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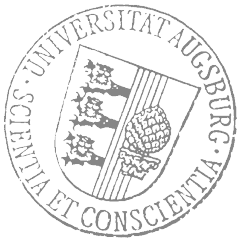
University of Augsburg
Faculty of Applied Computer Science
Department of Computer Science
Bachelor's Program in Computer Science



Bachelor's Thesis

Engagement Detection

Inferring conversational engagement from nonverbal behaviour

submitted by
Amr Abdelraouf
on 31.7.2014

Supervisor:
Prof. Dr. Elisabeth André aus Augsburg

Adviser:
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Prof. Dr. Elisabeth André

Abstract

This is the place where the *abstract* of your thesis is supposed to be. The abstract is an essential part of a thesis, providing a brief summary of the thesis. Students often do not recognise the importance of the abstract and thus do not spend the required time in order to produce a well defined abstract. You should realize that the abstract is the walking advertisement for your thesis. Any reader's interest in your work stands or falls with the motivation provided by your abstract. A student should know that usually the reviewer of his or her thesis start reading with the abstract and the summary while often just making quick scans over some parts of the main chapters. An abstract is what will and has to be remembered.

Acknowledgments

Acknowledgements writing allows an author to tell some words of gratitude to those, who turned out to be rather helpful during your thesis writing process. Of course, acknowledgements are not an integral part of a thesis and if you did all your work on your own, you can omit this part. Writing acknowledgements is not obligatory.

Statement and Declaration of Consent

Statement

Hereby I confirm that this thesis is my own work and that I have documented all sources used.

Amr Abdelraouf

Augsburg, 3.7.2014

Declaration of Consent

Herewith I agree that my thesis will be made available through the library of the Computer Science Department.

Amr Abdelraouf

Augsburg, 3.7.2014

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2.1 Entenhausen

Figure 2.1 shows an image while you can cite a paper with [1] or several papers with [2, 3].

2.2 Section

2.2.1 PseudoCode

Bibliography

[1] David Harel and Amir Pnueli. On the development of reactive systems. In *Logics and Models of Concurrent Systems*, volume 13 of *Nato Asi Series F: Computer And Systems Sciences*, pages 477–498, New York, NY, USA, 1985. Springer-Verlag New York, Inc. [cited at p. 3]

[2] Elisabeth Andre and Thomas Rist. *Cooperative Information Agents IV - The Future of Information Agents in Cyberspace*, volume 1860 of *Lecture Notes in Computer Science*, chapter Adding Life-Like Synthetic Characters to the Web, pages 51–89. Springer Berlin, Heidelberg, February 2004. [cited at p. 3]

[3] Thomas Rist, Stephan Baldes, Patrick Gebhard, Michael Kipp, Martin Klesen, Peter Rist, and Markus Schmitt. Crosstalk: An interactive installation with animated presentation agents. In *COSIGN '02: Proceedings of the 2th Conference on Computational Semiotics for Games and New Media*, Augsburg, 2002. [cited at p. 3]

Appendices

Appendix A

First Appendix

This is the place where the appendices are supposed to be. Appendices are everything that would just blow up your thesis but are still of some interrest for a reader that wants to get a deeper grasp on the details of your work.

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