Term-Indexing for the Beagle Theorem Prover

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Acknowledgements

Thank you to my Supervisor and all...

Abstract

This should be the abstract to your thesis...

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- 1.1.1 A Theoretical Framework

Background

- 2.1 Sentential and Predicate (First-Order) Logic
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2.6 Scala

We add a few blank pages here to illustrate section headings on odd pages (other than the first page in a new chapter).

Also, here is an example of a citation [Lamport 1994], and another one [Knuth 1986], and another [Goossens et al. 1994]. If in the context, it makes sense to talk about the work of an author in a more integrated way, like Lamport [1994], that can be done too. Because the information on this page is *so* important, it has been indexed too (see the index at the back of this thesis).¹

¹However, it is *strongly* advisable to leave indexing until the thesis is complete. Donald Knuth says to allow about a day for the task of indexing. In my experience he was spot-on.

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Note the section heading at the top of this odd (righthand) page...

Implementing Fingerprint Indexing

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Results

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5.1 Why this is a Very Clever Thesis

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A.1 Why I Did It

More Stuff

Bibliography

- Goossens, M., MITTELBACH, F., AND SAMARIN, A. 1994. The LETEXCompanion. Addison Wesley. (p. 3)
- KNUTH, D. E. 1986. *The T_EXbook*, Volume A of *Computers and Typesetting*. Addison Wesley. (p.3)
- LAMPORT, L. 1994. Lambert Preparation System—User's Guide and Reference Manual (2nd ed.). Addison Wesley. (p. 3)

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