



Robots in Service Design: Considering uncertainty in social interaction with robots

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Abstract

As robots become more prevalent in society, they will also become part of service systems, and will be among the materials that designers work with. The body of literature on robots in service systems is scarce, in service research as well as in service design research, especially regarding how to understand robots in service, and how design for service is impacted. In this conceptual paper we aim to shed light on how social robots will affect service. We take a look at the current state of robots' ability to interact socially with people and highlight some of the issues that need to be considered when including social robots as part of service.

In navigating the social world, people exhibit an intentional stance, in which they rely on assumptions that social behaviour is governed by underlying mental states, such as beliefs and desires. Due to fundamental differences between humans and robots, people's attribution of the mental state of robots, such as what a particular robot knows and believes, is often precarious and leads to uncertainty in interactions, partly relating to issues with common ground. Additionally, people might hesitate to initiate interactions with robots, based on considerations of privacy and trust, or

due to negative attitudes towards them. Designing for service systems where e.g. a robot is being introduced, requires knowledge and understanding of these issues from a design perspective. Service designers therefore need to consider not only the technical aspects of robots, but the specific issues that arise in interactions because of them.

Keywords: robots, uncertainty, human-robot interaction, conceptual paper, social interaction