Welcome

This webinar is part of a series showcasing “Best Practices in Federal Section 508 Implementation”. Other presentations can be viewed at:

- www.adaconferences.org/CIOC/archives
- www.fedlink.org/allqual/resource-shared-webinars.cfm

- A best practice is a policy, process, procedure or technique proven effective over time and repeatable by multiple agencies.

- A best practice is generalized so that diverse agencies may use it in their own organizations but specific enough to provide useful guidance and instruction.

- The CIO Council’s Accessibility Community of Practice has published a library of 508 Best Practices at www.Section508.gov.

Section 508 Best Practices Webinars

Webinars are bi-monthly:

- January, March, May, July, September, November

Next Webinar: January 26, 2021

- Topic: Review of the Revised 508 Standards: Part 1. Applying the 508 Standards to Information and Communication Technology (ICT), including electronic content and websites
- Time: 1:00 to 2:30 p.m. Eastern

This webinar series is a collaborative program between the Accessibility Community of Practice of the CIO Council and The U.S. Access Board.
This webinar is brought to you by

cio.gov
access-board.gov

Building accessible websites using the U.S. Web Design System
Hi there.

Ammie Farraj Feijoo
21st Century IDEA Implementation

Dan Williams
USWDS Product Lead

The USWDS mission

USWDS is a design system for the federal government. We make it easier to build accessible, mobile-friendly websites for the American public.
The USWDS vision

Empowered agency teams sharing solutions, using effective human-centered design practices, and improving the lives of the public.

What we do (1 of 3)

✓ Provide great tools for building websites. Make it easier and more fun to build accessible, mobile-friendly government websites for the American public.

✓ Help teams work faster. We help teams create rapid prototypes, share practical solutions, and build high-quality government websites faster and cheaper.
What we do (2 of 3)

✔ Provide a practical UX resource. Collect and present research-backed design and usability guidance directly connected to our tools and components.

✔ Scale high-cost expertise across the federal government. Build research and best-practice design and engineering into the components and code we encourage others to use.

What we do (3 of 3)

✔ Make it easy to do the right thing. Help teams meet and exceed 21st Century IDEA, Connected Government Act, Section 508 of the Rehabilitation Act of 1973, and other requirements.

✔ Collaborate. Work with federal partner agencies and the public.
USWDS develops and supports the common design and principles shared across the federal government.

A design system for the federal government.

We make it easier to build accessible, mobile-friendly government websites for the American public.

Accessible  Flexible  Mobile-first
All kinds of organizations use design systems to capture and coordinate solutions and guidance across teams and projects.
Design system for NZ public sector websites
Design and build fast, accessible websites backed by user research, so New Zealanders can easily use government services online.

The New Zealand Government Design System (NZGDS) alpha is a catalogue of reusable basic components that are designed to be consistent in look and feel, and to ensure that users can interact consistently with government services online.

Progettiamo servizi digitali semplici per risolvere i problemi dei cittadini e restituire il buonumore ;-)
Excellent applications need design systems. This is Aurora.

Aurora design system is a central design guide created by the Digital Enablement Division within the Government of Canada for our digital products. Everything you need to create attractive, cohesive, practical, accessible and enjoyable digital products can be found in our design system. Aurora design system will always be free, open, collaborative and evolving.

Get started

Find us on GitHub  Download Aurora

Design your service using GOV.UK styles, components and patterns

Use this design system to make your service consistent with GOV.UK. Learn from the research and experience of other service teams and avoid repeating work that’s already been done.

Get started

Styles

Make your service look like GOV.UK with guides for applying layout, typography, colour and images.

Components

Save time with reusable, accessible components for forms, navigation, panels, tables and more.

Patterns

Help users complete common tasks like entering names and addresses, filling in forms and creating accounts.
Design systems are containers for institutional knowledge.

They’re a collection of solutions, expressed in a consistent language of remixable parts.
They’re a way to build and capture new solutions.

Design systems grew out of an older idea of Graphics Standards.
Both design systems and Graphics Standards determine how products and publications are built...

...but design systems can create a persistent connection between the product and the common code.
Design systems are dynamic.

Design systems can change...
Design systems can change...

...and sites change with them.
...and sites change with them.

With a design system, we can scale improvements quickly.
This affects accessibility.

Not only can teams build with accessible building blocks from the start...
...but as the design system matures, we will be able to push accessibility updates to every site instead of waiting for each to be fixed manually.

We can scale improvements.
We can **scale accessibility.**

Independent sites require independent verification.
They need their own teams to check for problems.

And their own teams to fix them...
...and this takes time and resources that don’t always exist.

Design systems connect sites.
So if there's an issue...

...we can fix it quickly and comprehensively.
And as time goes on, there are fewer and fewer issues.

Incremental improvements improve **all design system sites**.
Accessibility is a core feature of USWDS

Build accessibility into every decision.

- **Principles:** Accessibility is one of our guiding principles
- **Defaults:** Deliver accessible components by default
- **Standards:** Evaluate against WCAG 2.1 and Section 508
- **Scans:** Automated scans for every piece of new code
- **Reviews:** Manual reviews for all new functionality
- **Priority:** Prioritize accessibility fixes
Accessibility can be hard. USWDS makes it easier.

Is USWDS required? Yes. And...
21st Century IDEA
A brief introduction

digital.gov/topics/21st-century-idea

What is 21st Century IDEA?

§3 Website modernization
§4 Digitization of services and forms
§5 Electronic signatures
§6 Improved user experience and service delivery
§7 Standardization
21st Century IDEA requirements for website modernization

1. Accessible
2. Consistent
3. Authoritative
4. Searchable
5. Secure
6. User-centered
7. Customizable
8. Mobile-friendly

Website standards

21st Century IDEA (P.L. 115-336 §3(e))

Compliance With United States Website Standards. Any website of an executive agency that is made available to the public after the date of enactment of this Act shall be in compliance with the website standards of the Technology Transformation Services of the General Services Administration.
Website standards

designsystem.digital.gov/website-standards

Agencies should use the U.S. Web Design System maturity model to deliver a great digital experience:

1. Integrate design principles.
2. Follow user experience guidance.
3. Use USWDS code.

Agencies should adopt the U.S. Web Design System incrementally, and prioritize implementation to align with the priorities identified in their modernization plans and 21st Century IDEA reports.

Maturity model

designsystem.digital.gov/maturity-model
Integrate design principles
Support and reflect the guidance codified in 21st Century IDEA

- Start with real user needs.
- Earn trust.
- Embrace accessibility.
- Promote continuity.
- Listen.

Better not necessarily perfect.
The marginal value of design work (7)

Maybe it's time to see what else could use attention.

The sweet spot

Setup
The marginal value of design work.

The marginal value of design work (10)

Perceived product value

Time / Effort / Money

Setup

Perceived product value

Time / Effort / Money

Setup
The marginal value of design work

Shorter better cycles drive effective improvement

Perceived product value

Time / Effort / Money
Facilitate human-centered design
Design principles

Start with real user needs.

Real user needs inform design decisions.
Test your assumptions early and often.
Include real people in the design process from the beginning.

Design principles

Earn trust.

Trust has to be earned every time.
Understand and meet expectations.
Be reliable, consistent, and honest.
Be a good steward of your audience’s data, resources, and time.
Design principles

Embrace accessibility.

Make it personal.

Standards are only the beginning.

Design broadly and generously.

Design principles

Promote continuity.

Continuity not uniformity.

Continuity between sites and services.

Continuity throughout a service.

Continuity across devices.

Continuity over time.
Design principles

**Listen.**
- Feedback makes the process work.
- Be open and share.
- Listen to data. Design with data.
- Be proactive.

**Follow UX guidance**

Assure that components do what users expect
Usability guidance

Use standard buttons for actions that go a next step.

Use outline buttons for actions that happen on the current page.

Give an important action a distinctive style. Style the button most users should click in a way that distinguishes it from other buttons on the page. Try using the `usa-button-big` variant or the most visually distinct color variant.

Make sure buttons look clickable. Use color variations to distinguish static, hover, and active states.

Avoid using too many buttons on a page.

Use sentence case for button labels.

Keep button text short. Button text should be as short as possible with action words that clearly explain what will happen when the button is selected (for example, `Download`, `View or Sign up`).

Lead with a verb. Make the first word of the button's text a verb. For example, instead of `Complaint filing label` the button `File a complaint`.

Icons can also be helpful. At times, consider adding an icon to signal...
What are design tokens? Design tokens are our building blocks of style.

A common language for government design
They’re the visual consistency across the design system.
To use our code is to use tokens.

Instead of infinite choice...
...palettes of discrete units.
Section 508 Webinar Series
Building accessible websites using the U.S. Web Design System
November 24, 2020
The USWDS color system includes tokens in 22 color families.
Red

Magic numbers

Magic numbers work in any direction
Magic numbers work across color families

Line height tokens

<table>
<thead>
<tr>
<th>Token</th>
<th>Example</th>
<th>Usage</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In compliance with the request of a friend of mine, who wrote me from the East, I called on good-natured, garrulous old Simon Wheeler, and inquired after my friend’s friend, Leonidas W. Smiley, as requested to do, and I hereunto append the result.</td>
<td><strong>usage</strong>: buttons, navigation, and text not meant to break over a line</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>In compliance with the request of a friend of mine, who wrote me from the East, I called on good-natured, garrulous old Simon Wheeler, and inquired after my friend’s friend, Leonidas W. Smiley, as requested to do, and I hereunto append the result.</td>
<td><strong>usage</strong>: headings, introductory (lead or del) text, no more than 1-2 sentences</td>
<td>1.15</td>
</tr>
<tr>
<td>3</td>
<td>In compliance with the request of a friend of mine, who wrote me from the East, I called on good-natured, garrulous old Simon Wheeler, and inquired after my friend’s friend, Leonidas W. Smiley, as requested to do, and I hereunto append the result.</td>
<td><strong>usage</strong>: short text (under 1 paragraph), captions, text with a very short or very long measure</td>
<td>1.35</td>
</tr>
<tr>
<td>4</td>
<td>In compliance with the request of a friend of mine, who wrote me from the East, I called on good-natured, garrulous old Simon Wheeler, and inquired after my friend’s friend, Leonidas W. Smiley, as requested to do, and I hereunto append the result.</td>
<td><strong>usage</strong>: short (1-2 paragraphs) of running text, especially with a short measure</td>
<td>1.5</td>
</tr>
</tbody>
</table>
### Spacing unit tokens

<table>
<thead>
<tr>
<th>Token</th>
<th>Multiple</th>
<th>Value</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1px</td>
<td></td>
<td>1px</td>
<td></td>
</tr>
<tr>
<td>2px</td>
<td></td>
<td>2px</td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>1</td>
<td>4px</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>8px</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>1.5</td>
<td>12px</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>16px</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>2.5</td>
<td>20px</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>24px</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>32px</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>40px</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50px</td>
</tr>
</tbody>
</table>

### Shadow tokens

<table>
<thead>
<tr>
<th>Token</th>
<th>Example</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0 1px 4px 0 rgba(0, 0, 0, 0.1)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0 4px 8px 0 rgba(0, 0, 0, 0.1)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0 8px 16px 0 rgba(0, 0, 0, 0.1)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0 12px 24px 0 rgba(0, 0, 0, 0.1)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0 16px 32px 0 rgba(0, 0, 0, 0.1)</td>
<td></td>
</tr>
</tbody>
</table>
Typescale tokens

<table>
<thead>
<tr>
<th>Token</th>
<th>Value</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;micro&quot;</td>
<td>18px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>1</td>
<td>12px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>2</td>
<td>13px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>3</td>
<td>14px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>4</td>
<td>15px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>5</td>
<td>16px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>6</td>
<td>17px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>7</td>
<td>18px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>8</td>
<td>20px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>9</td>
<td>22px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>10</td>
<td>24px</td>
<td>Tallahassee</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td>...</td>
</tr>
</tbody>
</table>

button {
  color: ⬤ color('blue-50v')
  padding: ⬤ units(2)
  font: ⬤ font('sans', 'sm', 1)
  box-shadow: ⬤ shadow(2)
}

Using tokens in source code
What is a component?
Component

**Hat** token
**Eyes** token
**Nose** token
**Mouth** token
**Ear** token
**Mustache** token
**Arm** token
**Leg** token

Component

**No styling**
Component
Not following UX guidance

Maturity model

1 Principles
2 Guidance
3 Code

designsystem.digital.gov/maturity-model
Learn more about USWDS

Attend our monthly calls.
The third Thursday of every month at 2:30–3:30 ET
See digital.gov/events to attend

Join our public Slack channel.
#uswds-public Slack channel
See digital.gov/communities/uswds to join

Use USWDS.
See designsystem.digital.gov to get started
Thank you! Have an accessible day!

Thank you! Have an accessible day!

Questions from the Audience?
Thank you for participating in today’s webinar

Next session: January 26, 2021

Review of the Revised 508 Standards (Part 1): Requirements for Federal Websites and Electronic Content