



SECURE ENGLISH LANGUAGE TESTING

VERIFICATION WEBSITE REQUIREMENTS

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SELT PROVIDER VERIFICATION WEBSITE REQUIREMENTS

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1) INTRODUCTION

- a) In line with the government's commitment to tackle immigration abuse, all Secure English Language Test providers, as part of their duties, will need to provide an on-line verification website.
- b) The purpose of the website will be to provide Home Office staff a simple way to verify a migrant's English language test score.
- c) This document sets out the best approach to developing and building your website to ensure a consistent experience for all Home Office staff.

2) BROWSER STANDARD

- a) The following set is proposed as one which will allow maximum flexibility and ensure a rich user experience irrespective of the browser being used to consume the service and is believed to provide a comparable experience across differing browsers, operating systems and devices.

Please note; [Appendix A](#) summarises the following:

b) Code and Rendering

- i) Code for web applications must confirm to W3C standards only, and in particular:
- ii) HTML 4.01 strict with no parsing errors;
- iii) XHTML 1.0;
- iv) CSS 2 style sheets should be used instead of HTML formatting;
- v) Pop-up windows are discouraged, and cannot be assumed to be possible with all clients; and
- vi) By default, video streaming will not be supported and video will need to be assumed to be accessed indirectly via a download capability.

c) Audio / Video

- i) HTML5 enables a standard compliant approach to audio and video playback. However, HTML5 is not yet sufficiently established and prevalent to be considered a current implementation standard for Home Office. It is expected that HTML5 will become a Home Office standard in due course.
- ii) In the absence of a more standard compliant mechanism, the Home Office may issue temporary waivers to permit Adobe Flash based playback for in-browser audio and video playback (please see Appendix B).
- iii) Even when Adobe Flash is used to deliver media, web applications must not assume it is enabled for all users, and so must allow alternative methods to view media, such as a direct download. This is "graceful degradation" in user experience terms and Home Office waivers will require this alternative to be available for externally facing capabilities.



d) **Scripting**

- i) All scripting will be a JavaScript dialect compliant with ECMA 262 edition 5.1, or a W3C compliant subset.
- ii) Where scripting in the client browser is disabled, this should be detected and a graceful degraded capability must be provided, for example to a basic HTML version.

e) **Session Management**

- i) Session cookies will be enabled within the browser configuration, and capabilities may assume they are enabled.
- ii) Persistent cookies should not be assumed, and none should be created or used.
- iii) If delivered from a SSL site, a certificate that has been signed by a proper Root CA's and not self-signed must be used.

f) **User Tracking & Privacy Law**

- i) User tracking must be in accordance with the "EU Cookie Law" (effective since 26th May 2012) which states that tracking should only be for essential business needs which are beneficial to the user. Users must be notified and given an option to deny tracking, and that this will occur before any tracking has occurred. This is a requirement where services are delivered to citizens.

g) **Accounts**

- i) Your website must include the necessary tools for Home Office managers to create new accounts; delete and suspend accounts.
- ii) In addition, users must be able to make routine changes to their account, such as; change their e-mail address and password.

h) **Browser Extensions (Plug-ins and Add-Ons)**

- i) The following browser extensions may be assumed for both internal and external clients:
 - (1) PDF handler.
- ii) No other browser extension can be assumed to be present, noting there may be a (temporary) waiver for the Adobe Flash handler for media playback.
- iii) This means extensions such as: Windows Media Player; Silverlight; and Java runtime, cannot be assumed to be present, and web applications must not be dependent on these mechanisms unless graceful degradation is enabled.



- iv) Hence where specific extensions are needed, and temporarily granted a Home Office waiver, the web application must still detect their potential absence, warning the users accordingly, and provide graceful degradation to allow consumers access to the core capabilities provided in a usable manner.

i) **Adobe Flash**

- i) Subject to a Home Office Waiver (please see [Appendix B](#)), Flash may be permitted, however:
 - (1) While the Adobe Flash browser extensions are used to deliver an enhanced user experience, Adobe Flash is not currently supported by some mobile devices, such as the Apple tablets and smartphones;
 - (2) Additionally, Adobe Flash applications are also sometimes sensitive to the currency of the client browser extension;
 - (3) Note that Home Office Communications has a policy of not allowing Adobe Flash on the external website due to support challenges and its accessibility problems and waivers will not be given if there are viable alternative mechanisms.

j) **Accessibility**

- i) The following are required:
 - (1) Web Content Accessibility Guidelines (WCAG) 2.0 compliance is mandatory. This includes mechanisms such as voice screen and Braille readers, “alt text” tags, clear visual design, and avoiding web content which is a barrier to such mechanisms;
 - (2) CSS style sheets enable greater accessibility, and should be used instead of HTML mechanisms for presentation and styling;
 - (3) The design of the user experience may need to take into account the differing form factors of user devices, including smartphones, tablets, netbooks and desktops;
 - (4) Interaction through the use of touch screens, and multi-touch, is growing. Web services should accommodate such interaction where possible.

k) **Version and Security Patching**

- i) The aim will be to maintain the same patch level as would be expected on a fully updated and patched browser resident on an external internet facing platform.
- ii) It should be noted that some browsers/plugin/add-ons seem to no longer to have specific versions but are continually patched/enhanced and only sometimes is the actual major version incremented or that the version numberings change with a rapidity that is beyond that expected in the past.



I) Implications

- i) As stated above, if, as the result of a Home Office waiver, specific additions to the standard are needed, then the application cannot assume their existence on third party Browsers and must detect when these are not available and provide graceful degradation. For example, the provision of a HTML only variant of the service which provides a usable and accessible subset of the complete capability set.
- ii) Approved plug-ins/add-ons will be required to be at the same CRITICAL (i.e. to address security holes or major upgrades) release/patch level as would be that of an external system.
- iii) If a specific project/programme requires either an additional or upgraded add-on which impacts the usability of existing Home Office capabilities, then responsibility for dealing with this and ensuring that existing capabilities are maintained lies with the requesting project/programme.
- iv) While additional plug-ins may be considered for inclusion by the Home Office, this should not be assumed by the commissioning project/programme and will require approval and/or a waiver by the Home Office at the very least.

3) NON FUNCTIONAL REQUIREMENTS

a) Performance and Stability

- i) The website must be demonstrably and sufficiently resilient, robust and able to handle sessions with multiple (in the thousands) users. The precise non-functional metrics must be clearly stated as part of the response.
- ii) The website must be demonstrably resilient and protected against malicious attacks, for example Denial of Service attacks. The hosting provider must ensure that the site fails closed in the event of such an attack.
- iii) The website must have been subjected to an IT health check and the results of such a test must be shared with the authority.
- iv) The website must enforce password complexity rules for user accounts (minimum 8 characters including upper, lower cases and numbers) and these passwords must be stored in a hashed and salted format.
- v) All content on the secure site must be delivered over the secure (SSL) connection.
- vi) The website must perform consistently, delivering returns within two seconds.
- vii) The Home Office require immediate notification of any security breaches made to your website, coupled with a strategy and timetable on how you are going to tackle the issue.

b) Website Maintenance

- i) The Home Office require 72 hours notice of any planned or routine website maintenance, which results in website downtime.
- ii) Any planned or routine maintenance must occur during non-functioning business hours for Home Office staff. Website downtime between the hours of 09:00 and 17:00 (London, UK) is prohibited.



- iii) The Home Office require a 'change log' of all changes (cosmetic, functional, technical) made to your website. For cosmetic changes, the Home Office require advance notice of one calendar month. For functional or technical changes, we expect full consultation prior to committing to any changes.
- iv) Following any maintenance, should user access or experience be diminished, you will rectify the issue as soon as possible.
- v) As a contingency to any downtime; you must offer an e-mail and/or phone verification service, responding to requests within 24 hours of submission.

4) WEBSITE STRUCTURE

- a) The website must be easy to navigate, requiring as few clicks as possible. It is advised that your website is minimal, and contain only pages and content that is critical to the purpose of the website. The structure is outlined below:
 - i) **'Home' page.** Username and password boxes with log-in button. It is advised that any disclaimer, copyright, legal, contact details or user guide information is posted on this page.
 - ii) **'Search' page.** Test scores must be searchable by name (unlimited characters), date of birth (DDMMYY format), nationality, passport number or unique reference number (URN) / candidate ID number, or a combination of the above. Wildcard and partial searches should also be possible.
 - iii) **'Results' page with test scores.** The 'Results' page must contain a list of results, with the option to change sorting type. The name, date of birth, nationality, passport number and URN must be displayed. At least 30 results per page should be displayed, with the option to increase and decrease this number.
 - iv) **'Scores' page.** The 'Scores' page must show:-
 - i. a photograph of the test taker,
 - ii. the test takers name, date of birth, nationality, URN / candidate ID number
 - iii. Evidence of the identification used by the candidate (which should include passport/ID number, expiry date of the document and issuing authority)
 - iv. Date the test was taken
 - v. full address of the test centre and country where the test was taken
 - vi. test score in all four facets of the Common European Framework of Reference for Languages (CEFR) (excluding A1 / B1 tests which will only show speaking and listening scores) (it is advised that a link¹ to the grading of the scores be displayed here)
 - vii. Copy of the test certificate or test result document (where applicable)

5) PERIPHERALS

- a) The use of peripheral devices (any device which connects to the 'I/O'), physical media (such as CDs, DVDs, etc) or storage devices (such as SD, USB thumb drives, external hard drives, etc) is strictly prohibited.



6) MISCELLANEOUS

- a) A fully populated 'Scores' page must be available to view as soon as you have the final results available and should include a colour scan (minimum size of 960x768 px) of the certificate or test score document(s). This process must be automatic on your part.
- b) The majority of monitors which Home Office staff use employ a 4:3 screen ratio (resolution is controlled by the individual user). It is advised that you format your website with this in mind.

7) DOCUMENTS REQUIRED

- a) Upon completion of building your site, we require the following documentation:
 - i) Complete technical specification and signed confirmation that your system meets these requirements;
 - ii) A report of the testing you have undertaken, including stress testing;
 - iii) A disaster recovery plan to show how you will regain full functionality should a problem arise.
 - iv) A user guide showing how to use the website, which must include screen shots.
 - v) Certification with an appropriate information security management system (ISMS). A minimum of one from the following set of documents is required:
 - (1) ISO/IEC 27001: Code of practice for information security management
 - (2) ISO/IEC 17024: General requirements for bodies operating certification of persons
 - (3) ISO/IEC 23988: Code of practice for the use of information technology (IT) in the delivery of assessments
 - (4) BS 25999: Business continuity management

8) WORKS CITED

- a) Home Office Joint Technical Design Authority (jTDA) Browser Technical Standards, 2012.

9) APPENDIX A: APPLYING THE BROWSER STANDARD SUMMARY

Using the **MoSCoW** technique, the standard must be used in the following way:

MUST (M) conform to:

- a) Strict, fully parsed HTML 4.01 or XHTML 1.0;
- b) If required, scripting using a JavaScript dialect compliant with ECMAScript 262 edition 5.1;
- c) Compliant with accessibility standards:
 - i) Web Content Accessibility Guidelines (WCAG) 2.0 compliance is mandatory. This includes mechanisms such as voice screen and Braille readers, "alt text" tags, clear visual design, and



- avoiding web content which is a barrier to such mechanisms;
- ii) CSS style sheets enable greater accessibility, and should be used instead of HTML mechanisms for presentation and styling;
 - iii) The design of the user experience must take into account the differing form factors of user devices, including smart phones, tablets, netbooks and desktops;
 - iv) Interaction through the use of touch screens, and multi-touch, is growing. Web services should accommodate such interaction where possible;
 - d) If using Cookies, then User tracking should be in accordance with the “EU Cookie Law” which states that tracking should only be for essential business needs beneficial to the user. Users should be notified and given an option to deny tracking, and that this will occur before any tracking has occurred. This is a requirement where services are delivered to citizens;
 - e) Not assume that a particular add-on is or can be made available and/or will be provided free of charge, with demonstrable graceful degradation for those users unable to install the additional add-ons;
 - f) Web applications must have the same user experience independent of which modern browser is used.

SHOULD (S) conform to:

- g) CSS 1/2 Style Sheets in preference to HTML formatting;
- h) Use Open Standards;
- i) Avoid the use of pop-up windows.

COULD (C) conform to the following:

- j) Additional browser extensions subject to prior gaining of Home Office waivers and acceptance of additional associated costs as appropriate;
- k) Use closed proprietary standards instead of Open Standards, but only with temporary Home Office waivers;
- l) Use Adobe Flash for audio and video, subject to temporary Home Office waiver.

WON'T (W) at this time:

- m) Use HTML 5;
- n) Use CSS 3.

10) APPENDIX B: REQUIREMENTS FOR AN ADOBE FLASH WAIVER

- a) Adobe Flash has a significant record of security vulnerabilities. It is important to maintain software currency and apply security patches in a timely manner. Therefore, applications will only be considered for a waiver under the following conditions:
 - i) Applications using Adobe Flash must validate the receiving device containing the browser has the required version of Adobe Flash installed and if not, must provide an alternative acceptable user experience for those users unable to take advantage of the Adobe Flash capabilities. Simply stating that Adobe Flash is required is not acceptable;
 - ii) Designed and tested to work as specified for both the current N and N-1 major versions² of



Adobe Flash only. Older versions will not be accepted;

- iii) Current security patch levels are required, and deployed and are acceptable from all security perspectives (e.g. for Home Office users, access should only be allowed on internal and external sites that are Trusted and conform to the Home Office Security policy);
 - iv) Applications should be architected to allow Adobe Flash to be replaced at a later date if required;
 - v) Have a waiver from the Home Office that the application complies with these conditions.
- b) In order for a waiver to be provided, the following process will be undertaken:
- i) The requestor produces a formal written request detailing:
 - (1) What business problem Flash is designed to overcome;
 - (2) The corresponding technical requirements/design;
 - (3) Explicitly justify and demonstrate why Flash and no alternative;
 - (4) How they will deal with graceful degradation for non Flash supported browser.
 - c) This submission will be reviewed by the Home Office and if we are satisfied with your request, a time limited waiver will be issued during which time Flash will be permitted. Further waivers will be required for extensions beyond this time period.

¹ Links to documents must be in a format fully compatible with Microsoft Office 2003

² For example, Flash 9.1 has major versions of 9, which would not be within n-1 if the current version is 11.0.
