OO Analysis and Design Lab   Week 1

The Following is only a Partial Solution to given Specification

As you appreciate the system of the garage business discussed in the lab would require a lot more investigation. It would be necessary to go through a number of iterations.

Actors
- Mechanic
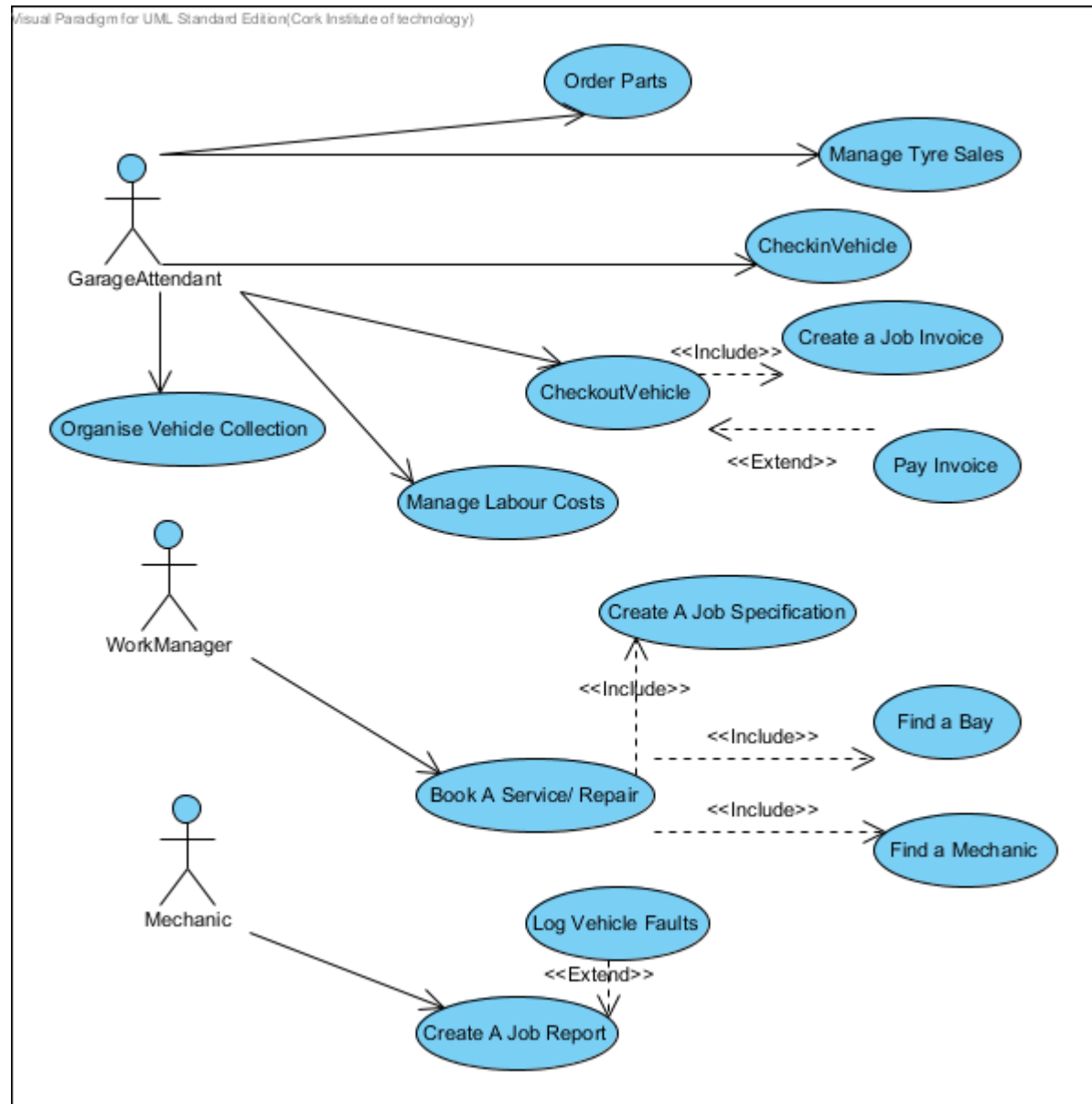- Work Manager
- Garage Attendant

Use Cases
- Book a service or repair
- Create a Job Specification to detail work to be carried out.
- Create a Job Report to detail the time spent, work carried out and materials used.
- Create a Job Invoice for the customer.
- Search Customer Information
- Log a fault
- Check bay availability
- Check mechanic availability
- Purchase a tyre
- Check in a vehicle
- Ordering parts
- Manage labour costs
- Modify Job Specification
- Pay an invoice

Business Rules
- All work is guaranteed.
- Must be booked in advance
- Customer must authorize additional work
- Only one mechanic must be working on a car at a time
- Only one vehicle can occupy one bay at a time
- Vehicle is only released when payment has been made.
- A vehicle must have a job specification.

Use Case Diagram

Visual Paradigm for UML Standard Edition(Cork Institute of technology)

- Order Parts
- Manage Tyre Sales
- CheckinVehicle
- Create a Job Invoice
- CheckoutVehicle
- <<Include>>
- Pay Invoice
- <<Extend>>
- GarageAttendant
- Organise Vehicle Collection
- Manage Labour Costs
- WorkManager
- Create A Job Specification
- <<Include>>
- Find a Bay
- <<Include>>
- Book A Service/ Repair
- <<Include>>
- Find a Mechanic
- Mechanic
- Log Vehicle Faults
- <<Extend>>
- Create A Job Report

Concepts

- Customer
- Vehicle
- Garage
- Full service
- Model
- Light Commercial
- Car
- Manufacturer
- Specification
- Type of Service
- Amount of Time, attribute of Type of Service
- Fault
- Mechanic
- Work Manager
- Agreement
- Bay
- Bay Slot
- Job Specification
- Task

Domain Model