

EBASI

IoT-Based Emotion and Behaviour Recognition Against Elderly People Social Isolation

Consortium

- DS TECH, Italy
- SEIDES, Italy
- Universitat Politècnica de València, Spain

Sector

HEALTH

Duration

14
MONTHS

Challenge

In recent decades, great strides have been made in the prevention of chronic diseases by setting healthier lifestyles for seniors, trying to set effective health models. However, despite this great effort, there is still a lack of solutions on what we can call the social care. Nowadays, communities face society in its fragmentation, thus “scotomizing” its affective value to ensure active and healthy aging.

Active and healthy aging is still an aspiration not only critical in making public welfare systems sustainable but also for the mental and social wellbeing of people. Access to assistive technologies is being identified as an important facilitator for successful ageing, that can improve the independent living of seniors as well as the quality of life in general. Health, participation and security, the pillars of active and healthy aging, constitute the rights to support empowerment and community life of the older citizens.

DIATOMIC Support

DIATOMIC was a launch pad for our project. In addition to allowing us the budget to create a commercially relevant minimum viable product, it provided us with coaches who gave us both technical, commercial and communication mentorship. They advised us on the implementation of the solution and the implementation of the pitch. The bootcamp gave us the opportunity to meet potential technology partners and investors interested in our solution.

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Solution

The SeniorCare mission (Product Name of EBASI Project) is to detect, avoid and prevent elderly social isolation improving the social inclusion and facilitating the uptake of evidence-based active healthy ageing interventions regarding the augmentation of living environments that can support the independent living of the ageing population.

The purposes of SeniorCare are:

- to catch abandoned wishes of seniors and abnormal emotions of the elderly and to bring them into community and family active life projects;
- to maintaining long term “functional ability” that are direct symptoms of social isolation;
- to create a new purpose for their lives and activate their participation in social and volunteering activities, improving the quality of life, reducing the risks of social exclusion and inactivity after retirement, augmenting social cohesion between generations, a better use of their potential in the development of the “silver economy”;
- to improve the caring activities of professional, social and relatives’ caregivers.

Lessons Learned

- That our idea has a great potential to become a disruptive innovation.
- We adopted devices equipped by a SIM to have internet coverage and WIFI connection. We organised differently our technical solution in order to provide a range of activities that could be monitored.

TRL & Adopters

TRL level at the beginning of the experiment: **2**

TRL level at the end of the experiment: **6**

Number of early/first adopters raised during the experiment: **1**

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Timeline

In the 1st WP we conducted the Experiment's plan, the scenarios definition and experiment planning and the functional and technical requirements and specification. In the 2nd WP, we designed the sensors mapping the data collection protocol the speech recognition and the conversational assistant as well as the implementation plan for the app companion for the vocal assistant. The 3rd WP was dedicated to the development and piloting of the solution in which we conducted the backend integration, the configuration of the smart living environment, the caregiver app development and the conversational assistant configuration. In the 4th WP, we conducted a real-simulated environment pilot and, in the 5th and last WP we conducted the communication and dissemination plan, the exploitation strategy and legal and ethics issues

Stakeholders

Our main stakeholder during the project was GIOMI - leading company in elderly care with nursing homes in Italy and many different hospitals and smart apartments for seniors. SeniorCare is strictly connected with the professional caregiver because when it detects a behaviour that can be a symptom of isolation it will send an alert to the caregiver. This functionality will be very useful to the caregiver to plan the types of care, activities and therapies that are going to be conducted.

End Users

The main market of SeniorCare is the elder care market, with the specific segmentation on Smart Products.
The first targeted end-users are retired seniors who live alone and away from their families.

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Key Results

Implementation a prototypical system able to continuously monitor the activities of an elder person living alone in a private house with special attention to detect and forecast social isolation and loneliness signals. Implementation of a remote access (via mobile app) to SeniorCare system to monitor elder activities and get early warnings of social isolation. Moreover, the app allows SeniorCare parameters set-up and tuning (e.g. personalize the attention threshold of social isolation indicators). Implementation of an interactive voice driven system to support a natural interaction of the elder with SeniorCare. Exploitation of the SeniorCare experiment results creating and marketing products. Improvement of the market positioning of SeniorCare partners after the project. Average increase in productivity for DST and UPV as technology adopters (partners developers and employees) following application experiments.

Impact

SeniorCare produces impacts on the Senior's Quality of Life, enabling them to live healthy, active and meaningful lives; live independently and safely at home as long as possible (maximising their decision-making and control over their daily activities) with support from people in their care networks; live with dignity and be socially included. SeniorCare supports informal and/or professional caregivers to: reduce stress and care burden; build resilience; improve the quality, efficiency and effectiveness of the care they provide. SeniorCare has also impact on the Smart Home Market with: a big innovation potential of ICT based solutions for supporting older adults; a growing institutional and private consumer market of interoperable and scalable systems to support active, healthy and independent living; more European/international collaboration, including between end-users, industry and other stakeholders who participate in the value chain; better use of all resources for the social/care system, with older people being supported to live independently in their homes for longer with the help of family and community care networks, and thus reducing the need for formal (paid-for) care and hopefully delay any move to institutionalised care.

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Testimonials

“ *The right solution in the right moment. SeniorCare can be a disruptive solution to reduce physical and social distancing, because physical distancing is not affective distancing!*
– Saverio Gravina, Innovation Manager at DST

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