



## **WEB ACCESSIBILITY**

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**September 2018**

# Web Accessibility

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- High-Level Preview
  - Must Haves for baseline compliance
    - Ensure <alt> tags and <title> tags are included on images
    - Use <strong> tags instead of <b>; Use <em> tags instead of <i>
    - Use <tabindex> on text input forms when possible
  - Nice-to-Haves for Destiny compliance
    - Reference <abbr> and <title> on abbreviations and acronyms
    - Encode special characters properly
    - Reference <table> structures correctly
    - Ensure <ol> and <ul> lists are used in proper context

# Web Accessibility

- What is 'Web Accessibility?'
  - Encompasses and accounts for scenarios that adversely affect optimum usability
    - Auditory
    - Cognitive
    - Neurological
    - Physical
    - Speech
    - Visual
  - Also benefits users *without* disabilities
    - Small screens
    - Older generations
    - Temporary disabilities (broken bones, lost eye glasses)
    - Situational Limitations (bright sunlight, poorly lit environments, no audio)
    - Technical limitations (slow Internet connection, wavering connectivity)

# Web Accessibility

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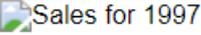
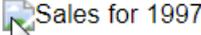
- Why is Web Accessibility Important?
  - Ensures access for all users
  - Upholds ADA Compliance
    - American Disabilities Act (1990)
    - Section 508 Compliance -- Amendment of the Rehabilitation Act (1973)
    - WCAG2.0AA Compliance (Web Content Accessibility Guidelines)
  - Protects users from discrimination subjectivity
  - Protects companies from lawsuits
    - Individual suits
    - Corporate / Industry suits
    - Class action suits
  - Promotes SEO (Search Engine Optimization)

# Web Accessibility

- Images
  - Title & Alt (Alternative Text)
    - Example

```

```

-  Sales for 1997
-  Sales for 1997
-  Sales for 1997
-  Sales for 1997

When images are used as links, use descriptive text to indicate how the link functions and to inform the user of the results.

When images are used as buttons, use active tense verbs to indicate the results.

# Web Accessibility

- Title Tags (cont'd)
  - Titles specify extra information about an element
  - Info displays as tooltip text on hover.
    - Example

```
<a href="https://dly-destiny.follettsoftware.com/help/"  
title="Go to Destiny Help">Visit Destiny's Online Help</a>
```

---

Visit Destiny's Online Help

Go to Destiny Help

» images

# Web Accessibility

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- Images
  - Image Size - Width and Height
    - Specify the width and height of an image
    - Example

```

```

---

The image shows a dark blue rectangular box containing the text "Follett Destiny" in white. The word "Follett" is in a bold, sans-serif font, and "Destiny" is in a regular weight of the same font. There is a registered trademark symbol (®) at the end of "Destiny".

- The width and height attributes always defines dimensions of image in pixels
- Note: Not all buttons are going to be coded with heights and width, due to number of characters (differing languages). Heights and widths are a best use case.

# Web Accessibility

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- Text
  - Appearance
    - `<i>` (italics) vs. `<em>` (emphasis)
    - Browsers display `<strong>` and `<b>` the same
    - Browser also display `<em>` and `<i>` the same
    - Significant difference in meaning of these tags
    - `<b>` and `<i>` defines visual style
    - `<strong>` and `<em>` indicate contextual importance
    - Screen readers disregard `<b>` and `<i>` as text decorative elements
  - In General ...
    - Use `<strong>` instead of `<b>` tags
    - Use `<em>` instead of `<i>` tags

# Web Accessibility

- Forms
  - Use tabindex where possible
    - Example

```
<form action="submit" method="post">
  <label>Field 1</label> <input tabindex="1" type="text" name="field-1">
  <br>
  <br><label>Field 2</label> <input tabindex="2" type="text" name="field-2">
  <br>
  <br><label>Field 3</label> <input tabindex="3" type="text" name="field-3">
  <br>
  <br><input type="submit" value="Submit">
</form>
```

---

Field 1

Field 2

Field 3

# Web Accessibility

- Abbreviations & Acronyms

- `<abbr>`

- Defines abbreviation or acronym
    - Marking abbreviations give useful info to browsers, translation systems, and search engines
    - Example

```
<abbr title="Accelerated Reader">AR </abbr> Level
```

---

AR Level

Accelerated Reader

# Web Accessibility

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- ASCII Characters
  - Entity Names vs. Digital Encoding
    - To display a less than sign (<), must write: &lt; or &#60;
    - Entity numbers are easy to remember.
    - Browsers may not support all entity names
    - Support for numbers is standard more than not
    - &reg; and &#174; will yield same result ®
    - &copy; and &#169; will yield same result ©

# Web Accessibility

- Cite Tags

- `<cite>` element defines the title of a work
  - Browsers usually display `<cite>` elements in italic.
  - Example

```
<p><cite>The Scream</cite> by Edvard Munch. Painted in 1893.</p>
```

---

*The Scream* by Edvard Munch. Painted in 1893.

# Web Accessibility

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- Color
  - Contrast Ratio (ensure passing numbers; especially on HTML text)
  - Refer to a reliable checking service
    - Ensure that color contrast passes
    - Ensure that font size in regards to color ratio is also accounted
    - <https://contrastchecker.com/>
  - Do not rely on color alone for differentiation

# Web Accessibility

- Tables
  - Include Summaries and Captions when appropriate
    - Example

```
<table summary="The following table includes information about the various access rights for each of your Destiny accounts.">
```

```
<caption>Destiny Account Access Rights</caption>
```

```
<th><center>Destiny Accounts</center></th>
```

```
<tr>
```

```
<td>400-224</td>
```

```
</tr>
```

```
<tr>
```

```
<td>400-225</td>
```

```
</tr>
```

```
<tr>
```

```
<td>400-226</td>
```

```
</tr>
```

```
</table>
```

Destiny Account  
Access Rights

**Destiny Accounts**

400-224

400-225

400-226

# Web Accessibility

- Tables

- HTML Table Tags

• Tag	Description
• <table>	Defines a table
• <th>	Defines a header cell in a table
• <tr>	Defines a row in a table
• <rowspan>	Defines number of adjacent rows merged into a single row
• <td>	Defines a cell in a table
• <caption>	Defines a table caption
• <colgroup>	Specifies a group of one or more columns in a table for formatting
• <col>	Specifies column properties for each column within a <colgroup>
• <colspan>	Specifies number of adjacent columns merged into a single column
• <thead>	Groups the header content in a table
• <tbody>	Groups the body content in a table
• <tfoot>	Groups the footer content in a table

# Web Accessibility

- Lists

- Ordered Lists / Unordered Lists

- `<ol>` / `<ul>`
    - `<li>` (List Item). Will be numbered or bulleted, according to which of the type of list it is housed within (`</ol>` `</ul>`)
    - Example

```
<ol>
  <li>Log In</li>
  <li>Navigate to Account List</li>
  <li>Check Status</li>
  <li>Update Files</li>
  <li>Log Out</li>
</ol>
```

- 
1. Log In
  2. Navigate to Account List
  3. Check Status
  4. Update Files
  5. Log Out

```
<ul>
  <li>A Tale of Two Cities</li>
  <li>Of Mice and Men</li>
  <li>All Quiet on The Western Front</li>
  <li>A Bridge Too Far</li>
  <li>Lord of The Rings</li>
</ul>
```

- 
- A Tale of Two Cities
  - Of Mice and Men
  - All Quiet on The Western Front
  - A Bridge Too Far
  - Lord of The Rings

# Web Accessibility

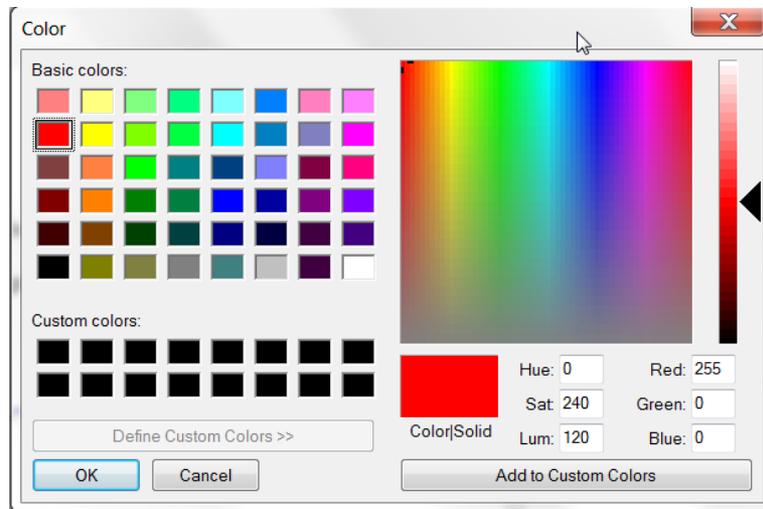
- Looking Ahead ... HTML 5.0+
  - Input Types
    - HTML5 added several new input types:
      - color
      - date
      - datetime-local
      - email
      - month
      - range
      - search
      - tel
      - time
      - url
    - New input types not supported by older web browsers, will behave as `<input type="text">`.

# Web Accessibility

## – Input Type Color

- Used for input fields that reference a specific color
- Depending on browser support, a color picker may display
- Example

```
<form>Select your favorite color:  
<input type="color" name="favcolor"></form>
```

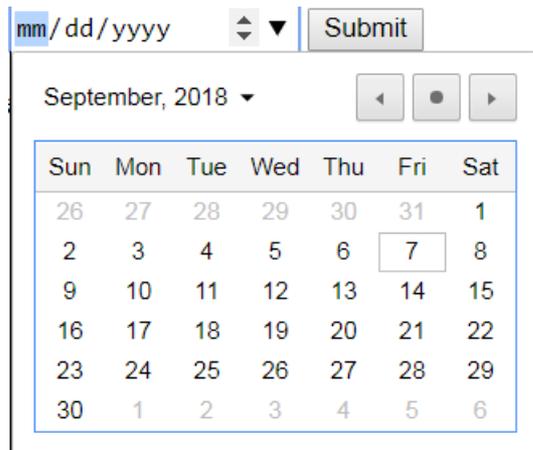


# Web Accessibility

## – Input Type Date

- Used for calendar date references
- Depending on browser support, a date picker may display
- Example

```
<form action="/action_page.php">  
Date of order:  
    <input type="date" name="Order-Date">  
    <input type="submit">  
</form>
```



The screenshot shows a date input field with a dropdown arrow and a "Submit" button. Below the input field, a calendar for September 2018 is displayed. The calendar has a header row for the days of the week (Sun, Mon, Tue, Wed, Thu, Fri, Sat) and a grid of dates. The date 7 is highlighted with a blue border.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

# Web Accessibility

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## – Input Type Email

- Used for inputs that reference an e-mail address
- Depending on browser support, email address may be validated when submitted
- Some smartphones recognize the email type, and add ".com" to the keyboard UI
  
- Example

```
<form>  
  E-mail: <input type="email" name="email">  
</form>
```

# Web Accessibility

## – Input Type Number

- Defines a numeric input field
- Restrictions (Numeric Range) may be set on acceptable values
- Example

```
<form>  
Quantity (between 1 and 5):  
  <input type="number" name="quantity" min="1" max="5">  
</form>
```

---

Quantity (between 1 and 5):



# Web Accessibility

## — The disabled Attribute

- Indicates that specific input fields are disabled (grayed-out)
- A disabled input field is unusable and un-clickable
- Value will not be sent when submitting the form
  
- Example

```
<form action="/action_page.php">  
  ISBN:  
  <input type="search" disabled value="0123456789">  
  <input type="submit" disabled>  
</form>
```

---

ISBN:

# Web Accessibility

## — <picture>

- Adds more flexibility when specifying image resources
- Contains a number of <source> elements, each referring to different image sources
- The browser may choose the image that best fits the current view and/or device
- Each <source> element have attributes describing appropriate use cases
- The browser will use the first <source> element with matching attribute values, and ignore any following <source> elements
  
- Example

Show one picture if the browser window (viewport) is a minimum of 650 pixels, and another image if not, but larger than 465 pixels.

```
<picture>
<source media="(min-width: 650px)" srcset="img_pink_flowers.jpg">
<source media="(min-width: 465px)" srcset="img_white_flower.jpg">

</picture>
```

# Web Accessibility

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- Summary

- Ensure `<alt>` tags and `<title>` tags are included on images
- Use `<strong>` tags instead of `<b>`; Use `<em>` tags instead of `<i>`
- Use `<tabindex>` on text input forms when possible
- Reference `<abbr>` and `<title>` on abbreviations and acronyms
- Encode special characters properly
- Check for contrast ratio adherence with colored HTML text
- Include `<summaries>` and `<captions>` on tables
- Reference `<table>` structures correctly
- Ensure `<ol>` and `<ul>` lists are used in proper context
- Consider HTML 5.0 elements and features for future development

# Web Accessibility

## — Resources

- <https://www.w3.org/TR/2000/NOTE-WCAG10-HTML-TECHS-20001106/>
- [https://www.w3schools.com/html/html5\\_semantic\\_elements.asp](https://www.w3schools.com/html/html5_semantic_elements.asp)
- [https://www.w3schools.com/charsets/ref\\_html\\_ascii.asp](https://www.w3schools.com/charsets/ref_html_ascii.asp)
- [https://www.w3schools.com/charsets/ref\\_utf\\_math.asp](https://www.w3schools.com/charsets/ref_utf_math.asp)
- [http://www.g3ict.org/download/p/fileId\\_575/productId\\_52](http://www.g3ict.org/download/p/fileId_575/productId_52)
- <https://www.usability.gov/what-and-why/accessibility.html>
- <https://uxdesign.cc/designing-for-accessibility-is-not-that-hard-c04cc4779d94>
- <https://www.section508.gov/create/web-content>
- <https://html.spec.whatwg.org/multipage/named-characters.html#named-character-references>
- <http://accessible-colors.com/>
- <https://webaim.org/resources/contrastchecker/>
- <https://contrastchecker.com/>



**THANK YOU!**

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