DIRECT AND INDIRECT RELEVANCE (IN RELATION TO ACCESSIBILITY FOLLOWING A DESIGN FOR ALL APPROACH)

1.1. Introduction

This document explains how accessibility following a Design for All approach can be directly or indirectly relevant to standardisation.

Section 1.2 provides the definition of (and distinction between) **direct and indirect users of a product, good or service**. This distinction will help Technical Committees to consider the widest range of possible users of their product/service – not just the immediate and most obvious users.

Section 1.3 provides examples of how accessibility following a Design for All approach appears not to apply to a product, good or service (for example a product, good or service that doesn't have a user interface itself), but it interacts with, or is accessed by, another product, good or service that is accessed and used by people. Therefore, it **indirectly influences the ability of a user to access, understand or use a product, good or service**.

1.2. : Direct, Indirect and Collateral users[1]

Direct users (or primary users) are people who use a product, good or service themselves. Indirect users (or secondary users) are users who do not interact directly with a product, good or service but benefit directly or indirectly by another person using it. Collateral users (or tertiary users) are people who are affected by the use of a product, good or service, but are not involved by the use themselves.

Examples of Direct Users

- A girl uses a stereo to select and listen to her favourite radio station.
- A man takes money from his bank account from a cash machine in the wall outside the bank.
- A family sets up a new account with an electricity service provider when they move to a new home.
- A boy uses the map application on his smartphone to find the location of a shop in town.
- A lady buys a tram ticket from a ticket machine in the tram station and travels to her destination.
- A woman buys a coffee from a coffee machine.
- A boy uses a library self-service machine to register the books he borrows at the library.
- A person uses a telecommunications device to converse with a family member
- A woman uses a car parking machine to pay two hours.
- A person buys a product from a vending machine.

[1] For further information refer to ETSI 202 952

Examples of Indirect Users[2]

- A driver (direct user) is following road signs while driving a car on the motorway, a passenger (indirect user) is assisting in directing the driver by also reading the signs.
- A woman (indirect user) who is setting up a new account in a bank is asked questions by the bank teller (direct user), who is entering the customer's details into the computer.
- An elderly woman sits next to her son who prepares her new laptop computer for future use by her, listening to his explanations and demonstrations.
- People in a cinema watch a movie (the projector equipment is operated by someone else)
- The participants of a symposium wear headphones and listen to the voice of an interpreter (who operates the equipment)
- A traveller (indirect user) is booking a holiday with a travel agency where the travel agent (direct user) uses booking systems.
- A patient (indirect user) describes his symptoms to a health carer (direct user) who uses an electronic patient record system.

Examples of Collateral Users [3]

ETSI 202 952 defines collateral users as "only remotely involved in another person using a device or service, and they usually do not benefit from that experience".

- A lorry driver (direct user) engages the reverse gear which starts an acoustic warning, a person standing behind the lorry (indirect user) hears the warning and clears the area, another person in a building nearby is awoken by the noise (collateral user) .
- A man sitting in a train talks into his mobile phone with a very loud voice (direct user), the person sitting in the row behind him (collateral user) feels disturbed by this.

1.3. : How accessibility following a Design for All approach can be indirectly relevant

- Accessibility following a Design for All approach can be relevant to components, specifications, frameworks or other products or services that are not directly accessed or used by people, but provides functionality to, interact with or is accessed by another product, good or service that is used by people.

- **Example: metering for utilities not taking into account users' needs**. The positioning of heating and water pipes in a house often determines where the water and heating controls can be positioned. As a result, water and heating controls are often installed in awkward and dark locations in a house, such as inside a hot press and not directly facing the user.

[2] For further information refer to ETSI 202 952
[3] For further information refer to ETSI 202 952

- **Example: complexity of business rules in software resulting in usability barriers for end users**. The development of complex software for the charging, recording and printing of transport ticketing (such as airline, bus or rail tickets) can present limitations or constraints to the user interface with which the customer interacts.
- **Example: Connected TV technical protocol for device to device communication causing access barriers for blind and physically disabled users.** Connected TVs (commonly referred to as smart TVs) are TVs that have both a traditional, linear broadcast connection (antenna, cable, satellite) as well as a connection to the Internet over the home LAN, allowing for on-demand content. Most current Connected TVs also have an API, i.e. a hardware and software interface, which allows apps on smartphone and tablets to operate the TV. For example, an app can access the Electronic Program Guide (EPG) through the API, and then allow the user to select a channel, change volume, etc. from a smartphone or tablet instead of the traditional remote control. There is great potential for creating accessible interfaces for Connected TVs through their APIs. However, what functionality such an app can provide is dependent on what information and methods are made available through the API. If the API designers do not understand and consider the needs of diverse users, they may fail to include access to functionality that is necessary to make the apps accessible and usable to the widest range of users (the API is indirectly used by the app user).
    - For instance: apps with a talking interface could be used by blind or reading impaired persons. Audio Description is a feature of particular importance to blind people, but can also be usable in situations where users are not able to look at the screen all the time. However, where API designers did not consider blind users while developing the API, they may forget to make available the functionality to turn on/off Audio Description through their API. This may result in an app that is generally accessible to blind users, but not particular useful to them since they would not have access to a feature that is essential to them.
    - Another example: A modal dialog is often used when the programmer wants to be certain that a user has seen a particular message or when an answer from the user is required. A modal dialog is typically presented as a popup box with a relevant message, requiring the user to acknowledge the message, for instance by instructing them to tap the OK button before they can do anything further. The blind user interacting via a talking app can obviously not see the modal dialog on the screen. It is therefore necessary that the API has the means to signal to the app that a modal dialogue has appeared, convey its content, and allow the app to send the dialogue dismissal command from the user. If not, the blind user may be stuck with an unresponsive TV, i.e. the TV is waiting for an action to a message, but, using the system through the API connected app, the blind user has no way to discover the message.

- **Example: voice-over-IP network specifications breaking traditional textphones as used by deaf people.** This further example is taken from the design of networking technologies, such as Voice-over-IP protocols in replacement of traditional analogue voice telephony networks (PSTN). These technologies focused almost entirely on voice telephony, and they did not take into account the fact that some users, like deaf people, use real-time text masquerading as voice to communicate over the telephone network. The audio and other characteristics of such textphone signals are different from spoken language conversation and VoIP protocols designed solely for spoken language conversation therefore often cause textphone communications to fail. After raising awareness within the relevant standards communities, VoIP protocols were extended to address the needs of users of real-time text. The new method did not masquerading text as voice, but providing a native mechanism to signal, encode and transport real-time text directly across the VoIP network. This included suitable solutions for connecting VoIP networks to legacy telephony solutions in support of text telephony. (In this example, the voice-over-IP protocol is indirectly used by users of applications that use the protocol).
- **Example: loss of accessibility features during format and/or encoding changes.** A document produced in a word processing application is used as the basis for producing a PDF document (direct product) which is presented to people. Although the original document has built in structures with headings, captions etc. which can be used by assistive technologies such as screen readers, the resulting PDF document is not accessible because the document structure information is lost by the PDF conversion process (product that indirectly affects the PDF product).