

USER PARTICIPATORY DESIGN: LESSONS LEARNED FROM PERMMA DEVELOPMENT

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ABSTRACT

Robotic devices may provide beneficial assistance to people with disabilities and elders in natural environment show increasing progress. Therefore, a design and development approach that breaks from traditional robotics of creating fully autonomous and tele-operated robots towards symbiotic robotic systems that work in partnership with humans is needed. The participatory action design (PAD) model, emphasizing the involvement of end users along the entire product development processes, together with tradition product development process, have been applied to develop a design framework called user participatory design (UPD). UPD is widely used within the Quality of Life Technology (QoLT) center. PerMMA is an assistive robotic device that aims to provide users with both mobility and manipulation assistance during their activities of daily life (ADL) as well a research platform and test bed in the center. In this paper, details of how UPD was applied to PerMMA development, and how this process contributed to the success of design and development are presented.

KEYWORDS: Participatory action design, user participatory design, PerMMA, assistive robotics, mobility and manipulation, end user, stakeholder