

**THE eACCESSIBILITY ACTION
PLAN**

Making digital content
accessible by everyone

12 OCTOBER 2010

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Foreword: Ed Vaizey MP, Minister for Culture, Communications and Creative Industries



The Government's strategic vision is to ensure the UK is one of the most competitive, highly skilled and technologically advanced economies in the world. Yet, too many people are currently excluded from participating fully in today's digital economy. In so many circumstances, this inability to fully participate is due to a combination of factors that create barriers, with accessibility and usability at their core.

We should be proud that the UK is at the forefront of delivering eAccessibility across a wide range of platforms and I want to ensure that we continue to strive forward and lead by example.

The Action Plan will enable the UK to continue to work towards and meet the European Union's 'Riga Declaration', to which it is a signatory. In particular, this work will help us achieve one of the Declaration's priority objectives: 'to ensure accessibility, affordability and equal participation for disabled users in the digital economy'. It will also help us successfully implement the amending directives for Electronic Communications Networks and Services.

In order to achieve these objectives it is vital that the principles of Inclusive Design should be adopted by the widest number of organisations possible when they design, develop and deliver products, platforms and services to the marketplace. Well designed communication products and services that consider eAccessibility and embrace inclusive design will reach a wider share of the market with improved profitability.

The Government plays a central role in eAccessibility and the Action Plan sets out its commitment to improving the large number of public websites that currently fail the eAccessibility criteria. This is one area that I am determined to make significant inroads into – and we will do so. Government will need to embody the eAccessibility agenda as it delivers more and more services online. This will not only be more efficient and cost effective, but will also provide greater choice as well as services that are more personal and tailored to individual needs. This public service delivery agenda is in part being led by the UK's Digital Champion, Martha Lane Fox. I can think of no one better to help install the eAccessibility principles at the core of central government thinking.

But Government cannot do everything. We have a clear and supportive regulatory framework for eAccessibility and Government plays its part in legislating where necessary - but regulation is a blunt instrument. My hope for the work of the eAccessibility Forum and the Action Plan establishes are new collaborations and partnerships between business, the voluntary sector and the government, to move the agenda forward. I am grateful to all the Forum members for their engagement and support in pushing forward this agenda. I look forward to us all working together to deliver the plan. It is these opportunities and relationships that will truly make the difference.

A handwritten signature in black ink, appearing to read 'Ed Vaizey', written in a cursive style.

Ed Vaizey

Minister for Culture, Communications and Creative Industries

The Action Plan's purpose

The success of the digital economy depends on making sure that everyone can contribute to it and everyone can benefit from it. Too many people are currently excluded, whether through barriers that exist in the workplace or getting to the workplace, or through difficulties with using the technology that the majority of people now take for granted for entertainment and communication. Sustained effort goes into addressing physical accessibility for disabled people, underpinned by the Disability Discrimination Act and other legislation. In the world of digital communications – such as internet access, mobile telecommunications, television, and radio – there are a plethora of eAccessibility challenges. Addressing those collaboratively between business, the voluntary sector, and government is the purpose of this Action Plan.

Business has much to gain from engaging with eAccessibility. It can open up a wider skilled workforce. It can make it easier to deal with a wide range of consumers. There are different ways to achieve this goal, from building in core accessibility functionality to creating an open platform to enable specialist organisations to provide a wide range of solutions, both of which can make ICT products and services more accessible and successful. And any business which uses a business for marketing or sales can benefit from accessible website design. In the field of electronic communications services the UK is in the forefront of delivery in Europe, and among the best globally. UK business is therefore well placed to exploit the opportunities opening up from the requirement across the EU for equivalence of access for disabled people to communications services.

It is the responsibility of Government to make sure that we have a clear and supportive regulatory framework that legislates where necessary (and only where necessary). A current task is to transpose the Directives which amend the framework legislation for electronic communications networks and services. These include a new emphasis on eAccessibility and in particular a requirement to deliver equivalence of access for disabled people. Working through what that means in practice is one area for the Action Plan. Regulation can often be a blunt instrument, so the ability to use the eAccessibility Forum to address the practical challenges of delivering equivalence of access provides the UK with a pragmatic approach to implementing what is needed. The Forum can also act as a sounding board for both Government and the regulator in considering future regulatory proposals, with specific actions captured in the Action Plan.

Technology is continually advancing in what it can offer. For eAccessibility this is a double-edged sword. It opens up new ways of meeting the needs of disabled people – but it also risks continually raising new barriers. As a matter of principle designing in accessibility should reduce the number of new problems for which we need to find an “equivalent” solution. Learning from current applications rather than repeating old problems should be common sense. For example, in the world of digital television there is an established code for designing easy to use remote controls for standard definition and High Definition TV – but these need to be taken forward and applied for 3DTV and for connected TV (such as YouView). In one sense the Action Plan will never be complete as there will always be more that can be done. For the first stage we are looking for a step change in eAccessibility by the time of the Olympics and Paralympics in summer 2012. In the same timeframe RaceOnline 2012 is looking to persuade as many people as possible to go online, and by the end of 2012 we will have completed digital TV switchover.

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What might that step change look like? It will have developed practical responses to the 16 recommendations made by the Consumer Expert Group in their report *Barriers to accessing the internet for disabled people*. Many of these recommendations about better access to assistive technology, better information about what is available, better website design, and better training for web designers. It will have addressed the challenges on eAccessibility posed by Martha Lane Fox in the *Manifesto for a Networked Nation*. It will also have seen a shift towards more software solutions that enable mainstream products and services to be used by disabled people. And it will see the principles of eAccessibility applied over a range of content, not just what is available over the internet.

The eAccessibility Action Plan will be a live document that is updated on a quarterly basis. This will enable us to track our successes in the promotion of inclusive design and how we are removing the e-accessibility barriers that have to date led to digital exclusion. As a live document, it will remain current and, as such, relevant to the dynamic changes in the technology marketplace - as we are able to add new initiatives and ideas as we progress and meet milestones.

eAccessibility work streams

To help structure and focus the Action Plan, tasks have been grouped into five work streams. These are:

1. Regulatory work stream

The agenda for this will principally be set by Government. It will set clearly how Government, business, consumers and the voluntary sector work together to develop and implement a clear regulatory framework to support eAccessibility. The initial tasks relate to the transposition of the EU Directives amending the Framework Directives for Electronic Communications Networks and Services into UK law by 25 May 2011, and to the application of public procurement standards.

2. Accessible consumer technology and digital equipment work stream

This work stream will focus on hardware and software for accessing web based services and wider use of computers. It will look at current solutions, such as screen readers and Braille keyboards and consider how they can be made more affordable. It will look at how to build inclusive design into new products and services where appropriate as well as how to make required specialist solutions affordable and easy to access. It will develop key messages for use by business and the voluntary sector in improving eAccessibility. It will look at how best to encourage the use of open standards.

3. Websites services work stream

Websites are the gateway to almost every business, voluntary organisation, or provider of information about public services. Whether or not they are direct sales and marketing tools, they are key contributors to the financial efficiency of each body. A well designed website draws in more users, and reduces the need for other means of customer support such as callcentres. Although there are internationally recognised standards and guidelines of website accessibility, these are poorly adhered to by the public sector or by the private sector. This work stream will explore the reasons for this and assist both government and private sector to develop websites and online services that conform appropriately to web standards, guidelines and best practices, such as WCAG 2.0 AA and relevant W3C specifications. It will also take forward plans for a One Stop Shop for information on eAccessibility, and look at how the website designers of tomorrow can be trained to design accessibility into their products and services.

4. Accessible content work stream

This work stream will continue to promote the usability and accessibility of digital content across non-web based media. For digital television this work is well-established through the DTV receivers Usability Action Plan which has operated since 2006. The eAccessibility Action Plan will refer to these activities as a reminder to learn and apply lessons from the TV sector to other digital technologies, particularly as convergence and

integration advances. For digital radio, the report by the Consumer Expert Group published on 14 September 2010 highlights a number of practical problems around usability accessibility which need to be addressed if the vast majority of services are to be available on digital platforms only. The Government will respond to that report shortly and set out how to tackle the accessibility issues. There has for some time been a recognition that there are particular issues with eAccessibility in the publishing sector which will now be taken forward by a designated stakeholders group drawn from the publishing sector under BIS chairmanship. Videogames technology offers potentially exciting new ways for people with disabilities to interact with communications services, and also to provide new ways of helping people communicate for whom the written word is difficult.

5. Awareness and promotion work stream

There is already much good practice and examples of practical applications of eAccessibility. However, the wide membership of the eAccessibility Forum offers real potential to promote greater awareness and understanding of the benefits to business of embedding eAccessibility. This work stream will develop key messages for use by business and the voluntary sector in improving eAccessibility. It will complement the work of RaceOnline 2012 in encouraging as many people as possible to go online, and it will support the wider work of Martha Lane Fox as the UK Digital Champion to improve the delivery of public services. Working together nationally, regionally and locally strengthens the objectives and successes of the Big Society.

eAccessibility Forum: expert groups

The eAccessibility Forum will work where appropriate through small groups of experts in order to get the deeper levels of engagement required from specific communities and for those communities to have a voice within the Forum.

1. Web education

As there are currently no standards or regulation specific to web education in the UK, the principles of Open Web Education as articulated by the W3C group, the Open Web Education Alliance (OWEA) will underpin the work of the Forum. This group will be tasked with the liaison of the OWEA members and UK Educators across Schools, Colleges and Higher Education.

2. Accessibility and web standards

Although the Forum has experts in these areas, there are also many Web Standards and Accessibility professionals and advocates dispersed all around the world who would not be available to take part in the Forum, but who can be called upon to provide advice, input and feedback on any of the work being done by the Forum in a timely and efficient manner.

The eAccessibility Action Plan: detail

1. Regulatory work stream

The work stream will help delivery of a clear regulatory framework for businesses and the voluntary sector to operate in.

	Task	Action	Timing
1.1	UK Government To Implement Framework Review		
	Implementation of the revised European framework on Electronic Communications		
1.1.1	Public Consultation on overall approach	Responses from stakeholders	Q4, 2010
1.1.2	Publication of proposals for implementation including on equivalence of access	BIS to publish statement	Q1, 2011
1.1.3	Complete statutory process for transposition of amending Directives.	SI to come into force	Q2, 2011
1.2	EU Standards		
1.2.1	Government to consider the role standards play in achieving beneficial eAccessibility outcomes in the marketplace.	BSI to publish a UK ICT procurement standard, to include eAccessibility	Q4, 2010
		BSI to circulate the draft standard BS8878 to the Forum for discussion	Q3, 2010
1.3	Accessibility in Public Procurement		
1.3.1	The OGC to review how Government can modify its ICT procurement processes in line with the eAccessibility principles in order to benefit from both the innovations and cost savings that would be derived from engagement with the SME marketplace.	Consult with OGC and COI to determine the viability of widening their remit to shared responsibility in this area.	Q1, 2011
1.3.2	Business Taskforce for Accessible Technology are currently working with their members to produce the BTAT Accessible ICT Procurement Specification, which aims to provide organisations with best practice and support in ensuring all procurements actively consider accessibility.	Microsoft and BTAT to run event in March 2011 on Accessibility in Procurement at Microsoft London Offices.	Q1, 2011

2. Accessible consumer technology and digital equipment work stream

The work stream will look at what consumer technology and digital equipment is on the market and how issues surrounding affordability and availability of assistive technologies can be overcome.

	Task	Action	Timing
2.1	Inclusive Design in Technology Products		
2.1.1	Encourage Inclusive Design principles in hardware and software and highlight how this will benefit the wider marketplace	Report from the One Voice for all Coalition.	Q2, 2011
2.1.2	Identify the statistical and cost indices of implementing Inclusive Design across Government, Business and the Voluntary Sector.	Report from One Voice Coalition	Q1, 2011
2.1.3	Work with the AT and Accessibility communities to determine how better to meet the needs of disabled users	Workshops - Invite innovative AT Developers who are currently using Open Standards to present best practices and discuss how they got their products to market and continue to innovate	Q1, 2011
2.1.4	Encourage developer days with Martha Lane Fox's Race Online campaign which will focus on creating new software and applications that meet the needs for disabled people	Google - Two Developer Days	Q2, 2011
2.1.5	Create an open platform on which other companies can develop and create a partner ecosystem which will develop a wide range of different solutions which will ensure choice, a competitive environment and produce a range of solutions for citizens with different needs	Microsoft to continue to work with UK SMEs who develop specialist accessibility products and services.	Q3, 2011
2.2	Reducing Cost Barriers to Assistive Technology		
2.2.1	Consider alternative funding models to encourage innovation in the manufacture and distribution of products and services that meet eAccessibility criteria, but are currently not available in the marketplace	Report on alternative funding models and benefits for business	Q2, 2011

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	Task	Action	Timing
2.2.2	Spread awareness of current research into assistive technology into the marketplace.	Engage with the EPSRC on how its assistive technology programme can fit with the overall government eAccessibility agenda.	Q2, 2011
2.2.3	Develop low cost computer equipment with built in accessibility and also accessible peripherals as standard for purchase in retail outlets	COMET to launch low cost PC on the UK High Street.	Q1, 2011
2.2.4	Disabled Students Allowance: work with suppliers and stakeholders to ensure that Disabled students are not at a disadvantage when entering university.	Microsoft are working NUS and 21 approved suppliers to make sure that students are accessed and provided with a specially prepared PC	Q4, 2010
2.3	Improving Training in Assistive Technologies		
2.3.1	Investigate how training in AT use can be improved, whilst still ensuring the reduction/removal of barriers to AT training are removed.	Recommendations for changes to how consumers can make the most of assistive technology	Q1, 2011
2.3.2	Manufacturers of Web Authoring Software, Content Management Systems, ecommerce Software and any pre-configured tools used to create websites encouraged to build in accessibility features	Workshops - Using a range of popular software to demonstrate how best practices could be implemented within the framework of the OWEA curriculum.	Q1, 2011
2.3.3	Pilot workshops for visually impaired people to get training in the wide mix of free and lower cost AT products in the marketplace, where such training is currently unavailable. Action for Blind People working with both hardware and software vendors to create workshops that provide visually impaired people with high quality training, affordability and choice.	Workshops to be held in stores by Action for Blind People	Q2, 2011

	Task	Action	Timing
2.3.4	<p>Assistive Technology phase of Home Access Programme</p> <p>Work with designated division of Home Access programme to make sure all home access PCs are equipped with basic accessibility software.</p>	<p>12,500 students to be accessed and provided with a free PC/Software/tech support and broadband</p>	<p>Q4, 2010</p>

3. Websites services work stream

The work stream will work to make websites in the public and private sector more accessible, and help guide people to websites that are well-designed for their needs.

	Task	Action	Timing
3.1	Develop and Maintain eAccessibility in Online Services		
3.1.1	Improve accessibility of public websites	Cabinet Office to set out proposals in response to <i>Manifesto for a Networked Nation</i> .	Q2, 2011
3.1.2	Update the current guidance "Delivering Inclusive Websites: Guidance number: TG102" to reflect the Key Elements of eAccessibility and to conform to the latest Web Content Accessibility Guidelines (WCAG) as set out by the W3C and BS 8788, setting timetables for conformance as well as the broader scope for adherence to Inclusive Design principles and best practices.	COI to revise TG102 Delivering inclusive websites ,with advice and feedback from the Accessibility and Web Standards community as well as the wide Usability and UX communities	Q4, 2010
3.1.3	Produce guidelines for designers of Public Sector websites to ensure that internal teams responsible for the creation, ongoing development and maintenance of online services have the knowledge and skills necessary to carry the eAccessibility work through and to share knowledge interdepartmentally.	Workshops & Training for appropriate staff	Q1, 2011
3.2	Information about Access to Online Services for Disabled People		
3.2.1	Develop a One Stop Shop for information on access to web-based services for disabled people.	Launch One Stop Shop using best of existing services such as UK Online Centres, AbilityNet, Action for Blind People and U Can Do IT	Q3, 2011
3.3	Include Accessibility As A Core Principle In Web-Related Education Courses		

	Task	Action	Timing
3.3.1	Encourage educators at all levels, including schools, colleges and higher education institutions (HEIs) to have Inclusive Design, Open Standards, Accessibility and associated best practices as the fundamental underlying principles in their web-related qualifications and to utilise Open Web Education Curriculum throughout.	<p>BIS to publish guidance for the higher education institutions</p> <p>Develop further guidance for educational establishments</p>	<p>Q4, 2010</p> <p>Q3 2011</p>

4 Accessible content work stream

The work stream will continue to look at issues relating to for television subtitles, audio-description and other accessibility features; and how a wider selection of publishing material (such as e-books) can be made accessible to the visually impaired.

	Task	Action	Timing
4.1	<p>Accessibility of Audio Visual Content in non-Web based Media</p> <p>The tasks for digital television are taken forward through the Usability Action Plan, and similar arrangements are being considered for digital radio. Headlines are summarised here, to encourage cross-learning for eAccessibility to other fields.</p>		
4.1.1	<p><i>Television</i></p> <p>Receiver recommendations for accessibility to subtitles, audio description and text to speech, already defined for standard definition and High Definition digital television, to be developed for connected TV.</p>	Digital Television Group to define requirements for connected TV.	Q4, 2010
4.1.2	<p><i>Radio</i></p> <p>Address accessibility issues raised in Consumer Expert Group report "Digital radio switchover: what's in it for consumers?"</p>	Government response	Q4, 2010
4.2	<p>Creation of Accessible Publishing Material</p>		
4.2.1	<p>Review the current hardware and software available in the marketplace for Publishing Material to achieve the aims of eAccessibility. Particular attention will be paid to the needs of those with Visual and Cognitive Impairments.</p>	Report on alternative accessible formats and new multimedia	Q2, 2011
4.2.2	<p>Encourage the use of Open Standards to improve accessibility</p>	Workshops for hardware and software manufacturers to demonstrate the use of open standards in accessible products and services.	Q2, 2011

	Task	Action	Timing
4.2.3	Investigate and address issues relating to the availability of accessible content for all forms of publishing and markets	Enabling Technologies Discussion Forum	Q4, 2010
4.2.4	Support the Enabling Technologies Framework project. Three year international project endorsed by WIPO and being jointly run by EDItEUR and the DAISY Consortium	Develop best practice guidelines for publishers to follow in their production processes and where appropriate to integrate existing standards into mainstream publishing in ways that enhance these best practices.	Q3, 2011
4.2.5	Build on the work to date in both the consumer book pilot (focus) and text book pilot project.	Report on accessible content in relation to cognitive decline	Q3, 2011
4.3	Gaming Technology to meet Educational Needs		
4.3.1	Investigate how innovations in the Games industry could be used to help disabled and older people take part in education and generally in other walks of life.	SpecialEffect is taking forward its Stargaze pilot project which offers gaze-controlled technology enabling people who have suffered paralysis to operate a computer for communication, independence, work and leisure.	Q2, 2011
4.3.2	Take opportunities to promote accessibility through videogames	UKIE is exploring ways in which it can work with SpecialEffect to raise its profile and reach. SpecialEffect will be promoted, as part of the UKIE backed London Games Festival that runs from 30 October to the 4 November 2010.	Q4, 2010

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	Task	Action	Timing
4.3.3	Promote use of videogames with former service personnel	UKIE is exploring ways in which SpecialEffect can work with the Royal British Legion (or other associated charities) to facilitate gaming for ex servicemen and women.	Q2, 2011
4.3.4	Develop use of videogames technology for people with severe physical disabilities	Microsoft is investigating how their new "Kinect" device for Xbox 360 which incorporates face, body and voice recognition can help disabled and older people.	Q2, 2011

5. Awareness and promotion work stream

The work stream will promote and raise awareness of eAccessibility principles and how it can achieve an inclusive society.

	Task	Action	Timing
5.1	Inclusive and Accessible Products and Services		
5.1.1	Government, Business and the Voluntary Sector to work together to raise awareness of and promote the benefits of products and services already achieving eAccessibility.	Core messages developed for use.	Q1, 2011
5.1.2	Engage with Business and Voluntary Sectors to create targeted core messaging to articulate the benefits of eAccessibility in the Big Society.	Business to promote the benefits of the eAccessibility of these products and services into the mainstream as well as for disabled and older users with specific needs	Q1, 2011
		Martha Lane Fox to promote the benefits of eAccessibility to business	Q1, 2011
		Government where relevant to promote the benefits of incorporating eAccessibility features into products and services.	Q1, 2011
5.2	Benefits of Inclusivity and Open Standards		
5.2.1	Promote the benefits of Inclusive Design and Open Standards for all technology platforms, particularly amongst senior non-technical stakeholders and the users of the services.	create ongoing complimentary and cohesive messaging	Q1, 2011
5.2.2	Promoting COI Guidelines and other relevant best practices more widely throughout Government departments	Government (COI) to raise awareness.	Q1, 2011
5.3	Online Safety and Security		

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	Task	Action	Timing
5.3.1	Promote the "Get Safe Online" message about online scams. Ensure the campaign has strategies built in to communicate effectively with disabled people and older people	Martha Lane Fox to promote within the Raceonline 2012 agenda	Q4, 2010
		Response to report on internet use for older people commissioned by MLF to include messages on safety	Q4, 2010

Appendix 1: Consumer Expert Group (CEG) eAccessibility recommendations.

Following the commitment in the Digital Britain Report, BIS wrote to the Consumer Expert Group on 30 June asking them to report back by the end of September on the Group's views on usability and accessibility of the internet, why there is relatively low take up of the internet by people with disabilities and what ways we can seek to address any ergonomic, format or other usability issues which can act as a barrier.

The issues, consistently cited as reasons for low take-up can be grouped under four headings that reflect the journey into ongoing Internet access:

- Motivation
- Starting out and getting online
- Continuing the journey: Making the Internet work for me
- Enjoying the benefits and dealing with the dangers/risks of using the Internet

The CEG made a number of recommendations that have been listed below.

Motivation:

1. Government must ensure a mechanism is put in place through which disabled people can access training, equipment and services, including access technology¹, and funding to cover the additional costs they face because of their disability.
2. Government must ensure a mechanism is put in place through which understanding and awareness of the availability of and options around access technology is raised.

Starting out and getting online:

3. An appropriate training fund for support should be set up sufficient to achieve the increased effectiveness of community based training for disabled people and provision of training for those who support disabled Internet users.

¹ "access technology" in this document is used to mean any technology or device that is required to meet the specific needs of a disabled person and allow him or her to use the internet independently, and that is different from, or additional to, the technology or devices used by non-disabled people. It can be software such as a screen reader or voice input software, but also equipment and hardware such as a specialist keyboard, rollerball mouse or screen.

4. To avoid a postcode lottery, the Government first needs to assess the geographical spread of training provision for disabled Internet users across the UK. Using this information the Government can then ensure adequate training provision is available to all disabled Internet users, regardless of their location.

Continuing the journey: making the Internet work for me

5. Government and other public authorities, in fulfilling their obligations under their Disability Equality Duty, should have fully accessible public websites in order to promote equality of opportunity for disabled people and to eliminate discrimination.
6. Government must promote the accessibility and usability of equipment as promised in its ageing strategy 'Building a society for all ages'²; and websites with a simple structure, which content and presentation is properly separated in order to allow the users to customise and enrich as suits their needs.
7. Manufacturers of web authoring software should include advice about creating accessible websites with their web authoring software packages; and be encouraged to embed accessibility into their web authoring design templates.
8. Government must encourage colleges and higher education institutions (HEIs) to embed accessibility as a first principle into their computer programming qualifications to encourage a culture of accessibility awareness within future generations of web designers.
9. The BSI should be supported in their work to develop BS8878 which signposts website developers and commissioners to WCAG2 and provides credible non-technical guidance on how to implement these guidelines. In addition, mechanisms should be put in place by Government to ensure that this BSI work is promoted and put into practice.
10. Accessibility auditors for websites should adhere to minimum standards set by a recognised body, which should be designated for this purpose. Recognised accreditation for "website auditing" should be given and promoted through this body - perhaps via a BSI kite mark.

Enjoying the benefits and dealing with the dangers/risks of using the Internet

11. Government regulation should tackle the inaccessibility of new online services, which have offline equivalents that have traditionally been regulated to provide accessibility. e.g. IPTV and VOIP and TV access services such as text to relay services.

² <http://www.hmg.gov.uk/media/33830/fullreport.pdf>

12. For disabled people who can't go online, or who choose not to, properly resourced off-line services must continue to be provided.
13. Publicly funded training provision in Internet use should include education about risks and the potentially negative aspects of the Internet and how to deal with them e.g. scams/fraud and identity theft.
14. Campaigns, which raise general awareness about online scams/fraud to the public, should also have strategies built in to ensure they are effectively communicated to disabled people, including people who require communication support.

Other forms of access

15. They recognise the growth in use of mobile phone, PDAs and the potential of TV and other such technology as a means to access services, and the Internet in particular and the fact that they are increasingly promoted as cheaper alternatives to using a computer to get online.
16. Internet access on mobile phones, PDAs etc is increasing which means that websites should allow for this - websites should be useable on devices with small screens and limited scripting support.

Appendix 2: Design principles

Principles of inclusive design

Principle one: equitable use

Should be welcoming and not discriminate, offering equally valuable user experiences for anyone and everyone

Principle two: flexibility in use

Should provide plenty of choice in how, why, where, when and with what device different people want to use it

Principle three: simple and intuitive use

Should not require a manual and should be immediately obvious how to navigate from the get go

Principle four: perceptible information

Should be clear what the purpose of the website is for, what people should get from it and why

Principle five: tolerance for error

Should aim to prevent user error, but to provide guidance and assistance that is well considered and not an afterthought, if they do

Principle six: low physical effort

Should not be difficult, onerous or restrictive to use and does not require the user to do the hard work

Principle seven: size and space for approach and use

Should be the appropriate size and shape to suit the user and user agent

Principles of good design

Good design:

- is innovative
- makes a product useful
- is aesthetic
- makes a product understandable
- is unobtrusive
- is honest

- is long-lasting
- is thorough down to the last detail
- is environmentally friendly
- is as little design as possible

Appendix 3: Key elements of eAccessibility

Inclusive design

The British Standards Institute defines inclusive design as:

"The design of mainstream products and/or services that is accessible to, and usable by, as many people as reasonably possible ... without the need for special adaptation or specialised design."

Inclusive design is well established within architecture and the built environment and both RIBA and CABI work to a set of inclusive design principles, guidelines and best practices. In turn, inclusive design is based on the basic principles of good design, which are inherently inclusive, as the key principle of good design is to design with purpose and that means considering the purpose of the product or service and how a diverse range of people will use it.

At present, most mainstream products and services do not consider the needs of the widest range of users; Additional technologies must be "bolted-on" in order for specific user groups to access and use them. This has created significant barriers that limit or prohibit everyone from participating in society and Government is committed to breaking down these barriers.

It is essential that mainstream products and services adopt the principles of inclusive design, particularly within the technology sector as its implementation will facilitate the social inclusion and mobility that will lead to the Big Society.

The principles of inclusive design and the principles of good design are included as appendices.

Assistive technology

Assistive technology (AT) is a generic term used for a wide range of software and hardware designed for disabled people to help them carry out everyday tasks in both work and home life.

Historically, assistive technologies have been standalone products that "bolt on" to mainstream products to provide access and ease of use for specific user groups. With the developments in technology, and particularly web-based technologies over the past ten years, the capability to include much of the key features that AT provides in mainstream products is now a reality.

In order to ensure that eAccessibility is sustainable, a new way of thinking about how products and services are delivered across all aspects of daily life in the UK is essential and can only be possible by true collaboration across Government

Interoperability

Interoperability, within the context of eAccessibility, is the ability of disparate and diverse technologies, whether these be hardware, software or web based, to easily share data and interact with each other harmoniously in order to provide access and ease of use to the widest range of users possible.

In order for interoperability to be achieved, there must be agreed common goals, shared values and the spirit of community amongst all stakeholders – Government, business and the voluntary sector - that are mutually beneficial, involving the open sharing of information and knowledge.

Increased interoperability will prevent lock-in to a particular solution whilst enabling greater choice, competition and affordability.

Open standards

The concept of open standards is where people work together openly to collaboratively develop solutions for addressing common requirements and goals and are generally governed by committees within non-profit organisations, such as the World Wide Web Consortium (W3C).

Open standards are essential for achieving the interoperability, cost savings and cohesiveness that will underpin the sustainability of eAccessibility in the long term.

With respect to eAccessibility, open standards are understood to mean technology specifications that:

- are developed collaboratively by people from different organisations;
- are subject to full public assessment and scrutiny;
- are free to use, without legal or other restrictions, to develop open source and proprietary products;
- are accessible and interoperable across different platforms; and
- have no dependencies on formats or protocols that are not open standards.

Open standards go hand in hand with the Web Content Accessibility Guidelines (WCAG), which are mandated under the COI guidelines that sit alongside the Disability Equality Duty (DED), their adoption is central to the success of eAccessibility. As is the nature of technology, there are no absolutes. Although the wider technology sector is moving towards open standards, there may be instances where they do not apply. If an appropriate open standard is available, it should be utilised.

Beyond conformance: web accessibility and usability

Web accessibility and usability are the two key elements of inclusive web design: Although they are viewed as two distinct practices, they invariably overlap. The aim of both practices is to be inclusive, allowing website owners to reach and maintain the widest possible audiences.

Adhering to web accessibility and usability guidelines and best practices in unison throughout a website's planning, design and development processes, as well as its ongoing management provides the best foundation for creating and maintaining fully inclusive websites.

Web accessibility

Web accessibility is the creation of websites that anyone and everyone can access, irrespective of ability, language, ethnicity, cultural background, socio-economic status, age or anything else that may restrict their freedom to have access. This includes the people who use the Internet and the devices they use to connect to it, such as the various different browsers, mobile phones and assistive technologies.

The current guidelines produced by the W3C, WCAG 2.0, were released in December 2008. Currently, the DED requires conformance to the WCAG 1.0, which was published in 1999.

Usability

Usability focuses on how intuitive and easy a website is for all people to use. There is no legislation regarding usability in the UK – it is governed by common sense. Usability best practices ensure that the website's design is user-centric and will provide the optimum end user experiences

Equivalence of Services and Products

Equivalence of service is the relative value that the user derives through the provision and use of the service, based on achieving specific outcomes in the pursuit of participation and inclusion in society in both work and home life.

The concept of equivalence of service as a relative value supports an acceptable level of tolerance for limitations. As the aims of eAccessibility and the Big Society are to be as inclusive as possible, there will always be certain people who are unable to participate in certain aspects of everyday life due to reasons that fall outside of the auspices of eAccessibility.

Appendix 4: Types of assistive technology products

Assistive technology products are designed to provide additional accessibility to individuals who have physical or cognitive difficulties, impairments, and disabilities. When selecting assistive technology products, it is crucial to find products that are compatible with the computer operating system and programs on the particular computer being used.

Below are descriptions of the various types of assistive technology products that are currently available on the market today.

Descriptions of assistive technology products

Alternative input devices allow individuals to control their computers through means other than a standard keyboard or pointing device. Examples include:

- Alternative keyboards – featuring larger- or smaller-than-standard keys or keyboards, alternative key configurations, and keyboards for use with one hand.
- Electronic pointing devices – used to control the cursor on the screen without use of hands. Devices used include ultrasound, infrared beams, eye movements, nerve signals, or brain waves.
- Sip-and-puff systems – activated by inhaling or exhaling.
- Wands and sticks – worn on the head, held in the mouth or strapped to the chin and used to press keys on the keyboard
- Joysticks – manipulated by hand, feet, chin, etc. and used to control the cursor on screen.
- Trackballs – movable balls on top of a base that can be used to move the cursor on screen.
- Touch screens – allow direct selection or activation of the computer by touching the screen, making it easier to select an option directly rather than through a mouse movement or keyboard. Touch screens are either built into the computer monitor or can be added onto a computer monitor.

Braille embossers transfer computer generated text into embossed Braille output. Braille translation programs convert text scanned-in or generated via standard word processing programs into Braille, which can be printed on the embosser.

Keyboard filters are typing aids such as word prediction utilities and add-on spelling checkers that reduce the required number of keystrokes. Keyboard filters enable users to quickly access the letters they need and to avoid inadvertently selecting keys they don't want.

Light signaller alerts monitor computer sounds and alert the computer user with light signals. This is useful when a computer user can not hear computer sounds or is not directly in front of the computer screen. As an example, a light can flash alerting the user when a new e-mail message has arrived or a computer command has completed.

On-screen keyboards provide an image of a standard or modified keyboard on the computer screen that allows the user to select keys with a mouse, touch screen, trackball, joystick, switch, or electronic pointing device. On-screen keyboards often have a scanning option that highlights individual keys that can be selected by the user. On-screen keyboards are helpful for individuals who are not able to use a standard keyboard due to dexterity or mobility difficulties.

Reading tools and learning disabilities programs include software and hardware designed to make text-based materials more accessible for people who have difficulty with reading. Options can include scanning, reformatting, navigating, or speaking text out loud. These programs are helpful for those who have difficulty seeing or manipulating conventional print materials; people who are developing new literacy skills or who are learning English as a foreign language; and people who comprehend better when they hear and see text highlighted simultaneously.

Refreshable Braille displays provide tactile output of information represented on the computer screen. A Braille "cell" is composed of a series of dots. The pattern of the dots and various combinations of the cells are used in place of letters. Refreshable Braille displays mechanically lift small rounded plastic or metal pins as needed to form Braille characters. The user reads the Braille letters with his or her fingers, and then, after a line is read, can refresh the display to read the next line.

Screen enlargers, or screen magnifiers, work like a magnifying glass for the computer by enlarging a portion of the screen which can increase legibility and make it easier to see items on the computer. Some screen enlargers allow a person to zoom in and out on a particular area of the screen.

Screen readers are used to verbalize, or "speak", everything on the screen including text, graphics, control buttons, and menus into a computerized voice that is spoken aloud. In essence, a screen reader transforms a graphic user interface (GUI) into an audio interface. Screen readers are essential for computer users who are blind.

Speech recognition or voice recognition programs, allow people to give commands and enter data using their voices rather than a mouse or keyboard. Voice recognition systems use a microphone attached to the computer, which can be used to create text documents such as letters or e-mail messages, browse the Internet, and navigate among applications and menus by voice.

Text-to-Speech (TTS) or speech synthesizers receive information going to the screen in the form of letters, numbers, and punctuation marks, and then "speak" it out loud in a computerized voice. Using speech synthesizers allows computer users who are blind or who have learning difficulties to hear what they are typing and also provide a spoken voice for individuals who can not communicate orally, but can communicate their thoughts through typing.

Talking and large-print word processors are software programs that use speech synthesizers to provide auditory feedback of what is typed. Large-print word processors allow the user to view everything in large text without added screen enlargement.

TTY/TDD conversion modems are connected between computers and telephones to allow an individual to type a message on a computer and send it to a TTY/TDD telephone or other Baudot equipped device.

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