$\label{eq:anode} \textbf{AN ODE TO FOO:}$ HOMAGE TO A GREAT AND WONDERFUL PERSON

by

Foo Admirer

A thesis submitted in partial fulfillment

of the requirements for the degree of

Master of Science in Computer Science

Boise State University

December 2014

BOISE STATE UNIVERSITY GRADUATE COLLEGE

DEFENSE COMMITTEE AND FINAL READING APPROVALS

of the thesis submitted by

Foo Admirer

Thesis Title: An Ode to Foo: Homage to a Great and Wonderful Person

Date of Final Oral Examination: 1st December 2014

The following individuals read and discussed the thesis submitted by student Foo Admirer, and they evaluated their presentation and response to questions during the final oral examination. They found that the student passed the final oral examination.

Foo The Great, Ph.D. Chair, Supervisory Committee

Aaa, Ph.D. Member, Supervisory Committee

Bbb, Ph.D. Member, Supervisory Committee

The final reading approval of the thesis was granted by Foo The Great, Ph.D., Chair of the Supervisory Committee. The thesis was approved for the Graduate College by John R. Pelton, Ph.D., Dean of the Graduate College.

dedicated to foo

ACKNOWLEDGMENTS

The author wishes to express gratitude to Foo. This work would have been partially supported by some particular grant, if there was one.

AUTOBIOGRAPHICAL SKETCH

Foo Admirer was born admiring Foo. Foo Admirer has been tinkering with admiration of Foo for a long time. Now it is time to to be blessed by Foo.

ABSTRACT

An abstract is a brief summary of the document. A typical abstract provides a brief introduction, enough to provide context for the document, explains the purpose of the thesis or project, and summarizes the major results and conclusions. Keep in mind that a casual observer is likely to judge the content of the document by the abstract and title alone. (There is an old addage: "in a joke, the punchline comes at the end; in a paper [or thesis], it comes in the abstract.") A single concise paragraph usually suffices for the abstract. If it spills onto a second page, it is probably too long.

TABLE OF CONTENTS

\mathbf{A}	BSTI	RACT	ii
LI	ST C	OF TABLES	X
LI	ST C	OF FIGURES	αi
LI	ST C	OF ABBREVIATIONS x	ii
LI	ST C	OF SYMBOLS xi	ii
1	Intr	$\operatorname{oduction} \ldots \ldots \ldots \ldots$	1
	1.1	Get ready for Foo	1
		1.1.1 Where are the style files?	3
2	The	Greatness of Foo	5
	2.1	Previous work	5
	2.2	What are their names?	5
	2.3	The code of Foo	5
	2.4	Other mysteries of Foo	6
3	The	not so great things about Foo	7
	3.1	Figures	7
	3.2	Tables	7

4	Con	clusions	9
	4.1	What have we done so far?	9
	4.2	Future directions	9
$\mathbf{R}\mathbf{I}$	EFEI	RENCES	10
\mathbf{A}	Tim	ing Measurements	11
В	Exp	erimental Setup	12

LIST OF TABLES

2.1	The Approximate Time of Parallelizing Each Code	6
3.1	Complexity of Selection and Search in Sorted Matrices	8
3.2	Comparison of Slow PVM Version and the Fast PVM Version	8
3.3	The Speedup of the PVM WRS Code and the HPF WRS Code	8

LIST OF FIGURES

2.1	An Embedded Java Clock		6
3 1	How to Correct Errors in a	Fuzzy Image	7

LIST OF ABBREVIATIONS

LOL – Laughing Out Loud

 $\mathbf{OMG}-\mathbf{Oh}$ My God! now is the time for all good men to come to the aid of their country.

LIST OF SYMBOLS

- $\sqrt{2}$ square root of 2
- λ —lambda symbol, normally used in lambda calculus but it sometimes gets used for wavelength as well

CHAPTER 1

INTRODUCTION

1.1 Get ready for Foo

So who is Foo? We need a lot of text in here to see what happens when we hit the bottom of a page with text and try out things like footnotes¹. So here is some extra stuff:²

stuff stuff

¹What's not to like about footnotes, anyway? Brian O'Nolan and George MacDonald Fraser both used them to great effect

²Too many footnotes, however, can be distracting.

stuff stuff

We need lots more stuff to get a full page of text, without a chapter or section heading, so we can check all the margins.

stuff stuff

1.1.1 Where are the style files?

Please consult the guide from Graduate College [5] for resolving any style issues that are not addressed by the style files that provided along with this document. The files associated with this style can be found on the website [6].

The file bsu-ms.cls contains the formatting directives for the bsu-ms style. It is based on the standard LATEX report style with 12 point font option.

- 1. Simply copy bsu-ms.cls to the directory containing your LaTeX document.

 That way, LaTeX will find it, because it looks in current directory by default.
- 2. The current style file may be installed in some directory available system wide.

 (Ask your systems administrator if this is the case). You will have to include that directory in the path LATEX uses to search for input files. Under Linux, this is controlled by the TEXINPUTS environment variable, which can be set in the .bashrc file in your home directory. For example

```
TEXINPUTS=.:/usr/local/texinputs/:/usr/share/texmf//export TEXINPUTS
```

adds /usr/local/texinputs, a possible location for bsu-ms.cls, although it will not take effect until you source the .bashrc file, or log in again.

3. Install the style files in a directory under your accounts and set the TEXINPUTS variable accordingly.

The first or third way is recommended, becaue they involve making a local copy of the style file. This assures your document format will not be affected affected by subsequent updates to bsu-ms.cls (but gives you the option to copy the updated file if you want).

CHAPTER 2

THE GREATNESS OF FOO

2.1 Previous work

The greatness of Foo The Great derives from her early work as documented in her books [1, 2].

2.2 What are their names?

Please consult the articles by Admirer [3] and Admirer, Smith and Doe [4] for more details. Note that the references are cited by the last names of all authors for three authors or less. For more than three authors, "et al" can be used.

Check the References on page 10 for an example of how to format the references.

2.3 The code of Foo

When showing a program fragment, use the **verbatim** environment. However, when you wan to show an algorithm, use either the **tabbing** or **algorithm** environment.

Thesis text is normally "double" spaced. It is customary to single-space literal code. Figure 2.1 shows a sample Java program.

```
import java.awt.Font;

public class Clock extends UpdateApplet {
    public void init() {
        setFont(new Font("TimesRoman",Font.BOLD,24));
        resize(400,100);
    }

    public void paint( java.awt.Graphics g ) {
        g.drawString( new java.util.Date().toString(), 20, 20 );
    }
}
```

Figure 2.1: An Embedded Java Clock. This figure also serves as an example of the inclusion of literal code.

2.4 Other mysteries of Foo

Here is an itemized list of all the mysteries of Foo.

- Mystery 1.
- Mystery 2.
- Mystery 3.
- Mystery 4.

Here is a simple table.

Table 2.1: The Approximate Time of Parallelizing Each Code

Parallel library/language	WRS Code	OCS Code	ICSAMD Code
PVM	20 hours	2 weeks	1 month
HPF	3 hours	1 1/2 weeks	1 month

CHAPTER 3

THE NOT SO GREAT THINGS ABOUT FOO

3.1 Figures

Check Figure 3.1 for what happens when Foo gets compiled.



Figure 3.1: How to Correct Errors in a Fuzzy Image

3.2 Tables

Table 3.1 shows the formatting and labeling for a table.

Here is another table

Table 3.1: Complexity of Selection and Search in Sorted Matrices

	Sorted $X + Y$	Matrix with sorte	Matrix with sorted		
		and sorted columns		columns	
	X = Y = n	$n \times m, m \le n$	$n \times n$	$n \times m$	
$k = \Theta(mn) \text{ or } \Theta(n^2)$	$\Theta(n)$	$\Theta(m\log(2n/m))$	$\Theta(n)$	$\Theta(m \log n)$	

Table 3.2: Comparison of Slow PVM Version and the Fast PVM Version

Parameters			Process Number						
N	Μ		1	5	10	15	20	25	30
128	100	Slow PVM(secs)	2.11	3.91	5.78	8.26	10.91	14.17	19.47
		Fast PVM(secs)	2.10	1.20	1.56	1.95	2.79	3.22	4.07

Table 3.3: The Speedup of the PVM WRS Code and the HPF WRS Code

Parameters			Process Number						
N	Μ		1	10	20	30	40	50	60
128	600	PVM(speedup)	1	5.18	7.67	8.24	6.99	5.55	4.49
		HPF(speedup)	1	8.40	12.15	13.98	14.73	13.52	13.21
256	300	PVM(speedup)	1	6.70	7.74	6.47	5.19	3.72	2.94
		HPF(speedup)	0.99	7.24	9.65	10.58	10	9.48	8.73
512	150	PVM(speedup)	1	6.75	10.64	12.14	13.35	13.87	13.98
		HPF(speedup)	0.98	6.72	9.88	11.55	12.86	13.38	13.83
1024	75	PVM(speedup)	1	2.13	2.30	2.36	2.38	2.39	2.40
		HPF(speedup)	0.95	1.94	2.06	2.10	2.13	2.13	2.14

CHAPTER 4

CONCLUSIONS

4.1 What have we done so far?

4.2 Future directions

The coming revolution in foo-lets offers many opportunities for further research.

REFERENCES

- [1] Foo The Great. The World According to Foo. NoFoo Press, Fooland, 1922.
- [2] Foo The Great. The World Without Foo. NoFoo Press, Fooland, 1952.
- [3] Foo Admirer. "An Analysis of Fooism". Journal of the Advanced Computing Foo, vol. 21(2), pp. 272–287.
- [4] Foo Admirer, Jim Smith and Jane Doe. "Everyday Fooism." Journal of the Advanced Computing Foo, vol. 23(4), pp. 272–287.
- [5] Graduate College. Standards for Preparation of Dissertations, Theses & Projects. Fourth edition, August 2001.
- [6] Amit Jain. Style files for M.S. Thesis/Project. http://cs.boisestate.edu/teaching/teaching.html#stylefiles

APPENDIX A

TIMING MEASUREMENTS

Here is Appendix A. See Appendix B for the experimental setup.

APPENDIX B

EXPERIMENTAL SETUP

Here is Appendix B.