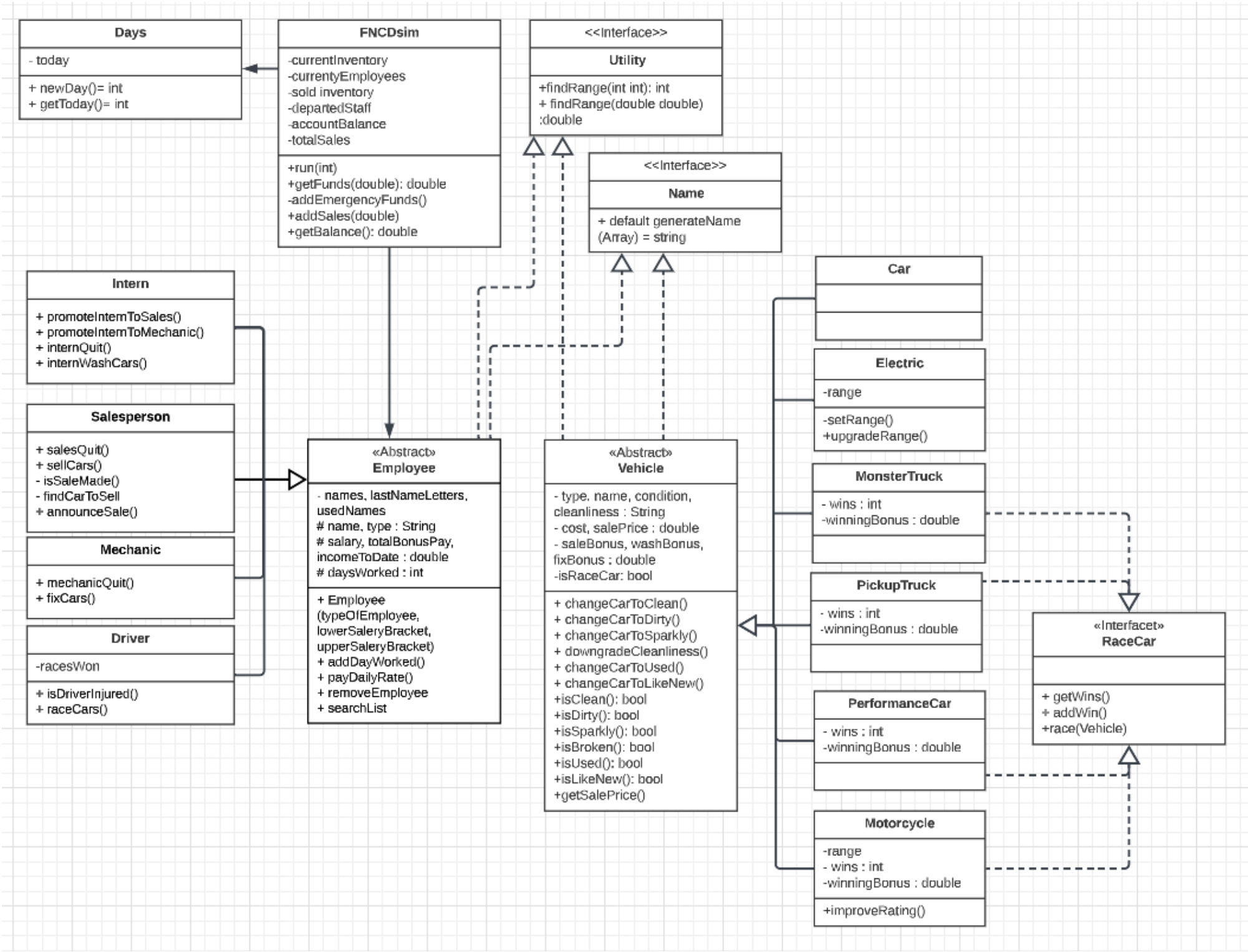
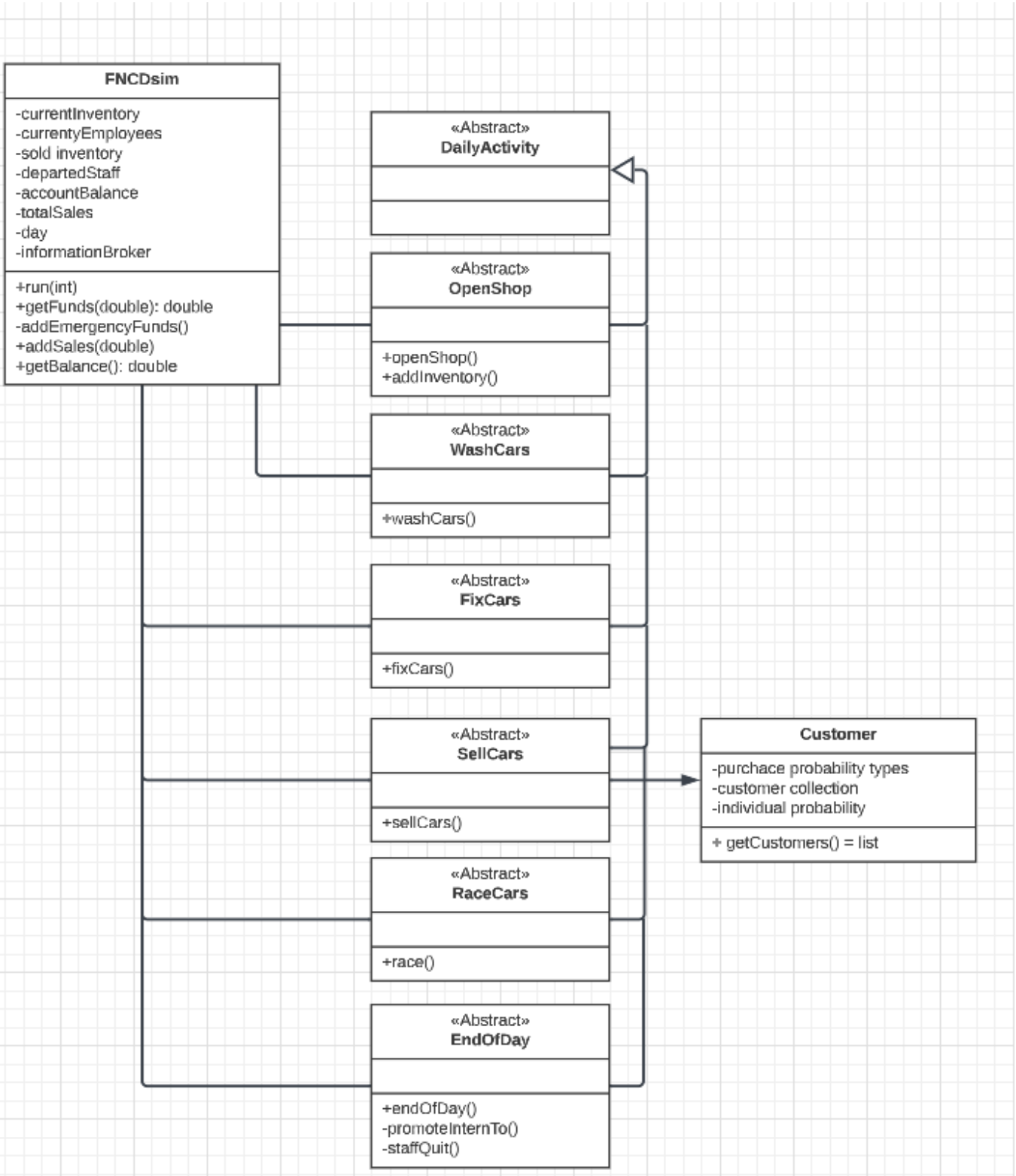
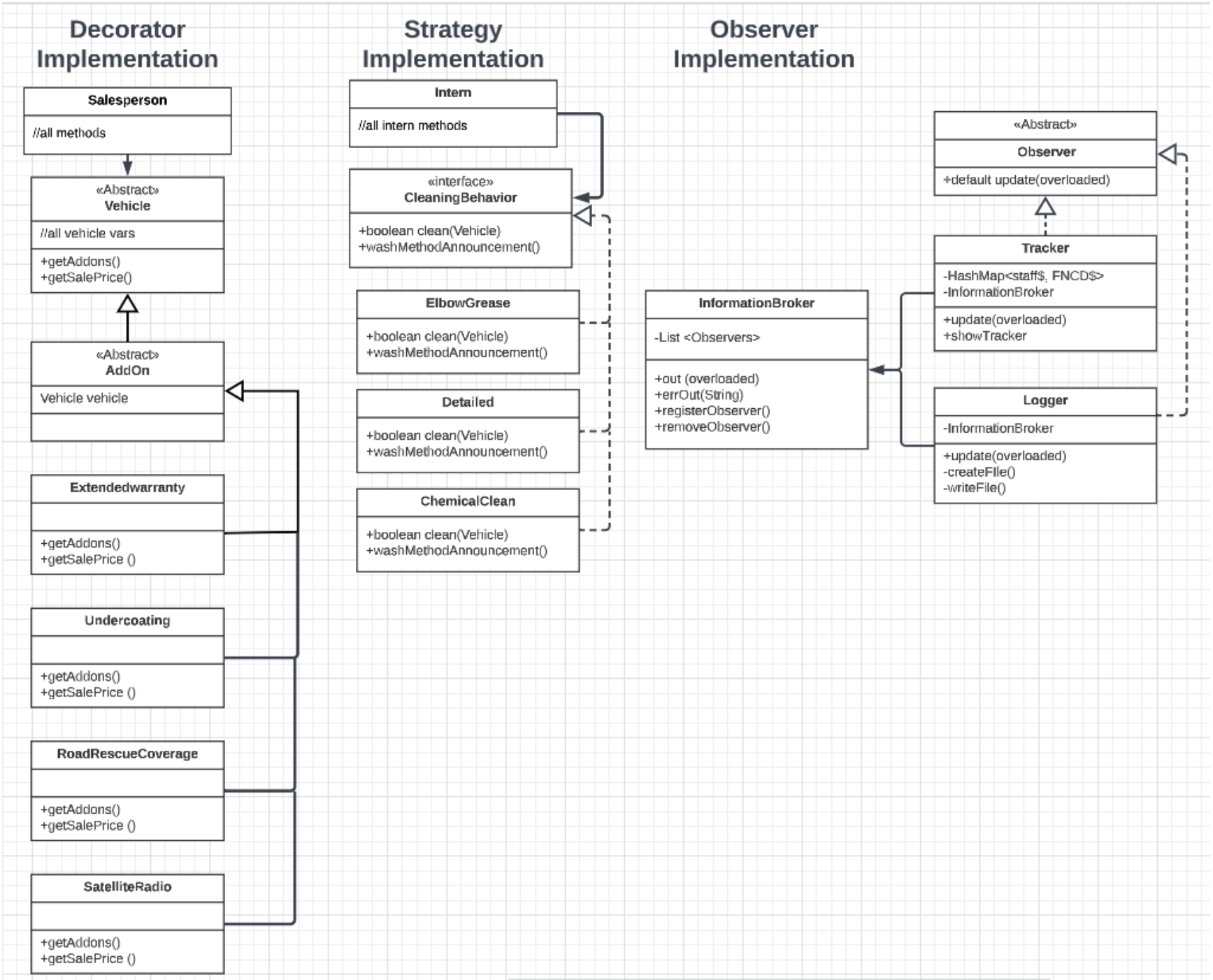

Days
- today
+ newDay()= int
+ getToday()= int
FNCDsim
-currentInventory
-currentyEmployees
-sold inventory
-departedStaff
-accountBalance
-totalSales
+run(int)
+getFunds(double): double
-addEmergencyFunds()
+addSales(double)
+getBalance(): double
<<Interface>>
Utility
+findRange(int int): int
+ findRange(double double)
:double
<<Interface>>
Name
+ default generateName
(Array) = string
Intern
+ promoteInternToSales()
+ promoteInternToMechanic()
+ internQuit()
+ internWashCars()
Salesperson
+ salesQuit()
+ sellCars()
- isSaleMade()
- findCarToSell
+ announceSale()
Mechanic
+ mechanicQuit()
+ fixCars()
Driver
-racesWon
+ isDriverInjured()
+ raceCars()
«Abstract»
Employee
- names, lastNameLetters, usedNames
name, type : String
salary, totalBonusPay, incomeToDate : double
daysWorked : int
+ Employee (typeOfEmployee, lowerSaleryBracket, upperSaleryBracket)
+ addDayWorked()
+ payDailyRate()
+ removeEmployee
+ searchList
«Abstract»
Vehicle
- type, name, condition, cleanliness : String
- cost, salePrice : double
- saleBonus, washBonus, fixBonus : double
-isRaceCar: bool
+ changeCarToClean()
+ changeCarToDirty()
+ changeCarToSparkly()
+ downgradeCleanliness()
+ changeCarToUsed()
+ changeCarToLikeNew()
+isClean(): bool
+isDirty(): bool
+isSparkly(): bool
+isBroken(): bool
+isUsed(): bool
+isLikeNew(): bool
+getSalePrice()
Car
Electric
-range
-setRange()
+upgradeRange()
MonsterTruck
- wins : int
-winningBonus : double
PickupTruck
- wins : int
-winningBonus : double
PerformanceCar
- wins : int
-winningBonus : double
Motorcycle
-range
- wins : int
-winningBonus : double
+improveRating()
«Interfacet»
RaceCar
+ getWins()
+ addWin()
+race(Vehicle)


FNCDsim
-currentInventory
-currentyEmployees
-sold inventory
-departedStaff
-accountBalance
-totalSales
-day
-informationBroker
+run(int)
+getFunds(double): double
-addEmergencyFunds()
+addSales(double)
+getBalance(): double
«Abstract»
DailyActivity
«Abstract»
OpenShop
+openShop()
+addInventory()
«Abstract»
WashCars
+washCars()
«Abstract»
FixCars
+fixCars()
«Abstract»
SellCars
+sellCars()
«Abstract»
RaceCars
+race()
«Abstract»
EndOfDay
+endOfDay()
-promoteInternTo()
-staffQuit()
Customer
-purchace probability types
-customer collection
-individual probability
+ getCustomers() = list


Decorator Implementation
Salesperson
//all methods
«Abstract»
Vehicle
//all vehicle vars
+getAddons()
+getSalePrice()
«Abstract»
AddOn
Vehicle vehicle
Extendedwarranty
+getAddons()
+getSalePrice ()
Undercoating
+getAddons()
+getSalePrice ()
RoadRescueCoverage
+getAddons()
+getSalePrice ()
SatelliteRadio
+getAddons()
+getSalePrice ()
Strategy Implementation
Intern
//all intern methods
«interface»
CleaningBehavior
+boolean clean(Vehicle)
+washMethodAnnouncement()
ElbowGrease
+boolean clean(Vehicle)
+washMethodAnnouncement()
Detailed
+boolean clean(Vehicle)
+washMethodAnnouncement()
ChemicalClean
+boolean clean(Vehicle)
+washMethodAnnouncement()
Observer Implementation
«Abstract»
Observer
+default update(overloaded)
Tracker
-HashMap<staff$, FNCD$>
-InformationBroker
+update(overloaded)
+showTracker
InformationBroker
-List <Observers>
+out (overloaded)
+errOut(String)
+registerObserver()
+removeObserver()
Logger
-InformationBroker
+update(overloaded)
-createFile()
-writeFile()

Changes from 3.1 UML diagram:
The abstract Subject class was removed from the observer pattern as there was only one class which was publishing the simulation data to the observers. Some of the methods in the decorator implementation also changed but aside from that there were no significant changes with the UML for patterns. Daily activities were however pulled out of the FNCD simulation and placed into their own separate classes and the Bank class was removed so all money is now handled in the FNCDsim class. Factory methods were also removed to be added back in 4.2.