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Fall Detector for the Elder



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¹ R = Report, P = Prototype, D = Demonstrator, O = Other

² PU = Public, PP = Restricted to other programme participants (including the Commission Services), RE= Restricted to a group specified by the consortium (including the Commission Services), CO = Confidential, only for members of the consortium (including the Commission Services)



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List of figures

Figure 1. FATE Project Logo	7
Figure 2. FATE - PORTABLE FALL DETECTOR video (https://www.youtube.com/watch?v=dLYw984FiyQ).....	8
Figure 3. FATE Brochure	9
Figure 4. FATE Pilot Brochure	10
Figure 5. Home FATE website	11
Figure 6. Sessions to FATE webpage during project course (Source: Google analytics)	11
Figure 7. Visitor types (Source: Google Analytics).....	12
Figure 8. Twits from Follower influencers	13
Figure 9. @FATE-EU_Project twits	13
Figure 10. Ateknea Facebook wall.....	14
Figure 11. Tunstall Emergency Response Facebook wall	14
Figure 12. COOSS Facebook wall (Francesca Cesarone)	15
Figure 13. FATE edition at Insight magazine	17
Figure 14. Newsletter Flash TicSalut.....	19
Figure 15. Final Workshop	22
Figure 16. Final Workshop Agenda	23
Figure 17. FATE Project Logo in B/W application	25
Figure 18. FATE Project Logo in Negative application	25
Figure 19. Italian Fate Brochure – Inside Page.....	26
Figure 20. INNOSKART ICT cluster meeting at Ateknea	27
Figure 21. EEN Conference	27
Figure 22. ICT 2014 event, Vilnius	28
Figure 23. Stand at the European Falls Festival in Stuttgart 2015.....	28
Figure 24. Participation in European Summit on Innovation for Active and Healthy Ageing last March 2015 (stand of SENSE4CARE).....	29



List of tables

Table 1. List of partner's website	12
Table 2. Published articles	16
Table 3. Press release	17
Table 4. Workshops and Conferences.....	20
Table 5. Dissemination outcomes	24



Table of contents

1. Introduction	7
2. Dissemination tools	7
2.1 Dissemination material	7
2.1.1 Project Logo	7
2.1.2 Project Video	8
2.1.3 Brochure	9
3. Dissemination activities	10
3.1 Webpage	10
3.2 Social Networks: Twitter and YouTube	13
3.3 Press releases	15
3.4 Newsletter	18
3.5 Scientific articles	19
3.6 Conferences and Workshops	19
4. Dissemination outcomes	23
Appendix A: Project Logo	25
Appendix B: Project brochure	26
Appendix C: Gallery	27



1. Introduction

The present document is structured in five different sections and aims to report all activities on dissemination have been done during the project lifetime.

Firstly, the section 1 is an introduction, followed by dissemination toolkit used to achieve the dissemination plan described in D6.3 (section 2). All dissemination activities passing the project are described in section 3. Finally, the dissemination outcomes achieved are summarized in the last section (section 4).

2. Dissemination tools

2.1 Dissemination material

Dissemination material is a key element to disseminate. During the project several materials have been developed to achieve a good dissemination of all goals, considering all stakeholders taking part of FATE project.

2.1.1 Project Logo

The logo is the element has allowed connecting the project, its objectives, innovative technologies and benefits.

The logo is shown in Figure 1. FATE Project Logo has served as a first and essential step in achieving the FATE project Brand. The logo and all the collections (described in Appendix A) have been used in all communications of FATE project.

The logo was designed to reflect the values that FATE wanted to convey. First, through the waves red and blue look connectivity and convey a sense of movement. Also, to replace the letter A in the acronym FATE by a home shape, aims to provide a framework for action: in-door and out-door. Finally, the logo wanted to give a sense of security and alert in case of accident through play blue and red colours in the waves, and its position respect FATE.



Figure 1. FATE Project Logo



2.1.2 Project Video

During the project has been developed several videos in order to show the FATE concept. The videos were showed on the project website and YouTube and also, were used in dissemination events where the consortium has been presented the project (see section 3.6 and 3.7).

The official project video was edited in two formats, one short and one long, achieving 1.922 and 450 views on YouTube, respectively. The COOSS partner translated the video into Italian with the aim of facilitating the partner of Italy to better promote the project in its own language.

Breaking the technical language surrounding the communication of a scientific project is not an easy job. In order to show, exciting and entertaining way, the results of many months of work and to value the real benefit of using innovative technology was created FATE – PORTABLE FALL DETECTOR video (<https://www.youtube.com/watch?v=dLYw984FiyQ>) (

Figure 2). This used film language rarely used in scientific communication. It used actors in the flesh meaning to generate an everyday atmosphere. The creative used psychology know-how to approach to the script. The plot combines a realistic narrative backbone, mixed with an undercurrent of symbolic images. This has allowed the viewer to experience live 2 to 1. The outer-conscious (reaching affectively in a familiar and warm setting) and inner-unconscious (identifying with the hero's journey and transformation). The story highlighted the contrast between fear generated by the appearance of a new technology and change their use in the daily lives of people and their environment. The spot was broadcast online media.



Figure 2. FATE - PORTABLE FALL DETECTOR video (<https://www.youtube.com/watch?v=dLYw984FiyQ>)

The last two videos generated in the course of the project, expected to capture the client and user experience from Barcelona pilot. These videos pick up different practices related to FATE project in order to bring closer the technology and the benefits of its use.



2.1.3 Brochure

The FATE brochures were designed as a guide to be distributed among the potential pilot patients and interested groups to introduce them the project. In addition, has been used to disseminate the project in the different events the consortium participates. The official project brochure was edited in English (

Figure 3. FATE Brochure), Italian (Appendix B), Catalan and Hungarian.

Scope

FATE is more than a complete and well integrated ICT solution, it is also a care model focused on strengthening Public and Private collaboration to reach a reliable service. It thus paves the way across Europe for opening new market opportunities and benefits for all stakeholders in the health and care sectors, as well as sustainable models for the future elder generations.

Objective

The ultimate goal of FATE project is to widely validate an innovative and efficient ICT-based solution focused on improving the elder's quality of life by an accurate detection of falls, both at home and outdoors. Additionally the project aims to demonstrate the integration feasibility of the detection solution into actual care solutions.

FATE Solution

The system consists of two main elements plus a series of secondary elements:

Main elements

- A highly sensitive fall detector incorporating accelerometers, capable of running a complex, specific fall detection algorithm in order to provide accurate fall detection.
- The telecommunications layer based in wireless technologies consists of an indoor Zigbee network, a central computer and a mobile phone communicated with the central computer and the fall sensor via Bluetooth. All incidences and measures will be stored in a server to be used as a monitoring data for the carers/doctors improving patient fall prevention and treatment. Once detected and confirmed, fall events will be communicated to relatives or health service providers (112) through the specific call centres set in every country.

Secondary elements

- A bed presence sensor to dismiss false fall positives, detect potential health problems or behaviour anomalies and detect falls from the bed.
- As an optional element, for persons suffering the significant gait difficulties, the system will be also complemented by the i-Walker, an intelligent walker designed to support elders with significant gait difficulties.

Contribution

Falls in ageing people are a very big problem. A great majority of falls result from a combination of factors. The aging process itself is one of these factors. Other contributing factors include chronic health problems (diseases of heart, problems in eyes, poor vision, muscle weakness, dementia, arthritis,...), physical and functional impairments (lower extremity weakness, balance disorders), medications and alcohol abuse, and hazards and obstacles in the home (poor lighting, lack of bathroom safety equipment, loose carpets). The system proposed and tested in FATE is a solution for the correct detection of falls. Additionally, the complete solution will improve the prevention of falls in affected ageing people for the following reasons:

- The automatic detection of a fall with very low error rate.
- The localization of where the fall occurred, facilitating the intervention.
- The improvement of the fear of falling (FOF) effect.
- The use of the iWalker when necessary for mobility improvement and its eventual contribution to rehabilitation.
- The definitive improvement of the "long-lie" syndrome.
- The precise detection of falls for people with low cognitive problems like memory loses is a critical factor for the prescription of a rehabilitation program.

FATE

User's Autonomous System Care System

Figure 3. FATE Brochure

Additionally, the different pilots published some informative brochures, Figure 4. FATE Pilot Brochure, designed to inform end users and relatives about the use of the technology, the main indications for correct operation, and a brief explanation of the project, as shows below:



FATE: Un sistema de detecció de caigudes

Per poder detectar les caigudes tant a casa com a l'aire lliure us han entregat un telèfon mòbil i el detector de caigudes. També us han instal·lat a casa un ordinador, un sensor de presència al llit i un sistema de comunicació sense fils (que va connectat als endolls).

El sensor de caigudes

El sensor de caigudes detectarà els moviments bruscos mentre el duu a la cintura, i en cas de detectar una caiguda enviarà automàticament el servei d'emergències.

El sensor disposa de dos botons, dels que vostè només n'utilitzarà un, el més gran.

Aquest botó us permet cancel·lar l'alarma de caiguda, en cas que no s'hagi produït. I també us permet generar una alarma en cas d'una emergència, encara que no s'hagi detectat una caiguda.

També us permet encendre i apagar el sensor si manteniu premut el botó durant més de 3 segons.

Indicadors del sensor

- Després d'encendre el llum del sensor es mostrarà de color vermell durant 5 minuts. Després us podreu veure el sensor sense que el sistema generi cap alarma de caiguda deguda a un moment momentani al llit.
- El llum d'encandir de forma intermitent de color verd mentre està funcionant correctament.
- Si el llum de càrrega i el sensor el llum de manera encandir de color verd, això que està completament carregat.
- El llum d'encandir de color blau mentre està carregant.
- Si no encandir quan connecteu el cable per carregar el sensor, això que hi ha algun problema.
- Si el llum d'encandir de forma intermitent de color verd indica que el nivell de bateria del sensor és baixa.
- Si quan sortiu de casa el sensor emet un so d'alarma el llum està toba encandir de color vermell. Indica que us heu deixat el mòbil a casa que no està encara.
- Si esteu a casa el sensor d'encandir de forma permanent de color vermell que us poseu en contacte amb el suport tècnic.

Què fer cada dia quan utilitzeu el sensor?

Quan us lleveu

- Agafeu el sensor i desconnecteu-lo del cable de càrrega
- Col·loqueu el sensor dins el cinturó
- Passau-vos el cinturó

Si sortiu de casa

- Agafeu el telèfon mòbil de l'habitació
- Enduieu-vos el mentre queque fora

En arribar a casa

- Deixeu el telèfon mòbil a l'habitació i poseu-lo a carregar

Quan aneu a dormir

- Trukeu-vos el cinturó
- Traieu el sensor de caigudes del cinturó
- Connecteu el cable per carregar el sensor

En cas de caiguda

- El sensor començarà a fer un so d'alarma
- Si heu caigut i necessiteu ajuda, espereu a que el telèfon mòbil envii el missatge d'alarma al centre d'emergències. Si us podeu aixecar i no us cal ajuda, podeu cancel·lar l'enviament de l'alarma prement el botó gran del sensor
- En breus moments us miraran de trucar, ja sigui al telèfon mòbil com al telèfon de casa
- Si podeu, responeu el telèfon i expliqueu el vostre estat, segons la informació que els doneu us indicaran què us cal fer
- Si no poden parlar amb vostè, gestionaran l'emergència i una persona us vindrà a trobar per conèixer el vostre estat
- Esperem i mireu de mantenir-vos tranquils, doncs l'alarma ja ha estat notificada i en un breu període de temps us vindran a oferir ajuda

Què es el projecte FATE?

FATE és un projecte que ha desenvolupat un sistema de detecció precisa i automàtica de caigudes en persones. En el moment en que es detecta una caiguda, el sistema envia automàticament un missatge d'alarma al sistema d'emergències. El sistema permet l'enviament d'alarmes de caiguda tant des de casa com des del carrer.

Per comprovar el bon funcionament del sistema s'està fent un estudi on hi participen usuaris de 3 països diferents. Els usuaris que provaran el sistema són persones més grans de 64 anys amb risc de patir caigudes.

Durant aquest estudi utilitzarà durant 6 mesos el sistema FATE i durant uns altres 6 no l'utilitzarà. Durant tot el període de l'estudi li faran trucades per saber el seu estat i li demanaran que ompli alguns qüestionaris.

Contacte per dubtes i incidències

Seguiment Mèdic	Incidències Tècniques
Nom Telèfon	Telèfon

Aquest projecte és cofinançat per la Comissió Europea

Competitiveness and Innovation Framework Programme
CIP-Pilot Actions 2007-2013 297178
Fall Detector for the Elder

Figure 4. FATE Pilot Brochure

3. Dissemination activities

3.1 Webpage

A project website was developed and maintained during the project. The website with the URL: <http://www.project-fate.eu/> (

Figure 5. Home FATE website), has received 9,878 visits, from 7,253 users meaning that approximately 75% are new visitors (

Figure 6; Figure 7). Notably, the website received 61% of the visits during last year, where all important results and conclusion were disseminated. Although the project was mainly intended to elderly people, only 5.5% of the visitors were older than 65 years old, predominating the age group of 18-34 with 61%.



Figure 5. Home FATE website

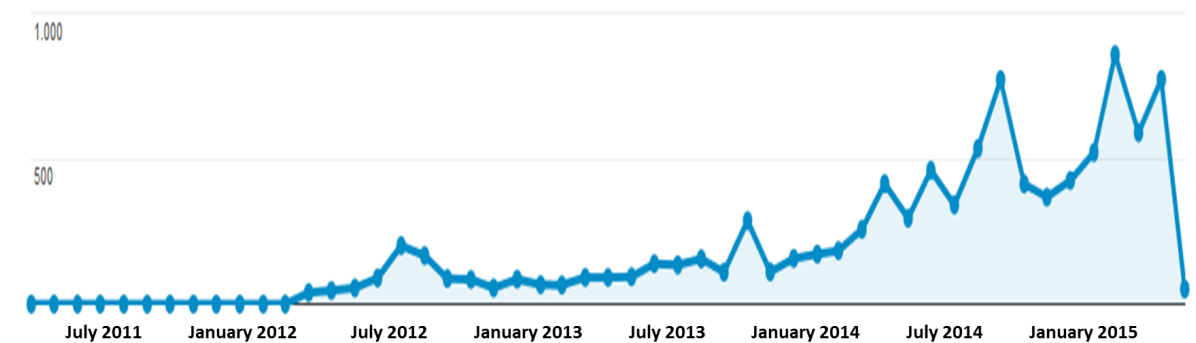


Figure 6. Sessions to FATE webpage during project course (Source: Google analytics)

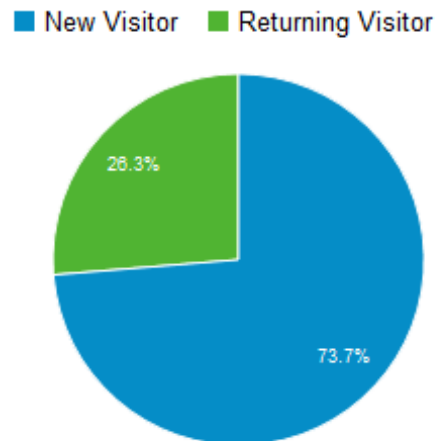


Figure 7. Visitor types (Source: Google Analytics)

The website is described in Deliverable 6.2. It presented basic information about the project, such as the aim of the project, was introduced all partners consortium, was published all public deliverables produced during the project, as well as all dissemination material like brochures or papers. Moreover, all related events were announced in the calendar website. In addition, the website was given information of 10 different projects relevant to FATE topics.

All partner's websites included a link to FATE website in order to advertise the project website (Table 1).

Table 1. List of partner's website

Partner	Website link to FATE website
Universitat Politècnica de Catalunya, UPC	http://www.epsevg.upc.edu/cetpd/
Emergency Response Limited, TER	http://www.tunstallemergencyresponse.ie/fate-fall-detector-for-the-elderly/
Cooperativa Sociale COOSS Marche Onlus Societa Cooperativa per Azioni, COOSS	http://www.cooss.it/it/ricerca/
ATEKNEA SOLUTIONS HUNGARY KFT, ATEK	http://www.mfkk.eu/hu/node/473 (Hungarian) http://www.mfkk.eu/en/node/472 (English)
FLOWLAB Proyectos de Innovacion SL, FLOW	http://www.flowlab.biz/innovation.php#otras
Fundació TicSalut, TICSALUT	http://www.ticsalut.cat/innovacio/internacional/proyectos/20/fate



3.2 Social Networks: Twitter and YouTube

The perfect social networks to widespread FATE project identified were YouTube and Twitter. In one hand, YouTube has allowed to publish on Internet the promotional videos described above (section 2.1.2) with more than 2,000 views. In the other hand, Twitter with more than 160 active users around the world, was a perfect channel to get stakeholders groups updated and informed instantly. The main followers influencers were EU Regional (with 42.000 followers), MWC Barcelona (with 32.000 followers) and Barcelona Tech and EU Health (with 16.500 approximately) (Figure 8).



Figure 8. Twits from Follower influencers

@FATE_EU_Project account did more than 300 twits. The main contents published were related to FATE information such as the aims, results or benefits, compilation appearance in the press or spread workshops and conferences where partners of FATE had taken part of it (Figure 9).



Figure 9. @FATE-EU_Project twits

Besides, the project did not open a Facebook account, the Facebook account of different partners used to spread the project. Some examples are TICSALUT, ATEK (

Figure 10), TER (Figure 11), and COOSS (Figure 12) Facebook accounts.



Figure 10. Ateknea Facebook wall

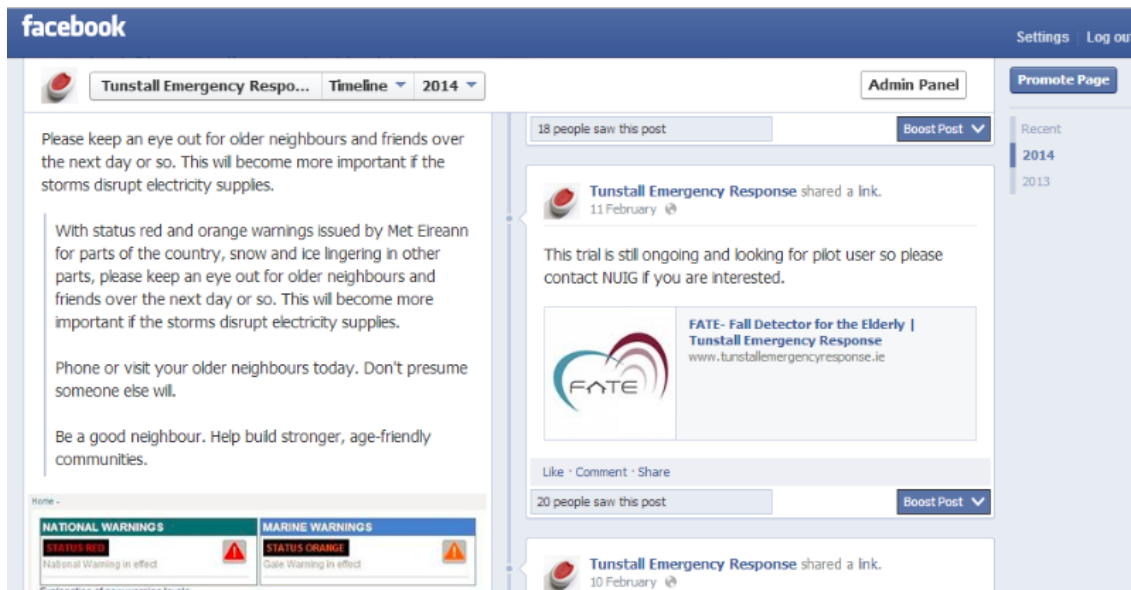


Figure 11. Tunstall Emergency Response Facebook wall



Figure 12. COOSS Facebook wall (Francesca Cesarone)

3.3 Press releases

The analysis of the interaction, intensity and interest between the FATE stakeholders and the different communication activities and channels used during the project lifetime, facilitated the focus efforts and resources to maximize the diffusion and the key messages among the stakeholders. In addition, it was necessary to point out that FATE’s dissemination activities varied in intensity and focus in accordance with the project schedule.

The end users were one of the stakeholders group with more interest in the project, and their advances due to the possible future improvement in their daily quality of life. Nevertheless linked with their demographic characteristic, senior/elder, were notice that they were probably not used to social networks as YouTube and/or Twitter.

For this reason, the main channel through disseminate FATE project involves the press and the audio-visual media. The key was to produce in a timely manner press releases and articles, summarizing the major achievements and results of the project at all stages, the key aspects of its activities and general information about the partners, and announcing workshops and conferences.

According to the dissemination level, articles were published in specialised international press, as well as in national and local media in the various partners’ countries.

The list above (Table 2) collect all articles and advertisements published during the project course.

Figure 13. FATE edition at Insight magazine shows the last article published in Insight as a special edition.