TÉCNICO LISBOA

How to Upset NATO

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Project Report (PIC2)
or
Master's Dissertation

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Abstract

The Abstract is a summary of the work written for specialists. Its ideal size is one-third of a page, and it should quickly explain the problem, the current work, the proposed solution, the results obtained, and why they improve the state-of-art.

Contents

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1 Introduction

This section should be written *after* the main sections are concluded. The suggested order for writing this document is the following:

1. The Background knowledge section: this section is mandatory for both PIC2 and the dissertation, which can reuse and improve it.
2. The Present Work description section: if this is the PIC2 report, this section may not exist if one still has not done any work. In the dissertation, this section is mandatory.
3. The Experimental Results section: if this is the PIC2 report, this section may not exist if one still has not done any work. In the dissertation, this section is mandatory.
4. The Introduction section: this section.
5. Write the Conclusion section.
6. Write the Abstract section.

In this section, one should write the following:

- Motivation: explain the problem one is trying to solve and why it is important. Describe the main existing works on this topic (summarize from the Background section).
- Objective: Explain this work's goal and how it tackled the problem to achieve it. (summarize from the Present Work section).
- Document outline: Describe in one paragraph the contents of each main section of the document.

This document should include tables and figures to ease the explanation. All tables and figures must have a caption, and a label to be referenced in the document and further explained. The reference to the table or figure is mandatory and unreferenced tables or figures should be removed. An example is shown in Table 1.

Table 1: Example table

Name	Direction	Width	Description
clk	INPUT	1	System clock input.
rst	INPUT	1	System reset, asynchronous and active high.

2 Background

This section, or section group, should explain in detail **the problem** this work is trying to solve and why it is essential. More sections containing background or state-of-the-art descriptions may be added if that improves the explanation.

Describe the existing attempts at solving the problem and their limitations. One must perform a bibliography search, identify the principal works on this topic and reference them in this document. An example citation is given in this sentence [1].

3 The Work

This section, or section group, should explain in detail **the solution** proposed by this work to solve the problem formulated in Section 2, why it is innovative and adds to the state-of-the-art. More sections containing partial descriptions of the solution may be added if that improves the explanation.

4 The Results

In this section, one should explain in detail the experiments designed to show the applicability or superiority of the proposed approach and the results obtained. Use tables or figures to facilitate a rapid apprehension of the results.

For example, if the goal is to design a new platform to accelerate a software application, the execution times of the application running on the existing and new platforms should be presented.

The resources used should be detailed: the frequency of operation, memory size, power, energy consumption, and communication bandwidth are examples. For FPGA implementations, for example, the number of block RAMs, LUTs, and DSPs should be presented in a Table for the configurations studied.

5 Conclusion

In this section, one should summarize the work: the problem, the current work, the proposed solution, the results obtained, and why they improve the state-of-art. Repeating what is written in the introduction is not a problem and is desirable, but one should try to use different and complementary explanations to help the user. Another vital part of this section is to explain the future work that can be done as a follow-up to this work.

References

[1] J. a. D. Lopes and J. T. de Sousa. Versat, a Minimal Coarse-Grain Reconfigurable Array. In *High Performance Computing for Computational Science - VECPAR 2016*, Lecture Notes in Computer Science, pages 174–187, Porto, Portugal, July 2017. Springer International Publishing. ISBN 978-3-319-61981-1. doi: 10.1007/978-3-319-61982-8_17.