Good practice guidance for the providers of search

Updated 2010

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Overview

1. History of the guidance

The good practice guidance on search[1] was developed by the then Home Secretary's Task Force on Child Protection on the Internet. It was developed by a working group bringing together search engine providers, child protection and educational bodies, law enforcement and other stakeholders, including the Internet Watch Foundation, and was published in December 2005. The guidance was intended to promote a shared understanding of search technology – what it does and how it works – the risks to children from using search. It was also intended to outline good practice guidance for search service providers in relation to child protection, as well as providing advice and information for the public on searching safely. The guidance is intended for existing search services and new services which may be developed in the future.

2. Purpose of this document

It was a recommendation of the first UK Child Internet Safety Strategy to build on the work of the Home Secretary's Task Force on Child Protection on the Internet and produce updated guidance for search providers[2]. The Byron Review[3] also made specific recommendations about search.

The existing guidance has been in place for five years. The goal is to review the guidance to ensure that it continues to be relevant and helpful to the target audiences and, as noted above, that it continues to promote good practice on child safety issues in existing search services and in their future development, as well as new services. The review also considered what additional activity may be worthwhile to help ensure that children and young people continue to have a positive experience of search through the provision of safety tools and software, as well as educational material on how to search safely and responsibly.

3. The UK Council for Child Internet Safety (UKCCIS)

The UKCCIS brings together over 170 organisations and individuals to help children and young people stay safe on the internet. It was launched by the then Prime Minister Gordon Brown on 29 September 2008 and is made up of companies, government departments and agencies (including the devolved governments in Scotland, Wales and Northern Ireland), law enforcement, charities, parenting groups, academic experts and others. The Council was a recommendation in Professor Tanya Byron's report 'Safer Children in a Digital World' March 2008.

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[1] See www.education.gov.uk/ukccis

[2] See www.education.gov.uk/ukccis

[3] See *Safer Children in a Digital World: The Report of the Byron Review*, www.education.gov.uk/ukccis

4. Contributors

The UKCCIS is very grateful for the contribution of Professor Sonia Livingstone and Ofcom's Media Literacy team to the evidence base and thanks the members of the UKCCIS Industry Working Group who worked on the review. They are:

Emma Ascroft, Yahoo!
Trish Church, Orange UK
Paul Cording, Vodafone
Luc Delany, Google
Will Gardner, Childnet International
Holly Hawkins, AOL
Jonathan Snellgrove, Ask Jeeves
Catherine McAllister, BBC
Donna Whitehead, Microsoft

5. Consideration of developments in search since 2005

Search technology and how users experience search has developed significantly since 2005. For example, search is now available to internet users in many ways – directly from search engine providers, via toolbars and on a range of websites including social networking and news sites. Walled gardens were previously commonplace and initially used to restrict users' access to specific content but less so now. The norm today is for users to have access to the whole Web and to search freely using all devices. Safe search tools are widely available and, together with other tools such as parental controls or network filters, can help to protect children – as well as adult users – from adult content.

Section two outlines in more detail these developments and their impact on safeguarding children and young people using online search.

6. Evidence base

The review considered the usefulness of the guidance to the industry, as well as the impact on awareness-raising. It also considered new research about children's and young people's use of search and the actions and attitudes of parents and carers to the potential risks to their children when using search services. Research shows how parents and carers closely associate safe searching with other aspects of child internet safety but that there are gaps in their understanding of the risks and the action they need to take to protect their children.

The outcome of this assessment is outlined in detail in Part two.

7. Use of search in schools

The review revealed an approach to teaching safe searching in schools that is still quite fragmented but there have been a number of additions to the schools curriculum and materials developed to help teachers achieve good outcomes for pupils. This is a big step forward since 2005. There is, however, room for improvement. Part two, section 4 outlines key issues and progress to date, with additional information on curriculum development in Annex II.

8. Communications with parents, carers and young people

The original Home Secretary's Task Force search guidance included advice to the public on safe searching but there is a general consensus that more could be done to communicate this effectively to parents, carers and young people and to raise awareness of searching and how to search safely. The Byron Review also recommended that the UKCCIS should include raising awareness of how to use safe search in its education and safety strategy (see below). Part two section 5 outlines the key issues and challenges, as well as potential channels for dissemination of materials and coordination of effort.

9. Byron review recommendations

The final report of the Byron Review[4] recommended that the UKCCIS:

- specifically include raising awareness of how to use safe search in its education and safety strategy;

- work with search providers to:

  - make it obvious what level of safe search is on and how to turn it on for example, by displaying on the search engine's front page or the top of the results pages;
  - give users the option of 'locking' safe search on to a particular computer;
  - develop ways of parental control software to automatically communicate with search engines so that safe search is always on when the child uses the computer;
  - promote clear links to child safety information and safe search settings "*on the front page*".

Some of these recommendations were restated in the progress report on the Byron Review[5] published in April 2010. Part two section 5 sets out a response to these recommendations and how the guidance has been revised to reflect them.

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[4] Safer Children in a Digital World: The Report of the Byron Review, Op cit p88

[5] Do we have safer children in a digital world?: A review of progress since the 2008 Byron Review; see www.education.gov.uk/ukccis

Part one: Developments in search since 2005

1. Search technology

A search index is compiled by web crawlers which are programmed to gather information about sites on the world-wide web. Creating and updating a search index involves gathering information about millions of websites and is an automated process.

Search results are typically divided in to 'sponsored' search results and 'algorithmic' or 'natural' search results:

- Sponsored search results are drawn from an index of sites which have 'bid' on keywords so that their site appears prominently in results for particular search terms. The site owners then pay a fee to the search platform provider if a user clicks on their listing.

- Algorithmic or natural search results are drawn from the web index developed by web crawlers and updated from time to time. For this type of search, technology has shifted away from basic keyword matching to an approach which takes account of the so-called *link authority* of a site – in other words, the number of other sites which link to it; making a site linked to by a large number of other sites more likely to be valued by users than a site which has no links to it.

The principles of search – what it does and how it works – have changed little since the guidance was developed in 2005. Algorithms – which determine in what order the results are presented to a searcher – on the other hand have become more sophisticated over time and each development has focused on making search results more relevant for users – i.e. delivering results that are most closely associated with users' search queries, their location[6] and intentions.

Search technology also focuses on surfacing the freshest results which users value most – e.g. the latest news articles or blogs. Technical tools have also advanced, introducing for example the widespread use of machine learning technology. These developments are market-led, the result of competition between the main search engines and the value of technical innovations in terms of patents. In other words, search technology is more automated and focused on what users are searching for. Search can also be customisable. Users can, for example, limit their search to a particular type of content such as image or video. Some providers serve results which feature much richer content – for example, a variety of web content including links to web pages, images, news services, video and searches of third party content.

Openness is also a feature of search today. Some search engine platforms allow developers to build applications that enhance search results and make them more useful and visually appealing for users. Such applications can also help site owners drive more traffic to their site.

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[6] Search engines determine location by means of a user's IP address (IP addresses are allocated geographically) and use this information to make search results more relevant.

2. Consumers' experience of search

Consumers now interact with search services in a variety of places and contexts.

The major global providers of search platforms continue to offer their search services to the public direct from their own domains. They also make available toolbars containing search boxes which users can download – or which are pre-loaded – on to a PC, smartphone or other connected device.   Other search providers have strategic partnerships with search or search advertising platforms (i.e. use their index, related technology and advertising links) but overlay their own proprietary technology to enhance the user experience (i.e. determine the presentation of results to the end user).

Search services are increasingly offered by other media owners (e.g. online news sites or social networking services) who buy a service from a search engine provider (such as Google, Bing or Yahoo!) and add a search box on their website so that their users can search (both the site and the web) without leaving their site. This is known as search syndication. Syndicated search services can also be made available to users via downloadable tool bars.

The myriad ways of accessing search means that it is no longer accurate to talk only in terms of a search home page. While users can still access search via a search-only home page, they are just as likely to access search via a toolbar or search box on a website. In today's internet, the common element is the search results page. This is typically where users access additional tools to enhance their search experience, including changing their search preferences and reporting content to the provider. The consequences of this development are discussed in more detail below.

In search syndication deals, media owners, device manufacturers, portal operators and other third parties may be able to exercise some control over what search settings are available, what options users have to change them and what information users receive about search. They may also determine the presentation of the search results. Going forward, these players can play an important role in communicating safety messaging to young users and providing appropriate options for them to manage their search experience.

3. Search and advertising

Search engine marketing – also known as sponsored search – continues to be an important part of the search ecosystem. Advertisers typically bid for key search terms in order to maximise the chances of their advertising listing being returned high on the sponsored search results for those terms[7]. This business model earns revenue for the providers of search engines and for media owners who have a commercial relationship (e.g. via a syndication deal) with a search engine provider to add its search box to their site and return sponsored as well as algorithmic search results. Search engine marketing is now deployed on mobile smartphones and other connected devices.

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[7] It is good practice to present sponsored search results separately from algorithmic results so that users can make an informed choice between advertising and other links.

Adult advertising

As noted above, safe search and other tools can help prevent users being exposed to unwanted or, in the case of children, inappropriate adult advertising. Where providers of search marketing platforms allow advertisers to market against adult terms, it is good practice to have safeguards which ensure that they only reach users who have expressed a preference for adult advertising. For example, search marketing platforms may have policies in place which limit the terms that providers of adult sites can bid on and place the results behind safe search controls. Advertisers may also not be able to advertise adult services against key words which are not explicitly adult so as to avoid ad links being presented to users who are not looking for this content.

4. Safe searching

Approaches to inappropriate and illegal content

Creating and updating a search index involves gathering information about billions of websites and is an automated process. This automation means that some sites included in the index may contain adult and other content which is unsuitable for children or unwanted by some adult users. The index may also include URLs for sites that contain illegal content. The ever-growing size and scale of a search index – many billions of sites – means that it is impossible to proactively screen sites for such content. Addressing this content to make searching safer for all users, including children, involves a combination of tools and user options. These are outlined below.

Illegal content

It is good practice for mass-market search engine providers to have in place processes to handle reports from users about search results relating to suspected illegal sites. Search engines assess these reports and take appropriate action, which may include removing a URL from the index and, where required by applicable law, reporting it to the relevant public authority.

The Internet Watch Foundation (IWF) has developed its URL list of sites based outside the UK[8] which host illegal child abuse images and this is available to search engine providers. If a URL is removed from a search index, it means that search results cannot be returned for that URL. This can help prevent users inadvertently (or intentionally) discovering such criminal content via search. The public can see which search platforms use the IWF's list in this way by consulting the IWF's website[9].

Adult content

It has also become good practice to offer tools which filter out adult sites from non adult-related searches and, where the filter is switched on, not to return results on adult searches. Different search engine providers have developed bespoke approaches to filtering out adult content from search results. So called 'safe search' solutions typically rely on proprietary technology, which can include applying a modified search algorithm, machine learning tools and manual changes in response to user reports. As with any filtering tool, some limitations remain:

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[8] The IWF issues a notice to any UK-based providers which host child abuse images and they would typically take down the content.

[9] See http://www.iwf.org.uk/public/page.148.438.htm

- There is a balance to strike between excluding adult content from search results and ensuring that results delivered to users with safe search filters switched on remain relevant. Search engine providers are mindful of striking an appropriate balance which minimises the risk of over-filtering which would exclude legitimate sites from results, thus inadvertently limiting the site's audience and their ability to use search as a tool to drive traffic to their site.

- Safe search tools are designed to filter out adult content from search results and these tools can be refined over time. They are not, however, a guarantee that all explicit content will be filtered out for every search (an adult site could, for example, be misleadingly tagged and be returned in response to non-adult search query). Nor are they a substitute for parental supervision or other controls such as access controls.

- Search services are designed to give users search results that are most relevant to their search query. In the absence of other controls, if the search query is 'adult' and safe search is off, the results page will display links to adult sites. Children using search services without safe search switched on could therefore be exposed to adult sites if they search on obviously adult terms.

It is important to note that, while safe search offers protection to children, it is not exclusively a child protection tool. Like any adult, children can turn off safe search unless it is locked on their device or profile (this is available from some search engine providers and mobile network operators) or supplemented with other controls. Once safe search is locked on a device, all the searches made via that search engine on that device pass through the safe search filter regardless of the starting point, whether that be a toolbar, front page or branded search box on another website.

Because of the many entry points in to search in today's Internet, the first search a child or young user makes will rely on the safe search defaults set by the search engine or third party provider. While the default setting typically offers some level of protection, it may not be what the parent or carer wishes for their child. Parents and carers wishing to protect their children from adult and other kinds of potentially harmful content may need to take further steps to protect their children, for example by acquiring additional control software, such as parental controls, which also apply to search.

'Child safe' search

A so-called 'child safe' search service is different from safe search tools. It is a search service which typically involves creating a bespoke index of sites manually selected as 'safe' for children. Such services are useful tools for younger children. The policy on what constitutes a 'child safe site' can be defined by the search engine provider or the media owner buying the search service or another party. The search algorithm is then applied to this 'white list' index, rather than the full web index, and returns the most relevant search results from the available URLs in the index.

It is worth noting that few child-friendly search services have been developed specifically for the UK market since the guidance was published. This is partly because of the cost and the fact that the high cost of developing search services is typically recovered via search marketing revenue and the regulatory and policy issues surrounding advertising to children may have acted as a disincentive to invest. It is also worth noting that children's experience of such services can be mixed. While child safe search based on a limited list, such as that provided by

CBBC, can be suitable for young children, older children using the Internet to do their homework would find it limiting. General search services with appropriate safe search settings and/or age-appropriate parental controls may be more suitable in this case.

'Walled gardens'

In the early days of the Internet, it was common for service providers to offer content to their users in a so-called 'walled garden'. This typically comprised a finite quantity of content edited by the provider and made available to users. The early internet 'portals' – e.g. AOL and Vodafone Live! - developed on this basis. Over time, however, walled gardens were used less and less as new platforms allowed users access to the entire internet from their portals. Walled gardens supplemented with access to the wider internet remain the preferred option for mobile portals as customers value quick and easy access to their favourite sites.

Similarly, some search services only permitted users to search an edited index. This approach is similar to that used for child safe search (see above). The early image search indexes, for example, used this approach although image search is now almost entirely algorithmic.

5. Device or network-based filtering

Developers of filtering software have developed tools which complement and enhance other tools designed to make searching safer for users, particularly children. These various tools and mechanisms continue to be important in protecting children who use search on different platforms.

Filtering technology can be deployed either on the device, for example it can be downloaded onto a family PC - known as 'client side' - or on the network, for example on a mobile network or on a private network operated by or on behalf of a school.

- The client side software can recognise when a user is searching on a popular search engine and can force the search engine in to 'safe search mode'. This can provide safe searching for children who do not have safe search enabled. In addition, software can use a list of programmed keywords for which the software will not allow search results to be displayed. This is an additional layer of protection to prevent children and young people accessing adult or other content which is inappropriate for their age group. Some parental control software also offers this functionality.

- Network-based filtering typically allows access to content according to rules based on the users age and settings. Mobile networks use network-based filtering and can apply safe search settings linked to the user's profile, use interstitial pages or simply block the user from accessing the search results. The mobile operators' code on the self-regulation of content requires mobile operators to provide *"a filter to the mobile operator's internet access service so that the Internet content thus accessible is restricted. The filter is set at a level that is intended to filter out content approximately equivalent to commercial content with a classification of 18."* [10]

It is important to note that filters have limitations. There is a risk that filtering software blocks innocent searches and likewise it may let through some inappropriate search results. Over-blocking - whereby automatic filters are too restrictive - can inadvertently create new child safety

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[10] UK Code of practice for the self-regulation of new forms of content on mobiles. See http://www.mobilebroadbandgroup.com/social.htm

risks. For example, teens might have difficulty researching for homework, complain to their parents and ask them to turn the filters off.

This software is available on some communications networks and is widely deployed in schools. Further details of these filtering tools are set out in Annex I.

6. Other tools

There are a range of other tools which can play a part in protecting users of search services. Interstitial or 'splash' pages can be used to display notices to users when they click through to particular content. Commercial providers of adult content commonly use this approach to ensure that users know that they have clicked on a link leading to adult content and to give them the opportunity not to proceed further. Some search advertising platforms require their adult advertisers to provide an interstitial page when users click on a sponsored link.

Pop-up warnings can also be helpful. For example, some search engine providers use this approach when users take action to switch off safe search. The provider displays a written warning which advises the user they are leaving the safe search area and are likely see adult content. This warning gives the user further opportunity for reflection the opportunity not to proceed further.

Part two: Evidence base

1. Helpfulness of the guidance to industry

It is important that guidance is helpful to the audiences it is intended for and meets the objectives set at the time of publication.

The Home Secretary's Task Force guidance has two parts: guidance to search engine providers and advice to the public.

Search is a highly technical product which addresses a global market and technical expertise is found almost exclusively within the industry. It is fair to say that the Task Force guidance has had some influence on how search engines have evolved technologically and search services continue to reflect the safety principles which underpin the guidance. For example, safe search remains a key feature of all major mass-market search engines. Indeed, search engine providers report that some parts of the guidance document continue to be a valuable reference document when revising or enhancing relevant aspects of their respective search products. Likewise, media owners and other third parties that acquire search services report finding the recommendations useful in drawing up requirements for their platforms. This suggests that the principles remain valid and that there is value in having a statement of good practice for search services. While many continue to be relevant and helpful, others have been superseded by market developments, making them obsolete or not technically feasible because of the scale and complexity of search today.

It is more difficult to assess the usefulness of the advice to the public mainly because there was no specific communications plan following the publication of the guidance in 2005 which aimed to pro-actively raise awareness of safety issues among parents, carers and children. The implications of this are considered in more detail and are discussed in section V below.

2. Risks to children

The internet brings the world to children through computers and other Internet-enabled devices (e.g. smartphones, games consoles). They can use it to research school projects, play games and communicate with friends and relatives. Search has become an integral part of that experience, with children commonly using search for homework, entertainment and recreational activities. Ofcom research shows that 84% of 8-11 yr olds and 94% of 12-15 yr olds who use the Internet use search[11].

Ofcom also reports:

"The majority of 5-7s and 8-11s spend most of the time using the internet with an adult in the room (75% and 62% respectively). However, the incidence of children who spend most of the time using the internet on their own increases with each age group. Those who mostly use the internet on their own account for one in six internet users aged 5-7 (17%), three in ten aged 8-11 (30%) and over half of those aged 12-15 (57%)".

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[11] Source: Ofcom *UK Children's Media Literacy*, http://stakeholders.ofcom.org.uk/binaries/research/statistics/mlt_chlidren.pdf, table 171.

The key child safety concern in relation to search is the potential for children to be exposed to illegal or potentially harmful material, either by specifically searching for it or because it appears on a search results page in response to an apparently innocuous search query. A review of research carried out for the UKCCIS shows that exposure to inappropriate or harmful content remains a significant concern for parents and teachers. This review also shows that children are less concerned about inappropriate content than their parents, and are more concerned about inappropriate contact from other users and risks relating to computer security. This report concludes: "A lot of the research focuses on adults' and young people's perceptions of online risks, rather than on their experiences of engaging in risky behaviour or accessing inappropriate content. More evidence is needed to quantify the extent to which children encounter different types of online risks, in particular in relation to engaging in underage or coercive sexual contact or behaviour and other risks such as identity theft or gambling"[12].

The risk of children accessing inappropriate, harmful or illegal content via search can be addressed by parents using free safe search tools available from certain search engine providers and by using parental controls with search-related filters.   As noted above, these tools can help protect children but no filter is 100% effective nor a substitute for parental supervision.

Research carried out since 2005 on the use of safe search controls in households with children and children's use of search provides some insights to how young people experience search and to the attitudes of parents and carers.

Safe search settings on search engine websites, by age – 2008 and 2009
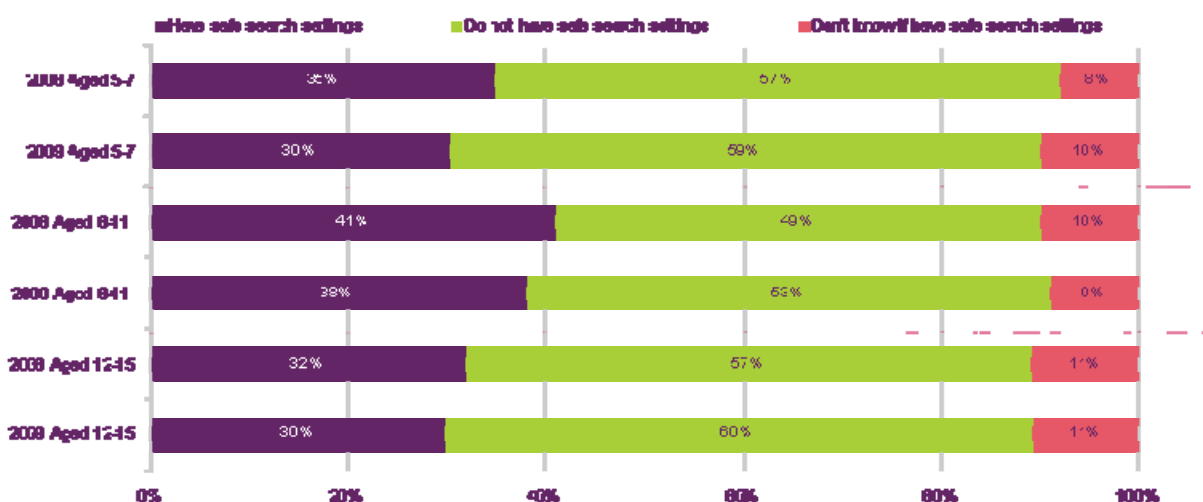
OP29 – Do you have settings that allow only safe searches on search engines such as Google? (prompted responses, single coded)
base: Parents of children aged 4-15 who use the internet at home (390 aged 5-7 in 2008, 390 aged 5-7 in 2009, 622 aged 8-11 in 2008, 652 aged 8-11 in 2009, 945 aged 12-15 in 2008, 845 aged 12-15 in 2009 – significance testing shows any change between 2008 and 2009)
Source: Ofcom research, fieldwork carried out by Saville Rossiter-Base in April to May and September to October 2009

Research on the use of safe search controls in households with children shows that:

 - around a third of parents have safe search settings activated for 5-15yr olds[13];

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[12] *Children's online risks and safety: A review of the available evidence*, report by Nfer prepared for UKCCIS, 2010, p25

[13] Ibid. 35% of parents of children 5-7yrs had search settings in place which only allow safe searches, 41% of parents of children 8-11yrs and 32% of parents of children 12-15yrs

- safe search controls are most likely to be in place where internet controls (such as parental controls) already exist; and that

- around half of parents of children aged 5-15yrs still have no controls in place or parental software loaded on devices used by their children.

This research shows that there is a strong correlation between the use of safe search controls and the use of other software, such as parental controls. Ofcom notes: "As with internet controls more generally, this is more likely among parents of 8-11s (38%) than among parents of 5-7s (30%) or 12-15s (30%). There has been no statistically-significant change in the incidence of having safe search settings in place since 2008 by age of child, or by gender."[14]

Ofcom also notes: "While there has been some increase in concern about the potential risks associated with internet usage, this is not matched by an increase in the use of rules, internet controls/filtering software, or use of safe search settings on search engine websites among parents of children who use the internet at home."[15] This suggests that there is a need to include information on search in education material for parents and carers, and this information should be included in the proposed UKCCIS One Stop Shop[16].

Other research places emphasis on the importance of internet users, particularly children, developing a range of specific skills in order to use search critically and skilfully. Studies have shown that there is generally a tendency for users of all ages to over-state their skill in using search engines and self-report high levels of confidence in their ability. In reality, few users fully exploit all the tools available to them to refine their searches, for example by using advanced search options or other facilities. One study concludes: "….in an increasingly networked society, it appears necessary for knowledge about how to handle search engines correctly to be acquired at an early stage, for a keener awareness of the problems associated with search engines to be imparted and a critical attitude towards using the various search engines to be engendered."[17]

In addition, Ofcom notes: "One in four 12-15s (27%) who use search engines think that search engines only return results from websites with truthful information. Three in five children aged 12-15 (63%) who use the internet at home make at least one of the checks we asked about when visiting new websites, but a quarter (26%) say they tend to not make any checks."[18]

This places importance on education and awareness-raising, in addition to the presence of technical tools to help protect vulnerable users such as children. It is important to note that this educational goal extends beyond how to teach children to use search safely and minimise their exposure to illegal or adult content via search and touches on levels of online media literacy among young users more generally in terms of their ability to critically assess search results when seeking advice or factual information.

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[14] Ibid. *p49*

[15] Ofcom *UK Children's Media Literacy*, Op Cit p4

[16] The first UK Child Internet Safety Strategy committed to creating a help, support and advice website as an authoritative one-stop-shop for child internet safety.

[17] Machill, M., Beiler, M., & Zenker, M. (2008). Search-engine research: a European-American overview and systematization of an interdisciplinary and international research field. *Media, Culture & Society, 30*(5), 591-608, p603

[18] Ofcom *UK Children's Media Literacy*, Op Cit p5

3. Safe searching in schools

The teaching and practice of safe searching in schools remains fragmented but there are a range of activities which are helping to secure good outcomes for children. Taken as a whole, these activities represent a big step forward since 2005 and there are reasons to be optimistic that good progress is being made.

School curriculum

The school curriculum in England and Wales provides a number of opportunities to address children's ability to use search tools and to search critically and safely. These are outlined in more detail in Annex II.

School inspections

The teaching of e-safety generally has yet to become a statutory requirement in all schools and it remains unclear how consistently it is taught today. It is therefore difficult to determine where the gaps are on the teaching of safe searching specifically. Ofsted, however, measures standards of safety teaching in schools and this includes the teaching of e-safety.

Teaching resources

There is a wide range of resources available for the school community. For example:

- Becta[19] has produced a variety of resources for schools which cover how to search effectively and safely[20].
- Childnet's *Know It All* resources (sponsored by the former DCSF) which include advice on search have been made available to all schools [21].
- Childnet's *Skills School* section of its *Kidsmart* site also contains information about how to modify safe search settings[22].
- A consortium of service providers have worked with teaching unions to develop *TeachToday*[23], an industry-funded online resource to help teachers learn about new technology, how children use it and how to teach children to be safe online. *TeachToday* includes information on search and how to search safely[24].

In addition, search providers make materials available about search tips and safe search settings. See Annex III for links.

Note: the Government has announced a review of the school curriculum and delivery mechanisms. This includes the closure of BECTA and the QCDA[25], as well as a review of Ofsted's role. Annex II outlines details of the curriculum and delivery as they were at the time of publication.

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[19] British Educational Communications and Technology Agency

[20] For example, http://www.nextgenerationlearning.org.uk/safeguarding-learners/Case-studies/Digital-literacy-skills/. The Government has announced the closure of Becta. At the time of publication, the future provision of these resources for schools had yet to be confirmed.

[21] http://www.childnet.com/kia/

[22] www.kidsmart.org.uk

[23] www.teachtoday.eu

[24] http://www.teachtoday.eu/en/Student-advice/Protecting-privacy-and-safety/Search-and-filters.aspx

[25] Qualifications and Curriculum Development Agency

4. Communication with parents, carers and young users

A 'layered' approach to safe searching

Part one noted that there are different tools which allow users to search safely and access content that children both want to find and which is appropriate for them. These 'layers' are:

- walled garden or 'child safe' search;

- search using default safe search settings;

- search using Safe Search 'on' to its maximum setting (with the option to 'lock' the setting on a particular device); and

- search used with either device or network level filtering.

The challenge for both search engine providers and other stakeholders (including schools, other providers of safety information such as charities, and parents and carers) is to find ways of providing users with timely and relevant information about search and about what tools and additional options are available to make their search experience safer.

A shared responsibility

Ensuring that children and young people, as well as their parents and carers[26], have access to timely and relevant information about safe searching is a responsibility shared between several players in the value chain:

- Providers of search engines have a responsibility to ensure that information about the availability of safe search, default settings and options to modify or lock settings is readily available. They should also consider advising users on what to do if they come across content which is illegal or a site that has been misleadingly tagged as something apparently innocuous and has been returned in response to an unrelated query (e.g. an adult site returned in response to a query involving non-adult key words).

- Media owners and others who provide users with search tools on their service can help signpost users to sources of advice and options to manage their search experience.

- Schools should not only have appropriate safeguards and technical solutions in place to ensure that children use search appropriately when on school premises but also ensure that children and young people are equipped with skills to help them use search safely and responsibly outside the school environment.

- Parents and carers should have ready access to information about what steps they can take to educate themselves and their children about safe search and what technical tools are available either for them to install on devices their children use or from their network provider (e.g. fixed ISP or mobile operator).

- Local authorities with corporate parenting responsibilities also have a role in helping children learn about safe Internet use, including safe searching.

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[26] It is worth noting that some children have no trusted adult who takes the responsibility of parent or carer and it cannot be assumed that all parents will take on a protective role. This is relevant to UKCCIS' activity to address the needs of vulnerable children.

When providing information to children and young people, there is a delicate balance to strike. On the one hand, care must be taken not to create high expectations that safe search and other tools can protect children from all possible risks they may encounter using a search service. On the other, too much and too ready access to information about available filtering software and safe search tools can inadvertently encourage children and young users to change settings or to find ways around technical solutions and explore the very content these tools are designed to prevent them from accessing. As noted above, parents may wish to use additional tools such as parental control software or locking the safe search 'on' on their child's computer or other device, or on their profile. It is important that parents are aware of these options.

Existing sources of information

There are a number of websites which provide information for children and parents and carers about how to search safely. These are provided by NGOs, industry and public sector sources. Some of these are listed in Annex III.

A way forward

The review of the Home Secretary's Task Force carried out in 2006 noted that more focus was needed on how good practice developed by stakeholders was translated in to useful day-to-day guidance for users. This conclusion was endorsed by the Byron Review, which recommended that the UKCCIS specifically include raising awareness of how to use safe search in its education and safety strategy. The coalition of UK child protection charities – CHIS – added that it is also important that children be aware not only of how to use safe search tools but also be able to use search safely and responsibly. Academic research supports this observation, as outlined above.

The 2005 guidance included a section on advice to the public and much of this advice remains sound. It would benefit, however, from being updated in line with the conclusions of this review and presented in a more user-friendly and practical way that could educate and guide parents, carers and children with the objective of equipping them with the skills and knowledge they need to search safely.

5. Summary

Revision of taskforce guidance

As noted above, the final report of the Byron Review[27] recommended that the UKCCIS:

- specifically include raising awareness of how to use safe search in its education and safety strategy;

- work with search providers to:
  - make it obvious what level of safe search is on and how to turn it on;
  - give users the option of 'locking' safe search on to a particular computer;
  - develop ways of parental control software to automatically communicate with search engines so that safe search is always on when the child uses the computer; and

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[27] *Safer Children in a Digital World: The Report of the Byron Review*, Op cit p88

o   promote clear links to child safety information and safe search settings on the front page.

Many of these recommendations feature in the Home Secretary's Task Force guidance and remain core good practice principles in the revised guidance.

Available information about parental controls suggests that there are a number of consumer software and network-level filtering tools to provide children with additional protection when safe search is not activated (see Annex I for more information). This reflects the Byron Review recommendation that filtering software such as parental controls should exist which interact with safe search and help further protect children and young people from accessing content that may be inappropriate for them. There is though a need to raise parents' awareness of these tools. This is something that can be incorporated in to the UKCCIS One Stop Shop (see below).

As noted above, search is now available on a variety of devices and on a range of websites. Other parties have a role to play in promoting safe searching. This guidance therefore adds recommendations for media owners and other third parties (such as device manufacturers) to consider when acquiring search services and making them available to their users.

Revised guidance is set out in the next section. This replaces the Task Force guidance.

Education and awareness

As noted in previous sections, recent research shows a strong correlation between the presence of safe search settings and the use of parental controls. It would therefore make sense to explore how these two awareness raising activities could be rolled out together[28]. The research also showed that more can be done to include search in e-safety education in schools. This points to the following recommendations:

- The UKCCIS should integrate safe search messaging in to future communications campaign, particularly when promoting parental controls.

- Further attempts should be made to add statutory e-safety modules to the school curriculum which include teaching search safety. This should include children's ability to use search critically. Research shows that some schools do not appear to have sufficiently comprehensive e-safety policies in place to ensure all children use the internet safely while at school[29].

- Explore how existing channels could be used to make useful materials available directly to teachers and schools to help them deliver the safety outcomes identified in the existing curriculum at both primary and secondary level. These channels could include Childnet's KnowITAll resources, Teach Today, the Training and Development Agency for Schools (TDA), local safeguarding children boards and relevant public delivery authorities.

- Include information for parents on search safety in the UKCCIS One Stop Shop. This should include information about safe search, additional tools (such as parental controls) that parents can use to protect their children and materials they can use to discuss the

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[28] Childnet has produced a search guide for parents, carers and children and this could form a helpful starting point for this discussion. See http://www.childnet.com/downloads/searchGuide.pdf

[29] *Children's online risks and safety: A review of the available evidence*, report by Nfer prepared for UKCCIS, 2010 www.education.gov.uk/ukccis

issues with their children. The UKCCIS One Stop Shop should link to information provided by search engines on how to use their respective safe search settings.

- This information should also be made available to local authorities with corporate parenting responsibilities and to their primary care givers (e.g. foster parents)[30].

Research

The UKCCIS research working group should consider how periodic research on search is best incorporated in their work programme or otherwise made available to support the UKCCIS' work in this area (e.g. this might involve drawing on tracker data available from Ofcom). A review of available research carried out for the UKCCIS already shows that more research is needed to explore what specific strategies work best to ensure that young people use the internet safely[31].

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[31] *Children's online risks and safety: A review of the available evidence*, report by Nfer prepared for UKCCIS, 2010, p10
www.education.govuk/iukccis

Part three: good practice guidance

1. Status of guidance

The intention is that search engine providers and media owners, of whatever size, utilise the guidance to enhance the safety of children and young people using their services. This guidance is not intended to be prescriptive or legally binding, but is offered to service providers with a strong recommendation for its use. It is recognised that the search industry is diverse and ranges from large global providers to small local services, so the guidance is not a one-size-fits-all solution. Providers are responsible for how they deliver their services. In determining the actions they should take, providers and media owners will need to take into account the particular nature of their services so that they can apply the relevant recommendations of this guidance. It is for them to judge where and how far to apply any specific point in the guidance.

For the avoidance of doubt, the term 'search' refers to universal search comprising algorithmic web, image, audio and video search. These recommendations apply to search services on all platforms, fixed and mobile, while recognising that the different characteristics of each platform (for example, the different screen sizes and methods of navigation) may require modified or alternative approaches to safety.

2. Good practice for search engine providers

Advice to users

- Providers should offer clear information about search services including information about how to:

  - conduct safe searches
  - conduct more accurate searches
  - use filtering options (i.e. safe search)
  - report suspected illegal search results
  - report misleadingly tagged sites (e.g. where false metadata is placed in an adult site so that it is returned in response to non-adult queries)

It is noted that the UKCCIS has plans to develop advice for children, parents and carers on safe searching. Providers should consider making this available to their users.

- This information should be clear, prominent and accessible.

- Where appropriate, providers should link to additional, external sources of safety information.

- Search providers should provide information to the public regarding their company policy on filtering content from search results.

Safe search

- Providers should offer a form of safe search to filter out adult search results as a way of protecting children and other users from inadvertently seeing potentially harmful material.

- Providers should make users aware that safe search tools are designed to filter out explicit, adult-oriented content from search results but that it is not a guarantee that all explicit content will be filtered out.

- Providers who also operate a search marketing platform should take steps to ensure that sponsored links/search marketing associated with adult terms are placed behind safe search controls and not returned with results to users with safe search turned on. Likewise, providers should take steps to ensure that adult advertising is not returned against non-adult queries, for example by limiting the key words that an advertiser can select. It is good practice to present sponsored search results separately from algorithmic results so that users can make an informed choice between advertising and other links.

- Providers should set safe search default settings at an appropriate level. Many providers, for example, provide users with a default setting of 'moderate'.

- Providers should make it make it obvious to users what level of safe search is activated for example, by displaying it on the search engine's front page and/or the search results page.

- Providers should make it obvious how to change their settings. It should be noted that these controls are no substitute for additional access controls (such as parental controls), which filter access to adult sites, or for parental supervision and educational programmes aimed at teaching children how to use search services safely and responsibly.

- Providers should allow users to save settings so that they apply to future searches with that provider.

- Providers should consider displaying a warning when a user attempts to switch off safe search so the user knows that there is a risk of seeing adult content and give them an opportunity not to proceed and to access additional information about safe search.

- Providers should give users the option of 'locking' safe search on a particular device and provide advice on any limitations (for example, if a child could bypass a 'lock' by deleting the relevant cookie). It is good practice to apply the lock to all searches made on the device in question, regardless of how the search was initiated – e.g. via a toolbar or home page.

Illegal content and reporting

- Providers should consider removing URLs of known sites hosting child abuse images provided by the Internet Watch Foundation from their search index.

- Where appropriate and consistent with applicable laws, providers should cooperate with queries from law enforcement authorities with responsibility for suspected illegal content.

- Providers should have in place clear and prominent mechanisms for users to report search results relating to suspected illegal content, either to their own customer care team or to a relevant authority (e.g. the police or the IWF). Users should also be able to report misleadingly tagged sites and search spam to the provider.

- Providers should encourage users to provide all the necessary information with such reports and have processes in place to act expeditiously on such reports.

Search services designed for children

- Providers of any proposed search service designed specifically for children are responsible for ensuring that each site (and any associated sub-sites) listed in the index is consistent with the editorial policy[32] for that service.

- The listed sites should be regularly reviewed for continued inclusion in the index, and technical solutions such as keyword alerts should be considered to notify administrators to any changes to an included site.

- Where sites are rated dynamically (in other words, using software and in real time), it is important to note that some content types are difficult to categorise (e.g. blogs or video) and may be subject to false positives (i.e. a site may be wrongly rated as 'child safe' or a 'safe' site as not being 'child safe').

- Users should be able to report to the provider if the search service returns an unsuitable site.

Other good practice

- Providers should consider the use of interstitial or 'splash' pages or other warnings where appropriate, for example to give users information about changes in their search preferences or when they entering an area aimed at adults.

3. Good practice for media owners and other third party providers

- When providing a third party search service on their website, media owners should consider its suitability for their audience. For example, a search service on a site designed for users of all ages may offer a full selection of safe search options and give users the opportunity to change them. On the other hand, it would be appropriate to apply stricter controls to search on a website designed for young children.

- Where media owners control aspects of the search experience which would otherwise be within the control of the search engine provider, media owners should apply the relevant good practice principles.

Advice to users

- Providers should offer on their website or link to authoritative sources of information about search services including information about how to:

  o conduct safe searches
  o conduct more accurate searches
  o use filtering options such as safe search tools
  o report suspected illegal search results

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[32] In this context, "editorial policy" means the policy set by the search engine provider or customer of the search service for what constitutes a child friendly site for inclusion in the index

- report misleadingly tagged sites (e.g. where the metadata is placed in an adult site so that it is returned in response to non-adult queries)

- Options to change search preferences, where available, should be clear, prominent and accessible.

Annex I: Web filtering and safe searching

Network-level filtering in schools

A minimum set of standards for Internet products and services has been established by Government with child safety as the core objective, and a scheme has been established to promote these standards. The *Becta Accreditation of Internet Services* enables schools and others to buy internet products and services that have been proven to meet Becta standards for e-safety. The standards set for web content filtering products deployed in schools also apply to search. The standards of assessment have been developed in consultation with partners in education and industry and the scheme was re-launched in February 2009, following a review[33].

Approved suppliers to UK schools typically provide a centrally managed filtering solution which allows site-wide filtering and filtering by individual user classed by age (typically by KS age group) or role (i.e. teachers and pupils are treated differently). Such solutions control access to websites and access to search tools.

There are several ways in which this technology can protect children in addition to safe search tools:

- Key word filtering – Using 'banned' keywords to block searches and suppress search results on the search results page.

- Image filtering – Suppressing images sourced from blocked websites from search results.

- URL blocking - Blocking of access to listed sites, even where they are listed in search results.

- Child safe search – Allowing access to vetted, child-friendly search engines only.

These techniques work best for static content. Dynamically changing content like video and blogs can be more challenging for intelligent filters to auto-detect and rate in order to determine whether or not to block it. User alerts to the site owners about misleadingly tagged content and proper guidance to children and teachers therefore remain important.

Software based filtering for searching at home

There are a number of software vendors who provide software (some of it available for free) for users to download on to their family PC or PCs used by children in the household. These filters work at the browser level and can both block URLs and suppress search results associated with websites containing inappropriate content for children such as adult images or search results containing certain key words. The content that is allowed or disallowed is determined by the settings, usually chosen by a parent.

Network-level filtering by mobile network operators (MNOs)

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[33] The requirements for web content filtering products can be found at:
http://schools.becta.org.uk/index.php?section=re&catcode=ss_res_pro_bps_int_04&rid=17506.

Under the UK code of practice for the self-regulation of new forms of content on mobiles, MNOs filter against the Independent Mobile Classification Body (IMCB) framework for 18-rated and illegal content at network level. With respect to search, MNOs may incorporate and lock safe search settings within their own domain search function on under 18s' profiles. Independently of this lock, access to any result which links to content categorised by IMCB as suitable only for over 18s should also be blocked. In other words, MNOs will not have any control over safe search settings on search services or sites outside of their domain but the network filtering should again block access to 18-rated sites when a link is clicked on.   It is important to note that when a user chooses to download and use a different web browser other than the one provided by the MNO as the default on the device, that new browser may not integrate the existing safe search network settings and the user would need to check and manually reset their required safe search setting on their chosen browser.

Annex II: Teaching of safe searching in schools

Note: The Government has announced a review of the school curriculum and delivery mechanisms. This includes the closure of BECTA and the QCDA, as well as a review of Ofsted's role see www.education.gov.uk for more information.

Schools have a key role to play in helping to equip and empower families to stay safe online. The schools curriculum now contains several references to e-safety across a number of subjects, most explicitly in the ICT curriculum which is statutory across primary and secondary schools. This is in line with the Byron review which highlighted that digital safety should be embedded across the curriculum and should not be confined to a single subject.

In regards specifically to safe search there are numerous opportunities within the curriculum to address safe search, but some specific references include:

KS2 ICT curriculum (primary):

1 a) pupils should be taught to talk about what information they need and how they can find and use it (for example, searching the internet)

With underpinning principles of safety found most directly in the PSHE and Citizenship (non-statutory) which can be applied to the online and offline world. For example, pupils should be taught to recognise the different risks in different situations and then decide how to behave responsibly.

KS3 ICT curriculum (secondary):

2.1 b) pupils should be able to use and refine search methods to obtain information that is well matched to purpose, by selecting appropriate sources.
2.2 a) select and use ICT tools appropriately, safely and efficiently.

The recent Independent Review of the Primary Curriculum called for strengthened references in the curriculum to e-safety. However the review was not passed through Parliament. Despite this primary schools may still choose to adopt elements of the revised primary curriculum. In addition, reports of those working with schools shows that e-safety is being taught in many primary schools. School inspectors also now assess how well e-safety is taught in schools. It is important to note, however, that the national curriculum is focused around outcomes as opposed to describing the methodology or resources which should be used by teachers nor the activities experienced by learners.

There is a range of materials available for teachers to help them teach e-safety, including safe search and more general effective search techniques. For example:

- The National Strategies who formerly provided support to teachers on developing, planning and teaching offer a resource for secondary schools called 'beyond the e-safety net' (http://nationalstrategies.standards.dcsf.gov.uk/node/173927).
- Becta have also produced a variety of resources for schools which cover how to search effectively and safely (http://www.becta.org.uk/safeguarding).

- Becta also provides advice to parents and carers on safe use of the internet. In particular, tips on searching safely can be found at http://www.nextgenerationlearning.org.uk/At-Home/Getting-started/Heres-how-to-search-smartly-for-information/.
- The Know IT All for Secondary Schools toolkit also includes information about safe search (http://www.kidsmart.org.uk/skills-school/ and http://www.kidsmart.org.uk/teachers/lessonplans.aspx).

Annex III: Useful links and screen shots

Note: this list is illustrative and is not intended to be exhaustive or an endorsement by the Department for Education or the UKCCIS

Child-safe search services[34]:

Quintura http://quinturakids.com/
AskKids http://www.askkids.com/
Yahoo! Kids http://kids.yahoo.com
KidsClick http://www.kidsclick.org/
FactMonster http://www.factmonster.com/
CyberSleuth Kids http://cybersleuth-kids.com/
AOL Kids http://kids.aol.com/

UK-specific child safe search services:

My Safe Search http://www.mysafesearch.co.uk
Google http://www.uk.kidsafesearch.org/
Ask the Wabbit http://www.wabbit.co.uk
BBC www.bbc.co.uk/cbbc/search

Safe searching guides:

Childnet.com http://www.childnet.com/downloads/searchGuide.pdf
Kidsmart http://www.kidsmart.org.uk/skills-school/
Get Net Wise http://kids.getnetwise.org/tools/searchsafe/
Common Sense Media http://www.commonsensemedia.org/managing-kids-search-queries
what-parents-need-know
Becta http://www.becta.org.uk/safeguarding
Google www.google.co.uk/familysafety/
Yahoo! http://uk.safely.yahoo.com/yahoo-products/yahoo-search/
Bing www.microsoft.com/protect/family
Orange www.orange.co.uk/safety

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[34] These services are primarily aimed at the US market but reportedly also permitted search engines on some UK schools' networks.

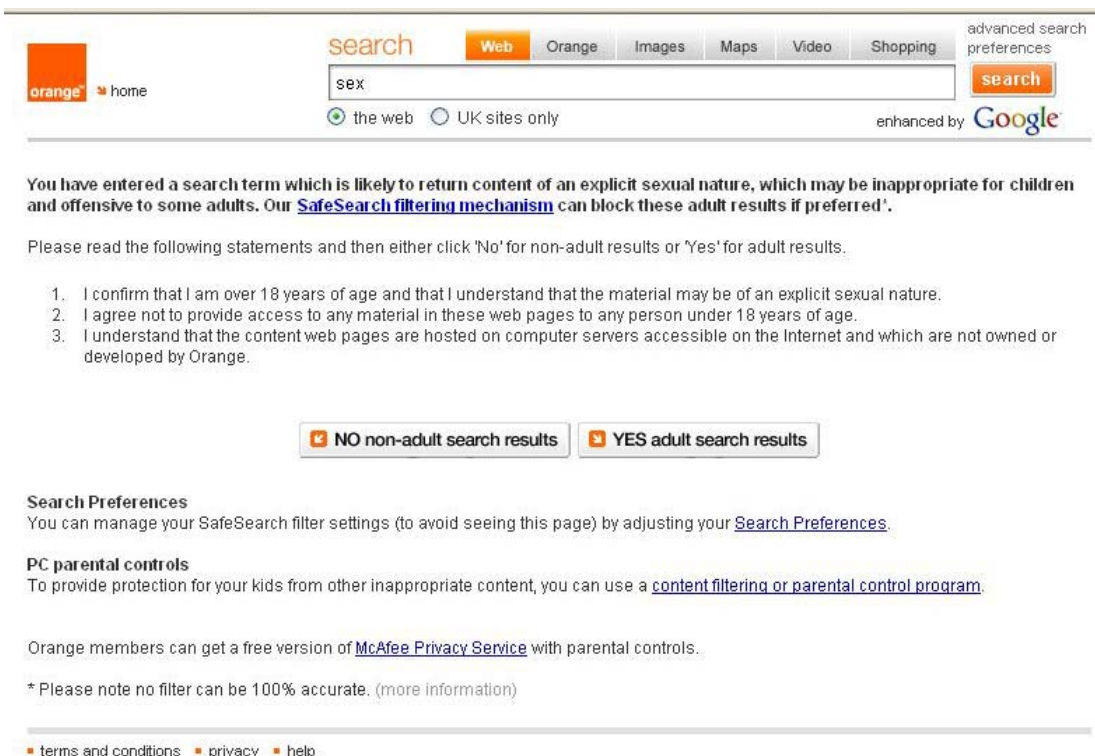**Note**: these are examples for illustrative purposes not an exhaustive list

a. Yahoo! splash page presented to users when they switch off safe search:
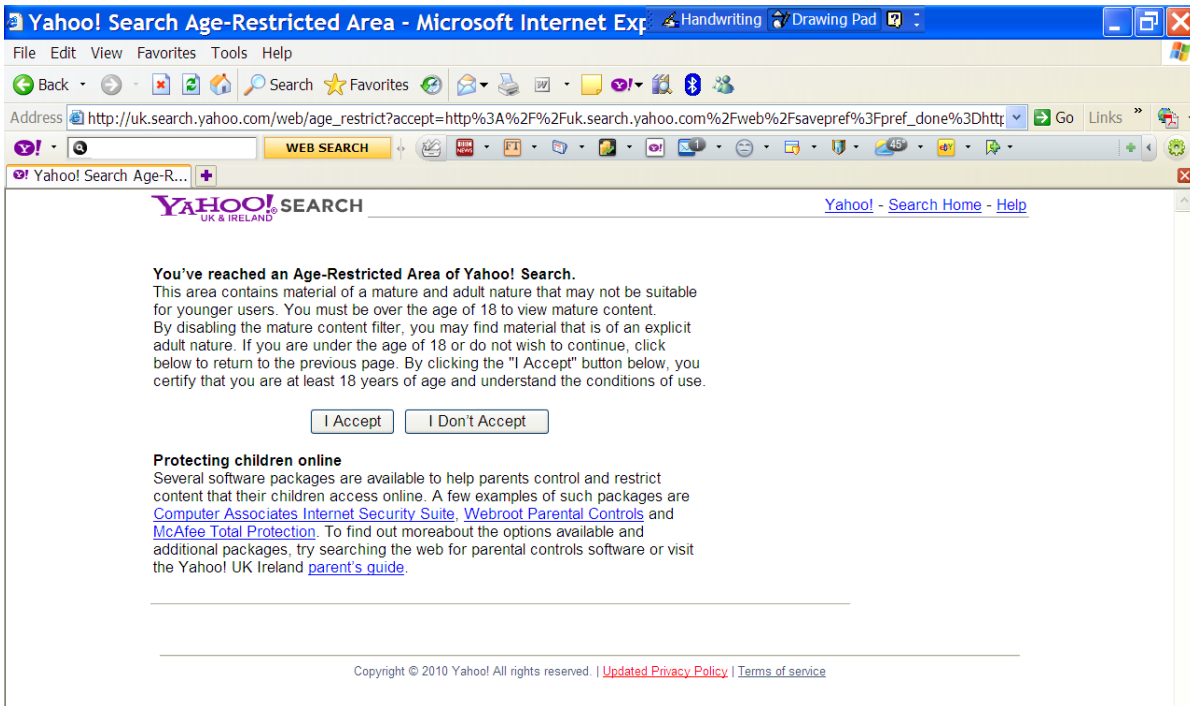
b. Ask Jeeves prompt to users searching on overtly adult terms:

Alert: Filtering has occurred which reduced direct exposure to sexually explicit content.
I am over 18 and want to view all Adult Web results

c. Orange splash page presented to users searching on adult terms (search settings on 'moderate'):

Annex IV: Glossary

Algorithm	A set of mathematical rules applied to a search engine's database that determines how sites are listed in search results.
Browser	A software application for retrieving, presenting, and traversing information on the internet.
Cookie	A piece of information stored by the user's browser and is used by applications and sites as an identifier - e.g. to remember a user's safe search settings or 'locks'.
Filters	Software which limits the results which appear on the results page according to certain parameters (e.g. by excluding adult content)
Search index	The body of data which is searched by the user and from which results are returned.
Search marketing	A form of internet marketing which allows websites to promote their prominence in search results via paid-for or sponsored links.
Search results page	The list of algorithmic and sponsored links returned in response to a user's search query.
Search spam	Pages that are considered unwanted and appear in search results with the intent to deceive or attract clicks, with little regard for relevance or overall quality of the user experience.
Search query	The search term(s) the user types in to a search box.
Smartphone	A mobile device through which a user can access the internet.
Splash page	A page which appears as an interstitial which appears on the screen after a user clicks on a URL but before he/she sees the page which relates to the URL. Splash pages can be used to warn users about content and give them an opportunity to reconsider their choice.
URL	Uniform Resource Locator. This is another name for a web address, which indicates where a particular page can be found.
Walled garden	An online service typically comprising a finite quantity of content edited by the provider and made available to users.