

THESIS TITLE CENTERED ON THE PAGE VERTICALLY AND HORIZONTALLY,  
IN ALL UPPER CASE LETTERS AND IN AN INVERTED  
PYRAMID SHAPE. MATH MODE:  $\frac{2^{15}}{\pi}$

by  
Student Name

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A thesis submitted to the Faculty and the Board of Trustees of the Colorado School of Mines in partial fulfillment of the requirements for the degree of Doctor of Philosophy (Computer Science).

Golden, Colorado

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## ABSTRACT

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Dedication Page: A dedication page is optional and not frequently included in a thesis. However, occasionally the thesis writer wants to dedicate the document to a professional colleague, friend, or relative. A dedication typically expresses gratitude for someone's support. If a dedication page is included, it is placed at the end of the front matter section, following the acknowledgments. Typically, a dedication page has no title, it simply states, e.g., "For my father." Roman numeral page numbering continues on the dedication page.

# CHAPTER 1

## INTRODUCTION

This could be a subtitle

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

### 1.1 First section

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

### 1.2 Sencond section

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

#### 1.2.1 First SubSection

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consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

### 1.2.2 Second SubSection

[illegible]

### 1.2.2.1 Sub SubSection

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

### 1.3 Last section Math mode: $\frac{2^{15}}{\pi}$

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

### 1.4 Last section to test Citation

First paper [2] did something. Note that here we use ~ to make sure the citation not go to the other line.

Lamport et al. [5] did something. Many papers [7, 10] did something.

All papers [7, 10, 2, 5] did something.

Online link [6] is about something.

More papers: [1], [2], [4], [1, 8, 3, 9]

## CHAPTER 2

REPRODUCED CHAPTER: THIS CHAPTER REPRESENTS THAT STYLE USED  
WHEN A JOURNAL ARTICLE HAS ALREADY BEEN PUBLISHED  
OR HAS BEEN ACCEPTED FOR PUBLICATION

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2012 Elsevier Ltd. Katherine Smith <sup>\*</sup> <sup>1</sup>, Eric Wright <sup>†</sup> <sup>2</sup>

### 2.1 Abstract

This is the original abstract of your paper. This is the original abstract of your paper.  
This is the original abstract of your paper. This is the original abstract of your paper.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

### 2.2 First section

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---

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## CHAPTER 3

THIS IS A REALLY REALLY LONG TITLE THAT SOMEONE ELSE WROTE FOR  
ALL THE PENGUINS IN THE WORLD MATH MODE:  $\frac{2^{15}}{\pi}$

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

### 3.1 First section

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more than three lines of text to appear on the toc.

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### **3.3 Last section**

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EXAMPLE OF LONG LONG LONG LONG LONG LONG LONG LONG LONG LONG  
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LONG LONG LONG LONG LONG LONG LONG CHAPTER

### 4.1 First section

### 4.1.1 Subsection

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really really really really really really really really really really really really  
really really really really really really really really really really long title  
having more than three lines of text to appear on the toc.

7



nisl. Vivamus quis tortor vitae risus porta vehicula.

#### **4.1.2.1 SubSubsection**

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### **4.2 Second section**

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### **4.3 Last section**

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## FIGURE AND TABLE CHAPTER

The “figure” environment should be used for figures. One or more images can be placed within a figure. If your figure contains third-party material, you must clearly identify it as such, as shown in the example below. Lorem ipsum dolor sit amet, consectetur adipiscing

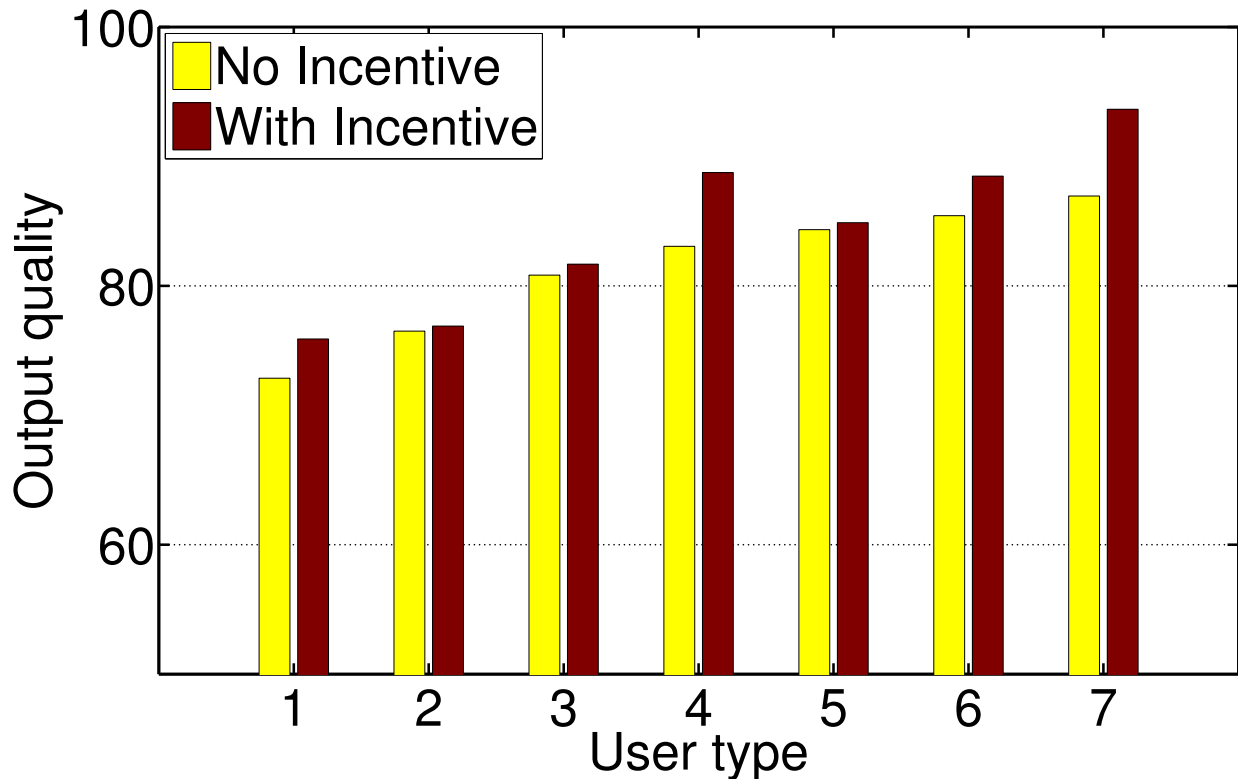


Figure 5.1: The figure with long long long long long long long long long long long long  
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long caption and links. (<https://goo.gl/VLCRBB>).

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## 5.1 Figures

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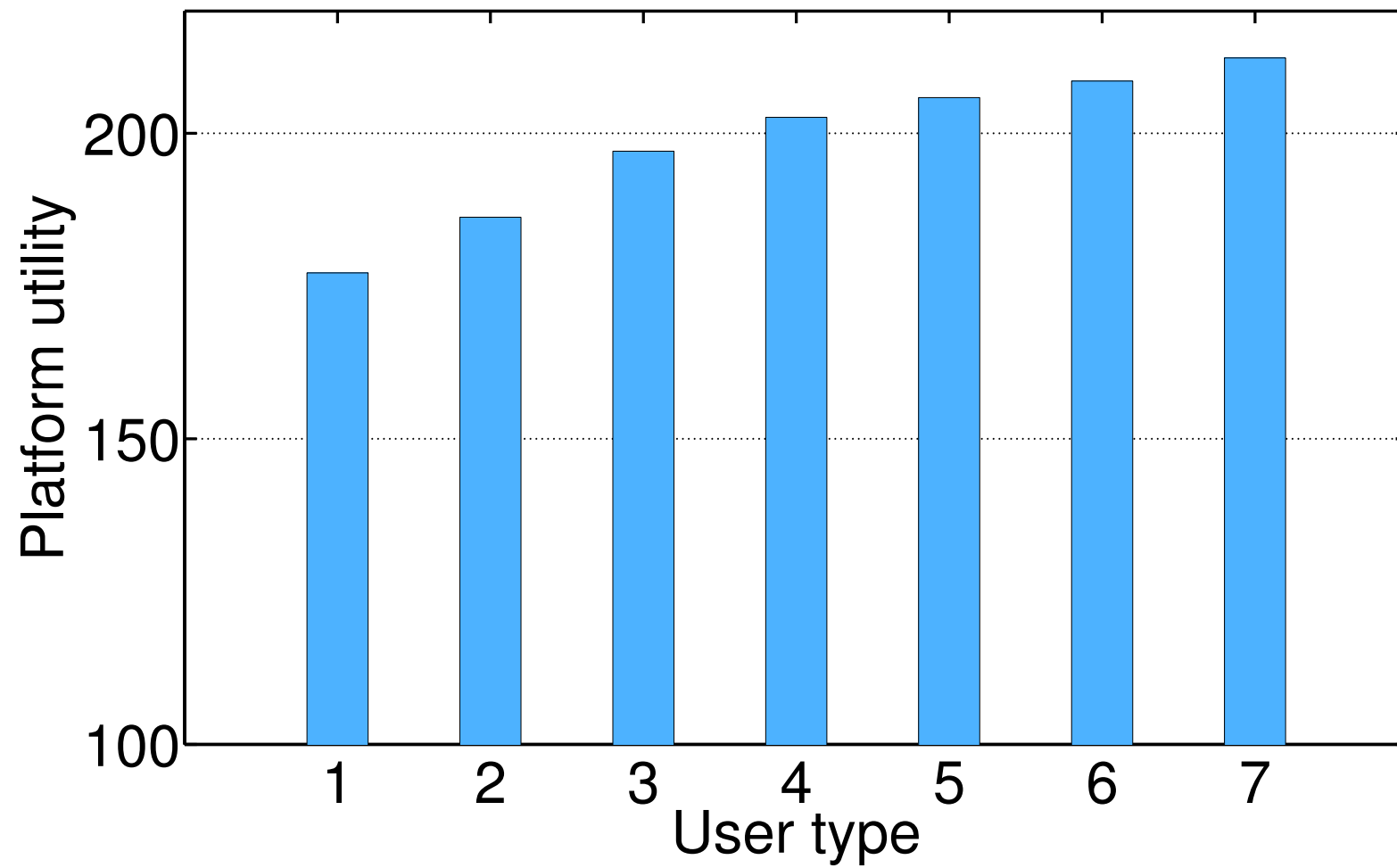


Figure 5.2: Continues figures in landscape mode. (first)

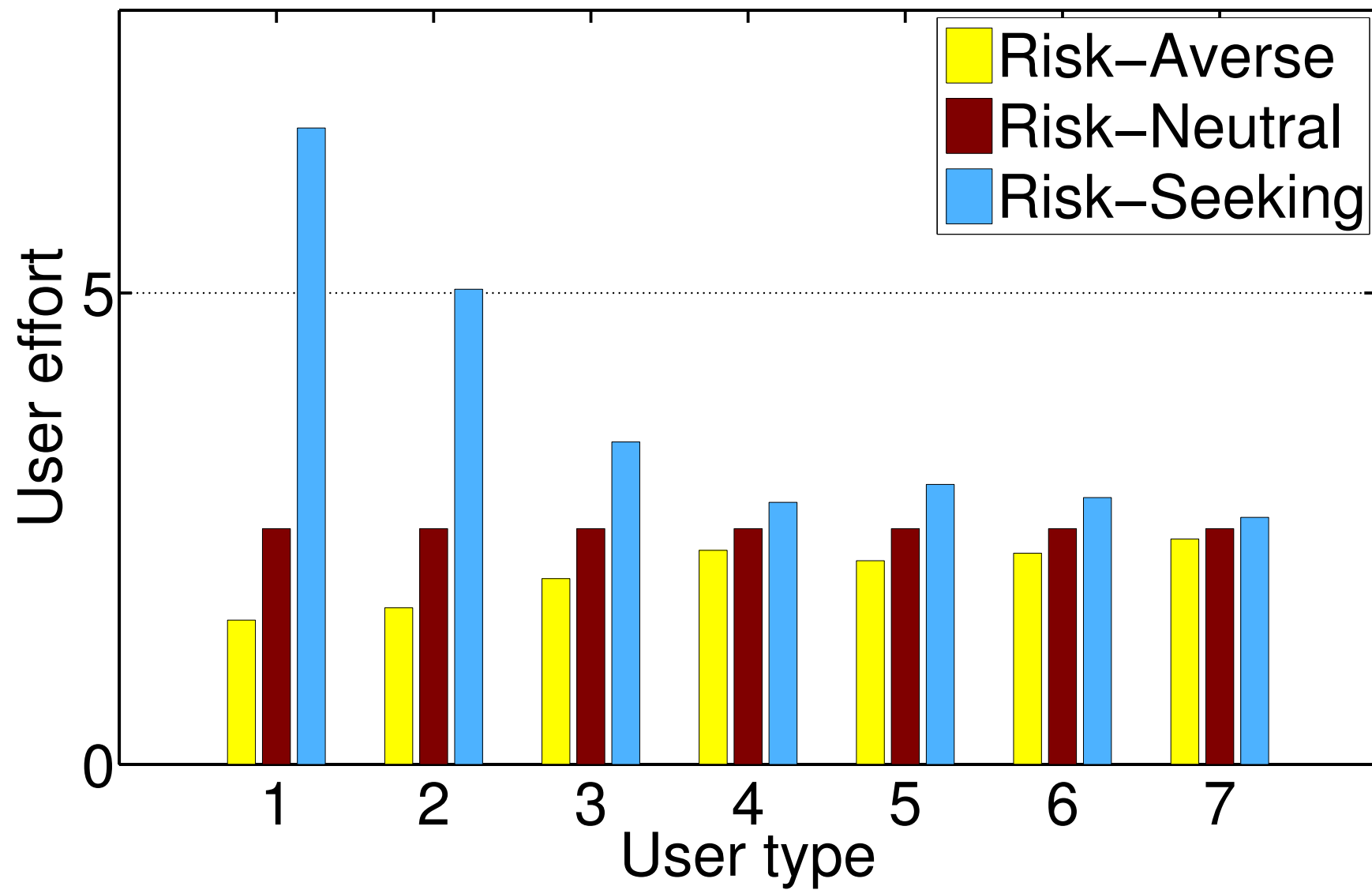


Figure 5.3: Continues figures in landscape mode. (second)

Your figures should contain a caption which describes the figure to the reader. Figure captions go below the figure. Your figures should **also** include a description suitable for screen readers, to assist the visually-challenged to better understand your work.

Figure captions are placed *below* the figure.

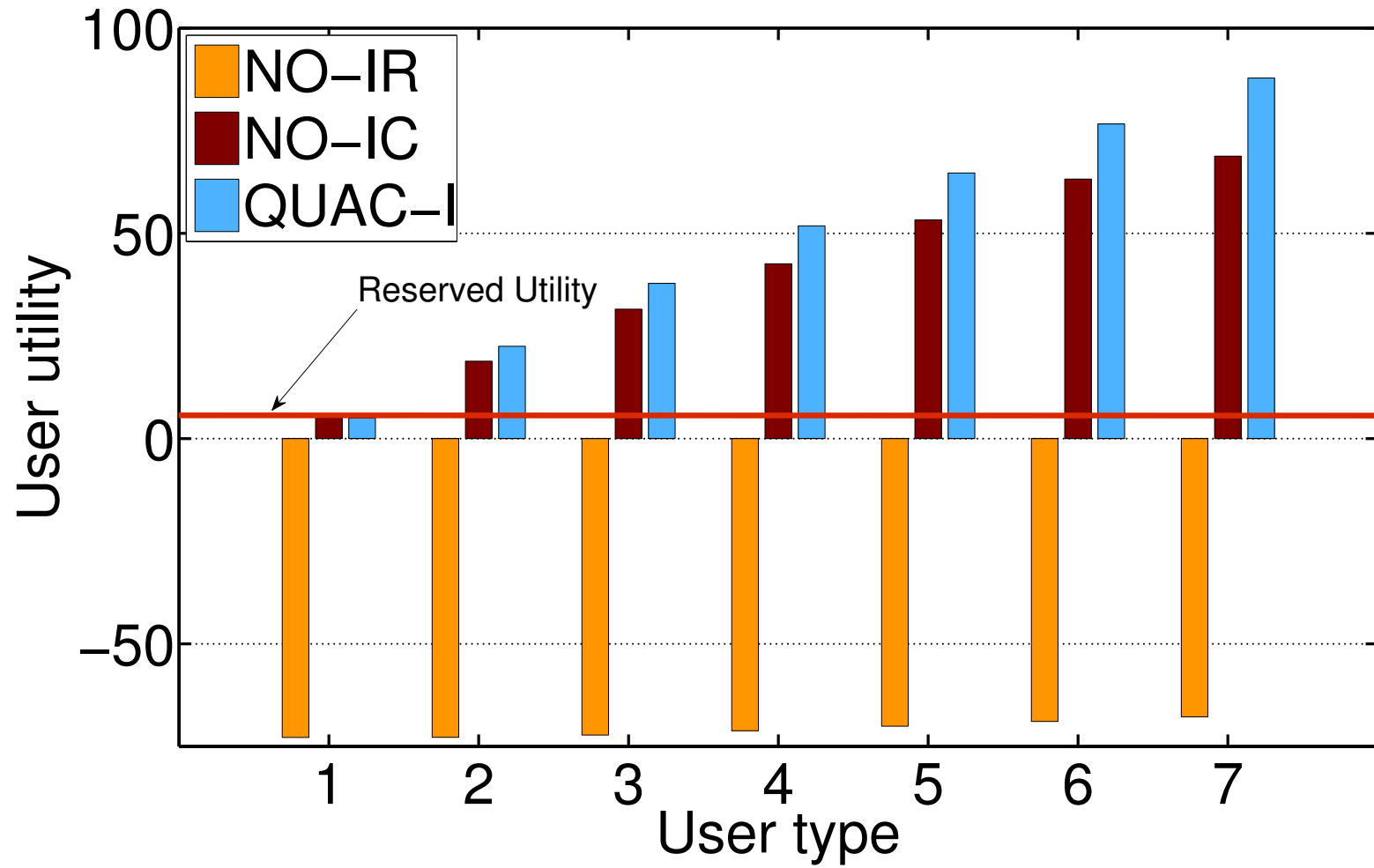


Figure 5.4: Example of a figure in landscape mode. Use `\centering` to center the image





Table 5.1: Frequency of Special Characters

Non-English or Math	Frequency	Comments
$\emptyset$	1 in 1,000	For Swedish names
$\pi$	1 in 5	Common in math
\$	4 in 5	Used in business
$\Psi_1^2$	1 in 40,000	Unexplained usage

Table 5.2: Some Typical Commands

Command	A Number	Comments	Command	A Number	Comments
<code>\author</code>	100	Author	<code>\author</code>	100	Author
<code>\table</code>	300	For tables	<code>\table</code>	300	For tables
<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables

Table 5.3: Some Typical Commands with borders

Command	A Number	Comments	Command	A Number	Comments
<code>\author</code>	100	Author	<code>\author</code>	100	Author
<code>\table</code>	300	For tables	<code>\table</code>	300	For tables
<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables

Immediately following this sentence is the point at which Table 5.2 is included in the input file; again, it is instructive to compare the placement of the table here with the table in the printed output of this document.



Table 5.6: A table in landscape mode

Command	A Number	Comments	Command	A Number	Comments	Command	A Number	Comments
<code>\author</code>	100	Author	<code>\author</code>	100	Author	<code>\author</code>	100	Author
<code>\table</code>	300	For tables	<code>\table</code>	300	For tables	<code>\table</code>	300	For tables
<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables
<code>\author</code>	100	Author	<code>\author</code>	100	Author	<code>\author</code>	100	Author
<code>\table</code>	300	For tables	<code>\table</code>	300	For tables	<code>\table</code>	300	For tables
<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables
<code>\author</code>	100	Author	<code>\author</code>	100	Author	<code>\author</code>	100	Author
<code>\table</code>	300	For tables	<code>\table</code>	300	For tables	<code>\table</code>	300	For tables
<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables
<code>\author</code>	100	Author	<code>\author</code>	100	Author	<code>\author</code>	100	Author
<code>\table</code>	300	For tables	<code>\table</code>	300	For tables	<code>\table</code>	300	For tables
<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables	<code>\table*</code>	400	For wider tables

### 5.3 Section of Long Tables

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Table 5.7: Example of long table cross multiple pages

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<code>\author</code>	100	Author
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Table 5.7 Continued

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Table 5.7 Continued

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Table 5.8: A long long table in landscape mode

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Table 5.8 Continued

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Table 5.8 Continued

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## CHAPTER 6

### LAST CHAPTER

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### **6.3 Last section to test Citation**

First paper [2] did something. Note that here we use ~ to make sure the citation not go to the other line.

Lamport et al. [5] did something.

Many papers [7, 10] did something.

All papers [7, 10, 2, 5] did something.

Online link [6] is about something.

## CHAPTER 7

### LAST LAST CHAPTER

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## APPENDIX A

### SUPPLEMENT DATA

Appendix material is information that is not essential to the text but that contributes to it.

Appendices are used to include information such as the following:

- Original data
- Long quotations
- Supporting legal decisions or laws
- Computer codes and programs
- Lithologic and petrographic descriptions
- Questionnaires
- Forms and documents
- Permissions to use copyrighted material
- Long tables

All Figures and Tables in an Appendix need to be labeled with a number & a caption and need to be listed in either the List of Figures or List of Tables.

You may include long appendices as electronic attachments to your thesis. In either instance, appendices are listed in the table of contents.

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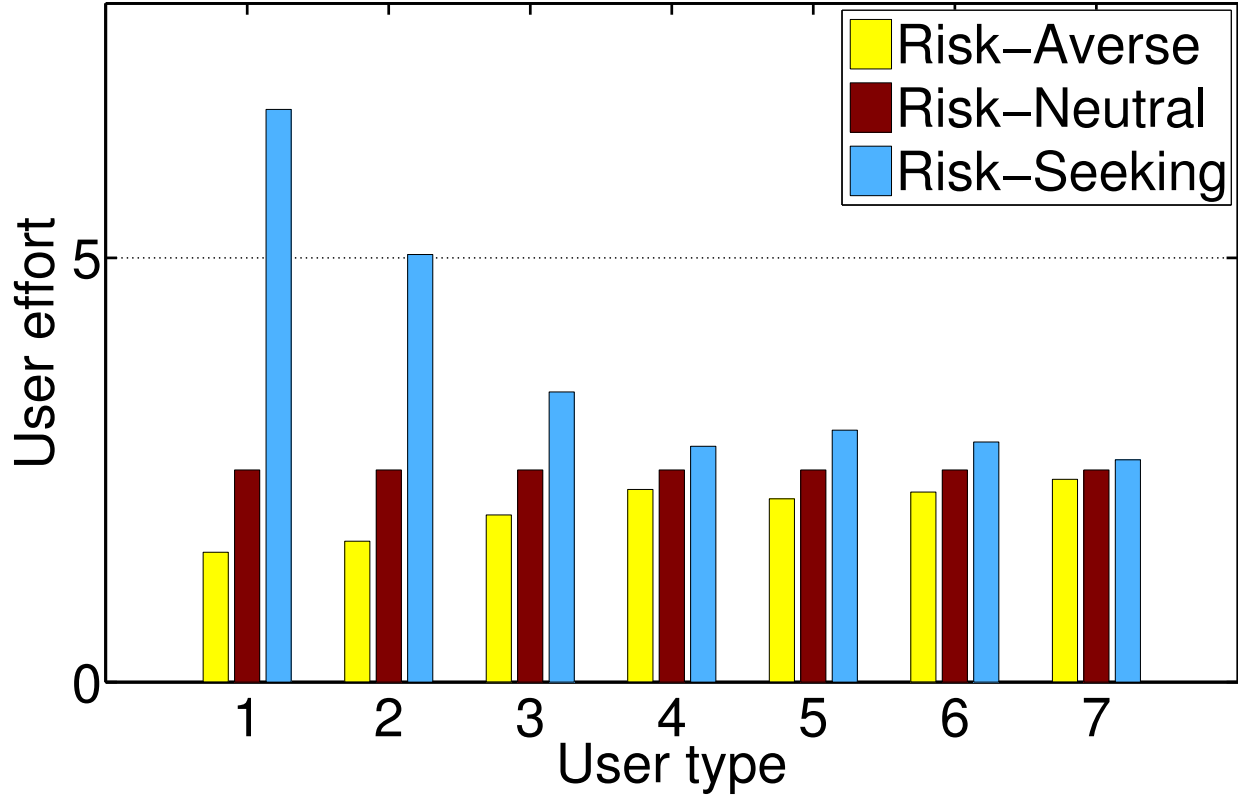


Figure A.1: Example Figure in Appendix A

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## APPENDIX B

### SUPPLEMENTAL ELECTRONIC FILES

The Appendix for the Supplemental Electronic Files should look like the example below. Be sure to include the Appendix in the Table of Contents.

Table B.1: Example Table in Appendix B

Non-English or Math	Frequency	Comments
$\emptyset$	1 in 1,000	For Swedish names
$\pi$	1 in 5	Common in math
\$	4 in 5	Used in business
$\Psi_1^2$	1 in 40,000	Unexplained usage