

Linköping Studies in Science and Technology
Dissertations, No. 111111

A very very long title

Författaren



Linköping University
Department of Computer and Information Science
Division of Human-Centered Systems
SE-581 83 Linköping, Sweden

Linköping 2017

Typeset using X_YTeX

Printed by LiU-Tryck, Linköping 2017

Edition 1:1

© Författaren, 2017

ISBN 978-91-1234-56-7 (print)

ISBN 978-91-2345-67-8 (PDF)

<https://doi.org/10.3384/978912345678>

ISSN 0345-7524

Published articles have been reprinted with permission from the respective copyright holder.

POPULÄRVETENSKAPLIG SAMMANFATTNING

Populärvetenskaplig sammanfattning på svenska i sammanfattning.tex

ABSTRACT

The abstract resides in file `Abstract.tex`. Here you should write a short summary of your work.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque in massa suscipit, congue massa in, pharetra lacus. Donec nec felis tempor, suscipit metus molestie, consectetur orci. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Curabitur fermentum, augue non ullamcorper tempus, ex urna suscipit lorem, eu consectetur ligula orci quis ex. Phasellus imperdiet dolor at luctus tempor. Curabitur nisi enim, porta ut gravida nec, feugiat fermentum purus. Donec hendrerit justo metus. In ultrices malesuada erat id scelerisque. Sed sapien nisi, feugiat in ligula vitae, condimentum accumsan nisi. Nunc sit amet est leo. Quisque hendrerit, libero ut viverra aliquet, neque mi vestibulum mauris, a tincidunt nulla lacus vitae nunc. Cras eros ex, tincidunt ac porta et, vulputate ut lectus. Curabitur ultricies faucibus turpis, ac placerat sem sollicitudin at. Ut libero odio, eleifend in urna non, varius imperdiet diam. Aenean lacinia dapibus mauris. Sed posuere imperdiet ipsum a fermentum.

Nulla lobortis enim ac magna rhoncus, nec condimentum erat aliquam. Nullam laoreet interdum lacus, ac rutrum eros dictum vel. Cras lobortis egestas lectus, id varius turpis rhoncus et. Nam vitae auctor ligula, et fermentum turpis. Morbi neque tellus, dignissim a cursus sed, tempus eu sapien. Morbi volutpat convallis mauris, a euismod dui egestas sit amet. Nullam a volutpat mauris. Fusce sed ipsum lectus. In feugiat, velit eu fermentum efficitur, mi ex eleifend ante, eget scelerisque sem turpis nec augue.

Vestibulum posuere nibh ut iaculis semper. Ut diam justo, interdum quis felis ac, posuere fermentum ex. Fusce tincidunt vel nunc non semper. Sed ultrices suscipit dui, vel lacinia lorem euismod quis. Etiam pellentesque vitae sem eu bibendum. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Pellentesque scelerisque congue ullamcorper. Sed vehicula sodales velit a scelerisque. Pellentesque dignissim lectus ipsum, quis consectetur tellus rhoncus a.

Nunc placerat ut lectus vel ornare. Sed nec dictum enim. Donec imperdiet, ipsum ut facilisis blandit, lacus nisi maximus ex, sed semper nisl metus eget leo. Nunc efficitur risus ac risus placerat, vel ullamcorper felis interdum. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Duis vitae felis vel nibh sodales fringilla. Donec semper eleifend sem quis ornare. Proin et leo ut dolor consectetur vehicula. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Nunc dignissim interdum orci, sit amet pretium nibh consectetur sagittis. Aenean a eros id risus aliquam placerat nec ut lectus. Curabitur at quam in nisi sodales imperdiet in at erat. Praesent euismod pulvinar imperdiet. Nam auctor mattis nisi in efficitur. Quisque non cursus ipsum, consequat vehicula justo. Fusce varius metus et nulla rutrum scelerisque. Praesent molestie elementum nulla a consequat. In at facilisis nisi, convallis molestie sapien. Cras id ullamcorper purus. Sed at lectus sit amet dolor finibus suscipit vel et purus. Sed odio ipsum, dictum vel justo sit amet, interdum dictum justo. Quisque euismod quam magna, at dignissim eros varius in. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

Acknowledgments

Acknowledgments.tex

Contents

Abstract	iii
Acknowledgments	v
Contents	vii
1 Introduction	1
1.1 Motivation	1
1.2 Aim	1
1.3 Research questions	1
1.4 Delimitations	2
2 Theory	3
3 Method	5
Bibliography	7
4 Paper I	11
4.1 Introduction	12
4.2 Acknowledgements	13
References	13

Todo list

A decorative element consisting of several thin, vertical black lines of varying heights, positioned to the left of the chapter title.

1

Introduction

The introduction shall be divided into these sections:

1.1 Motivation

[1]

This is where the studied problem is described from a general point of view and put in a context which makes it clear that it is interesting and well worth studying. The aim is to make the reader interested in the work and create an urge to continue reading.

1.2 Aim

What is the underlying purpose of the thesis project?

1.3 Research questions

This is where the research questions are described. Formulate these as explicit questions, terminated with a question mark. A report will usually contain several different research questions that are somehow thematically connected. There are usually 2-4 questions in total.

Examples of common types of research questions (simplified and generalized):

1. INTRODUCTION

1. How does technique X affect the possibility of achieving the effect Y?
2. How can a system (or a solution) for X be realized so that the effect Y is achieved?
3. What are the alternatives to achieving X, and which alternative gives the best effect considering Y and Z? (This research question is normally broken down in to 2 separate questions.)

Observe that a very specific research question almost always leads to a better thesis report than a general research question (it is simply much more difficult to make something good from a general research question.)

The best way to achieve a really good and specific research question is to conduct a thorough literature review and get familiarized with related research and practice. This leads to ideas and terminology which allows one to express oneself with precision and also have something valuable to say in the discussion chapter. And once a detailed research question has been specified, it is much easier to establish a suitable method and thus carry out the actual thesis work much faster than when starting with a fairly general research question. In the end, it usually pays off to spend some extra time in the beginning working on the literature review. The thesis supervisor can be of assistance in deciding when the research question is sufficiently specific and well-grounded in related research.

1.4 Delimitations

This is where the main delimitations are described. For example, this could be that one has focused the study on a specific application domain or target user group. In the normal case, the delimitations need not be justified.



2 Theory

The main purpose of this chapter is to make it obvious for the reader that the report authors have made an effort to read up on related research and other information of relevance for the research questions. It is a question of trust. Can I as a reader rely on what the authors are saying? If it is obvious that the authors know the topic area well and clearly present their lessons learned, it raises the perceived quality of the entire report.

After having read the theory chapter it shall be obvious for the reader that the research questions are both well formulated and relevant.

The chapter must contain theory of use for the intended study, both in terms of technique and method. If a final thesis project is about the development of a new search engine for a certain application domain, the theory must bring up related work on search algorithms and related techniques, but also methods for evaluating search engines, including performance measures such as precision, accuracy and recall.

The chapter shall be structured thematically, not per author. A good approach to making a review of scientific literature is to use *Google Scholar* (which also has the useful function *Cite*). By iterating between searching for articles and reading abstracts to find new terms to guide further searches, it is fairly straight forward to locate good and relevant information, such as [2].

Having found a relevant article one can use the function for viewing other articles that have cited this particular article, and also go through the article's own reference list. Among these articles one can often find other interesting articles and thus proceed further.

It can also be a good idea to consider which sources seem most relevant for the problem area at hand. Are there any special conference or journal that often occurs one can search in more detail in lists of published articles from these venues in particular. One can also search for the web sites of important authors and investigate what they have published in general.

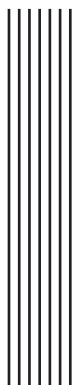
This chapter is called either *Theory*, *Related Work*, or *Related Research*. Check with your supervisor.



3 Method

In this chapter, the method is described in a way which shows how the work was actually carried out. The description must be precise and well thought through. Consider the scientific term replicability. Replicability means that someone reading a scientific report should be able to follow the method description and then carry out the same study and check whether the results obtained are similar. Achieving replicability is not always relevant, but precision and clarity is.

Sometimes the work is separated into different parts, e.g. pre-study, implementation and evaluation. In such cases it is recommended that the method chapter is structured accordingly with suitable named sub-headings.



Bibliography

- [1] Niklas Andersson, Niklas Andersson, Niklas Andersson, Niklas Andersson, and Niklas Andersson. “Evaluating E-Business and Gigabit Switches with Quint.” In: *Communications of the ACM* (2007).
- [2] Johnny Walker. “On Whiskey.” In: *Communications of the AA* (1999).



Niklas Andersson, Niklas Andersson, Niklas Andersson, Niklas Andersson,
and Niklas Andersson. “Evaluating E-Business and Gigabit Switches with
Quint.” In: *Communications of the ACM* (2007)

4

“Evaluating E-Business and Gigabit Switches with Quint”

Abstract

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla scelerisque interdum elementum. Suspendisse aliquam quam at justo tincidunt nec adipiscing eros dignissim. Duis risus justo, sollicitudin a ullamcorper sit amet, imperdiet quis ante. Aliquam ut leo eget justo adipiscing adipiscing aliquet vitae nisi. Quisque blandit, mauris consequat faucibus tincidunt, massa nunc faucibus arcu, vitae fringilla mauris sem at ipsum. Vivamus scelerisque viverra nisi, ut consequat sem faucibus id. Proin ut felis turpis. Nullam mollis malesuada posuere. Curabitur hendrerit sagittis arcu, ut sagittis odio lacinia eget. In varius nibh nec quam lacinia tempor.

Donec commodo libero nec libero blandit imperdiet. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. In hac habitasse platea dictumst. Mauris libero ipsum, feugiat sed semper quis, tincidunt molestie odio. Donec nec iaculis arcu. Suspendisse cursus orci tortor, nec euismod mi. Vestibulum imperdiet magna eget dolor sagittis ut malesuada lorem dignissim. Nunc quis orci tellus. Pellentesque volutpat, justo eget convallis egestas, nisl augue suscipit ante, non pretium neque mauris nec tellus. Integer facilisis gravida nulla vitae porttitor. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aenean tempus elit at mi eleifend aliquam. Sed quis augue non mauris pellentesque pharetra nec vel ante.

4.1 Introduction

Ut porttitor dui eget nunc viverra quis sagittis purus porta. Nam viverra leo vel lectus placerat hendrerit. Mauris malesuada bibendum volutpat. Vivamus venenatis sagittis luctus. Nulla interdum lacus quis diam eleifend consectetur. Aenean viverra odio at sapien elementum fermentum. Fusce tempus iaculis egestas. Aenean dapibus mollis auctor. Maecenas consectetur erat eget ante elementum dapibus. Phasellus elementum orci quis nibh bibendum fringilla. Aliquam ac orci nibh. Praesent tincidunt diam non dolor ornare sed ullamcorper felis sodales. Sed imperdiet, odio gravida interdum sollicitudin, dui mauris ultrices felis, ut commodo magna tellus ut leo. Sed vehicula, dolor eget lobortis accumsan, ante nibh accumsan metus, in lobortis lacus neque in arcu. Quisque sapien turpis, tempor ac sagittis ac, viverra vel enim. Mauris porta elementum faucibus. Proin sed feugiat felis. Sed pulvinar, tortor sed pharetra condimentum, neque lacus aliquam sapien, ac scelerisque ligula urna ac ipsum. Suspendisse potenti. Suspendisse leo orci, dictum eget iaculis et, imperdiet et nisi.

Pellentesque eros enim, porta iaculis dignissim ac, egestas a felis. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Fusce congue, nulla ut egestas semper, massa enim ornare justo, ut rutrum enim ipsum a mi. Quisque eget velit libero, eget accumsan turpis. Proin blandit urna sed felis semper et viverra urna mollis. Maecenas sed vulputate orci. Proin vitae enim est, a commodo magna. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Suspendisse iaculis gravida massa a porta. Ut sollicitudin scelerisque pharetra. Vivamus cursus consequat nibh eu pellentesque. Ut mattis aliquet velit sit amet ultrices. Nulla facilisi. Praesent non semper odio. In pharetra vestibulum suscipit. Integer interdum magna sit amet neque aliquet eu venenatis dui auctor. Fusce et mauris eros. Phasellus dolor massa, condimentum ut iaculis vitae, tempor eu diam. Etiam sed ligula nec sapien tincidunt commodo [1].

Nulla non nibh lacus, consectetur posuere lacus. Suspendisse lacus ipsum, scelerisque eu vulputate eget, porttitor eu nisi. Aliquam ac fermentum tellus. In nec rutrum mauris. Vestibulum vestibulum dapibus facilisis. Nulla tincidunt fermentum suscipit. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum felis leo, pretium vitae blandit eget, tincidunt ac tellus. Donec at dignissim odio. Vestibulum mauris sem, mattis id vestibulum eu, elementum sit amet nibh. Cras vitae nisi massa, vitae euismod nibh. Sed mattis, orci ut pellentesque faucibus, velit lacus consectetur sapien, id posuere ante lorem a nulla. Ut aliquet consequat quam, id mollis arcu faucibus nec. Mauris egestas pellentesque nibh sit amet bibendum. Maecenas pretium dapibus est, pellentesque fermentum dolor dictum id. Sed vulputate, est vel vestibulum tempus, mi sem eleifend orci, quis placerat odio neque eget quam.

Suspendisse id quam augue. Nullam at purus urna, et facilisis lacus. Ut fermentum, tellus et vulputate posuere, lectus nisi semper lectus, eu porttitor leo nisl ac quam. Vivamus venenatis est nec ligula dictum vitae consectetur mi adipiscing.

4.2 Acknowledgements

This work was sponsored.

References

- [1] Johnny Walker. “On Whiskey.” In: *Communications of the AA* (1999).