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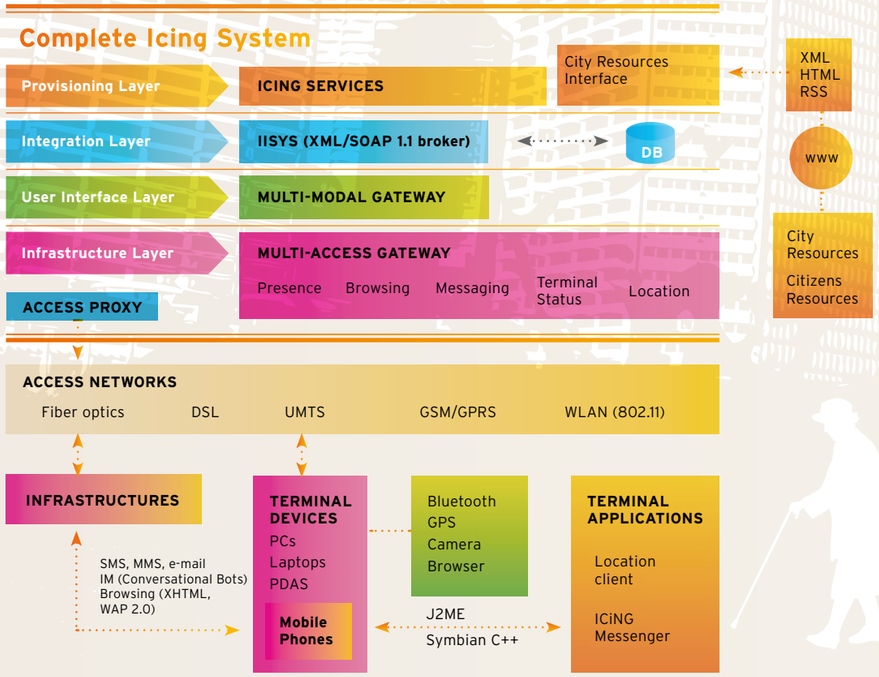
This project is supported by funding under the Sixth Research Framework Programme of the European Union

ICiNG will build on the combined experience of three major European cities: **Barcelona, Dublin and Helsinki** to improve the citizens' access to a range of relevant technology enabled services.

ICiNG addresses the research and development of the **'Sensitive City' concept**, facilitating the opportunities for an ICiNG city to use relevant technologies to become more sensitive to the citizen and environment. Using **mobile technologies** and location based services, ICiNG will **enhance public service delivery** in support of urban communities.



I. Introduction

The main objective of the project is to create a social platform that allows a bi-directional and multi-modal communication between the Public Administration and urban citizens. This leads to the creation of innovative m-Government services, which reduce response times, influence process planning, and enhance strategic city management.

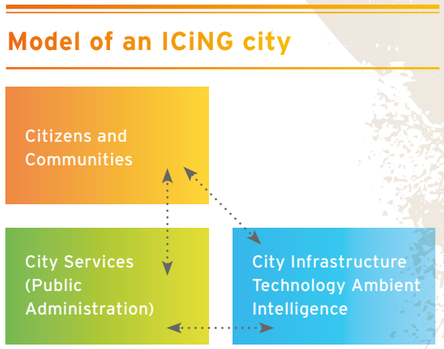
ICiNG will encourage citizen social networking and e-communities of interest in the city through the provision of a channel to collaborate, help and share information in a customised manner adapted to citizens' needs.

The proposed ICiNG solution will be able to read the "main indicators" relevant to that application in that city, and to process them in an 'intelligent' way.

Test beds will be implemented, engaging with real users in three 'City Laboratories' placed at strategic areas of regeneration in three European cities: 22@ in Barcelona, Grangegorman in Dublin and Arabianranta in Helsinki.

This could help to create a dynamic model of the city that helps to take the city's pulse and consistently, to carry out the appropriated acts towards citizens (i.e. sending issue-relevant information) or towards the city (i.e. changing public service process delivery).

The results of the project are services that combine the best of e-Government concept and the best of social networks, in such a way that it could be possible to offer multi-technology access (mobile phones, web enabled PDA, PC, touch screens, etc), multi-modal (images, audio, voice, video, etc) and more seamless solutions.



II. Social aspect and usability studies for m-Government services

The project follows a user centred design approach for researching the impact of social and human factors on the creation of "e-communities". This methodological approach is followed in order to make sure that the ICiNG services are designed according to the user needs.

A user co-design approach is followed which allows a particularly early stage participatory design; where the end-users, stakeholders, and other specialists can collaborate to engage with the design and development process so that users participate also in the concept-building i.e. defining what the eventual product will be, not just testing affordance and usability.

The specific value of co-design is that it engages users and stakeholders at the early stages of the design process and that it looks at users as actors in their social context. This means reframing technology design as a societal innovation process.

III. Architecture of the Platform

The project uses a layered Service Oriented Architecture (SOA), from the physical infrastructure layer, required for citizen interaction, to the provisioning layer, which can provide decision support at city level.

This implies the challenge of integrating and combining existing technologies (access networks, devices, interaction methods, etc) to work towards a more ambient intelligent environment that allows for the creation of accessible and context adaptable "intelligent" services.

The ICING platform, when completely implemented in a city, can offer m-Government services everywhere in that city, at every time, to everyone who chooses to use it, and often in a customised way.

UM scenario illustration Matti Arvilommi / TAIK

IV. An example of an ICiNG Service

Urban Mediator makes it possible for citizens to create and share location-based information about their neighborhood, set up their own topics of interest and process the available information through various online tools. Urban Mediator can also be used as a channel to relay location-based information to citizens and ask for their participation in reporting issues.

Urban Mediator also mediates information coming from various other interaction channels, both citizen and city-based ones. This makes it possible for both cities and citizens to receive official as well as non-official information about urban areas. Information shared by citizens, for example questions or complaints related to a particular location, will also be accessible to relevant city authorities that could identify significant issues and react to them, working towards their resolution.

...Lilja is walking in the park and notices trash on the ground. She takes her personal mobile device and creates an issue/point related to this particular location. Other citizens can further contribute to Lilja's point by attaching their own comments, pictures, or URLs to existing online information. Interested city authorities can also choose to have access to information gathered through Urban Mediator that are relevant to their own responsibilities. A reply message would then inform users that this issue has reached the city authorities.