システム情報工学研究科修士論文概要

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論文題目

Table-top and Floor Based Socio-musical Interfaces to Facilitate Social Interaction
(社会的相互作用を促進するテーブル及びフロア型音楽インタフェース)

論文概要

Social interaction has become a central issue for human beings for many years and it has been changed and enhanced in the technology-mediated world. With the intention of assisting and facilitating human social interaction, diverse interactive systems have been introduced so far. In this paper, we propose a novel socio-musical interface, BeaconT, and a floor based interface, BeaconG, to facilitate social interaction focusing music as a medium among people. BeaconT is round in shape and table-top design in order for multi-user to join the performance anytime and from any directions. Participants are expected to use hands to play notes. To evaluate social features of the device in a quantitative way, participants took part in a sound-making experiment with individual tablets and BeaconT. From surveys, we could find that playing on a table-based instrument might provide people with a social environment in terms of creativity, connectivity, positive influence, and cooperation more than playing on several individual tablets. The result of video analysis shows that BeaconT could give users more opportunities of social contacts, especially Face-to-Face. On the other hand, BeaconG was designed as an extended version of BeaconT in order to encourage diversified social contacts in a larger space, such as a gymnasium. Participants are expected to use bodily movement or his/her location to play notes, and they can play a song together on it and bodily interact to each other during the activity. It is expected to provide a more socially-assisting environment than a traditional gymnasium. Lastly, we conclude the paper discussing about potential and applications of the two devices and mentioning future works.

The development of novel socio-musical interfaces for facilitating social interaction is reported with the user's feedback. The achievement contributes to the technology for advanced education and developmental psychology, which reveals new aspects of human behaviors for advanced therapeutic activities.

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