home+, an Intelligent and Interoperable Suite of Robotic Furnishings

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Abstract
The vast majority of seniors want to age in place in their homes. But inside homes, technology supporting health and wellbeing proliferates as computerized monitoring systems, and zoomorphic and humanoid robotic companions. The home itself—even homes of “universal design”—remain conventional and maladaptive to life changes. How can our homes be outfitted with intelligent hardware promoting independent living? We present home+, an intelligent, physical environment comprised of three interoperable, robotic home furnishings that can operate in most any domestic space. The video shows, specifically, our home+ chair, side table, and space-forming interior partition that recognize, communicate with, and (as envisioned) partly remember each other in interaction with human users. home+ aims to increase the quality of life of individuals with impaired mobility and cognitive functioning by intelligently enabling routine domestic activities. The video offers an early, fully-functioning effort in the larger home+ ambition.

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