Access for All

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ABSTRACT

Accessibility of e-government services by people with disabilities is falling short of the desired standard. But moves are afoot to address the problem.

Public services in a modern democracy have a clear ethical duty to be accessible to all members of society. E-government services may be more convenient for many users, but if they are not designed to be accessible to all members of society, they will fail in this basic duty.

The term "accessibility" in the context of electronic services is often taken to refer simply to the ease of access to services by people with impaired vision, hearing, dexterity, or cognition. But in its broader sense, accessibility also includes issues arising from environmentally or socially limiting factors such as poor education, illiteracy, lack of access to a computer, or technical issues such as old computer equipment or a slow internet connection.

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ACCESSIBILITY ON TEST

Earlier this year the world's most extensive research programme into the accessibility of web services took place in the UK, commissioned from City University in London by the Disability Rights Commission for England, Scotland and Wales (DRC *http://www.drc-gb.org*).

Some 39,000 web pages within 1000 websites were examined across five categories: government; business; e-commerce; entertainment and leisure; and web services such as internet service providers and search engines.

Testing began with automated checks using the WebXM software tool from Watchfire (*http://www.watchfire.com*) and, where these checks were passed, the researchers proceeded to task-based testing by groups of testers with a range of disabilities using a range of assistive technologies.

The main external benchmarks used for the assessments were, unsurprisingly, the web content accessibility guidelines (WCAG) developed by the World Wide Web consortium's web accessibility initiative (*http://www.w3c.org/WAI*). Under the guide- lines sites are ranked as "A", "AA" or "AAA", depending on their standard of accessibility.

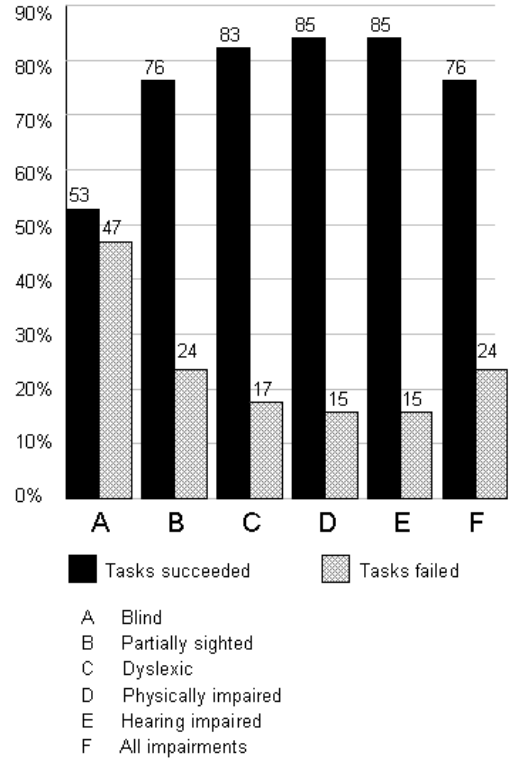
The results show an average pass rate for basic `level A" accessibility checks of just 19% across all sectors. Government sites rated slightly higher than average, with 32.2% passing the basic checks (*http://www.drc-gb.org/publicationsandreports/report.asp*).

Although the DRC decided not to name and shame any of the sites that were included in the tests and failed to reach basic accessibility

standards, it did name several of the sites that the panel of testers felt were the easiest to use.

Frustration levels

Figure 13: Task success rate by impairment group



Figures show percentage success rates by users with a range of impairments at conducting two typical tasks per website over 100 sites. Source: "The web: access and inclusion for disabled people", Disability Rights Commission.

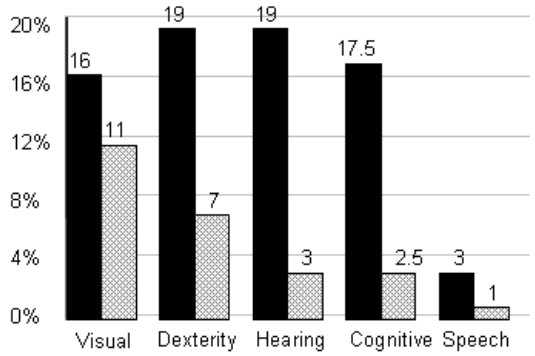
These sites where users could complete about 90% of set tasks without much difficulty included the national online library catalogue

Copac (*http://www.copac.ac.uk*). Shirley Cousins, one of Copac's developer's, said: "We've put a lot of thought into accessibility, so it's nice to have recognition. It's partly an ethos that runs through COPAC: if it's accessible for a disabled person, then it's accessible for everyone."

However, the test results still show that most public bodies are falling far short of government guidelines (*http://www.e-envoy.gov.uk/webguidelines.htm*). These stipulate that public sector websites should attain at least "AA" conformance something that just two sites out of the 1000 attained. No sites were found to comply with the highest level of accessibility, "AAA".

Frustration levels

Figure 14: Numbers of working-age adults in US likely to benefit from accessible technology, by impairment type



Source: "The web: access and inclusion for disabled people", Disability Rights Commission.

The DRC said increased awareness is still needed among website developers, despite the higher profile of accessibility issues in recent months.

The research also threw up some anomalies with the WAI guidelines themselves. According to research leader Helen Petrie at City University, only 55% of usability problems reported by the testers were covered by any of the WCAG checkpoints, on the face of it an astonishing gap between real problems faced and those included in the main accepted international testing system.

"This data could be used to refine WAI and make it more usable for people, because clearly web developers are struggling with WAI," Petrie says. "But it also shows that WAI is not the be-all and end-all: people need to test their sites with real users."

Martin Greenwood of the Society of IT Management (Socitm *http://www.socitm.gov.uk*) said one of the difficulties with accessibility checking was that there was no independent audit system to check if people's sites really did match up with the standards that their owners claimed for them. "They'll be lots of people, not least web developers, who will say they've reached level AA, but who can tell?" he told E-Government Bulletin. "There is a need for an independent testing service."

The new report suggests the government should itself fill this gap, by facilitating the development of best practice guidance for accessible sites and promoting a formal accreditation process.

The irony of the current widespread inaccessibility of electronic services is that, for many people with disabilities, new technologies are potentially the biggest liberator they have ever known, allowing quick, private access to whatever information they want instead of having to rely on others to translate information into previously favoured accessible formats such as Braille.

"A lot of disabled people find electronic communications their preferred way to communicate. It's far easier to look up a news site, for example, than wait for the Braille version," says Jon Gooday, senior consultant at the computer access charity AbilityNet (*http://www.abilitynet.org.uk*).

THE ACCESSIBLE MOBILE PHONE REVOLUTION

Steve Tyler, policy and ICT access manager at the Royal National Institute of the Blind (RNIB *http://www.rnib.org.uk*), believes that for e-government policy to encompass fully the needs of disabled people it needs to address physical access to services, costs, procurement strategy, and IT innovation. He says services need to "take on the reality of training and support of visually impaired people and other disabled groups."

He says the telephone is still probably the most important service and information access channel to many people with disabilities. "Texting and mobile telecoms use have become a cultural norm, regardless of what types of services are implemented or used by any particular government agency, etc," he says. "For a host of reasons phones are becoming a standard way in which people transact.

"It is not practically possible for a lot of people to travel to UK Online centres [the government's public access internet centres], let alone try out new technologies in an environment that would not be conducive to making mistakes or looking silly," he says.

The powerful technologies that power mobile phones, and allow customization, mean that people with disabilities can increasingly find systems that suit their particular needs, he says. "There are a range of mobile phones now that are compatible to greater or lesser degrees with hearing aids. Additionally, due to Bluetooth connectivity becoming more of a reality, it is possible to build any interface devices that are most appropriate for particular types of users. The open nature of the Symbian platform [a major mobile phone operating system], along with development toolkits means that this industry is taking off."

According to Tyler, many mobile devices can also access powerful back-end server systems allowing delivery of speech-enabled services of all kinds such as books, magazines and music. "Another key development in the realm of mobile phones has been the industry Code of Practice, put together by a group facilitated through the original Oftel to which a range of networks have signed up.

"It gives an undertaking that certain services and products will be made available or continue to be available accessible billing for example.

"I think there are more exciting possibilities in which I would include voting such as: access to the [inter]net and email through a small device; access to wayfinding information with a real enhancement to mobility; new payment methods not requiring intervention by anyone else; Radio Frequency Identification and barcoding or reading possibilities; and new communications possibilities including use of the new connectivity features, bringing person identification, or paging

people in the vicinity, closer." Tyler says e-government policy needs to address accessibility issues at the earliest possible stage, which often means at the point when a technology system is being purchased. "Organizations need to build in to procurement systems and policy genuine accessibility at the earliest stages," he says. This applies in particular to NHS patient access systems, benefits systems, and local government services, he says.

Gooday cites major barriers to e-government inclusion as costs, lack of standards and lack of dialogue between government and people with a disability. He says it is "critical" that funding is made available for those who cannot reach central access points such as libraries.

OTHER TECHNOLOGIES

Among other technologies, smartcards can offer a highly accessible way for disabled people and other citizens to access public services. They can hold personalized data about the user and their preferences, which can be accessed by a receiving device. This means potentially, the device can bring up customized user preferences such as whether they use assistive technologies or alternative formats.

RUSHCLIFFE WINS ACCESSIBILITY AWARD

Rushcliffe Borough Council was the overall winner in the government category of the National Library for the Blind's Visionary Design Awards 2003 (*http://visdesign.nlbuk.org*).

"Accessible services are a key part of Rushcliffe's customer service strategy," says Laura van Weyenbergh, Ruschcliffe's e-communications officer. "It makes sound business sense, as well as being prerequisite for good practice and a requirement under the Disability Discrimination Act.

"An accessible, user-friendly website was just one part of a wider project to make it easier for people to access council services: other features are longer opening hours, a one-stop customer services centre that deals with calls, emails and visits, and a pilot project which involved a video link to the council from a remote village.

"Just as consideration needed to be given to all visitors to our buildings (we have disabled access facilities like wide doorways, dropped counters, and induction loops for hearing- impaired people), we needed to construct the website in such a way that it would be available to everyone."

Van Weyenbergh believes awareness of accessibility issues has increased across the whole council as a result of winning the award. "The issue of web accessibility was mentioned by our chief executive in the annual address to staff," she says. "Awareness of web accessibility has also increased among staff via regular articles in our weekly email newsletter, as well as regular updates in our publication for councilors."

However, there is no room for complacency. After the award was accepted, the council received feedback from some of the judges about problems they had experienced when using the website. "The redesigned version will correct those issues," says van Weyenbergh. "We're still learning and improving as we go on. A redesigned Rushcliffe website will launch in late summer. Our new site will meet level "AA" of the Web Accessibility Initiative (WAI *http://www.w3.org/WAI/)* guidelines."

If she had to give any advice to a government body, van Weyenbergh says it's important to consider accessibility right from the start. "It's very difficult to go through a site and make it accessible," she says. "Try visiting a website using assistive technologies, such as screen reading software, because that way you get to experience the problems encountered by disabled people first-hand. Lots of practical advice on accessibility is already available on the internet, so you don't need to start from scratch."

In future, Rushcliffe plans a text messaging project for which van Weyenbergh says research will be carried out to ensure the service is "as accessible as possible".

This is increasingly gaining recognition in standards work conducted for the National Smartcard Project (*http://www.nationals-martcardproject.org.uk*) by the Local Authority Smartcard Standards e-Organisation (LASSeO).

Mobile phones can also be useful tools for people with disabilities text messaging is accessible to deaf people. And a ground- breaking service providing travel information to people with impaired vision through handheld devices is being tested by residents of Stockton-on-Tees, paving the way for similar services to be introduced across the UK. Volunteers are using mobile phones to access real-time information about Stockton bus services and fully searchable time- tables stored on compact discs in the international DAISY talking book format (see *http://fastlink.headstar.com/stockton1*).

According to borough council transport engineer John Kavanagh, using CDs to store timetables and digitized voice outputs to access the information is the most practical option for vision-impaired people. "Tapes are difficult to provide because they need replacing every time a service schedule changes, and users need to search to find the section they need. Braille is only used by some blind people and does not lend itself to production of timetables," he said. "The solution is to provide travelers with fully searchable CDs and the readers to enable them to access the data. No other authority in the UK has tried this."

LEGAL ISSUES

Apart from the ethical duty to ensure that e-government services are accessible, there are clear legal requirements. The Disability Discrimination Act 1995 (DDA http://fastlink.headstar.com/dda1) sets out a duty for bodies to provide auxiliary aids under the "reasonable adjustments" requirement. And the Special Education Needs and

Disability Act 2001 (SENDA http://fastlink.headstar.com/senda1) requires schools, colleges, universities, and providers of adult education and youth services to ensure disabled students do not suffer from discrimination.

However, while the DDA offers the most powerful protection for people with disabilities, case law is needed if it is to have more impact on everyday working practice, according to Kevin Carey, founder and director of the digital access charity HumanITy. "It is only case law that will get things changed," Carey says. The problem is, all the early legal actions brought under the law have been settled out of court, as technology providers and service providers are happy to pay up to keep their names being linked in the courts with such a sensitive topic.

TURNING ON, TUNING IN, BEING EXCLUDED?

"People who use government services the most are not the people going on the internet," says Kevin Carey.

For the foreseeable future, the established channels such as the telephone and the television will be the key route to deliver e-government services to people with a disability, he says.

Many people with disabilities do not have the same familiarity with PCs and websites, and may be put off by frustrating experiences when trying to use them.

And although TV sets and telephones present their own accessibility barriers TV remote controls can be fiddly to control for someone with a motor or visual impairment, for example these can be overcome and the increasingly popular medium of digital TV may in future prove to be a powerful tool for e-government delivery, Carey says.

With the recent launch of the UK government's main information portal "Direct.gov" on digital TV, this is good news. But controversy has already been stirred among disability groups over the accessibility of electronic programme guides (EPGs), the on-screen menus that allow viewers of digital TV to decide what to watch and provide additional programme information and interactive functions.

For many people with sensory or motor impairments, EPGs and the multi-function remote controls that accompany them will be extremely difficult to use.

In March 2004, the communications super-regulator Ofcom (http://www.ofcom.org.uk) completed a series of consultations seeking views from vision-impaired and hearing- impaired people on how best to deliver accessible services. The "Consultation on the draft code on providing television access services" (namely, subtitling, audio description and signing), asked how targets should be reached and whether channels with a small audience share should be exempt from provision, among other issues (http://fastlink.headstar.com/ofcom5).

The second consultation process, "The regulation of electronic programme guides" (http://fastlink.headstar.com/ofcom6) sought views

on the use of EPGs, with a proposed EPG draft code including the rule that EPGs should carry information regarding access services and alternative ways to publish it other than on television screens.

"Digital TV is becoming significant. However, until the access issues are genuinely removed, there are problems. Particularly noticeable is the interactive nature of TV systems, screen-only information, and lack of access to menu systems or any other interactive features," says Steve Tyler at the Royal National Institute of the Blind.

"We know the TV to be one of the key methods through which visually impaired people access information and entertainment. Without access to this medium, blind people will quickly become very disenfranchised," Tyler says.

A browser's guide

Webcast of results of Disability Rights Commission investigation into web accessibility:
http://www.drc-gb.org/webcast

National policies on web accessibility, by country:
http://www.w3.org/WAI/Policy

The EuroAccessibility Consortium on web accessibility:
http://www.euroaccessibility.org/index.php

`The wide range of abilities and its impact on computer technology,' study by Forrester Research for Microsoft:
http://fastlink.headstar.com/forr1

E-Access Bulletin, our free sister publication on access to technology by blind and vision-impaired people:
http://www.headstar.com/eab