

# Design Challenge Report

## Format

The report length should be between 3000 and 4000 words. This corresponds to approximately 15 pages in the appropriate format, depending on the number of figures. Large tables of data or other ancillary material should be included in appendices and do not contribute to the word count.

The text of the report is to be written in a 12pt Times font using a single column format with 1.5 line spacing. Section and subsection headings should use variants of the Times font and be numbered. Use white A4 paper with 25 mm margins all round. Every page is to be numbered. The report should be in third person.

## Style

The report should be written so that a student who has completed 2<sup>nd</sup> year electrical engineering (not necessarily at the University of Queensland) can understand the report. The report should follow a technical report style as outlined in:

<http://www.itee.uq.edu.au/~engg2800/Lecture%20Notes/ReportWriting.pdf>

## Content

The report should contain the following. Note that these are NOT recommended section headings, but guides to show you the content expected in the report:

**Title:** Name your report, and give the authors' names. Centre the title block at the top of the first page.

**Abstract:** The abstract is a 300 – 400 word summary that highlights the key outcomes to be found in the report. It is a stand-alone section that might be published separately to the rest of the report to allow potential readers to see whether they wish to read the full report.

**Introduction:** Briefly describe the problem that you are trying to solve, the approach that you have taken, and how your work will be described in this report. This section sets the scene so that the reader understands what you are talking about in the subsequent sections.

**Background:** Describe the theory relevant to solving your problem, using references to texts or other material where appropriate.

**Solution:** This is the key part of the report that will describe what you did. The order or emphasis of these sections may vary depending on how you went about your work. A typical report might have some method and results for some initial experiments, followed by some design work, followed by further experimental method and results to evaluate the design.

**Experimental Method:** Describe the procedure that you used for any experimental work. There may be more than one method section if you have

performed multiple experiments. The description should be complete enough so that another student could repeat the experiment again.

**Experimental Results:** Describe the results of any experiments that you performed. These results should be paired with the description of the method. The results should include the results that best illustrate the outcome of the experiment. Large tables of raw data are best placed in an appendix.

**Design:** Describe your design goals, your design method and your design outcomes. Carefully justify your design decisions. Your design should be evaluated by experimentation.

**Discussion:** Explain the significance of your findings. Some typical things you might discuss include:

Did the experimental results match the background theory?

How effective was your design?

Are there any limitations in the design?

What improvements could be made to the experimental procedure?

What improvements could be made to the design?

**Conclusion:** The conclusion should remind the reader of all the important parts of the report. It should not introduce any new material into the report.

**Acknowledgements:** If there is anyone you would like to thank, add it after the conclusion.

**References:** Provide a list of numbered references you have cited in your report. See the technical writing document linked above for details on referencing style.

**Appendices:** Put any detailed material not appropriate to the body of the report into appendices.