擬人化したモーションによるロボットのマインド表出

Expressing Robot's Mind by Human-like Motion

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In this paper, we focus on a problem in designing for home robots. There are some design methods for conventional artifacts such as home electric appliances. However, not all methods can be applied effectively for robots. Especially, we deal with the situation in which a robot ask a user to help it by expressing its internal state of mind. We then propose a novel design method "motion overlapping (MO)"by which a robot can perform human-like behavior to express state. We consider that human-like behavior of a robot causes a user to understand its internal state of mind easily. A small sweeping robot which perform "back-and-forth" motion is designed based on MO. In experiments, we compare the expressing by MO with sounding by a buzzer and lighting by a LED as conventional nonverbal expressing. We investigate effects on user's reaction for the sweeping robot. We find that the expressing by MO causes most of the users to help the robot. The differences in the user's reaction are statistically significant. The results show that our proposed method is effective as one of design method for home robots.