

High-level accessibility review – Data Axle (Reference USA) - Library Accessibility Alliance

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December 9, 2025



High-level accessibility review – Data Axe (Reference USA) - Library Accessibility Alliance

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Data Axle (Reference USA)

Summary:

Top 3 problems for the Data Axle

This high-level assessment covers limited portions and functionality of the Data Axle. The assessment revealed issues with assistive technology compatibility, resulting in some users missing information required to understand content, states, and operate functions. It is important to keep in mind that the findings represent a high-level assessment and do not reflect the results of a Deque Comprehensive Web Assessment. The following are the top 3 issues from this evaluation.

- **Focus Visible:** Keyboard focus is not visible on the elements.
- **Descriptive labels:** Multiple links have the same programmatic labels.
- **Name, Role, Value:** Buttons missing role.

Accessibility findings

1. Initial Interface/Landing Page

Source: https://proxy.lib.umich.edu/login?user=deque-contractor&pass=SPzz9T96MHtYSvTv&url=https://ddm.dnd.lib.umich.edu/database/link/9111?utm_source=library-search

Test case: Test the initial interface/landing page to ensure menus, sub-menus, search box, images, icons, etc. are accessible.

The screenshot shows the homepage of the Data Axle Reference Solutions website. At the top, there is a navigation bar with links for "data axle reference solutions", "Webinars", "Learning Center", and "Releases". A "Select Language" dropdown is also present. The main header features the text "Your Personalized Accounts: Faster, Smarter Searches" and a subtext "Your library, your way. Pick up where you left off with a personalized account." Below this, there is a "Learn more" button and a large image of two people working together on a computer. A "Available Databases" section lists various categories with their respective counts: U.S. Businesses (117 Million Businesses), U.S. New Businesses (2.0 Million New Businesses), U.S. Healthcare (2.8 Million Physicians & Dentists), U.S. Standard White Pages (182 Million Records), U.S. Consumers / Lifestyles (337 Million Individuals), U.S. New Movers / Homeowners (10 Million Records), and Universal Search (Simultaneously search businesses and consumers). A "New Personal Accounts" section encourages users to "Register Now" and provides a link for "Already have an account? Login". The bottom section contains a "SEARCH" button and a "Reference Solutions Mobile" section with download links for Google Play and the App Store. The footer includes the Data Axle logo, contact information for Corporate Headquarters and the Data Axle Technology Center, links to "CUSTOMER SERVICE", "ABOUT", and "LEGAL INFORMATION", and social media icons for Facebook, LinkedIn, YouTube, and Twitter. The footer also contains copyright information and links for "Admin Log On", "Terms of Service", "Privacy Policy", and "Do Not Sell My Data".

Your Personalized Accounts: Faster, Smarter Searches

Your library, your way. Pick up where you left off with a personalized account.

[Learn more](#)

Available Databases

Select a Database to Get Started

U.S. Businesses 117 Million Businesses 4.7 Million Closed Businesses SEARCH MORE INFORMATION	U.S. New Businesses 2.0 Million New Businesses
U.S. Healthcare 2.8 Million Physicians & Dentists	U.S. Standard White Pages 182 Million Records
U.S. Consumers / Lifestyles 337 Million Individuals	U.S. New Movers / Homeowners 10 Million Records

Universal Search
Simultaneously search businesses and consumers

U.S. Businesses
The U.S. Business database contains a total of 117 million businesses including that are updated weekly. It is the only business database that is enhanced with more than 20 million phone calls per year providing you with the most accurate data possible.

Selection Criteria include:
Company name, Executive title, Business type, Sales volume, Employee size, Year established, And more...

Use [Quick Search](#) to find what you need with a few clicks or use our powerful [Advanced Search](#) to fine tune your search.

[SEARCH](#)

New Personal Accounts

Patrons can now sign up for personal accounts and create custom user profiles, save searches and search criteria for future list building and much more.

[Register Now](#)

Already have an account? [Login](#)

Reference Solutions Mobile

Download our mobile app for Reference Solutions: Search U.S Businesses and U.S Consumers from your phone or tablet on Android or iOS operated devices. Find Businesses and consumers based off your devices current location, or by address, city, state or ZIP code.

[Google Play](#) [App Store](#)

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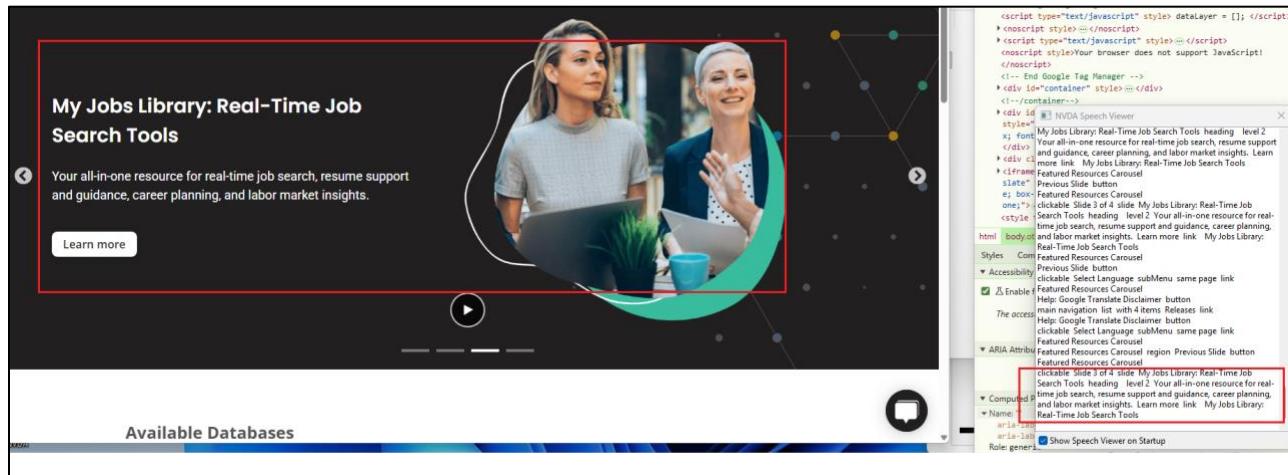
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Automated findings using Axe: None

Additional manual findings

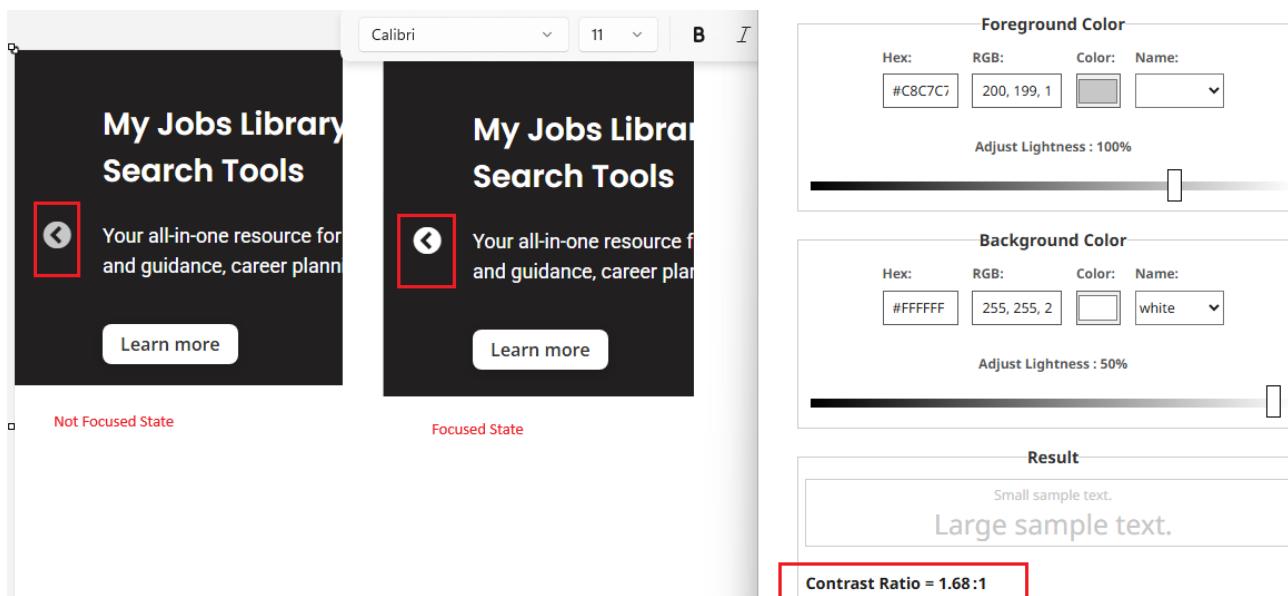
- **SC 2.4.7.a Focus Visible:**

Keyboard focus is not visible when it goes to the slide content.



- **SC 1.4.1.a Color as Information:**

A color change is used to visually convey the focused state of the buttons, and the contrast difference between the states is less than 3:1.



- **SC 2.4.7.a Focus Visible:**

Keyboard focus is not visible on the carousel tab controls.

The screenshot shows a presentation slide with the title 'Our Data Process: Driving Growth for You'. Below the title is a video player with a play button and a progress bar. A text block says 'Learn about how we build our databases, fuelling growth for businesses like yours.' A 'Learn more' button is visible. The NVDA Speech Viewer is overlaid on the slide, showing the following text:

```
tab selected current 4 of 4 out of region
toggle button pressed Play carousal
heading level 2 Available Databases
heading level 2 Select a Database to Get Started
slick-list draggble
NVDA Speech Viewer
NVDA Speech Viewer
Show Speech Viewer on Startup: check box checked Alt+ s
Our Data Process Driving Growth for You
NVDA Speech Viewer
Our Data Process Driving Growth for You
Data Axe Reference Solutions - Google Chrome window
Data Axe Reference Solutions document
link Learn more
Our Data Process Driving Growth for You heading level 2
Learn about how we build our databases, fuelling growth for businesses like yours. Learn more link Our Data Process Driving Growth for You
Learn more link
Featured Resources Carousel
Next Slide button
Featured Resources Carousel
tab control
4 of 4 tab selected current 4 of 4
Play carousal: toggle button pressed
Featured Resources Carousel region
tab control
4 of 4 tab selected current 4 of 4
Show Speech Viewer on Startup
```

- **SC 2.4.4.a Link Purpose (In Context):**

Multiple “Search” and “More Information” links have the same programmatic labels.

The screenshot shows the 'Available Databases' page. It features a grid of database categories with 'SEARCH' and 'MORE INFORMATION' buttons. The NVDA Speech Viewer is overlaid, showing the following text for the 'SEARCH' and 'MORE INFORMATION' buttons:

```
Webinars link
Learning Center link
Releases link
Help: Google Translate Disclaimer button
Data Axe Reference Solutions Logo
clickable Select Language subMenu same page link
Featured Resources Carousel
Featured Resources Carousel region Previous Slide button
Featured Resources Carousel
clickable Slide 4 of 4 slide Our Data Process: Driving Growth for You heading level 2 Learn about how we build our databases, fuelling growth for businesses like yours. Learn more link Our Data Process: Driving Growth for You graphic
Learn more link
Featured Resources Carousel
Next Slide button
Featured Resources Carousel
tab control
4 of 4 tab selected current 4 of 4
Play carousal: toggle button pressed
list with 7 items clickable list with 3 items SEARCH link | MORE INFORMATION
SEARCH link
MORE INFORMATION same page link
clickable list with 3 items SEARCH link | MORE INFORMATION
SEARCH link
MORE INFORMATION same page link
Show Speech Viewer on Startup
```

2. Search results Page

Source:

<http://www.referenceusa.com.proxy.lib.umich.edu/UsBusiness/Result/6ce979c575d94773a20dcb62476c4a0f>

Test case:

- From the initial landing page, select **Search** underneath **U.S. Businesses**. Conduct a search for **Company Name** = IKEA and use the drop-down menu for **State** and select North Carolina.
- Test search results page. Sort by **Phone**. Test additional buttons, including Revise Search, Download, and Heat Map.

Company Name	Executives Name	Street Address	City, State	ZIP	Phone	Corp. Type
IKEA	Susan Bulova	8300 IKEA Blvd	Charlotte, NC	28262	(704) 549-4532	
IKEA Restaurant		8300 IKEA Blvd	Charlotte, NC	28262	(888) 888-4532	
IKEA Smaland		8300 IKEA Blvd	Charlotte, NC	28262	(888) 888-4532	

data axle · reference solutions Webinars Learning Center Releases Select Language

U.S. Businesses 3 Results Revise Search New Search

Revise Search New Search

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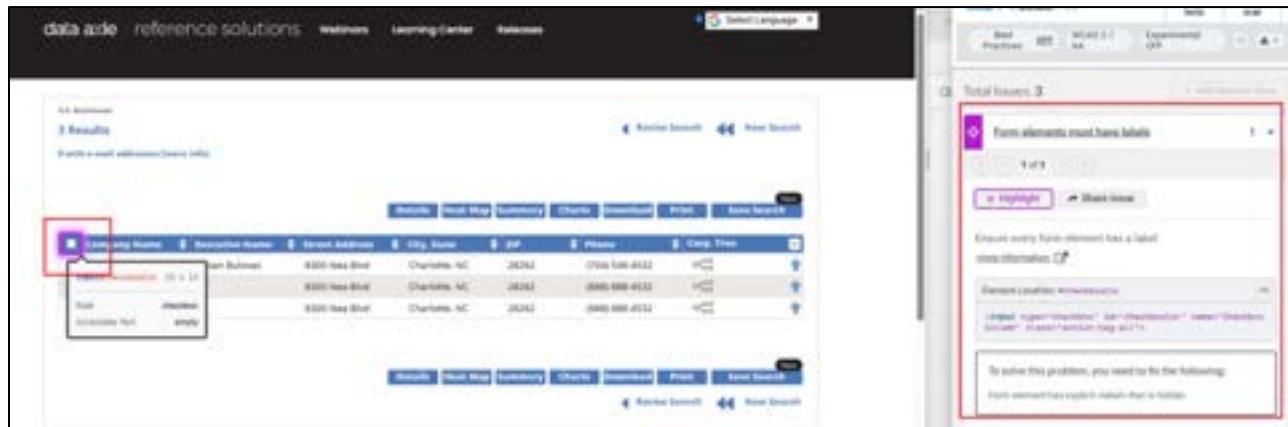
Contact Us About Us Privacy Policy

FAQ Learning Center Terms & Conditions

Library Locator

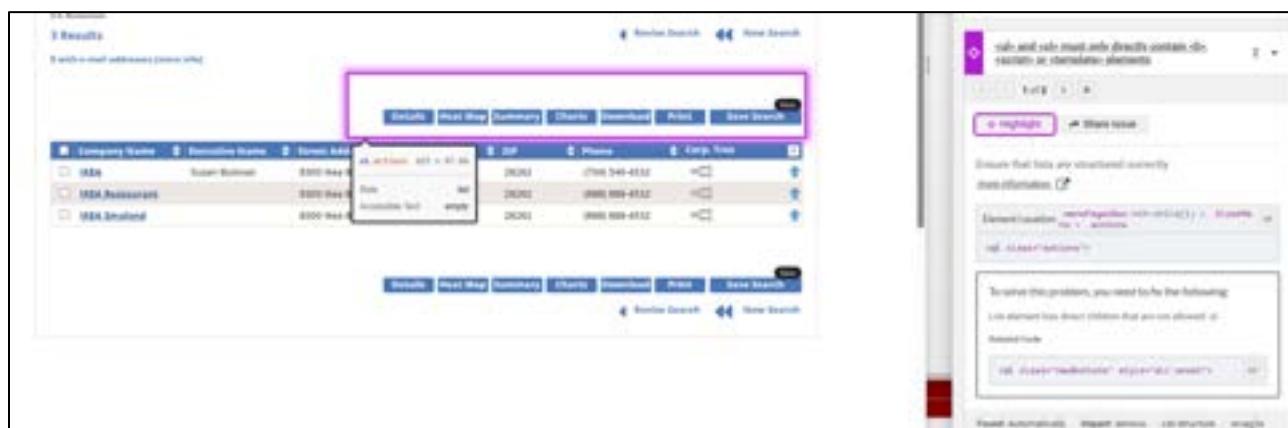
Automated findings using Axe:

- **SC 4.1.2.a – Name, Role and Value**
Form control must have labels



The screenshot shows the Data Axle interface with a search results table. The first row of the table has a red box around it, highlighting the headers. To the right, the Axe audit results panel is open, showing a single issue: "Form elements must have labels". The issue details state: "Ensure every form-element has a label" and "Element location: <table><thead><tr><th>Company Name</th><th>Executive Name</th><th>Street Address</th><th>City, State</th><th>ZIP</th><th>Phone</th><th>Email, TEL</th></tr></thead><tbody><tr><td>ABC</td><td>Super-User</td><td>1234 Main St</td><td>Charlotte, NC</td><td>28262</td><td>(704) 555-4532</td><td>View</td></tr><tr><td>XYZ Assurance</td><td>Super-User</td><td>1234 Main St</td><td>Charlotte, NC</td><td>28262</td><td>(800) 888-4532</td><td>View</td></tr><tr><td>ABC Insurance</td><td>Super-User</td><td>1234 Main St</td><td>Charlotte, NC</td><td>28262</td><td>(800) 888-4532</td><td>View</td></tr></tbody></table>". The solution provided is: "Form element has explicit label that is hidden".

- **SC 1.3.1.4 - Lists**
List element has direct children that are not allowed inside UL or OL elements.



The screenshot shows the Data Axle interface with a search results table. The first row of the table has a red box around it, highlighting the headers. To the right, the Axe audit results panel is open, showing a single issue: "List and table must only directly contain cells, not lists or other table elements". The issue details state: "Ensure that lists are structured correctly with information" and "Element location: <table><thead><tr><th>Company Name</th><th>Executive Name</th><th>Street Address</th><th>City, State</th><th>ZIP</th><th>Phone</th><th>Email, TEL</th></tr></thead><tbody><tr><td>ABC</td><td>Super-User</td><td>1234 Main St</td><td>Charlotte, NC</td><td>28262</td><td>(704) 555-4532</td><td>View</td></tr><tr><td>XYZ Assurance</td><td>Super-User</td><td>1234 Main St</td><td>Charlotte, NC</td><td>28262</td><td>(800) 888-4532</td><td>View</td></tr><tr><td>ABC Insurance</td><td>Super-User</td><td>1234 Main St</td><td>Charlotte, NC</td><td>28262</td><td>(800) 888-4532</td><td>View</td></tr></tbody></table>". The solution provided is: "List element has direct children that you can place in a table header".

Additional manual findings

- **SC 2.4.4.a Link Purpose (In Context):**

Multiple links have the same programmatic labels. aria-label is defined as “View the Corp Family Tree of IKEA” for both the links in the first row. A similar approach is applicable for other rows.

3. Individual Search Result landing Page

Source:

<http://www.referenceusa.com.proxy.lib.umich.edu/UsBusiness/Detail/Tagged/d95b17ec897e485a8bb71e99637d358?recordId=679981126>

Test case:

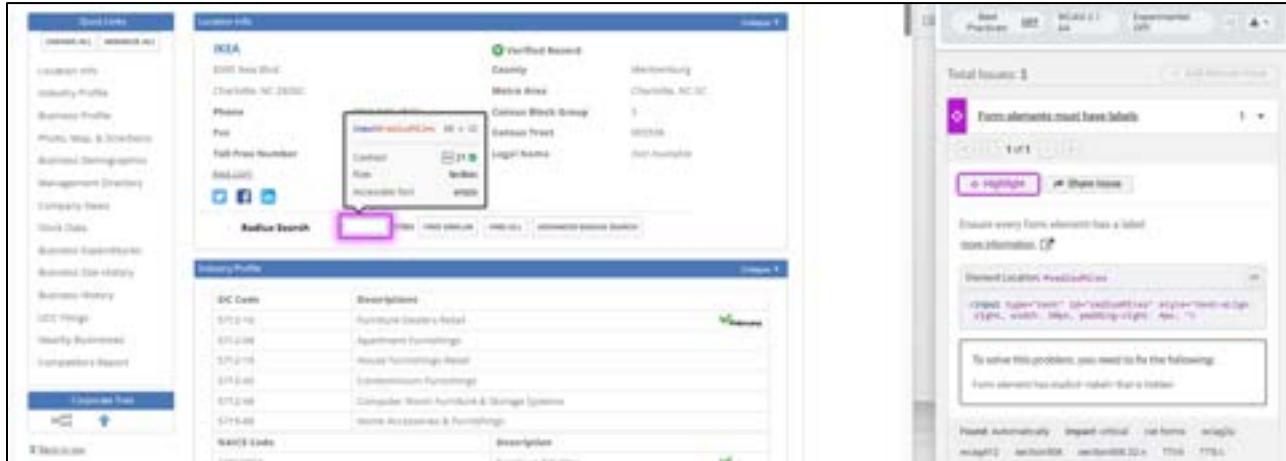
- Test individual search result landing page. Select IKEA from the list & test actual page, including the Quick Links (on the left-hand side) and the collapse buttons.



Automated findings using Axe:

- **SC 4.1.2.a – Name, Role, and Value**
Form control must have labels

To solve this problem, you need to fix the following: The Form element has an explicit <label> that is hidden



The screenshot shows the Data Axle interface with a 'Location Info' page open. On the right, a 'Total Issues' panel displays a single issue: 'Form elements must have labels' (Level A). The 'Details' tab is selected, showing the error message 'Ensure every Form element has a label that describes it.' and the 'Detailed Location' as 'prepaidOffice'. Below this, a 'To solve this problem, you need to fix the following:' section lists 'Form element has explicit value, then a label' with a link to 'https://deque.com/axe/label-value.html'. The bottom of the panel shows search and filter options.

Additional Manual Findings:

- **SC 1.3.1.e - Headings**

Text should not be marked as headings. Quick links on the left panel should not be marked as headings.

```
<a href="#" class="action-portlet-link" role="heading" aria-level="2" data-portlet-id="LocationInfo">Location Info</a>
```



The screenshot shows the Data Axle interface with a 'Location Info' page open. On the left, a list of 'Quick Links' is shown, with the 'Location Info' link highlighted and enclosed in a red box. On the right, a 'Details' panel is open, showing a list of 14 items under 'clickable list with 2 levels: Data Feedback: same page link'. The items are: 'U.S. Businesses - WEA | Data Axle Reference Solutions - Google Chrome window', 'Data Feedback', 'Industry Profile heading clickble level 1', 'Business Profile heading clickble level 1', 'Photo, Map, & Directions heading clickble level 1', 'Business Demographics heading clickble level 1', 'Management Directory heading clickble level 1', 'Company News heading clickble level 1', 'Stock Data heading clickble level 1', 'Business Expenditures heading clickble level 1', 'Business Size History heading clickble level 1', and 'Competitors Report heading clickble level 1'. The entire list is also enclosed in a red box. The bottom of the panel shows a 'Show Speech Viewer on Startup' checkbox.

- **SC 4.1.2.a – Name, Role, Value**

Links are missing a role. Links under “Quick Links” are announced as “clickable”.

```
<a href="#" class="action-portlet-link" role="heading" aria-level="2" data-portlet-id="LocationInfo">Location Info</a>
```



4. Advanced Search Page

Source:

<http://www.referenceusa.com.proxy.lib.umich.edu/UsBusiness/Search/Custom/b9bb60886b70400c80ca91be2c8d874e>

Test case:

- Test advanced search page

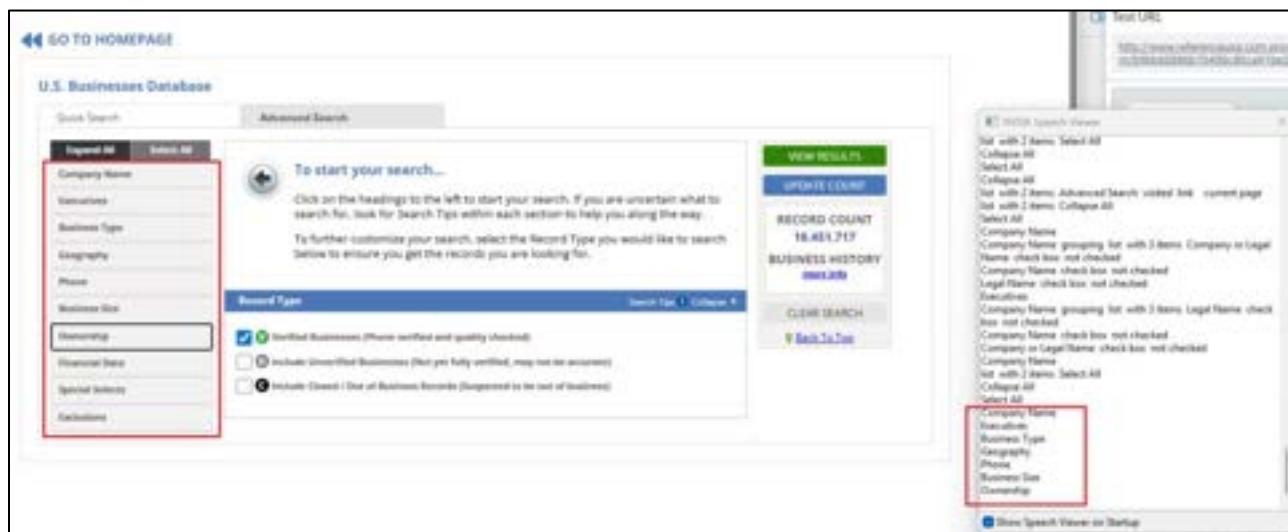
Automated findings using Axe: None

Additional Manual Findings:

- **SC 4.1.2.a Name, Role, Value**

Buttons missing role. Expandable buttons under the left panel do not have role defined. NVDA announces as “Company Name” etc.

```
<div id="criteriaGroupLabel-1765714272" class="header action-expand-header" tabindex="0">  
  Company Name   
</div>
```



- **SC 4.1.2.a Name, Role, Value**

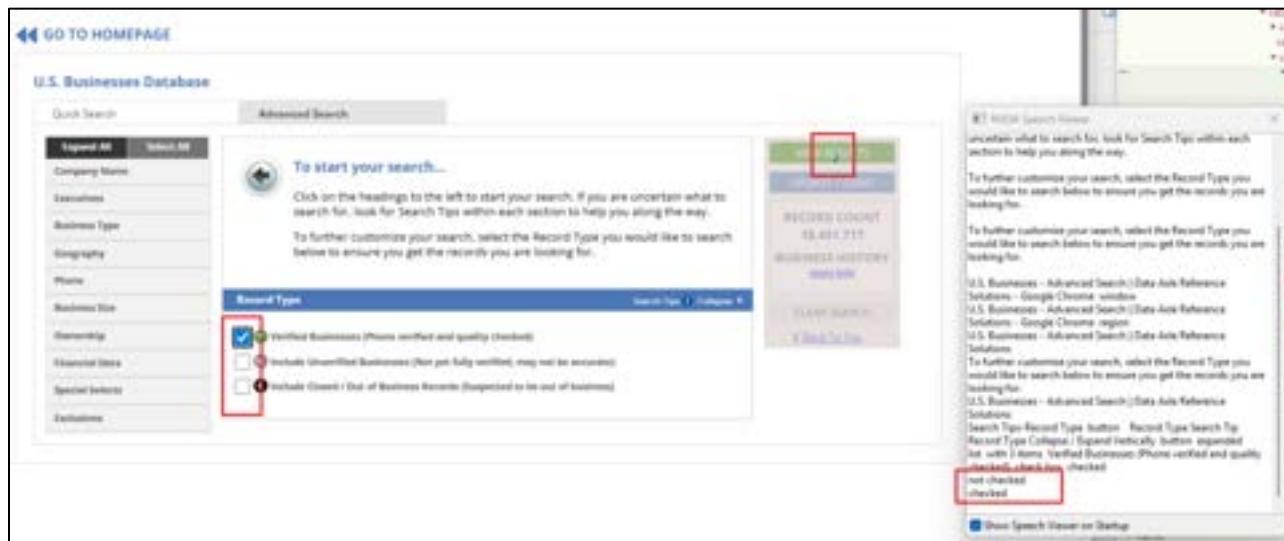
Buttons are missing a role. “Expand All” and “Select All” buttons are missing a role. NVDA announces them as “Expand All” and “Select All”, respectively.

- **SC 4.1.3.a Status Messages**

Status messages are not automatically announced. While checking/unchecking check boxes under “Record Type”, the “Record Count” updates on the right panel, but is not automatically announced

- **SC 4.1.3.a Status Messages**

Status messages are not automatically announced. While checking/unchecking check boxes under “Record Type”, “Loading” animation appears on the right panel, but is not automatically announced



- **SC 1.4.3.a Color Contrast (regular text)**

“Request History” button text does not have a minimum contrast ratio of 4.5:1.

“About Business History” modal opens while selecting the “more info” link on the right panel.

Contrast details:

Button text color code: #FFFFFF

Background color code: #6EA94C

Color contrast ratio: 2.82:1

WCAG Standard	Small Text	Large Text, UI Components, & Graphical Objects
		Large sample text.
	Small sample text.	

- **SC 1.4.3.a Color Contrast (regular text)**

The “Request History” button text does not meet the minimum contrast ratio of 4.5:1 when hovered using the mouse.

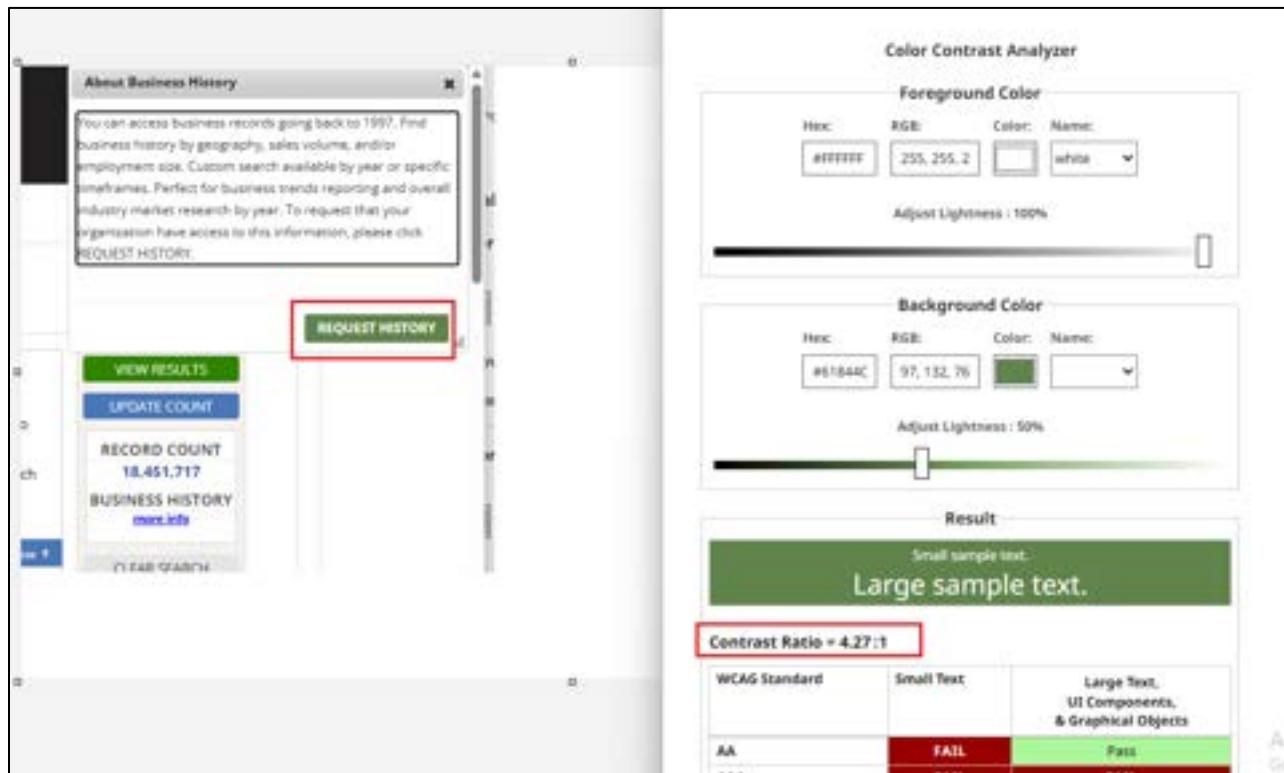
“About Business History” modal opens while selecting the “more info” link on the right panel.

Contrast details:

Button text color code: #FFFFFF

Background color code: #61844C

Color contrast ratio: 4.27:1



The image shows a screenshot of a web application interface on the left and a 'Color Contrast Analyzer' tool on the right. The application window is titled 'About Business History'. It contains a text box with information about business records and a 'REQUEST HISTORY' button, which is highlighted with a red box. Below this are buttons for 'VIEW RESULTS', 'UPDATE COUNT', and 'RECORD COUNT 18,451,717'. A 'BUSINESS HISTORY' section with a 'more info' link is also visible. The right side of the image shows the 'Color Contrast Analyzer' interface. It displays the 'Foreground Color' as white (hex #FFFFFF, RGB 255, 255, 2) and the 'Background Color' as #61844C (97, 132, 76). A 'Result' section shows a green box with the text 'Large sample text.' and a white box with 'Small sample text.' below it. A table at the bottom shows the 'Contrast Ratio = 4.27:1' and a WCAG compliance matrix. The matrix shows 'FAIL' for Small Text and 'Pass' for Large Text, UI Components, and Graphical Objects, under both AA and AAA standards.

WCAG Standard	Small Text	Large Text, UI Components, & Graphical Objects
AA	FAIL	Pass
AAA	FAIL	Pass