Digital Single Market

Projects news and results15/04/2013

ACCOMPANY: Acceptable robotiCs COMPanions for AgeinNg Years

The ACCOMPANY project is developing a robotic companion that will provide a range of services to older users, to facilitate such independent living at home. A state of the art service robot platform, Care-O-bot 3 (developed by German manufacturer, Fraunhofer IPA), is being used to assess user requirements and user acceptance of the robot. The robot is also used as a platform to advance the state-of-the art of service robotics and social and empathic user-robot interaction. The proposed system will provide physical, cognitive and social assistance in everyday home tasks, and will contribute to the re-ablement of the user, by assisting them to carry out daily tasks on their own, as well as encouraging a co-learner relationship, where the robot and person can learn together. The results from project user studies are being fed back to adapt the technology, so that it better suits user demands and preferences, while using three test sites in three different European countries (UK, the Netherlands, and France) gives the research team the opportunity to consider the effects of cultural differences. Through identifying the main issues and barriers to personal independence, and by targeting these barriers using technological solutions, the consortium’s long-term vision is to prevent elderly people having to go into care homes prematurely.

 [1]

During the first year the ACCOMPANY project focused on identifying user requirements and developing a first, integrated working scenario as a test-bed for showcasing advancements on user activity recognition, design of interfaces and empathic interaction, and the development of an overall computational architecture for memory and learning. A core part of the phase one work was based on studying user requirements as related to robot functionalities of the basic robot platform in order to identify and realize necessary changes to the Care-o-bot 3 platform. Year 1 work culminated in the project achieving the implementation of its first interaction scenario showing a fully autonomous operating companion robot integrated in a smart home at the review meeting in December 2012, utilising the University of Hertfordshire's 'Robot House' – a real domestic house extended with sensors in order to create a smart home.

During our second year, research and development is continuing in a range of areas varying from social and emotional interaction with the robot; robot learning and co-learning (where the user and the robot learn together); environment and activity monitoring where the Robot can detect people and objects using sensors; ethical norms for the development and use of robots where we look at issues such as privacy, as well as matters of user acceptability and factors that influence the different roles and behaviours for the robot. A project wide, large-scale evaluation with elderly users will start towards the end of year 2, allowing the project to assess and evaluate the platform in line with achieving the project objectives as well as meeting user requirements. The project is being coordinated by Dr Farshid Amirabdollahian at the University of Hertfordshire (UH).

University of Hertfordshire (coordinator), Universita'Degli Studi Di Siena (Italy); Centre Expert en Technologies et Services pour le Maintien en Autonomie a Domicile des Personnes Agees (France); Stichting Hogeschool Zuyd (Netherlands); University of Amsterdam (Netherlands); Fraunhofer-Gesellschaft zur Foerderung der Angewandten Forschung (Germany), University Twente (Netherlands), University of Warwick (UK).

Read more
Website of the project [2]
Share this page

Source URL: https://ec.europa.eu/digital-single-market/en/news/accompany-acceptable-robotics-companions-ageinng-years

Links
[1] https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/newsroom/accompany_low_res_4150.jpg
[2] http://www.accompanyproject.eu/