

SENG4921 Professional Issues and Ethics
Assignment 1
Professionalism, Engineering and Software Engineering

8th May 2008

Due date: **Friday 30h May 2008**

Weighting: **30%**

Submission: give `se4921 assign1 <your document>`, where `<your document>` should be a PDF document. Any changes to submission will be advised.

Plagiarism

This assignment will be subjected to similarity checks

- clearly you may —indeed you are encouraged to— include material from other sources, but you must cite.
- of course your assignment cannot be all citation: it is expected that there will be *original content* in your answers.

Learning Objectives On completion of this assignment you should have a better understanding of:

- the social and economic impact of computing and IT;
- Engineering as a profession;
- the meaning of Professionalism and its relevance to Software Engineering;
- an understanding of the role of design in engineering;
- a better understanding of *risks* in system design, implementation and deployment;
- a better idea of how to deal with software as a component;
- what is needed for “Software Engineering” to be an *Engineering Profession*;
- various technical, professional and social aspects of *intellectual property*, *patents*, and *open source*.

General Instructions

The assignment is comprised of 3 parts. The parts will be marked separately, so you are asked to be careful to concentrate the answers in each part, although you may cross-reference answers to other questions.

Answers to all questions should cite and analyse data and opinion and should not simply be an informal discussion of the your own opinions.

For maximum weight, citations must cite an author. This means that while *wikipedia* can be used to investigate a topic and can be cited you cannot use it as a primary citation source, as the entries are anonymous. It is still plagiarism to quote from *wikipedia* without citation.

A limit of 1200 words is suggested for each question, however answers will not be marked on length: clarity, precision, and even concision will be valued.

Please note: this assignment may be done by 1 or 2 students. We encourage you to work in pairs, but no distinction will be made in the marking of assignments done by 1 or 2 students, except under exceptional circumstances. Pairs do not have to be in the same seminar class, as questions will be marked across the whole class, not within seminars.

Parts of overlong reports may be ignored.

Question 1: Software Engineering: What is it and where is it at?(approx. 1,200 words)

1. Research the status of software engineering as a profession in Australia and at least three (3) other countries.
2. Based on your research in 1 compare the status of Software Engineering with other areas of Engineering and with other professions.
3. Compare the professional and other roles of *Computer Science* and *Software Engineering* in the field of software system development. Use your discussion in 1 and 2 to illustrate your answer. Discuss whether and how distinctions between the two should be stronger.

Question 2: IP: Use, Rights and Control of Information (approx. 1,200 words)

This question is concerned with the impact of digital and communication technology on the enabling of access to information and, at the same time, to controlling access to that information. The concern is with the dramatic increases in mobility of digital information compared with hard-copy information; with copyright and whether it is sustainable; about digital techniques for enforcing copyright; about rights and duties. This is a very vexed and controversial area and you are unlikely to produce much resolution, but as a software engineer you are in a position to require access to information and you will also be in a position to devise or develop methods for preventing access to information. You should seek out references on both aspects of information and with different points of view. Try to develop ideas of:

- what rights should exist for access to information;
- what rights should exist to prevent access to information.

Clearly those two rights are contradictory, but attempt to develop a position from which you can reason as a software engineer, and as a general user of information.

You may wish to consider the Six Thinking Hats strategy to tease out arguments on different aspects of the questions. Use the Red hat with great care.

Question 3: Software: Nature, Licencing and Open Source (approx. 1200 words)

Research the issues of software use and licencing. You should include discussion of the Open Source movement from its beginning with the Free Software Foundation (FSF).

- What are the philosophical arguments both for and against open source?
- What are the social and economic arguments, both for and against?
- What is the evidence for open source leading to higher quality software?

In discussing the above try to find discussion and quantitative evidence both for and against the points being discussed.

You should write your own summary of the evidence that you find on this question, but you should attempt to build your summary as objectively as you can.

Sources, Citations and Bibliography

You are encouraged to seek out information in journals, books, reports to be found in the library, on CD-ROMS or the Internet. Some resources may be found on the course website. You may reference information given in lectures. The sources of all information must be cited and your assignment should contain a bibliography with adequate detail to locate the reference, for example, Jones and Smith "Ethics in IT: an oxymoron?" MISQ Vol. 23, No 2, Pages 23–34, a specific page in a book or a specific Internet site (include the URL).

The bibliography is not included in the word count.

Form of Assignment Submission

- Where an assignment has been done by 2 students, *only one assignment should be submitted*.
- The assignment must have a title page, which should contain:
 - Course Id and Name,
 - Assignment Details,
 - Student Id and Name of each student completing the assignment,
 - Seminar Id/Day and Time as well as each Facilitator's name.

Reports must be presented in a format suitable for senior management (i.e. suitable layout, no spelling and grammatical errors).

The report must be converted to a single PDF file and submitted as described above.

Late penalties

Late assignments attract a 10% deduction on the graded mark for every day they are late.