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Assistive technology at work

Issue 82 Summer 2011

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- The road ahead for adapted vehicles
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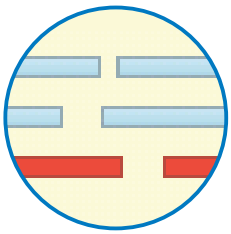

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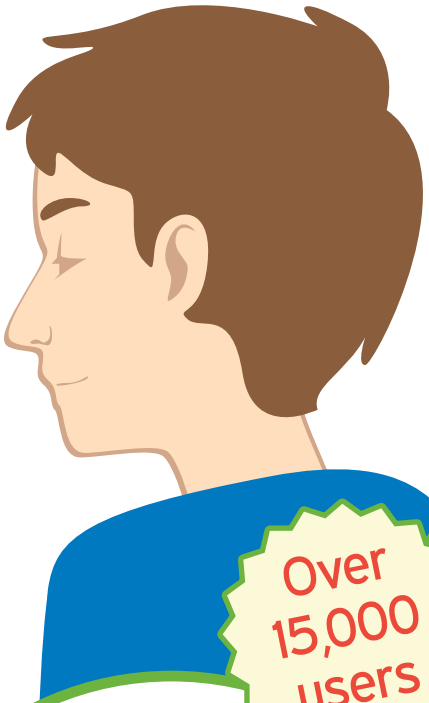

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John Lamb explains why *Ability* has introduced a newsletter for subscribers

Focus on innovation

In a recent online survey, *Ability* readers asked for more frequent news and reviews of products. So, from June all subscribers will be offered a monthly newsletter that will keep them abreast of the latest developments in the fast moving world of assistive and accessible technology.

The newsletter will focus on new software, hardware and services designed to support disabled users and will compliment the more in-depth coverage that will continue to be provided each quarter in *Ability*.

Our aim is to develop a portfolio of information services that better meet the needs of our audience of professionals who buy and run assistive technology. The pace of technical change is quickening and we at *Ability* will make every effort to help our readers track innovations in assistive technology and to make the right decisions about what systems to acquire.

There is no shortage of new ideas. In this issue we have news from Claro Software (p29) of a novel type of mouse controlled by a camera system that recognises facial gestures. We catch up with a blind driver who has driven round the Daytona racetrack in America in a car fitted with a clutch of feedback sensors that help him control the vehicle (p7).

And we carry a report on what communication aids users think about their devices (p11). Not a lot is the answer: too unreliable, complex and slow. But the study by Devices for Dignity points the way for developers to improve their offerings.

Do let us know what we can find out for you that would make your life easier. And if you are not already subscribing to *Ability* use the form on page 36 of this issue or go online to www.abilitymagazine.org.uk to receive the magazine and newsletter.

If the number of competitions for assistive technology and the glitziness of the awards ceremonies that accompany them is anything to go by, disabled people's technology needs are getting more recognition than ever before. With a bit of tongue in cheek we have produced a round up of the winners and details of competitions that you can still enter on p34.

Welcome recognition for disabled people came last month from the National Digital Conference, a gathering of people working to get more of us online (p9). The particular needs of people with disabilities were highlighted at the conference and exhibition, in contrast to previous years.

Plaudits must also go to Liz Sayce, chair of RADAR, for her ringing endorsement of the Access to Work scheme (p7). The number of people receiving grants should double she says in a report to the Department for Work and Pensions, but makes clear the funds must come from efficiency savings and by redirecting money from activities such as sheltered workshops. ■

Facing up to realities

Over the past few decades the world in general has become progressively more visual; inevitably this increased visualisation is strong in the workplace and probably nowhere more so than in IT.

Add to this the increased workplace trend towards self-service, where everyone is expected to do more and more for themselves and we have an absolute minefield for people who are vision impaired.

In the office based computer applications of 10 or 15 years ago there were relatively few pieces of software being used, so that it was possible to at least influence the accessibility of many applications.

Nowadays, with the increased trend towards internet-based applications and the cloud, this is all becoming much more difficult to control. There are probably more than one hundred million websites out there and so there will be many millions of people designing and developing those sites.

Even if we ignore the sites we don't need to access, there are still a huge number that we may need to use. I believe that it simply is not possible to police accessibility standards for even these sites and their owners.

I also have some doubts as to whether or not it is worth trying to achieve this sought after accessibility. If you give a sighted person a page full of print or a screen full of text, they can spot what they are looking for in one to two seconds.

Give the same information to a screen reader user and it will take them 15 to 30 seconds to find what they want. Yes, I know we can use search commands, but these only work when we know exactly what we are looking for and that it is there.

The fact is that in certain parts of our work we will be maybe 15 times slower than our fully sighted counterparts. Only by facing up to this reality can we find ways of working and things to do which will place us in a more equal position with those fully sighted peers.

I realise I may be saying some contentious things, but I do think that we need to face up to these realities.

Brendan Magill
Business, Employment & Disability Consultancy

Confusing conclusions

Thanks again for another excellent edition of *Ability* (Spring 2011, issue 81). I was particularly interested in the Spreading the Word article but was slightly confused with some of the results that were published under the UK's leading packages.

For example, is it really the case that WordQ/SpeakQ and Wynn Wizard are leading programs compared to well-established and recognised programs such as Penfriend, which also offers multiple features to support literacy, in addition to those in WordQ?

I can understand that Wynn Wizard is more established in the US but it is something of a rarity in the UK, particularly in schools, colleges and universities.

It would be useful to see evidence such as case studies where pupils and students are successfully using WordQ/SpeakQ and Wynn Wizard in the UK to successfully overcome difficulties with literacy etc.

I was also disappointed to note that the authors failed to mention open source software in their review.

As you know there is a range of quality open source and free software 'multiple feature' applications which play a major part in supporting a huge number of people with literacy difficulties in the UK, but this was somehow overlooked.

Craig Mill
e-Inclusion Advisor
JISC Regional Support Centre Scotland N&E

Free laptops

I would appreciate your advice and or assistance in finding information on free laptops for the disabled.

I receive Income Support with Disability Premium and DLA.

I would be much obliged if you could assist or refer me to a service who help the disabled in IT education.

A McGinlay

Editor's note: If you are not eligible for support under Access to Work there are a number of sources of training and recycled computers. AbilityNet – www.abilitynet.org.uk – should be your first port of call for advice.

Leonard Cheshire are worth contacting – http://www.lcdisability.org.

For equipment go to Computers for the Disabled at http://www.cftd.co.uk.

Remploy might help too at http://ecycle.remploy.co.uk. And I just came across a long list of recyclers, some of who say they provide free computers for disabled people (you'll have to go through them and pick out the relevant ones). Go to http://www.itforcharities.co.uk/pcs.htm.

Have your say

ability welcomes letters and articles on all issues relating to IT for disabled people in work, education and daily life.

Contributions can be sent to the editor, John Lamb, at john.lamb@abilitymagazine.org.uk

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Access to Work should double, says Sayce review

The number of people receiving help under the £98m Access to Work programme should double to 100,000 per year, according to a review by RADAR chief executive Liz Sayce.

"Access to Work should be transformed from being the best kept secret in government to being a recognised passport to successful employment," says the review.

However, the cost of funding more access technology and personal assistance for disabled people in work should be met from existing resources, Sayce concludes.

The review, 'Getting in, Staying in and Getting on', argues that extra money can be found by reducing the costs of assessments, driving down costs of services and equipment and encouraging suppliers to compete.

Sayce is critical of the cost of residential training colleges and sheltered employment schemes such as Remploy. She wants to see emphasis on individuals rather than institutions.

About a half of disabled people are out of work and around 300,000 people leave work each year through disability or health conditions.

Closing the employment gap between disabled and non-disabled people would boost the economy by £13bn, the review goes on.

For every £1 invested in technology and other assistance for disabled people in work, the government gets back £1.48 in tax.

Some companies supplying goods and services under Access to Work say that cuts last year in the kind of equipment that qualifies for a grant are affecting the number of claims under the scheme.

"Having significantly reduced the range of solutions that Access to Work was prepared to fund, the scheme is now far less attractive to employers," says Lawrence Howard managing director of Hands Free.

"As a result, employers seem far more reluctant to employ or support people with disabilities because of the associated costs that will no longer be funded through Access to Work." ■

www.dwp.gov.uk/docs/sayce-report.pdf

Blind driver laps racetrack

A blind driver negotiated the Daytona racing circuit earlier this year using tactile feedback technology to steer a safe course through a series of obstacles.

The driver, Mark Riccobono, is the first blind person to drive a car, according to the National Federation of the Blind (NFB), the organisation that arranged the event.

Riccobono relied on a battery of technologies to provide feedback on his speed and direction as well as to warn him of the presence of obstacles, some of which were thrown randomly in front of him from a truck.

His Ford Escape was equipped by students at Virginia Tech College of Engineering with laser range-finding sensors and cameras that relayed data to a computer inside the car.

The computer created an ever changing three-dimensional map of the road and sent signals to vibrating gloves on Riccobono's hands that told him which way and by how much to move the wheel.

A vibrating cushion under his back and legs indicated whether to speed up, slow down or stop.

The project is unlikely to lead

to blind people routinely taking the wheel because it is designed to draw attention to the capabilities of blind people, says the NFB which challenged technologists to come up with a vehicle that could be driven by a blind person. ■

See p25 for our feature on microchip motoring

Mouse driven by pedal power

An American company has developed a 10-key foot controller that can be used instead of a mouse and other interfaces.

The pressure and location sensitive keys on the SoftStep KeyWorx controller can be programmed with up to 100 commands to control a cursor, perform clicks and carry out other common tasks.

Softstep developer Keith McMillen Instruments (KMI) says users can employ the device to access the internet, open and close applications, enter text, zoom, scroll pages and adjust the volume of loud speakers, among other things.

The Softstep, which weighs under 450 gm, has blue backlighting so that it can be seen in the shadows under a desk.

The system, originally developed for musicians, is on sale on Amazon and Tech Ready for $289.95. ■

www.keithmcmillen.com

Olympics systems face mystery shopper test

A blind user was unable to book tickets for the London Olympics online because of an inaccessible Captcha security process on the booking form.

This was one of the findings of a 'mystery shopper' test presented as part of a workshop organised by the IT Accessibility Panel of the Worshipful Company Information Technologists (WCIT) of the accessibility of websites providing tickets, travel and accommodation associated with the 2012 London Olympics.

It showed that a distorted Captcha graphic, which users had to decipher and key in to apply for tickets, had an audio alternative that was corrupted.

The results were unveiled at a workshop called London 2012 – the IT accessible City, held to discuss accessibility for the Olympics and beyond.

It seems that a Textcaptcha, which relies on users answering a question, such as choosing the only girl's name from a list of first names, could have been used as alternative to the audio captcha.

Bob Cottam, head of business technology services for the London Olympics Organising Committee, said his team was committed to building in accessibility to all its systems, and was making efforts to ensure problems are minimised.

Tested to the max

A team of testers with dyslexia, motor difficulties and vision impairments were asked to register on the Olympics site, book tickets for themselves and a carer, plan travel to the venues and find a suitable hotel and restaurant.

They targeted three sites: the Olympics site www.london2012.com, the Transport for London site www.tfl.gov.uk and Visit London www.visitlondon.com.

In almost every case they were able to complete the tasks they had been set except for the blind tester who could not get past the audio Captcha. However, the team of surfers reported that there was little information on the accessibility of sports venues, hotels and restaurants.

They found more serious accessibility problems at other sites.

The Olympic stadium. Better prepared than the websites?

At Visit Britain, music automatically starts when a user clicks on the site, drowning out screen reader messages and preventing a blind user from accessing the site.

Not all the problems were with the websites. When one tester gave his address – he lives in Green Close – his voice recognition software closed the window.

Commercial viability rather than clever technology was the way to ensure the success of an accessible website, said Dave Evans of Direct Enquiries.

Direct Enquiries, which hosts the Nationwide Access Register, developed Inclusivelondon.com for the Greater London Authority. This recently launched site is intended to serve visitors to the London 2012 Games. To complement this site Inclusivebritian.com was also recently launched.

These sites, run by Direct Enquiries, allow disabled users and others to find rooms, plan journeys and visit accessible locations. The three sites combined attract over 15 million hits a month.

"Splicing the stakeholders and commercial sponsors together is the difficult bit," said Evans.

"Businesses engage more once they understand the value case of communicating access and facilities information; in London alone we now have more than 20,000 locations communicating access"

Helping the disabled

With visitors likely to flood into the Olympic stadium at a high rate, technology is vital to helping disabled people get into the Olympic Games and find their way around, according to Dr John Gill, chair of charity Phoneability.

"People are looking for a consistent user interface and to use their cards to change terminals to their preferences," said Dr Gill. "They also need standard alerts that signal whether a card has been successfully read or not."

According to Dr Gill, formats developed by the Integrated Standard Smartcard Organisation (ISSO) covering electronic cards, keyboards and back office systems could enable smartcards to hold information on how text should be displayed on the screen of a ticket machine, for example.

Visitors could also be provided with wayfinding information via radio frequency identification (RFID), the satellite Global Positioning System (GPS) and loudspeakers triggered by tags held by users.

Many of these services could be provided by mobile phones, but persuading manufacturers to adopt the necessary interfaces was not easy, Dr Gill acknowledged. ■

Low cost computers lure disabled users online

Disabled users and charities are being wooed online by a raft of recycling schemes that have cut the price of a reconditioned desktop PC to under £100.

The schemes are linked to Race Online, the government campaign to get the nine million adults who have never used the internet online using 100,000 volunteers.

"The most vulnerable people in society stand to gain most," said culture and media secretary Jeremy Hunt at the National Digital conference in May, where the initiative was launched.

"There are 10m disabled people and many find mobility a challenge…. Internet technology is the opportunity for the biggest step forward in improving their lives."

Remploy, the employment services company for disabled people, has introduced the cheapest deal: a £92 refurbished PC with a 15" flat screen, 256Kb of main memory and a 20Mb hard disk drive.

The machine is delivered with the Ubuntu open source operating system and Open Office, another open source suite of programs with word processing, spreadsheet and presentation programs. Mobile broadband is available from Three for £15 per month.

Photo courtesy of Jody Kingzett

The internet is a big opportunity for disabled people said culture and media secretary Jeremy Hunt – one time Tory spokesman on disability

However, demand for Remploy's machines outstripped supply during May. When *Ability* visited the ecycle site it was temporarily out of stock.

More powerful second hand computers loaded with Windows 7 and Office are still available for £95 under another programme called getonline@home run by software company Microsoft with machines from Remploy and Partners IT.

Each desktop will have at least 1 Gigabyte of main memory, a 40Gb hard drive and a 15" flat screen and a warranty for three months. Users will be able to buy a BT broadband connection for £10 per month.

Software includes Windows built-in assistive features including voice output, voice recognition, on screen keyboard and sticky keys.

A number of other free aids are available including the learning support tool MyStudyBar, screen reader NVDA, My Visbar for learners with visual impairments, Yadabyte Subtext, a text substitution application, Dwell Clicker for using a mouse without touching the buttons and Big Calculator, which has oversized buttons.

The machines are being offered to people receiving the disability living allowance, attendance allowance, constant attendance allowance, incapacity benefit, employment and support allowance or the disability element of the working tax credit.

Charities involved with Race Online can also buy the cut price systems.

"I'd be disappointed if we are not moving 30,000 to 50,000 per year," said Elaine Riley, group manager for education relations at Microsoft. Over seven million PCs are dumped each year in the UK each year, of which only two million are refurbished.

IT services company XMA, which ran the Home Access scheme for disabled children last year, is offering similar spec machines running Windows XP with Open Office and a bigger 17" screen at £120. The computers are supplied by Tier 1.

Customers who do not have to be claiming any disability benefits, can also buy aids including high visibility keyboards, a Kensington trackball and a Grip vertical mouse. The computers come with the same assistive software as the Microsoft machines.

Simplified systems

Other companies at the National Digital conference were showing low cost, simplified systems designed for older and disabled people. B1 Connect has developed a prototype device called the B1 Internet Box in collaboration with Intel.

The Internet Box, which includes a webcam and wireless keyboard, turns on at the press of a single button. It can be used with an HD ready TV or computer monitor. It is expected to cost £150 when it is launched in July.

SimplyUnite has developed an email system called Gem for older users in care homes and supported living to keep in touch with their friends and family.

The touch screen system allows users to read and write messages, look at photographs and videos and make Skype video calls. SimplyUnite monitors usage at customers' premises and will step in to encourage residents to go online.

A complete system based on a Lenovo computer costs £2000 in the first year and includes support.

So far, Over 200 homes have installed Gem. ■

www.raceonline2012.org
www.ecycleonline.co.uk/
www.getonlineathome.org/
www.getonline.xma.co.uk/
http://b1connect.com/
www.simplyunite.com/

Contact Associates lowers the barriers to learning

Assessment and support company provides expertise to the Home Access programme and students receiving the Disabled Students Allowance

This year over 9,000 severely disabled children are able to access the internet from home for the first time thanks to free hardware, software and broadband access supplied under the Home Access programme.

Contact Associates, one of the UK's leading providers of assessment and support, played a key role in ensuring that disabled children received the appropriate assistive technology to get them online. The company mobilised a team of 60 skilled assessors who contacted families qualifying under the scheme to assess what technology would best help their children.

Working mostly over the phone, the assessors followed a unique assessment methodology designed by Contact Associates co-director Emma Shelton. They asked what sized mouse children could grasp, how well they could see keys on a computer, their reading ages and what technology they already used, if any. The assessors also consulted schools and in some instances visited children to put together a complete profile of a child's needs.

Una Lynch, co-director of Contact Associates, carries out a technology training session with a student

The £24m assistive technology programme, which is part of the Home Access programme to provide computers at home for disadvantaged children, is said to be the largest assistive technology project in the world.

Assessors provided reports on the needs of each child so that BECTA, the government agency that set-up Home Access, could order the appropriate equipment and software. Assessors often recommended systems that parents did not know even existed.

"In many cases parents didn't believe that they could actually keep the technology," said Contact Associates co-director Una Lynch.

Contact Associates completed 9,300 assessments in the six months up to the end of last year. The company had to satisfy strict conditions in terms of its performance and the security of information. Assessors worked with highly secure laptops that could not be used to send emails and had no USB ports.

Personal data of families applying for Home Access grant was protected by bank-style security involving passwords and personal information used to verify them before assessments were carried out. All telephone conversations were recorded.

Contact Associates had to get in touch with applicants, conduct assessments lasting an hour on average and produce recommendations within 15 days of receiving the details of a family. Each assessor had to complete an average of 15 assessments per week; one managed to carry out over 700 interviews during the six months.

"It was a steep learning curve. We had to learn about the processes, telephony and software that was needed to run this national project," recalls Simon Davis, LEAMs administrator for Contact Associates. Assessors, who were organised into teams led by more experienced professionals, were trained and kept up-to-date via webinars and regular newsletters.

The five-year-old company, set up by Una Lynch and Emma Shelton, is no stranger to assessing the needs of disabled learners. Contact Associates operates nine centres across the UK where the needs of students applying for the Disabled Students Allowance are assessed.

"We have a huge network of assessors who are keen to work with us again," says Una Lynch. ■

For further information about Contact Associates email Una Lynch at una@contact-associates .co.uk or phone 01823 273068. Contact Associates, Viney Court, Viney Street, Taunton, Somerset. TA1 3FB.

Study exposes flaws in communications aids

Users of voice output communications aids (VOCAs) find their systems unreliable and complex according to a major study carried out by Devices for Dignity, a healthcare technology cooperative.

Researchers at Barnsley hospital and NHS Sheffield conducted a two-year study in South Yorkshire involving interviews with some 130 users and professionals.

"Current devices are not considered reliable or durable by professionals and users, with the implication that these basic design requirements impact significantly on the successful use of a device," the study concludes.

Users and professionals also felt that devices were lacking in their battery life and in being ready to use quickly.

Other niggles included the weight, size and mountings available for devices.

Successful use of communication aids depends on training of users, carers and family members, say the report's authors Simon Judge and Gillian Townend.

Being able to access vocabulary quickly and easily was important to users and professionals, as was being able to personalise or program devices simply themselves.

However, the ability of communication aids to integrate additional functions was not highly rated. Users felt that there were limitations to current voices on communication aids.

Users were also frustrated by the slow rate of communication using a communication aid which led to very restricted use of them.

Tellingly, few interviewees used their communications aids as their main means of communicating during interviews.

"The challenge of designing a truly effective communication aid appears to be one that is still far from being met," admits the study.

Although the design of devices is moving in the right direction, choosing a communication aid is a black art with many problems stemming from the initial assessment of a user's needs.

The researchers recommend the development of a decision support tool to help people choose the right communication aid.

The report has been welcomed by communication aids companies and Toby Churchill, maker of the Lightwriter text-to-speech aid, has started to use the findings to shape its product development. ■

www.devicesfordignity.org.uk

BRIEFS

OBE for Nasser Siabi

Nasser Siabi, chief executive of Microlink PC has been awarded an OBE in the Queen's Birthday Honours list for his work with people who live and work with disabilities. Siabi and his partner started Microlink in 1992 with £1,000.

Ian Karten dies at 90

Businessman and philanthropist Ian Karten, who set up over 100 IT centres for disabled people in the UK, has died aged 90. Ian Karten was born in Vienna and came to the UK in 1938. He spent over £7m setting up a network of Computer-aided Training, Education and Communication (CTEC) centres in the UK and in Israel where people with disabilities can acquire IT-based skills.

Literacy support software

Following our feature on literacy support software in *Ability* 81, Spring 2011, Sight and Sound has asked us to point out that the company is the main distributor in the UK of Wynn Wizard from Freedom Scientific. The Kurzweil 3000 system, which the company also distributes, is on sale to education institutions for £240. In the same article, Assistive Solutions has pointed out that its WordQ, SpeakQ is available online or as a download and that it does run text-to-speech.

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Dragon NaturallySpeaking, speech recognition software in the workplace – speaks for itself

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"I have been an Occupational Health professional for 24 years. In 2008 I developed neurological symptoms in my right arm linked to a prolapsed disc in my neck.

I would recommend Dragon, it has improved my quality of life at work enormously – without it I would find it difficult to do my job and that for me would be soul destroying." R. Fletton

For more information, please email dragon@nuance.co.uk

NUANCE

Custom software for students and office workers

Suppliers are now introducing IT systems tailored for disabled users funded by government schemes including the Disabled Students Allowance and Access to Work.

One such example is from Nuance, developers of the widely used and respected Dragon NaturallySpeaking voice recognition software. It has recently introduced Dragon Access to Work. Priced at an RRP of £399 plus VAT, it builds on the rich feature set found in the flagship Dragon NaturallySpeaking Professional, to specifically meet Access to Work requirements.

The product is supported by a training program delivered by officially trained and accredited partners, ensuring that employees receive training that enables them to drive the most value – and use – from the solution.

But Dragon is not new to the assistive market, so what's so special about this version? Jonathan Whitmore, Nuance's UK and Ireland channel manager, explains: "The introduction of Dragon Access to Work addresses the market requirement for a designated version of Dragon that complies with Access to Work regulations.

"Combined with a training program developed specifically for Dragon Access to Work, this new version builds upon the value Dragon adds to users of all abilities, to deliver a solution that helps create an inclusive workplace where employees have the tools needed to fully exploit and share their skills, knowledge and experience.

"We now have the right product and the right partners in place to make it simple for private and public sector organisations to honour their Access to Work responsibilities."

Nuance has listened closely to the needs of its users, and this is reflected in Dragon Access to Work's feature set. It includes customised commands, such as a unique personalised command that enable users to create their own commands to control other Dragon related applications, such as screen reading, magnification and mapping tools.

Strengthening its position as an enterprise solution, Dragon Access to Work also provides full command and control over other third party applications, such as CRM products.

There is full support and control for Microsoft Office Outlook 2003-2007 too, as well as the entire Microsoft Office 2010 Suite. Recognising how the modern workplace is changing, Dragon Access to Work supports hot-desking initiatives, by holding the user's voice profile centrally.

Nuance team takes Best Education Product Award for Dragon Dictate 2.0 at Macworld Awards

Those who have used Dragon will know that it is ideally suited for Access to Work requirements. For many years, people have been using it to increase their productivity either personally or professionally.

With recognition accuracy rates of 99% and the ability to transcribe dictation three times faster than people can type, Dragon makes it easy for all users to create documents, search the internet, use Microsoft Office and other popular applications, simply by speaking.

The role that Dragon has played as an assistive solution was recognised at RADAR's People of the Year Awards. Nuance won the Technology Provider of the Year category, for its commitment to developing and supporting desktop speech and imaging solutions that dramatically improves people's personal and professional lives.

Nuance hasn't rested on its laurels, though. A process of continual development saw it introduce the phenomenally successful Dragon Dictation and Dragon Search applications for the iPhone, iPod touch and iPad. Most recently, with the launch of Dragon NaturallySpeaking 11.5, Nuance announced a new app that turns the iPhone into a wireless microphone. This brings Nuance's goal – of speech being everywhere – closer to reality.

Other accessibility solutions organisations might want to consider, include Ultimate Access (£395 plus VAT) from Freedom of Speech. This contains 890 commands and is sold in different packs for applications such as communications, controlling assistive technology and accessing the accessibility functions on Microsoft software.

Meanwhile, Hands Free Computing has developed Dragon ProAccess (£395 plus VAT) for users entitled to Access to Work grants. It allows users to use voice commands for Microsoft Windows, Microsoft Office, TextHelp Read & Write, ClaroRead, Inspiration and Spark-Space software. ■

** **Stop press:** Dragon Dictate 2.0 won Best education product of the year in the* Macworld *magazine awards.*

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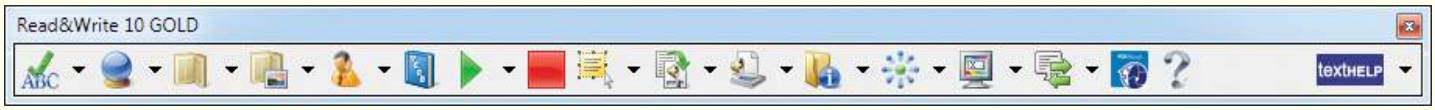

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Chris Caswell, Policy and Document Manager, Kent Fire & Rescue

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20:20 technologies

We have picked 20 of the assistive technology products, people and initiatives that we think have made the biggest difference to disabled people over the 20 years since *Ability* first appeared in print

Access to Work

Access to Work is a government scheme that pays up 100 per cent towards equipment costs and a support worker for disabled people who have a job. It is run by the Department for Work and Pensions.

Jobcentreplus – home of Access to Work

Although there were considerable changes in the programme during 2010, in terms of the equipment that qualified for the grant, Access to Work recently won endorsement in an independent review by Liz Sayce, chair of RADAR.

Accessible Acrobat

The portable document format (PDF) is widely used to distribute documents, publications and other materials. During the 1990s it became apparent that the format, originally designed to create an image of a page, was inaccessible.

Faced with the prospect of losing US government business, Adobe, which devised the PDF standard, set about making its Acrobat software accessible by providing magnification, a tagging facility and enabling it to recognise and read out text, among other things.

Business Taskforce for Accessible Technology

The Employers' Forum on Disability set up the Business Taskforce for Accessible Technology in an effort to engage IT professionals in producing accessible systems for disabled employees and customers.

The initiative has recruited a clutch of bluechip user companies and suppliers who meet regularly to thrash out accessibility issues. The group has published a maturity model that provides a guide to how good a job an organisation is doing on accessibility.

Daisy talking books

Daisy is an internationally agreed format for talking books intended to increase the low proportion of books and other material available in spoken form.

It is aimed at people with vision impairments, those with learning difficulties such as dyslexia or who have physical difficulties handling a book The typical digital talking book displays the text of a work and highlights it as it is read out by software, using either a pre-recorded human or synthetic voice.

Digital Braille

The technology for writing, reading and printing braille has taken a mighty leap forward over the last 20 years, from mechanical to all digital systems.

Chorded braille keyboards employed with the Perkins brailler and on electronic braille notetakers are used for data entry. These keyboards do not have a separate key for each letter. There is one key for each dot of a braille cell.

Refreshable braille displays, which can be attached to computers, allow users to access digital information in braille, through pins which rise and fall to represent braille dots. They are widely used on braille notetaker devices.

Disability Discrimination Act

Introduced in 1995, the Disability Discrimination Act (DDA), now replaced by the Equality Act, broke new ground in calling for access by disabled people to goods and services. Section 3 of the Act (which specifically mentions website accessibility) came into force in 2002.

However, only one high tech case, involving a training company that would not accommodate a vision impaired student in a computer based exam, has come to court.

Disabled Students' Allowance

The Disabled Students' Allowance (DSA) is a Government grant available to students in higher education, originally established by the Department for Education and Skills (DfES) in 1993.

Students are entitled to a grant for equipment of over £5,000 during the period of their course. Assistive technology is usually provided as a package including training and support. Equipment remains the property of a disabled student.

Eye Gaze

Originally developed for activities such as controlling fighter planes and tracking people's eye movements in front of web pages, eye gaze technology has been developed as an assistive technology.

Cameras are used to lock onto and follow eye movements over a computer screen. Linking this information with a pointer means users can click on icons, menus and links and type using an onscreen keyboard.

Eye gaze technology comes of age

Originally eye wateringly expensive, this leading edge technology has come down in price and is a routine part of alternative and augmentative communications which help people without speech to communicate.

GPS

The global positioning system (GPS) is a group of satellites that came into operation in the mid-1990s to provide free location and navigation information to receivers on the ground.

The system, developed by the US military, is used to provide blind people with speaking maps and to allow carers to locate vulnerable people such as those with learning difficulties.

Handheld GPS systems with digital maps use the location, speed and timing information from four satellites to tell blind users where they are and to guide them along a route.

Home Access

January 2010 saw the start of a year-long £300m Home Access programme to provide free laptop computers to disadvantaged children. Families were given computers, software and a year's worth of broadband internet access.

Crucially, all the 250,000 computers came equipped with literacy support software for children with special needs. A second round of Home Access saw a further 9,000 children with more complex needs receive up to £2,000-worth of specialised equipment. This part of the programme was described as the biggest contract involving assistive technology in the world.

Alternative equipment on offer to children with physical or learning difficulties included switches, touch screens and adapted mice. Children with severe learning or literacy difficulties were offered symbols or picture software to support writing, reading or curriculum access.

One Voice

In a field with a great many charities, associations and corporate sponsors, the One Voice for Accessible ICT Coalition acts as an umbrella for 14 leading organisations.

The aim of One Voice, which was formed in 2010, is to promote accessibility, campaign to increase awareness and to boost professionalism through courses and qualifications.

The organisation has already produced a report titled Accessible Information and Communication Technologies (ICT): Benefits to Business and Society, which seeks to make the business case for accessibility.

Ray Kurzweil

Ray Kurzweil produced the first optical character recognition (OCR) software used for scanning, recognising and reading out text in synthetic speech to visually impaired people.

A K-NFB Reader

In the mid-1990s he set up Kurzweil Educational Systems to develop pattern-recognition technologies to help school students with disabilities such as blindness, dyslexia and attention deficit disorder.

Products included the Kurzweil 1000 text-to-speech converter software program, which enables a computer to read electronic and scanned text and the Kurzweil 3000 literacy support program. In 2005 he launched the K-NFB Reader which uses a mobile phone camera to recognise text.

Screen readers

Screen readers are programs for blind people that read aloud text, icons and graphics on a computer screen or output it to Braille. The first screen reader for Windows, launched in 1995, was Job Access With Speech (JAWS) from Freedom Scientific.

There are now a large number of free and paid-for screen readers, some such as Apple's Voiceover have been incorporated into mainstream software. Web-based screen readers have also been developed that read out the contents of web browsers.

Section 508

The much admired Section 508 of the US Rehabilitation Act came into law in 1986. Section 508 required government agencies to make their IT systems accessible to people with disabilities.

Under the law an organisation called the Access Board draws up a series of technical standards for accessibility covering technologies such as software applications, operating systems and websites.

Initially the legislation was ineffective until it was revised in 1998 with tougher provisions for enforcement. Section 508 is now being revised again and has had a strong influence on Mandate 276, European legislation covering public procurement and accessibility.

Smartphones

They may be a bit fiddly for some people, but increasingly sophisticated mobile phones are a boon to disabled users, bringing lower cost assistive applications within reach of everyone.

For example, the VoiceOver screen reader for iPhone reads aloud what is touched on the screen. Users can then gesture with a double-tap, drag, or flick to control the phone. Humanware has created a screen reader specially designed for the Blackberry, called Orator.

Hundreds of other assistive technology applications including voice recognition, scanning, GPS mapping and relay services for the deaf are available for iPhone and Android handsets often free or at low cost.

Speech recognition

In 1993, speech recognition systems, designed to turn voice into text, could only accurately identify one in 10 words. Today they have an accuracy of over 99 per cent.

This technical advance means that people who are unable to use a keyboard or mouse because they cannot use their hands or because of learning difficulties can now dictate text and data into a computer and control it through voice commands.

Improvements in recognition rates and the ability of systems to tolerate distortion and background noise have come gradually. One of the big advances has been the ability of systems to recognise a speaker without going through a training programme first.

Symbols

The first symbols were adopted by special schools around the time *Ability* started. Now they are used widely to help children and adults with learning difficulties.

Applications range from helping people who have difficulties learning to spell, through to those who are not able to use traditional text as a means of reading and self-expression.

Tens of thousands of symbols have been devised under various systems. The main ones are Bliss, PCS and Widgit Symbols.

The Widgit symbol for a balanced diet

Touch screens

Display screens that allow a user to interact with a computer by touching an active area to click on an icon, type or manipulate images are widely used especially on mobile devices.

They are great for people who cannot use a keyboard, but they pose considerable problems for people who cannot see or who lack dexterity. However, accessibility has been enhanced by providing voice or haptic feedback.

Video signing

Assistive technology for deaf people has moved ahead fast in the last 20 years with innovations such as cochlear implants, instant messaging and textphones.

Text Relay was launched in 2009, to combine the two existing telephone relay services, Action on Hearing Loss Typetalk and BT Text Direct. However, the use of video signing has arguably the biggest potential to help those deaf people who use signing communicate more effectively.

Initiatives range from public video interpreter services that allow deaf people to communicate with hearing people via a third party signer to websites that provide chat and messaging in sign language.

WCAG

The Web Content Accessibility Guidelines (WCAG) part of the Web Accessibility Initiative of the Worldwide Web Consortium have greatly raised awareness of web accessibility since they were introduced in 1999 and provided a blueprint for web developers.

WCAG's A, AA and AAA ratings adorn many sites, even if interpreting the guidelines has sometimes proved a challenge for website owners. WCAG 2.0 was introduced last year. ■

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Care phones

Mobile phone companies are developing applications for assisted living and health. Chris Bignell looks at the potential for telecare

Since the birth of mobile phones, more than five billion of the planet's population have connected to mobile services, from simple talk and text to advanced application download, GPS navigation and even (in small numbers) video calling.

While this success is unprecedented in the history of technology, it opens a new challenge to the mobile industry: how to keep growing? One answer that is increasingly being mooted is machine-to-machine communications, otherwise known as M2M.

M2M is nothing new. For years, small amounts of data have been sent either over mobile phone networks, or via other wireless technologies, to control and manage communications.

The pioneers in M2M have been utility companies and much of the hype has been in the provision of smart meter solutions that help households and utility companies to manage consumption.

Pushing ahead

Now M2M applications for assisted living, healthcare and wellbeing are being actively pioneered by the mobile industry. The potential is compelling. Modern mobile devices combine location-based services (where someone is), with an always on connection to the internet (via a mobile device).

EvoAssist, developed by RSL Steeper, turns an iPhone into an environmental controller

Applied in an effective way, telecare over mobile phones could offer a virtuous circle: a person's wellbeing can be monitored and measured in real time, without the need for carers' visits or doctor's appointments.

If everything is OK, no action is required. If something is wrong, help can be at hand immediately – via the mobile communications or in person.

The case for mobile telecare has been made stronger through the development of mobile phone networks that deliver fast internet services.

Nigel Chadwick, founding director of Stream Communications (www.stream-communications.com) argues that mobile can now offer a competitor to fixed line connections: "To date the mobile networks and tariffs available have meant that machine-to-machine communications has not really taken off in the way some predicted, but this is changing.

"By deploying our technology in combination with the mobile networks, we are seeing broadband speeds for machine-to-machine communications that can match or better that of fixed telephone lines."

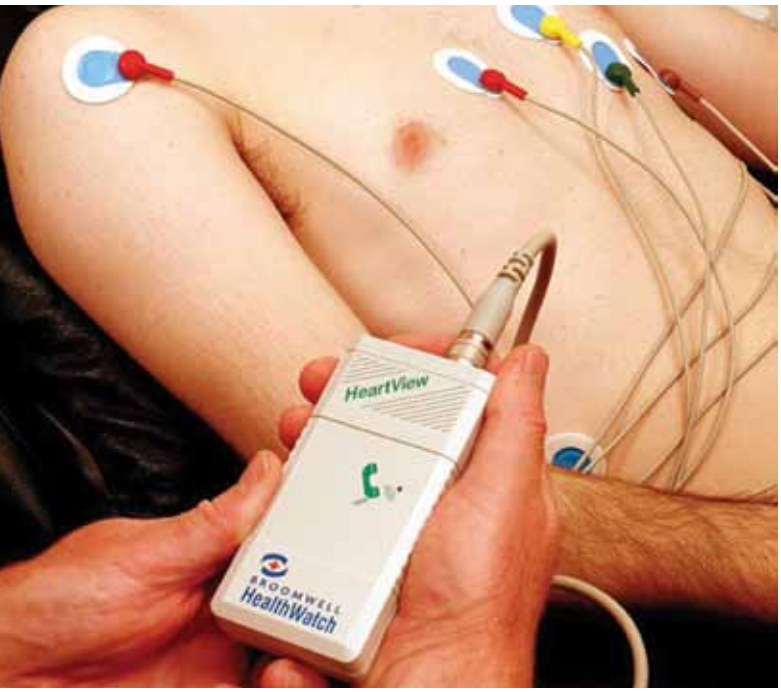
As the population ages, serious but non-critical illnesses, such as high blood pressure and diabetes, will affect a growing proportion of the population. Without some form of adequate mobile telecare service, a generation could either be condemned to home-only monitoring or health services will need an unsustainable level of resource to manage hospital and doctor's visits.

Simple mobile technology is already being applied to deliver welfare support. It is becoming increasingly common to receive a text message the day before a doctor's appointment as a reminder. Commercial services are starting to develop that remind people by text message to take medication.

Services such as buddi (www.buddi.co.uk) enable people to know where their relatives are using a combination of GPS technology and the mobile phone networks. If an Alzheimer's sufferer strays too far from home, alerts can warn you that someone is somewhere they are not expected to be.

In a similar vein mobile phones such as the Emporia LifePLUS (www.emporia.co.uk) come equipped with an emergency button that the user can press if they are in difficulty. The phone will then ring five numbers in sequence to alert friends or relatives that help is needed.

These kinds of applications and services mark the birth of m-health: the development of services and



Sending vital signs over the phone from an ECG monitor

applications over mobile networks that monitor welfare and deliver support. For the mobile industry, m-health offers a rich stream of future mobile connections.

Chadwick argues that this is where mobile's flexibility is important: "Mobile is the most viable solution to provide true independence to people, enabling them to live as full a life as possible, safe in the knowledge that their wellbeing is monitored and managed remotely.

"If telecare is only provided in the home, it restricts people's capability to live life to the full. This is where mobile is infinitely more effective than a fixed line."

Getting the human element right

Although mobile's reach cannot be denied, the more human elements of service delivery could prove thorny.

Gus Desbarats is chairman of TheAlloy (www.thealloy.com), a design consultancy that has specialised in designing 'inclusive' products, such as big buttoned telephones for BT.

Desbarats believes that mobile could help to solve the burning issue of how healthcare providers adequately deliver services in the future: "Machine to machine could add immense value to society. Monitoring of critical, but not immediately life threatening conditions could provide a highly effective means to ensure that help gets to those who need it, when they need it."

However, insight from early trials has suggested that significant consideration will be needed to overcome some real life issues.

"Early telehealth pilots around the world have brought to light all kinds of very human barriers to adoption. Some are as simple as: 'I don't want to be reminded I'm old and/or ill'. Some of this will challenge sensor innovation as well as user interaction design. 'Data collection' will need to be as invisible as possible."

This is not the only challenge that Desbarats can envisage to mobile telecare: "M2M architects need to work closely with clinicians to consider fully how human care interventions are planned in response to the remote data.

"Premature human care responses could swamp the system, late ones risk significant health damage or even death. M2M networks would be able to collect, process and deliver information quickly and effectively, but ensuring the effective collection and interpretation of this information will ultimately prove the success or otherwise of an M2M system."

A further issue comes from the pattern of usage of mobile communications by the elderly. Eveline Pupeter, CEO of Emporia, points out the difference between everyone who wants a mobile phone and everyone who needs one.

Pupeter believes that the relative low adoption of mobile communications within the over 60s community to be a challenge for the future of m-health.

"According to Emporia's research, around 40% of the over 60s in Europe do not use a mobile at all, mostly because they are not suited to their needs," she says.

"The problem for telecare is that if the people it is designed for are not used to mobile technology and do not use voice and text, they are unlikely to trust telecare over mobile."

All of this means that, in order to be truly effective, any M2M-based telecare service has more to worry about than a poor signal from the mobile network. To realise its full potential, telecare over mobile will need to be considered from a number of angles.

For the user, it needs to be unobtrusive. Issues such as the length of a device's battery life, its size and its portability will all need to be managed.

For the healthcare provider, the challenge is developing complex systems that ensure those in need receive attention quickly and effectively.

The mobile networks need to be transparent about the reliability and timeliness of a connection – otherwise a patient who requires medical attention at midnight on New Years' Day (when the mobile networks are most congested) could be waiting a very long time.

The potential for mobile telecare is significant. Not only could it transform people's lives and enable them to enjoy the fullest possible life, safe in the knowledge that they are close to help all the time, but it can also help to diffuse a demographic healthcare time bomb.

To do so M2M telecare systems need to be flexible, robust and user friendly – something of a challenge for machines. ■

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The value of web accessibility

The following Web Access pages are the first of our regular coverage of web accessibility issues sponsored by Shaw Trust

Making a website accessible need not be a costly or time consuming thing says Dan Hounsham, sales manager for web accessibility at Shaw Trust.

But it can have a big pay off. "Take a company with a website trading £1m; if you invest £5,000 you are opening your site up to 19m people," he says.

"If you only achieve an increase in traffic of 5% your return on investment is £45,000."

There are other benefits too, Hounsham points out. By making the coding and structure of a website simpler you are optimising it for search engines.

Maintenance costs are reduced too and there are commercial benefits to using clear, logical English that everyone can understand.

And of course accessibility is a legal requirement for both public websites and internal intranets.

Shaw Trust Web Accessibility Services works alongside many organisations, providing accessibility testing, consultancy, training and web development services.

The charity's accessibility accreditation service, endorsed by The Guild of Accessible Web Designers (GAWDS), carries out web accessibility audits for blue chip organisations using teams of disabled testers and automated testing tools.

Some of the UK's biggest businesses including Admiral Insurance, BSkyB and the Ministry of Defence rely on Shaw Trust's expertise.

"People often ask when we should do it. Do it anytime, it is never too late," Hounsham points out.

A guide to accessibility statements

Many websites include an accessibility statement intended to explain to disabled visitors how the owner is meeting their needs.

But there is little agreement on just what such a statement should consist of. Some websites cover their accessibility in a single paragraph, while others fill pages with technical detail on the issue.

"Neither approach is appropriate," says James Townsend , web developer for Shaw Trust.

"The main purpose of an accessibility statement is to say how it meets the needs of disabled people and to give them information on how to use the site: explaining about access keys, how to navigate your way around and so on."

The UK standard for web accessibility – BS 8878 – has a short section on accessibility statements but Shaw Trust has taken that much further and published its own guide to best practice.

The guide is divided into presentation and contents. The presentation section looks at best practices for preparing the accessibility statement including recommended naming conventions, formatting, structure, language and styling.

The content section explores what a statement should cover including commitment to accessibility assistive technologies and browser compatibility.

An accessibility statement should not just be some boilerplate text, says Townsend, but reflect the contents of the website and the people who will be using it.

Training unlocks technology

Although awareness of accessibility in large organisations has gone through the roof, training is vital if disabled users and IT professionals are going to get the best out of assistive technology.

So says Andrea Kennedy (below), technical auditor and accessibility consultant for Shaw Trust. Kennedy spends much of her time on the road helping hundreds of people to get the most out of technology.

"Training is imperative for disabled users, but very often people don't have the time to do it. Although those I meet have already gone through an assessment, I start by finding out what their aspirations are and how they want to use their technology.

"There is nothing worse than being taught how to use a piece of software when half of it doesn't relate to what you want to do." ■

The most accessible media player in the world?

Software for playing video and audio recordings looks likely to become easier to use with the development of more accessible media players.

Existing online video players such as YouTube, jwPlayer and Flowplayer provide many accessible features, but none manages to provide comprehensive accessibility.

Features such as audio description and advanced captioning are often lacking. But now UK researchers are working to remedy the shortcomings of these mainstream players.

The Office for Disability Issues (ODI) has already introduced the ODI Accessible Media Player, while Sheffield design consultancy The Workshop has been working with charity Shaw Trust to develop another player.

A second web design company called Nomensa has developed similar software that is available from its website as a free download.

Not to be out done, the Open University has started a six-month project to develop an open source player for educational media.

The ODI player has a number of features for those who are hearing and vision impaired including subtitles, audio description, British Sign Language and downloadable transcripts in PDF format.

The system has been built in Flash to provide keyboard support for people who can't use a mouse. Users without Flash in their browsers can get the information in alternative formats. Labels on the controls are designed to be read by screen readers.

"Providing for captions and audio description as well as text transcriptions, this player has been designed to support accessible audio/ video media and we believe it must be the most accessible player available for use on the web," says Bim Egan, senior web access consultant at the Royal National Institute of Blind People (RNIB).

The ODI has also produced a guide to commissioning accessible video with explanations of why video should be accessible and advice on how to achieve it. Although the ODI Player has won a RNIB Surf Right award, some commentators question how easy it is for authors to make use of the ODI Player.

"What I didn't see, unfortunately, was a way for me to use the player to distribute my own media. So the 'most accessible media player in the world' plays exactly six videos," writes reviewer Stephen Downes.

Nomensa's software is free

ODI Accessible Media Player

The Workshop plans new version

The Workshop's free player is designed to be compatible with screen readers such as JAWS and it also supports captions and audio descriptions. It was developed with the help of disabled testers at the Shaw Trust.

The software is still in development and The Workshop plans to introduce a new version with multiple language support, bug fixes and better documentation.

Nomensa says that its player will present multimedia content that meets the same WCAG level (A, AA or AAA) as the website that hosts it. The software allows website owners to play MP3, MP4 or FLV content stored on their servers or to pull in content directly from YouTube.

The player can switch between audio and video interfaces, and adapt itself for use with smaller screen sizes. It can also display synchronised captions.

Open University researchers promise to build an attractive player based on Flowplayer. The system will be used to deliver content from the university's podcast site and will be designed to be used on desktop, mobile phones and tablet computers. ■

www.odi.gov.uk/player
www.theworkshop.co.uk/video-player
www.nomensa.com/web-accessibility/accessible-media-player
http://freear.org.uk/content/ou-media-player-project

Access all areas

Nine months ago Fix the Web set up shop to persuade website owners to improve their accessibility. We talked to founder Gail Bradbrook about where the campaign is going next

The bright red heart logo that beams out from Fix the Web's home page sums up the organisation's approach to improving accessibility: passionate.

Started by Citizens Online last November with funds from the Nominet Trust, Fix the Web has certainly generated a lot of publicity, especially since it won backing from technology fan Stephen Fry.

Much of the drive behind the campaign has come from founder Gail Bradbrook (pictured) whose infectious enthusiasm has impressed political figures such as culture minister Ed Vaizey and disability champions such as RNIB.

The catchy name and the simple idea of asking disabled people to report websites that they have difficulty accessing and getting volunteers to take the problems up with website owners has caught the public imagination too.

And the statistics are impressive. At the time of writing Fix the Web has recruited some 574 volunteers who between them have handled reports from 150 disabled people concerning over 700 websites.

Coventry Building Society is just one of the website owners that have been contacted by Fix the Web. A building society account holder reported problems carrying out transactions using assistive technology.

The customer relies on Grid 2 communications software together with a system called Smartnav, which tracks a silver dot on her forehead via a webcam. The two programs allow her to control her computer pointer.

However, she could not place the pointer accurately enough to fill in the boxes required to make transactions on Coventry Building Society's website.

The problem was tracked down to the Trusteer Rapport security software used on this site and a great many other online banking services. Trusteer and Coventry Building Society are working to fix the problem.

"The early idea we had was to patch people's websites, but it wasn't a possibility: just enabling the voice of the user was what was needed," explains Bradbrook.

She has concentrated on making the process of reporting a site as easy as possible using email, twitter, an online form or a toolbar which can be downloaded from Fix the Web. It just takes a minute.

Approaching website owners is a more ticklish business. Fix the Web has learnt it is a long process that requires patience and diplomacy. Just finding the right person in an organisation to tackle over an accessibility issue is not always easy. And getting them to take a report seriously often takes some doing.

But Fix the Web is keen to learn. The campaign's 30-strong steering group has been mulling over a tough talking report from web accessibility guru Sandi Wassmer.

Wassmer recommends a more structured means of collecting and assessing information about accessibility problems as well as better follow through with website owners. She also calls for a training programme for volunteers.

"Although well intended, Fix the Web's processes and systems are not able to meet the needs of the organisation in achieving its objectives," she says.

"The structure of the database is not broad or deep enough and the mechanisms for reporting do not facilitate the collection of meaningful data."

Bradbrook has taken the feedback on board and aims to build a sustainable model that can be adopted on a worldwide scale.

"The second phase is to push Fix the Web abroad with new languages and with support from bodies such as the Worldwide Web Consortium," she says.

"We want to develop the UK product and then to take it global through partnerships."

To do that Fix the Web needs further funding, says Bradbrook, to supplement the largely voluntary effort involved in running the organisation and developing it for the future. ■

Microchip motoring

Drive-by-wire adaptations are allowing more disabled people to take to the roads in smaller, safer and more economic vehicles, writes Paul Gambrell

For many people with a disability being able to drive is a matter of choosing the right model of car and fitting some fairly simple mechanical adaptations to help with the controls.

However, a significant number of people with a restricted range of movement and a lack of strength require far greater support than is offered by these basic systems.

Over the last few years increasingly sophisticated, high technology adaptations have been developed to meet their needs.

Much of the technology used is derived directly from the aircraft industry and results in a 'drive-by-wire' vehicle.

This, together with better availability of accessible vehicles and improvements in funding, has led to a significant increase in the numbers of this type of advanced vehicle being produced each year.

There are several companies that build bespoke systems using electronics and hydraulics to produce controls tailored to an individual but, increasingly, adaptation companies working in this field have come to offer one of two systems that are available in a modular form, off-the-shelf.

These are the Advanced Electronic Vehicle Interface Technology (AEVIT) 2.0 system produced by US company EMC, and the Space Drive system, made by Paravan in Germany. Both systems have many similarities and for this article we can talk about them generically.

To be able to drive, a person needs to be able to manage both the primary controls (steering, brake and accelerator) and secondary controls (lights, indicators, wipers etc).

Let's start by looking at the controls that are the most obvious, the primary ones.

Modern, hi-tech driving control systems are modular in nature so that the driving system has its own controller with control adaptations or human machine interfaces (HMI) selected to suit the person who will drive the vehicle.

In practise, that means there is one controller for the steering system and one for the brake and throttle. Where both systems are fitted they are also linked by a further micro-chip that arbitrates between them.

Steering with an adapted wheel

Neither system plugs directly into a vehicle's own electro-mechanical set-up but instead they drive servomotors which are attached to the vehicle to actuate the existing controls.

So, for steering there is a motor that is geared to the vehicle steering column and for the brake and accelerator

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Most recently, Vangent managed the Home Access Learner Evaluation and Management Service. The outcome: the provision of personalised assistive technology solutions to over 9,300 profoundly disabled children from disadvantaged families, making a meaningful difference to the lives of a worthy cohort. This success required agile delivery, secure information handling, integrated case management and last but by no means least, a reliance on trusted, and professional disability assessors.

Building on this success, and contingent on new contract awards, Vangent is seeking to augment its capacity of assessors. One of our key requirements is to engage and develop a nationwide team of associates to assess disabled employees in all regions of England, Wales and Scotland.

To register your interest and to find out more, please email a brief summary of relevant experience and qualifications to Vangent's Disability Assessment Programme Manager at paul.haggett@vangent.com

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there is another motor that applies pressure to the pedals through rollers.

It may seem strange that these are designed to piggy-back onto the existing controls, but the major advantage in doing it in this way is that the systems can be easily disengaged so that the car can also be driven by an able-bodied person. This can be important when people share the use of a car, for vehicle servicing or in the case of an emergency.

There are many types of HMI available. Typically, steering will be controlled by either a low effort mini-wheel or a two-way joystick; braking and accelerating through the use of a lever or two-way joystick.

Where braking, steering and throttle have all been adapted it is possible to control everything through a single multi-way joystick. Additionally, there are various options in terms of orthotics and the shape of joysticks.

In addition to selecting the type of HMI that is best for each driver, designers can fine tune systems as to how they respond to inputs. Steering sensitivity can be adjusted as can accelerator and brake response.

The EMC AEVIT control panel

Plug-and-play HMIs

Modern systems operate on a 'plug-and-play' basis similar to that which happens when you plug a mouse into your PC.

The various HMIs offered can be quickly and easily changed without the need to change the controller (though it isn't possible to mix parts from different manufacturers systems).

This is very different to older systems of this type where the controller and the type of HMI were specific to each other. The plug-and-play approach means that if a driver's needs change over time, the type of control they are using can be changed relatively quickly and cheaply.

Having set up the car so that a driver can brake, steer and accelerate, they now need to be able to use the other controls.

While most modified vehicles have an automatic gearbox of some form, a driver still needs to be able to engage drive and reverse, and they also have to be able to use the parking brake.

Again through the use of electric motors this can be done as part of the package. It is interesting to note that this functionality is now becoming commonplace on production cars.

Several models now have electric parking brakes, operated by a simple push of a switch while some high end cars, for example Jaguar, have their gears selected using an electrical system.

The remaining secondary controls can be modified to be operated from switch panels located to suit the driver.

Convenient touch screen controls

Controls such as engine start, lights and indicators through to heater, windows and door locks can all be placed where they are convenient and accessible for the disabled driver.

With the AEVIT system this is achieved using a touch screen panel that is also used to monitor and programme the primary control systems.

Unlike the other controls, these require interaction with the vehicle's on-board systems; something that became a lot more difficult with the adoption of multiplex wiring by the car manufacturers over the last few years.

Conventional wiring operates by making or breaking a circuit using a switch (as we all enjoyed in physics classes at school). Multiplex wiring works by having the electrical device plugged into a ring circuit which is then turned on and off when a digitally coded signal is sent to it.

Multiplex wiring has been adopted by just about every vehicle manufacturer and caused a lot of issues with car adaptation when it first appeared. Since then ways of dealing with it have been developed but it still makes the adaptation of secondary controls more difficult.

Where the motor manufacturers have been helpful is that increasingly a number of the secondary controls are being made automatic. Auto lights and wipers are already a commonplace option and, at a low cost, often removing the need to adapt these.

Safety is, of course, a huge consideration that has to be taken into account when designing and installing systems that directly control a vehicle. Just like the fly-by-wire systems used in aircraft, all these systems have back-ups to ensure that in the event of failure they can still operate.

For example, in the case of EMC AEVIT, each primary control processor unit has four microchips in it though only one is required for the system to continue to operate.

There is also a back-up battery system so that in the event of the vehicle's own electrical system failing there is sufficient power to bring the vehicle safely to a stop.

The motors used also have a back-up (a piggy-back motor or dual windings) to take over if the primary system fails.

All these systems have various checks that have to be gone through when the vehicle is started to ensure they are functioning correctly and they also have data loggers so that any faults can be examined, often remotely, when they do occur.

As you can see, the technical challenge in installing these systems is a significant undertaking, however the vehicle adaptation specialist also has to be skilled at fitting all the controls to the driver.

Although vehicles and systems are all now available off-the-peg, the final solution needs to be tailored to ensure it is a bespoke fit. This process takes time and can only be accomplished by carrying out fittings where the driver is positioned in the vehicle and the controls set out around them.

The EMC system with electronic gas and brake on the left and a mini steering wheel on the right

An essential driving assessment

Technology has allowed more people to enjoy the freedom that a car provides, however it cannot be stressed enough how important it is to have a full driving assessment at the outset.

While this may entail the inconvenience of having to travel to a mobility centre, the information and advice they provide is essential in ensuring a successful outcome.

The Forum of Mobility Centres (0800 559 3636, www.mobility-centres.org.uk) will be able to help you locate a local centre that does assessments.

Armed with this information, and working closely with the disabled driver, a vehicle adaptation company will then be able to adapt the vehicle to suit.

So how much does all this technology cost? Well a lot of it depends upon what the driver actually needs but for a simple throttle/brake system prices start at around £10,500 rising to around £27,500 for a complete system.

The vehicle and any adaptations made to it are additional. Also there are servicing, running and maintenance costs to be considered. Given the funds required it is not surprising that a lot of people rely on help from organisations such as Motability through grant funding.

The modern systems I have described have had a number of benefits. The ability to configure and tailor them to the individual has allowed people to drive safely and with more confidence and they have allowed the use of different vehicles.

The older systems tended to be bigger and more bulky generally requiring the use of larger vehicles; now we can use smaller, more economic vehicles instead. It is expected that we will see greater miniaturisation in the future. More innovative systems are already coming onto the market.

For example, an Italian company called Guido-Simplex has developed an electro-hydraulic system and there is another electronic system, the Joysteer, available in Europe which is expected to come to the UK some time in the future.

Ultimately the use of these high-tech driving controls has allowed more disabled people to experience the freedom and opportunities that having a car gives. ■

Paul Gambrell is director of Ricability, the independent consumer research charity providing free, practical and unbiased reports for older and disabled people.

The author would like to acknowledge the help of Peter Short, DS&P Mobility Electronics for his help concerning the EMC products and Barry Wheeler, Auto Mobility Concepts Ltd for help with the Space Drive product. Additional information was provided by Steve Gilmartin, KC Mobility Solutions Ltd.

For further information go to:

Auto Mobility Concepts Ltd	**www.automobilityconcepts.com**
DS&P Mobility Electronics	**http://www.dsp-mobilityelectronics.com**
EMC	**http://www.emc-digi.com**
KC Mobility Solutions Ltd	**www.kcmobility.co.uk**
Motability	**www.motability.co.uk**
Paravan	**http://www.paravan.de/en/home.html**
Ricability	**www.ricability.org.uk**

FaceMouse raises eyebrows

Gesture technology is increasingly opening up computers to people who have problems using standard interfaces

Claro FaceMouse, a £290 package from Claro Software, is the latest example of how body movements picked up by a webcam can be used to perform intricate computer operations.

As the name suggests, FaceMouse literally turns a user's face into a mouse.

A recognition algorithm locates key features such as the outline of the head, eyes, mouth and eyebrows and uses them to perform classic mouse functions.

Movements of a user's head up and down and side to side move the mouse pointer on-screen. Open your mouth and FaceMouse carries out click functions, while eyebrow movements can be used to scroll pages.

The system became a functioning mouse within seconds when Ability tried a demonstration version recently and although some movements took practice, FaceMouse was almost as easy to use as a hand operated mouse.

Interest in assistive applications was sparked last year by Microsoft's Kinect motion controller for the Xbox games machine, which has spawned a raft of software.

The appeal of the device is that it is outfitted with motion-tracking cameras, depth sensors and software that let it detect the shape and position of the human body.

World search for alternative interfaces

One advantage of FaceMouse is that it is part of a range of alternative interfaces researched by Claro Software's Paul Blenkhorn, who has travelled the world looking for good ideas for alternative interfaces.

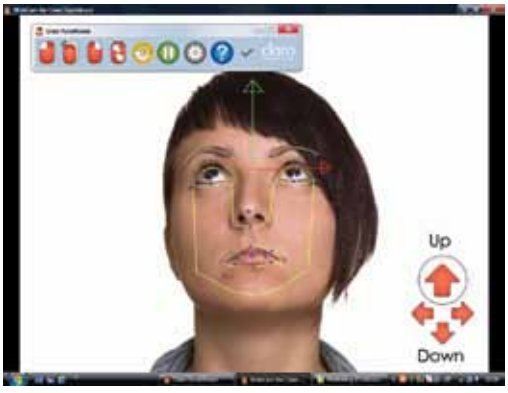
They include an on-screen keyboard called Oska; Tactix – a touchpad designed for mouse, switch and joystick users with a light touch and minimal movement – and One SwitchMouse which allows a user to control a mouse pointer using only one switch.

Claro Software has put together a package consisting of FaceMouse, One SwitchMouse and Oska keyboard for £495. The bundle includes ClaroRead SE, the text-to-speech literacy support tool for PCs.

Hands-free control

Claro FaceMouse is beneficial for a range of computer users with physical disabilities. If a user doesn't have enough motor control for a physical mouse or joystick, Claro FaceMouse presents a novel, hands-free method for controlling the mouse pointer, mouse clicking and keyboard.

Coupling Claro FaceMouse with Oska on screen keyboards enables users to read, write, communicate, play games and surf the internet. ■



For further information about Claro FaceMouse, or to enquire about any other products in the Claro Interfaces range, please visit www.clarointerfaces.com or email sales@clarointerfaces.com, alternatively call us on 01772 977888.

Real time signing

Charity Deafax and video firm Winkball have introduced a novel website to help deaf people communicate via sign language.

Viewtalk is the first website specifically designed for people who sign and allows them to send video messages and chat live online.

"The main part of the system is recording messages," explains Winkball managing director Dr James Ohene-Djan.

"There is also a live chat system similar to Citizens Band radio: when I'm signing you can see me and when you are signing I can see you. There is only one image on the screen."

A third person can also speak to allow virtual signing interpretation.

Viewtalk allows users to upload video clips to a 'hopes and dreams' wall designed to increase deaf awareness.

The website has also recruited a team of deaf reporters who conduct video interviews in businesses, shops and public places.

www.viewtalk.org

Including You hits the mark

BT has introduced a website offering accessible products and services for those who need help with communications.

Including You was developed in conjunction with AbilityNet and is the first to achieve an AbilityNet accreditation mark.

The site supplements existing accessibility web pages on www.bt.com by integrating in one place accessible products and services, as well as news, advice and information.

The website has British Sign Language content and Browsealoud software for people with visual impairment and reading issues. It also offers courses covering topics such as online shopping, using an internet browser and a search engine and sending emails.

www.bt.com/includingyou

Intowork offers IT skills

BT Scotland and recruitment charity Intowork have set up a specialist IT unit at the Norton Park Centre in Leith, north of Edinburgh.

The technology suite and IT literacy project has been launched to help disabled people find a job.

The facility is expected to help around 300 unemployed disabled people gain the kinds of IT and internet skills employers are increasingly looking for in applicants.

Brendan Dick, director of BT Scotland, noted how people with disabilities were significantly more likely to be unemployed.

"We want to help people find work in roles that are all too often closed to them. Having confidence online also creates new options, such as the possibility of working from home."

www.intowork.org.uk

Literacy aids click with kids

Technology aimed at improving children's literacy has been endorsed by academic studies in the UK and US. Clicker 5, Crick Software's reading and writing support tool, has been put to the test in a number of recent research projects.

At the University of Nottingham, Dr Arjette Karemaker looked at the effectiveness of Clicker in Year 1 classrooms.

Dr Karemaker's results showed increased performance gains across a broad range of basic literacy skills after intervention with Clicker compared to traditional pedagogical practices.

A second study in the US found the software improved autistic children's writing productivity.

www.cricksoft.com

Maps made easier to read

Ordnance Survey now uses a selection of colours for its maps that make them easier to read by people with colour vision deficiency (CVD).

CVD affects approximately one in 12 men and one in 100 women in

the UK and can make the traditional colours used for maps virtually indistinguishable.

Up until now, a range of different colour palettes was needed to create maps for people with different colour vision deficiencies, but Ordnance Survey has developed a single palette that works for everyone.

Among the first maps that will make use of the new palette is the OS VectorMap Local, a product that allows users to create maps to their own individual specifications.

www.ordnancesurvey.co.uk

Ricability to tackle telecare

Ricability, the Which? organisation of the assistive technology world, is planning an independent review of telecare, according to its new director Paul Gambrell.

The research company, which split from Which? in the 1990s has 35 live reports available at present, many to do with mobility, phones, TV and radio.

Gambrell, who was previously at the Motability charity and ATcare, says Ricability works with manufacturers, providing feedback and consultancy to improve the usability of their products.

"We want to applaud their good work and criticise them when they go wrong," he says.

Ricability reports are not "back to back comparisons", says Gambrell, but intended as consumer guides.

The organisation uses the internet, but with less than half its constituency online, conventional media are also important.

www.ricability.org.uk

Guide to digital buildings

Architects and design professionals are the target of a new guide to developing homes for disabled and older people.

The Guide on Assisted Living, published by the Royal Institute of British Architects and the Building Research Establishment, is aimed at helping designers include the right kind of digital services in buildings for people with long term chronic conditions.

It was launched at a conference called Future Homes put on by the Digital Access Provision Forum, a consortium of organisations that promotes the use of digital communications in buildings.

The conference was chaired by Richard Allan of Facebook and included presentations on the DAP assisted living project from Kevin Johnson of Cisco and Paul Thomas of Microsoft.

http://towardslifetime21.eventbrite.com
www.dapforum.org

Simple OCR

Most scanners include at least a rudimentary tool to perform optical character recognition (OCR) – for converting scans of printed text documents into files that can be edited using a word processor.

However, few of those programs will be as capable, or accurate, as the free Simple OCR application. It includes a built-in 120,000-word dictionary, which helps the program reach a recognition accuracy of 99 per cent. It also negotiates documents with images, retaining the pictures if required, and can be set up for batch OCR.

www.simpleocr.com

Biofeedback improves concentration

Biofeedback devices that train people to concentrate by making them more aware of the working of their brains are becoming more user friendly.

Games for Life, the company that sells the US Play Attention system, has launched a version of the brain scanner called Bodywave that can be worn on a user's arm or leg, rather than on their head.

Bodywave trains children and adults to improve their focus by providing feedback on their brain activity as they play games that call for concentration.

Electronic signals from a user's brain are detected by Bodywave as they move through their body and are used to control games.

One game involves guiding a diver to the bottom of the sea. The harder a user concentrates, the quicker the diver descends. Other games are designed to improve a person's ability to stick to a task and boost their memory.

The system is used to help coach children with attention-deficit hyperactivity disorder and similar attention related learning difficulties.

www.gamesforlife.co.uk/focus-newsletter-introducing-bodywave-the-next-wave-in-attention-training

RSLSteeper launches EvoAssist

RSLSteeper has launched EvoAssist, an application that turns an iPhone, iPod Touch or iPad into a universal home environmental controller.

EvoAssist can be set up to facilitate a wide range of everyday tasks through infra red and RF radio control including answering telephones, opening curtains, raising alarms, unlocking doors and changing television channels.

In addition to control via touch screen, the application can also be controlled via external switches, and can be configured to meet the needs of individual users.

Control options can be displayed using either text or clear icons, and it can be viewed on an external screen for those with visual difficulties. Prompts are available to assist users in selecting the correct functions.

The application also features selectable pre-recorded phrases, and can be used as a basic communication device. EvoAssist is fully compatible with iPod approved equipment for charging, sound amplification and large screen displays.

"Previously, physically disabled people with home automation systems may have needed several separate devices, each with different interfaces, to complete their everyday tasks." says Dave Howson, director of RSLSteeper's Assistive Technology division

www.assistive-technology.co.uk

Accessible PDFs

RNIB's Web Access Centre has recently produced a blog on making accessible PDFs. The guide explains what needs to be done to make PDF files inclusive, providing tips on conversion and repair, as well as suggestions for creating a PDF that is designed to be accessible from the outset.

RNIB points out that Web Content Accessibility Guidelines 2.0 require that a PDF and any other downloadable content available from a page is as accessible as the web page itself.

www.rnib.org.uk/professionals/webaccessibility/wacblog/Lists/

Switch Skills

Inclusive Technology is to donate sales of its Switch Skills Champions interactive software, expected to be £50,000, to Leonard Cheshire Disability.

Switch Skills Champions features five sports that are included in the Olympics or Paralympics: basketball, volleyball, boccia, ice hockey and hurdles.

"Switches attached to a computer are an essential way for children and adults to build up coordination skills," says Rosanne Lyddon of Leonard Cheshire.

www.inclusive.co.uk

See what you say.

Audio Notebook Software

Olympus Sonority Plug-in option

daisy OK

Drag and Drop Editing.
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Organise and manage your recordings with ease…

Audio Notebook has been designed to complement the existing Assistive Technology range from Olympus, allowing a simple yet effective way to organise your recordings.The splitting and editing of files into easy manageable segments allows you to create a truly unique reference to your recordings.

Only keep the information you need, incorporate images/links to related information, and include your annotated notes via voice recognition or typing - the perfect revision tool!

- Split/Merge recorded files into manageable sections
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- Add annotated notes via typing or voice recognition
- Save as individual Project for future reference
- Option to collate changes and save Projects in DAISY format

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For further details on Audio Notebook please email
assistivetechnologies@olympus.co.uk

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Sound foundations

Recordings of lectures, tutorials and meetings are invaluable to people who find reading and writing difficult

Fortunately, capturing what people say electronically has become easier with cheaper, higher quality digital recording equipment and more sophisticated voice recognition software. Standard formats such as MP3, WAV, WMA, iTunes and DAISY make it a lot easier to exchange recordings and produce transcripts.

But until recently there were few effective ways of managing recordings in the same way that written notes can be organised, annotated and underlined.

Someone who records an hour long lecture will probably have to spend at least another hour, if not more, listening to the audio file and making notes.

However, software that allows people to create audio notes and more easily select and reorganise passages from a recording is now available.

Using either imported audio files or direct recording, the software works by dividing up speech into passages based on a speaker's pauses. The passages are then represented as coloured blocks on a computer screen.

There are two companies in the field: pioneer Sonocent has already sold 15,000 copies of its Audio Notetaker (£80 plus VAT), while audio company Olympus has recently launched its Audio Notebook software (£49.99 ex VAT).

Audio Notetaker is on version 2.4. Users can assign different colours to the blocks, change the highlighting, delete blocks and associate their own voice notes, text notes and files such as PDFs, PowerPoints or images with particular blocks. A full screen mode recreates the experience of being in a presentation.

When playing back recordings, users can skip from block to block using the notes to home in on a particular passage. The software has a search function that allows a user to find key words in notes, PowerPoint and PDF files.

Audio Notetaker

The system has an inbuilt portable devices, audio and notes file manager to help with organisation. It recognises index marks from Olympus recorders and T-marks from Sony recorders that have been added to a recording and displays these as new sections.

Audio Notebook

Cut, copy and paste commands allow users to move sections around. It is also possible to speed up play-back to save time and export slides, audio and notes to iTunes.

"These are great productivity tools," says Dave Tucker, director of Sonocent. "The live note-taking features of Audio Notetaker mean that people can annotate their recording as they are listening to create comprehensive notes with minimal input, saving time and maintaining concentration."

"Audio note taking is a brand new approach to taking notes and is one that can actually form part of the learning process itself."

The Olympus Audio Notebook, which is compatible with Mac and PC machines, can produce notes using Dragon NaturallySpeaking voice recognition instead of traditional typing if required.

Recordings in Audio Notebook, which can be linked with other files that support the recording, can also be exported in the DAISY format used to bedded in talking books. The software is available in 10 different languages.

The software, which will be available in the UK this July, allows users to import pictures to help identify parts of a file. Notes in Audio Notebook are indicated by large red icons that correspond with sections in the visual representation of a recording.

"Audio Notebook has been created by Olympus to assist users who have difficulty making notes whilst retaining information," explains Lee Buckley, national account manager for audio at Olympus.

"Users will be able to download their recorded audio files with the option to then split them into manageable sections and removing parts that aren't needed. These sections can then be annotated via typing or voice recognition." ■

And the winner is …

Awards provide funds and recognition for assistive technology projects. We review winners from this year's season and bring news of upcoming competitions

Lifelites uses Technology4Good

Projects to aid disabled people in schools, hospices, employment and on benefits were among those that received a Technology4Good award from AbilityNet.

Lifelites, a charity that has provided access to IT for education and fun to over 6,500 children in British hospices, was judged overall winner.

The organisation has developed a standard system for hospices that requires no expertise from carers to set up but which includes cutting edge technology such as head pointers, switches and Microsoft's Connect games system.

Other winners in the Technology4Good Awards were:

- IT Volunteer of the Year, IBM employee Colin Crook, who helps sheltered housing residents, many with sight problems to get on-line.
- Starting Point Learning Partnership (www.startpointwoodley.co.uk), a community cybercafé which grew out of a fish and chip shop.
- Vintage Radio (www.vintageradio.org.uk) – a Merseyside-based, on-line radio station run by the over-50s for the over 50s.
- The Pennies Foundation – an innovative way of donating spare change electronically (www.pennies.org.uk).
- Internet Buttons (www.internetbuttons.org) – a web tool that simplifies the internet for nervous newcomers.
- The Transforming Customer Contact Team at the Department for Work and Pensions (www.direct.gov.uk).
- XMA and iansyst (www.xma.co.uk) for their collaborative delivery of bespoke computer systems to over 9,000 children through the Home Access programme.
- Lloyds Banking Group (www.lloydsbankinggroup.com) for its commitment to best practice in workplace disability management.

Vodafone offers €200,000 prizes for smartphone apps

Vodafone has put up €200,000 in prizes for a competition for developers to improve the lives of older people and persons with disabilities across the European Union.

The Smart Accessibility Awards are aimed at smartphone applications in four categories:

- Social participation (applications that help users to participate in society and benefit from new technologies)
- Independent living (applications that help users to be more autonomous and perform daily tasks independently).
- Mobility (applications that enable users to move around more freely and safely).
- Wellbeing (applications that improve a user's health and wellbeing).

The total prize fund of the €200,000 will be split equally between the four winners. The competition is open until October 15 2011. All entries should be submitted to http://developer.vodafone.com/smartaccess2011/ .

Mobile access project wins $10,000 from MIT

A team of researchers at the Massachusetts Institute of Technology (MIT) has won a $10,000 award from the university to develop universally accessible mobile devices.

The researchers argue that smartphones, tablet computers, e-readers, and netbooks have locked out those who could arguably benefit from them most.

"Our objective is to develop a toolkit including common hardware and software platforms that will make it possible for any individual to fully access a mobile device with any input interface," says team leader William Li.

http://globalchallenge.mit.edu/teams/view/140

MyZone counters Windows complexity

Inclusive Technology's MyZone software, which provides an alternative interface for children and adults with learning difficulties, has won an Educational Resources Award from the British Educational Suppliers Association(BESA).

"As the Windows computer interface becomes more sophisticated and complex, it presents more of a barrier for these pupils to access programs, music, videos, photographs and the internet," says Jamie Munro, Inclusive Technology's Information Team Manager.

http://www.inclusive.co.uk

AMI looks for the people's choice

Charity Leonard Cheshire Disability is asking members of the public to nominate work from film, television or radio, which has been produced by, or presents issues facing disabled people.

The nominations will be considered for The People's Choice Award in this year's Ability Media International Awards.

In order to qualify nominated pieces must either have been produced by disabled people or promote greater understanding of disability issues.

Works must have been produced, printed, published, televised or created between 10 August 2010 and 10 August 2011. The winner, to be announced at an awards event later this year, will be the one that receives the most public nominations. ■

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A comprehensive information service for professionals who deliver assistive and accessible technology to disabled people

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1. The organisational subscription comprises the *Ability* monthly email newsletter, five copies of each print edition and a licence to distribute an ebook edition (PDF and HTML versions supplied). The annual subscription fee is £160 (members of National Association of Disability Practitioners £144).

2. The personal subscription consists of the *Ability* monthly email newsletter and either a print or ebook edition (PDF or HTML). The annual subscription fee is £60 (members of National Association of Disability Practitioners £54).

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Telephone: 01444 831226
Email: john.lamb@abilitymagazine.org.uk
Website: www.abilitymagazine.org.uk

Diary of events

QUEEN ALEXANDRA COLLEGE SIGHT VILLAGE, BIRMINGHAM

12-14 July
New Bingley Hall, Birmingham
Sight Village is the leading exhibition for people who are blind or partially-sighted and for professionals supporting and advising visually impaired people and for all businesses and other organisations wishing better to meet the needs of their vision impaired customers. *Ability* correspondent Marie Conyer will be filing a special report from this year's event, which includes seminars on Dolphin systems, the latest version of Freedom Scientific's JAWS and Braille production.
Fees: None
For further information: Tel: 0121 428 5050, email: sv@qac.ac.uk or visit www.qac.ac.uk/sightvillage

INCLUSIVE TECHNOLOGY INFORMATION DAYS

23 August Edinburgh
PMLD/Communication
24 August Edinburgh
Inclusive Classrooms
14 September Oxford
PMLD/Communication
15 September Oxford
Inclusive Classrooms
Inclusive Technology's free information days cover communication for pupils with profound and multiple learning disabilities and strategies for supporting children with special needs in a mainstream classroom.
Fees: None
For further information: Tel: 01457 819790 or email: inclusive@inclusive.co.uk

SENIOR MARKET MOBILE 2011

20 September
Royal Institute of British Architects, London
The aim of Senior Market Mobile 2011 is to bring together those who are already pioneering services for older customers with established mobile industry players. The organisers promise delegates a chance to shape forthcoming regulation on phones for those with disabilities.
Fees: £349
For further information: Tel: +44 (0) 7973 204024 email: simon@seniormarket.mobi or visit www.seniormobile.co.uk

DISABILITY NORTH EXHIBITION

21-22 September
Newcastle Racecourse
Information equipment and advice for disabled and older people.
Fees: Free
For further information: Tel: 0191 284 0480, text: 18001 0191 284 0480, email: events@disabilitynorth.org.uk or visit www.disabilitynorth.org.uk

REHACARE INTERNATIONAL

21-24 September
Dusseldorf Exhibition Centre, Germany
Rehacare is one of the largest international trade fairs for people with special needs and those requiring care. 700 exhibitors from 30 countries are expected to take part in the event. Over a third of exhibitors are professional associations, organisations and self-help groups. The show occupies six exhibition halls and a total of 70,000 square metres of exhibition space. Last year 50,000 people came through its doors.
Fees: seven euros in advance or 12 euros on the door.
For further information:
Tel: +49(0)211/4560 – 984 or visit www.rehacare.com

COMMUNICATION MATTERS NATIONAL CONFERENCE

25-27 September
Gilbert Murray Conference Centre, Leicester University
The Communication Matters National Conference is the UK's leading annual augmentative and alternative communication event, with a diverse programme of presentations, workshops and an exhibition. With 400 participants every year, the conference provides a forum to exchange information with representatives from all disciplines associated with AAC.
Fees: Two nights residential full rate £440, £385 if booked before July 31. One night residential £385 or £330, Non-residential £325 or £270. Subsidised places for people who use AAC.
For further information: Tel: 0845 456 8211, email: admin@communicationmatters.org.uk or visit www.communicationmatters.org

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ability magazine
Editorial, advertising and other enquiries:
john.lamb@abilitymagazine.org.uk
www.abilitymagazine.org.uk

abilityNet
Charity advising disabled people, employers and others on assistive IT.
0800 269545
www.abilitynet.org.uk

Directgov
Government site with help on employment, training, education, financial support, transport, rights and other issues for disabled people.
www.direct.gov.uk/en/disabledpeople/index.htm

employers' Forum on Disability
Claims to be the world's leading employers' organization focused on disability as it affects business, including recruitment and retention of disabled staff and serving disabled customers.
www.efd.org.uk

emptech
A database that provides information resources on assistive technologies, which are designed to help those with specific disabilities work and study. Emptech includes product descriptions, links to manufacturers, suppliers' addresses, as well as other related resources.
www.emptech.info

IT Can Help
Volunteers offering disabled people free local help with computers.
0800 269545
www.itcanhelp.org.uk

Leonard Cheshire
Disability care charity providing support services for people with physical disabilities and learning difficulties.
020 3242 0200
www.lcdisability.org

shaw Trust
Charity that champions the abilities of disabled people, enabling over 60,000 people per year experiencing all types of disability to make the most of their skills, abilities and employment opportunities.
01225 716300
www.shaw-trust.org.uk

suitability
Services to help employers fill vacancies and disabled people to get jobs. Part of charity Leonard Cheshire Disability.
0845 671 7173
www.lcdsuitability.org.uk

remploy
Employment services for disabled people and employers, plus other business services, including IT equipment recycling.
www.remploy.co.uk

u Can Do IT
A charity that provides computer training for blind, deaf and disabled people in their own homes.
020 7730 7766
www.ucandoit.org.uk

Why we must learn to like big business

Kevin Carey visits American media companies and discovers the truth about their attitudes to charities

At the end of May this year, I joined an RNIB trade delegation that visited the home bases of major global media companies, including – in no particular order of importance – Google, TiVo, Amazon and Kindle.

Without wishing to characterise a uniform reception, it's fair to say that we were initially received with caution because of the marked tendency of one US organisation of blind people to sue first and talk later.

After I had explained that we recognised the legal and ethical obligation of commercial companies to do their best for shareholders; our understanding of competitive pressures between companies; the necessity of confidentiality; and the competing priorities within companies of which accessibility was only a part, we were received warmly.

One company said that it had had numerous email discussions and teleconferences with disability consumer groups but we were the first to make a visit in person.

The case of the US litigant organisation is based on its perception of citizen rights which it is not for us to question; but when we in the UK consider our campaigning stance on accessibility, a good starting point would be to remember that we have no rights enshrined in UK Law, although we can cite vague EU Declarations (Treaty of Amsterdam) and the UN Convention on the Rights of Persons with Disabilities.

It would do no harm, either, to remember that if you want something from somebody who isn't bound to give it to you, good manners and empathy come in handy. Good manners are easy enough and cost

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nothing; but empathy takes a bit more effort.

Organisations that have been used to campaigning to extract concessions from the public sector need to understand that major corporations are not like government; they are at once less and more powerful: less because they are in a state of permanent competition; more because they can shift resources more quickly to cash in on an opportunity or create a fire.

Let us take as an example, Microsoft, a company we did not visit on our trip. It decided at the beginning of the 1990s at the launch of Windows 3 that it would only provide the bare minimum of accessibility, leaving the rest to AT developers.

Its successive Accessibility Wizards showed precisely what it believed would produce a market return and what would not. Another company we did not visit on this trip, Apple, was slow to adopt accessibility but was forced to by 508 if it wanted to stay in the state school equipment market. Over time that led to the talking iPhone and iPad, pulling Android in its wake.

But it would be wrong to think that the two decade hegemony of Microsoft is ending because it made a wrong call on accessibility. It is ending because it made a fatal wrong call on technology.

What can we learn? Without the following, we are dead in the water: an understanding of how to calculate profitability; the relative, definite cost of compliance and the uncertain, variable cost of non compliance; the marginality of the disability demographic; and the severe limits of altruism.

People in global companies are not paid to look for regulatory fires among the thickets of official pronouncements ranging from watertight laws to declaratory guff, from enshrined rights to airy aspirations. Unless we understand their reality and our realistic about our own position we will go on wasting each other's time.

What can we do? First, understand the economic ramifications of our representations and, if necessary, hire an economist; there is no point saying that a proposal will pay for itself if it won't; and there's a difference between a proposal that pays for itself in the production cycle and one that takes five years.

Secondly, we must be clear in our own heads about the firmness of the regulatory ground we stand on so that we know how far we're pushing our luck and how far we're relying on altruism rather than obligation.

Finally, we must start liking the businesses that create the surpluses charities rely on to survive. ■

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