

# Assistive Technology and Accessibility Portals

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15<sup>th</sup> December 2009

Prepared on behalf of DG INFSO H3 of the European Commission.  
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## Background

The draft of the Call for Proposals specifies the aims and objectives the European Commission would like from this call:

### *Focus and outcomes*

The aim is to establish an online European platform for Assistive Technology (AT) and accessibility devices and services, helping to connect available schemes in various EU countries, as well as to stimulate innovative and ubiquitous software-based solutions. The Thematic Network(s) should bring together the necessary stakeholders along the ICT AT and accessibility value chain to create a Europe-wide, single entry portal offering realtime information related to all aspects of AT (eg hearing aids, accessible interfaces, screen readers, etc) as well as other accessibility solutions and information (eg accessible maps, inventory of information on local accessible services, e-books, etc).

A single, non-static repository of trusted (peer-reviewed / validated) information will, on the one hand, enable users to easily identify best solutions for their technology needs and, on the other, draw together the necessary stakeholders to ensure feedback on products. The project should take account of already existing solutions of this kind. The portal will also facilitate sharing of information, ideas, questions, advice and resources.

### *Conditions and characteristics*

The platform is to be made up of one or two main components:

- An open, collaborative portal offering information on AT ICT and accessibility products available across Europe. Information should be organised in ways relevant to users' and professionals' needs eg according to type of impairment, platform / ICT solution (PCs, mobile phones, etc), by life setting (education, work, tourism, etc). Information, ideas and queries should be shared among all stakeholders.
- A repository and network for open source assistive technology software, to become a tool for better AT development. It should offer downloads of software for a variety of accessibility related needs and provide a forum within which developers can take feedback from users and professionals, as well as test and trial new ideas. The portal should offer a repository service offering trusted information on all available solutions and opportunities; allow for interaction with specialised service providers and provides a feedback loop to support development and distribution of products.

Main features should cover:

- Current AT and accessibility services and products offering across Europe
- Customisations for operating systems and applications
- Information on trends in technology and their implications for disabled users
- Information on level of innovation in AT and beta products

The proposed portal should ensure linkage to already existing on-line resources and ensure that information available is adjusted to local contexts. There should be a commitment to long term deployment and sustainability of the services beyond the TN phase.

## Introduction

There are a large number of different groups of people who require up-to-date information on assistive technology<sup>1</sup>. These include disabled individuals, their carers, social workers, rehabilitation workers, prescribers (e.g. optometrists), disability organisations, funding agencies and people involved in research and development. Although these groups often require information on similar topics, they will require the information presented in a form which is suitable for their needs.

Over the years many information services have been established and some have found funding to continue long term. Most of these services have been developed at a national level but often with close links to information services in other countries. The internet has made it much easier to make the content available on an international basis<sup>2</sup>.

The European Commission tried some years to establish a European database of assistive devices called Handynet. It relied on national organisations collecting data of devices manufactured in their country and inputting the data in a format specified by Handynet. This task turned out to be far larger than had been anticipated. Also the usefulness of the data was restricted in that many common assistive devices were manufactured outside the European Union; for instance at that time no Braille wrist watches were manufactured in the EU, but the devices had significant sales in EU countries.

## Assistive Devices

There in excess of 10,000 assistive products on the market so it is difficult for consumers to identify the most appropriate device to meet their needs. Some devices are commonly prescribed by a professional (eg low vision aids by an optometrist, hearing aids by an audiologist) but many users rely on the advice of a carer or generic social worker. Some information services<sup>3</sup> provide tables to compare features of similar products<sup>4</sup>, and a few provide links to reviews and assessments of particular products. Other than very specialist information services, it is rare to find comprehensive advice on how to select a product to meet the needs of a particular individual, and have the possibility of trying the product at home before purchasing.

Even services which concentrate on low technology devices have problems in indexing the products so that they can be easily found by someone who has a problem but is not familiar with the types of assistive device available. For instance some blind people find it useful to have a card with the word 'Taxi' printed on it, so that they can hold it up when looking for a taxi. This is usually classified as a 'signalling device', but unless you knew that it existed you could easily fail to find it in a database.

However the problem of indexing becomes much harder with high technology devices which may have a range of functionalities. So a device may incorporate a positioning system such as GPS, notetaker functionality, a calculator and have speech output. Such devices may incorporate the facility to download extra software applications. Software has proven to be particularly difficult to index so that a consumer

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<sup>1</sup> Assistive Technology (AT) is technology used by individuals, particularly those with disabilities, in order to perform functions that might otherwise be difficult or impossible. AT can include hardware, software, and peripherals that assist people with disabilities in accessing computers or other ICT.

<sup>2</sup> An example of an accessibility portal is <http://www.napsa.org.za/>

<sup>3</sup> Examples of information services include:

AbleData <http://www.abledata.com>

Disabled Living Foundation <http://www.dlf.org.uk>

EmpTech <http://www.emptech.info>

EnableMart <http://www.enablemart.com>

Aidis Trust <http://www.aidis.org>

Senior Superstores <http://www.seniorssuperstores.com>

EASTIN <http://www.eastin.info/>

<sup>4</sup> An example of a simple comparison of features is <http://www.snapi.org.uk/info/devices/telephonetable.htm>

can quickly find the product that meets their need<sup>5</sup>. The specification of the software can change significantly over versions of the software, and these variations need to be included in any information database.

Different information services have taken very different approaches to defining the boundaries of what is or is not assistive technology. For instance a television or set-top box capable of receiving audio description may be considered a special device and so be listed, but the capability to receive subtitles is available on most modern TV sets so would not be listed. This problem also occurs in products not normally purchased by an individual; for instance an ATM can incorporate accessibility features such as speech output. Being able to identify which self-service terminals incorporate specific accessibility features may be significant for a service provider purchasing a new terminal, but few information services offer information on this topic.

Boundaries also become blurred when a 'standard' product is used by disabled people for a different purpose than the norm. Often this is an inexpensive and affordable method of meeting an individual's need, but the product would not be considered an assistive device.

## Alternative Formats

Some groups of users, such as blind and dyslexic people, have problems in reading conventional printed material. Also there are groups who can read the characters but have problems in understanding the content unless it is presented in a form appropriate for them.

The common alternative formats include:

- Braille
- Audio (in various formats including Daisy)
- Large print
- Electronic (eg e-books)

In addition there is specialist material such as Braille music scores, and embossed maps and diagrams.

Various databases exist which identify holdings of such material<sup>6</sup>. For instance for an embossed map, the database may include the scale of the map and the production method, but rarely includes any measure of the quality of the product.

The consumer is also interested in which organisations provide their information in alternative formats; for instance is the instruction book for a particular washing machine available in large print?

## Manufacturers and Suppliers

For mainstream assistive devices, there are a number of comprehensive databases of the manufacturers and main suppliers. A minor problem is that prices may vary from supplier to supplier, and some may include additional services such as support and training. However few databases extend to areas such as accessible interfaces to self-service terminals. In this case, the service provider wants the details of the manufacturer of the terminal as well as the manufacturer of the special interface (who may be different), whereas the consumer wants to know which terminals are accessible (it may be that only some terminals from a particular service provider include accessibility features).

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<sup>5</sup> Examples of a software resource are:

Aidis Trust [http://www.aidis.org/support/software\\_a.php](http://www.aidis.org/support/software_a.php)

Technosite <http://www.technosite.es/en/software.asp>

<sup>6</sup> An example is <http://booksite.rnib.org.uk/eDelivery/Browse.aspx>

## Techniques

A technique is a method for doing something. Many disabled people have developed such techniques for coping with day to day activities, and are willing to pass on this advice to others. However systematic collection of this information, and its storage and indexing have proved to be problematic. It is an area of importance to consumers since such techniques frequently do not incur costs for the end user.

## Organisations

In most countries there are lists of organisations which provide services to people with disabilities<sup>7</sup>. These will include disability organisations as well as organisations that provide services such as long cane training. However these lists do not usually include organisations that provide accessible services, which may be of importance to a consumer.

## Grants to Individuals

The provision of financial subsidies and grants varies from country to country and may vary from region to region within that country. Although there may be national rules about eligibility, the interpretation may vary locally. In most countries, there are sources of information which give the official definition of rules, but often this information is unintelligible to the consumer. Therefore it is common to provide a human information broker to interpret the information for each individual case.

The situation becomes more complex when there are a mixture of government and voluntary organisation grants available. Although the eligibility for government grants may be well defined, often the grants from voluntary bodies are governed by unpublished rules and conventions.

## Standards and Guidelines

There are relatively few formal standards specific to assistive devices. However there are a very large number of standards and guidelines which have relevance to the accessibility of main stream devices and services<sup>8</sup>. Often these standards only include a small section of relevance, and can be quite expensive to purchase. Therefore people, such as designers, want and need to know precisely what standards and guidelines are of relevance to their current project.

## Legislation and Regulation

Some countries have national legislation on disability discrimination or equality which is well documented. Many countries have sector specific regulations which cover accessibility of goods and services (eg requirements for train operators). With the increasing convergence of technologies and related services, manufacturers can have significant problems in determining what they are required to do when exporting to another country. There is an unmet need for a comprehensive database of the various requirements in the countries of the European Union, and for harmonisation of these requirements.

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<sup>7</sup> An example is <http://www.snapi.org.uk/info/agencies/>

<sup>8</sup> An example of a list of standards is <http://www.snapi.org.uk/info/standards>

## Research

There have been a small number of information services specialising in the needs of the research community in this area. In general these services have not been integrated with the information services which see their primary audience as end users or service providers.

Information on trends in technology has usually been addressed by a series of short pieces on specific developments<sup>9</sup>. Inevitably these items become out of date very quickly, but there may be a lack of resource or motivation to update the text on the website.

Various databases cover current research but often only cover what is being done in their country<sup>10</sup>. Frequently they rely on data from funding agencies, which means that unfunded research is not included. However much good research is done by academics in their spare time or by industry with internal funding. Some of these databases include details of publications produced by the research workers.

There have been various attempts to identify gaps in research in a systematic manner. This is of interest to funding bodies as well as research workers. Sometimes the research has been divided into short, medium and long term projects, together with classification of the primary discipline involved. To do this work comprehensively requires a considerable amount of skilled manpower.

Research workers also find it useful to have an indexed list of serial publications which publish research findings<sup>11</sup>. There is pressure on many academics to increase their number of peer-reviewed publications since that is one criterion on which their work may be judged.

Details of potential sources of research funding are very important for someone new to the field<sup>12</sup>. In the area of assistive technology, it is not just the formal funding bodies but also many trusts and organisations who support research when funds are available and a suitable project presented.

With collaborative projects finding suitable partners can be problematic, although the European Commission has set up some mechanisms to help in this respect<sup>13</sup>. One additional service for an accessibility portal could be a service to help people find partners (be it someone to manufacture a product, or an organisation to take on marketing of a new product or service).

## Concluding Remarks

There is an unmet need for a comprehensive service which can provide appropriate information on assistive technology to a wide range of stakeholders. The quality of the information is as important as the quantity.

## Acknowledgements

The author is grateful for the advice of Julian Jones in preparing this report.

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<sup>9</sup> An example is [http://www.snapi.org.uk/info/reports/index.htm#intro\\_tech](http://www.snapi.org.uk/info/reports/index.htm#intro_tech)

<sup>10</sup> Examples are <http://www.fastuk.org/research/> and <http://www.snapi.org.uk/info/researchers/>

<sup>11</sup> An example is <http://www.snapi.org.uk/info/serials/>

<sup>12</sup> An example is <http://www.snapi.org.uk/info/funding/>

<sup>13</sup> See [http://cordis.europa.eu/partners-service/home\\_en.html](http://cordis.europa.eu/partners-service/home_en.html)