

## システム情報工学研究科修士論文概要

年 度	平成 26 年度	学位名	修士( 工学 )
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論文題目  Caricatured Device Designed as a Social Mediator for Facilitating Human Interaction (人々のインタラクションを仲介し促進するためのロボット型デバイス)			
論文概要  In this thesis, a potential solution to facilitate human communication is investigated by robotic social mediators that convey information difficult to transfer by traditional ways of communication such as video, voice or text. The developed robotic device provides a physical body which has different desirable effects on human interaction. The main purpose of this study is to develop a spherical robotic interface with an embedded projector as a way to sense and convey emotional interaction. Based on the importance of including haptic interaction that can transfer affection, we designed a sensor made with soft material to detect hugging interaction. We also implemented a visual feedback made by projected avatars with emotional expressions. In this work, three pilot studies are presented to explore the use of this device for: 1) Hugs detection, 2) Representing the robot's internal states using projected images, 3) Point at physical objects using projected avatars. Since projected images can display different kinds of information, we will explore the use of an embedded projector as a tool to enhance the physical capabilities of the robot. Additionally, a single case experiment made use of another spherical device to mediate the turn taking interaction between a child with autism spectrum disorder and a therapist, and explored the effect and the potential of using these robotic technologies. The development of novel caricatured devices for facilitating interaction is based on the extensive field study in collaboration with developmental psychologists. The achievement contributes to the technology for social robotics, which reveals new aspects of human behavior for advanced therapeutic activities.			
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