

Contents

1	Introduction	1
1.1	Motivation	3
1.2	Approach	4
1.3	Problem Statement and Significance	6
1.4	Overview	8
2	Theoretical Background	11
2.1	Culture	12
2.2	Aspects of Human Behavior	27
2.3	The German and Japanese Cultures	35
2.4	Summary	45
3	Related Work	49
3.1	From Single Agents to Multiagent Systems	50
3.2	Culture in Virtual Agent Systems	58
3.3	Integration of Behavioral Aspects	71
3.4	Summary	77
4	Empirical Background	81
4.1	Method of Utilizing a Multimodal Corpus	82
4.2	Corpus Acquisition	85
4.3	Annotation	89
4.4	Analysis	95
4.5	Summary	109

5	Conceptual Design and Technical Realization	113
5.1	Procedure	114
5.2	General Approach	117
5.3	Modeling Culture-related Differences	124
5.4	Demonstrator	139
5.5	Summary	151
6	Evaluation of Behavioral Aspects	153
6.1	Small Talk Behavior	153
6.2	Communication Management and Nonverbal Behavior	159
6.3	Summary	166
7	Generalization of the Approach	169
7.1	Transferring the Approach	169
7.2	Applications	175
8	Contributions and Future Work	181
8.1	Contributions	181
8.2	Future Work	186
	Appendix	189
A	Coding Schemes	191
A.1	Annotation Schema for Verbal Behavior	191
A.2	Annotation Schema for Nonverbal Behavior	196
A.3	Bull's Posture Coding Schema	201
B	Frequency Data from Corpus Analysis	203
B.1	Topic Categories	203
B.2	Topic Shifts	205
B.3	Dialog Utterances	207
B.4	Pauses and Overlaps	209
C	Knowledge Bases	213
C.1	Character's Knowledge Base	213
C.2	Verbal Knowledge Base	215
C.3	Nonverbal Knowledge Base	221
	Bibliography	225