National Audit Office (NAO)

Accessibility Audit Report

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1. Executive Summary

This report documents the results of an Accessibility Audit that was carried out on the NAO system.

1.1. Scope

Screenshots of the screens that were visited during the audit are documented in:

> NAO Audit Screens August 2021.pdf

1.2. Results

NAO does not comply with level AA of the Web Content Accessibility Guidelines (WCAG) 2.1. Of the 50 guidelines tested 44 passed and 6 failed, consisting of 9 specific issues.

A more detailed summary of issues can be found in Section 5 and full detail in Section 7. These issues can be categorised as follows.

Severity	Explanation	Issues
Showstopper	The issue will prevent one or more communities from continuing with the application.	2
Blocker	One or more communities will have extreme difficulties accessing that part of the application or continuing further through the application.	3
Barrier	Although the issue can be worked around it will be very inefficient for a disabled person to use and may cause them to give up on the application.	4

Code	Type of disability	Working-age adults affected		Issues
A	Social/communication impairment such as autistic spectrum disorder	2%	(1.3 million)	1
V	Blindness or other serious visual impairment uncorrected by glasses	2%	(1.3 million)	8
D	Deafness or serious hearing impairment	2%	(1.3 million)	0
M	Mental health condition such as depression or anxiety disorder	7%	(4.5 million)	5
L	Specific learning difficulty such as dyslexia, dyspraxia or AD(H)D	3%	(2.0 million)	5
P	Physical impairment or mobility issues	5%	(3.3 million)	2

2. Introduction

2.1. What is this document?

This report documents the results of an Accessibility Audit that was carried out on the NAO system.

Screens that were visited during the analysis are documented in:

NAO Audit Screens August 2021.pdf

2.2. Further information

2.2.1. W3C web accessibility initiative

- Introduction
- Guidelines
- Techniques
- Evaluation

2.2.2. Contact Details

The following are useful contacts regarding the overall accessibility approach, expanded information regarding issues or techniques and specific details of this report:

- Chris Towers
  - External
  - 07802 722111
- Terry Clarke
  - External
  - 07713 887629

3. Scope

The scope for this audit is outlined in an email provided by Dan Gluckman:

RE_ accessibility
audit quote.msg

This outlined use cases and account details for testing.

From there a variety of URLs with different log in credentials were used:

The URLs to test will be:

1. Home page: https://web.staging.nao.dalmatian.dxw.net/
2. Reports aggregation page: https://web.staging.nao.dalmatian.dxw.net/reports/
3. Report landing page: https://web.staging.nao.dalmatian.dxw.net/reports/developing-workforce-skills-for-a-strong-economy/

4. What we do page: https://web.staging.nao.dalmatian.dxw.net/about-us/
5. Search page (including interactive filters): https://web.staging.nao.dalmatian.dxw.net/?s= (can you also include entering a search term and looking at the results)
6. Teams page: https://web.staging.nao.dalmatian.dxw.net/executive-team-and-nao-board/
7. Contact us form (interactive form): https://web.staging.nao.dalmatian.dxw.net/about-us/contact-us/send-an-enquiry/

@Chris Towers The login name is blazie. I will send you the password separately.

Screens that were visited during the audit are documented in:

  NAO Audit Screens August 2021.pdf

4. Method

The audit was carried out on the 11th and 12th August 2022 by Christopher Towers (Blazie UK).

The following test techniques and tools were used during the evaluation:

- **Assistive technology reviews**
  - **Screen-reader (Code: V)**
    - JAWS 2022
    - NVDA 2021
  - **Screen magnification & manipulation (Code : V)**
    - SuperNova Magnifier & Speech 21
  - **Dictate and Command & Control (Code: L and P)**
    - Dragon Naturally Speaking 15
  - **Internet Browsers (All)**
    - Microsoft Edge 104
    - Google Chrome 102
- **Expert reviews**
  - **Review to test a set of Heuristics about accessible usage, for example:**
    - Navigating without a mouse, just using the keyboard
    - Altering the text size
    - Switching off cascading style sheet(s), images, JavaScript, and other scripting
    - Personalising the 'Accessibility Options' (available within Browser / PC Settings)
  - **Cognitive walk-through to establish whether typical tasks can be completed**
- **Conformance Inspection**
  - Systematic review of each criterion, with reference to the underlying HTML code.
  - Automated tests to assess technical accessibility compliance
  - Use of Developer Toolbars
- **Validation tests including:**
  - Use of colour analyser tool to check colour contrast

5. Results

NAO goes a long way to meeting compliance level AA. However, there are one or two general issues, primarily around focus management, which mean it does not comply with level AA of the web accessibility guidelines.

In the tables below (sections 5.1 – 5.4), only criteria at levels A and AA that fail are listed. For each issue identified an assessment of severity is given, i.e., to what degree the issue is a barrier to the use of the application. The severity is categorised as follows:

Severity	Explanation
Showstopper	The issue will prevent one or more of the communities from continuing with the application. For example, a log in page where it is not possible to activate the Submit button without the use of a mouse; the rest of the application is unusable by a keyboard-only user.
Blocker	One or more of the communities will have extreme difficulties accessing that part of the application or continuing further through the application. For example, errors when submitting a form that appear in a way that is not flagged to a visually impaired user.
Barrier	Although the issue can be worked around it will be very inefficient for a disabled person to use and may cause them to give up on the application. For example, each time you choose an item from a combo box focus is reset to the top of the page, meaning that a keyboard-only user has to tab all the way through the form again to continue.

For each issue an assessment of the Communities Affected is given based on the following legend:

Code	Type of disability	Proportion of working-age adults affected	
A	Social/communication impairment such as Asperger's syndrome/other autistic spectrum disorder.	2%	(1.3 million)
V	Blindness or other serious visual impairment uncorrected by glasses.	2%	(1.3 million)
D	Deafness or serious hearing impairment.	2%	(1.3 million)
M	Mental health condition such as depression, schizophrenia or anxiety disorder.	7%	(4.5 million)
L	Specific learning difficulty such as dyslexia, dyspraxia or AD(H)D.	3%	(2.0 million)
P	physical impairment or mobility issues, such as difficulty using your arms or hands.	5%	(3.3 million)

Section 7: Criteria in detail includes fuller criteria wording, links to the full explanation on the WCAG web site, detail about any failures against each criterion, and any recommended solutions. **Note that references in Section 7 to screens where problems occurred are just indicative of the areas of the application that fail.** In general, any issue discovered on one search screen, or one results screen, for example, is apparent on all screens of that type. Each fix should be applied across the whole application, as often the same failed criteria reoccur in various parts of the application.

5.1. Principle 1

Perceivable - Information and user interface components must be presentable to users in ways they can perceive.

Ref	Criteria heading	Level	Severity	Communities Affected
1.3.1	Information & Relationships	Level A		
	1. Menu has not aria-expanded		Barrier	V
	2. Ellipses link can be confusing		Blocker	A, M, L
1.3.2	Meaningful Sequence	Level A		
	1. Search result focus moves to the top of the page		Blocker	V, M, L, P
	2. Successful submission of form		Barrier	V

5.2. Principle 2

Operable- User interface components and navigation must be operable.

Ref	Criteria heading	Level	Severity	Communities Affected
2.4.4	Link Purpose	Level A		
	1. Social Media Links		Barrier	V
2.4.6	Headings and labels	Level AA		
	1. Filter link unclear		Showstopper	V, M, L
	2. Search field label too verbose		Barrier	V, M, L
2.4.7	Focus visible	Level AA		
	1. Search Form fields		Showstopper	V, M, L, P

5.3. Principle 3

Understandable - Information and the operation of user interface must be understandable.

Ref	Criteria heading	Level	Severity	Communities Affected
3.3.2	Labels or instructions	Level A		
	1. Error not announced		Blocker	A, V, D, M, L, P

5.4. Principle 4

Robust - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.

No Issues Found

6. Next Steps

1. All stakeholders in the project team to read and analyse this document. (Further explanation and consultancy are available from [Blazie](#).)

7. Criteria in detail

Principle 1:

Perceivable - Information and user interface components must be presentable to users in ways they can perceive.

> Guideline 1.3 - Adaptable: Create content that can be presented in different ways (for example simpler layout) without losing information or structure.

1.3.1 Info and Relationships: Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text. (Level A) – **Full Guidance**	
1. Menu items have no aria-expanded	Communities Affected: V, M, L, P

Example of failure:

Before a menu has been activated there is no indication that a link can be expanded or collapsed, as a result this may confuse screen reader users as they may not know about the sub-menu options.
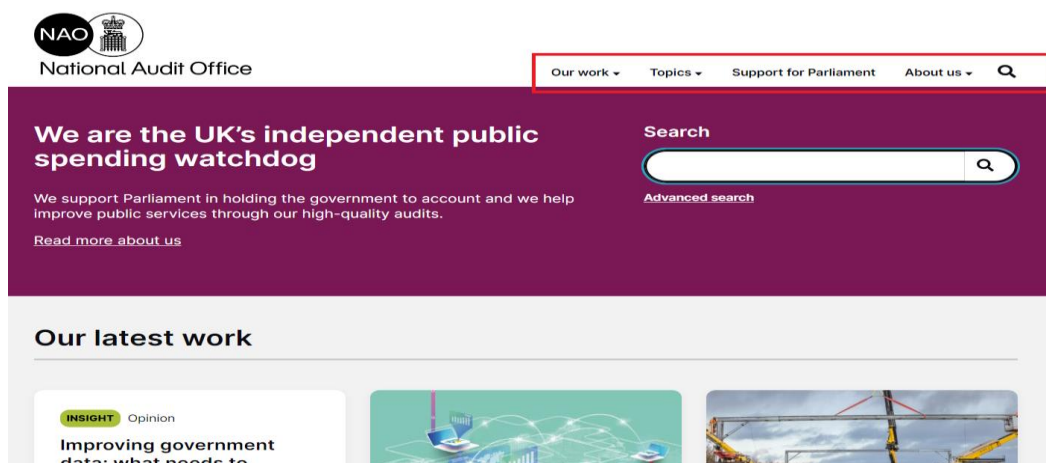
Recommended Solution:

Ensure that there is an **aria-expanded=" [True/False]"** on the expandable menu buttons all the time, this will also be much clearer than the show text currently applied.

2. **Ellipses can be confusing**	Communities Affected: V

Example of failure:

When on a search with more than 60 different results there is a "…" button in the pagination region. This appears to be like a button to change the page but provides no functionality on a mouse click. When using a screen reader and magnification together such as in ZoomText the focus moves to the top of the page.
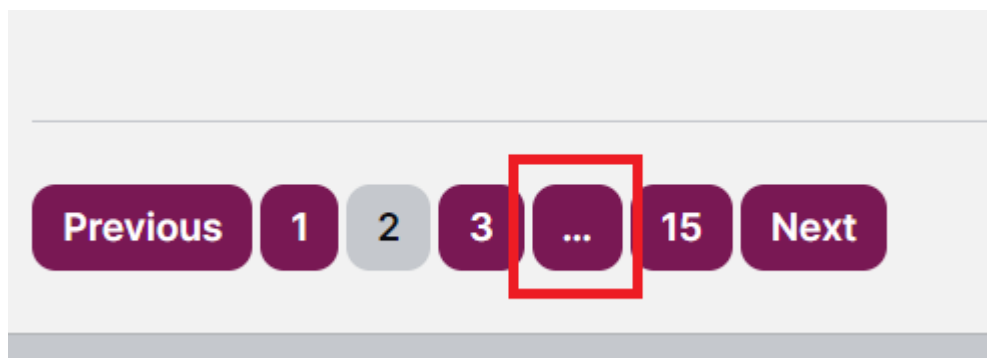
Recommended Solution:

Unlike the rest of the pagination components this is a span but appears like a button.

Either remove the ellipses or change the design so that it is clear it is not a button.

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1.3.2 Meaningful Sequence: When the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined. (Level A) – **Full Guidance**

1. Search results go to the top of the page	Communities Affected: V, M, L, P

Example of failure:

When a search result has been completed the focus moves to the top of the page, rather than to the search results. This may irritate keyboard and screen reader users as they will have to navigate through the page to get to the results.
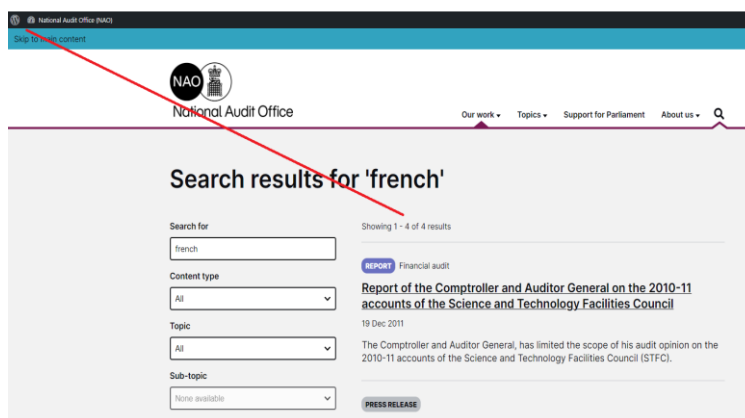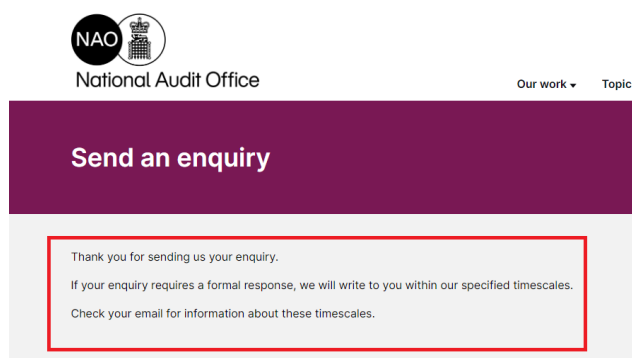

Recommended Solution:

That when the search result is performed the focus moves to the showing 1- 4 of results text. This can be done by adding **tab-index=-1** to the text and using JavaScript to target the text.

2. Successful form submission	Communities Affected: V

Example of failure:

When a form has been successfully submitted there is a message saying it has been submitted and when the user should expect to hear a response. Unfortunately, the focus is not automatically moved to the message instead the focus moves to the top of the page. As a result, many screen reader users will take time to know if the form has been submitted successfully.

Recommended Solution:

That when the form is submitted the focus moves to "thank you for sending us your enquiry" text. This can be done by adding **tab-index=-1** to the text and using JavaScript to target the text.

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Principle 2:

Operable - User interface components and navigation must be operable.

Guideline 2.4 - Navigable: Provide ways to help users navigate, find content, and determine where they are.

2.4.4 **Link Purpose (In Context): The purpose of each link can be determined from the link text alone or from the link text together with its programmatically determined link context, except where the purpose of the link would be ambiguous to users in general. (Level A) – Full Guidance**

1. Board social media	Communities Affected: V, M, L

Example of failure:

On the about us page there are several personal profiles which have LinkedIn and twitter links. Unfortunately, however, these links are all labelled with only the social media site and not the person. As a result, it may be difficult for screen reader users to understand what link refers to what.
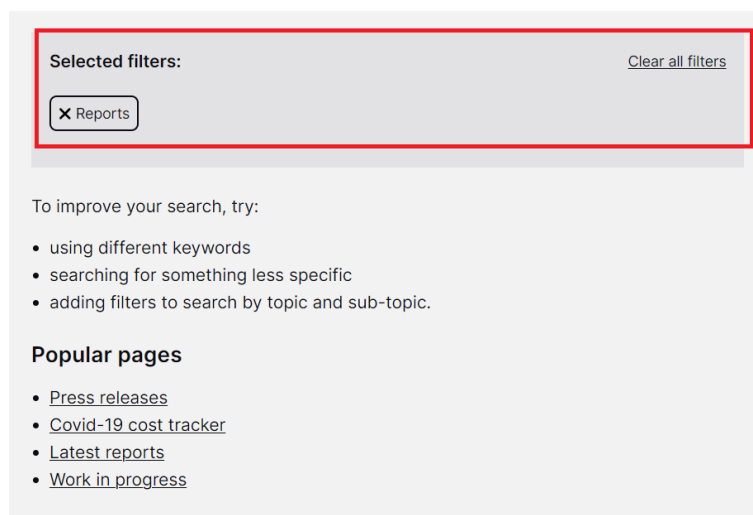

Recommended Solution:

That on hidden text in the link the user who the link refers to is the social media profile belongs to.

2.4.6 Headings and Labels: Headings and labels describe topic or purpose. (Level AA) – **Full Guidance**	
1. Remove filter label unclear	Communities Affected: V, M, L

Example of failure:

When on the search page there is a section indicating the filters on the page and users can activate the link to remove it. However, the label of the link is just "Reports" and does not indicate that activating the link will remove the filter.

Selected filters:	Clear all filters
✕ Reports	

To improve your search, try:

- using different keywords
- searching for something less specific
- adding filters to search by topic and sub-topic.

Popular pages

- Press releases
- Covid-19 cost tracker
- Latest reports
- Work in progress

Recommended Solution:

That within the link itself there is visually hidden text that indicates this will remove the filter from the search this can be done by making the text have a large text indent or use absolute positioning. More information about hiding text can be found here; Hidden Text.

2. Search field text too verbose	Communities Affected: V, M, L

Example of failure:

The search field on the home page has a label "Search on National Audit Office (NAO)" this is long and may be irritating to screen reader users.

Search

🔍

Advanced search
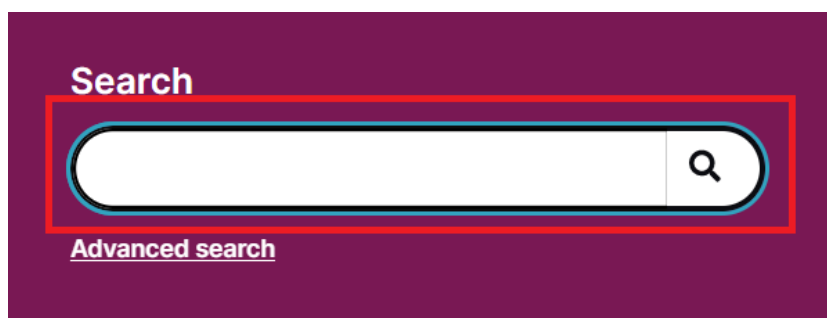
Recommended Solution:

That the label is changed to something shorter such as "Search NAO" or "Search on National Audit Office"

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2.4.7 Focus Visible: Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible. (Level AA) – **Full Guidance**

1. Search Form Fields	Communities Affected: V, M, L, P

Example of failure:

When attempting to navigate the search form fields using the keyboard, when focus arrives on most of the form fields there is no visible focus. As a result, it will be hard for keyboard users to know which one is currently in focus.

Recommended Solution:

In most other fields on the site the focus is clearly indicated, perhaps the CSS used for these components could be attached when .onfocus.

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Principle 3:

Understandable - Information and the operation of user interface must be understandable.

Guideline 3.3 - Input Assistance: Help users avoid and correct mistakes.

3.3.2 Labels or Instructions: Labels or instructions are provided when content requires user input. (Level A) – **Full Guidance**	
1. Error not announced when it appears	Communities Affected: V, M, L

Example of failure:

When on the contact form, the user can submit the form with errors. When a user does this the page reloads and an error message appears.

Unfortunately, this error message is not immediately announced to screen reader users and as a result they will not know that the error message has appeared. To do that they will have to navigate the page until they meet the error message making it very difficult.

Recommended Solution:

When the error message appears, the focus should automatically move to it on submission of the form. One way of doing this would be to give the error message a **tab-index="-1"** attribute and have **.onfocus** JavaScript that targets the error message when the form is submitted unsuccessfully.

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