Managing active and healthy aging with use of caring service robots

Results

Project information

MARIO
Grant agreement ID: 643808
Start date 1 February 2015
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Funded under: H2020-EU.3.1.4.
Overall budget: € 3 994 857
EU contribution € 3 994 857
Coordinated by: NATIONAL UNIVERSITY OF IRELAND GALWAY
Ireland

Deliverables

Documents, reports (13)

Final report on Mario’s control architecture_Initial version
This report will provide a synthetic and easy to read document targeted toward users that will describe the functionalities provided by Mario’s robotic platform and a guideline on how to use it.

MARIO 2 operational and user manual
This deliverable provides the validation site users with instructions for use and daily maintenance of the MARIO 2 system together with essential health and safety instructions.

Mario System Specifications
Report combining the output of T1.1-T1.3 and providing the user requirements, functionalities, system architecture, and data management plan to include linkage to the EIP AHA Monitoring Framework for MARIO

Report on the MARIO human network for the mitigation of loneliness, isolation and
This Deliverable reports on the achievements of the network we have established as part of the project. The addressed area spans a large multidisciplinary field including, nurses, educators, scientist, psychologists, social workers, psychiatrists, doctors, academics and sociologists. There is no network of persons working in this area. This prohibits networking, knowledge generation, hinders collaboration and may lead to work repetition, fragmented research and time wastage. We shall create a network of persons working in the field led by School of Nursing and Midwifery Website of NUIG, accessible to all and which we shall use for the later phases of validation as well as the dissemination and exploitation of the project outputs. It will present all activities, interactions, discussion items and results of the processes that have taken place throughout the project lifetime.

**Ethics Framework**
A short report and guidance on the ethical concerns arising in the MARIO project (including privacy and monitoring, data use and data protection, informed consent, risk, ethical aspects of stakeholder involvement)

**Evidence of Service Robot Benefits**
Report from pilot activities that investigates the benefits of the use of service robots in assisted living environments.

**First MARIO system: Achieved functionality_Final version**
This deliverable describes the functionality achieved for the first version of the MARIO system. This is the final (second) version of D7.1.

**Assessment Methodology**
A short report documenting the KPIs and assessment techniques for those measures across project areas where evidence of impact is required.

**Market Analysis**
"Declassified" market analysis for public benefit related to the business opportunities associated with service robots in the targeted areas by MARIO.

**Development of a MPI based on MARIO Robot CGA-Module**
Description of the method and domain needed to build the MPI MARIO based.

**Final report on Mario's control architecture_Final version**
This report will provide a synthetic and easy to read document targeted toward users that will describe the functionalities provided by Mario's robotic platform and a guideline on how to use it. This is the final (second) version of D6.3.
**First MARIO system: Achieved functionality_initial version**
This deliverable describes the functionality achieved for the first version of the MARIO system.

**MARIO 2 Functional Specification**
This Deliverable describes the agreed functionality for the final MARIO 2 system together with a description of the differences with MARIO 1 and the reason for implementing these changes.

**Other (16)**

**Robot Reading, and Listening_intermediate version**
Robot Reading, and Listening. This deliverable includes the approaches for representation of text from documents and spoken language taking into account the MON. This is the intermediate (second) version of D5.2.

**4-Connect My Hobbies Module**
This Deliverable comprises the basic MARIO functionality and requirements for the edutainment and personal development module as this will be implemented in later Work Packages.

**Data Management Plan_final version**
Data management plan. This is the final (third) version of D10.5.

**Public Communication Materials**
Materials from the creativity cluster. Due: M6 (updated across the duration of the project).

**Robot Semantic Sentiment Analysis_final version**
This deliverable comprises the semantic sentiment analysis approaches to be build on top of the output of T5.2. This is the final (second) version of D5.3.

**4-Connect My Social Network Module**
This Deliverable comprises the basic MARIO functionality and requirements for the social network module as this will be implemented in later Work Packages.

**Mario Ontology Network**
Initial ontology definitions, entities, representation and language to provide a communication ontology for robots.

**Robotic Spatial Commands**
This deliverable includes the semantic information of spatial environment to be included and merged within the MON.

**Robot Reading, and Listening_Final version**
Robot Reading, and Listening. This deliverable includes the approaches for representation of text from documents and spoken language taking into account the MON. This is the final (third) version of D5.2.

**4-Connect Community Module**
This Deliverable comprises the basic MARIO functionality and requirements for the community module as this will be implemented in later Work Packages.

**Network of researchers and stakeholders working for the mitigation of loneliness, isolation and dementia**
This Deliverable comprises the basic MARIO functionality and requirements for the social network module as this will be implemented in later Work Packages.

**Data Management Plan_Intermediate version**
Data management plan. This is the intermediate (second) version of D10.5.

**Robot Semantic Sentiment Analysis_Initial version**
This deliverable comprises the semantic sentiment analysis approaches to be build on top of the output of T5.2.

**Robot Reading, and Listening_Initial version**
Robot Reading, and Listening. This deliverable includes the approaches for representation of text from documents and spoken language taking into account the MON.

**Data Management Plan_Initial version**
Data Management Plan

**MARIO Robot CGA-Module**
The 4Connect+ Medical Community Module that brings WP4 results to the MARIO platform and to stakeholders.

**Websites, patent filings, videos etc. (1)**

**Public Website & Press Release**
The website will be continuously updated and press releases be repeated each year of the project.
Demonstrators, pilots, prototypes (1)

Mario Service Robots
12 Service Robots ready for R&D and eventual validation for the Mario work program. The robots may be handed off as soon as ready to the R&D work packages and no later than M12

Publications

Conference proceedings (20)

Managing active and healthy aging with use of caring service robots (MARIO)
Author(s): Daniele Sancarlo
Published in: Issue 28, 2015
DOI: 10.5281/zenodo.59071

Perceptions of people with dementia and carers on robot companions
Author(s): Casey, D. & Murphy, K.
Published in: Congresso Regionale FADO: ANIMO, 2015
DOI: 10.13025/S85P4F

Bearish-Bullish Sentiment Analysis on Financial Microblogs
Author(s): Amna Dridi and Mattia Atzeni and Diego Reforgiato Recupero
Published in: 2017

Managing active and healthy aging with use of caring service robots
Author(s): D'Onofrio, G; James, O; Scancarlo, D; Ricciardi, F; Murphy, K; Giuliani, F; Casey, D; Greco, A
Published in: 6th Forum Italiano dell' Ambient Assisted Living, 2015
DOI: 10.13025/S8TG61

The robots and ethical issues
Author(s): Francesco Giuliani
Published in: Innovazione Digitale in Sanità, 2016
DOI: 10.5281/zenodo.59060

Robotics and domotics for the assistance of Alzheimer's disease patients poster
Author(s): D'Onofrio Grazia; Sancarlo Daniele; Cavallo Filippo; Ricciardi Francesco; Giuliani Francesco; Greco Antonio
Published in: Issue 3, 2017
MARIO: Managing active and healthy Aging with use of caRing service rObots,
Author(s): Reforgiato Recupero, D; Gangemi, A; Mongiovi, M; Nolfi, S; Nuzzolese, A; Presutti, V; Raciti, M; Messervey, T; Casey, D; Dupourque, i; Pegman, G; Gkiokas, A; Bleaden, A; Greco, A., Kouroupetroglou, C. and Handschuh, S
Published in: EU Project Networking at ESWC, 2015
DOI: 10.13025/S86P4R

Robot-assisted care for elderly with dementia: is there a potential for genuine end-user empowerment?
Author(s): Felzmann,H.; Murphy, K.; Casey, D.; Beyan, O.
Published in: The Emerging Policy and Ethics of Human Robot Interaction, 2015
DOI: 10.13025/S8SG6Q

Managing active and healthy aging with use of caring service robots (MARIO)
Author(s): Daniele Sancarlo ; Grazia D’Onofrio ; Giulia Paroni ; Francesco Ricciardi ; Francesco Giuliani ; Antonio Greco
Published in: XI Brain Aging Conference, 2015
DOI: 10.5281/zenodo.59067

Evaluation of the acceptability of a caring service robot (MARIO)
Author(s): Grazia D’Onofrio ; Oscar James ; Daniele Sancarlo ; Francesco Ricciardi ; Kathleen Murphy ; Francesco Giuliani ; Dympna Casey ; Antonio Greco
Published in: Prediction and prevention of dementia: new hope, 2016
DOI: 10.5281/zenodo.59058

Un Robot assistivo per pazienti con demenza: il progetto europeo MARIO
Author(s): Daniele Sancarlo
Published in: Innovazione Digitale in Sanità, 2016
DOI: 10.5281/zenodo.59072

Impiego della robotica come supporto alla gestione della malattia di Alzheimer
Author(s): Antonio Greco
Published in: 12° Congresso Nazionale AGE, 2016
DOI: 10.5281/zenodo.59066

Fine-Grained Sentiment Analysis on Financial Microblogs and News Headlines
The perceptions of people with dementia on robot companions and their potential to reduce loneliness and isolation

Author(s): Casey, D., Kouroupetroglou, C., Koumpis, A. and Murphy, K.
Published in: International Conference on Social Robotics: Improving the quality of life in the elderly using robotic assistive technology: benefits, limitations, and challenges, 2015
DOI: 10.13025/S8PP43

Managing active and healthy aging with use of caring service robots (MARIO)

Author(s): Daniele Sancarlo; Grazia D’Onofrio; Giulia Paroni; Francesco Ricciardi; Francesco Giuliani; Antonio Greco
Published in: XXV Convegno Nazionale della Società Italiana di Geriatria, 2015
DOI: 10.5281/zenodo.59070

The perceptions of people with dementia on robot companions and their potential to reduce loneliness and isolation

Author(s): Casey, D., Kouroupetroglou, C., Koumpis, A. and Murphy, K.
Published in: 25th Alzheimer Europe Conference Dementia: Putting strategies and research into practice, 2015
DOI: 10.13025/S8301S

So what have the Roman's researchers ever done for us - MARIO

Author(s): Casey, D.
Published in: 15th Annual School of Nursing & Midwifery Conference., 2015
DOI: 10.13025/S8Z599

MARIO: Managing Active and healthy aging with use of caring service robots

Author(s): Francesco Giuliani
Published in: European SME Week, 2016
DOI: 10.5281/zenodo.59062

What people with dementia want: designing MARIO an acceptable robot companion

Author(s): CASEY, D; FELZMANN, H; PEGMAN, G; KOUROUPETROGLOU, C; MURPHY, K; KOUMPIS, A & WHELAN, S
Published in: 15th International conference on computers Helping People with Special Needs University of Linz, Austria, 2016
MORE SENSE: Movie Reviews Sentiment analysis boosted with Semantics

Author(s): Amna Dridi and Diego Reforgiato Recupero

Published in: 2017

Robotics and domotics for the assistance of Alzheimer's disease patients poster

Author(s): D'Onofrio Grazia; Sancarlo Daniele; Cavallo Filippo; Ricciardi Francesco; Giuliani Francesco; Greco Antonio

Published in: Issue 4, 2017

DOI: 10.5281/zenodo.817461

MARIO Project: A Multicenter Survey about Companion Robot Acceptability in Caregivers of Patients with Dementia

Author(s): Daniele Sancarlo; Grazia D'Onofrio; James Oscar; Francesco Ricciardi; Dympna Casey; Kathleen Murphy; Francesco Giuliani; Antonio Greco

Published in: ForItaal Conference 2016, 2016

DOI: 10.5281/zenodo.59068

MARIO Project: experimentation in a hospital setting

Author(s): D'Onofrio Grazia; Sancarlo Daniele; Raciti Massimiliano; Reforgiato Diego; Mangiacotti Antonio; Russo Alessandro; Ricciardi Francesco; Vitanza Alessandra; Cantucci Filippo; Presutti Valentina; Messervey Thomas; Nolfi Stefano; Cavallo Filippo; Barrett Eva; Whelan Sally; Casey Dympna; Murphy Keith; Giuliani Francesco; Greco Antonio

Published in: Issue 3, 2017

DOI: 10.5281/zenodo.817454

Information and Communication Technologies for the Activities of Daily Living in Older Patients with Dementia: A Systematic Review

Author(s): Grazia D'Onofrio, Daniele Sancarlo, Francesco Ricciardi, Francesco Panza, Davide Seripa, Filippo Cavallo, Francesco Giuliani, Antonio Greco

Published in: Journal of Alzheimer's Disease, Issue 57/3, 2017, Page(s) 927-935, ISSN 1387-2877

DOI: 10.3233/JAD-161145

Leveraging semantics for sentiment polarity detection in social media
Author(s): Amna Dridi, Diego Reforgiato Recupero
Published in: International Journal of Machine Learning and Cybernetics, 2017, ISSN 1868-8071
DOI: 10.1007/s13042-017-0727-z

**FineNews: fine-grained semantic sentiment analysis on financial microblogs and news**
Author(s): Amna Dridi, Mattia Atzeni, Diego Reforgiato Recupero
Published in: International Journal of Machine Learning and Cybernetics, 2018, ISSN 1868-8071
DOI: 10.1007/s13042-018-0805-x

**Implementing an ethical approach to big data analytics in assistive robotics for elderly with dementia**
Author(s): Heike Felzmann, Timur Beyan, Mark Ryan, Oya Beyan
Published in: ACM SIGCAS Computers and Society, Issue 45/3, 2016, Page(s) 280-286, ISSN 0095-2737
DOI: 10.1145/2874239.2874279

**Book chapters (1)**

**Cognitive Stimulation and Information-Communication Technologies (ICT) in Alzheimer's Disease: A Systematic Review**
Author(s): Grazia D'Onofrio; Daniele Sancarlo; Francesco Ricciardi; Qingwei Ruan; Zhuowei Yu; Francesco Giuliani; Antonio Greco
Published in: Issue 9, 2016
DOI: 10.5281/zenodo.848495

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