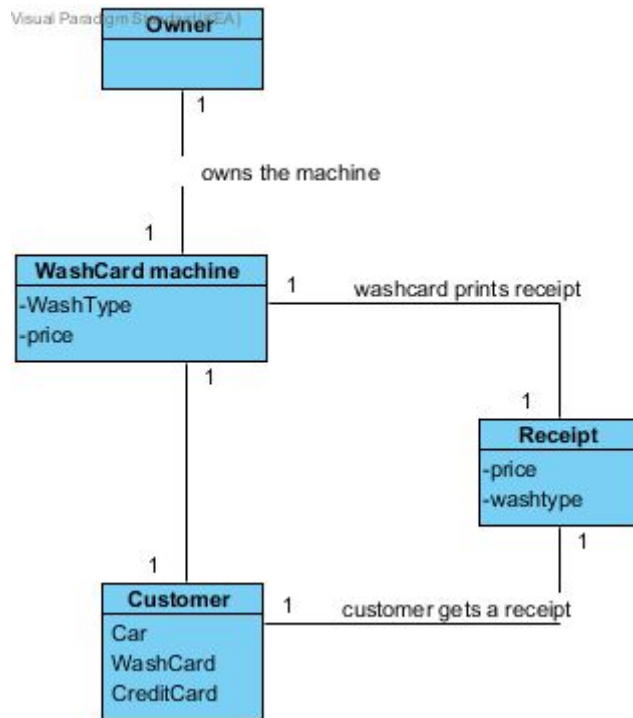
How we found the nouns:
We looked over our use cases, and analyzed the most relevant nouns for our use cases, diagrams and models.

Conceptual classes:
Customer(car)
Owner
WashCard machine(washtype,price)
Receipt(attri: price, washtype)

Domain model

```
                   ┌──────────────────┐
                   │      Owner       │
                   ├──────────────────┤
                   │                  │
                   └──────────────────┘
                           │ 1
                           │
                       owns the machine
                           │
                         1 │
   ┌──────────────────┐
   │ WashCard machine │
   ├──────────────────┤      1    washcard prints receipt
   │ -WashType        │────────────────────────────────┐
   │ -price           │                                 │
   └──────────────────┘                                 │
                    1 │                                  │
                                                       1 │
                                          ┌──────────────────┐
                                          │     Receipt      │
                                          ├──────────────────┤
                                          │ -price           │
                                          │ -washtype        │
                                          └──────────────────┘
                                                       1 │
                    1 │                                  │
   ┌──────────────────┐                                 │
   │    Customer      │   1    customer gets a receipt  │
   ├──────────────────┤────────────────────────────────┘
   │ Car              │
   │ WashCard         │
   │ CreditCard       │
   └──────────────────┘
```

System Sequence Diagram:

Customer

Casual Use
Case

WashCard machine

1: InsertCard

1.1: DisplayEnterPin

2: EnterThePin

2.1: InvalidPin: TryAgain

2.2: ValidPin: DisplayWashOptions

3: ChooseAWash

3.1: Display: WashPriceAndDuration

3.2: Display: ConfirmThePayment

4: ConfirmTheWash

4.1: ConfirmationAccepted

4.2: PrintOutReceipt

5: CompleteOperation