

Enabling and improving the use of mobile e-services

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ABSTRACT

The present paper is a workshop proposal for Mobile HCI 2005, addressing ongoing standardization issues for user education and setup procedures, enabling and improving the startup and use of mobile e-services.

General Terms

Human Factors, Standardization.

Keywords

e-Inclusion, Human Factors, Terminals, Mobile, Services, Guidelines, MMI, Out-of-box-readiness, User experience, User Interface

1. INTRODUCTION

ETSI is the European Telecommunication Standards Institute, covering various aspects of Information and Communication Technologies (ICT). ETSI is one of three official standardization "arms" recognized by the European Commission. It is the "parent" of such standards as GSM, ISDN, UMTS, DECT, et cetera. One of ETSI's Technical Committees (TCs) is TC Human Factors, responsible for all user experience aspects of ETSI standards.

Two ETSI Guides (EGs) are currently being produced by ETSI Technical Committee Human Factors, Specialist Task Force 285, during March 2005- September 2006, in close collaboration with the mobile ICT industry.

The intended users of these EGs are user experience and interaction design professionals, developers of mobile terminals, services and applications, mobile network and system providers, terminal approvers and standard writers and developers.

Information and communication technologies (ICT) play a key role in the everyday life of many people. New applications and services are increasingly used to perform necessary and entertaining tasks. Connectivity and interoperability between telecommunications networks, personal computing, the Internet and ever-smarter mobile devices and services offer enormous potential for improving life, if used as intended and used by *all*. Users who cannot understand and learn how to efficiently use their devices, services and integrated or additionally offered applications will be perpetually excluded from the *e*-Society.

Ensuring access to mobile communication for all is a common goal of vendors, operators, service providers, user associations, as well as policy makers, often talking about the creation of the *e*-inclusive information society.

In the past, the question of the “digital divide” defined the “haves” and “have-nots” mainly in economic terms, dividing those who can afford new technology from those who cannot. As technological progress in network and infrastructure deployment and manufacturing and economy-of-scale effects in household availability and service provision make access to services affordable to the largest proportion of the European society, a new facet of a possible “digital divide” becomes visible, namely the one that is related to the comprehension of how to use new devices and services. This latter aspect of the “digital divide” has direct economic and societal consequences as the uptake of mobile services will only be at a successful level if the new devices and services can actually be accessed, set up and used by the European citizens.

It has to be recognized that many existing services (both broadband and narrowband) cannot be fully utilized by many users due to problems in either installing and configuring services on their devices or understanding the full potential of these services. These obstacles to a full use of fixed and mobile broadband ICT services are even more emphasized by a number of developments in society:

- Changing population demographics: The number of elderly people and people with special needs is growing rapidly, requiring additional support and dedicated efforts for those unable to cope with every day’s technology.
- Population mobility: As more and more people access services from mobile devices with limited user interface capabilities, there is a need to optimize the user experience of terminals with a focus on service setup, access and use.
- Increasing user expectations: users are becoming accustomed to plug-and-play systems, on ICTs such as PCs, with fully configured components. Therefore, expectations are automatically projected to mobile e-services and must therefore be addressed.
- Advanced services deployed with a social interest (e.g. Telecare) will require a certain level of pre-requisites these often advanced services build on (e.g. comfort of use, development of a trusted relation, basic skills and familiarity), if such services are to be adopted by users.
- Increasing variety of services, and in the way how services are accessed: There is little consistency in the way how services are configured and accessed, and how, for example, user authentication is handled.
- Access to services by all: In order to close the accessibility gap between technology-aware and conservative or less skilled user groups, it is necessary to offer access to services for everyone.
- Increasing variability in the segmentation of customers: children as young as 6 or 7 years and senior users aged over 80, means that members of the entire community will request access to mobile and broadband e-services.

- User’s inability and lack of interest to cover important (but in a normal, user-centred, functionality-oriented scenario, less relevant) aspects of their communication such as security aspects: according to recent reports (Gartner Group Conference 2004: IT Security Summit), more than two thirds of the successful hacker attacks on wireless clients are due to unsatisfactory configuration of access points and clients.
- Human resource limitations: The complexity of mobile services exceeds the ability of many users while personal assistance and support cannot be easily afforded at an affordable cost.

As the hurdle to using remote services is highest for first-time users, it is required that first access to services is simplified as far as possible and clear guidance on how to configure and use a service, as well as a description of features and limitations of specific services are made available.

Most users of mobile communication solutions experience serious difficulties trying to access data services like e-mail, Internet or messaging (SMS, MMS, Voicemail) through their mobile devices. Users lack the expertise necessary to configure and set up their devices, services and applications appropriately. Furthermore, even the configuration of device properties to the desired behavior is often beyond the users’ abilities.

Many settings can be stored on the SIM card or the USIM of the mobile device, or in the future, managed by the communication system as user profiles. Even so, problems are abundant when new services are introduced, when moving from one network provider to another, when SIM or USIM cards reach a certain age and the stored information becomes outdated or when a user changes service provider.

While many settings may be achieved through “Over-The-Air” (OTA) or “Over-The-Line” (OTL) configuration, there is still a problem of individualization and personalization and, moreover, the problem of inadvertent resetting of individual parameters through OTA or OTL procedures. Other open issues are the matters of privacy and security, e.g. if the service provider is able to control specific parameters and to which grade these should provide trusted and fully functional solutions for the end user.

From the perspective of digitally networked homes and in order to be able to make proper use of the smart solutions and devices deployed, it becomes more important than ever that users are enabled to understand access and use the offered capabilities. Future architectures assume that users will select service providers independently of the access mechanism, roam between delivery networks, based upon their subscription profiles and define their service needs with regard to the quality, security, privacy and cost of the service. We believe this goal is nearly impossible to achieve, if the generic user knowledge level is not increased and the complexity of set-up and configuration procedures not reduced.

2. AIMS AND GOALS OF THE WORKSHOP

This workshop, the first in a series of several similar planned events, is aimed at presenting the areas of the work addressed and their current status.

Furthermore, it will aim at collecting expert's input based on their experiences. It will also aim at collecting the mobile industry's guidance for the further development of recommendations for the establishment of best practices and the creation of minimum standards in the production of user education media such as user guides (paper based and electronic), instructions provided for user groups with special needs (e.g. young, elderly and disabled users).

Furthermore, required guidance on the design, implementation and provision of set-up procedures for devices and services such that those can be set up and used by the largest possible range of users, with a continuity of access and use, will be discussed in detail from the common, generic standardization perspective.

In particular, the workshop shall also help to define configuration procedures for user groups with special requirements (including young, elderly and disabled users) to configure and use their devices and services at their potential, with maximum efficiency

The final result, the ETSI Guides will not only motivate manufacturers to provide good user instructions, but also give guidance on how good user guides are developed using different media for user groups with different requirements.

Operators and services and application will benefit directly, as many features that are under-used today may generate more ARPU in the future if better user instructions help users to discover these features. Furthermore, the necessity for user support is expected to be reduced.

The obvious benefits for all end users will be reflected by a reduced digital divide, opening up access to and the use of the potential of future systems and services in the information society for all.

The target of work is to emphasize opportunities for simple but generic solutions that are commercially attractive to network operators and equipment and service providers for delivery as a sustainable revenue generating activity, which opens access to information and communications technologies to consumers who might otherwise be excluded.

3. ACKNOWLEDGMENTS

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4. REFERENCES

NOTE: All ETSI references are available free of charge at www.etsi.org

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