Lecture on Initial Documents

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SafeCap

Overview

Initial documents

Gregynog team competition

Alacrity foundation

Election of 3rd year representatives

Initial documents

What you should communicate

1. Your project
   - has a clear motivation and
   - has clearcut project aims.
2. Document that you
   - know about related work,
   - have studied (part) of the background, maybe
   - made first own steps (?).
3. Show that you
   - are aware of risks,
   - have chosen a suitable software development model, and
   - have a clear plan till submission date.

"Clear motivation"

Where: $\leadsto$ First paragraph(s) of the introduction.

Example – part of motivation (D Garner, 2010)

Software written today differs from that written in the past in two main ways: it is more complex, and handles more data than ever before. When Windows 95 was released it contained 11 million lines of code, in contrast six years later Windows XP had 40 million lines [1]. This gives rise to a greater need for systematic testing.

"Project aims"

Where: $\leadsto$ At the end of the introduction.

Example – Project aims (D Garner, 2010)

More concretely, the aims of the project are as follows:

- *To develop a method of generating test data with trends using genetic algorithms.*
- *To demonstrate our approach on a case study of credit card fraud detection.*
- *To integrate our method in Grid-Tool's DataMaker.*

"Related work"

Where: $\rightsquigarrow$ subsection of the introduction or an own section, usually at beginning of the document.

Example – part of related work (D Garner, 2010)

In 1999 Chan et al wrote a paper applying genetic algorithms to fraud detection, which will be the subject of our case study. In this work they stated that their scalable black-box approach for building efficient fraud detectors can significantly reduce loss due to illegitimate behaviour. In many cases, the authors methods outperform a well-known, state of the art commercial fraud-detection system [11].

"Background knowledge"

Main part of the initial document;
usually organized in 2 – 3 sections.

Example – Background chapters (D Garner, 2010)

"First own steps"

Small part of the initial document;
usually organized in 1 or 2 sections.

Example – Own work on the project (D Garner, 2010)

"Risk"

Where: $\rightsquigarrow$ (sub) section at the end of the document.

Example – Part of risk analysis (D Garner, 2010)

It may be found that a genetic algorithm cannot solve a more complex data generation problem. We have avoided this by thoroughly researching the algorithms needed and any previous success had by other scientists, but if an insurmountable difficulty does occur we will research deeper into other available methods.

"Development model"

Where: $\rightsquigarrow$ (sub) section at the end of the document.

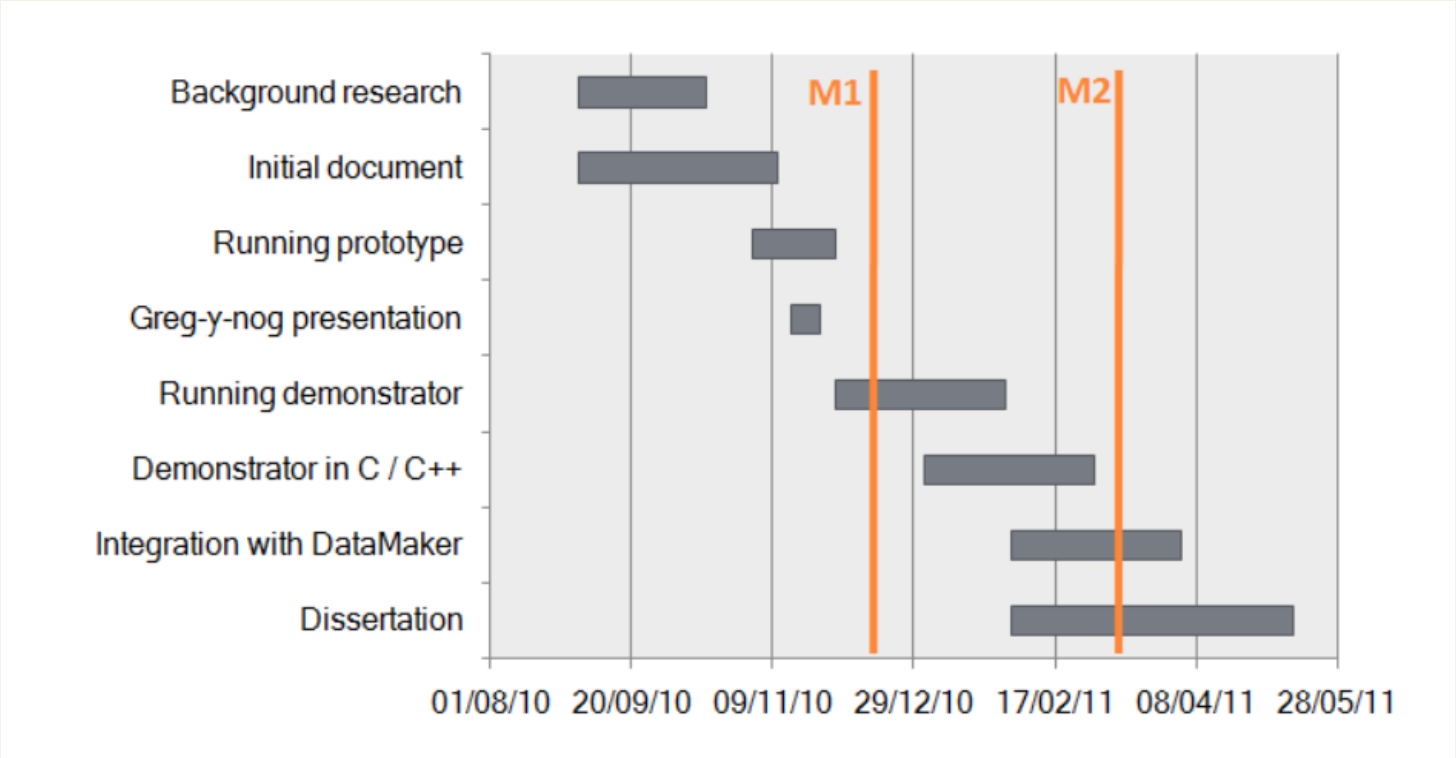
Example – Part of development model (D Garner, 2010)

We have chosen a Test-Driven development model for this project. This is also known as agile programming and like most models has a sequence of iterations. In contrast to the more usual spiral model which places emphasis on a thorough design being complete before the first implementation, test-driven development has an principle of always having a working, albeit basic version of the software. This is supported by iterations of test-then-code cycles, in which each cycle implements another user feature or piece of functionality [4].

"Project plan"

Where: $\rightsquigarrow$ (sub) section at the end of the document.

Example – Gantt chart (D Garner, 2010)



Organization of the document

1. a title page,
2. a table of contents,
3. an introduction,
4. several sections for the main body of your work,
5. a summary or conclusion,
6. the references, and
7. possibly an appendix.

Spell checking

At a tme
were we have spellchekers availabel
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ar cumbersame.

Spacing

Comma, colon, full stop, semicolon No white space before the punctuation mark, one white space after the punctuation mark.

Opening brackets One white space before an opening bracket, no white space after an opening bracket.

Closing brackets No white space before a closing bracket, one white space after a closing bracket.

Dash One white space before a dash, one white space after a dash.

Submission: 24.10., 11 am

- 1 electronic copy to turnitin.
- 2 paper copies with title page from the coursework submission system

  https://science.swansea.ac.uk/intranet/

  username: student number

  password: same as for the main Uni Intranet at intranet.swansea.ac.uk

Summary

- Content
- Organization
- Basic writing rules
- Submission procedure

More information: $\rightsquigarrow$ Project Handbook; your supervisor.

Gregynog

Programming competition

There will be 8 groups, each will need

- a laptop running Windows 7, configured for “English”
- a headset or microphone

Volunteers?

Alacrity Foundation

Alacrity Foundation – Newport

"Creating the next generation
of technology entrepreneurs."

Contact at Swansea CS: MR & JVT

1. Expression of interest: Lecture on October 12.
2. Selection based on
   Initial Documents & Gregynog Presentation.
3. Alacrity will be invited to Gregynog for "bonding".

Election of student representatives