Project Terms of Reference – A project example

Alun Moon

20th September 2017

1 Background

This document demonstates the structure of a proposed Terms of Reference document written in LaTeX.

This should describe the “context” of the proposed project and answer the question, “Why this project?”, both from your own perspective as a student undertaking a final year computing project, and that of any client. It should show what makes this proposal a worthwhile computing final year project. *It must make clear both the application area or area of investigation and the computing aspects of your work.*

LaTeX and its companion BibTeX are a good pair of tools for writing your documentation.

Don’t forget to reference background material. BibTeX makes this simple. You can have one or more `.bib` files, these are easy to populate from academic search tools, such as Google-scholar, and the Library’s search facilities. A bibliography file looks something like figure 1. In the text use the label in a citation command `\citep{k+r}` the toolset puts the right form of citation [Kerngihan and Ritche, 1988, pages 2–4] into the text.

Where you want the bibliography to go use the `\bibliography{c,unix}` command, with a comma separated list of `.bib` files (without the extension).

```
@book{k+r,
        Author = {Brian Kerngihan and Denis Ritche},
        Edition = {Second},
        Publisher = {Prentice Hall},
        Title = {The C Programming Language},
        Year = 1988
}
```

Figure 1: Sample BibTeX content

2 Proposed Work

. The project must exhibit a level of difficulty appropriate to final year honours BSc work, and be of a size that can be attempted in the time available; this section should define the topic and project work in enough detail for the markers to be sure that it is suitable. The more detail and discussion you produce at this stage, the stronger the foundation for the actual project work.

You should emphasise the computing aspects you expect to be involved in, including those specifically relevant to your programme. Remember that you are undertaking the project as part of a BSc programme in a computing-related discipline, and avoid being side-tracked into areas that are not relevant to your course.)

3 Aims and Objectives

There should only be one or two aims

3.1 Aims

> To show how LaTeX and tools can be used to write a dissertation

3.2 Objectives

Your objective list is a series of measurable objectives, can you tick each one off as *done*? I usually expect between 8 and 12 objectives

The **enumerate** environment is useful here for generating a numbered list. You can put `\label` commands in with a keyword `\label{understand-problem}` and then refer to the label with a `\ref{understand-problem}` command, it puts the number of the objective in the text

```
See objective \ref{understand-problem}
```

See objective 1

1. **Classify the problem domain** this is where you develop an understanding of the nature of the problem/project
2. **Identify Techniques to solve** What Algorithms are you to use, how is a database structured,
3. **Select tools to use** What languages, software, hardware; are you using?
4. **Design the system to be build** Its requirements, the **test plan**, the architecture (Layer model/Model-View-Controller)
5. **Build the system** I'd include testing here, as the result is a *working wywtem*

4 Skills

This is where you can cover the skills you have relevant to the project and the new skills you are going to acquire during the project.

1. Programming in C, see module KFxxx
2. Hardware Design

5 Resources

This is an important section, it lists the hardware and software you are going to need for the project.

5.1 Hardware

For Hardware this is more critical, as we need to identify any hardware we have, or that you are going to buy. We do have an ordering mechanism in the Department, but time and budget are critical constraints here.

5.2 Software

In the case of software, there isn't usually an issue, unless you're needing huge amounts of run-time (we don't have a super-computer handy).

6 Structure and Contents of the Report

Here you set out the likely chapters you will have in your report. Ususally each objective lends itself to one or more chapters. You can refer back to the objectives set.

6.1 Report Structure

Introduction Sets out the background and motivation for the project. Summarises the work done, the results, the conclusions, and the recommendations for future work. It is a one chapter summary of the *entire* project.

Defining the problem Objective 1 requires a precise definition of the problem you are solving. Don't forget to reference good source material [Henning Schulzrinne] and [Talbot, 2013]. See section 2.

Possible Solutions Discuss the possible solutions, compare the alternatives, and select the one to use for the implementation.

6.2 List of Appendices

What Appendices you will include. A copy of the TOR should be the first, followed by the Ethics form and the Risk Assessment.

Others might include design documentation, code listings, tables of results (if too large to include in the main text).

7 Marking Scheme

The marking scheme sets out what criteria we are going to use for the project.

Project Type General Computing or Software Engineering projects

Project Report State which chapters constitute the *Analysis*, the *Synthesis*, and the *Evaluation*. This help me when marking to know when to stop reading one section and put a mark down for it.

Product List the deliverables that make up the *Product*. Code, design, requirements specifications, test plans, etc.

For the *Fitness for Purpose* and *Build Quality* list the critera used to asses the product by

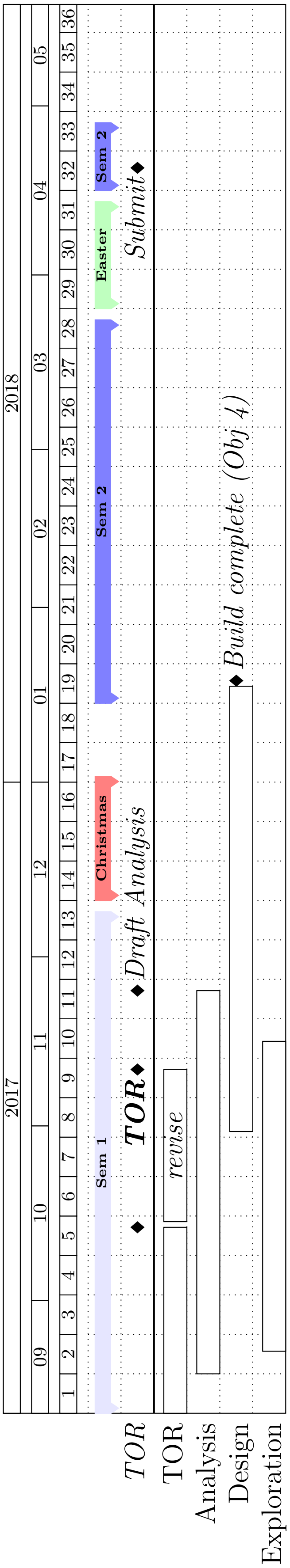
Fitness for Purpose

- meet requirements identified
- other appropriate measures

Build Quality

- Requirements specification and analysis
- Design Specification
- Code quality
- Test plan and Results

8 Project Plan[1]



[1] Tasks should refer back to objectives

9 Bibliography

Henning Schulzrinne. Writing systems and networking articles. URL `http://www.cs.columbia.edu/~hgs/etc/writing-style.html`.

Brian Kerngihan and Denis Ritche. *The C Programming Language*. Prentice Hall, second edition, 1988.

Nicola L. C. Talbot. *Using LaTeX to Write a PhD Thesis*, volume 2 of *Dickimaw LaTeX Series*. Dickimaw Books, Norfolk, UK, 2013. ISBN 978-1-909440-02-9. URL `http://www.dickimaw-books.com/latex/thesis/`.

A Ethics Form

If you scan the Ethics form on one of the multifunction printers, you can get a pdf copy. This can then be included with the LaTeX command

```
\includegraphics{ethics.pdf}
```

Assuming of course you have saved the form as `ethics.pdf`

B Risk Assessment Form

Likewise you can scan and include the Risk Assessment Form

```
\includegraphics{risk-assesment.pdf}
```