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Summary and Checklist: Semantic Structure and Navigation

Summary

Screen readers and other assistive technologies rely on the underlying semantic markup to convey meaningful information about the structure and content of web pages. The following is a list of all of the main principles covered in this module:

Checklist

Page Title

Title for Every Page
- The page `<title>` MUST be present and MUST contain text.
- The page `<title>` MUST be updated when the web address changes.

Meaningful Page Title
- The page `<title>` MUST be accurate and informative.
- If a page is the result of a user action or scripted change of context, the text of the `<title>` SHOULD describe the result or change of context to the user.
- The `<title>` SHOULD be concise.
- The page `<title>` SHOULD be unique, if possible.
- Unique information SHOULD come first in the `<title>`.
- The page `<title>` SHOULD match (or be very similar to) the top heading in the main content.

Language

Primary Language of Page
- The primary language of the page MUST be identified accurately on the `<html>` element.
- The primary language of the page MUST be identified with a valid value on the `<html>` element.

Language of Parts within the Page
- Inline language changes MUST be identified with a valid `lang` attribute.

Language Codes
- The language code MUST be valid.

Landmarks

Creating Landmarks (HTML 5, ARIA)
- Landmarks SHOULD be used to designate pre-defined parts of the layout (`<header>`, `<nav>`, `<main>`, `<footer>`, etc.).

Best Practices for Landmarks
- All text SHOULD be contained within a landmark region.
- Multiple instances of the same type of landmark SHOULD be distinguishable by different discernible labels (`aria-label` or `aria-labelledby`).
- A page SHOULD NOT contain more than one instance of each of the following landmarks: `banner`, `main`, and `contentinfo`.
- The total number of landmarks SHOULD be minimized to the extent appropriate for the content.

Backward Compatibility
- Landmarks SHOULD be made backward compatible.

Headings

Real Headings
- Text that acts as a heading visually or structurally SHOULD be designated as a true heading in the markup.
- Text that does not act as a heading visually or structurally SHOULD NOT be marked as a heading.

Meaningful Text
- Headings MUST be accurate and informative.
- Heading text SHOULD be concise and relatively brief.

Outline/Hierarchy of Content
- Headings SHOULD convey a clear and accurate structural outline of the sections of content of a web page.
- Headings SHOULD NOT skip hierarchical levels.

Heading Level 1 Best Practices
- The beginning of the main content SHOULD start with `<h1>`.
- Most web pages SHOULD have only one `<h1>`.

Links

Designate Links Correctly
- Links MUST be semantically designated as such.
- Links and buttons SHOULD be designated semantically according to their functions.

Link Text
- A link MUST have programmatically-discernible text, as determined by the accessible name calculation algorithm.
- The purpose of each link SHOULD be able to be determined from the link text alone.
- The link text SHOULD NOT repeat the role ("link").

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Links (continued)

Link Text (continued)

- Features such as labels, names, and text alternatives for content that has the same functionality across multiple web pages MUST be consistently identified.

Links to External Sites, New Windows, Files

- A link that opens in a new window or tab SHOULD indicate that it opens in a new window or tab.
- A link to a file or destination in an alternative or non-web format SHOULD indicate the file or destination type.
- A link to an external site MAY indicate that it leads to an external site.

Visually Distinguishable from Text

- Links MUST be visually distinguishable from surrounding text.

Visual focus indicator

- All focusable elements MUST have a visual focus indicator when in focus.
- Focusable elements SHOULD have enhanced visual focus indicator styles.

Navigation Between Pages

Navigation Lists

- A navigation list SHOULD be designated with the `<nav>` element or `role="navigation"`.
- A navigation list SHOULD include a visible method of informing users which page within the navigation list is the currently active/visible page.
- A navigation list SHOULD include a method of informing blind users which page within the navigation list is the currently active/visible page.

Consistency

- Navigation patterns that are repeated on web pages MUST be presented in the same relative order each time they appear and MUST NOT change order when navigating through the site.

Navigation Within Pages

Skip Navigation Links

- A keyboard-functional "skip" link SHOULD be provided to allow keyboard users to navigate directly to the main content.
- The "skip link" should be the first focusable element on the page.
- A skip link MUST be either visible at all times or visible on keyboard focus.

Table of Contents

- A table of contents for the page MAY be included at the top of the content or in the header.
- If a table of contents for the page is included, it SHOULD reflect the heading structure of the page.

Reading Order and Tab/Focus Order

- The reading order MUST be logical and intuitive.
- The navigation order of focusable elements MUST be logical and intuitive.
- `tabindex` of positive values SHOULD NOT be used.

Paginated Views

- A paginated view SHOULD include a visible method of informing users which view is the currently active/visible view.
- A paginated view SHOULD include a method of informing blind users which view is the currently active/visible view.

Tables

Semantic Markup for Tabular Data

- Tabular data SHOULD be represented in a `<table>`.

Table caption/name

- Data tables SHOULD have a programmatically-associated caption or name.
- The name/caption of a data table SHOULD describe the identity or purpose of the table accurately, meaningfully, and succinctly.
- The name/caption of each data table SHOULD be unique within the context of other tables on the same page.

Table Headers

- Table headers MUST be designated with `<th>`.
- Data table header text MUST accurately describe the category of the corresponding data cells.

Simple Header Associations

- Table data cells MUST be associated with their corresponding header cells.

Grouped Header Associations

- Table data group headers MUST be associated with their corresponding data cell groups.

Complex Header Associations

- Header/data associations that cannot be designated with `<th>` and `scope` MUST be designated with `headers` plus `id`.

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Tables (continued)

Nested or Split Tables

- Data table headers and data associations MUST NOT be referenced across nested, merged, or separate tables.

Table Summary

- A summary MAY be provided for data tables.
- A data table summary, if provided, SHOULD make the table more understandable to screen reader users.

Layout Tables

- Tables SHOULD NOT be used for the purpose of purely visual (non-data) layout.
- Layout tables MUST NOT contain data table markup.

Lists

Semantic Markup for Lists

- Lists MUST be constructed using the appropriate semantic markup.

Iframes

Frame titles

- Iframes that convey content to users MUST have a non-empty title attribute.
- The iframe title MUST be accurate and descriptive.
- Frames MUST have a unique title (in the context of the page).

Page Title Within an Iframe

- The source page of an iframe MUST have a valid, meaningful `<title>`.

Semantic structure across iframes

- The heading hierarchy of an iframe SHOULD be designed to fit within the heading hierarchy of the parent document, if possible.

Hiding iframes that don't contain meaningful content

- Hidden frames or frames that do not convey content to users SHOULD be hidden from assistive technologies using `aria-hidden="true"`.

Other Semantic Elements

`<strong>` and `<em>`

- Critical emphasis in the text SHOULD be conveyed through visual styling.
- Critical emphasis in the text SHOULD be conveyed in a text-based format.

`<blockquote>` and `<q>`

- The `<blockquote>` element SHOULD be used to designate long (block level) quotations.
- The `<blockquote>` element SHOULD NOT be used for visual styling alone.
- The `<q>` element (for inline quotations) SHOULD NOT be used as the only way to designate quotations.

`<code>`, `<pre>`

- Code SHOULD be marked with the `<code>` element and styled to look different from non-code text.
- Blocks of code SHOULD be formatted with the `<pre>` element.

Strikethrough/Delete and Insert

- Strikethrough text SHOULD be marked with the `<del>` element.
- Critical strikethrough text MUST be supplemented with a text-based method to convey the meaning of the strikethrough.
- Text designated for insertion SHOULD be marked with the `<ins>` element.
- Critical text designated for insertion MUST be supplemented with a text-based method to convey the meaning of the insertion.

Highlighting (`<mark>`)

- Highlighted text SHOULD be marked with the `<mark>` element.
- Critical highlighted text SHOULD be supplemented with a text-based method to convey the meaning of the highlighting.

Parsing and Validity

Complete Start and End Tags

- In content implemented using markup languages, elements MUST have complete start and end tags.

Conflicts and duplicates

- IDs MUST be unique within a web page.
- Names, when provided, of block level elements (e.g. landmarks, tables, iframes, etc.) SHOULD be unique within a web page.

Parent-child relationships

- Markup SHOULD adhere to required parent-child relationships of elements and attributes.

Deprecated Markup

- Deprecated markup SHOULD NOT be used.