

Investigating the implications of social robots in religious contexts

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Credit: Löffler, Hurtienne & Nord.

Researchers at Siegen University and Würzburg University, in Germany, have recently carried out a study investigating the user experience and acceptability associated with the use of social robots in religious contexts. Their paper, published in [Springer's International Journal of Social Robotics](#), offers interesting insight into how people perceive blessing robots compared to other robots for more conventional purposes.

"Robots are continuing to enter all sorts of social spaces and we wanted to critically investigate fringe uses, such as in religious contexts," Diana Löffler, one of the researchers who carried out the study, told TechXplore. "We approached this by exploring peoples' reactions to a design provocation in form of a humanoid [robot](#) called BlessU2 that spells blessings at the users' command. The aim of this project was to get 'normal' people to reflect about technological

developments before they happen and facilitate a debate about social, cultural, and ethical implications of robotics."

The researchers carried out two distinct experiments, one involving 1,923 participants and the other 41. In the first experiment, a blessing robot called BlessU2, created as a speculative design project by the Protestant Church in Hesse and Nassau, was placed at a public exhibition, where it interacted with over 10,000 visitors. The researchers analyzed the written feedback left by 1,923 people who had interacted with the robot, hoping to better understand their reactions to it.

"The feedback we received allowed us to gain insights about the [user experience](#), acceptability and preferable design features of such a religious machine," Löffler said.

In their second experiment, Löffler and her colleagues asked 41 participants to compare the blessing ritual provided by BlessU2 to an interaction with another small humanoid robot. This other robot differed from BlessU2 in appearance, behavior and functionality.

The first study yielded interesting results, as the majority of comments left by participants who had interacted with the robot were positive (51 percent), many neutral (29 percent, and some negative (20 percent). Although only a minority of participants left negative feedback, the researchers' analyses suggest that people felt somewhat strange when interacting with the blessing robot.

"Those who interacted with the robot experienced a kind of complicated pleasure," Löffler said. "The robot encouraged its users to deeply reflect about the interactive experience and their exposed assumptions, and sparked a debate about whether robots are capable of spiritual competencies at all. Thus, a key finding is that we as scientists need to make robot technologies tangible and present in

our world today, to invite non-experts into the design process and the discussion about which values should be embedded into systems."

In their second experiment, the researchers found virtually no difference in the emotions and perceptions that participants experienced when interacting with the two robots (i.e. BlessU2 and the non-religious robot). Nonetheless, data they collected during interviews with those who had interacted with both robots highlighted strong preferences towards a particular set of robot characteristics.

"Our second key finding was that robots can indeed become meaningful in creating spiritual experiences, but have to be very carefully designed for this purpose," Löffler said. "Preferable scenarios for religious robots stemming from the feedback of exhibition visitors are: demonstrating human creativity and sparking awe, increasing the reach of religious institutions and personnel, offering service when there is no alternative, and enhancing services with unique robot capabilities (e.g. being always available, speaking multiple languages etc.)."

One of the key aims of the BlessU2 project, which includes the development of the blessing robot and its interaction with people in [social settings](#), was to spark interest and debate. According to Löffler, it definitely achieved this goal, as it was picked up by several media outlets both at the exhibition and afterwards, receiving major but often superficial exposure.

The study she carried out with her colleagues, on the other hand, provides some valuable insight into how people perceive the use of robots in religious contexts. In the future, their work could inform the development of social robots for both religious and non-religious contexts, enhancing researchers' understanding of how end-users might perceive their creations.

"Our research group will continue to critically investigate the use of robots in various social settings through other speculative design projects," Löffler added. "One specific topic we want to address is [anthropomorphism](#) as the dominant

More information: Diana Löffler et al. Blessing Robot BlessU2: A Discursive Design Study to Understand the Implications of Social Robots in Religious Contexts, *International Journal of Social Robotics* (2019). [DOI: 10.1007/s12369-019-00558-3](#)

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