7 Generalization of the Approach

The work carried out for this dissertation can be further employed in research in different ways. On the one hand, the approach taken can be transferred to other cultures. On the other hand, the demonstrator can be used as a test bed for further research studies.

In the first section of this chapter, the transfer of the approach is demonstrated for the American and Arab cultures, investigating communication management behaviors. The second section of this chapter demonstrates how the implemented behaviors can be employed for further research studies. Although the demonstrator was also used for purposes different from cultural research, e.g. for interactive storytelling [EKM⁺11] [MEA11], in this dissertation the applicability is exemplified for the domain of culture, in particular, for the simulation of synthetic cultures (theory-based) and for the impact of social relationship on behavior (corpus-based).

7.1 Transferring the Approach

The workflow of this dissertation (see Section 5.1) was conducted for the two cultural backgrounds of Germany and Japan. The approach, however, is of a general nature and can be reproduced for other cultural backgrounds.

During an internship at the Institute of Creative Technologies [USC12], such a transfer has been exemplified for the Arab and American cultural backgrounds, in cooperation with researchers from the institute (see also [EHAG10]). The video
corpus used for the transfer was recorded as part of a NSF-funded project (National Science Foundation under Grant No. 0729287, and the U.S. Army Research, Development, and Engineering Command (RDECOM)), and kindly provided by the Institute of Creative Technologies [USC12]. Due to time limitations, the video corpus was not annotated. We thus focused on aspects of communication management behaviors, since they can analyzed automatically using the speech signals.

Just as in the approach taken in this dissertation, we started with an overview of behavioral tendencies described in literature, pointing out differences between the two cultures, and proceeded by grounding our expectations in empirical data by analyzing a multi-modal corpus. Findings were subsequently integrated into our demonstrator and evaluated in the target cultures to investigate their impact on the perception of human observers.

**Cultural Profiles** As we pointed out in Subsection 2.2.2, communication management behaviors are considered culture-dependent [TT99]. Regarding the Arab and US American cultures, we expect rather strong differences since the cultures can be categorized very differently, using the dimensional models of culture described in Subsection 2.1.2. In particular, differences can be observed with regard to Hofstede’s dimensions individualism (IDV) and power distance (PDI), see Table 7.1 for the rankings. While Arabia scores high on the PDI dimension and low on the IDV dimension, the US score low on the PDI dimension and high on the IDV dimension. Since Hofstede [HPH02] states that silence may occur in conversations in collectivistic cultures without creating tension, and the usage of pauses can be a crucial feature of their conversations, which does not hold true for individualistic cultures, we expect more pauses in Arab conversations than in American ones. In high-power cultures, interpersonal synchrony is much more important than in low-power cultures [TT99]. We therefore expect more verbal feedback in Arab conversations, as interlocutors show attentiveness while they are listening.

<table>
<thead>
<tr>
<th>Culture / Dimension</th>
<th>Arab World</th>
<th>World Average</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDI</td>
<td>80</td>
<td>55</td>
<td>40</td>
</tr>
<tr>
<td>IDV</td>
<td>38</td>
<td>64</td>
<td>91</td>
</tr>
</tbody>
</table>

Table 7.1: Hofstede’s scores for America and Arabia on the dimensions Power Distance (PDI) and Individualism (IDV) compared to world average.