

University of Stirling
Computing Science and Mathematics
CSCU9P5 Software Engineering I
Tutorial 3 Rough Notes

Autumn 2018

A methodical approach is to analyse the given written given description. We initially identify (i) activities/verbs/verb phrases to consider for identifying *use cases*, (ii) the nouns and noun phrases in the requirements to consider as *candidate classes*.

First look at the use cases. Here are the obvious possibilities:

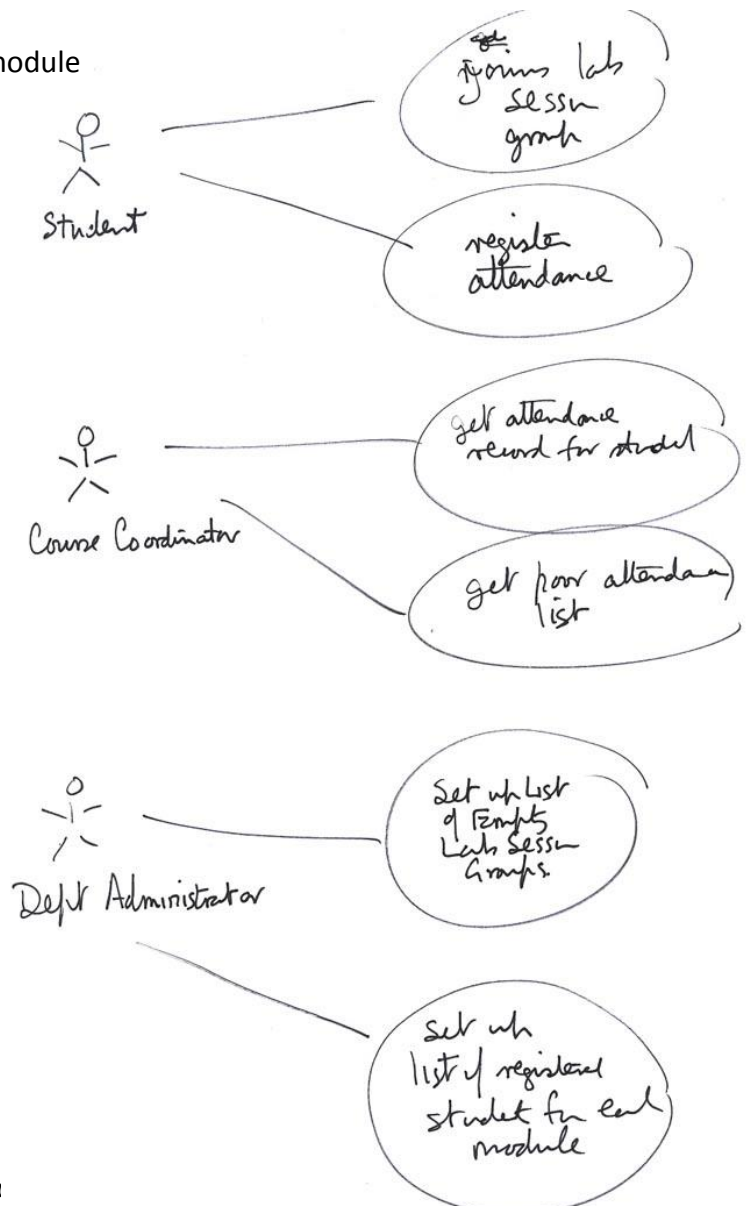
Actors

Student
Administrator
Course coordinator

Activities

Register attendance
Check member of group (not an independent UC?)
Join a lab session group
Get a list of lab times (not an independent UC?)
Set up list of lab session groups
Get list of students with poor attendance for a module
Get attendance record for student
Set up list of students for each module
Record attendance (not an independent UC?)

This suggests the use case diagram on the right:



Now looking at the nouns/noun phrases as candidate classes:

Student

University Department (maybe a class, maybe not – unclear)

Member (not a class?)

Lab session

Course coordinator (actor, implies boundary class? no need for entity class?)

Module

Administrator (actor, implies boundary class? no need for entity class?)

Attendance record

Attendance system (not a class? this is just the name of the overall system)

Web based interface (boundary class)

Lab session group (? may be same as lab session)

Time (attribute of Lab session?)

Place (attribute of Lab session?)

Semester (just a word in the description, no need to be in "the system"?)

Spare place (just a phrase for a place in a lab session group?)

Attendance (not clear – maybe an entity recording an attendance event)

List of lab session groups

Check (although this appears grammatically as a noun, it's more like a verb!)

List of students

Member (not a class, just a word indicating outcome of a list membership check)

List of lab session times

From the use cases, we can see that the Dept Administrator sets up the infrastructure that will be used by the other actors. We could therefore start creating our class diagram by concentrating on the classes and objects that are set up by the Dept Administrator. Once we have that, we can look at the other objects and classes need to support the needs of the other actors.

This could give us the following rough class diagram:

