

CSCU9P6: Software Engineering II

Software Project Management Seminars

Introductory Seminar

This seminar is an introduction to the topic of Project Management. We will work through a number of exercises taken from Chapter 1 of *Software Project Management*, by Hughes and Cotterell.

What is a project?

First of all, what do we mean by a project? In everyday usage the word “project” can refer to a wide variety of things. According to Hughes and Cotterell, here is a list of characteristics which describe the kind of projects that would benefit from conventional project management techniques:

1. non-routine tasks are involved;
2. planning is required;
3. specific objectives are to be met, or a specific product created;
4. the project has a predetermined time span;
5. work is carried out for someone other than yourself;
6. work involves several specialisms;
7. work is carried out in several phases;
8. the resources that are available for use on the project are constrained;
9. the project is large or complex.

Exercise 1: Consider the following:

- a. producing an edition of a newspaper;
- b. putting a robot vehicle on Mars to search for signs of life
- c. getting married;
- d. amending a financial computer system to deal with the introduction of the Euro;
- e. a research project into what makes a good human-computer interface;
- f. an investigation into the reason why a user has a problem with a computer system;
- g. a second-year programming assignment for a computing student;
- h. writing an operating system for a new computer;
- i. installing a new version of a word processing package across the university.

Some would appear to merit the description “project” more than others. Put them into an order that most closely matches your ideas of what constitutes a project. For each entry in the ordered list, describe the difference between it and the one above which makes it less worthy of the term “project”.

Activities covered by software project management

According to Hughes and Cotterell, there are usually three successive processes that make up a project:

- **The feasibility study.** This asks, is it worth doing? Does the proposed project have a valid business case? To determine this, information about the *requirements* of the project must be gathered from the client and other *stakeholders*, and the *costs* and *benefits* of the project must be *estimated*. For some large projects, the feasibility study is so complex that it becomes a project in itself.
- **Planning.** How is the project to be carried out? There may be a broad, outline plan at the beginning, which is later refined into more detailed plans for individual stages of the project.
- **Project execution.** The project is actually carried out. For software projects, here is where the stages of the software development process (that you learned about in CSCU9P5) are carried out. These stages may include: **requirements analysis; architecture design; detailed design; coding and testing; integration; qualification testing; installation; acceptance support.**

Exercise 2: Brightmouth College is a higher education institution which used to be managed by a local government authority but has now become autonomous. Its payroll is still administered by the local authority and pay slips and other output are produced in the local authority's computer centre. The authority now charges the college for this service. The college management are of the opinion that it would be cheaper to obtain an "off-the-shelf" payroll package and do the payroll processing themselves.

What would be the main stages of the project to convert to independent payroll processing by the college? Discuss in detail what activities might take place at each stage. Bearing in mind that an off-the-shelf package is to be used, how would this project differ from one where the software was to be written from scratch?

Exercise 3: Attempt this exercise with a group of friends in your own time. Working in a group of three or four, work out how you could obtain an estimate of the height of the building you are in. Plan how you would carry out any actions needed to obtain your estimate. Spend around ten minutes on this, remaining in the same room for the planning phase. Once planning is complete, implement your plan, timing how long it takes to produce your final figure.

(Don't be afraid to think "outside the box" but please don't attempt to climb "outside the box", i.e., up the building!)