

# CAPSIL

International Support of a **C**ommon **A**wareness  
and Knowledge **P**latform for **S**tudying and  
Enabling **I**ndependent **L**iving

Support Action (Apr 2008 - Mar 2010)  
theme FP7-ICT-2007.7.1

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[www.capsil.org](http://www.capsil.org)



# CAPSIL: Goals

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- To develop a detailed **CAPSIL Roadmap** for EU research to achieve effective and sustainable solutions to independent living
  - Baseline analysis of EU, USA and Japan
  - Then, visioning, gap analysis and implementation details
- To develop a **CAPSIL Wiki** of knowledge blocks. This provides a support for aging research on the diverse problems and solutions available
- To help policy makers in the EU, US and Japan **coordinate research** agendas and funding efforts.



# CAPSIL Consortium Members



University College Dublin,  
Ireland



Harvard Medical School at  
Spaulding Rehabilitation



Queens University Belfast, UK



University of Genoa,  
Italy



Oregon Health  
& Science University,  
USA



Intel Performing Learning Solutions  
(Intel Digital Healthcare)



Waseda University, Tokyo Japan



Imperial College of Science, Technology  
and Medicine, London UK

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# CAPSIL: Work package areas

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- Body Sensor Networks - Intel lead
- Home and Mobile Systems - OHSU lead
- Software and Interaction - Genoa lead
- Clinical & Ethnographic Requirements - HMS lead
- Intervention Systems - OHSU lead
- Strategy - QUB lead
- CAPSIL management - UCD lead.



# CAPSIL Management



Paolo Bonato



Mick McGrath



Ben Knapp



Shuji Hashimoto



CAPSIL Executive



Aaron Quigley



CAPSIL Coordinator

[www.capsil.org](http://www.capsil.org)



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Support Team



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CAPSIL - Home



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**CAPSIL Coordinator News**    Yoga reduces fear of falling in elders    Mar 11, 2009

**Welcome**

## CAPSIL EU Support Action

CAPSIL is funded within the specific programme "Cooperation" and the research theme "ICT" of the 7th European Framework Programme.

### International Support of a Common Awareness and Knowledge Platform for Studying and Enabling Independent Living

The aging of society is the single most important aspect of health care in the 21st century. Many intriguing ICT solutions are being developed within the EU, USA, and Japan for helping older people remain independent longer. However, these solutions tend to be fragmented and heterogeneous. The CAPSIL Coordinating Support Action (CSA) team is a strategic international coalition of University and Industrial partners that already have extensive teams developing hardware/software/knowledge solutions to independent living based on user requirements. All partners of CAPSIL are already members of regional and national centres on aging engaged in the process of helping to establish public policy and international standards. This support action is to launch initiatives, coordinated and disseminated by a series of workshops in the US, EU, and Japan (two per year for two years), with three fundamental goals:

- to develop a detailed CAPSIL Roadmap for EU research to achieve effective and sustainable solutions to independent living based on an in-depth analysis of independent living requirements and the ICT scenarios developed or under development in the EU, as well as the US and Japan (societies where the aging of the population are currently on par or exceeding the challenges that will be found within the EU).
- to support aging research by proposing procedures to incorporate all of these diverse solutions into Wiki entries (CAPSIL WIKI). These CAPSILs will enable researchers and the ICT industry to get the information they need to quickly and easily test solutions for prolonging independent living within the many and various





# Working CAPSIL entry point structure

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From internal usage models and suggested design patterns

- General Description
- Issues, problems or challenges being addressed in this area
- Scientific Basis
- Existing Solutions
- Research Projects
- Commercial Players
- Funding/Procurement

- Commercial
- Business Models
- Standards
- Gaps
  - Gaps in technology
  - Gaps in the basic science
  - Gaps in operation
  - Gaps in implementation
- Future Vision



# CAPSIL Wiki (a)



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## Main Page

This website represents a catalogue of solutions in the form of Wiki entries (CAPSILs) which describe interoperable **ICT** solutions to clinical requirements for **Independent Living** that can then be deployed throughout the **EU**, **US**, and **Japan** for verification of the systems and testing of clinical hypothesis of new and proposed research programmes. Each CAPSIL can act as an instructive entry point for a range of interested parties in independent living research, development and deployment.

These CAPSILs will enable clinicians and other care-givers to get the information they need to quickly and easily test solutions for prolonging independent living within the many and various heterogeneous communities throughout the EU, the US, and Japan. The CAPSIL's will be moderated by an international collection of both ICT and clinical researchers initially composed of members of the [CAPSIL team](#), but eventually expanding well beyond.

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### Getting started

- Please note that this Wiki does not allow anonymous edits any longer. Please [register](#) or [log in](#) in order to create new or edit pages.
- [Configuration settings list](#)
- [MediaWiki FAQ](#)
- [Aarons Sandbox](#)
- A useful [MediaWiki Cheat Sheet](#) can be found here

## CAPSILs

[\[edit\]](#)

[\[edit\]](#)



# CAPSIL Wiki (b)



## CAPSILs [\[edit\]](#)

### Types of CAPSIL [\[edit\]](#)

- [Descriptive Capsil](#)
- [Linking Capsil](#)

### Capsil Workpackages [\[edit\]](#)

These CAPSILs relate to project workpackages and as such are [Linking Capsils](#) which may be useful entry points by contrast to the many detailed [Descriptive Capsils](#) which follow.

- [WP2 Body Sensor Networks](#)
- [WP3 Home and Mobile Systems](#)
- [WP4 Software and Interaction](#)
- [WP5 Clinical and Ethnographic Requirements](#)
- [WP6 Intervention Systems](#)

### Wellbeing & Disease [\[edit\]](#)

- [Congestive Heart Failure or CHF](#)
- [Stroke](#)
- [Obesity](#)
- [Dementia](#)
- [Depression](#) - suggestion NC

### Prevention & Intervention [\[edit\]](#)

- [Falls Prevention](#)
- [Stroke Rehab Management](#)
- [Weight Management](#)
- [Cognitive Training](#)
- [Social Connectedness](#)
- [Activity Monitoring](#)
- [Driving Assistance](#)
- [Robotics](#)
- [Continence](#) - suggestion NC

### Technologies [\[edit\]](#)

- [Sensors](#)
- [Algorithms](#) (Software algorithms and data-mining techniques for sensors in healthcare)



# CAPSIL Wiki (c)



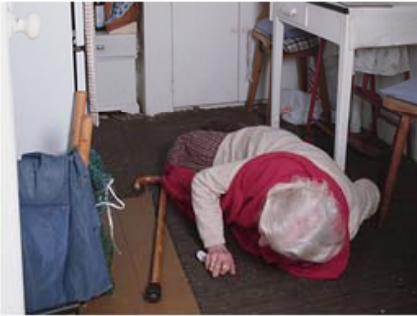
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## Falls Prevention

Falls is one of the three geriatric giants and is a significant causes of injury in the elderly. Approximately 28-35% of people aged 65+ fall increasing to 32-42% for those over 70 years of age experience a significant falls event. The frequency of falls increases with age and frailty level. Falls have a significant cost associated with the event. These costs can be assigned to two categories: Direct healthcare costs such as in-hospital treatments, medication, utilization of services such as rehabilitation etc. Indirect cost through societal impact e.g. loss of economic productivity by family members who must devote time caring for a faller. The [WHO](#) report on Falls reports [1] the average health system cost per single fall injury episode in the 65+ age group was \$1049. Among the different costs, hospital inpatient services where the most significant costing accounting for more than 50% of the total overall costs.

The underlying [risk factors](#) in falls are varied and in many cases the these factors are inter-related.



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SEVENTH FRAMEWORK PROGRAMME

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## Overview of activities to date (a)

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- Development of website, RSS feed, flyers, ideal-ist etc.
- General assembly and consortium working meetings, London (Apr '08), Tokyo (Jul '08), Lyon (Nov '08), Washington DC (Mar '09)
- Apr - Dec, Baseline and Gap Analysis
  - Knowledge capture to internal Twiki
    - eg. WSN vs WBSN, commercial sensor network platforms review, radio protocol and sensor review, home intervention system review, fifty projects reviewed on data acquisition, management and processing, 120 studies evidence reviewed on intervention systems...
  - Development of Usage Models



# Overview of activities to date (b)

- CAPSIL Wiki

- Draft version 1 - Dec '08 inc.

- Social Connectedness (40 projects, 70 refs etc.)

- Falls Prevention

- Stroke Rehab Management

- Weight Management

- Cognitive Training

- Activity Monitoring

- Driving Assistance

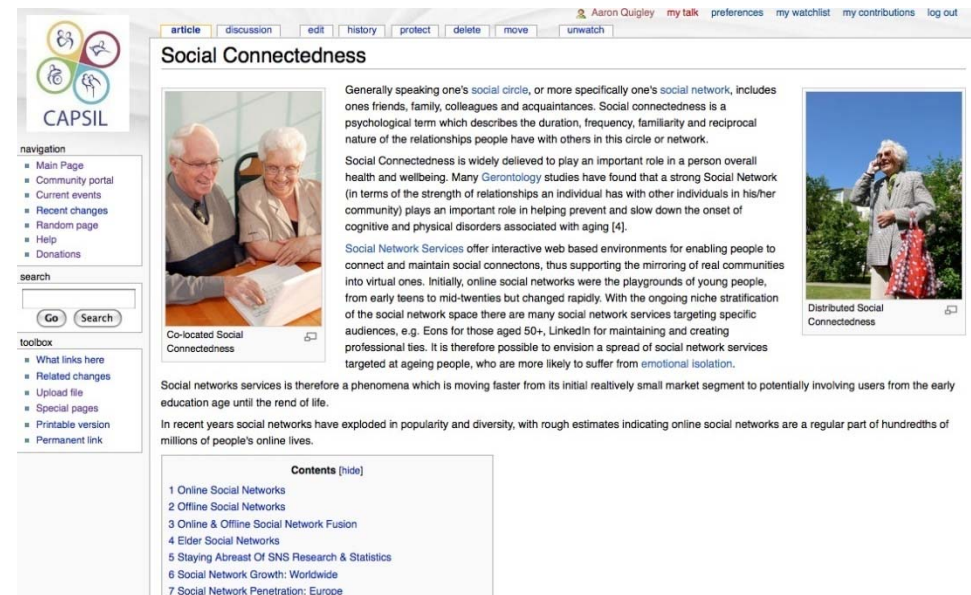
- Robotics

- Vision: Tom's Story

- Work package roadmaps

- Draft versions 1 - Jan '09

- 1st Consolidated roadmap, presented later today.





# Overview of activities to date (c)

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## • Consortium meetings with stakeholders

- London - **Researchers**, Imperial College London
- Tokyo - **Researchers**, Women's Medical University-Waseda University Joint Institution for Advanced Biomedical Sciences; **Funding agencies**, National Institute of Information and Communications Technology (NICT) and the Japan Science and Technology Agency (JST); **Telecare providers**, Yamatake Co.
- Lyon - **Researchers**, INSA Lyon; **Telemonitoring procurement agencies**, European Centre for Connected Health

## • Outreach

- Attended and material disseminated at FP7 Consultation Meeting, Brussels Apr '08
- Attended and CAPSIL material disseminated at 7th World Congress on Aging and Physical Activity, Tsukuba Japan Jul 08
- Attended SENIOR project workshop on UbiComp, Brussels Sept '08
- Attended and CAPSIL material disseminated at four networking sessions ICT 2008, Lyon France Nov '08
- Panel members at Health@Home session, Lyon France Nov '08
- ePal, Senior and AALiance coordination meeting, Brussels Jan '09.

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End

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