



# m·power

## What is MPOWER?

Middleware platform for eMPOWERing cognitive disabled and elderly – is a IST project running from October 2006 to March 2009. The project objective is to develop a middleware platform supporting rapid development and deployment of services for cognitive disabled and older people. This is accomplished through an iterative user driven process. The project follows an agile approach where all activities are planned and performed in short iterations.

## Partners:

SINTEF (NO)  
Ericsson Nikola Tesla (CR)  
ARCS (AT)  
PIV/NCDR (NO)  
TB-Solution (ES)  
CMUJ (PL)  
UCY (CY)  
Dimension Informatica (ES)

## Deliverables from

### MPOWER:

Scientific and popular science articles  
Project reports  
Work-shops  
Middleware components  
Reference Architecture

## Project web-page:

[www.mpower-project.eu](http://www.mpower-project.eu)

## MPOWER goes AGILE

Ole Martin Winnem (SINTEF)

The MPOWER project had kick-off meeting early October in Trondheim, Norway. One of the outputs from the kick-off meeting was the agreement to follow an agile approach, adapted to the framework of an EC research project. The project is running planning and summing up sessions every 4 weeks. Each sprint is divided into 4 periods with status meetings, re-scheduling and problem solving. So far four types of sprints are running – technical; user needs; administration; dissemination. At the end of a sprint, the results are evaluated and a new sprint leader is appointed out to lead the next sprint. So far the experiences have been good. The project is producing results and all partners are dedicated to the MPOWER objectives. Problems are identified and solved at an early stage.

## Partner replacement

Ole Martin Winnem (SINTEF)

As a first challenge in the project, a partner decided to not access the project contract. This initiated a search for a new and compliant partner. The project partners concluded to proceed with Dimension Informatica (DI) from Spain. DI was accepted and entered the project November 1<sup>st</sup> and the project was not delayed due to the partner switch. DI has performed very well since entering the project and is now the technical sprint leader for the January sprint.

## User Needs

Torhild Holthe (PIV/NCDR)

User needs for older people and people with dementia was elicited in four European countries; Austria, Poland, the Netherlands and Norway.

The methodologies used were selected and adjusted to the socio-economic and cultural background present in specific countries. Older people are NOT a homogenous group, and the user needs may vary on an individual level. However, general view of needs emphasized by users from

different communities' shows that there are many common problems, even if the priorities are ranked in different order.

One of the key issues expressed by older people and their carers is trust, safety and security. Both experts, family carers and older people seem to agree that it is important to feel safe at home, and if something irregular happens there must be possible to quickly get in touch with people or emergency services. Next, independent living is something that all the respondents highlight as one important quality of life.

The knowledge gained from older people, from family carers and from experts was elaborated into 18 different problem scenarios and related activity scenarios, providing ideas on how to address the problems identified within the problem scenarios.

## System under design

Ståle Walderhaug (SINTEF)

The core of the MPOWER Architecture is the Middleware Services. These services can be reused by application developers to speed up the development process and improve the application's conformance to both architectural styles and healthcare information standards.

SINTEF have long experience using a Model-Driven Software Development (MDSD) approach from other EU projects including Modelware, MUSIC, MADAM and ModelPlex. In the MPOWER project, the services are modelled in UML allowing for model transformation and code generation. The result is a formal specification of services that can be transformed to be used at any technological platform.

The specified services are based on the user needs that were defined as *features*. At the time of writing, the services are being specified in UML. The services are being aligned with the IBM Reference Architecture for

Service Oriented Architectures and ongoing work in the OMG/HL7 HSSP project. The preliminary set of services includes:

- 1) Communication Services
- 2) Information Services
- 3) Management Services
- 4) Sensor Services
- 5) Security Services

Each group of services is comprised of five to ten functional services such as "NotificationService" and "CalendarSettingService".

The MPOWER Architecture also provides guidelines that support middleware service developers in developing new middleware services, and application developers in using the available middleware services.

## Partner experience

Miroslav Koncar (Ericsson)

MPOWER has been a very new and exciting experience for Ericsson Nikola Tesla so far, especially given the fact that this is the first EC Framework Programme project that we are participating in. Our company and our team has been given the opportunity to understand better the needs of elderly people and dementia related conditions so that together with our colleagues and partners we can more efficiently apply our system integration and ICT standardization expertise into development of the state-of-the-art open platform middleware solutions. The diversity of people involved in the project, in terms of our backgrounds, countries and markets we are active on, provides us with a very good starting point to better understand the needs and challenges for our deliverables and target end users. We are looking forward to the next stages of the project, especially the release of the first implementations and testing the platform capabilities in the real life settings and pilot environments.