A Person Memory for an Artificial Interaction Partner

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Until now interaction with an agent is often limited to a short period of time, in that relevant information is stored during the ongoing interaction and discarded afterwards. In order to establish a long-term interaction, episodes have to be stored in a way that they can be recalled in later interactions. This should allow the agent to take up topics or to present new information the interaction partner might be interested in (see e.g. the Companions EU Project[1]).

The goal of this PhD project is to conceptualize a person memory for an embodied conversational agent that enables the agent to recall information from past encounters with his interlocutors. Following Hastie et al. (1980), the proposed person memory goes beyond the common understanding of person memory as a mere name/face storage. In addition to basic information about a person, like her name, age, and number of interactions, significant episodes may be linked from the episodic memory of the agent to his record building an impression of the person (Hastie et al., 1980, p. 126). Our idea is to extract information from the episodes, like discussed topics, and to combine them with the inferred emotions of the interlocutor. This would enable the agent to infer mutual interests and relate people (e.g. with respect to their acquaintances) to each other. Besides appropriate emotional reactions to interactants (Kasap et al., 2009), the agent will be able to introduce new topics to an interlocutor utilizing these relationships.

Whereas the focus of most projects dealing with long-term interaction is to get an agent to adapt to one single human interactant (e.g. Castellano et al., 2008) this project aims at creating an agent that is able to interact with a broad range of people. Storing information about the agent as well, will enable him to not only evaluate situations in regard to the interlocutor's but also to his own point of view (e.g. the agent's emotional attitude towards a topic) leading to a more humanlike interaction with the artificial agent.

References

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[1] http://www.companions-project.org/