A User-Centered Terminology for Existing and Upcoming ICT Devices, Services and Applications

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Abstract. Users who are unfamiliar with the terms used in ICT devices, services, or applications may be reluctant to use those features, thereby missing out on the potential benefits of those features and preventing manufacturers and service providers from making revenue from the uptake of those features. The Human Factors Technical Committee (TC HF) of the European Telecommunication Standards Institute (ETSI) has initiated work, co-funded by the European Commission, to develop the freely available ETSI Guide EG 203 499 [2] addressing this need.

Keywords: User-centered · Terminology · Human factors · User interface
ICT devices · Accessibility

1 The Problem of Diverse Terminologies

The terms (words, labels) used in the user interface (UI) of a device, service or application may present an obstacle for users if the users are not familiar with those terms or if the users are unsure as to their meaning. While some terms are introduced by manufacturers to denote a new class of feature or to distinguish own features from those offered by competitors, most other terms denoting device or service features are not necessarily intended for differentiation. However, in the absence of a harmonized or recommended terminology, the use of those terms may differ considerably among manufacturers and service providers.

The alternative to a wide and confusing plethora of terms encountered by end users is a minimum degree of harmonization among devices, services, and application, i.e. in those areas that are not intended by manufacturers to convey a certain brand feature or image, a harmonized terminology can be employed that helps preventing the following negative effects of an uncontrolled growth of terms:

- Increased user difficulties in understanding complex, ambiguous and inconstantly-used terms, leading to unnecessary confusion
- Increased efforts in user education (user guides)

- Increased costs for user support (hotline calls and call agent training)
- Limited feature discovery and unclear user expectations (customers who do not understand certain features may not use them, hence revenue may be missed)
- Limited uptake (users may be reluctant to use a feature as they are not sure whether it has the expected effect)
- Increase of cognitive complexity and subsequent learning effort
- Abuse in the use of proprietary terms and lack of consistent use of terms.

The need for a harmonized terminology of device and service features increases as new features and services are being introduced and marketed every year and as new device and service providers continue to enter a dynamic market. Applications, services, and applications are frequently updated, often without providing an update of the user documentation to the users. In addition, as network operators' business models change (e.g. fewer subsidized devices linked to fixed service plans), end-user loyalty to network operators and device manufacturers decreases.

2   An Approach for Harmonizing ICT Terms

2.1   Prior ETSI Work in the Field

The ETSI Guide EG 202 132 [1] identified the lack of a standardized terminology for device and service features as one of the main obstacles that users, and in particular older users and users with impairments, struggle with. Currently, terms are being employed that use specialist and/or foreign-language terms and abbreviations and one and the same feature is labelled differently across manufacturers and service providers. EG 202 132 [1] specified the terms for a number of areas, mostly focused on telephony, including voice mail, e-mail, MMS, SMS WAP, call features, and terminal functionality. EG 202 132 [1] was limited to English-language.

2.2   The ETSI STF 540

ETSI STF (Special Task Force) 540 is a group of experts set by ETSI, under the direction of the ETSI Technical Committee Human Factors (TC HF) and co-funded by the European Commission, with the objective of investigating the problem of diverse terminologies in modern ICT devices. STF 540 is tasked to produce a new ETSI Guide, EG 203 499 [2], addressing and providing solutions to this need. EG 203 499 will be published by ETSI as an open, freely available document.

2.3   The ETSI Guide EG 203 499

Based on the previous ETSI Guide [1] that was limited to telephony terms and to terms in English, the new document will address new areas and will provide terminology recommendations in five languages English, French, German, Italian, and Spanish. The recommended terminology will be applicable to product UI and user documentation design, also easing knowledge and learning transfer. For this work, a Design-for-All approach was chosen that takes functional limitations of elderly users and those with cognitive, physical or sensory variations into account.

Intended users of EG 203 499 are those designing, developing, implementing and deploying user interfaces for and interaction with mobile ICT devices, services, and applications.

Intended end users of the terminology recommended by the ETSI Guide will be the people who use mobile ICT devices, services, and applications ranging from first time users to experienced users.

2.4   Methodology

The method employed for developing harmonized terminologies consisted of three phases (see Fig. 1):

- Phase 1: Identification of objects and activities from a range of functional areas such as telephony and photography
- Phase 2: Collection of terms used by major stakeholders
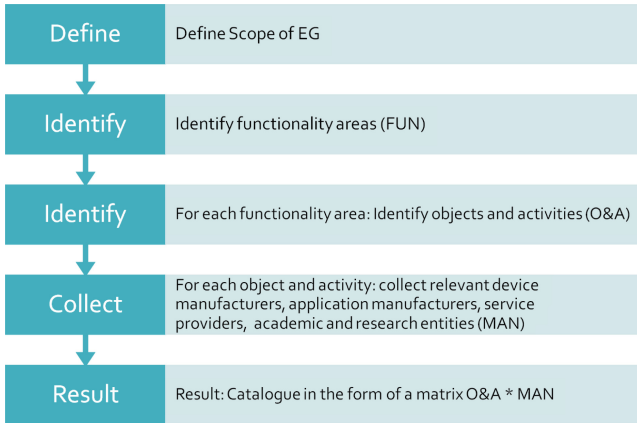- Phase 3: Analysis of terms collected and selection of recommended terms.

Fig. 1. Overview of methodology

2.5   Phase 1: Identification of Objects and Activities

In this first phase, functional areas such as telephony and photography were identified that define the range of functionalities covered by the present document. Those functional areas cover those functionalities that are most frequently used by many or most users of mobile ICT devices.

For each functional area, relevant objects and activities (i.e. those that are frequently used and used by many users) were identified and defined. The following principles were applied in this process:

Objects and activities were selected if they help users

- Identifying the functionality (i.e. help the user understand what it does)
- Accessing the functionality

- Understanding the available options related to a functionality
- Understanding messages displayed in the context of using a functionality (e.g. error feedback).

  Objects and activities were not selected if they cover:

- The content of an application (e.g. "photo", "take the first exit at the roundabout") or the style of the interaction
- Common terms easily found in a dictionary (e.g. "hotel")
- Common verbal expressions indicating an action taken on an object (e.g. "take a photo")
- Words, acronyms, or abbreviations used in a specific technical sense (e.g. "CCNR").

Those objects and activities that are relevant for several or all functional areas are treated as basic terms, dealt with in a separate section of the EG.

2.6   Phase 2: Collection of Terms

For each functional area, relevant providers (device manufacturers, service providers, and application vendors) are identified and the terms used by them for the objects and activities of the respective functional area are collected in the five languages covered by this document (e.g. providers included in the analysis for the functional area "photography" are Apple, Samsung, Huawei, Motorola, and LG, based on their market share in Europe for the product category smart phone).

In most cases, the number of providers had to be limited to five in order to keep the effort for the analysis manageable. The preliminary analysis showed that not all functionalities were offered by all (five) providers. Functionalities offered by one provider only are not included in the analysis.

2.7   Phase 3: Analysis and Selection

In the final phase of the work, the terms collected in Phase 2 are reviewed and the terms to be recommended are selected. This included

- Check for consistency between manufacturers (i.e. prevalence of certain terms)
- Preference of terms that reflect the language of the users as opposed to the language of developers
- Compliance with linguistic requirements from the five languages covered.

Most importantly, localization experts and/or specialists in the linguistics of the respective languages are consulted to support the selection process.

3   Scope of the Harmonized Terminologies

The selection of the functional areas and, within them, objects and activities, is one of the phases of the project. According to current status of the work, the recommended terms to be published in the EG are divided into the following domains or categories:

1. Basic terms
2. Telephony

 3. Media
 4. Messaging
 5. Navigation and maps
 6. Banking and payments
 7. Health
 8. Travel
 9. Searching and browsing
10. Social media
11. Photography
12. Games
13. Tools/Miscellaneous

Each of those domains includes relevant subcategories that support the readers in finding the terms they are looking for (e.g. in the case of the domain "Photography", the subcategories are "Taking Photos", "Handling Photos", and "Taking and Handling Videos").

4 Status of the Work

Currently, the expert's team has defined the scope of the EG and is in the phase of identifying functionality areas, objects and activities candidate for inclusion in the guide. Preliminary lists of items have already been prepared for discussion with relevant stakeholders. The systematic investigation on the terminology used by the major players in each area (device manufacturers, service providers, and application vendors) has already been initiated and will continue during 2018. Finally, a list of recommended terms will be prepared taking into account the several criteria described for phase 3. Localization experts and/or specialists in the linguistics of the respective languages will be consulted to support the selection process for each of the five languages.

The ETSI TB (Technical Body) approval of the final document (ETSI guide) is scheduled for April 2019. The document will be publicly available (free of charge) after ETSI publication scheduled for July 2019.

References

1. ETSI EG 202 132 v1.1.1: Human Factors (HF); User Interfaces; Guidelines for generic user interface elements for mobile terminals and services (2004–2008). This reference contains harmonized, English-language terms for areas including UI hardware and software, configuration of services, call features and terminal functionality. Finalized in 2004, it needs updating and expansion to cover features, services and applications not available at that time and other important language
2. ETSI EG 203 499: Human Factors (HF); User-centered terminology for existing and upcoming ICT devices, services and applications. Draft under development, for publication in July 2019