

## **Fundamentals of Software Engineering**

This is a short scenario which outlines the requirements for a proposed information system. You will use this scenario in some of the labs for the module.

### **Mobile Mechanic Scenario**

Caledonian Mobile Mechanics (CMM) currently employ 4 mechanics each equipped with their own Transit sized van. The mobile mechanics travel around the city primarily to carry out scheduled services on customers cars. Currently everything is done by use of telephones and specifically for the mechanics by mobile phone. The mechanics work out of a small Industrial Unit which has sufficient capacity to store basic items such as oil, protective seat covers etc. The Industrial unit is manned by a single person from the hours of 09.00 to 17.00. This person is also responsible for ordering the supplies that mechanics use as part of the service. Normally parts arrive within 2 hours and a “kit” is made up to ensure that the mechanic has the appropriate parts needed to carry out the service. The mechanics normally load up at the start of the day with all the parts that are needed for that days work. Each mechanic is given a paper copy of their schedule for the day. If a “servicing slot” is not filled the mechanic is required to “park up” before proceeding to the next appointment. Alternatively if a servicing slot is not filled the mechanic is permitted to return to base if it is close enough to make the journey worthwhile. The mobile mechanics only return to base during the day if they run out of an item or require to pick up a specific item subsequently needed for the service. Payment is taken by the mechanic.

The short to medium term plan is to have an online presence which allows customers to book services for their vehicles up to 24 hours in advance. The main attraction of this feature is the ability for the customer to book the service in advance and out with normal 9-5 hours. The expectation is that payment would be made on line at the time of booking by the customer using a valid credit or debit card.

### **Week 3 Lab Exercise: A first pass at using some aspects of Scrum and XP**

This lab exercise is intended to introduce you to the Agile process known as Scrum. You will be given a Scenario for an application that requires to be developed. Read through the scenario.

#### **Task 1**

Read through the scenario and record how the current system operates. This activity is referred to as Business Process Modelling. There is a specific notation that can be used but for this task just record the activities using normal English language.

## **Task 2**

Using Scrum as the basis for an Agile approach to the development process produce an initial product backlog for the features that you identified from the Scenario that you were given. The features that you were looking for are those related to the new on line version.

## **Task 3**

Once you have produced your initial Product backlog assign some form of ordering to the features that you have identified. You should apply “appropriate” logic to this task and think through which activities should need to be implemented first. Is there a natural ordering in the way that you would go about the implementation the features that you have identified?

## **Task 4**

Take each feature that you identified in turn and product an XP (Extreme programming) style user story. Produce a story card for each feature. You should do this for at least 3 non trivial features of your system. You may want to read through section 3.2 of the Sommerville book Software Engineering 10.