



DELIVERABLE 7.2partc

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Project Acronym: ACCOMPANY

Project Title: **Acceptable robotiCs COMPanions for AgeiNg Years**

EUROPEAN COMMISSION, FP7-ICT-2011-07, 7th FRAMEWORK PROGRAMME
ICT Call 7 - Objective 5.4 for Ageing & Wellbeing

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DOCUMENT HISTORY

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1.0			Final Draft	Farshid Amirabdollahian
0.1	2014-11-14	Draft	Initial Draft	Sinead Gorham

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All		

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Short description

This report provides an overview of the dissemination activities the ACCOMPANY partners have undertaken from October 2011 until 30 September 2014. Dissemination within ACCOMPANY draws upon the results in all technical work packages and all partners have contributed to its achievements.

1 ACCOMPANY Dissemination Instruments

- Website
- Leaflet
- Twitter

1.1 Website

The ACCOMPANY website is accessible at the following URL

<http://www.accompanyproject.eu/>

The website set-up has been described in detail within D7.1, website report produced in period 1. The project webpages serve as a means for continuous dissemination of information to the public and all project stakeholders. The website is a tool for the visibility of the project, and has been updated throughout Years 1-3 of the project, on publications and public deliverables. We have also linked some of our dissemination activities to our project twitter page-@accompanyeu.

Up until October 2014, it is interesting to note that public deliverable pages had been accessed as per Table 1 below making a total of 4150 downloads of material from the project website.

Table 1 Downloads

Deliverable	Title	No. Downloads
D1.1	Status of elderly care provision in Europe, potential for service robotics	868
D1.2	Report on user and system requirements and first outline of system functionality	725
D1.4	Phase 2 scenarios	63
D2.2	Low-fidelity prototypes and mock-ups for perceptual crossing	48
D3.2	Initial design and implementation of the memory visualisation and narrative generation	291
D3.3	First design and technical implementation of the computational memory architecture	97
D4.2	Data fusion for robust detection and identification of objects and users	37
D4.4	Data fusion and activity recognition in household chores	210

D6.1	Robot roles, personality and interaction behaviours	166
D6.2	Identification and discussion of relevant ethical norms for the development and use of the robot to support elderly	1134
D7.2	Dissemination report	120
Paper abstract	Re-thinking the use of robots in the care of the frail elderly (Draper, Sorrel)	37
Leaflet	Accompany project leaflet	354
Total		4150

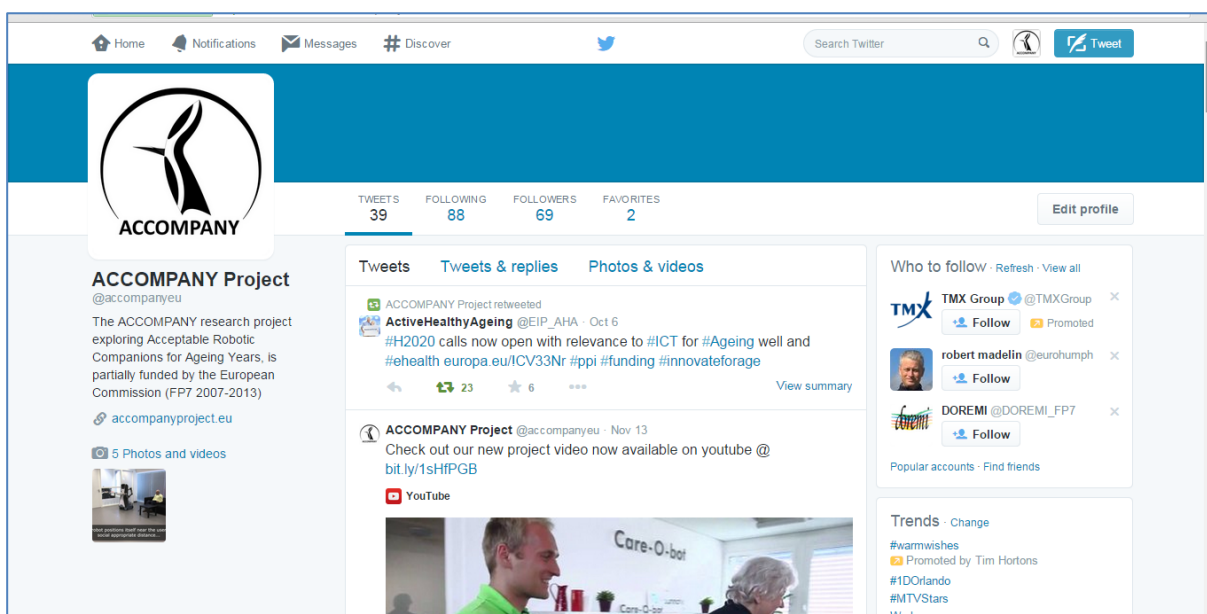
1.2 Leaflet

The project leaflet developed in year1 was revised in Year 2 (M18) and again in Year 3(M25) to include achievements from the ACCOMPANY project to date and to disseminate these easily. An updated copy of the leaflet, which has been downloaded 345 times, is available on the website under the “About Accompany Project section” and printed copies are made available at various events (such as, conferences, workshops, etc.) where ACCOMPANY partners participate. The information provided in the leaflet is a general overview outlining our achievements to date. It addresses both experts and non-experts. The main intention of the leaflet.(Appendix 3).is to draw interested people towards the website, where more in-depth information can be found, and where the public deliverables of the project are available, as well as further project contact information.

1.3 Twitter

Accompany has a twitter account established in period 2 @accompanyeu where news from Accompany project, pictures, videos and event highlights are tweeted. Currently the project has 70 followers from a range of European and National stakeholder organisations and is following 88 similar organisations.

Figure 1 Twitter feed



1.4 Project promotional videos:

Under the media section of our website we made the following videos available. The first scenario, which was made at Zuyd and is available at

<https://www.youtube.com/watch?v=t9OAEbRAnI>

It was published in December 2013 and shows the use of the robot for fetch and carry tasks, e.g. taking deliveries and how it can assist the user in carrying out tasks on his/her own, e.g. getting a drink from the kitchen. It has been viewed 2059 times to date.

A new updated video published in October 2014 is linked to the project website media section, and youtube at the following link

<https://www.youtube.com/watch?v=1CD9Gxz6qBw&index=36&list=PL3WRYBJ-v8JFg...T>

This is the final demonstration video which was made at Fraunhofer (and has been viewed 92 times, since it is at the end of the project) demonstrates some use cases of the assistive technologies developed in the ACCOMPANY project within a realistic home care setting. The video shows the resident, Mrs. Taylor, who is living alone with the assistance of a robot in a smart environment. The video shows how Mrs. Taylor utilizes her companion robot for entertainment, cognitive and social assistance as well as a physical support for retrieving and transporting items.

1.4.1 Conference submission/publications (57)

The consortium has continued in Year 3 to publish at peer-reviewed conferences and attend high quality workshops. There have been 57 peer reviewed publications from the project over the 36 month period, 10 of which are journals and this total also includes 1 book. See Table A2 Appendix 1 for the breakdown list of scientific peer reviewed publications per partner.

1.4.2 ACCOMPANY Events

ACCOMPANY partners have also been involved in over 150 dissemination opportunities (reaching millions) of stakeholders throughout the period, including demonstrations, invited talks and presentations, exhibitions and press (including radio and TV) engagement events with a broad range of audiences. Appendix 2 gives a detailed overview of these activities, in date order listing the types of events and numbers of audiences reached.

Additionally, Work package 7 has undertaken “Open house” events in Heerlen (NL) in 2013 and Troyes (France) in 2014 on robots supporting care. We hosted an artist “Open house” event “My New Robot Companion” in Hatfield (UK) with public visitors attending the UH robot house (further details in D5.5). Material collated from these events helped towards developing the economic model and business case deliverables.

1.5 Cross Project Relations/Integration with FP7

In period 1 we worked with colleagues in SRS project (<http://srs-project.eu/>) to present ACCOMPANY at Bedfordshire University and to attend a UK House of Lords event on the 29th November 2012.

Colleagues from Aliz.e (Aliz.e www.aliz-e.org) project joined forces with Accompany in period 2 organising a summer school in 2013 where Human-robot interaction and assistive technologies was featured.

At the end of period 2 we established a connection with some other European projects in the field covering similar themes through The REACTION Consortium Clustering Event (Ambient Intelligence Advanced Technologies in Support of Healthcare and Assisted Living) that took place at the Foundation for Research & Technology - Hellas, in Heraklion, Crete, Greece, on 26-27th September, 2013. The aim of the clustering event was to bring together European projects for demonstrations, presentations of innovative solutions, and discussions of potential synergies and cooperation. A round table was set up to discuss ambient intelligence technologies in support of healthy ageing and healthcare

of which ACCOMPANY was a part. This was an opportunity for us to share project information with similar projects in the field.

Similar work continued throughout the third year of the project, specifically interactions with the AAlliance2 and RobotEra projects where joint workshops were organised at the EURobotics forum in Rovereto, Italy. Also, the project was heavily involved in IEEE RO-MAN2014 conference where CogLoration and CogWatch EU project joined with demonstrations and presentations. The project officer, Mr Jan Komarek accepted our invitation to attend and present at RO-MAN2014.

1.6 Links with Industry

Additionally we took part in

- user and industrial forums/workshops as well as a series of interviews with industry experts in the field and a series of focus groups. Expert interviews are featured in the economic model deliverable (D7.3) while focus group input provided valuable insights to WP1 and WP6, as well as input into economic values and potential exploitation routes.
- We established and had the support of an industrial advisory board throughout the project (WP8). This input has also enriched the economic model and project exploitation plan.

The details of these activities are outlined in more detail in deliverables D5.5, D7.3 leading to D7.4.

Appendix1 Peer reviewed publications

TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, YR1-YR3										
JOURNAL PUBLICATIONS ARE HIGHLIGHTED IN RED										
UH	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers ¹ (if available)	Is/Will open access ² provided to this publication?
1	<i>A User Friendly Robot Architecture for Re-ablement and Co-learning in A Sensorised Home</i>	Joe Saunders	<i>Assistive Technology Research Series</i>	<i>Volume 33: Assistive Technology:</i>	<i>AAATE (Assoc. Advancement Assisted Tech. Europe)</i>		2013	49-58	10.3233/978-1-61499-304-9-49	Yes

¹ A permanent identifier should be a persistent link to the published version full text if open access or abstract if article is pay per view) or to the final manuscript accepted for publication (link to article in repository).

² Open Access is defined as free of charge access for anyone via Internet. Please answer "yes" if the open access to the publication is already established and also if the embargo period for open access is not yet over but you intend to establish open access afterwards.

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				<i>From Research to Practice</i>						
2	<i>Temporal Issues In Teaching Robot Behaviours in a Knowledge-Based Sensorised Home</i>	Joe Saunders	<i>Proceedings of the 2nd International Workshop on Adaptive Robotic Ecologies</i>		<i>Fourth International Joint Conference on Ambient Intelligence</i>	<i>Dublin, Ireland.</i>	2013		10.1007/978-3-319-04406-4_11	Yes
3	<i>Hey! There is someone at your door. A hearing robot using visual communication signals of hearing dogs to communicate intent</i>	Kheng Lee Koay	<i>IEEE Symposium on Artificial Life</i>		<i>IEEE</i>		2013	90-97	10.1109/ALIFE.2013.6602436	Yes
4	<i>Episodic memory visualization in robot companions providing a memory prosthesis for elderly</i>	W.C.Ho	<i>Assistive Technology Research Series</i>	<i>Volume 33: Assistive Technology: From Research to Practice</i>	<i>AAATE (Assoc. Advancement Assisted Tech. Europe)</i>		2013	120-125	10.3233/978-1-61499-304-9-120	Yes
5	<i>What can a robot do</i>	Hagen Lehmann	<i>Proc. of the Sixth</i>		<i>IARIA</i>		2013		ISBN: 978-1-61208-	Yes

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	<i>for you? Evaluating the needs of the elderly in the UK</i>		<i>International Conference on Advances in Computer-Human Interactions</i>						250-9	
6	<i>Resource-Efficient Methods for Feasibility Studies of Scenarios for Long-Term HRI Studies</i>	Nate Derbinsky	<i>Proc. of the Sixth International Conference on Advances in Computer-Human Interactions</i>		IARIA		2013	95-100	ISBN: 978-1-61208-250-9	Yes
6	<i>Knowledge-driven User Activity Recognition for a Smart House. Development and Validation of a Generic and Low-Cost, Resource-Efficient System</i>	Ismael Duque	<i>Proc. of the Sixth International Conference on Advances in Computer-Human Interactions</i>		IARIA		2013	141-146	ISBN: 978-1-61208-250-9	Yes
7	<i>Companion Robots for Elderly People: Using Theatre to Investigate Potential Users' Views</i>	Michael L. Walters	<i>Proc. Symposium on Robot and Human Interactive Communication</i>		IEEE		2013	691 - 696	10.1109/ROMAN.2013.6628393	Yes
8	<i>Exploring Robot Etiquette: Refining a HRI home companion scenario based on feedback from two artists who lived with robots in the UH</i>	Kheng Lee Koay	<i>Proc. International Conference on Social Robotics</i>		Springer		2013	290-300	10.1007/978-3-319-02675-6_29	Yes

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	<i>Robot house</i>									
9	<i>Accompany: Acceptable robotiCs COMPanions for AgeiNg Years – Multidimensional Aspects of Human-System Interactions”</i>	Farshid Amirabdollahian	<i>Proceedings the IEEE 6th International Conference on Human System Interaction 2013</i>	2013	<i>IEEE Explore Digital Library</i>	<i>Sopot (conference Location)</i>	2013	<i>pp. 570 – 577</i>	ISBN: 978-1-4673-5635-0	No
10	<i>Sharing Spaces, Sharing Lives – The Impact of Robot Mobility on User Perception of a Home Companion Robot</i>	Dag Sverre Syrdal	<i>Proc. International Conference on Social Robotics</i>		<i>Springer</i>		2013	321-330	10.1007/978-3-319-02675-6_32	Yes
11	<i>Artists as HRI Pioneers: A Creative Approach to Developing Novel Interactions for Living with Robot</i>	Hagen Lehmann	<i>Proc. International Conference on Social Robotics</i>		<i>Springer</i>		2013	402-411	10.1007/978-3-319-02675-6_40	Yes
12	<i>Assistive technology design and development for acceptable robotics companions for ageing years</i>	Farshid Amirabdollahian	<i>Paladyn Journal</i>	<i>Volume 4, Issue 2 (Dec 2013)</i>	<i>Paladyn, Journal of Behavioral Robotics</i>		2013	<i>pp. 94–112</i>	ISSN (Print) 2081-4836, DOI: 10.2478/pjbr-2013-0007,	Yes
13	<i>A Template Based User-Teaching</i>	Joe Saunders	<i>Proc. of Symposium on New Frontiers in HRI</i>		<i>SSAISB</i>		2014		http://doc.gold.ac.uk/aib50/AISB50-	Yes

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	<i>System for an Assistive Robot</i>								S19/AISB50-S19-Saunders-paper.pdf	
14	<i>"The fridge door is open"-Temporal Verification of a Robotic Assistant's Behaviours</i>	Clare Dixon	<i>Proceedings of IEEE-TAROS</i>		<i>IEEE</i>		2014		10.1007/978-3-319-10401-0_9	Yes
15	<i>Views from within a narrative: Evaluating long-term human-robot interaction in a naturalistic environment using open-ended scenarios</i>	Dag Sverre Syrdal	<i>Cognitive Computation</i>		<i>IEEE</i>		2014 (In press)		DOI:10.1007/s12559-014-9284-x	Yes
16	<i>Long-term Human-Robot Interaction using Task- and Scenario-based Prototyping</i>	Dag Sverre Syrdal	<i>The Information Society</i>		<i>Taylor & Francis</i>		In press			Yes
17	<i>Development of the Sociability of Non-Anthropomorphic Robot Home Companions</i>	Joan Saez-Pons	<i>4th IEEE International Conference on Development and Learning and on Epigenetic Robotics(ICDL-EpiRob 2014)</i>		<i>IEEE</i>		2014		Not yet available	
UB/UW										
18	<i>Ethical Dimensions of</i>	Heather Draper	<i>ICSR. LNCS (LNAI)</i>	<i>vol.</i>	<i>Springer,</i>	<i>Heidel</i>	2014	pp.	Not yet available	Yes

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	<i>Human-Robot Interactions in the Care of Older People: Insights from 21 Focus Groups Convened in UK, France and the Netherlands</i>			8755		berg		138–147		
19	<i>Robot carers, ethics and older people.</i>	Tom Sorell and Heather Draper	<i>Ethics and Information Technology</i>	2014; 16: 183-195	Springer	Heidelberg	2014	pp. 183-195	http://link.springer.com/article/10.1007/s10676-014-9344-7	Yes
20	<i>Using robots to modify the demanding or impolite behavior of older people.</i>	Heather Draper and Tom Sorell	<i>ICSR. LNCS (LNAI)</i>	vol. 8755	Springer	Heidelberg	2014	pp. 126–135	Not yet available	Yes
22	<i>What asking potential users about ethical values adds to our understanding of an ethical framework for social robots for older people.</i>	Heather Draper	<i>AISB50-S17</i>	<i>AISB</i>		London	2014	n/a	http://doc.gold.ac.uk/aisb50/AISB50-S17/AISB50-S17-Draper-Paper.pdf	Yes
23	<i>Robots and the division of healthcare responsibilities in the homes of older people.</i>	Simon Jenkins and Heather Draper	<i>ICSR. LNCS (LNAI)</i>	vol. 8755	Springer	Heidelberg	2014	pp. 177-186	Not yet available	Yes
<i>UT</i>										

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24	<i>Improving psychological wellbeing with robots (In review)</i>	Jorge Gallego-Perez	<i>HRI2015</i>	<i>March 2-5, 2015</i>			2015			Yes
25	<i>Robots for the psychological wellbeing of the elderly</i>	Jorge Gallego-Perez	<i>HRI2014, Workshop - Socially Assistive Robots for the Aging Population: Are We Trapped in Stereotypes?</i>	<i>March 3, 2014</i>			2014		http://workshops.acin.tuwien.ac.at/HRI2014_Elderly/FinalSubmissions/HRI_6.pdf	Yes
MADOPA										
26	<i>Development of a multidimensional evaluation method for the use of a robotic companion as a function of a care relationship</i>	David Hewson Herve Michel	<i>Conference 9th world conference of Gerontechnology</i>	<i>June 20 2014</i>		<i>Taiwan</i>	2014			
27	<i>Comparison of the results of 2 methods of assessment of the users needs implemented in France, the example of the Accompany system</i>	Herve Michel	<i>Conference Forum des Living Lab santé et autonomie</i>	<i>June 5 2014</i>		<i>Paris,</i>	2014			
FRAUNHOFER										
28	<i>Multi-user</i>	Ninghang Hu	<i>IEEE International</i>		<i>IEEE</i>	<i>Piscat</i>	2014	<i>pp.</i>	10.1109/ICRA.2014.6	Yes

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	<i>identification and efficient user approaching by fusing robot and ambient sensors</i>	and Richard Bormann	<i>Conference on Robotics and Automation</i>			away, NJ		5299 - 5306	907638	
29	<i>Person recognition for service robotics applications</i>	Richard Bormann	<i>IEEE-RAS International Conference on Humanoid Robots</i>		IEEE	Piscataway, NJ	2013			Yes
30	<i>Efficient object categorization with the surface-approximation polynomials descriptor</i>	Richard Bormann	<i>Spatial Cognition VIII, Lecture Notes in Computer Science</i>	vol. 7463	Springer		2012	pp. 34 - 53	10.1007/978-3-642-32732-2_3	No
31	<i>Adding Rotational Robustness to the Surface-Approximation Polynomials Descriptor</i>	Richard Bormann	<i>IEEE-RAS International Conference on Humanoid Robots</i>		IEEE	New York, NY	2012	pp. 409 - 416	10.1109/HUMANOID S.2012.6651552	Yes
32	<i>A toolchain for deploying component-based applications on complex service robots</i>	Ulrich Reiser	<i>ICRA 2013, 8th Workshop on Software Development and Integration in Robotics (SDIR-VIII)</i>				2013		http://robotics.unibg.it/tcsoft/sdir2013/slides/raiser.pdf	No

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33	<i>Accompany: Acceptable robotiCs COMPanions for AgeiNG years - multidimensional aspects of human-system interactions</i>	Farshid Amirabdollahian	<i>International Conference on Human System Interactions</i>		IEEE	New York, NY	2013	pp. 570 - 577	10.1109/HSI.2013.6577882	No
UVA										
34	<i>Learning to Recognize Human Activities from Soft Labeled Data</i>	Ninghang Hu, Zhongyu Lou, Gwenn Englebienne, Ben Kröse	Robotics: Science and Systems	July 2014	Robotics: Science and Systems Conference	UC Berkeley	2014			Yes
35	<i>A Two-layered Approach to Recognize High-level Human Activities</i>	Ninghang Hu, Gwenn Englebienne, Ben Kröse	IEEE International Symposium on Robot and Human Interactive Communication	Aug 2014	IEEE	Edinburg	2014		10.1109/ROMAN.2014.6926260	Yes
36	<i>Learning Latent Structure for Activity Recognition</i>	Ninghang Hu, Gwenn Englebienne, Zhongyu Lou, Ben Kröse	IEEE International Conference on Robotics and Automation	June 2014	IEEE	Hong Kong	2014		10.1109/ICRA.2014.6906983	Yes

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37	<i>Posture Recognition with a Top-view Camera</i>	Ninghang Hu, Gwenn Englebienne, Ben Kröse	IEEE International Conference on Intelligent Robots and Systems (IROS), 2013	November 2013	IEEE	Tokyo	2013		10.1109/IROS.2013.6696657	Yes
38	<i>Bayesian Fusion of Ceiling Mounted Camera and Laser Range Finder on a Mobile Robot for People Detection and Localization</i>	Ninghang Hu, Gwenn Englebienne, Ben Kröse	Lecture Notes in Computer Science, Human Behavior Understanding	July 2012	Springer	Portugal	2012		10.1007/978-3-642-34014-7_4	Yes
UNISI										
39	<i>Exploring empathy in interaction: Scenarios of respectful robotics.</i>	Patrizia Marti	<i>GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry</i>	Vol 26(2), Jun 2013	<i>GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry</i>		2013	pp. 101-112	http://dx.doi.org/10.1024/1662-9647/a000086	No
40	<i>Robot e Società, Editoriale</i>	Patrizia Marti	<i>Rivista Italiana di Ergonomia</i>	n. 9, 2014	<i>Rivista Italiana di Ergonomia</i>		2013	pp. 5-9		No

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41	<i>La relazione empatica con i robot</i>	Patrizia Marti	<i>Rivista Italiana di Ergonomia</i>	<i>n. 9, 2014</i>	<i>Rivista Italiana di Ergonomia</i>		2013	<i>pp. 65-75</i>		No
42	<i>Expressive touch and materials in continuous-sustained interaction design</i>	Patrizia Marti	<i>TOCHI</i>				To submit			
43	Sensible Interfacing: Action-Possibility Driven System Design	Jelle Stienstra	International Journal of Design				To submit			
Books										
44	<i>"The Subtle Body"</i>	Patrizia Marti	<i>Eindhoven University of Technology</i>		<i>Eindhoven University of Technology</i>		<i>In press Oct 2014</i>		ISBN: 978-90-386-3714-3.	
45	<i>Squeeze me: gently please</i>	Jelle Stienstra	<i>NordiCHI '12 Proceedings of the 7th Nordic Conference on Human-Computer Interaction: Making Sense Through Design</i>	2012	<i>ACM Digital Library</i>	<i>New York, NY, USA</i>	2012	<i>Pages 746-750</i>	ISBN: 978-1-4503-1482-4 DOI: 10.1145/2399016.2399131	No
46	<i>Shaping Empathy Through Perspective Taking</i>	Patrizia Marti	<i>RO-MAN, 2013 IEEE</i>	2013	<i>IEEE Xplore Digital Library</i>	<i>Gyeongju (conference Location)</i>	2013	<i>pp. 751 - 756</i>	ISSN : 1944-9445 DOI: 10.1109/ROMAN.201	No

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47	<i>Dreamy eyes: exploring dynamic expression in human-system interaction</i>	Jelle Stienstra	<i>CHI EA '13 CHI '13 Extended Abstracts on Human Factors in Computing Systems</i>	2013	<i>ACM Digital Library</i>	<i>New York, NY, USA</i>	2013	<i>pp. 595-600</i>	ISBN: 978-1-4503-1952-2 DOI: 10.1145/2468356.2468461	No
48	<i>Engaging through her eyes : embodying the perspective of a robot companion</i>	Patrizia Marti	<i>Conference Paper : Proceedings of the 18th International Symposium on Artificial Life and Robotics (AROB 2013)</i>	2013	http://www.tue.nl/en/publication/ep/p/d/ep-uid/280940/		2013			
49	<i>Exploring Movement Qualities in a Reciprocal Engagement</i>	Patrizia Marti	<i>Proceedings of the fourth joint IEEE International Conference on Development and Learning and on Epigenetic Robotics, ICDL 2014, At Genova, Italy</i>	2014	<i>IEEE Explore Digital Library</i>	<i>Italy (conference Location)</i>	2014	<i>pp.117-122</i>		No
50	<i>Expression-rich communication through a squeezable device</i>	Patrizia Marti	<i>Proceedings of the IEEE International Conference on Biomedical Robotics and Biomechatronics, (Bio-Rob), Sao Paulo, Brazil, 2014 Aug 12-15</i>	2014	<i>IEEE Explore Digital Library</i>	<i>San Paulo (conference Location)</i>	2014	<i>pp. 536-541</i>	978-1-4799-3127-9/6/14	Yes
51	<i>Engaging Older People With Participatory Design</i>	Iacono Iolanda	<i>Proceedings of the 8th Nordic Conference on Human-Computer Interaction (NordicCHI), 2014 Oct 26-30, Helsinki, Finland.</i>	2014	<i>ACM Digital Library</i>	<i>New York, NY, USA</i>	2014			
HZ										

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52	<i>Which activities threaten independent living of elderly when becoming problematic; Inspiration for meaningful service robot functionality</i>	Sandra Bedaf	Disability and Rehabilitation: Assistive Technology.	Nov. 2014, Vol. 9, No. 6			2014 (Epub 2013 Oct 1.)	445-52	DOI:10.3109/17483107.2013.840861	Yes
53	<i>Overview and categorization of robots supporting independent living of elderly people: what activities do they support and how far have they developed</i>	Sandra Bedaf	Assistive Technology	Accepted					http://www.tandfonline.com/doi/abs/10.1080/10400435.2014.978916#.VG6Z0lusXos	
54	<i>What should a care robot be able to do? Evaluating problematic activities threatening the independence of elderly persons.</i>	Sandra Bedaf	ICORR 2013	2013 Jun	<u>IEEE Int Conf Rehabil Robot.</u>	Seattle USA			DOI:10.1109/ICORR.2013.6650458.	Yes

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55	<i>Differentiation in service robot goals based on user ability.</i>	Sandra Bedaf	AAATE 3013		IOS press		2013		DOI: 10.3233/978-1-61499-304-9-149	Yes
56	<i>Functionality of service robotics for Aging-in-Place: What to build?</i>	Sandra Bedaf	<i>Gerontechnology</i>	11(2):361	<i>Gerontechnology (ISSN/EISSN 1569-1101 1569-111X) is the official journal of the International Society for Gerontechnology</i>		2012	pp. 361-	DOI: http://dx.doi.org/10.4017/gt.2012.11.02.555.00	Yes
57	<i>Nieuwe technologie in de ouderenzorg: hoe ouderen en onderzoekers samen producten ontwikkelen die aansluiten op de behoefte van de gebruikers.</i>	Joan Vermeulen	Tijdschr Gerontol Geriatr	43(4)			2012	213-215.		Yes

Appendix2: Events attended over the period (M1-36)

Partner	Type of Activity	Main Leader	Title	Date From	Place	Type of Audience	Size of Audience	Countries Addressed
UH	demonstration	UH	Naidex South Exhibition - Independent living exhibition	20/10/2011	ExCel London Exhibition and Convention Centre, London	patients, health professionals and industry	2000+	UK
UH	presentation	UH	Kheng Lee Koay was invited to give lecture at the 2nd International Symposium on Biofied Buildings. Title of the presentation "Designing robot companions as home assistants"	23/02/2012	Keio University, Japan	Scientific Community and Industry	100	Japan
UH	presentation	UH	Kerstin Dautenhahn was invited as seminar speaker at University of Sheffield, title of the presentation "Interaction Studies with Robot Home Companions"	29/02/2012	Sheffield, UK	Scientific Community (higher education, Research)	35	UK
UNISI	Press/engagement events	UNISI	Interviews to Patrizia Marti on a web tv Oggi Scienza TV	22/03/2012	Online	Other	743 views	Online

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UNISI	Press/engagement events	UNISI	Meeting at "Pio Albergo Trivulzio"	02/04/2012	Milano	Other	30	Italy
MADOP A	Seminar	MADOPA (H Michel)	Seminar on the evaluation protocols of homecare services using technological devices : participation of UH, UvA, University of Twente, Fraunhofer	04/04/2012	Paris, MGEN, Mutualité Générale Education Nationale	National and international health decision, policy makers and academic community	70	International
UW	Invited talk	UW	Telecare vs Robotics in Assistive Technology	01/05/2012	Centre for Cognitive Science, University of Sussex, UK	Scientific Community (higher education, Research)	10	UK
IPA	exhibition	FHG	AUTOMATICA Fair	22/05/2012	Munich, Germany	Industry	several hundred	international
UW	presentation	UW	Sussex Cognitive Science Dep.	01/06/2012	Brighton, UK	Scientific	10	UK
UvA	demonstration: poster	UvA	symposium "Vision and Robotics" -ACCOMPANY project presentation	05/06/2012	Eindhoven	Professionals	100	Netherlands

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MADOP A	Seminar	MADOPA (H Michel)	Seminar on the results of the evaluation of homecare services using technological devices.	19/06/2012	Paris,MACIF Mutualité	National and international health decision, policy makers and academic community	70	international
UB	Conference	UB	Feminist Approaches to Bioethics 9 th Ccongress	25/06/2012	Rotterdam, the Netherlands	Scientific Community (higher education, Research)	15-20	International
UB	Conference	UB	International association of Bioethics 11 th Congress	28/06/2012	Rotterdam, Netherlands	Scientific Community (higher education, Research)	20	International,
UH	presentation	UH	Farshid Amirabdollahian was invitd to talk at Hamlyn Symposium, (www.hamlyn-robotics.org), to around 15 participants.	30/06/2012	Hamlyn Symposium, UK	General Public	15	UK

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UvA	Conference	UvA	Human Behavior Understanding (HBU '12)	01/07/2012	Algarve, Portugal	Scientific Community	500-1000	Portugal
MADOP A	Conference	MADOPA (C Gutierrez Ruiz)	Université d'été de la performance en santé« Comment faire le lien ? L'intégration du réseau relationnel des personnes âgées dans un protocole d'évaluation : l'expérience ACCOMPANY »	30/08/2012	Nantes, France	Scientific Community (higher education, Research)	100	France
HZ	Conference	HZ	Robotmatch event	11/09/2012	Utrecht	Professionals and public	50	Netherlands
IPA	Conference	FHG	Spatial Cognition VIII, Lecture Notes in Computer Science	02/09/2012	Seebruck, Germany	Scientific Community	40	international
UH	presentation	UH	Kerstin Dautenhahn was invited as seminar speaker at University of Plymouth, title of the presentation "Social Robots as Assistive Tools"	14/09/2012	Plymouth, UK	Scientific Community (higher education, Research)	20	UK
HZ	Conference	HZ	AAL Forum 2012	25/09/2012	Eindhoven	Scientific	35	International
UNISI	Press/engagement events	UNISI	Researchers' Night 2012	28/09/2012	Siena	Other	100	Italy

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UB/UW	Invited talk	UB/UW	Coglaboration & CogWatch	11/10/2012	Birmingham, UK	Scientific Community (higher education, Research)	12	UK
UH	Workshop	UH	Kerstin Dautenhahn invited speaker at the IROS 2012 workshop on "Cognitive neuroscience robotics", as part of IROS 2012. Title of presentation "Interaction with Robot Companions – Psychological and Neuro-Biological Factors". http://www.iros2012.org/site/	12/10/2012	Villamoura, Portugal	Scientific Community (higher education, Research)	40	Portugal/ international
UNISI	Conference	UNISI	NordiChi 2012-7th Nordic Conference on Human-Computer Interaction: Making Sense Through Design	15/10/2012	Copenhagen	Scientific Community	150-200	international
UH	presentation	UH	Farshid Amirabdollahian presented Accompany project at Ransacker's event. Audience size, around 15	18/10/2012	Europe House, London, UK	General Public	15	UK
UH	presentation	UH	Kheng Lee Koay was invited to give lecture at the IC Robotics Megabyte Talks	01/11/2012	Imperial College	Students	60+	UK
IPA	exhibition	FHG	VISION Fair	06/11/2012	Stuttgart, Germany	Industry	several hundred	international

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UH	Other: Keynote/ presentation	UH	Kerstin Dautenhahn keynote speaker at the 5th York Doctoral Symposium on Computer Science, title of talk: Social Robots as Assistants. http://www.cs.york.ac.uk/yds/?page_id=49	08/11/2012	York, UK	Scientific Community (higher education, Research)	50	UK
UH	presentation	UH	Farshid Amirabdollahian was invited to University of Carlos III, Madrid where Accompany project was presented to about 13 participants during a research seminar on assistive and rehabilitation robotics.	12/11/2012	Madrid	Scientific Community (higher education, Research)	13	Spain
UH	presentation	UH	Kerstin Dautenhahn invited speaker at the Liverpool Symposium on Legal, Ethical and Social Autonomous Systems- Forsight Centre, University of Liverpool. The title of presentation was "Problems with Social Robotics? Challenges!" http://cgi.csc.liv.ac.uk/~michael/ethical2012_web.html	14/11/2012	Liverpool, UK	Scientific Community (higher education, Research)	30	UK
UH	presentation	UH	Accompany project was presented to around 15 participants at University of Sheffield. Farshid Amirabdollahian used the opportunity to discuss ethics and Accompany objectives.	20/11/2012	Sheffield, UK	Scientific Community (higher education, Research)	15	UK

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UH	presentation	UH	Farshid Amirabdollahian was invited to talk at University of Bedfordshire. The talk featured Accompany project and continued with discussions about SRS and Accompany project.	27/11/2012	Bedfordshire,UK	Scientific Community (higher education, Research)	12	UK
UH	demonstration	UH	Roboville Festival	01/12/2012	The Science Museum, London	General Public	2000	UK
IPA	Conference	FHG	IEEE-RAS International Conference on Humanoid Robots	01/12/2012	Osaka, Japan	Scientific Community	30	international
HZ	Conference	HZ	In voor zorg congres 3.0	26/12/2012	Eindhoven	Care professionals	35	NL
UNISI	Invited Talk	Patrizia Marti	From Perceptual interaction to extended cognition	21/01/2013	Compiègne, at the UTC	Scientific Community	50	international
UNISI	Conference	UNISI	18th International Symposium on Artificial Life and Robotics - AROB 2013	30/01/2013	Daejeon	Scientific Community	100	international
HZ	newspaper article	HZ	Dagblad de Limburger (regional newspaper)	04/02/2013		General public	newspaper	NL

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UH	presentation	UH	Kerstin Dautenhahn speaker at Bentley Wood High School, part of the Speakers for Schools programme, title of talk "Robots Interacting with People".	11/02/2013	UK	Other: School	40	UK
UNISI	Press/engagement events	UNISI	Interviews to Patrizia Marti on a local news paper La NAZIONE	17/02/2013			160000	Italy
UH	Conference	UH	ACHI 2013 (Advances in Human Computer Interaction), 2 Papers	25/02/2013	Nice, France	Scientific Community (higher education, Research)	20	France
HZ	invited lecture	Gelderblo m	Alliade Care Innovation event	21/03/2013	Leeuwarden	care professionals	45	NL
UW	presentation	UW	UK Robot Ethics Conference	25/03/2013	Sheffield, UK	Scientific	25	UK
UvA	Public lecture	UvA	'Robots & hersenen: wie is slimmer?' lecture about the relations between AI and Neursciences. http://www.spui25.nl/programma/item/04.04.13---robots--	04/04/2013	Amsterdam	General Public	100	Netherlands

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UH	Other: Plenary: BILETA2013, Autonomous Systems	UH	What regulatory and governance frameworks do we need to balance innovation and human values in the age of autonomous systems?	10/04/2013	Liverpool, UK	Legal community	60	UK
UH	Conference	UH	IEEE Symposium on Artificial Life, 2013	16/04/2013	Singapore	Scientific Community (higher education, Research)	20	Singapore (but made up of academics from a variety of countries)
UNISI	Conference	UNISI	CHI 2013 Conference on Human Factors in Computing Systems	27/04/2013	Paris	Scientific Community	3442	international
UH	exhibition	UH	My New Robot Companion (artist event)	01/05/2013	Hatfield ,UK	Civil Society, Scientific Community (higher education, Research)	40	UK

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UB	Workshop/poster	UB	University of Birmingham, College of Medical and Dental Sciences	02/05/2013	Birmingham, UK	Scientific Community (higher education, Research)	40	UK
UH	presentation	UH	Kerstin Dautenhahn invited speaker at Technical University of Chemnitz, talk entitled "Challenges in Human-Robot Interaction", followed by a workshop/discussion round with PhD students of the CrossWorlds - DFG-Graduiertenkolleg at TU Chemnitz	03/05/2013	Germany	Scientific Community (higher education, Research)	40	Germany
IPA	Conference	FHG	ICRA 2013, 8th Workshop on Software Development and Integration in Robotics (SDIR-VIII)	06/05/2013	Karlsruhe, Germany	Scientific Community	30	international
IPA	presentation	FHG	ROSCon 2013-"Hi Richard – Personalize your Robot with the cob_people_perception Stack"	12/05/2013	Stuttgart, Germany	Scientific Community, Industry	30	international

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UH	Other: Open House Public engagement event	UH	Open house as part of the Artist's Residential event at the robot house.	17/05/2013	UH Robot House, Hatfield, UK	Creative	50	UK
UvA	Presentation	UvA	EMGO+ Annual Meeting 2013, RAI Amsterdam-The digital life & ambient robotics: How can IT and robotics be used in our daily lives?-	28/05/2013	Amsterdam	Scientific community	100	Netherlands
UH	presentation	UH	Kerstin Dautenhahn lecturer at Summer School on Social Signal Processing, on behalf of SSPNet, the European Network of Excellence on SSP. http://www.dcs.gla.ac.uk/~vincia/sspschool/index.html	03/06/2013	Vietri Sul Mare, Italy	Scientific Community (higher education, Research)	40	Italy
HZ	invited lecture	Gelderblom	Future care program, Euregional project	03/06/2013	Heerlen	care professionals	60	NL, BE, DE
UH	Conference	UH	HSI 2013 (International Conference on Human System Interaction) .	06/06/2013	Gdansk, Poland	Scientific Community (higher education, Research)	120	Poland

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UH	Keynote	UH	Kerstin Dautenhahn invited Keynote Speaker at COST Event - The Future Concept and Reality of Social Robotics: Challenges, Perception and Applications Role of Social Robotics in Current and Future Society, International Press Centre, Brussels (BE). Title of talk "Social robotics and real world applications – an interdisciplinary perspective" http://www.cost.eu/events/socialrobotics	10/06/2013	Brussels	Scientific Community (higher education, Research)	80	International
HZ	Conference	HZ	ICORR 2013 13th International Conference on Rehabilitation Robotics (ICORR),	24/06/2013	Seattle, June 24-26, 2013.	Robot scientists	40	International
UvA and HZ and UH		UvA and HZ and UH	'International Summer School on Social Human-Robot Interaction' Christ's College	26/08/2013	Cambridge, United Kingdom	Scientific Community	60	Europe
UNISI	Conference	UNISI	RO-MAN2013 22nd IEEE International Symposium on Robot and Human Interactive Communication	26/08/2013	Gyeongju	Scientific Community	300	international
UH	Conference	UH	RO-MAN 2013 (IEEE International Symposium on Robot and Human Interactive Communication) Towards a user-centered approach to assistive and service robotic technology for elderly care	26/08/2013	Gyeongju, South Korea	Scientific Community (higher education,	60	South Korea

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						Research)		
UNISI	Invited Talk	Iolanda Iacono /Michele Tittarelli	Robots that care	02/09/2013	London, at Campus Party	Scientific Community,	10000 visitors	international
HZ	Conference	HZ	AAATE 2013, Association for the Advancement of Assistive Technology in Europe	19/09/2013	Villamoura, Portugal	Scientific Community (higher education, Research)	50	Portugal
UH	Conference	UH	AAATE 2013, Association for the Advancement of Assistive Technology in Europe	19/09/2013	Villamoura, Portugal	Scientific Community (higher education, Research)	50	Portugal

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UH	presentation	UH	Farshid Amirabdollahian was invited to talk at the REACTION Consortium Clustering Event Ambient Intelligence Advanced Technologies in Support of Healthcare and Assisted Living that took place at the Foundation for Research & Technology. The aim of the clustering event was to bring together European projects for demonstrations, presentations of innovative solutions, and discussions of potential synergies and cooperation	26/09/2013	Hellas, in Heraklion, Crete, Greece,	Civil Society, Scientific Community, Policy Makers	50	Europe
IPA/HZ	exhibition	IPA/HZ	Robots Supporting Care- organised by the Expertise centre at HZ (including scenario demonstration)	02/10/2013	Heerlen, Netherlands	Industry, Policy makers, Scientific Community	200	The Netherlands
HZ	Conference	HZ	Symposium "Robots For Care	02/10/2013	Heerlen	Educational and care professionals	200	NL
HZ	TV	HZ	Regional television item on care robotics- http://www.l1.nl/video/zorgrobots-2-okt-2013	02/10/2013	Online	General Public	TV	NL

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HZ	Radio Item	HZ	Regional radio item on Robots supporting Care symposium- http://www.l1.nl/audio/zorgrobots-heerlen-verslaggever-peter-beeker-2-okt-2013	02/10/2013	Online	General Public	numerous	NL
UH	Other: Debate	UH	Ideal World Season – Are we having an out of body experience?, Invited panel member for public discussion event. (debate)	04/10/2013	Watford, UK	Civil Society & Arts Media Experts	50	UK
IPA	Conference	FHG	IEEE-RAS International Conference on Humanoid Robots	17/10/2013	Atlanta, USA	Scientific Community	30	international
UH	Workshop	UH	KT-EQUAL workshop on Showcasing research to promote active ageing: from Rehabilitation robots to Assistive technologies and beyond	19/10/2013	Hatfield UK	Civil Society, Scientific Community	25	UK
IPA	presentation	FHG	RSS 2013- Workshop on Common Platforms in Robotic Manipulation “Care-O-bot 3: towards Real World Experiments in consumer domain”,	24/10/2013	Berlin, Germany	Scientific Community	30	international
UH	Workshop: ICSR 2013, Invited Speaker for Workshop 2: Embodied Communication of Goals and Intentions	UH	Lecture on Interaction with socially interactive robot companions, focusing on interaction modalities and social norms in domestic environment	27/10/2013	Bristol, UK	Scientific community	40	UK

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UH	Plenary: ICSR 2013 (International Conference on Social Robotics), Plenary Panel Discussion	UH	Part of Panel discussing issues related to Robotic Home Companion and to discuss the question "Companionship"	27/10/2013	Bristol, UK	Scientific community	130	UK
UH	Conference	UH	ICSR 2013 (International Conference on Social Robotics), 3 papers	27/10/2013	Bristol, UK	Scientific Community (higher education, Research)	130	UK
UH	presentation	UH	ACCOMPANY Caring for the future 2013, http://accordgroup.org.uk/filemanager/resources/Technology.pdf	29/10/2013	Birmingham, UK	Civil Society	250	UK
UvA	Conference	UvA	IEEE International Conference on Intelligent Robots and Systems (IROS), 2013	01/11/2013	Tokyo, Japan	Scientific Community	500-1000	JAPAN
IPA	TV clip	FHG	Quarks&Co. (popular German documentary series)	12/11/2013	WDR (German TV channel)	Civil Society	above 1 million	Germany
HZ	presentation	HZ	Invited Presentation Blixembosch Robots in Care: G Gelderblom	13/11/2013	The Netherlands	Industry	20	The Netherlands

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UNISI	Press/engagement events	UNISI	European Robotics Week UNISI organised a Public Talk entitled "Robot and elderly: what is the possible future?"	26/11/2013	Siena, Location Residential Home Care: "Villa I Lecci	Other	70	Italy
UH	Conference	UH	ARE Adaptive Robotic Ecologies 2013	03/12/2013	Dublin, Ireland	Scientific Community (higher education, Research)	8	Ireland
UNISI	Press/engagement events	UNISI	Meeting at UNISI with the Residential Home Care of Chiusdino, Siena	15/12/2013	Siena, Italy	Other	10	Italy
HZ	Article	Bedaf	Nederlands tijdschrift voor Geneeskunst (Dutch journal for curative medicine)- http://www.ntvg.nl/artikelen/nieuws/universele-hulprobot-voor-ouderen-nog-ver-weg/volledig	17/12/2013	The Netherlands	medical professionals	numerous	NL
UH/HZ	presentation	UH/HZ	European RoboticsForum	11/03/2014	Rovertò, Italy		300+	Italy/international
UNISI	Invited talk	Patrizia Marti	World Social Work Day -Design that cares	18/03/2014	Siena, University of Siena	Scientific Community	120	Italy

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HZ	invited lecture	Gelderblo m	Radboud University, Donders Institute	25/03/2014	Nijmegen	Psychologist s	50	NL
UH	Conference	UH	AISB50	01/04/2014	London, UK	Scientific Community (higher education, Research)	25	UK
UB/UW	Conference	UB/UW	AISB50	01/04/2014	London, UK	Scientific Community (higher education, Research)	30	Various European, North America, Australia
UT	Tv show	UT	Pauw en Witteman	04/04/2014	The Netherlands	General Public	numerous	The Netherlands
IPA	workshop	FHG	Assistive Technology in Elderly Care (Technische Assistenzsysteme in der Pflege)	10/04/2014	Stuttgart, Germany	Industry, Policy Makers, Scientific Community	50	Germany
UvA	Other: Public debate	UvA	"Robosapiens" Debate on Intelligent Systems	24/05/2014	Amsterdam	General	100	Netherlands

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						Public		
IPA	exhibition	MADoPA	Porte Ouverte	26/05/2014	Troyes, France	Civil Society	20	France
HZ	Invited lecture	Gelderblom	lecture series RWTH Aachen Maschinenbau Institut	28/05/2014	Aachen DE	Engineers, Scientists	40	DE
UT	Other: Festival	UT	Design Festival	29/05/2014	Berlin		50	Germany
UvA	Conference	UvA	IEEE International Conference on Robotics and Automation (2 papers)	01/06/2014	Hong Kong	Scientific Community	500-1000	CHINA
IPA	exhibition (fair)	FHG	AUTOMATICA	03/06/2014	Munich, Germany	Industry	several hundred	international
IPA/UV A	Conference	UvA and FHG	IEEE International Conference on Robotics and Automation	04/06/2014	Hong Kong, China	Scientific Community	30	international
UNISI	Press/engagement events	UNISI	Meeting at Residential Home Care "Villa Petronilla"	04/06/2014	Siena	Other	10	Italy
MADOP A	Conference	MADOPA (H Michel)	Forum des Living Lab santé et autonomie, Comparison of the results of 2 methods of assessment of the users needs implemented in France, the example of the Accompany system	05/06/2014	Paris, Hopital Broca	French experts, academic and Health	50	France

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						decision makers		
UNISI	Invited Talk	Patrizia Marti	5th National Conference on Alzheimer's Day Care Centres	06/06/2014	Pistoia, Italy	Scientific Community	150	Italy
HZ	presentation	HZ	Regional robotics day, presentation dissemination	19/06/2014	The Netherlands	Scientific Community		The Netherlands
MADOP A	Conference	MADOPA (D Hewson, H Michel)	9th world conference of Gerontechnology, Development of a multidimensional evaluation method for the use of a robotic companion as a function of a care relationship	20/06/2014	Taiwan	Scientific Community (higher education, Research)		international
HZ	presentation	HZ	Visit National commission on future care provision in the Netherlands, Presentation	20/06/2014	The Netherlands		3	The Netherlands
HZ	presentation	HZ	Summercourse Saudi Arabian Nursing Students . Presentation	23/06/2014	The Netherlands		15	The Netherlands
UT	Conference	UT	European Conference on Positive Psychology	01/07/2014	Amsterdam, The Netherlands	Students, entrepreneurs,	20-30	International

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						researchers		
UvA	Conference	UvA	Robotics: Science and Systems	01/07/2014	UC Berkely	Scientific Community	500-1000	USA
MADOP A	Other: General assembly (of MADoPA)	H Michel	Results from usage and economic evaluation of the Accompany system	03/07/2014	Paris, Fédération Nationale Mutualité Française	Health and care decision makers	40	France
UT	National Science/ Press event	UT	NWO Bessensap	15/07/2014	The Netherlands	Scientific Community	50	The Netherlands
UT	Other: Festival	UT	Design Festival	25/07/2014	The Netherlands	Other	50	The Netherlands
UNISI	Press/engagement events	UNISI	Meeting at UNISI with AFAM „Associazione Familiari Alzheimer Marche	28/07/2014	Siena	Other	10	Italy
UvA	Conference	UvA	IEEE International Symposium on Robot and Human Interactive Communication	01/08/2014	Edinburgh, Scotland	Scientific Community	500-1000	UK
HZ	Magazine interview	HZ	Gelderblom interview in Ergotherapy Magazine (National	01/08/2014		Occupational	numerous	NL

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			Occupational Therapy magazine			Therapists		
UNISI	Conference	UNISI	BIO-ROB2014 (IEEE International Conference on Biomedical Robotics and Biomechatronics)	12/08/2014	San Paulo, Brazil	Scientific Community	150-200	international
UH	Conference	UH	TAROS 2014 15th Towards Autonomous Robotic Systems	01/09/2014	Birmingham, UK	Scientific Community (higher education, Research)	100	UK
UT	Other: Festival	UT	<u>Advice to Raad Leefomgeving en Infrastructuur (advisory body to the Dutch government, www.rli.nl)</u>	05/09/2014	The Netherlands			The Netherlands
HZ	Conference	HZ	Health Technology Conference 2014	09/09/2014	Den Bosch	Industry and policy	60	NL
HZ	Exhibition	HZ	HZ University Care Technology Fair	10/09/2014	Heerlen	Students	250	NL
UNISI	Invited talk	Iolanda Iacono	Workshop at "Responsibility Project"-Title of the presentation "Social Robots for supporting autonomy and well-being of elderly people"	12/09/2014	Siena, Italy	Scientific Community	30 people	Italy
UT	Workshop	UT	FROG EU project	25/09/2014	The Netherlands	Scientific	10	The

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						Community		Netherlands
UT	Seminar	UT	New Friends	25/09/2014	Almere, The Netherlands	Students, entrepreneurs, researchers	20-30	International
UvA	Radio Interview	UvA	de Kennis van Nu' interview on job-threatening robots-national radio NPO Radio 5- http://www.npowetenschap.nl/programmas/de-kennis-van-nu/Radio-5/2014/september/30-09-2014-dementie.html	30/09/2014	Hilversum	General Public	>1000	Netherlands
HZ	Public debate	HZ	Gelderblom in Expert panel TU Eindhoven (national science week)	30/09/2014	Eindhoven	general public	50	NL
UB/UW	Conference	UB/UW	European Association of Centres of Medical Ethics	02/10/2014	Lille, France	Scientific Community (higher education, Research)	10	Various European, North America, Australia
HZ	Web press	HZ	Gelderblom in Expert interview Masterclass Open University (national science week)- http://www.youtube.com/watch?v=EovqtDFwIFQ	02/10/2014	Online	General public	350 views	NL

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HZ	Public debate	de Witte	U meet event Maastricht University (national science week)	02/10/2014	Maastricht	General Public	400	NL
UNISI	Press/engagement events	UNISI	Maker Faire	03/10/2014	Rome	Scientific Community Industry, Civil Society, Policy makers, Medias,	90000 visitors	Europe
UNISI	Press/engagement events	UNISI	Interviews to Iolanda Iacono to be published online on Medicina e Informazione, Video Approfondimenti con gli Specialisti (www.medicinaeinformazione.com).	05/10/2014	Roma	Scientific Community	online	Italy
UNISI	Conference	UNISI	ICDL-EPIROB2014 (The Fourth Joint IEEE International Conference on. Development and Learning and on Epigenetic Robotics)	13/10/2014	Genova, Italy	Scientific Community	150	Europe
UH	Conference	UH	ICDL-EPIROB2014 (The Fourth Joint IEEE International Conference on. Development and Learning and on Epigenetic Robotics)	13/10/2014	Genova, Italy	Scientific Community (higher education, Research)	150	International

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UB/UW	Invited talks	UB/UW	Centre for Biomedical Ethics, Yong Loo Lin School of Medicine, National University of Singapore	20/10/2014	Singapore	Scientific Community (higher education, Research)	6	Singapore (but made up of academics from a variety of countries)
UNISI	Invited talk	UNISI	Inaugural Lecture of Patrizia Marti at Eindhoven University of Technology	24/10/2014	Eindhoven	Scientific Community, other	70	The Netherlands
UW	presentation	UW	Monash philosophy dept; Biomedical Ethics Centre	24/10/2014	Melbourne Aus.	Scientific	15	Aus.
UB/UW	Conference	UB/UW	6 th International Conference on Social Robots	27/10/2014	Sydney, Australia	Scientific Community (higher education, Research)	150	International
UB	Invited talk	UB	Macquarie Research Centre for Agency, Values and Ethics, Macquarie University	27/10/2014	Sydney, Australia	Scientific Community (higher education, Research)	20	Australian

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UNISI	Conference	UNISI	NordiCHI2014 (The 8th Nordic Conference on Human-Computer Interaction), Helsinki, Finland	28/10/2014	Helsinki, Finland	Scientific Community	150/200	International
IPA	exhibition (fair)	FHG	VISION	04/11/2014	Stuttgart, Germany	Industry	several hundred	International
HZ	Magazine interview	Gelderblom	FMT Gezondheidszorg	14-02 2014		Care professionals, Policy	Magazine	NL
IPA	video	HZ	Robot Companion for the Elderly	ongoing since 5 December 2013	YouTube (Fraunhofer channel) and accompanyproject.eu	all	1800 (at 15.10.2014)	international
IPA	video	FHG	tectv - robots	ongoing since May 2014	tectv (internet TV channel of largest German Engineers association VDI)	Civil Society	500	Germany
IPA	video	FHG	ACCOMPANY - Integrated robot technologies for supporting elderly people in their homes (final showcase)	ongoing since October	YouTube and accompanyproject.eu	Other: General Public	2000 expected	international

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				2014				
HZ	TV	HZ	Online Video LED regional economic development- http://www.youtube.com/watch?v=K30Q8Z3cDh8	yr 2013	Online	Other: General Public	350	NL
UH	Web /press piece	UH	European Year Of Active Ageing: http://www.age-platform.eu/best-practices/128-employment/1484-accompany	yr:2013	Online	Other: General Public	www	www
UvA	website	UvA	Website of the activity recognition system. Make the software publicly accesible.Learning Latent Activity Structure with Soft Labeled Data	yr: 2014	Online	Scientific Community	www	international
UH	Other: Symposium, Futurist Invited Speaker and panel member.	UH	Future of robots in society and being part of the panel for general discussion on the future of digital technologies. Michael Walters invited speaker and panel member.	yr:2013	Watford, UK	General Public and Experts	200	UK mainly
UH	Other: Art Show-Two days public engagement event	UH	Turin Art Show – Robot event in conjunction with the Code Breakers legacy event	yr:2013	Bletchley Park, UK	General public	1000	UK

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UH	Other: UH Professional Staff engagement event	UH	Professional Staff Conference	yr:2014	UH	Professional Staff from UH	40	UK
UH	TV: Public Dissemination	UH	BBC Newsround filming a short documentary of robot research in the Robot House	yr:2014	UH Robot House	Other:General Public	Many millions	UK
UH	Other: Engagement with business (Ocado)	UH	Visiting UH and the Robot House for possible future collaboration	yr:2014	UH	Industry	2	UK
UH	Press: engagement events	UH	My Robot Companion – An Afternoon with HARR1	yr:2014	Brighton, UK	Civil Society Mixed audience mainly elderly persons	40	UK

Appendix 3: Project Leaflet



ACCOMPANY

Acceptable robotiCs COMPanions for AgeiNg Years

The ACCOMPANY system will provide a platform to research issues surrounding independent living at home for elderly people, using a state of the art service robot platform, Care-O-bot® 3 within a smart home environment.

Context

According to EuroStat, the percentage of the European population aged 65 years and over will grow from 16% in 2010 up to 29.3% in 2060 (EuroStat, 2011). As the proportion of older people continues to rise, we expect to see an increase in the number of people that prefer to continue to live independently in their own homes. Robot companions are one way in which older people can be supported to live independently, by providing assistance with everyday tasks that have become difficult for them and by offering motivational coaching and cognitive stimulation in the home. This allows the elderly person to retain their independence. In addition staying at home independently for longer is a more economically viable option, as health care costs continue to escalate.

Identification of user needs

ACCOMPANY is using the Care-O-bot 3 (developed by Fraunhofer IPA, Germany) to assess user requirements and user acceptance of the robot and to implement and evaluate home-assistance scenarios.

User panels included three different types of users: elderly people, their informal caregivers and healthcare professionals. Three activity domains (mobility, self-care, and social activities) were highlighted as being the most problematic for elderly. Identifying these activities resulted in a set of requirements that informed the research undertaken throughout the project. User panels and evaluation of ACCOMPANY scenarios are conducted across three test sites in three European countries (UK, the Netherlands, and France).

In year 1 the team implemented a scenario showing a fully autonomously operating companion robot integrated in a sensorized (smart) home. A basic fetch-and-carry task was selected, related to the activity domains mobility and self-care. We utilised the University of Hertfordshire's 'Robot House' – a real domestic house extended with sensors for this purpose.





Social & empathic interaction design

We are also working on exploring how relationships between elderly people and the robot can be established and developed, by providing more social and emotional interactions. The aim is to build a mutual understanding between a user and the robot that facilitates socially acceptable assistance.

The elderly person will use a tablet to directly interact with the Robot. The tablet graphics can function as a “window to the world through the robot eyes”, so the elderly person sees the world through the robot’s view. The internal states of the Care-O-Bot are expressed via a shape-changing mask on the tablet screen and action possibilities can be explored.



The “Squeeze Me” and “Call Me” are prototype interaction devices that enable the elderly person to attract the

robot’s attention, making the robot come closer in order to start a richer interaction through a squeeze action. These interaction devices enable the system to provide assistance in everyday home tasks, physical, cognitive and social, in a motivating and socially acceptable manner.

Social acceptance using context awareness

To improve users’ social acceptance of the Care-O-bot, a context-aware planner for the generation of the robot’s social behaviours has been developed. Current work focuses on improving the Care-o-bot’s behaviour when approaching the user for interaction. The robot must adapt its approach distances and orientation, taking account of the task (e.g. activity, location, and role), the context (e.g. activity, location, preference, social situation) and context history, hence improving its social acceptance. User studies will be conducted to understand and verify participants’ responses and preferences to the above.

Robot learning and adaptive Interaction

The robot will contribute to the rehabilitation 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 user can learn from one another. Often the robot will provide help and assistance, however, we envisage that the robot will have to adapt to the ever changing tasks as well as needs and requirements of the

user, and therefore in return, the robot also requires help and assistance from the user.

For a robot to be more accepted in a social context, its ability to learn and recall is an important feature. Researchers are working on a “Teach me - Show me” design for a centralised database which forms the central memory hub for the robot.

This system allows non-technical persons to implement robot behaviours and form the first stage in generating autonomous behaviour in the robot.

The facility allows users and others (carers, relatives) to review the behaviours of the robot. This will benefit users by allowing them to review past events, allow exploitation of the robot by learning from previous experiences and aiding socialisation between users and carers, as well as serving as a memory prosthetic.

Environment and activity monitoring

During the first and second years the team also focused on advancements in environment and activity monitoring, a very important aspect in robot assisted-living scenarios. The system incorporates multiple types of sensors, including robot on-board sensors (i.e. cameras and laser range finder on the robot) as well as the ambient sensors (i.e. cameras mounted on the ceiling and an extensive network of simple sensors such as contact, heat and temperature

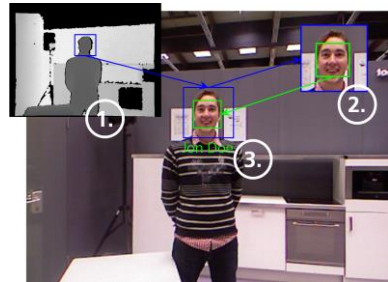
sensors, switches on the kitchen cabinets, pressure mats on the seats).

Data from different types of sensors are fused to ensure the state of both the objects and people are estimated accurately by the Robot.

Object recognition and categorisation

Care-O-bot needs to perceive objects in its environment in order to fulfil useful tasks and to display appropriate action possibilities on the tablet for the user.

We are working on identifying localised persons, using cameras mounted on Care-O-bot’s head as they have a better perspective on people’s faces.



Researchers are also working on recognising human postures as it provides frame-based evidence for probable human activities.

Acceptability

Studies were carried out on robot roles suited to independently living elderly people. Robots in different roles will be expected to display different behaviours. For instance, a coach is expected to behave differently compared with a

cleaner. In order to successfully design robot behaviours and in order to enhance acceptance of ACCOMPANY robots we investigate people's responses to robots in specific tasks and contexts. We aim to research acceptance of specific functions, roles and behaviours using longitudinal field studies.

The work currently underway is focused on the development of the experimental protocol for studies to be carried out in a smart-house (at three sites), involving elderly persons with their own informal carer and healthcare professional (called-relational triads). Data collection includes an observation system (video camera, two researchers present) and a face to face debriefing that will be both individual and collective (by triad). The expected results will inform us on how to further develop the robot into the assumed roles of a co-learner or a re-ablement coach.

Ethics

ACCOMPANY proceeds on the basis that the ethical issues raised by the use of robots, as a form of care technology in elders' homes, should be addressed as far as possible at the design stage, whilst taking into account the views of potential users.

Accordingly, care needs to be taken to ensure that the correct balance is struck between ensuring that the robot is a realistically useful and economically viable care option, and that the user retains control over his or her private information.

A series of ethical principles such as autonomy, independence, enablement, safety, privacy and social connectedness were identified, using theoretical analysis.

The project has developed a framework that allows us to identify the tension between some of these principles and to highlight these tensions in knowledge transfer activities. Our planned future user studies allow for prioritising these principles.

The consortium's long-term vision is to prevent elderly people having to go into care homes prematurely.

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University of Amsterdam, The Netherlands
University of Siena, Italy
MaDoPA, France
University of Birmingham, United Kingdom
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University of Twente, The Netherlands

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