

Invited Talk

Artificial Companions as Dialogue Agents

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COMPANIONS is an EU project that aims to change the way we think about the relationships of people to computers and the Internet by developing a virtual conversational ‘Companion’. This is intended as an agent or ‘presence’ that stays with the user for long periods of time, developing a relationship and ‘knowing’ its owners preferences and wishes. The Companion communicates with the user primarily through speech. This paper describes the functionality and system modules of the Senior Companion, one of two initial prototypes built in the first two years of the project. The Senior Companion provides a multimodal interface for eliciting and retrieving personal information from the elderly user through a conversation about their photographs. The Companion will, through conversation, elicit their life memories, often prompted by discussion of their photographs; the aim is that the Companion should come to know a great deal about its user, their tastes, likes, dislikes, emotional reactions etc, through long periods of conversation. It is a further assumption that most life information will be stored on the internet (as in the Memories for Life project: <http://www.memoriesforlife.org/>) and the SC is linked directly to photo inventories in Facebook, to gain initial information about people and relationships, as well as to Wikipedia to enable it to respond about places mentioned in conversations about images. The overall aim of the SC, not yet achieved, is to produce a coherent life narrative for its user from these materials, although its short term goals are to assist, amuse, entertain and gain the trust of the user. The Senior Companion uses Information Extraction to get content from the speech input, rather than conventional parsing, and retains utterance content, extracted internet information and ontologies all in RDF formalism over which it does primitive reasoning about people. It has a dialogue manager virtual machine intended to capture mixed initiative, between Companion and user, and which can be a basis for later replacement by learned components.