University of St Andrews

School of Computer Science

CS5030 - Software Engineering Principles

Assignment: **Research and Report**

Deadline: 11 October 2022 *Credits*: 40% of coursework mark

(MMS is the definitive source for deadlines)

Aims

The aims of this assignment are to

- research a specific system in depth from a software engineering perspective;
- critically engage with available literature and resources, extracting key points, summarising and drawing conclusions from them;
- document the outcome of your research in a precise and logical manner as a technical report.

Requirements

You are required to select a widely used proprietary (that is, not open-source) software system aimed at end users, research it from a software engineering perspective, and summarise your findings in the form of a technical report.

As a general guideline, the report should contain:

- The name of the system;
- A description of the system including its application domain (for eg, education, entertainment, communication, finance, etc) and purpose;
- The software engineering process used to produce (and maintain) the system;
- The business model used by the system;
- Any significant features of the system, from technical or business perspectives;
- Any limitations of the system with respect to its functionality and qualities;
- Any ethical concerns with respect to the development and use of the system;
- A brief discussion of possible future trends in the context of this system, including improvements you may wish to recommend; and
- References

You can customise this structure to suit your application and perspectives.

The length of the report should be *no more than 2500* words. This is a mandatory limit. Any violations will be penalised according to scheme B (under-length not penalised) of the University Policy on Coursework Penalties. According to this scheme, the penalty is 1 mark for work that is 5% over-length, then a further 1 mark per additional 10% over. *You must clearly state the word count at the end of the report*. References are not included in the word count.

Information sources

The reading list provided for the module will not be sufficient for this research. You must find appropriate sources of additional information of good academic standing. A better report would contain students' own observations and reflection of the material from these sources.

You should draw on formally published material, i.e. either peer-reviewed academic papers or reports from well-known sources. Informal publications (such as web pages and blog posts) will be acceptable if they are well written and comply with the standards for academic writing.

As a starting point for the literature search, you may wish to look at the ACM Digital Library and IEEE Xplore. You can access their content through institutional login with your University credentials. Both provide access to a large number of academic papers as well as an index of the wider computer science literature. In addition, the University library provides extensive search functions though the SEEKER and SAULCAT services.

Submission

A document in pdf format must be submitted by each student electronically via MMS by the deadline. Report submissions in any other format will be rejected. The report will be processed through Turnitin.

Assessment

Marking will follow the guidelines given in the school student handbook (see link in next section).

Some specific descriptors for this assignment are given below:

Mark range	Descriptor
1 - 6	Minimal attempt at research and a poor report showing lack of understanding of the system and not reflecting requirements.
7 - 10	Reasonable attempt at a structured report with some evidence of research, a report covering some required information and some understanding of software engineering concerns in the context of the chosen system, but with substantial problems relating to scope, relevance or correctness in identifying and analysing information.
11 - 13	Competent attempt at the report with clear structure and writing covering most required aspects including own research and analysis and relevance to software engineering.

14 - 16	Good attempt at the report addressing all required aspects in good writing style without major problems, including own research, good understanding of software engineering concerns in the context of the chosen system and showing critical thinking.
17 - 20	Well-written report outlining excellent work addressing all required aspects without any defects, possibly including additional elements beyond the requirements given in the specification.

Policies and Guidelines

Marking
See the standard mark descriptors in the School Student Handbook:
http://info.cs.st-andrews.ac.uk/student-handbook/learning-teaching/feedback.html#Mark_Descriptors

Lateness penalty
The standard penalty for late submission applies (Scheme B: 1 mark per 8 hour period, or part thereof):
http://info.cs.st-andrews.ac.uk/student-handbook/learning-teaching/assessment.html#lateness-penalties

Penalty for exceeding word limits
Scheme B (under-length not penalised) of standard University policy applies:
https://info.cs.st-andrews.ac.uk/student-handbook/learning-teaching/assessment.html#word-count-penalties

Good academic practice
The University policy on Good Academic Practice applies:
https://www.st-andrews.ac.uk/students/rules/academicpractice/