This is the title

Author1 Author2
Project Report
CS/ECE 752 Advanced Computer Architecture I
The University of Wisconsin-Madison
foo1@cs.wisc.edu, foo2@cs.wisc.edu

Abstract

This is the abstract. This is template for the final report. It has the sections I expect to see in the final document. It also useful writing guidelines, includes some example references, and describes how to cite papers, tables and figures in the report. You do not need to follow this exact same format but use something similar. Reading this report prior to writing your final report will be useful.

1. Introduction

This section should include the following in the order listed below:

1. Motivation
   - A description of your topic.
   - Statement of why the topic is important
2. Your key insight
3. Summary of results
4. Summary of conclusions
5. Organization of paper

This document lists the different sections I expect to see in your final report. For each section I describe what is required in that section and give guidelines on how to structure each section. I also include suggestions on presentation guidelines for tables, figures, and graphs. Your final report should follow a similar format and be around 8 pages. This document describes both style and content instead of doing that with separate documents.

Your introduction should end with a paragraph like this. The remainder of this paper is organized as follows. Section 2 describes our proposed design. Section 3 describes our implementation and section 4 discusses our performance results. Section 5 discusses related work and Section 6 concludes.

Not all project reports will require these exact same sections. For example, if you are doing a workload characterization study, instead of the "Design" and "Implementation" sections you will most likely need a "Workload description" and a "Methodology" section. Also some projects reports may read best with the related work immediately following the introduction, while for some discussing related work and then concluding is best. Jump to section 2. Remainder text here is a bunch of filler text I have inserted to help in presentation organization. *Your final report should not have such filler text!*

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Column1	Column2	Column3
foo1	1.1	1.2
foo2	3.1	1.2
foo3	3.1	3.3

Table 1. This is an example table.

2. Design

Good structure is the key to a well written report. First introduce the overall design in the first paragraph. Introduce the different aspects to the design. Describe each aspect in separate sub-sections. In a final paragraph summarize the interactions between the subsections and allude to the implementation issues.

2.1. Design piece1

Dummy text.

2.2. Design piece2

Dummy text.

2.3. Design piece3

In this subsection I describe some presentation guidelines on tables. Table 1 shows an example table.

- Table headers must be in bold
- Do not use more than 2 digits of precision
- Use a descriptive caption.

Summary paragraph.

3. Implementation

Describe implementation here. First give the big picture. Break down into related groups if necessary. Break down each of the related groups into separate pieces and describe the pieces. A good way to start is to introduce with a high level diagram of your implementation and walk the reader through the pieces. Figure 1 shows an example figure generated using xfig.

4. Results

Describe results here.

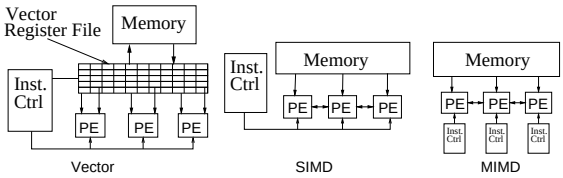

Figure 1. Types of machine organization

Content: Your results should be cleanly tied to your design and implementation sections. You should describe the metrics of evaluation in this section. Some aspects of the methodology that you described in your proposal is best presented here, while some parts may best fit in the implementation section. This section should also include processor configurations used, technology models used if applicable, and benchmarks used.

In terms of your experimental results, it is important to describe overall trends. It also important to describe individual specific results and give the reader intuition behind why the results are the way they are. For example, determining some workload has poor cache behavior is a useful result. Even more useful is to tie that back to source code behavior and microarchitecture and explain why it has poor cache behavior.

Structure: Break your results into subsections based on type of analysis you are doing. For some projects these subsections may be very naturally tied to the subsections in the implementation section.

Presentation: Create readable graphs. Use a graph drawing tool that can generate PS/EPS or some form of vectorized graphics and not just raster graphics. Do not use screen capture and insert GIF/JPG/BMP to generate graphs. Figure 2 shows an example of a good graph (in terms of presentation only) and Figure 3 shows an example of a poor graph.

Conclude your results section with a summary paragraph that brings together individual detailed results you have explained in the previous paragraphs. Point to broad trends and summarize.

5. Related work

Describe related work here. While citing related work it is important to describe the prior work and differentiate your work from prior work.

You should have at least four journal or conference papers in your final report. Or you should come justify to me before-hand why there is no prior publication in the area you are working on.

Couples of examples on how to cite a paper follow. Classic vector processors were built using expensive SRAMs for high-speed memory and large vector register files [6, 5, 3]. These machines were designed for programs with regular

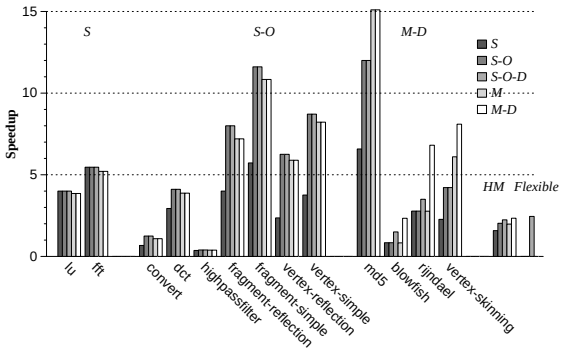

Figure 2. A good graph. Created using a PS generated from jgraph.

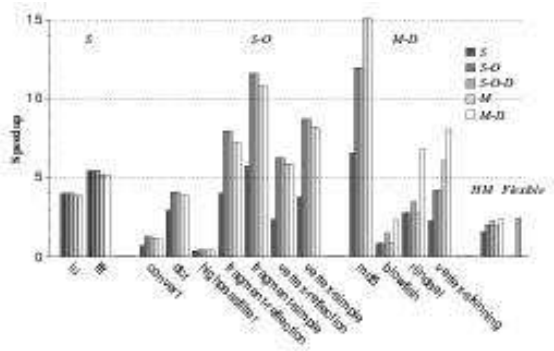

Figure 3. A bad graph. This was created by doing screen capture and converting a JPG to PS. You must use a graph drawing tool that can directly generate PS or EPS.

control and data behavior, but could tolerate some degree of irregular (but structured) memory accesses using scatter and gather operations. Programs with frequent irregular memory references or accesses to lookup tables performed poorly. A number of architectures have been proposed or built to overcome the limitations of the rigid vector execution model and to allow for dynamic instruction scheduling [2, 4, 1]. Removing these limitation still did not make these architectures widely applicable as they provided support only for a subset of data parallel programs.

6. Conclusions

First summarize the paper. Include a paragraph on lessons learned. You can include future work as a paragraph in the conclusion section or use a separate section. Include any other concluding thoughts. For example, with respect to writing documents, I want to add the following:

- Spell check your document.
- Print your document, read it at least once, mark corrections using pen or pencil, and make the changes.
- I recommend reading the entire document at least two times.
- Avoid footnotes.
- Avoid parenthetical remarks.

End with a paragraph or a few sentences on the broad impact of the work.

Acknowledgments

Include acknowledgements here if applicable.

References

[1] R. Espasa, F. Ardanaz, J. Emer, S. Felix, J. Gago, R. Gramunt, I. Hernandez, T. Juan, G. Lowney, M. Mattina, and A. Seznec. Tarantula: A Vector Extension to the Alpha Architecture. In *Proceedings of the 29th International Symposium on Computer Architecture*, pages 281–292, June 2002.

[2] R. Espasa, M. Valero, and J. E. Smith. Out of order vector architectures. In *Proceedings of the 30th Annual International Symposium on Microarchitecture*, pages 160–170, December 1997.

[3] J. Hennesy and D. Patterson. *Computer Architecture: A Quantitative Approach*. Morgan Kaufmann Publishers, Inc, 1996.

[4] C. Kozyrakis and D. Patterson. Overcoming the limitations of conventional vector processors. In *Proceedings of the 30th International Symposium on Computer Architecture*, pages 399–409, June 2003.

[5] B. Moore, A. Padegs, R. Smith, and W. Bucholz. Concepts of th System/370 Architecture. In *Proceedings of the 14th International Symposium on Computer Architecture*, pages 282–292, June 1987.

[6] R. M. Russell. The CRAY-1 Computer System. *Communications of the ACM*, 22(1):64–72, January 1978.

A. Appendix

This is the appendix. Use an appendix if necessary.