IS INDUSTRY MEETING THE INFORMATION NEEDS OF PEOPLE WITH DISABILITIES ON ACCESSIBILITY FEATURES OF TELEPHONE EQUIPMENT?

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1. Abstract

Telecommunications equipment manufacturers and importers now provide information about accessibility features on telephone equipment for people with disabilities. This is a requirement based on an Industry Code that was developed over a two-year period by a Communications Alliance Working Committee. This paper will outline the need and describe the complex processes that led to this new service, the interplay between the main stakeholders (consumers, the telephone supplier industry, the telecommunications companies, the regulator and the body developing the Industry Code), lessons learned and the next steps in the process. The paper will also describe the information to be provided and how it can be accessed. In conclusion, the paper will recommend the establishment of an online database to enable people with disabilities to effectively find and compare the accessibility features they need.

In October 2003, the Australian Communications Authority (now called the Australian Communications and Media Authority) formally requested that Australian Communications Industry Forum (ACIF) (now called the Communications Alliance) develop both an industry code and an industry guideline to improve information on telecommunications access for people with particular communications needs. The Industry Code “ACIF C625:2005 Information On Accessibility Features For Telephone Equipment” along with the associated Industry Guideline “ACIF G 627:2005 Operational Matrices For Reporting On Accessibility Features For Telephone Equipment” now requires telecommunications equipment importers and manufacturers to provide product information on the functional characteristics of the equipment that will be beneficial to people with disabilities. This information is provided to telecommunications service providers who provide the information to their customers.

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2. Background

Much of the technology in mobile phones was invented to enable those with a disability to participate more fully in our society yet these features (e.g. miniaturisation, vibrate alert, CCD cameras, speech recognition and generation) are now included in many mobile phones used by the bulk of the population (Law, 2006). These features assist the able-bodied community at times when they are temporarily disabled (such as not being able to hear their phone ringing while in a noisy environment or not being able to see the phone while driving a vehicle).

Whereas we might think of this as a temporary disability, it is simply a functional limitation due to a particular circumstance at a given time. In a similar way, we need to think of a disability as a functional limitation due to a physical impairment. The reality of a longer-term functional limitation is more accurately portrayed in Figure 1. We can see from the graph that by the time we are 75 years or older, 72.5% of the population will experience a functional limitation and 41% will experience a severe functional limitation.

This fact and the importance of the integration of people with disabilities into our technological society has highlighted the need for functional limitation to be taken into account at the time of product design; commonly referred to as Universal Design (UD) or Inclusive Design. Universal Design has often been mis-interpreted as the design of a single product to suit the needs of all people with a functional limitation. UD is a process that takes into account the needs of those with a functional limitation at the time of design (see references). This can be a zero or low cost option when responding to some functional limitations such as increasing the contrast of keypad characters through appropriate choice of foreground and background colours and the choice of the size of the characters on the display. Adopting UD principles will increase the number of people able to use the product and consequently the market that the product will appeal too.
The fact that a product (or phone) does not have a certain feature does not make it inferior. A phone with large keys will be easier to use by a person with gross motor control but will be unworkable for a person with only fine motor control. Hence the size of the keys is important in the matching of a particular phone to suit a person’s needs. Similarly, a person who is blind will have no use for a visual display and a person who is deaf has no need for sound output. Clearly a phone that has spoken text, a large visual display and high quality sound output will be applicable to a larger population. Many current phones do have features that are needed by people with a disability or who are ageing.

By informing the public about the features that do exist on a particular phone, those with a disability/functional limitation will be able to choose from a range of phones to identify the one most suitable for their disability/functional limitation.

3. Introduction

Federal Government legislation makes some provision for telecommunications equipment to meet the particular communications needs of Australians. Under section 380 of the Telecommunications Act 1997, the Australian Communications and Media Authority (ACMA) may make a standard relating to features of customer equipment used in connection with a standard telephone service that are designed to cater for the needs of people with disabilities. A ‘standard telephone service’ (STS) is defined in the Telecommunications (Consumer Protection and Service Standards) Act 1999 as a service for voice telephony or its equivalent that passes the ‘any-to-any connectivity test’. Any to any connectivity is when an end user of the service is ordinarily able to communicate, by means of that service, with another end user who is supplied with the same service for the same purpose.

The Telecommunications Disability Standard “Requirements for Customer Equipment for use with the Standard Telephone Service—Features for special needs of persons with disabilities” AS/ACIF S040 (2001) requires the inclusion of only two specified features, a hearing aid coupling (but not for mobile handsets or cordless handsets that don’t allow coupling) and a raised ‘pip’ on the key associated with the digit ‘5’.

In October 2003, ACIF (now part of the Communications Alliance) was asked by the ACMA to develop:

- an industry Code requiring importers and manufacturers of customer equipment that use a telephone handset or keypad that is manufactured in, or imported to Australia, for use with the standard telephone service, to provide information about whether or not their equipment has certain features that could enhance accessibility for people with a disability; and

- an industry guideline outlining the types of features that would enhance the accessibility for consumers with a disability, to be considered during the future importation and manufacture of telephone handsets or keypads that are manufactured in, or imported to Australia, for use with the standard telephone service.

The objective of the Code (ACIF C625:2005) is for equipment suppliers to provide information on the features of their equipment which may assist in meeting people’s communications needs. This will be done in one of two ways:

- through the provision of such information by equipment suppliers (ES) to carriage service providers (CSP) in order that CSPs may be able to inform their own customers about equipment features; and
through the provision of such information to consumers, on request of that consumer, with such information on features of their customer equipment that might meet that individual’s communications needs.

The accompanying Industry Guideline (ACIF G627:2005) lists equipment features against which equipment suppliers report (see Appendix). That document is expected to be regularly updated to reflect the latest developments in equipment technology. The Code does not apply to the provision by equipment suppliers of information on customer equipment to retail outlets not under the control of carriage service providers. Those retail outlets would be outside of the jurisdiction of the Telecommunications Act 1997 and codes made under that Act. If consumers require information on equipment features, and that information is not available from retail outlets, they will be able to seek that information directly from the equipment supplier.

4. Development of the Code

A Working Committee was formed with members from:

- Australian Communications and Media Authority (ACMA) (2 representatives)
- Australian Electrical and Electronic Manufacturers Association (AEEMA)
- Australian Rehabilitation and Assistive Technology Association (ARATA) (Rob Garrett)
- Cisco Systems
- Consumers’ Telecommunications Network (CTN)
- NEC Business Solutions
- Nokia
- Telecommunication and Disability Consumer Representation (TEDICORE) (Gunela Astbrink)
- Telstra
- Trillium Communications
- Vodafone

ACIF provided project management support to the Working Committee.

The first meeting of the committee was on 13th April 2004. Nearly all meetings had members in Melbourne and Sydney linked by videoconference. Some meetings used a 3 way video connection to include Adelaide. Approximately 20 face-to-face half and full day meetings occurred.

The draft version of the Code was published with the Public Comments closing on 13th December 2004. The Committee consideration of Public Comments took place in the beginning of 2005 and continued with its discussions over the ensuing months. A meeting held on 21st July 2005 decided on a new approach. As a result, a smaller group of 3 members containing representatives from the equipment suppliers, carriage service providers and consumers (Rob Garrett) along with the CEO of ACIF and the ACIF Consumer Project Manager met to propose a solution to resolve the impasse.

The proposal generated by this group contained:

1. A significant decrease in the features to be recorded by the suppliers. The features were reduced to questions that nearly all could be answered by a yes / no answer and did not require any physical measurement. See the Appendix for the final list of features.
2. A requirement that the suppliers respond to customer enquiries regarding the particular features on a particular phone.

3. The introduction of a regular review process.

Agreement to go to ballot for the revised code was obtained at the final meeting of the Working Committee on 28th November 2005. The subsequent ballot was in the affirmative and the Code (ACIF C625:2005) was submitted to the ACMA. However, there were considerable delays in registration of the Code by ACMA due to industry concerns about aspects of the Code. The Minister was informed about the delays. The Code was finally registered on 12th October 2006.

5. Implementation and Future Plans

Following the registration of the Code, the suppliers had 6 months to implement the processes to ensure that the accessibility information is reported as required by the Code. The implementation date was 12th April 2007.

The Information Accessibility Administration Group (IAAG) was set up during the implementation period of the Code. This group comprises representatives from the equipment suppliers and CSPs but no consumers. It is defined as an implementation group to assist suppliers to better understand their obligations under the Code. As a result, an information sheet has been developed for this purpose (see references).

A key issue is the method used by manufacturers and importers of telephone equipment for the supply of information to carriage service providers (CSPs) on accessible features. There is no direction in the Code on this aspect. It may initially be done through the use of spreadsheets based on the matrices of features from the guideline that will then be distributed to CSPs for further dissemination to their customers. This seems like a clumsy and burdensome way to provide this type of information. TEDICORE has been discussing over the past few years with key government and industry stakeholders the need for an online database. Such a centralised database would provide a streamlined and uniform way for manufacturers and importers of telephone equipment to input the data in a secure environment. This data would then be searchable by CSPs and customers with disabilities based on criteria of a variety of features. The results of the search would list a number of fixed, mobile, cordless or office telephones offering the required features. This online database should be designed so that it is accessible for users and easily navigable through a website. TEDICORE has written to the Department of Communications, Information Technology and the Arts about this issue and ACMA has been urged to coordinate the development of such a database. Unfortunately, no progress has been achieved yet.

The Code states that a review will be done after twelve months. It is important to ensure that the features relevant to people with disabilities are included in the list. We see the current matrices as a starting point and that there is much scope for adding further features such as the measurement of the size of keys and the level of volume control.

6. Conclusion

The above analysis of the evolution of the Industry Code on Information on Accessibility Features for Telephone Equipment clearly demonstrates the long and expensive process involved. However, important progress has been made.

It is important for industry in future to have a clearer understanding of the growing role that older people and people with disabilities play in the overall marketplace. If their needs were
Is industry meeting the information needs of people with disabilities? 335

properly met, there would very likely be more active users of telecommunications products and services amongst the aged and disability communities.

Equally, it is vital to inform disability and ageing communities about the availability of this new information and to ensure that the information is readily accessible to all Australians.

REFERENCES


The Center for Universal Design, North Carolina State University, USA www.centerforuniversaldesign.org

Universal Design Education Online www.udeducation.org

AS/ACIF S040:2001 Requirements for Customer Equipment for use with the Standard Telephone Service - Features for special needs.


APPENDIX: ACCESSIBILITY FEATURE INFORMATION TO BE SUPPLIED

MOBILITY/DEXTERITY FEATURES

FEATURES COMMON TO BOTH FIXED AND MOBILE HANDSETS

Dial-out buffer memory: Number to be called can be entered and checked on the display before sending.

Speaker-phone capable: Hands free operation during dialling and after call initiated. If “Yes” does the phone have full duplex speaker phone capability?

Short Messaging Service capable: Messages can be read, composed and sent using the phone's screen and or keypad.

Predictive Text sending: Phone predicts a whole word from the first few letters of the word being typed using an inbuilt dictionary (for SMS/MMS use).

Guarded/recessed keys: Keys that are recessed or guarded in some way are easier to press and reduce the possibility of pressing the wrong key.

Handset weight: For handset incorporating batteries, weight of handset together with batteries. Specify type or model of batteries used.

Coupling to a device: Device can be connected to the phone by using: cable, infrared signal, Radio waves (wireless connection) eg. Bluetooth, Other – describe...

Tactile key markers (cordless and mobile): A tactile (such as a raised 'pip') marker to identify where the '5' key is.

Standard key layouts: Number layout uses the standard 3 x 4 (12 key) keypad array.
Key feedback – tactile: Pressing a key provides a change that can be felt to confirm button has been pressed.

Key feedback – audible: Pressing a key provides a tone that can be heard to confirm button has been pressed.

Audible identification of Keys: The number on the Number keys is spoken when pressed. Audible key feedback different for function and number keys.

Adjustable font: Adjustable font style & adjustable character size

Visual line status display: Visual display of the line status (i.e. on-line).

Microphone amplification: Adjustable volume control of microphone to amplify outgoing speech. Setting "Retains" or "Resets" to default after each call.

FIXED LINE HANDSETS FEATURES

Wall Mounting: Can the phone be mounted on a wall with or without an accessory?

Keypad separate from handset: Keypad provided is separate from handset on a base unit or on a plug in option.

Handset Alert: Phone provides an audible alert when handset not replaced correctly. Phone provides a visual alert when handset not replaced correctly

Handset - plug connected: Alternative headset can be connected in lieu of handset

Port for Additional earphone/headset: This facility enables an additional earphone to be plugged in so both ears can be used to listen or another person can listen and assist with a call. It also enables a headset to be installed for hands-free use.

Key feedback – displayed: Number being dialled is displayed on the screen.

Ringer volume adjustable: Adjustment of the ringing volume is possible.

Text display – visual: Visual display of incoming text is provided.

Tactile ringing signal: Vibrating indication is provided when the phone rings.

Visual ringing signal: Light source is provided to indicate when the phone rings.

MOBILE HANDSETS FEATURES

Connection for Additional earphone/headset: This facility enables an additional earphone to be plugged in so both ears can be used to listen or another person can listen and assist with a call. It also enables a headset to be installed for hands-free use.

Display Characteristics: Colour display

Speech-input keying: Voice recognition for setting up calls.

Text send – keyboard: Standard layout of QWERTY keyboard