

# A Robotic Companion for Social Support of Isolated Older Adults

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## ABSTRACT

We demonstrate interaction with a relational agent, embodied as a robot, to provide social support for isolated older adults. Our robot supports multiple activities, including discussing the weather, playing cards [1] and checkers socially, maintaining a calendar, talking about family and friends, discussing nutrition, recording life stories, exercise coaching and making video calls.

## Categories and Subject Descriptors

H.1.2 [Models and Principles]: User/Machine Systems—*human factors, software psychology*; H.5.2 [Information Interfaces and Presentation]: User Interfaces—*evaluation/ methodology, user-centered design*

## Keywords

Engagement, social robots, virtual agents, dialog with robots

## 1. INTRODUCTION

The goal of the AlwaysOn project is to create a relational agent that will provide social support to reduce the isolation of healthy, but isolated older adults. The agent is “always on,” meaning it is continuously available and aware (using a camera and infrared motion sensor) when the user is in its presence and can initiate interaction with the user, rather than requiring the user login to begin an interaction

We expect that the agent will help reduce the user’s isolation not only by always being available, but also by specific activities that connect the user with friends, family and the local community. Our goal is for the agent to be a natural, human-like presence that “resides” in the user’s dwelling. Beginning in December 2014, we undertook our first pilot studies with 4 users for two weeks, and in January 2015, we will begin with users for a larger month-long evaluation study.

## 2. KEY ISSUES

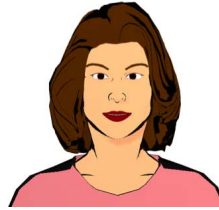
The accompanying video illustrates three key scientific issues in our project: (1) agent embodiment, (2) the engagement behaviors associated with being always on, and (3) the activities that support users, all of which are organized around dialog interaction using DiscoRT [2].

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Our main study (with 20 users) will use the animated virtual agent shown at the right, developed in [4], comparing always-on with a login-required condition. We are also experimenting with two forms of agent embodiment. An exploratory arm of the study (with 8 users) will use the robot shown in the video (<http://www.reeti.fr>) instead of

the virtual agent, but otherwise keep the rest of the system the same. In all cases, the agent converses with the user about multiple activities, chosen based on prior investigations [3]. User input is via a touch screen computer; the robot uses TTS output. Our evaluation will include questionnaires that assess the user’s happiness, loneliness, health status, social support and working alliance with the agent, as well as time of use. We expect to find better working alliance with always-on versus login-required agents and differences between virtual versus robotic embodiments.

## 3. ACKNOWLEDGMENTS

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