



Intuitive Interaction for Everyone with Home Appliances based on Industry Standards



Accessibility at Home



Many people are excluded from using modern technologies at home and in the public, and cannot play a full role in their society. This is particularly true for vulnerable users, such as, elderly people and people with cognitive impairments.

i2home is tackling this by implementing a standards-based technology - the **Universal Remote Console (URC) Standard** - for interacting with a large number of main-stream devices and services. The URC approach is more appropriate for the digital home than other approaches because it allows for substitutable - "pluggable" - user interfaces that are tailored to the needs of the individuals. High significance is given to the aspects "accessibility" and "intuitiveness".

Although focusing on the needs of these special user groups the results of the project are not only limited to a reduced segment of the population, but can also be applied to topics like **Home Automation, Intelligent Environment and Ambience, Automotive** and others.

i2home Main Objectives

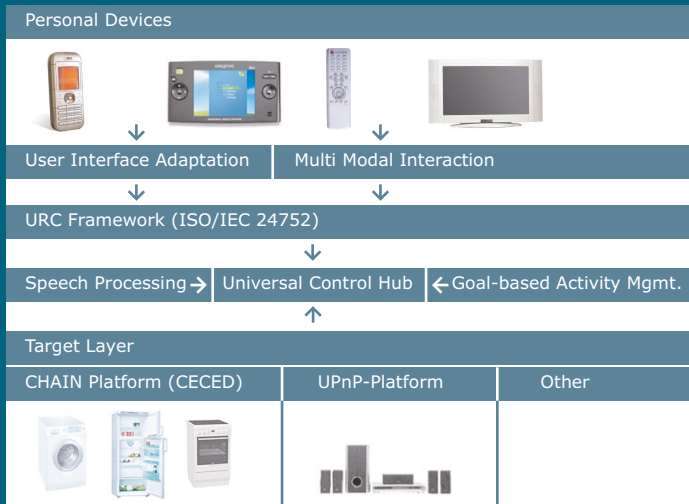
- > To make the digital home accessible to all, namely elderly and mildly impaired or disabled people;
- > To create and promote an open market for pluggable user interfaces in the digital home;
- > To develop technology that empowers citizens to play a full role in the society.

HOW?

- > By following an approach that centers on the users and not technology;
- > By using multimodal access devices such as smart phones, PDAs, TV and speech driven dialogue systems;
- > By adding task guidance, shortcuts and other types of support not contained in already existing user interfaces, based on recognized international standards for Task Modeling;
- > By providing a highly flexible application framework, the **Universal Control Hub (UCH)** that allows to easily and economically integrate all types of target devices and (Universal) Remote Consoles;



Conceptual model of the i2home platform



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i2home will provide an open user interface platform for the digital home based on the Universal Remote Console standards (ISO/IEC 24752).

In this architecture, a standards-based open hub component serves as a middleware for connecting appliances and services - "targets" - and user interfaces - "controllers" (the UCH).

- > Anybody can write their own user interface (the URC) for controlling any networked home appliances from any vendor;
- > A target can be any kind of device or service (including iCal and skype, for example);
- > Intergrated targets are ready for the user interfaces of tomorrow: natural language interaction, wii®-based interaction, multimodal interaction.

By following the "User Centered Design" and a combination of "Design for All" and "Adaptive Design" methodologies, user interfaces are designed based on users' needs rather than deploying one-size-fits-all approaches.

i2home Potential Impact

Strategic Impact

- > Enable a wide audience to benefit effectively from digital home technologies;
- > Prevent the exclusion of a large population from technological advancements that will become the standard way of living in the future.

Technical Impact

- > The proposed solution is based on an innovative architecture that secures a bidirectional communication between virtually any kind of controller and a mixture of devices and software services.
 - > Examples for controllers: cell phones, PDAs, TVs and their remote controls, PCs, assistive technology devices, dialogue systems based on natural language interaction, etc.
 - > Examples of targets: stoves, fridges, lights, doors, washing machines, security systems, heating, dryers, phones, TVs, consumer electronics, services such as calendar, video conferencing, etc.
- > The project will demonstrate a new approach to pluggable user interfaces for mainstream targets in the digital home.

Scientific Impact

The i2home research will focus on two main areas:

- > Major contributions to the URC eco-system including a mature technical solution based on the URC standard and architecture;
- > Design, implementation and testing of specific user interfaces based on vulnerable users with mild cognitive disabilities, partially-sighted and blind persons and elderly.

Economic Impact

Being very positively evaluated at its first official review in December 2007 the i2home consortium is outlining its business model and strategy for the exploitation of the project results, already at a very early stage of the project. Hence, we are interested in discussing cooperation models with industry partners of different kinds. Please contact us if you should be interested in further information about how collaborating with us.

Funded by the eInclusion, the i2home project is part of a major European effort in providing accessibility for all to the digital home of the future. This project will enable the European citizens to play a full role in the society.



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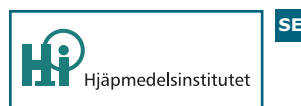
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