ICT-PSP Project

LIFE 2.0
Geographical positioning services to support independent living and social interaction of elderly people

ICT-PSP-270965

WP1 –Analysis

D1.1 Ethnographic Analysis
Executive summary and Introduction

Executive Summary

This deliverable presents the ethnographical work conducted in LIFE 2.0 with older people and key members of their social circles in Barcelona, Joensuu, Aalborg, and Milano, respectively, in the framework of the LIFE 2.0 project, and its results. The activities were undertaken in the first months of the project, and our approach has been to conduct ethnographically inspired methods, to help the design of LIFE 2.0 services to be more grounded in people's daily needs, as older people are 'extraordinary' users – although one might claim that all users are special – mainly due to age-related changes in functional abilities and having been less active with Information and Communication Technologies (ICT) than other user groups. The ethnographical activity was grounded in, and extended, previous one with older people and their social circles, and the results deepen previous understanding of older people as ICT users and address geo-related services.

The deliverable results are presented in three sections, first summarising the main results in each of the four cities under a common structure, followed by a more detailed account per site, while further information is provided in appendices. The results of the first of these sections are presented through three sets of tables, *Methodologies and Fieldwork*, *Results related to LIFE 2.0 technologies and services*, and *Life Stories* accounts aiming to capture the real context of use and methods per city, summarising the main results from the perspective of developing community and geolocalised services which is the main goal of the project, and giving a lively, first-hand, account to inspire design decisions, respectively.

The four cities environments, whose description starts each of the cities work detailed account, are quite different, in size, in weather conditions, in services provided, and, of course, in people. The different environments are described in detail, picturing the differences from Joensuu older people, living in houses isolated from the urban centre, where harsh winter makes the support for daily life important, to, for instance, Milano, where activities outdoor, and quality of urban, social life is an important motivation. The ethnographical work has involved over 120 older people, with a majority females, and comprises observations, interviews, diaries, workshops, discussed in the methodological section of each city, which also describes different presentation approaches (diagrams, synthetic pictures, text, and tables); different approaches continue different working traditions, which are important for communication with users, and with communities. All could share a technical label of "quick-and-dirty ethnography" used in the scientific literature related to those issues.

The deliverable discusses the main implications for the design of the LIFE 2.0 platform and its services. The first one is that the services should have **socialisation** as key motivation, as key issue, and their implementation should support social use too. Our older users feel the need of an active ageing where socialisation is a key part and the services should address it, and despite problems and changes that appear, or even due to them, there is a bigger need to address them. Another aspect is that the individual use of ICT of some other age cohorts is not a valid paradigm, and services implementation might or should support social use. While this aspect is common to the four countries, there are cultural differences in which social uses should be supported, and customisation of the services to different needs is an important requirement. The second implication is that services should support **worthwhile use**, providing ICT support for the development of activities that are important for older people in their daily lives, as there are plenty of things that they do everyday, contrary to stereotypes. The deliverable gives an account of these activities; as they differ

locally, LIFE 2.0 services should take this into account, allowing for customisation. A third aspect is related to supporting **independence**, both in the sense of supporting independent use of ICT, and supporting independent life. In the first sense, independent use includes deployment considering peer-to-peer help – as relatives do not usually provide it, although they are a source of motivation -; living labs, community centers seem to be key elements for the uptake. In the second sense, services supporting independent life need to be customised, as the specific daily life activities differ from place to place. Finally, anther element to be taken into account is made of the **barriers** to ICT use, where our study has identified an important concern about cost – although new devices are passed from relatives to older people when novelty wears off, creating a path for likely use of smart devices by older people -, and identified some interaction difficulties, where human strategies that might develop should be taken on board.

The deliverable was developed highly in parallel with D2.1, defining *personas* and *scenarios* arising from and connected to the ethnographical work, as a way of turning it into more concrete sources for the design of LIFE 2.0 platform and services: personas are sort of archetypal users, while scenarios provide use cases in a sort of abstract way. D1.2 takes into account as well the use of ICT, and the experience of technological partners, to define requirements of the platform and services based on both deliverables results. These services are oriented to support the majority of most important use cases uncovered by the ethnographical work and its analysis.

Section 1   Introduction

1.1   The goal of the deliverable and its context

This deliverable presents the ethnographical work conducted mainly by the LIFE 2.0 partners in Barcelona, Joensuu, Aalborg, and Milano, respectively.

There is growing awareness in Human-Computer Interaction (HCI) that widely used research methods for eliciting user requirements such as surveys do not capture well enough the fine details of the user experiences with technologies. Thus, the systems developed are less useful to the users than they could be. This is (or should be) crucial in developing new services based on ICT for older people, who are 'extraordinary' users – although one might claim that all users are special –, mainly due to age-related changes in functional abilities and having been less active with ICT than other user groups, such as young and adult people. Also, despite an increasing number of studies, relatively little HCI research with them has been conducted so far.

A current approach to the design of new technologies is to conduct ethnographically inspired methods, which should help new technologies be more grounded in people's daily needs. This has been the approach of the LIFE 2.0 project, and this deliverable presents the activities undertaken in the first months of the project and their results.

1.2   The ethnographical activity and the content structure of the deliverable

Ethnographically inspired activities with older people have been carried out in Barcelona, Joensuu, Aalborg and Milano. Although the focus of these activities have been on older people, key members of their social circles, who are relevant to the platform and services of this project such as caregivers and members of the local social services, have partaken in the research.

Regarding Aalborg, Joensuu and Barcelona, the activity has been grounded in, and extended, previous ethnographical activities with older people and their social circles. This is methodologically relevant, as ethnographical work aims at capturing ICT use during extended periods of time, and the relatively short time available during the initial phase of the project might offer partial or distorted results. The results presented deepen previous understanding of older people as ICT users and address geo-related services, which have been largely overlooked so far. Thus, these results are expected to be useful for guiding the design and development activities planned in the LIFE 2.0 project.

The results of the activity are presented in this deliverable in three sections. The first section summarises the main results of the ethnographical activities conducted in the four cities, with a quite common structure. The second section gives a detailed account of each site. Further information related to the four sites is provided in appendices. We summarize next the different sections of this deliverable.

The first section summarises the main aspects of the activities carried out. We do this in a way that is reasonably self-contained, and of reasonable length to communicate the results among partners and to people outside the project. The results are presented in three sets of tables. The first set is *Methodologies and Fieldwork*. They aim to give a glimpse of the types

of activities undertaken, and the approach adopted. We consider that it is very important that the readers of this deliverable understand the scientific grounding of the different results. The second set of tables is *Results related to LIFE 2.0 technologies and services*. They aim to map the results of the ethnographical activities onto issues strongly related the intended goals of the project, and this should enhance the readability of this deliverable by other partners. The third set of tables provides *Life Stories* accounts. A goal of ethnography in HCI is to capture the real context of use and give a lively, first-hand, account of it that can inspire future design decisions; in this set of tables, we attempt to provide lively accounts with a common structure. The tables are provided for each site.

As intended in the project, we are addressing different cultural contexts. Therefore, there might be substantial differences and the ethnographical work should help us to identify them clearly. Thus, we have chosen to present the results in a way that makes it explicit the different contexts without blurring them, as it might be limit the understanding. This applies to the tables of the first section, and to the whole of the second one, where the detailed results are presented from the perspective of the different sites. We discuss next the content of the second section of this deliverable.

Each of the four sites reports starts by describing the context: the different cities and regions, the different situations of older people, services, and so on. This is followed by a methodological section: ethnographically related approaches are quite varied, and, as indicated earlier, the work was usually continuation of existing work, and it seemed important to reinforce this aspect to give the accounts with a higher fidelity to the daily use the reports aim at capturing. There are also different traditions of presenting results – which in most cases are shared with participants – and this is also respected. We include conceptual and relational maps, images with concepts, pictures containing a long caption explaining what each aims at capturing, 'life' stories with a lot of detail. All this should help the reader, who wishes deeper understanding of the ethnographical results, to go at a quite significant level of richness.

It is worth noting that there is a common structure in the reports of the four sites. All of them contain three sections we consider mandatory: context, methodology and results. While the methodological approaches are different in some aspects, all of them share key ethnographical elements – i.e. first hand observations and conversations, and the common ones of the ethnography could be labelled as "quick-and-dirty ethnography", due to time restrictions, rather than classical ethnography, which entails years of work. All the partners have also used diaries, which is a widely used technique in recent HCI research.

1.3   Some implications for designing the LIFE 2.0 platform and its services

This subsection has been added after the results of the first review of the project, which requested the project to analyse more the results from a common perspective, beyond their rich diversity, and to strengthen the connection between the work of D1.1 and D2.1 and the technical and functional requirements of LIFE 2.0 platform and services.

Translating ethnographical insights into design implications is an open issue in HCI, and it is subject of a current rich debate – a lot of references could be given here. In this section we do not attempt to reduce ethnographical insights to a closed list of 'requirements', because this would decrease the value of the method and its contributions; this section draws some relevant implications from the results in order to help designers and developers to identify

some key issues which should be addressed, and to provide them with inspiration for doing so.

1.3.1 Social rather than individual use of technology

Common to the four sites is the older people quest to avoid being or feeling isolated. Socialization in Joensuu, where older people spend a long time in their houses, distant from each other and the city centre, and where the weather, especially in the long winter, plays havoc with travel and increases safety concerns, is related to keeping the social networks alive in a changing context. By contrast, the milder weather in the South of Europe encourages outdoor activities, which result in 'physical' socialization; and similarly in Aalborg, where the city environment supports this type of activities, despite weather issues.

On the other hand, ICT use should support face-to-face contact and never replace it. The favoured social use quite often involves direct socialisation when using ICT (e.g. using computers in a group); otherwise, ICT is intended to foster and increase communication with relevant members of their social circles (e.g. receiving an e-mail from children).

LIFE 2.0 services should contemplate this issue as a key aspect: socialisation is an important motivation on which services should be based; the implemented services should support direct social use; services should take into account the social networks.

The services implementation should be able to allow "customisation" for the different sites, contemplating, for instance the differences between Joensuu and Barcelona, which, on the other hand, might be representative of different environments in those same countries or other ones.

1.3.2 Not for the sake of it! Worthwhile use

Beyond socialisation, which is a worth use for older people, and contrary to stereotypes of older people 'killing time', their activities are numerous, ranging from buying food and cooking, through holiday trips and taking care of grandchildren and ill partners to meeting up their friends in community centers. ICT should support this activity and be part of it in a friendly way. Older people do not use ICT for the sake of using them. Instead, they use ICT only for conducting worthwhile activities, which are related to their interests and hobbies, and those that allow them to help relevant members of their social circles (e.g. children).

LIFE 2.0 services should support the development of the main activities (beyond socialisation) identified as common in the ethnographic work. Specific activities are different in Joensuu, in Milano, etc. and services should support customisation.

1.3.3 Being independent and achieving independence

Older people have been independent throughout their lives, taking responsibilities in quite different aspects of their life (family, jobs, social life). When ageing, they seek to keep independence in ICT use, trying not to rely on anyone else to use them as normal daily users – specialists might be called in as in other aspects of life (as for car repairing, for instance) - despite barriers to use they might find. This common thread appears across the four countries. Beyond the intention, achieving the goal of being independent ICT users comes mainly from peer-to-peer support, and seldom from close relatives, such as grandchildren or

children, although they are a source of motivation. This support is usually found in community centers, and older people prefer the human contact they find in these centers to reading books or tutorials.

LIFE 2.0 services should be implemented supporting independent ICT use; and the introduction strategy should involve community centers, living labs, so that peer-to-peer support in the introduction of the services is generated – rather than instruction manuals.

A second aspect of independence is that services should support independent life – the meaning now being disjoint of ICT use; this independence has some cultural differences. Whilst in Finland independence is intended for good, safe and meaningful everyday (harsh winter, living far away from the city centre), in Italy, Denmark and Spain, independence is much more related to improving the perceived quality of life of older people. LIFE 2.0 services should include peer-to-peer support, which might be more difficult to provide to older people living in Joensuu than those living in Barcelona and Milano, however. The transport issues raised by older Finnish people should be taken into consideration; traveling might be an important barrier for the community centers strategy. Peer-to-peer support related services should be taken into account in LIFE 2.0, both in the ICT sense, and in the real meaning of supporting an active ageing.

Establishing human contact and working with proxies has turned out to be very effective for setting up a user group in four countries, developing ethnographical research with them over 6 months, and engaging them in other on-going activities of the LIFE 2.0 project, such as geocaching in Aalborg (Denmark), training activities in Barcelona (Spain), and workshops for devising scenarios of future technology use in the four countries. This strategy should be followed upon throughout the whole project.

1.3.4 Some barriers to ICT use

The participants in LIFE 2.0 are active older people. One should not ignore the declines in abilities they have got because of ageing, especially the cognitive ones, when implementing the services, but always within the framework of an inclusive strategy. The Apple i-pad presented older people in Joensuu with some interaction difficulties, when in Denmark, older people used it with few problems, despite considering the technology far from their capability. In Joensuu, trembling hands hindered the interaction raising the question whether we were facing a lack of accessible design. However, it might well happen that, just as older people put their reading glasses on to use their 'small' mobile phones, they develop their own strategies to use tablet PCs and therefore, overcome accessibility barriers which, of course, should be considered and addressed while designing the technology. This combination of human and technological barriers should be addressed when designing LIFE 2.0 services.

A common thread appearing in our study is that cost of the technology/services is one of the barriers for their uptake amongst the older population, as they show an important concern. Human strategies might support the uptake along a project such as LIFE 2.0, as devices (such as mobile phones) are passed from children and grandchildren to older people – this is probably going to happen with current smartphones and it might happen as well with tablets such as iPad; it is less clear for computers -. Services cost is another issue that should be taken into account for sustainability.

1.4 The deliverable results and immediate perspectives within the project

The findings discussed in the following sections come from a wide array of different contexts, and have involved a substantial amount of older people and their social circles, during different lengths of time; the methods and techniques are quite diverse, complementary, and mostly related to existing or previous activities. This work seems to provide an appropriate grounding for the findings.

Let us turn now, to the more immediate role of this report within the LIFE 2.0 project. On one hand, the results of the ethnography are going to be used into turning them into a way more readable to designers / technologists, both a little bit more systematic and visible, in the deliverable 2.1, where most of the partners involved in this deliverable have been working in parallel with the preparation of this deliverable. The deliverable defines scenarios, and personas for the initial use in the project. As explained in more detail in D2.1, personas were introduced to make more meaningful the ethnographical results for design; the approach in D2.1 is to define personas as archetypal users, while keeping the concreteness usually associated to them. The personas in D2.1 are closely associated to scenarios, a detailed presentation of what in other contexts might be called use cases and there is a matching between personas and scenarios. As indicated earlier, the personas and scenarios of D2.1 were prepared in parallel to the ethnographical work and analysis. The implications for design in subsection 1.3 appear formulated in a more concrete way in the personas and scenarios of D2.1. Other deliverables benefit from D1.1; for instance, D1.2 contains the technologies used by older people (and how they use them) from D1.1. And the services and platform definition of LIFE 2.0 draws on the implications of D1.1, and on identifying which scenarios are more relevant, more common to the sites, and allow customisation for prioritizing the platform and services implementation.