

Using the Wizard of Oz Method to Train Persuasive Agents

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Persuasive conversational agents persuade users to change their attitudes or behaviors through conversation and are expected to be applied as virtual sales-clerks in e-shopping sites. Developing such an agent requires a conversation model that identifies the most appropriate responses to the user's inputs. To create such a model, we propose the approach of combining a learning agent with the Wizard of Oz method; in this approach, a person (called the Wizard) talks to the user pretending to be the agent. The agent learns from the conversations between the Wizard and the user constructs its own conversation model. In this approach, the Wizard has to reply to most of the user's inputs at the beginning, but burden gradually falls because the agent learns how to reply as the conversation model grows.

Every persuasive conversation has the goal of persuading the user and ends with success or failure. We introduce a goal-oriented conversation model that can represent the success probability of persuasion and a learning method to update the model depending on the success/failure of the persuasive conversation. We introduce a learning persuasive agent that implements the conversation model and the learning method and evaluate it in the situation wherein the agent persuades users to choose one type of digital camera over another. The agent could succeed in reducing the Wizard's inputs by 48%, and more interestingly, succeeded in persuading 2 users without any help from the Wizard.