abilityNet

Accessible IT at work

Issue 74 Summer 2009

Big business gets a grip on access

- Why millions are locked out of the web
- What Access to Work is doing with its money
- A fresh look at eye gaze technology
- CapturaTalk text-to-speech software on test

ACCESS TO WORK

Access to Work is a specialist disability programme delivered by Jobcentre Plus, which provides practical advice and support to disabled people and their employers to help them overcome work related obstacles resulting from disability. It does this through a system of grants towards the cost of providing support.

Temporary suspension of cost share for small and medium sized employers

As part of Government measures to help alleviate the current economic downturn, Access to Work has been awarded an additional amount of money to spend during this financial year.

Jobcentre Plus and DWP strategy have agreed to target some money at small and medium sized employers (SME) by removing the requirement for them to cost share.

From Monday 1st June 2009 until 31st March 2010, small and medium sized employers will no longer be required to cost share. For Access to Work purposes, a small or medium sized employer is defined as one that employs 200 paid employees or less in total. Voluntary workers do not count towards this total.

Further Access to Work information and contact details can be found on www.jobcentreplus.gov.uk

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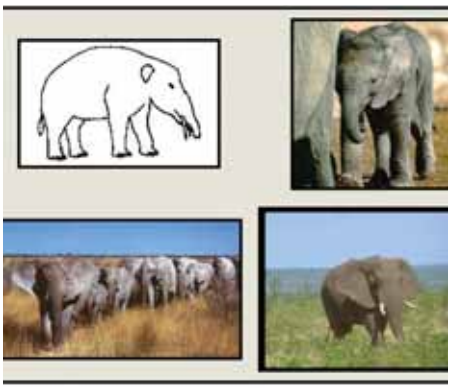

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ability

John Lamb discovers exactly what business is doing on the subject of accessibility

Why line managers are key to access in the corporate world

Efforts to widen the availability of accessible IT involve many different groups: too many some may say. But few could argue that business people have one of the most important parts to play in making accessibility happen.

Think of all those jobs that involve dickering with a computer and all those convenient services only available online. The ability of disabled people to work, to shop, to be full citizens of this country depends on those who make the decisions about these systems.

As managers and IT people sit round a table grappling with the commercial and technical issues of their latest IT project, it depends on whether some bright spark remembers the needs of 8m disabled people and speaks up for them.

It isn't really a matter of what the Disability Discrimination Act says or even of what procedures the company's IT police have put in place. It is a question of whether accessibility is ingrained into the group's thinking.

It is instructive that Steve Lamey, the director general of HMRC and an advocate of accessibility, says that it is the line managers who are critical to improving our record on accessibility rather than the IT specialists. I guess that is because ultimately they hold the company credit card.

Lamey and his fellow members of the Business Taskforce on Accessible Technology have those managers in their sights. Next year (why wait so long) they will be publishing an accessibility maturity model scorecard – a way of determining how far you've got in changing hearts and minds.

In the meantime, the Taskforce and the AbilityNet One Voice for Accessible IT group are working on a business case that uses new case studies to show how accessible IT promotes talent, productivity and customer satisfaction. A launch is expected in the autumn.

Let no one be under any illusion that big business needs to get to grips with accessibility. In this same issue a survey by Bloor Research shows that only a half of organisations are able to boast 70% accessibility. And a quarter of people polled in the public sector said their organisation had no policy on accessibility.

There is also plenty of evidence that the assistive technology industry itself is struggling right across Europe with too many small companies, selling too many products through overly complex supply chains.

But despite all these difficulties Lamey remains positive that business will get there in the end. He believes that within 10 years it should be possible for anyone to sit down and use a computer.

Now there's a thought. ■

The forms that drive an online job seeker mad

Ability recently wrote about inaccessible job sites (*Ability*, issue 72 p10). As a dyslexic, when I apply for online jobs those on-line forms drive me mad because of all the jumping.

I know that some providers do issue the application in Word, but it's the endless filling in of my personal details, my qualifications, education and my work experience that drives me mad. Surely they can best serve everybody by standardising all forms of this nature. I also have trouble with filling in the job specifications in that the list of specifications is good in itself, but should not my role in my employment, my qualifications and my references do the work of deciding my suitability for a job?

Having to fill in these forms puts me off applying for jobs so much that I usually get work through word of mouth or some other means. I think that in our information overload society employers should think about how to save our precious time.

That is something that dyslexic people are always trying to do: be time efficient. It usually takes me all day to fill in one of these forms. Can the universities please issue one generic form with only the front page to complete, if necessary, and a covering letter?

The different form each time is a tyranny and a hopeless waste of time. One generic form that satisfies for a given role, filled out once and a covering letter that we have to write each time to highlight how we fit that specific job is the only humane way to go for everyone.

Aileen Hanrahan
Self employed dyslexia tutor

CyKey's missing link

I would like to know if you are aware of the Microwriting system and whether there are any plans to expand its use. I am refering to the machine called a CyKey named after Cy Enfield, the man who directed the film *Zulu* who died in 1995. I use a CyKey in conjunction with my Mac iBook G4 and have used it very satisfactorily with previous Macs. What I need to learn of is an infrared link to either an iTouch or a Blackberry. It simply requires a human interface device capability. Do you have any knowledge of that, please? By the way I have been Microwriting since 1984.

David Weston

Editor's note:
Unfortunately there is no link such as you describe, says Bellaire Electronics, the company that makes the CyKey (pronounced psyche). However, Bellaire has recently introduced macro handling and improvements to the keyboard of the award winning chord-type keyboard.

Phlogging a dead horse?

I thought you might be interested in how we used phone blogs or 'phlogging' in conjunction with our annual awareness-raising week, Time to Get Equal Week.

We found it was particularly useful in amplifying the voices of disabled people, which is important to a disability charity, and a great new way to engage with people.

One of our trustees Rosemary Bolinger, who is a wheelchair user, recently tested out the accessibility of seaside attractions as part of a five-day trek along the south coast. You can hear her phlog at: http://www.timetogetequal.org.uk/blogs/busblog/.

Warren Kirwan
Scope

Breaking barriers in the US

Possibly one of the greatest ironies concerning technology and people with disabilities is that recent advancements, that have the capability to provide greater independence and quality of life, are often not designed to be accessible to people who could benefit the most.

While barriers to access are many, the efforts of researchers, engineers, advocates and innovators are contributing to making ICT accessible. Some of these technologies will allow interaction with the physical environment, objects and other people to provide a new way to see through the ears, hear through the eyes, and manage the daily activities of work and leisure.

The US Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR) has 24 centres across the United States that illustrate the range of disability research and development of ICT.

Several of them, including the Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC), work with consumers to understand user needs, develop and test prototype technology and examine accessibility policy issues related to information communications technologies.

In September 2009, the international community will come together for a Wireless Emergency Communications State of Technology Conference to examine the potential for wireless communications technology to assist people with disabilities before, during and after a natural or manmade disaster.

For more on the conference visit, http://sot.wirelessrerc.org/

Salimah LaForce
Rehabilitation Engineering Research Center for Wireless Technologies

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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Digital Britain plan gets mixed reviews

The Government's Digital Britain white paper received a mixed reception from disability groups when it was published last month.

The white paper contains a commitment to do more for the 17 million people who are still excluded from digital technology, and calls for further action for the six million who are both digitally and socially excluded.

The white paper also outlines an action plan to strengthen Britain's £52bn digital industries.

It was hailed by the RNID as "great news" for nine million deaf and hard of hearing people because of its support for universal access to broadband.

"Better access to digital technology will help reduce isolation, improve education tools and give deaf and hard of hearing people more opportunities to find employment and participate fully in society," said Dr Mark Downs, executive director of science and enterprise at RNID.

The RNID points out that broadband applications such as TalkByText and video relay services break down communication barriers for deaf and hard of hearing people.

However, the RNIB raised questions about the decision to phase out FM and AM radio in favour of Digital Audio Broadcasting (DAB) radio by 2015.

"A move from analogue to DAB radio may leave people with sight problems left out of Britain's digital revolution if steps are not taken to assist in the switchover," said the RNIB.

The organisation called on the Government to provide a Digital Help Scheme similar to that used for the switchover to digital television.

A plan was essential to help those who'll struggle with technical practicalities and the inaccessibility of digital radio equipment, the charity believes.

Research recently commissioned by the RNIB shows that nearly 70% of people with sight problems need ongoing help to use digital radios that lack voice output.

Martha Lane Fox named Digital Champion

Martha Lane Fox (pictured) who made her name as the co-founder of the travel website lastminute.com has been made the government's Digital Inclusion Champion.

Now a non-executive director of Marks & Spencer and Channel 4, Lane Fox also founded Antigone, a trust that makes grants to charities. She is a human rights activist and has campaigned on behalf of a British Guatanomo Bay detainee.

The woman nicknamed Fast Lane Foxy will be working with a taskforce of experts which includes *Ability* columnist Kevin Carey (see p34).

"Although I realise I am lucky enough to be one of the least digitally excluded people in the country, I have seen first-hand how technology can help to create positive change in people's lives," she said.

"I will use ideas, contacts and experience from both the commercial and charitable sectors to make sure that, with the help of the taskforce, I quickly start to deliver effective projects."

Carey summarises his top priorities as simplification, platform neutrality and creativity. Attempts to automate complicated analogue processes mean that government pays twice for services, suffers IT failure and has limited accessibility, according to Carey. Services should be simpler.

So far as platform neutrality is concerned, Carey wants digital services to move away from the PC to include text messaging and other platforms that are simple to use and require less training.

More attention should be paid to making the tools that are used to create digital content more accessible to disabled people, Carey adds.

Wheelchair moved by mind power

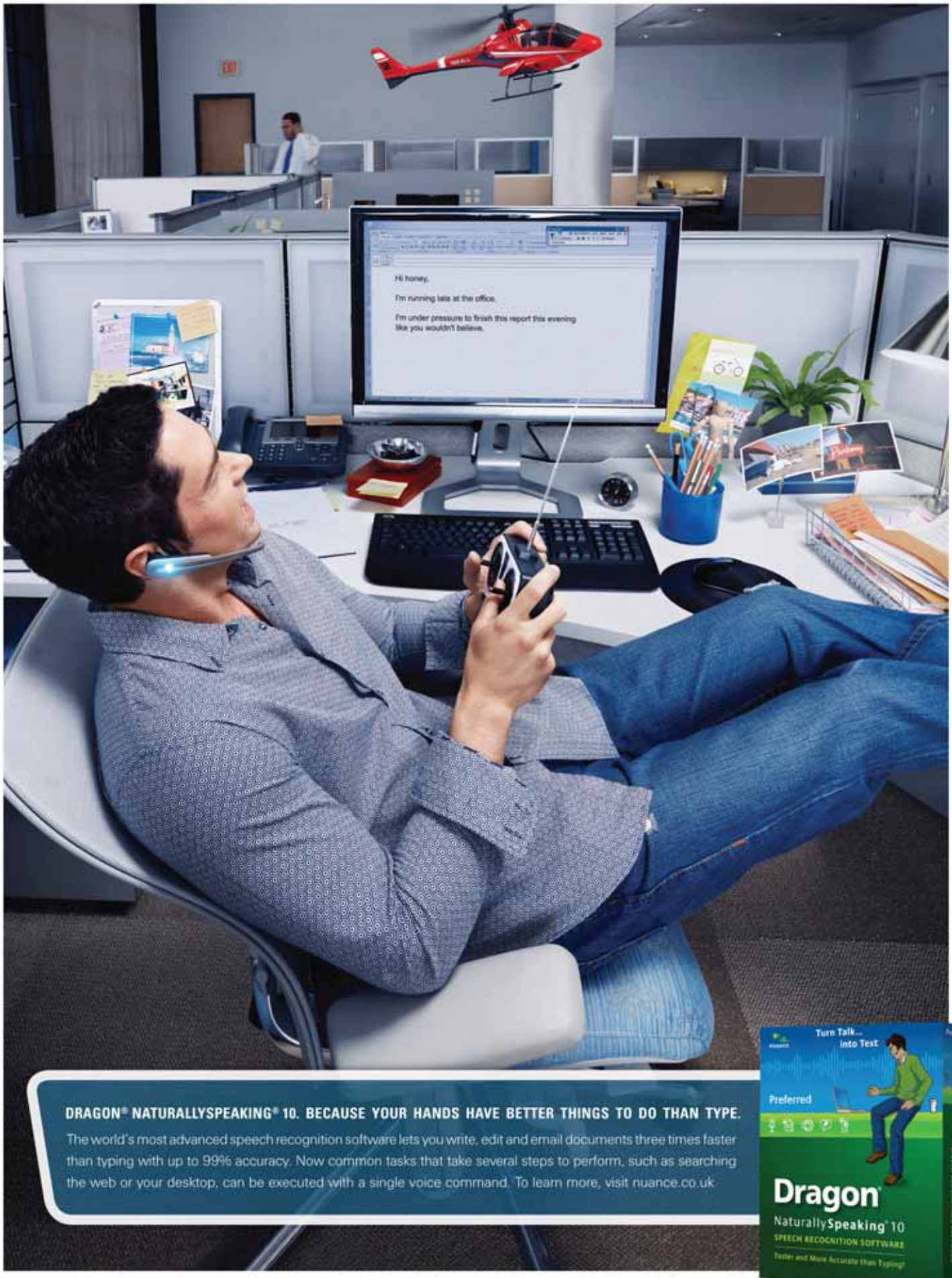
Engineers at the Toyota Collaboration Centre have created a prototype wheelchair that is controlled merely by thinking about where to go.

People riding in the chair wear a cap fitted with electroencephalograph sensors that pick up electric signals from their brain. The data is linked to a laptop that interprets the signals and turns them into instructions for the wheelchair's drive motors.

Researchers say that the wheelchair correctly moves to unspoken commands 95% of the time.

The wheelchair is much more responsive than others moved by mind power. The control system can interpret signals in 1,000th of a second, compared with several seconds for earlier models.

However, when it comes to an emergency the developers are taking no risks. Instead of having to think about stopping the wheelchair, users simply puff out their cheeks to bring the vehicle to a halt.



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Tax chief: accessible IT is just 10 years off

Accessibility may be an off-the-peg feature of IT systems within the next decade, according to one of the most influential figures in the campaign to improve access to technology.

"In 10 years time it should be possible for anyone to sit down at an IT system and be able to use it. I think it will become so mainstream," Steve Lamey (pictured), director general of Her Majesty's Revenue and Customs (HMRC), told *Ability*.

Speaking at a conference called Civil Service Live, Lamey, who is also co-chair of the Business Taskforce on Accessible Technology (BTAT), said that the organisation was working to influence suppliers. "There have been huge changes already. The problem is not the assistive technology but the enterprise systems that have to catch up."

BTAT has set up a group for suppliers including companies such as Oracle, Microsoft, SAP and BT. "So far as the big boys such as Oracle are concerned we have their interest. But I am determined not to beat the suppliers up. I believe in a win/win approach."

Lamey said conversations with suppliers have international ramifications. There is a 'multiplier effect' because many members of BTAT such as Lloyds Banking Group, Goldman Sachs, McDonalds and BUPA, are multinational organisations.

However, he was concerned about the future of specialised assistive technology. "The big issue is what happens to products such as JAWS and Dragon if Microsoft and SAP make their products accessible. They will have to work together because the mainstream is where it will happen."

Lamey, formerly head of IT at HMRC, said that IT people were not the primary target in persuading an organisation to improve accessibility.

"IT managers are crucial but they are easily influenced," he explained. "It's the line managers who are important in all this because they employ people and take the risks." ■

Company bosses shown red card

Company executives can now consult a scorecard that will tell them how good a job they are doing at ensuring their IT can be used by disabled people.

The Accessibility Maturity Model Scorecard has been devised by the Business Taskforce on Accessible Technology (BTAT), a group of senior IT executives from household name organisations.

The idea behind the scorecard is to help those who are responsible for IT to identify the different aspects of accessibility that they need to consider and to work out how far they have got on each one.

The scorecard consists of eight headings covering business drivers, standards, governance, resources, delivery, procurement, legacy systems and the reasonable adjustments process.

Under each heading there are five levels from informal to optimised which indicate an organisation's level of maturity.

The benefits of using the model are slicker processes with fewer exceptions, increased staff productivity, an improved user experience and more accessible IT on the market, according to Sean Smith, one of the architects of the scorecard. ■

Briefs

It's a Breeze

HumanWare's Trekker Breeze portable GPS device that guides vision impaired people by announcing the names of the streets, landmarks and junctions is up for an Institution of Engineering and Technology award. The device which resembles a TV remote is expected to have 200 UK users by January.
www.theiet.org/innovation

Disaster alerts

US agencies are stepping up efforts to ensure wireless emergency alerts are accessible to disabled people. Experts will be meeting at the Wireless Emergency Communications State of Technology Conference Atlanta 21-23 September to discuss the best ways to make sure everyone is aware of natural and manmade disasters. The US government is currently upgrading its system of national alerts to digital technology.
http://sot.wirelessrerc.org

Adult entertainment

A company that produces online adult 'radio' dramas is targeting its erotic material at visually-impaired people. Visitors to clickforeplay are able to access synopses and download audio plays with adult themes. Each of the dramas costs 79p for users download. Clickforeplay says its site has been adapted so that visually-impaired people can navigate and download the material.
www.clickforeplay.com

Survey reveals a black hole in accessibility plans

A quarter of public sector organisations that took part in a just published survey by Bloor Research have no policy on accessibility. The finding has prompted calls for further action from government by the survey's author.

"Given the intense pressure on public authorities to be accessible to people with disabilities it is surprising that nearly a quarter of them still do not have an accessibility policy," comments Peter Abrahams of Bloor Research who carried out the research.

"It suggests that further pressure from government is required."

The survey of over 140 IT professionals, managers and end users in both the public and private sectors was carried out in conjunction with *Ability* and publishing company Headstar.

It revealed that organisations with more than 70% accessibility accounted for some 50% of the total sample. However, one fifth of organisations in both the public and private sectors have internal systems that are less than 30% accessible.

The number of organisations whose systems are more than 70% accessible could double by the end of 2010, with many respondents planning improvements.

"This suggests that organisations that have started on the process of improving accessibility understand the benefits and are therefore willing to invest to gradually bring all systems up to scratch," says Abrahams.

The spread of accessibility in the public sector will be less dramatic, owing to the number of legacy systems that are already deployed.

"It is still a depressing picture for employment of people with disabilities; although there is pressure to improve the internal systems there will be a large number of systems that are still not accessible in 2011 and this will limit job opportunities," Abrahams observes.

The percentage of accessible systems is higher for external systems (web sites mainly) than internal ones. The number of organisations with less than 30% accessibility is much lower and, overall, decreases by the end of 2010.

The legal and moral drivers are significant factors in the push for accessibility, but revenue and cost are considered weak drivers by survey respondents. There is a need to provide more examples of cost cases for accessibility, Abrahams concludes.

Peter Abrahams: depressed by continued lack of accessibility

The biggest single barrier to accessibility is existing legacy systems; particularly in the public sector. This is followed by budget constraints. Lack of management support, inadequate tools and lack of training are also frequently mentioned by respondents.

The report concludes industry needs to:

- Find ways to upgrade or replace legacy systems to improve their accessibility.
- Generate examples of cost and revenue benefits of accessibility.
- Continue to increase the awareness of the issue among all stakeholders.
- Continue to improve education.
- Continue to improve the accessibility of tools and applications.

Briefs

Dress codes

Students used barcodes to provide blind visitors to a fashion show in Derby with pre-recorded descriptions of the outfits. As models took to the catwalk, assistants swiped a barcode on each item and triggered the recordings, which were then piped to headphones worn by members of the audience. The Derbyshire Association of the Blind advised organisers from the University of Derby on what to put in the recordings.

www.derby.ac.uk/music/student-work/showcase

Impact at HFT

HFT, the charity for people with learning disabilities, has won a €Im grant from the European Social Fund to carry out further research into the use of assistive technology by learning disabled people. The Impact programme will draw on HFT's earlier Tate project, which demonstrated that learning disabled people can also use systems designed for old and physically disabled people. The latest project will take place across Europe.

www.hft.org

Top bus stops

Talking bus stops in Brighton and an email service offered by the Royal National College for the Blind that turns electronic documents into Braille and synthetic speech were among the winners in this year's National eWell-Being Awards organised by the sustainability charity UK CEED. Brighton & Hove City Council's talking bus stops, which provide blind travellers with spoken information about bus times, was the overall winner.

www.sustainitawards.co.uk/

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Open day uncovers the state-of-the-art

A program that provides physically disabled people with easier computer access and software that assists those with a learning difficulty with spelling and grammar were among new technologies on show at a recent open day organised by Microlink PC.

Professional disability assessors who visited the event near Southampton were among the first to see the products: Oska, an on-screen keyboard from Claro Software; and a powerful text correction program called Ginger Software, produced by a company of the same name.

Oska is the brainchild of Paul Blenkhorn of Claro Software, who is a prolific assistive software developer. The program, which costs £89 plus VAT, is designed to give physically disabled users an alternative to the traditional keyboard and mouse method of operating a computer.

The software consists of three elements. A keyboard editor allows users to create customised on-screen keyboards, defining the size, function and appearance of each one; a settings editor allows users to define and set up input methods; while a player allows the keyboards to be used with any application.

Blenkhorn, who did much of the work on Oska while a visiting professor at Tokyo University, has identified a number of devices that can be operated with very little muscular movement including a 3D mouse, a numeric keypad, a touch tablet and a one click mouse.

Ginger Software is capable of correcting errors in spelling and grammar using powerful algorithms running on a central computer and accessed over the web. The program can also track errors made by individual users and help them to improve their writing skills with the aid of personal dictionaries, reports that detail their mistakes and text-to-speech output.

The software can correct entire sentences at once, working out from the context what the correct spellings and grammar should be. Ginger Software can even distinguish between homophones: words such as reed and read that sound the same but have different meanings.

Initially, Ginger Software is aimed at readers with learning disabilities or who use English as a second language. It is available as a free download for Microsoft Word and on £65 or £85 annual leases for more sophisticated versions.

Scanner maker Plustek demonstrated its OpticBook 3600 which has an unusual solution to the problem of spine shadow, the dark central area that can occur when an entire book is laid flat on a scanner. The machine has a book edge and curved lamp that enables users to put single pages into the machine without having to try and flatten out the whole book

Nuance, the company behind the Dragon NaturallySpeaking speech-to-text program, displayed the Universal Access Suite a productivity and access tool for higher education consisting of Dragon NaturallySpeaking Pro plus programs that support reading and writing. In addition, the package includes a screen magnifier and reader and a concept mapper.

www.clarosoftware.com
www.gingersoftware.com
www.plustek.com
www.nuance.co.uk

Briefs

University challenge

The University of Westminster has produced a series of learning and teaching guides following a three-year development programme involving disabled students and support staff. The project has involved students at the University providing evidence through focus groups of their experience of barriers to learning – and suggesting possible solutions. Each guide focuses on a particular theme, ranging from course design and validation, recruitment and enrolment, through to different aspects of learning, teaching and assessment.
www.westminster.ac.uk

Silver surfers

Thousands of pensioners in North Yorkshire will be surfing the web in the county's libraries thanks to a new high-speed broadband connection provided by NYnet. This will enable the 42 library-based UK online centres in North Yorkshire to access IT and computer skills training on myguide – a free, user friendly web platform and suite of courses.
www.ukonlinecentres.com/consumer

Home computing

Disabled students in Oldham and Suffolk will be among the first to benefit from the government's Home Access project to supply seven to 18 year-olds from low income families with access to computers and the internet at home. Assistive technology companies iAnsyst and XMA have been contracted to provide systems and training in the area. Some 80% of disabled students eligible for the grant will have a difficulty with reading or writing.
www.dyslexic.com/home-access

Lack of leadership a barrier to products for disabled people

A lack of leadership from the top and of a proactive approach to inclusive design are among the barriers to the development of communications equipment, products and services for older and disabled people, according to research from the communications watchdog Ofcom.

Co-operation within industry and between industry and groups that represent older people to identify their requirements, as well as access to information about those requirements, are also wanting, says Ofcom.

The research, commissioned by Ofcom's Advisory Committee on Older and Disabled People, aims to understand how manufacturers, suppliers and retailers of UK communications equipment, products and services address the requirements of older and disabled people.

Ofcom recommends that that companies be required to report the efforts they make to improving their products' accessibility to an independent body.

Among suggestions from industry executives interviewed by Ofcom are procurement processes that require tenderers to consider accessibility and usability; better communication with stakeholders; wider access to information; mechanisms for sharing knowledge about the needs of older and disabled people and marketing of accessible products and services as an ethical choice.

"Players in the supply chain should learn from these findings," says Mike Whitlam (pictured), chairman of the Advisory Committee on Older and Disabled People, "There are some measures that may require a concerted approach but there is much that companies can do themselves and now.

"We understand that there are commercial pressures, particularly in the current economic climate, but with an ageing population and many of us

developing an impairment at some point in our lives there are also market opportunities and commercial prizes for firms that get it right."

Ofcom has a duty to encourage the availability of easily usable apparatus. The new research fills a gap identified in a 2007 audit on ease of use issues. ■

www.ofcom.org.uk/research/-usability/older_disabled/research/

European AT industry 'too complex' says EU

The European assistive technology industry faces tough challenges because of its size and the number of different products it produces, according to a report from the European Commission.

The industry is particularly complicated because of the large number of products, the large number of small firms, and the many different service providers that are used to get products to disabled end-users.

Marketing – getting the right product to the right person – is difficult says the EU "because the complexity of the different service provider systems is an extremely potent force in the marketplace".

Standardisation, universal design, and mainstreaming of products is also forcing change on the industry and introducing outside competition. More companies are incorporating accessibility into their products and services for reasons of corporate social responsibility and because of the potential market size.

The report, Analysing and Federating the European Assistive Technology ICT Industry, recommends the formation of a European AT industry association to provide networking, professional development and influence over public policy. ■

Possum wins Queen's Award

Possum, the environmental controls firm, has won a Queen's Award for Enterprise.

The company, which was one of 49 successful applicants out of 405 in the innovation category, received the honour for its Primo! and Vivo! home control units, the Freedom remote control communications system and its Guarded Plate switch.

Managing director Philip Robinson says Possum, which was started in 1961, spends a disproportionate amount on research and development, but it also had to show commercial success and improvement in its products to gain the award.

"It's a terrific boost for the people who work in the company and it will help sales too," said Robinson. "It recognises all our hard work and dedication."

There are over 6,000 Possum users in the UK in hospitals, charities and care homes.

Possum, which had sales of £6m last year, originally grew out of work at the Stoke Mandeville hospital to develop a Patient Operated Selector Mechanism. Possum is also Latin for 'I am able'. ■

www.possum.co.uk

Guide dog for Second Lifers

The online virtual world Second Life now has a virtual guide dog to help blind and partially sighted people.

Guide Dogs, the organisation that provides real dogs to blind people, commissioned a digital Alsatian called Max.

Max, who was developed by design company Virtual Helping Hand, enables people with a visual impairment to navigate the online world and can even read signs, using text to speech technology.

The cyber pooch simulates the experience of the 'real world', listening to sounds and other helpful messages to find its bearings.

He helps visually impaired users to log on and is designed to help people with sight loss navigate by alerting them to objects in their path (including other avatars or online characters), so they don't crash into them.

Max, who is free to use, is keyboard controlled and does not require the use of a mouse.

Bridget Warr, chief executive of Guide Dogs said: "This is a significant technological development, meaning blind and partially sighted people now have greater mobility and enhanced vision in the virtual world. Max is one clever dog, opening up new opportunities for those with sight loss."

Max the Alsation makes his mark in Second Life

Second Life is an ideal place for blind and partially sighted people to explore social networks, take classes, start businesses and experience a wide range of languages and cultures, says Guide Dogs.

It also offers access to vast range of audio content, including live music performances, presentations by speakers and educational forums.

www.tvwsp.com/questing/visionquests.html

Tech champion awarded MBE

Keren Down, the director of the Foundation for Assistive Technology (FAST) was among those awarded an MBE in the Queen's Birthday Honours List.

'I am delighted to receive this award, which is a recognition of just how important assistive technology is in all our lives," said Down.

"We hear a lot these days about our ageing population and the need to make our society more inclusive for older and disabled people and assistive technology has a vital role to play in meeting these challenges,"

Founded in 1999, FAST maintains a public database of research activity in assistive technology, a fully searchable resource that lists more than 1000 projects and is used by academics, policymakers and healthcare professionals.

Before joining FAST, Keren worked as a care co-ordinator at the Motor Neurone Disease Care and Research Centre, King's College Hospital where she developed the first UK online forum run by people with MND.

Briefs

Dragon on a pedestal

Independent Education Assessor Jane Scaybrook spent an hour last month on top of the fourth plinth in Trafalgar Square dictating what she saw to her laptop using Dragon NaturallySpeaking. Scaybrook, who wanted to draw attention to the value of dictation software, was one of more than 2,000 people who took part in Antony Gormley's One & Other artwork.

Online lawyers

Law Options is the first online legal service in the UK to offer advice to disabled people on all issues of employment law. Launching on September 28, the service will offer a '24-7' online legal service with initial free of charge advice from a team of solicitors. One in six disabled people who have had a job say that they have experienced discrimination in the workplace.

www.lawoptions.co.uk

Maiden speech

Speech to text technology has been used in the House of Commons for the first time to display the proceedings of a conference organised by the Speaker on how to get more disabled MPs elected. Less than one per cent of MPs has asked for adjustments to enable them to better perform their duties.

Taking the headache out of managing disability at work

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Corporate digital responsibility

Big business controls the majority of IT that people use. John Lamb hears from four IT decision makers who are leading the battle to make systems accessible

If the amount of talk about accessibility coming from IT leaders in some of the UK's largest organisations is any guide, accessibility is beginning to move up the IT agenda.

The number of reports, taskforces and conferences telling IT folk what they should be doing to enable more disabled people to access their systems is growing at an impressive pace.

Peter Scott, head of technology strategy at the Department for Work and Pensions, is typical of a new breed of accessibility apostle. "IT must be accessible and the adjustments people need must also be available," he told the Civil Service Live conference recently.

"Individual systems must be suitable and capable of being adapted so they become my PC, my software."

Scott, whose department provides benefits for disabled people and is responsible for the Disability Discrimination Act, pointed to the encouraging fact that 60% of all IT users believe accessibility is a good thing for them.

He links accessible IT with the ability of disabled civil servants to advance in their careers. "It's about opportunities for staff: have we got the jobs people can get into and then has that person got a career path."

An important factor in this is that disabled people get adjustments at the same time as everyone else, says Scott. They should not have to wait up to 12 weeks for an adaptation when non-disabled users could get a new mouse in a few days. Their systems also need to be maintained so that they kept up with those of non-disabled colleagues.

Outcome is all

"Disabled users need to be involved from the start," says Scott. "Pick representative users from customers and employees and use them in the testing stage. Outcome is everything. It is more important that a system is usable than that it is accessible and unusable."

Scott chairs the Cross Government Accessibility Network, a body that shares best practice across government departments. Apart for wanting more CIOs to join his Network on government, Scott says that the aim of accessibility is not better IT but better access to government services.

In the private sector, Graeme Whippy, senior manager IT accessibility at Lloyds Banking Group, advises IT bosses to "cater for the masses and be prepared to make adjustments for the individual". Whippy has spent over five years at Lloyds introducing governance and education standards backed by accessibility testing.

Governance frameworks

He urges IT departments to think about standards because they give people an idea about what is required. "You can't rely on people to do things on a best endeavours basis. It is important to put in place a governance framework and ask yourself how you manage non-compliance: look for a couple of nightclub bouncers who are difficult to get through."

There are three big challenges, says Whippy. They are legacy technology (Lloyds has 1400 applications, some over 20 years old), off-the-shelf software, which constrains software accessibility, and organisational inertia.

"Big companies tend to move slowly," he explains. "I do get frustrated when people say we need to make improvements – it is not as straightforward as it seems."

Susan Scott Parker is the campaigning chief executive of the Employers' Forum on Disability, whose 400 members include some of the UK's largest public and private sector employers.

Graeme Whippy (centre) of Lloyds recently received an award from FST magazine for his accessibility work

Scott Parker has led the way on bringing accessible IT to the attention of business leaders by co-chairing the Business Taskforce on Accessible Technology (BTAT), a group of CIOs dedicated to raising awareness of access issues among IT professionals.

One project BTAT has been working on recently is an accessibility maturity model scorecard that enables organisations to work out how well they are doing at accessibility.

Organisations are invited to rate themselves against eight aspects of accessibility. These range from how much buy in there is from senior management to how advanced their reasonable adjustment process is.

Scott Parker's current bugbear is the need for online recruitment websites to be usable by disabled people to maximise an organisation's opportunities to attract the best talent.

She also underlines the importance of accessibility in improving productivity, reducing staff turnover and making it attractive and easy for customers to use online services.

Scott Parker says things can still go wrong and gives the example of a person with dyslexia who discovered that a blue computer screen made it significantly easier to do her job. Yet the organisation's IT policy meant that all personalised settings were re-set overnight, so she could never save her settings.

Steve Lamey, director general of Her Majesty's Revenue and Customs (HMRC), is a senior civil servant who not only has a background in IT, but is a champion of accessibility.

HMRC with 80,000 civil servants, some 12,000 of whom are disabled, is one of the biggest employers in the country. "We are very proud of that because many organisations rarely get above 1% disabled employees," says Lamey.

"Disabled people do have a raw deal when it comes to the workplace. We rely on heroes: they have got me very passionate and interested in the subject, but they are not enough. A lot has been done already but we are not complacent: there is still a lot to do."

Challenges faced

Among the challenges faced by HMRC, according to Lamey, are legal issues and the need to change users' perceptions and get disabled people to "understand that we are there for them". But the biggest challenge, he says, is "to win the hearts and minds of the our 17,000 managers, some of whom would prefer not to hire someone who is disabled".

HMRC systems are some of the most extensive in the UK. The department stores 80 times as much data as is held in the British Library and its annual £1.2bn budget represents between 1% and 2% of total UK expenditure on IT.

The department has 450 users of Dragon NaturallySpeaking dictation software and 40 users of the JAWS screen reader program. The software is backed by teams of dedicated trainers. In addition, HMRC has delivered 200 other accessibility systems and amassed the biggest collection of ergonomic mice and keyboards with over 1,000 different items available.

Susan Scott Parker, chief executive on Employers' Forum on Disability

At the Civil Service Live conference Lamey was accompanied by John Flanner, a blind civil servant from HMRC's Birmingham Office whose career was transformed by speech recognition software that allowed him to access HMRC tax systems and take on more responsible work.

"I spent 20 years doing the same job and being stuck in a very deep rut," says Flanner. "As a typist I couldn't get promotion. Now blind people are being trained in taxes. There is no reason why blind people can't be promoted up the ladder."

"There is huge pressure of costs but we want to see our staff more productive," Lamey explains. "So we are doing this [introducing accessible systems] for good business reasons."

Lamey, who believes that IT may be accessible out of the box within as little as 10 years, points out that much IT offered to HMRC is inaccessible. "Products we put in last year still don't have the features I'd expect them to have. I am amazed that people sold us systems for millions of pounds that are not accessible."

However, through BTAT, which Lamey co-chairs, he is working to persuade the IT industry to take the issue more seriously and with some success. "So far as the big boys such as Oracle are concerned we have their interest. But I am determined not to beat the suppliers up. I believe in a win/win approach." ■

Three actions for IT leaders

- IT teams need to demonstrate the 'know how' to deliver accessible business processes and make speedy reasonable adjustments for disabled customers and colleagues
- Have named individuals responsible for defining, supporting and championing accessibility standards. Board level or senior management buy-in is essential
- Tell employees about an organisation's reasonable adjustment processes.

Cracking the Captcha code

Millions of users are denied access to key web pages by distorted Captcha images. Robin Christopherson looks at the alternatives

Those images comprising a series of distorted letters and numbers that are part of the sign-up process to a website or on-line service are everywhere.

But if you can't accurately interpret the code and correctly type it into a text box, you are unable to register – and the vast majority of sites provide no alternative.

Unless you can crack the code you are effectively locked out.

A Captcha is a process that protects websites against automatic (and usually malicious) programs that roam the internet and try to set up spam accounts – they are tests that humans can pass but current computer programs cannot.

The acronym stands for 'Completely Automated Public Turing Test To Tell Computers and Humans Apart' and was first coined in 2000 by von Ahn, Blum, Hopper and Langford of Carnegie Mellon University.

The distorted image above of a sequence of characters is the most commonly encountered form. A character recognition program trying to recognise the image cannot do it accurately enough due to the distortion of the characters.

The critical problem with Captcha is that many humans cannot decipher the code either. If you have a vision impairment, dyslexia or learning disability (among many others) you too may not be able to crack the code and complete the registration process. If you can't see a Captcha image, or decipher its contents, then you are in big trouble.

Moreover, many users with disabilities are also using technologies that interpret the screen – such as screen-reading software that speaks out the text. These technologies are also unable to decipher the image for the same reasons that malicious software is prevented from doing so.

The machine readable alternative text (or tooltip) that blind users usually rely on to know what an image contains are, of course, absent from Captcha images.

As a result, many disabled users must either wait for assistance in registering with a particular site, or else give up and go looking for an alternative site that offers similar services or functionality but which does not require Captcha.

This catch-22, or accessibility arm-lock that Captcha represents, is an ever-present problem for many millions of users worldwide.

Alternative approaches

Several alternatives have been suggested to help alleviate the problem – some of which are less of a challenge than the standard approach – but none of them entirely solves the problem for all users.

The most common alternative is an audio version of the graphical image. Sites such as Google and Microsoft, but not Yahoo or YouTube (to take four sites at random), provide a second chance at deciphering the code – this time using an audio version that speaks out the characters.

The need to make it indecipherable by malicious programs, however, still applies. Thus the audio is also significantly distorted – in this case using background noise to prevent voice recognition software being able to interpret the characters.

This level of distortion actually makes the code almost impossible to hear – even for people with no hearing impairment. Often numerous replaying, or refreshing of the page to serve up a new code, is required before a successful interpretation can be made.

Due to the intractable barrier that Captcha represents, the best minds have been hard at work trying to develop technology for the disabled community that can crack the visual or audio codes. But as soon as they do, and site owners become aware of it, they make sure that the images they use become even more distorted and the audio even harder to hear.

Website owners who fail to provide alternative means to access websites may be breaching local disability laws such as the Disability Discrimination Act in the UK or the Americans with Disabilities Act, although this has yet to be tested in the courts.

Is there any way out of this crippling arm-lock for disabled users?

There are several alternatives to the distorted code approach that are either in use or in prototype and which do alleviate the difficulties for many users.

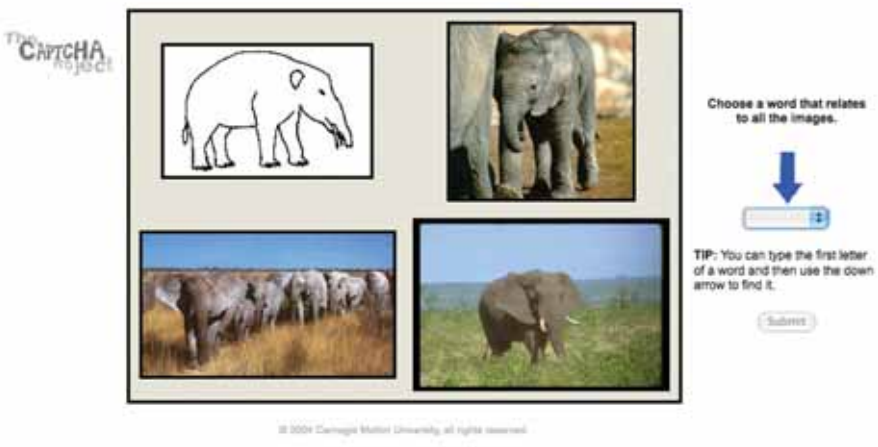
These include an approach advanced by Carnegie Mellon University that involves being presented with a number of images and being asked to choose from a large drop-down list the word that best describes what they have in common (eg 'Airplane', 'Apple', 'Aunt' etc) – see www.captcha.net/cgi-bin/esp-pix pictured below.

Robin Christopherson - hoping for a universal solution to Captchas

Google research labs are also offering a proposed alternative. They select a number of images from their database, randomly rotate them, and then ask the user to indicate which way is 'up'.

If a chosen picture is rotated differently by different users, then it is discarded as being unsuitable for use in this process – as a universally applicable 'up' position is evidently not applicable – see http://googleresearch.blogspot.com/2009/04/socially-adjusted-captchas.html

While these approaches avoid having to read and interpret distorted characters, they still require the user to have some useful vision and the ability to deduce the subject of the images. Better than distorted codes – but still not accessible for all humans.



Others are working on alternatives based upon logic problems – which are in text form and hence can be read by screen-reading software. These questions are too complex to be answered by malicious software, but, by the same token, are often too difficult for users with cognitive or learning disabilities.

Some other 'get-round' solutions take the form of browser plug-ins such as WebVisum (www.webvisum.com), which grab the Captcha code image from the page and process it remotely for you – it then supplies the code as text – voilá! How this is done is necessarily a closely guarded secret. A very useful tool – but it doesn't work on every Captcha image and demands Firefox as your browser.

The only totally failsafe solution is for a human to wrestle with the Captcha test on your behalf. If you can acquire assistance then you can avoid the conundrum that Captcha presents, but for the millions worldwide who do not have an obliging human on standby, the human touch will need to be provided by the site in question.

As far as we are aware, Google is the only site that offers this option – and admittedly only for blind screen reader users. To register for a Google account you can use the Captcha image, hear an audio alternative or, crucially, follow a hidden link to a form where you can request that customer services complete the registration process for you.

For any non-screen reader users out there wanting to take advantage of this option, here's the direct link to the page with the required form – www.google.com/support/accounts/bin/answer.py?answer=33974.

Captchas are here to stay – at least for the foreseeable future. And whatever form they take they will always present issues for some (and possibly many) users. ■

Robin Christopherson is the head of accessibility at AbilityNet

Work in progress

The Access to Work programme has been revitalised with fresh money and new objectives. What's in it for disabled workers?

It has been called one of the best kept secrets in the disability world, but Access to Work, the programme that provides grants for technology, travel and personal support to disabled workers, is helping an increasing number of people to get into jobs and to remain in them.

The Government has already announced it will pump an extra £8m this year into the programme. In the longer term it plans to boost the annual budget for Access to Work to £138m by 2014.

Last year the Department for Work and Pensions (DWP) helped nearly 28,000 people through Access to Work at a cost of £81m and with the numbers running at 27,300 up to January, even more applicants will receive grants in the current year.

More recently, in an important extension of help for disabled workers, the DWP announced that small and medium-sized employers with up to 200 paid employees will no longer be required to contribute to the cost of technology.

The move will encourage smaller employers, who often struggle to find the resources to employ disabled people, to meet their obligations under the Disability Discrimination Act (DDA): organisations employing less than 200 people represent 80% of employers in the UK.

From benefits into work

The move to bolster Access to Work is part and parcel of meeting the Government's objective of moving 1m people off disability benefits and into work. People on incapacity benefit are required to have interviews at which they discuss the prospects for returning to work. A higher profile Access to Work is expected to play a part in these discussions.

The programme, which is aimed at disabled people over 18 who live in the UK, covers a wide variety of help from assistive IT and other equipment, alterations to premises, the provision of a support worker and contributions towards the cost of getting to work. It even includes meeting the cost of hiring an interpreter to ensure good communication at an interview.

Although employees make applications for Access to Work grants, the software and standalone items such as braille readers, chairs and desks technically remain with the employer, although in practice employees often take the equipment with them if there is no one else who needs it.

Flexible arrangements

The scheme does not usually cover laptops, but payments can be made to cover the difference between the cost of a desktop PC and a laptop, if the laptop is deemed necessary.

Access to Work makes grants to employers who must first pay for adaptations and then claim the money back from the DWP. If an employer takes on an unemployed person or has recruited someone less than six weeks ago, the grant is up to 100% of the costs approved by an Access to Work adviser.

For those who have worked for an organisation with over 200 employees for more than six weeks, the grant is up to 80% of the approved costs over the first £300. The DWP pays all of the costs for bills above £10,000.

Employers are reimbursed for money spent on support workers, fares to work, and communicator support at interviews whatever the status of a disabled employee.

The DWP is at pains to point out that the scheme does not replace the normal responsibilities of the employer to implement health and safety regulations or replace the responsibilities required by the Disability Discrimination Act, which demands that employers themselves pay for 'reasonable adjustments'.

Grants made under Access to Work are to cover the additional costs that are incurred because of a disability. They cannot be used to provide support usually provided by employers or required under legislation for all their employees.

To apply for a grant, employees must fill in a form that records personal details and information about their employer.

The form also asks for details of the difficulty the applicant has and how it impacts their work.

Applications are passed to advisors who decide whether further assessment is necessary. Assessments for technology needs are carried out by specialists at private companies working for a number of prime contractors such as AbilityNet, RNIB and Leonard Cheshire.

A range of choices

Assessors must provide three sources for the technology that they recommend to the advisors who then make a decision based on what best meets the needs of the disabled person. Employers are given guidance on where to get specialist adaptations.

IT systems supplied to employees under Access to Work are expected to last for three years. However, workers can apply for upgrades if their circumstances change during that period. Officials stress that it's a life long commitment to support, not just a one-off grant.

The additional £8m announced earlier this year has been earmarked to deal with the effects of the downturn, says Patricia Mangan, National Access to Work manager.

Although the criteria that determine who gets help will remain the same, those who administer the scheme are looking to reach more people, particularly those with learning difficulties, mental health problems and anyone with a medical condition that is likely to last more than 12 months.

"For example, around 2000,000 people per year are leaving colleges and universities with dyslexia, but Access to Work is not well enough known," Mangan points out. "Part of our strategy is to bridge that gap by targeting colleges and universities. At present we are preparing a DVD that talks about how we can help dyslexia."

When *Ability* visited Access to Work centres in Shoreham, East Sussex and in Marylebone, London, the organisation was going through a major reorganisation, which involved replacing 11 regional centres with three operational support units in Harrow, Cardiff and Glasgow. These centres receive applications and assign them to one of 200 advisors in local JobCentre Plus offices.

"We are looking to expand the programme into the provision of work trials and looking innovatively to see how many people with a medical condition we can help into work," says Basil Rodrigues, acting senior operations manager. "It's a programme tailored to individual needs: no two people are the same."

However, the Department of Work and Pensions has to balance the demands of the Disability Discrimination Act that employers make reasonable adjustments with the needs of disabled employees.

"We don't want to replace reasonable adjustments, which are defined by employment tribunals," says Rodrigues. "What employers want to know is that employing someone with a disability is not going to cost hundreds of pounds because we are going to support employees with a health condition."

Pat Mangan: 40 day deadline from start to systems' delivery

Efforts are being made to improve the service; by speeding up the time it takes for equipment to reach applicants, for example. Officials have set 40 days as the deadline for an assessment to be arranged and for systems to be delivered. "I am very keen that we not only deliver an effective service, but we listen to feedback," says Mangan.

She also acknowledges that too few employers know about the programme,. "It is true that not enough people are aware of Access to Work, but we are working to change that," she says.

Catch 22

Like many schemes for the disabled there are also some grey areas in the way Access to Work operates. For example, an assessment cannot be carried out until an applicant has a job offer or is already in work. However, many employers want to know what funding will be available before they make a job offer.

While a disabled employee makes an application for a grant, it is his or her employer who receives the money. Sometimes employers refuse to get involved in the scheme, which can make for difficulties. And there have also been complaints about the amount of bureaucracy involved.

However, with additional resources and greater efforts to make people aware of the support that is available under the programme, Access to Work should reach a far wider audience in future including neglected groups such as those with learning difficulties. ■

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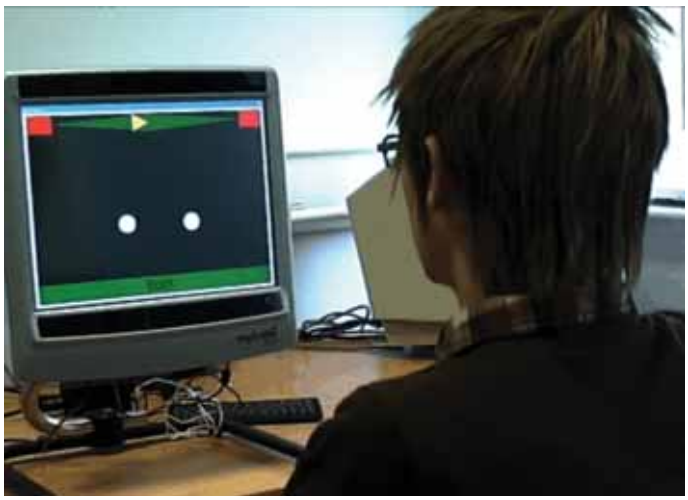
Looking to the future

Simon Judge and Tom Griffiths assess the prospects for eye gaze technology

Eye gaze technology has been around in various forms since the 1960s and has already come a long way since its origins in marketing and human-computer interaction. Eye gaze as an access method – in other words as a way of controlling the computer mouse – has been a more recent innovation and one that has 'hit the headlines' of assistive technology.

Eye gaze adds another option to the armoury of access methods that include switches, keyboards, mice and a whole host of off-the-shelf and adaptive equipment. At the moment, eye gaze is typically used when someone is unable to use any other access method, or when other access methods are so slow or inaccurate as to be of little benefit.

Eye gaze might also be used as part of a combination of access methods. In the same way that you probably use a mouse and a keyboard, eye gaze does not have to be someone's only access method. This is particularly important, as eye gaze technology still has a number of issues that prevent it being used all the time.



Setting up an eye gaze system – the image on the screen confirms that the camera can see a user's eyes and that he is the correct distance from the screen

The practicalities of eye gaze

At present, funding for systems via statutory services seems only to be for users who have previously had no successful access method. Currently, systems are expensive when compared to other aids and this seems to be acting as a barrier. These were both areas of concern highlighted strongly during a recent series of Communication Matters study days on eye gaze.

We have collated details of the range of eye gaze systems currently available in the UK in the table overleaf. There are a few things that might need a bit more explanation however: some of the innovations in eye gaze systems in the last few years have been in creating systems that 'plug in' or 'bolt on' to computers (with the addition of some specialist software). Other systems are integrated: the computer, screen and eye gaze are 'all in one'. Some systems are sold specifically as communication aids and some systems will only work with certain software, however most of them now let users access the rest of the computer via mouse emulation or bespoke computer control software.

Price is another recent change – thankfully they are getting cheaper – although it is worth noting that the price of bolt-on systems does not include the computer you need to plug it into, whereas the integrated systems do. All the normal important things you should consider when choosing any assistive

How eye gaze works

The fundamental ingredients of the systems used for access today are: a user, a screen for them to look at, a camera mounted above or below the screen, infra-red light bulbs shining at the person, a computer to do the complicated maths required to work things out and a calibration procedure to 'teach' the computer the specifics of how the user's eyes work.

As the person looks at the screen, infra-red light is shone at their eyes and reflected back towards the camera. This provides a clear picture of the pupil, which appears as a dark circle in the middle of a lighter circle. The computer uses a model of what an eye should look like to spot this and to determine the angle of a user's gaze.

The calibration procedure helps the computer learn how the pupil moves when looking at something – the user is asked to look at dots in various positions on the screen and the computer records their eye movements and plugs the resulting numbers into its algorithms.

Some systems employ other clever techniques, such as modelling a user's head position in order to work out where they are looking even when they move their head around.

Product	Distributor	Bolt on/ all-in-one	Suppliers' favoured software	Price ex VAT
Ecopoint	Liberator	Bolt-on	Language Learning and Living (LLL)	£4,995
ERICA	QED	Both	Lifemate	£7,499
Eyemax	Dynavox	Bolt-on to Liberator 14	Dynavox Series 5	£10,990 (includes Vmax unit)
EyeTech TM3	TechCess	Bolt-on	Grid 2, Mind Express	£4,995
Intelligaze IG30	Smartbox	Bolt-on	Grid 2	£7,850
LC Eye Gaze	Smartbox	Bolt-on	Grid 2	£5,650
My Tobii P10	Inclusive Technology, Smartbox	All-in-one	Grid 2 and Tobii Communicator	£11,900
Tobii CEye	Due for launch this autumn	Bolt-on	Grid 2 and Tobii Communicator	N/A

technology still apply – size, weight, portability, battery life, after-sales service and so on.

Eye gaze systems have come a long way in the last few years, but they are not the holy grail of access for all – there are still a few things that users need to consider about them.

Firstly, you need to keep your head in a 'box' in most current systems. This is approximately 30cm x 30cm x 30cm and you need to do this to allow the camera to see your eyes and stay in focus. This can be a problem for people with high levels of involuntary movement.

Systems can also require setup, including frequent adjustment of positioning and calibration. Many factors (changing light levels, tiredness etc) can change the calibration data and although software often allows users to launch the calibration programme themselves, it may still be frustrating for some.

As with all technology, it will break down at some point so users need to have a good back-up access method and hopefully a good service to support them. Backups could include another eye gaze method, such as an E-Tran frame, an alternative access method such as a switch or a communication book.

There are some limits – there is a limit to the maximum 'resolution' of the system – in other words how small an area you can select on the screen. This is not a limitation of current technology, but a fundamental limit set out by the annoying laws of physics.

Assessment is still key – we are both biased as we work in assessment centres – but thorough assessment of an individual's access methods (seating, positioning, cognition, vision etc) is imperative. This is true for any access method, but particularly true for eye gaze, given the cost of the systems involved.

Gazing into the future

The high price of systems is not an insurmountable problem given that advancing technology very often leads to falling prices. It is possible that the mainstream computing industry might adopt eye gaze technology and this might drive the level of technology up and the price down.

A number of groups are researching innovative eye gaze systems including looking into whether it is possible to use webcams to make eye gaze systems. OpenGazer and GazeTracker are both projects releasing their software as free and open-source. Although they will probably not be as accurate as existing systems, they may offer a solution in some circumstances.

For some people eye gaze technology will provide a level of control and empowerment that they may never previously have had. The challenge in the coming years will be to develop good practice in applying eye gaze. ■

Simon Judge is from the Barnsley Hospital, Assistive Technology Team
Tom Griffiths works for the Great Ormond Street Hospital Augmentative Communication Service

References

Communication aid assessment centres & study days: www.communicationmatters.org.uk

OpenGazer from Cambridge Inference Group and GazeTracker from ITU are both free trackers: www.inference.phy.cam.ac.uk/opengazer/

COGAIN – and in particular Mick Donnegan of the ACE Centre – helped progress the cause of eye gaze: www.cogain.org/

It is possible to use eye gaze with just one eye – don't take our word for it, see the video of Russ at: www.youtube.com/barnsleyat

MyTobii P10

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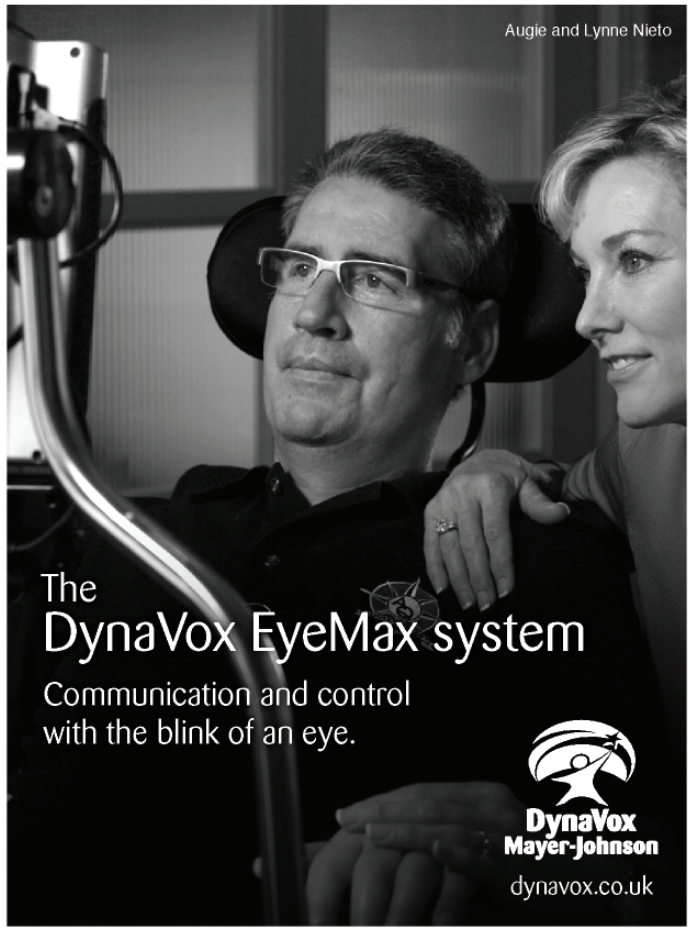

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dynavox.co.uk

University challenge

Finding a job if you are a disabled graduate may be tough, but it is all about practising the three Ps, says Rebecca Kinahan

Current university students cannot help but feel the pressure. If the media is to be believed then securing a good job after university would be nothing short of a miracle in the current climate.

What is the reality for students and recent graduates, and what does it mean for disabled students in particular? At Blind in Business we don't think students should give up just yet – it's all about the three Ps: preparation, persistence and patience. And if all else fails, a little work for free may just go a long way.

While it is true that many graduate recruiters are scaling back their intake most schemes are not disappearing altogether. Organisations are still willing to invest in training graduates – just fewer of them.

Employers learn about hiring disabled graduates

Unfortunately this means more competition but while it may be harder to get the best jobs it is by no means impossible. It is particularly important that disabled students remain positive – great progress has been made since the Disability Discrimination Act was introduced and increasing numbers of disabled students have graduated in recent years.

To maintain this momentum it is important that disabled students don't let the recession knock their confidence – there are lots of organisations that exist solely to help disabled students. The savvy students will tap into all the resources available at this difficult time.

We've put together our some tips for students looking for graduate jobs during a recession.

Be flexible

You may have a dream job but in the current climate it is a dream for many people to have any job! Look at the long term – are there other more readily available jobs in the same sector? Are there lower entry level positions you could begin at?

You may have to wait a while before you get your just desserts but if you can be patient and productive during the recession, the experience you gain will make it easier to climb the ladder when the economy begins to grow again. Likewise be prepared to relocate and take a lower salary than you may have expected a year ago.

Network

'It's not what you know but who you know' went out of fashion a long time ago but networking still has its advantages. During the recession employers may not advertise positions so widely and students will be expected to do more of the leg work themselves to find out about what jobs are available.

Word of mouth will become a useful resource. Meeting the right people means employers can put a face to the name when your application comes in – it may just get your application an extra second's consideration and every little helps.

Work experience

Many employers demand a 'proven interest' in their sector before they will consider you for a post – this is so they can be sure that you know what you want before they invest in your training. Fair enough. But many students will cry 'unfair' when they receive the 'not enough experience' line from employers – how are you supposed to get experience when you are in education, right?

Wrong! Enough students now undertake internship programmes during their holidays and work experience placements while at university for employers to be able to demand some form of work experience. To avoid risking rejection prepare early and start work experience during university.

Training

Employers love skills. Skills can be anything from languages to IT or accounting. If you possess good transferable skills then you will become more employable.

Fact: if you do experience a period of unemployment after university then use your time productively to gain some extra skills – telling employers that you are working to gain new skills will make you appear proactive and motivated. ■

Rebecca Kinahan is Employment and Marketing Coordinator for Blind in Business
www.blindinbusiness.org.uk.

Talking pictures

Iansyst's CapturaTalk text-to-speech software proves a useful tool for people with dyslexia – but you need a steady hand

Dyslexia is receiving more official attention than ever before. This year some 4,000 teachers will be trained to identify and help pupils with reading problems.

The Department of Work and Pensions is also doing more to make Access to Work grants available to workers who have dyslexia.

Not surprisingly the IT industry has responded too: there are more technology aids for dyslexia on the market than there have ever been before.

Ability recently tested the latest version of a device aimed at helping people who are better able to understand written material if they can listen to it as well as read it.

Iansyst's CapturaTalk is software designed for mobile phones that allows users to take photographs of text, save them and have them magnified and read back.

Testing conditions

We tested CapturaTalk version 2, which came out earlier this year. It was installed on a Hewlett Packard iPAQ614 handset with a 3 megapixel camera running the Windows Mobile operating system. This is the most widely used combination, according to Iansyst.

CapturaTalk is designed to run on touchscreen devices running Windows Mobile 5.0 or above and is squarely aimed at the education market with a £195 price tag (excluding VAT) for educational users, compared with a standard price of £250 (excluding VAT).

The program is well integrated with the iPAQ, sporting a hard-to-miss button that is always on screen. The application itself can be quickly bought into play using simple, intuitive commands.

The process of capturing images was straightforward but required some practice. Even with the iPAQ's reasonably sized screen we were unable to capture a single page of A4, but had to photograph it in two or three chunks and then recall them individually.

Images are stored using the approach usually adopted for photographs in a camera with newest first but with an option to name each file.

The optical character recognition software finds the going tough if images are too dark, the text is too small and pictures are subject to camera shake.

Certain serif type faces such as the one used to print this article also caused problems and we had to contend with the iPAQ hanging up from time to time. Iansyst points out that higher specification, five megapixel cameras give best results.

After several tries involving plenty of gobbledegook and streams of circumflexes we were able to get perfect voice output from several bits of text. The female reading voice we used had good intonation with the stress mostly in the right places.

We had to work hard to make sure everything was right in order to get satisfactory results and they were nowhere near those you might expect from a desktop scanner. It does not take many scrambled words to render a sentence unintelligible.

However, the proper comparison is with a handheld scanning pen and here CapturaTalk comes out well ahead in the amount of text that can be scanned at any one time and its ease of storage.

In addition, CapturaTalk includes a copy of the Concise Oxford English Dictionary which can be used to define highlighted words in text.

Not only can the software be used to read documents but also to voice enable applications on the iPAQ such as email, web browsers and Microsoft Office. This is probably as important a feature as reading back text.

Future enhancements

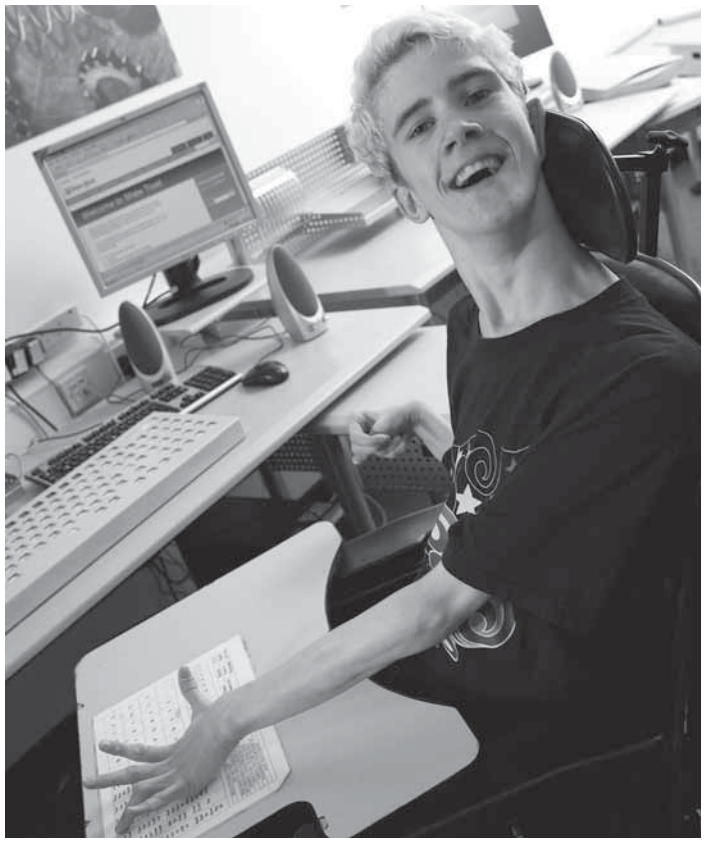
Iansyst is planning to enhance CapturaTalk's performance further in this area in September by adding a PDF reader that reflows text (adjusts it when it is magnified).

CapturaTalk is the first product of its kind to come onto the British market and it fills a significant gap between portable scanning pens with limited literacy support and more sophisticated desktop and laptop systems.

The fact that it is designed for devices running mobile versions of Microsoft office products is a bonus and provides dyslexics with a phone that is also a viable alternative to a laptop computer and scanner. ■

Shaw Trust
Ability at work

Web Accreditation Service



Why is Web Accessibility Important?

First and foremost, because it is a legal requirement for your organisation's website and intranet to comply with the Disability Discrimination Act (DDA). But perhaps more importantly, it makes good business sense to ensure all your customers can access your goods and services.

It is estimated that 10 million adults in the UK have a disability and the combined spending power of adults who are disabled is £80 billion annually. How many of these people could be your customers?

Shaw Trust Web Accreditation Service provides you with peace of mind, ensuring that your website has been tested to the highest possible accessibility standards.

Shaw Trust is one of the UK's top providers of Web Accreditation. Our Web Accreditation Service is designed to be the most comprehensive service available and is endorsed by The Guild of Accessible Web Designers (GAWDS).

Our service can audit and accredit websites in line with W3C guidelines against WCAG 1.0, WCAG 2.0 and Section 508. You can be confident of meeting the highest standards of web accessibility in line with PAS78 guidelines.

The service offers a full technical audit with rigorous user testing. Every member of our testing team is an experienced assistive technology user. They understand the frustrations of not being able to access websites that don't consider the needs of people who are disabled. We're passionate, enthusiastic and committed to making it work and we have the experience to make it work for you.

Meet the Team

We are happy for you to visit and spend the day with our user testing team during the testing of your website – this has proven very popular with our clients as they can see first hand how adaptive technologies can improve disability access to an otherwise non-accessible website or application.

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Audio drive's wall of sound

Fuzzy, echoing, indistinct public announcements could be a thing of the past for people with a hearing impairment thanks to technology that can turn buildings and other structures into loud speakers.

A company called FeONIC has developed a device called an audio drive that can vibrate materials in floors, walls and furniture to produce sound.

The audio drive, which is slightly bigger than a packet of cigarettes, contains an actuator made from a 'smart' material which has enough energy to move the materials it is placed on by 10 microns: enough to make them resonate.

FeONIC, which has recently signed up a company called Spearhunter to distribute the audio drive, is talking to train companies about using the device to improve the quality of public announcements.

An array of £120 audio drives would be placed underneath station floors and walls to provide a kind of surround sound.

Audio drives, which can send sound through materials for distances of around 10 metres, produce better quality sound because they are not directional like loudspeakers and they do not suffer from echo and delay, according to FeONIC.

"There is a significant percentage of the British population for whom public building spaces represent an 'acoustically aggressive' environment," says Mark McConway, marketing director at Spearhunter.

"This is mainly due to the unevenness of sound quality – and reach – of traditional public address systems. FeONIC's technology has the ability to radically alter this, allowing businesses not only to meet their requirements under the Disability Discrimination Act (DDA) but also to improve the sound quality for everyone." ■

www.feonic.com
www.spearheading.net

Shaping the future of AAC

A group of nine hospitals and universities is carrying out research into the design of communication aids for disabled people as part of a project called Devices for Dignity.

Researchers are quizzing users, carers and professionals about their perceptions of communication aids in order to identify areas for improvement and future research and development.

Gill Townend, a speech and language therapist with Sheffield Speech and Language Therapy service, and Simon Judge, senior clinical scientist with Barnsley Assistive Technology Team, are leading the augmentative and alternative communication (AAC) project.

The first stage of the project, interviewing communication aid users in South Yorkshire, is under way and researchers are now seeking people who have views on communications aids to answer a national questionnaire. ■

For further information go to **www.devicesfordignity.org.uk/aac**, email alison.keys@nhs.net or call 01226 432159.

Briefs

Colour blind app

Software that simulates colour blindness is among the latest Apps for Apple's iPhone. The Huetility Colour blind Simulator reproduces different types of colour blindness so that people with normal colour vision can see the world in the same way as a colour blind person. The program alters the colours on screen to simulate red-green, blue-yellow and complete colour blindness.

Blue Badge movie

Using their mobile phone, Blue Badge holders can view parking bays, accessible toilets, and petrol stations with service call via an interactive map. Paul Henshall and Mark Benton, stars of the BBC's ***I'm with Stupid***, feature in a video about the service that is downloadable from the Directgov website. The mobile service also allows users to check the local council parking rules.

www.direct.gov.uk/bbmobile

Facebook more friendly

The social networking site Facebook is attempting to encourage more of its members to produce pages that are accessible to vision impaired people via an accessibility Help Center, which has instructions on how to use the service's accessibility functions. Facebook has introduced an audible CAPTCHA (the distorted text that has to be copied into a box to sign on) and an HTML-only version of the site. The widespread use of untagged images on sites such as Facebook and LinkedIn poses a problem for screen reader users.

www.facebook.com/help.php?page=440

100% compatible

It takes skill and experience to find the right mix of technology, training and support to make IT totally accessible. AbilityNet's reward is knowing the people we help find life has got better in all sorts of ways, from meeting challenges at school to new work opportunities, or simply being able to communicate effectively and take more control of their lives.

Sharing knowledge

AbilityNet is a totally independent national charity, working directly with thousands of people every year to find accessible IT solutions, no matter what their age or disability. We know from practical experience what works and what doesn't, and the real problems people face. As a result we now help and support a wide variety of professionals who wish to extend their knowledge or solve difficult issues. For informed, impartial advice it makes sense to contact AbilityNet.

AbilityNet's one-stop shop includes free information and advice; individual assessments, installation, training and support; accessible IT kits for public access centres; courses, seminars and practical workshops; accessible web design and audit service; consultancy.

For further information please contact:
AbilityNet • PO Box 94
Warwick • CV34 5WS
*Tel: 01926 312847 • Fax: 01926 407425
(*Minicom accessible)
Email: enquiries@abilitynet.org.uk
http://www.abilitynet.org.uk
Charity no. 1067673

AbilityNet

Adapting Technology ▪ Changing Lives

Call centre texting with Live Chat

People with hearing and speech impairments find it difficult to participate in the call centre culture.

Now BT has introduced real-time interactive texting for customer enquiries. Live Chat, an instant-messenger style service, is now available on BT's Inclusion website.

The service offers customers another way to get information, resolve queries or make purchases and will be particularly useful to those who have difficulty communicating via the telephone, says BT.

Live Chat provides access to a BT customer service advisor without the need to speak over the phone. Users type in their question and an advisor responds.

BT's Live Chat covers all aspects of customer service, including billing queries, account changes, advice about products and requests for literature in alternative formats such as large print or screen reader compatible text file.

Dr Lorraine Gailey, chief executive of Hearing Concern LINK, would like to see more companies offer a similar service.

"Customer service departments often assume that a user is happy to deal with them on the telephone and alternative, text-based, options are either unavailable or difficult to track down," she says.

"We support the concept of BT's 'Live Chat' real time text system and have asked Ofcom to encourage further usage of such communication amongst other service providers." ■

www.BT.com/inclusion

Web broadcasting by phone

Ipadio, a recently introduced service for phone blogging, also known as phlogging, allows people to broadcast live to the web from any phone, offering easier access to the web for disabled people.

To access Ipadio, users need an email address to register and a phone to call on. The service is free and is aimed at anyone who finds a keyboard hard to use but who can manage a phone handset. They will find the control over their content empowering, says Ipadio.

The company expects the service to have the biggest impact for people with vision impairments.

Two of Ipadio's senior management team are sight impaired: chief executive Dr Mark Smith is partially sighted in one eye, and board director Mike Brace, OBE, who is also a paralympic athlete, is totally blind.

Mike Brace, director of ipadio and paralympic competitor

Roger Wilson Hinds of screenreader.net has reviewed ipadio (www.ipadio.com/rogerwilsonhinds) and says it has all kinds of potential including distributing instruction manuals and running product support sites.

Ipadio will be used before and during the Paralympics 2012 to help bring athletes closer to the public.

The company is keen that other developers use Ipadio to develop online services.

Anyone with a disability requiring extra help to access Ipadio can call 0844 7069665 during working hours. ■

www.ipadio.com

RNIB launches low price magnifier

The Royal National Institute of Blind People (RNIB) and technology company Humanware have launched a low priced desktop electronic magnifier.

The SmartView Synergy, which retails at £1195 for a magnifier and 19" screen, is £500 cheaper than similar models on the UK market, says Alison Long, senior product manager at RNIB.

Smartview Synergy magnifies text, objects and images to help people with low vision eye conditions. The device enables users to read newspapers, do crosswords, check household bills and look at photos.

The device is available with a 19" flat liquid crystal display (LCD) monitor or a 22" widescreen. It can also be linked to a user's own monitor or TV. An optional control panel gives users a page locator, lines and blinds and computer screen sharing. The display LCD monitor can be adjusted up and down, swiveled left and right and tilted forward and back.

"Our five year strategy will see RNIB continue to develop products and services to significantly increase access to reading and technology so that blind and partially sighted people can lead as full and independent lives as possible," says John Godber, head of products and publications at RNIB. ■

www.rnib.org.uk
www.humanware.com

ability

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Employers' Forum on Disability Events Calendar, September to December 2009

Visit www.efd.org.uk/events to find out more about these events and to make a booking.

SEPTEMBER
Webinar: Managing redundancy
9 September 2009 3pm-4pm
£60 (member/charity) £99 (non member)

Workshop: Recruitment Masterclass – bringing in new talent
London 29 September 2009 10am-4pm
£275 (member/charity) £399 (non member)

OCTOBER
Disability Discrimination Act Masterclass Part II (employment)
Edinburgh 1 October 2009 10am-4pm
£299 (member/charity) £420 (non member)

Hot Topic: Managing stress in the workplace
Bristol 13 October 2009 10am-1pm
£170 (member/charity)/£255 (non member)

Webinar: Supporting staff with Autism in the workplace
15 October 2009 3pm-4pm
£60 (member/charity) £99 (non member)

Workshop: Supporting staff with Dyslexia in the workplace
London 22 October 2009 10am-4pm
£275 (member/charity) £399 (non member)

NOVEMBER
Webinar: Technology swap shop
18 November 2009 3pm-4pm
£60 (member/charity) £99 (non member)
Free to gold members

Workshop: Supporting staff with mental ill health in the workplace
London 24 November 2009 10am-4pm
£275 (member/charity) £399 (non member)

DECEMBER
Webinar: Disclosing disability at work – more than just a tick box
2 December 2009 3pm-4pm
£60 (member/charity) £99 (non member)

EFD member & charity rates and non-member rates are displayed exclusive of VAT. All events include refreshments. Event delegate packs are available to purchase if you are unable to attend an event.
For full details and to book, visit www.efd.org.uk/events or call 020 7403 3020

Diary of events

TECHSHARE 2009

17-18 September

ExCel Centre, London

Techshare is a pan-disability conference and exhibition aimed at professionals who are interested in technology and the role it plays in learning, work and society for people with disabilities.

Fees: Full rate two day £365 plus VAT, full rate one day £265 plus VAT. Discounted rates (£330 and £235) are available for bookings received before July 10.

For further information:

Email: techshare@rnib.org.uk

WIRELESS EMERGENCY COMMUNICATIONS STATE OF TECHNOLOGY CONFERENCE

21-23 September

Georgia Tech Research Institute, Atlanta, Georgia, USA

This international conferemnce will examine the potential of woirelesws communications technology for improving support and assistance for persons with disability before, during and after disasters.

Fees: This is a free event

For further information:

http://sot.wirelessrerc.org

COMMUNICATION MATTERS SYMPOSIUM

20-22 September

Gilbert Murray Conference Centre, Leicester University

With an expected 400 delegates this year, the communications Matters Symposium will be the UK's largest augmentative and alternative communication event. It includes a conference, social events and a trade fair.

Fees: £310 non-residential, £365 one night residential, £420 full residential. Discount for bookings before July 31 and for users of AAC equipment.-

For further information:

Email: admin@communicationmatters.org.uk or visit www.communicationmatters.org.uk.

DOES TECHNOLOGY MAKE IT EASIER OR HARDER FOR DISABLED ENTREPRENEURS?

7 October

Conference Room in the Offices of K&L Gates, London

Speakers Penny Melville Brown (Disability Dynamics), Andrew Thomson (Sign-now.com) and Earl of Erroll (All Party Parliamentary Group on Entre-preneurship) debate the technology issues of running a business.

Fees: £25 suggested donation

For further information:

rebecca@wcit.org

REHACARE INTERNATIONAL

14-17 October

Dusseldorf Exhibition Centre, Germany

Rehacare is one of the largest international trade fairs for people with special needs and those requiring care. 800 exhibitors from 30 countries are expected to take part in the event. 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 exhibition space. Last year 52,000 people poured through its doors.

Fees: €7 in advance or €12 euros on the door.

For further information:

Tel: + +49 (0)211 45 60 01 or visit www.rehacare.de

QUEEN ALEXANDRA COLLEGE SIGHT VILLAGE, LONDON

11 November

Kensington Town Hall, London

Queen Alexandra College runs a companion event to the original Birmingham Sight Village.

Fees: None

For further information:

Tel: 0121 428 5050, email: sv@qac.ac.uk or visit www.qac.ac.uk/sightvillage

Contacts

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

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

British Computer Society Disability Group
01793 417723
graham.mclaughlin@hq.bcs.org.uk
www.bcs.org/disability

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

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

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

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

Top website

TrueTube is run by registered charity CTVC, and is a free website where young people can watch films on issues like obesity, drugs, gun culture, sex and the environment. It aims to encourage young people to debate important issues and to speak out. TrueTube has many films on the site surrounding the issue of disability. These include real life stories and those developed by TrueTube themselves, for example:

- Rebecca explains about life with spina bifida
- Paralympian Rachel Morris on winning by any means
- Sarah Coupe talks about living with only one kidney and a hole in her heart
- Disabled students at Oakland College show us their world

www.truetube.co.uk

If you have a favourite website in the accessible IT field share it with others through *Ability* by sending it to john.lamb@abilitymagazine.org.uk

Missing the glitter of twitter

Keep up with technology Kevin Carey tells the disability sector and be passionate about it

My most consistent theme in the last decade has been the inability of the disability sector to move at the same pace as its external environment.

At yet another Digital Inclusion conference I attended recently, the speeches could have been written almost 10 years ago when Windows 3.x was the market leader and we were learning about the web.

The world outside may be full of the glitter of Twitter but we have hardly moved past the dross of DOS.

This is partly because the achievement of accessibility presents formidable economic and technical challenges; but if those challenges are more or less the same now as they were a decade ago, there's something wrong.

I won't go over the economic fallacy of the business case (*Ability* 65 Spring 2007) or the need for the third sector to take technological competence much more seriously, although these are still salient issues; what I want to concentrate on is the liberation of the mind-set, the capacity to develop a new paradigm.

A long hard look

This need not be a piece of high level theorising. If we look at the National Curriculum switch from autonomous examination testing to project work, the switch in the workplace from rote processing to team creativity, the switch in leisure from passive television viewing to games and internet surfing, and the switch from the internet as a purely top down vehicle for government and business to the vehicle for a dense interaction of social networking, we have to ask ourselves whether that is reflected in the kinds of campaigning, research and development we are undertaking.

We have been bruised by the archness of

Kevin Carey is head of the eInclusion Consultancy ATcare and chair of RNIB

Microsoft, insulted by the indifference (or is it incompetence?) of those responsible for making digital television accessible and some of us at least have been sorely disappointed by WCAG 2.0, but what have we learned? Here's my summary of what we should have learned:

- Accessible ICT is an example of gross market failure
- Government will continue to extend rights and decrease budgets
- The Third Sector expects too much of government and business and too little of itself
- Campaign slogans have to be turned, first into robust user requirements and then into technical specifications
- The disability sector needs to invest in the access technology manufacturing sector
- And finally, haggling over the last 5% of standard-setting, funding or anything else for that matter, to achieve product or administrative perfection is disproportionately costly. By the time we've signed the deal, the world has moved on.

I take no comfort in the fact that, for all our failings, we are pretty near world leaders in accessibility. I have spent the last half year working on the G3ICT Accessibility Toolkit for Policy Makers (www.g3ict.com/) and although much of the content is useful as an indicator of what needs to be done, the standards are woefully out of date. And, because standards are the contemporary substitute for legislation, it is impossible to make substantial progress without them.

This is not to say that we should spend more time in bureaucratic basements writing standards. What we need is to develop products that drive standards rather than developing standards for out-dated products.

Lesson to be learned

There is, however, a much more deep and simple lesson which we need to learn. One of the problems with new technology is that it distorts our vision of the world we live in, luring us to think of the technology rather than the user.

In time this tendency wanes. Photography has passed from the province of experts clothed in black capes to the mass cinema, television and the domestic DVD – not to mention the digital still and movie camera – but while this transformation takes place, real lives are being lived.

The kind of technological disadvantage that disabled people are suffering, exacerbating our socio-economic disadvantage, should make us passionate at the very least.

As ICT is so good for those who have limited ability, self confidence and capability, its accessibility is life affirming. So, a little less jargon and a little more passion please! ■

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- Language Learning Assistant

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