PAMAP

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Third Dissemination Activity Plan

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1. EXECUTIVE SUMMARY

This deliverable presents the final plan for disseminating the results and knowledge acquired during the PAMAP project externally as well as internally. It is a rolling document, which has been supplemented continuously and thus reflects the undertaken and planned activities during the project duration.

All partners have actively disseminated the results of the PAMAP project to a broad audience and have thus helped in promoting the project ideas and results. High interest and encouraging feedback have been reported by the consortium.

The deliverable is structured as follows: Section 2 and 3 summarizes the dissemination objectives and the results to be disseminated, respectively. Section 4 presents the general dissemination guidelines within the consortium. It describes the channels (to be) used and the material (to be) produced. Section 5 summarizes the dissemination activities of all partners.

2. DISSEMINATION OBJECTIVES

The purpose of dissemination is to raise the awareness, publicity and visibility of the PAMAP project and to promote the project results. Dissemination activities can be divided into two groups:

2.1 General awareness of the project

The aim is to make both the large public and potential commercial users aware of the project results and the existence of the project, and to make the name of the project synonymous with excellence and state-of-the-art developments in the context of physical activity monitoring. This objective also includes making the project visible to a wider (non-technical) audience.

2.2 Dissemination of specific results

The aim is to ensure that research and technical results are available through scientific publications, as knowledge to support teaching and further research, and as products that can be brought to market, either by the partners themselves or by licensees.

3. RESULTS TO BE DISSEMINATED

The purpose of the PAMAP system is to support physical rehabilitation and physical activity monitoring services for elderly in clinical settings and out-hospital environments. The basic features of the PAMAP system are the following:

- Enable the accurate monitoring of the physical activities of the monitored subject;
- Provide visualization, guidance and feedback during the execution of a set of exercises;

- Facilitate healthcare professionals in the maintenance of a comprehensive Electronic Health Record of their patients and in the establishment and follow up of personalized rehabilitation and physical activity plans for them.

These features are realized in a set of self-contained components, which can be considered individual products (see Table 1). Together, they make up the overall PAMAP system, for which the milestones are scheduled as shown in Table 2. The individual components as well as the overall PAMAP system are the results to be publicly disseminated.

Table 1 Individual results

Result	Result title	Description
1	Sensory equipment (Inertial Measurement Unit and wireless IMU sensor network)	Miniature IMU sensor unit, wireless IMU sensor network and associated infrastructure and software: • Calibration, synchronization • Application Programming Interface • Body fixations • Sensor fusion algorithms and software
2	Physical activity monitoring	Algorithms and software for physical activity monitoring (aerobic activity monitoring and strength exercise monitoring) based on measurements from miniature body-worn sensors (IMUs and heart rate monitor)
3	Physical activity visualization and patient feedback software	Online and offline user interfaces for visualization, guidance and feedback before, during, and after the execution of aerobic and strength exercises.
4	Electronic Health Record application with web and i-TV interfaces	Maintenance of a comprehensive Electronic Health Record, establishment and follow up of personalized rehabilitation and physical activity plans, platform for educational material.

Table 2 Project milestones schedule

Milestone	Title	Delivery date
M1	Early prototype	December 2009
M2	1st PAMAP prototype	October 2010
M3	2nd PAMAP prototype	March 2012

4. DISSEMINATION APPROACH

Different channels and tools are used for disseminating the project results:

- Web site: The web site provides an overview of the project and is constructed in an interesting way for both technical and non-technical audience. Moreover, a private area (MediaWiki) is attached in order to encourage the technical exchange and communication among the partners. A secure WebDAV has been set up for the

exchange of big files, in particular for supporting the preparation and conduction of the clinical trials.

- Public relations material: A leaflet, a project movie and other audiovisual material has been generated that summarizes the project achievements and is suitable for a variety of uses including exhibitions, downloading from the web site, and making available to potential licensees and customers.
- The PAMAP logo and presentation templates ensure a consistent appearance of the partners when presenting the results and thus raise the visibility of the project.
- Scientific publications in workshops, conferences and journals: Joint papers on general aspects of the project and individual papers of the partners on their own components and know-how have been and will be published. The publications are listed in Section 5.6.
- Demonstrations: Targeted events are fairs (e.g. Cebit, www.cebit.de), conferences (e.g. AALIANCE European Conference, http://www.aaliance.eu/public/), workshops, congresses (e.g. AAL congress) and other fora (e.g. AAL forum). The demonstrations are listed in Section 5.5.
- Economic targets: the exploitation strategy is described separately in deliverable D1.3 and will be finalized in deliverable D1.7 (month 36).
- Clustering: This includes cooperation with external organizations, e.g. within a competence center, other project consortia, or in the context of teaching.
- Pilot trials: In order to recruit participants (10 healthy subjects and 20 cardiovascular and functional disease patients) for the clinical assay, CIC-IT INSERM demonstrated the PAMAP ideas and system to different groups of interest in Rennes, such as hospital services, rehabilitation centers, health networks, sports associations for seniors and disabled people. CIT-INSERM label is a major guarantee of quality and asset for the trust of potential customers, and very important to obtain potential customers confidence. Potential participants (recruited or not according to the exclusion criteria) find this project very interesting and useful for disabled people.

5. DISSEMINATION ACTIVITIES

This section summarizes the already carried out and concretely planned dissemination activities of all partners. Activities related to special events are collected in Table 3.

5.1 WEB SITE, WIKI, AND WEBDAV

The official PAMAP website (www.pamap.org) has an appealing design for both technical and nontechnical audience. The content is updated regularly, in particular all related publications are available, and a news and press tab informs the audience about interesting events. Link statistics show the high number of visitors from the whole world and the interest in the PAMAP project.

The private MediaWiki (www.pamap.org/wiki) is providing all partners with the latest deliverables, meeting minutes and discussion results. It is used as platform for exchanging small documents and ideas, as well as, for documenting the project meetings and other activities of the partners. Moreover, public relations material is available there.

The secure WebDAV serves as platform for exchanging big amounts of data, e.g. pictures or video files. It has been used extensively for preparing the material and media files for the clinical assay. Moreover, it serves as secure platform for storing the data collected during the clinical trials.

5.2 PUBLIC RELATIONS

Pictures, a leaflet, a project movie, a roll-up banner and other public relations material describing the PAMAP project have been developed at DFKI. The material is frequently used for exhibition and demonstration stands. Moreover, an overview of the project PAMAP is included in the website of the department Augmented Vision at DFKI (http://av.dfki.de/projects_recent/pamap) and in the website of the DFKI Competence Center Ambient Assisted Living (http://ccaal.dfki.de). Also the partners Trivisio (http://www.trivisio.com/index.php/randd/projects/pamap) and INTRACOM Telecom (http://www.intracom-telecom.com/en/company/profile/rd/dev_prog3.htm) provide a project summary and a link to the PAMAP website from their web presence.

Several newspaper and IT news articles, radio and TV reports, interviews, and requests for picture and video material show the big impact of the PAMAP technology and the broad interest. See http://www.pamap.org/press.html and http://www.pamap.org/news.html for more information.

5.3 COMMERCIALIZATION

After a successful marketing campaign by Trivisio for promoting the first PAMAP product, the Colibri Wireless Inertial Motion Tracker network (cf. Table 2), several units have been sold world-wide and a big German affiliated group has started to work with the miniature sensor units for tracking human motions. For a detailed description of the product see http://www.trivisio.com/index.php/products/motiontracking/colibriwireless.

An initial assessment of the PAMAP product marketization process and potential business models for commercializing the outcomes of PAMAP has been carried out by the consortium with the leadership of the business partner INTRACOM Telecom. The results are described in deliverable D1.3 (Preliminary Exploitation Plan). The initial plan will be revised and finalized in deliverable D1.7 by the end of the PAMAP project.

5.4 CLUSTERING

- After the DFKI Competence Center Ambient Assisted Living (CCAAL) kickoff in November 2009 in Saarbrücken, collaboration between the involved departments in terms of dissemination and project acquisition has been started. Together with the CCAAL departments, PAMAP has been demonstrated on the 4th AAL congress 2011 in Berlin, Germany. A demonstration at the 5th AAL congress 2012 is also planned.
- Participation of DFKI in
    - Information day preceding 3rd AAL Congress in Berlin, Germany, January 2010.
    - Information day of FP7, Challenge 2, "Cognitive Systems, Interaction and Robotics" in Luxembourg, January 2010.
    - Our common future Congress in Hannover, Germany, November 2010.
    - Partnering-Event for AAL Call "Mobil bis ins hohe Alter - nahtlose Mobilitätsketten zur Beseitigung, Umgehung und Überwindung von Barrieren" in Frankfurt, Germany, December 2010.
- Participation of UTC in:
    - AAL Forum 2011 in Lecce, Italy, September 2011 (invited presentation of the PAMAP project)
- Presentation of PAMAP to a group of business students at the University of Applied Science in Zweibrücken, Germany. Three teams of students developed business plans and analyzed the market possibilities for PAMAP in a one semester project. They identified the unique features of the PAMAP system compared to other commercially available systems. The work is reflected in D1.3 (Preliminary Exploitation Plan).
- Inclusion of academic PAMAP results in teaching activities at the Technical University Kaiserslautern: Inertial motion capture and activity classification algorithms have been picked out as topics in several lectures. Moreover, a bachelor and a master thesis are running on related topics.
- Collaboration has also started with a junior professor of cognitive and perceptual psychology at the Technical University Kaiserslautern about the design of the PAMAP user interfaces.
- Collaboration with the European project Microdress: one of the aims of Microdress is to develop functional cloths, which is of high interest for the PAMAP project, where miniature IMUs have to be worn on the body. The former UNICATUM GmbH, as one consortium partner of Microdress, produces the sensor fixations and suit to be used for the PAMAP clinical assay.

5.5 ACTIVITIES AND EVENTS

Since the beginning of the project, PAMAP is presented and/or demonstrated to project and business partners at the sites of all consortium members.

Table 3 Actual and planned dissemination events from start of project.

Planned/actual date	Type	Description	Addressed audience	Involved partners
January 2009	Talk	2nd AAL Congress 2009, Berlin	Europe	DFKI

September 2009	Talk	AAL FORUM 2009, Vienna	Europe	DFKI
October 2009	Workshop participation	Workshop „Technische Assistenzsysteme in der Rehabilitation“ at MikrosSystemTechnik KONGRESS 2009, Berlin	Germany	DFKI
November 2009	Talk	DFKI CCAAL kickoff, Saarbrücken	Germany (DFKI)	DFKI
January 2010	Talk	Information day preceding 3rd AAL Congress 2010, Berlin	Germany	DFKI
January 2010	Poster	Information day on 6th call of FP7 ICT Challenge 2, Luxembourg	Europe	DFKI
March 2010	Paper and talk	AALIANCE European Conference on AAL, Malaga, Spain	Europe	DFKI/ICOM
March 2010	Demonstration	Cebit 2010, Hannover	World	DFKI
March 2010	Presentation	Presentation of PAMAP at Robert Debré Hospital	Hospital, France	UTC
May 2010	Talk	Presentation of PAMAP in a session dedicated to Novel ICT Solutions for Supporting Healthier and Independent Living. In the context of the 2nd InterMedia Summer School	Greece	ICOM
June 2010	Talk	Colloquium "Autonomie de la personne", organised by the DRRT Picardie, UPJV, Amiens	France	UTC
July 2010	Presentation	GDR CNRS « Journée bionique : Systèmes embarqués pour la santé », Université Pierre et Marie Curie Jussieu	France	UTC
September 2010	Exhibition	Multimedia Conference Rhineland-Palatinate 2010, Ludwigshafen, Germany	Germany	DFKI
September 2010	Workshop and data collection	Bilateral UTC-DFKI workshop in Compiegne, France	PAMAP consortium	UTC/DFKI
October 2010	Demonstration	“Die Nacht, die Wissenschaft”, demonstration of PAMAP to technical and broad non-technical audience in Kaiserslautern, Germany	Kaiserslautern region	DFKI
November 2010	Talk	Our common future Congress, Hannover, Germany	Germany	DFKI
November 2010	Paper and talk	5th European Conference on Smart Sensing and Context, Passau, Germany	Europe	DFKI
November 2010	Demonstration	Seniorenkongress in Mainz, Germany (about 1000 elderly and people, who work with elderly)	Germany	DFKI
December 2010	Presentation	Partnering-Event for AAL Call “Mobil bis ins hohe Alter…”	Germany	DFKI

January 2011	Talk and demonstration	4th German AAL-Congress 2011 in Berlin, Germany	Germany	DFKI
January 2011	Presentation	10èmes journées de la SOFAMEA, Sainte Etienne	Europe	UTC
May 2011	Presentation	2nd ICAMPAM, Glasgow, Scotland	International	UTC
June 2011	Poster	Congrès SFTAG'11, Ivry-sur-Seine	France	UTC
August 2011	Presentation	36ème Congrès de la Société de Biomécanique, Besançon	France	UTC
September 2011	Poster	20th Annual Meeting of ESMAC, Vienna, Austria	International	UTC
September 2011	Presentation	AAL FORUM 2011, Lecce, Italia	Europe	UTC
September 2011	Presentation and talk	Séminaire METIC, Montpellier	France	UTC
October 2011	Presentation + talk	ISMAR 2011, Basel, Switzerland	World	Trivisio
January 2012 (planned)	Demonstration	5th German AAL-Congress 2012 in Berlin, Germany	Germany	DFKI

5.6 SCIENTIFIC PUBLICATIONS

Publications are available on the PAMAP website when accepted. See http://www.pamap.org/publications.html.

The submitted and planned publications are listed in the following:

- JAISE Thematic Issue "Home based health and wellness measurement and monitoring" (submitted in October 2011, joint paper UTC-DFKI)
- ICOST 2012, 12-15/06/2012, Artimino, Italy (planned, joint paper ICOM-DFKI with focus on PAMAP user interfaces)
- IEEE TBME: Special Section on "Mobile and Wireless Technologies for Healthcare Delivery" (planned for March, joint paper UTC-DFKI with focus on activity monitoring algorithms)
- INTERACT 2012, 5-9/09/2011, Lisbon, Portugal (planned)
- Medical journals suggested by CIC-IT INSERM, either on elderly people or rehabilitation, for reporting about the pilot trials (planned submission from December 2012) (non exhaustive list):
    - Journal of Gerontology
    - Age Ageing
    - Medicine and Science in Sports and Exercise
    - Archives of Physical Medicine and Rehabilitation
    - Journal of Sports Medicine and Physical Fitness
    - Journal of Cardiopulmonary Rehabilitation

- Journal of American Geriatric Society