

## Welcome!

### Section 508 Best Practices Webinar Series

- The session is scheduled to begin at 1:00pm Eastern Time.
- We will be testing sound quality periodically.
- Audio and visuals are provided through the on-line webinar system. This session is closed captioned. Individuals may also listen via telephone by dialing:  
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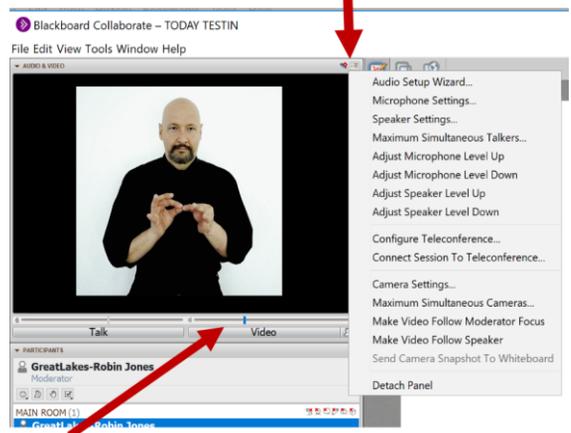
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## Submitting Questions

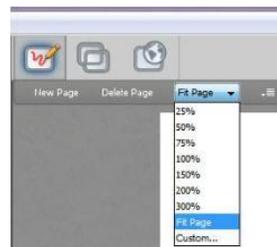
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- Please note: This webinar is being recorded and can be accessed on the Section 508 Best Practice Webinar Series website at [www.adaconferences.org/CIOC](http://www.adaconferences.org/CIOC) within 24 hours after the conclusion of the session.



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- Email: [info@adaconferences.org](mailto:info@adaconferences.org); or
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## 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](http://www.adaconferences.org/CIOC/archives) and
- [www.fedlink.org/allqual/resource-shared-webinars.cfm](http://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](http://www.Section508.gov).

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## Section 508 Best Practices Webinars

Webinars are bi-monthly:

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

Next Webinar: November 27, 2018

- Topic: Making the Business Case for Accessibility: How to develop a Section 508 Communication Plan using different media to communicate the benefits of accessible ICT
- 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.

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# Incorporation of Accessibility into the IT Lifecycle:

Identifying User Needs of People with Disabilities, Universal Design Best Practices, and Agile Development

Presenter:

Mark Urban, CDC/ATSDR Section 508 Coordinator

Moderator:

Timothy Creagan, Senior Accessibility Specialist, U.S. Access Board

September 25, 2018

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## Today's conversation

- For each topic, we'll discuss:
  - What IS it?
  - How it SHOULD work.
  - How it DOES work.
  - How it can work BETTER.
- The topics:
  - Agile Development as a process
  - Universal Design Best Practices
  - User Stories involving persons with disabilities
- Finally, YOUR questions and some resources!

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## Note of disclaimer

- This is meant to be a discussion based on real-world experience in working with projects grappling with these issues
- Some hard truths lie ahead, however no intent is intended, or should be implied, that people aren't trying their best!
- My opinions are my own, based on knowledge and experience.
- Some things are necessarily summarized.
- This is not a training on how to do Agile, Universal Design, or User Stories. This is how to do the accessibility part of those things.

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# Agile Development

- Quick review – What IS Agile?
- In software, it's a way that a project flows, and includes:
  - Rapid development of pilots and storyboards
  - Feature-complete sprints (“one and done”)
  - Stand-up meetings on a daily, every-other-day, or weekly basis.
  - Rapid development of feature-specific requirements based on user stories.
  - **Versioning of releases based on features.**
- **This is a significant change from the classic “write specs and build to them” model of projects (waterfall).**

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# Agile – how Accessibility SHOULD work

- Accessibility is a “non-functional requirement” that is simply done as part of every line of code that's created.
- Developers, knowledgeable of the 508 standards, see errors as they write them and correct compliance issues in real time.
- Any errors that make it through are caught by automated tools and manual testing in the QA group, and put on the buglist for immediate remediation or (where significant coding is required) into the list of defects for fixing in the next feature release/sprint.

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## Agile – How it DOES work

- Developers, under tight timelines and unsure of accessibility standards and compliance, write code based on features only.
- QA groups, if more than one person, run a quick automated scan for WCAG conformance.
- Development teams then ask the customer to check/test for compliance.
- Any errors found are put in the backlog for future releases.

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## Agile – How you can do it BETTER

- DO:
  - Get your development staff trained in accessibility requirements.
  - Get development tools and a 508 SME to help devs catch errors in real-time
  - Require Devs to do some basic tests in real time (Keyboard, Contrast, and Order)
  - Use checklists and have the Devs fill them out for their own code
  - Use Universal Design and User Stories with persons with disabilities.
- Don't:
  - Use QA or your customer as your "508 tester".
  - Allow 508 issues to backlog past the next dev cycle

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## Universal Design –What IS it?

- **Reaching the most people with the basic design**
- In software, it's overarching design requirements that apply to every feature, based on the following principles:
  - Principle 1: **Equitable** - useful to persons with diverse abilities
  - Principle 2: **Flexible** – accommodates a range of preferences/abilities
  - Principle 3: **Simple and Intuitive** – easy to understand and consistent
  - Principle 4: **Perceptible Information** – multiple modes of content
  - Principle 5: **Tolerance for Error** – Handles accidental/unintended action
  - Principle 6: **Low Physical Effort** – does not require complex/repetitive action
  - Principle 7: **Size and Spacing** – layout allows room for resizing while keeping everything in view.

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## Universal Design – how Accessibility SHOULD work

- Universal Design is simply done as part of every line of code that's created.
- Developers, knowledgeable of Universal Design standards, constantly strive to align any design reworks to the principles in real time.
- User feedback, automated tools and QA feedback all consistently move the design towards the principles. Each feature release/sprint has measurable improvement in the design against these principles.

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## Universal Design – How it DOES work

- Developers, under tight timelines and unsure of universal design principles, reuse poor user interfaces from previous projects and systems, or duplicate the old IT/paper used currently.
- QA groups, if more than one person, check for functionality defects, not design quality.
- Development teams then ask the customer to check/approve the design
- Any design changes are put in the backlog for future releases.

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## Universal Design – How you can do it BETTER

- DO:
  - Get your development staff trained in Universal Design.
  - Make templates, and use a UX professional to build the design elements and help devs catch errors in real-time
  - Require Devs to do some basic tests in real time (peer review)
  - Use checklists and have the Devs fill them out for their own code
  - Use 508 Standards and User Stories with persons with disabilities.
- Don't:
  - Use QA or your customer as your “Universal Design tester”.
  - Allow design issues to backlog past the next dev cycle.

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## User Stories – what IS it?

- In software development, it describes a feature or capability from an end-user perspective.
- Each user story is expected to yield, once implemented, a contribution to the value of the overall product, irrespective of the order of implementation
- It describes: (with an example)
  - The TYPE of user: a single, male, 50-year old salaried worker.
  - WHAT they want: to figure out how much tax they owe and to pay it
  - WHY they want it : not paying taxes can result in fines or jail.
- Example: “Mark, an older single man working for CDC, needs to figure out if he paid enough for taxes, and to pay any owed, because he wants to avoid any legal trouble.”

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## User Stories– how Accessibility SHOULD work

- A broad, multi-stakeholder group develops User Stories that include persons with disabilities as part of the types of users, including specific but diverse abilities and various assistive technologies.
- Developers, familiar with all of the User Stories, ensure that building Features that align to all the aspects of the User Stories is simply done as part of every line of code that’s created.
- User feedback, project metrics, and QA feedback all consistently enforce the user stories.. Each feature release/sprint has measurable improvement in meeting the ideal described in the User Story.

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## User Stories – How it DOES work

- User Stories rarely include persons with disabilities, or there is a specific “disability story” that highlights one disability with one AT.
- Developers, under tight timelines and unfamiliar with the requirements of users with disabilities, skip over the disability element of the stories and focus on business functions. They may also reuse “approved” user interfaces from previous projects and systems which do not use modern accessibility.
- QA groups, if more than one person, do not report the disability component of the user story as a success metric.
- Development teams ask the customer to check/approve the design and test with users with disabilities.
- Any errors/challenges are put in the backlog for future releases.

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## User Stories – How you can do it BETTER

- DO:
  - Direct your requirements staff to always include users with disabilities across their scenarios .
  - Make templates and make available users with disabilities to provide real-time feedback to help devs catch errors in real-time
  - Require Devs to report user story metrics, including the disability component
  - Use 508 Standards and Universal Design Principles.
- Don't:
  - Use QA or your customer as your “Disability Tester”.
  - Allow a feature release that doesn't meet the user story.

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## See a pattern?

- Accessibility is often an afterthought or post-production consideration.
- Agile puts Developers at the center of the HOW things get done, but developers are often:
  - under tight timelines,
  - lack the training,
  - need tools, and
  - have few knowledgeable resources to tap to help them.
- Customers or QA are usually asked to validate accessibility, even though Agile is not designed for rigorous unit testing.

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## Too Long, Didn't Read version

- Start with accessibility standards, universal design, and user stories with persons with disabilities in the baseline of every project.
- Every dev needs to understand accessibility, universal design, and the disability components of User Stories.
- Every Agile project team needs access to SMEs and tools for real-time help.
- Accessibility is not a bug, its embedded in every part of the project.
- Without all the above, tools or assistive tech is no help.

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# Resources, Questions and Contact Information

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## Resources

- Accessibility and Agile:
  - Great article about bugfixing accessibility, hat tip Karl Groves: <https://www.accessibilityonline.org/cioc-508/session/?id=110675>
  - WCAG 2.0 "build a checklist": [https://www.w3.org/WAI/WCAG21/quickref/?versions=2.0&currentsidebar=%23col\\_overview#top](https://www.w3.org/WAI/WCAG21/quickref/?versions=2.0&currentsidebar=%23col_overview#top)
- Universal Design for Software:
  - Center for Universal Design in Education (the site's a bit hard to navigate, ironically, but good info!) <https://www.washington.edu/doit/programs/center-universal-design-education/overview>
- User Stories including persons with Disabilities:
  - <https://www.washington.edu/doit/programs/center-universal-design-education/overview>
  - The Section 508.gov playbook: <https://www.section508.gov/tools/playbooks/technology-accessibility-playbook/play09>

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# Questions?



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or  
press Control-M and enter text in the Chat Area**

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**Thank you for participating in  
today's webinar**



**Next session:  
November 27, 2018**

**Making the Business Case for Accessibility: How to develop a  
Section 508 Communication Plan using different media to  
communicate the benefits of accessible ICT**

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