ACCESSIBLE TECHNOLOGY WEBINAR SERIES

Accessibility Testing in the Enterprise

The Accessible Technology Webinar Series is sponsored by the Great Lakes ADA Center and the Pacific ADA Center, both members of the ADA National Network.

The Session is Scheduled to begin at 1:00 pm CT

We will be testing sound quality periodically

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Webinar Features

- **Closed captioning** – click **CC** icon (located in the Audio/Video Panel) or control-F8 (command-F8) and adjust your screen.
- **Questions** - Highlight *"Great Lakes"* in the participant list and "right click" on your mouse to send a private message. Type your message into the chat area that appears. The question will be viewed by all moderators. (Keyboard - F6, Arrow up or down to locate "Great Lakes" and select to send a message)
- **Customize your view** – You can change the size and location of any of the panels (Chat, etc.) by hovering your mouse over the ☰ icon at the right of each panel and select "Detach Panel". Each panel can be repositioned and resized.
- Please do not use emoticons or hand-raising features during this session

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Accessibility Testing in the Enterprise

Automated and Manual Testing Tools for today's businesses.

Barry Johnson
Senior Accessibility Consultant
Deque Systems, Inc
www.deque.com

Accessibility Overview

- Section 508
  - Part of the Rehabilitation Act of 1973
  - Amended in 1998
  - Required Federal IT to be accessible starting June 2001
  - There is a refresh coming (we hope)

Accessibility Overview

- Web Content Accessibility Guidelines (WCAG) 2.0
  - Internationally accepted guidelines
  - Just accepted by International Organization for Standardization as a standard

WCAG 2.0

- Four Basic Principles of Accessibility
  - Perceivable - Information and user interface components must be presentable to users in ways they can perceive.
  - Operable - User interface components and navigation must be operable.
  - Understandable - Information and the operation of user interface must be understandable.
  - Robust - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.
- 12 Guidelines
- 61 Success Criteria

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What is Disability?

People with disabilities are first

PEOPLE

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What is Disability?

…but is a disability strictly a personal characteristic of the body?

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What is Disability?

…or do we create

disabling environments?

Disabling Environments

- **Buildings** without elevators (disabling for wheelchair users)
- **Desks and water fountains** with no room underneath (disabling for wheelchair users)
- **Microwaves and other appliances** with only touch screens (disabling for blind people)
- **Theaters, concerts, speeches, sports, and other live events** without interpretation or captions (disabling for deaf people)

Digital Technology can be an accessibility barrier…

But it is also one of the best solutions ever invented.

How can a Blind Person Read a Newspaper?

How can a Person with Very Little Mobility Go Shopping?

Our Responsibility

As Digital Content Providers is to ensure that our content is available to EVERYONE

Our Responsibility

Jennison	Lauren	Gene
Screenreader	Needs Captions	Keyboard Only

Testing for Accessibility

With 61 Success Criteria, how on Earth do we test for accessibility?

- System Wide "Enterprise" Testing and Monitoring
- Local browser based page by page testing

Accessibility is like a Cookie Recipe

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WEB ACCESSIBILITY TESTING RECIPE

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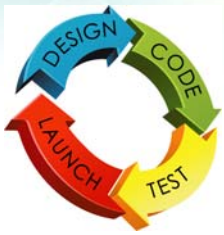
Web development process



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Accessible web development

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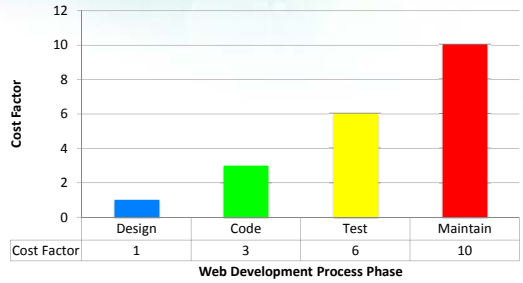
Accessibility
Testing
is NOT Icing

Cost to Fix Accessibility Defects



Practical Accessibility Testing

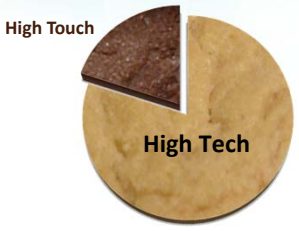
The Right Mix

High Tech

High Touch

The Right Mix

Accessibility Testing Methods



Enterprise Accessibility Testing Tools

Automatic Testing

- Use of a desktop or web-based application, IDE plugin or browser plugin to look for potential accessibility problems
- May or may not involve the use of spiders to crawl multiple pages
- May or may not involve the ability to schedule repeat tests and/or automate reports

Benefits of Automated Tools

- Ability to scan large volumes of code – on a single page, site wide and anything in between
- Ability to automatically generate reports
- Ability to catch errors which do not need humans to review
- Configurable to include / exclude specific guidelines and checking methods

Issues with automated tools

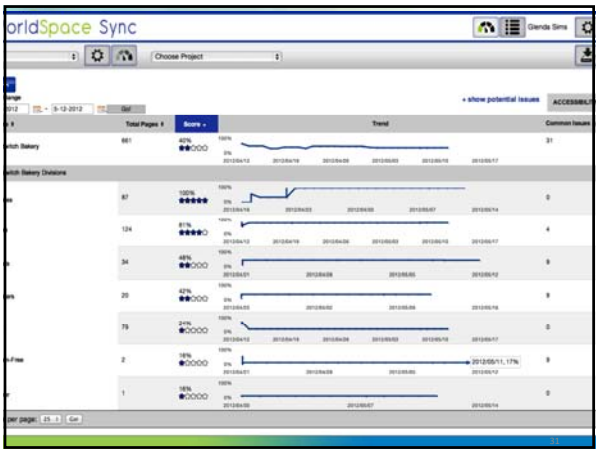
- Passing items which should fail
- Failing items which should pass
- Difficulties with content dependent on user interaction with forms

Issues with automated tools (con't)

- Difficulties with pages that utilize JavaScript to render content
- Questionable checking rules "failing" a document for items which have no real-world impact on access.
- The tools test markup, but not non-text formats
- Tools often test only the markup itself without assessing DOM structure

Issues with automated tools (con't)

- Security restrictions may not allow the automated tool to access the site
- Security restrictions may disallow installation of the automated tool on the client system
- Many accessibility compliance requirements are things which cannot definitively be tested for via automatic means



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Manual testing techniques:

- Code-level review of the generated HTML/CSS markup
- Browser / Hardware Manipulation
- Assistive Technology Testing

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Benefits of Manual Testing

- High level of accuracy
- Errors are not just flagged but repairs can be suggested

Issues with manual testing

- Outcome reliant on skillset and experience of reviewer
- Very time intensive
- Increased code complexity = increased likelihood of mistakes

Issues with manual testing (con't)

- Code inspection limited mostly to markup
- Some issues should be tested by machine
- Some issues cannot be found by automatic no manual means

High TechTouch Testing

www.verybestbaking.com

Wave
- wave.webaim.org

Jim Thatcher's Favelet's
- jimthatcher.com/favelets

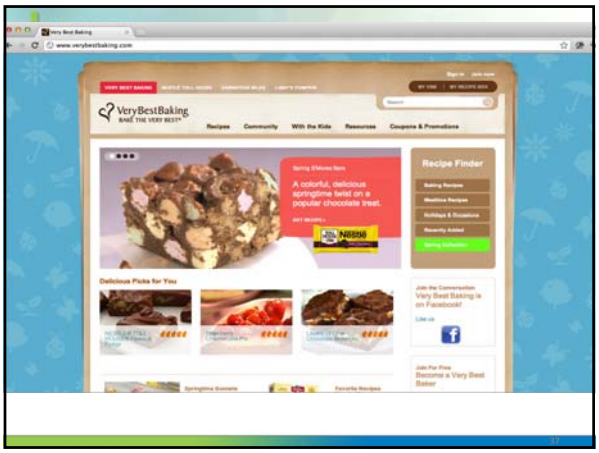
Web Developer (Firefox Extension)
- addons.mozilla.org/en-US/firefox/addon/60

Accessibility Evaluator
- addons.mozilla.org/en-US/firefox/addon/accessibility-evaluation-toolb/

Juicy Studio Accessibility Toolbar
- addons.mozilla.org/en-US/firefox/addon/juicy-studio-accessibility-too

Headings Map
- addons.mozilla.org/en-us/firefox/addon/headingsmap/

FireEyes
- www.deque.com/deque-fireeyes



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Smoke Test

Does this page have
OBVIOUS
Accessibility Issues?

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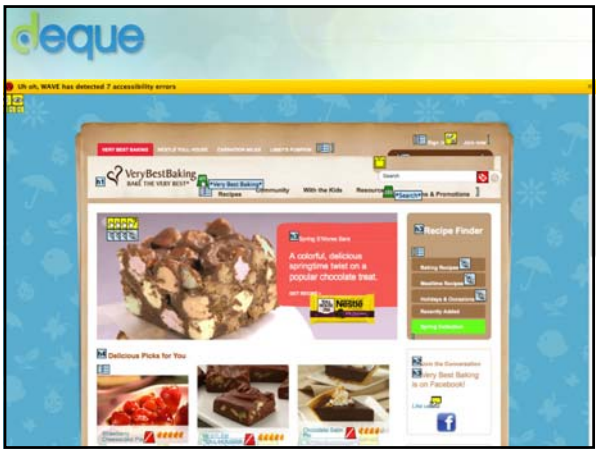
WAVE

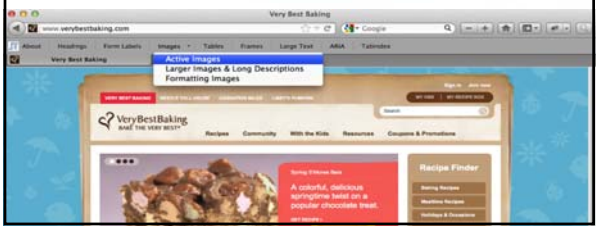
- Go to http://wave.webaim.org/
- Type in URL to test
- Press “WAVE this page” button

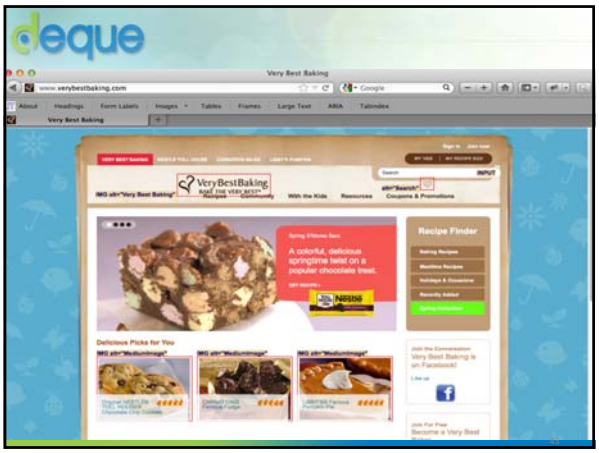


Meaningful Alt

Images & Jim Thatcher's Favelets

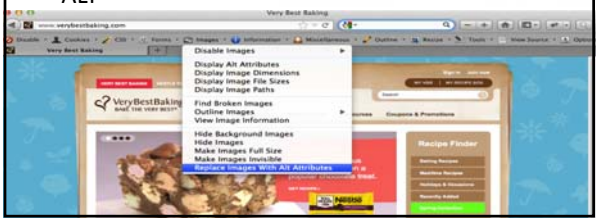
- Install Jim Thatcher's Favelet's in Firefox
  - jimthatcher.com/favelets/
- Find "Images" menu on JT Favelets and select "Active Images"

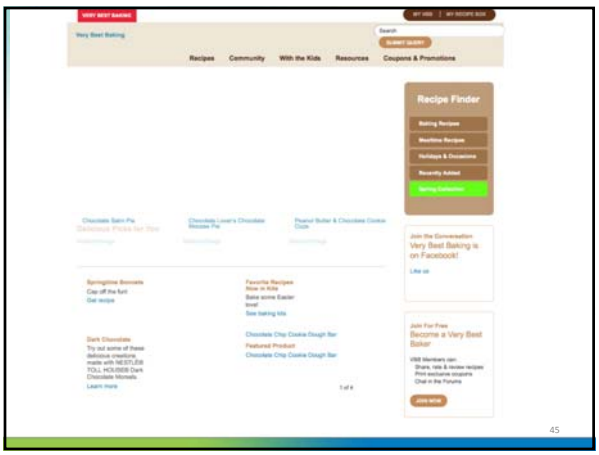




Web Developer Toolbar

- Install Web Developer Toolbar in Firefox
- Open Firefox and Select “Replace Images with ALT Attributes”
- Check Home Page with Images Replaced by ALT

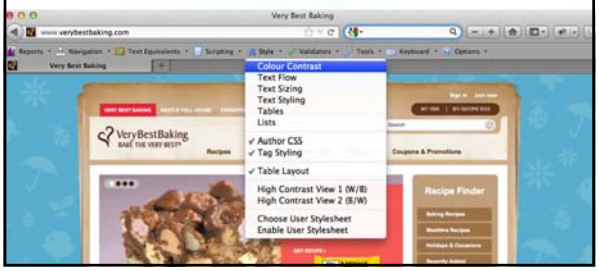




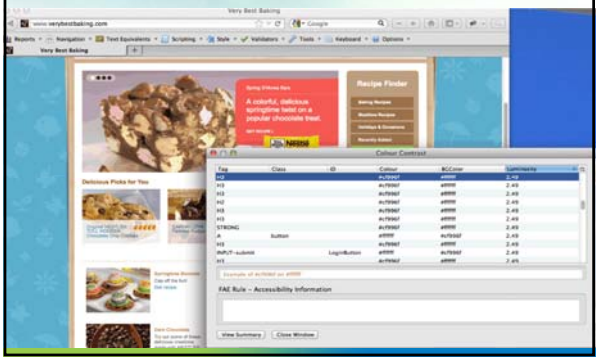
Color Contrast

FAE & Color Contrast

- Install Functional Accessibility Evaluator (FAE) in FireFox
  addons.mozilla.org/en-US/firefox/addon/accessibility-evaluation-toolb/
- Select “Color Contrast ” from Style (on FAE toolbar)



FAE Color Contrast Issues

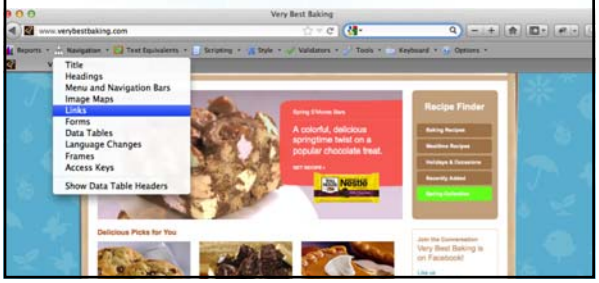


Meaningful Link Text

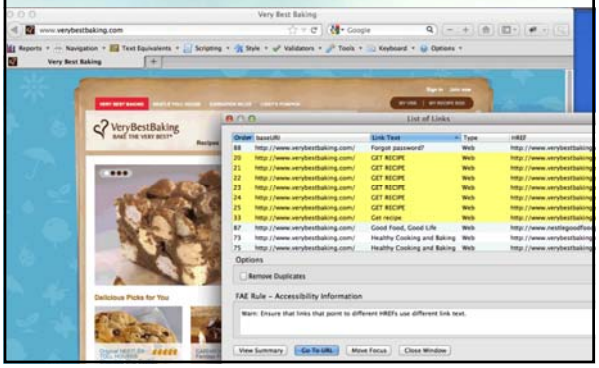
FAE & Link Text

Accessibility Evaluator in FireFox

Select “Links ” from Navigation (on FAE toolbar)



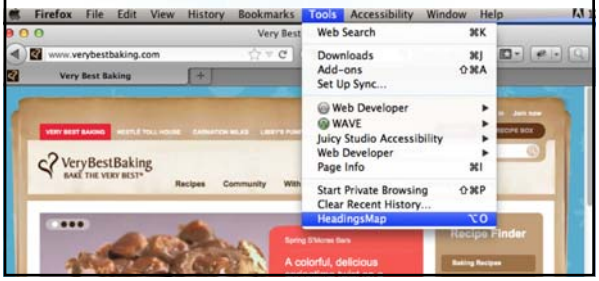
FAE & Link Text



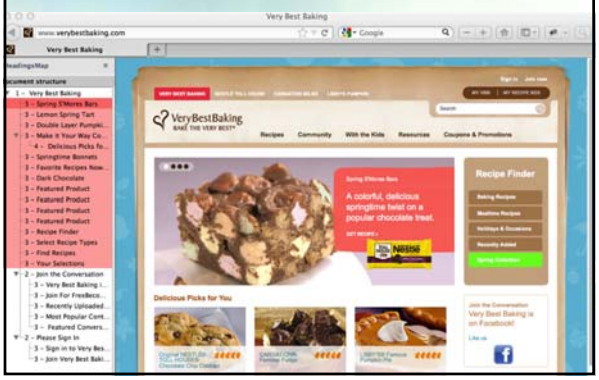
Heading Structure

Headings Map

- Install Heading Map plugin in Firefox
  - addons.mozilla.org/en-us/firefox/addon/headingsmap
- Select “Headings Map” from the Tools menu



Headings Map



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ARIA Landmarks

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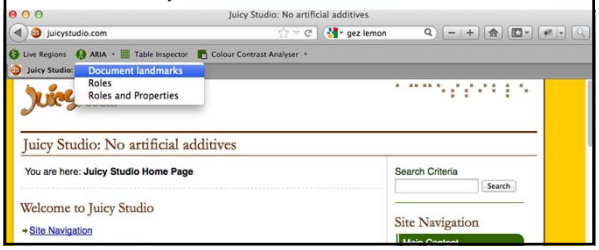
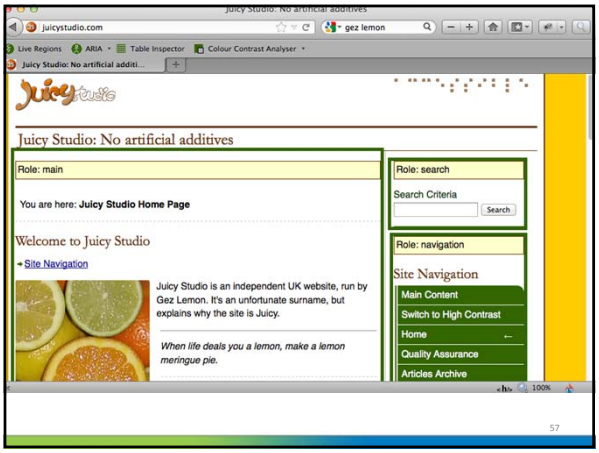
Juicy Studios Accessibility Toolbar

- Install Juicy Studios Accessibility Toolbar plugin in Firefox
  - addons.mozilla.org/en-US/firefox/addon/juicy-studio-accessibility-too

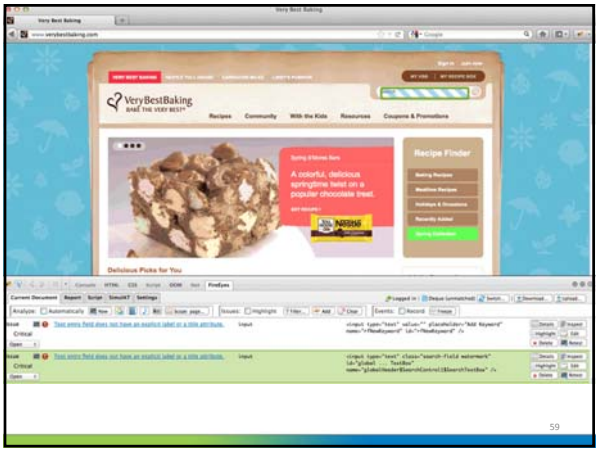




FireEyes by Deque

www.deque.com/deque-fireeyes

Page 58



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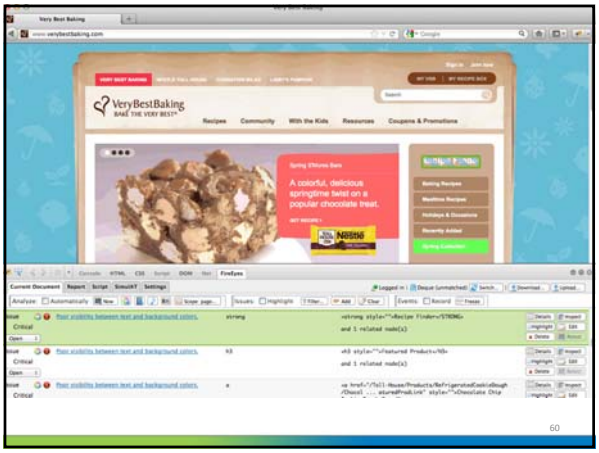

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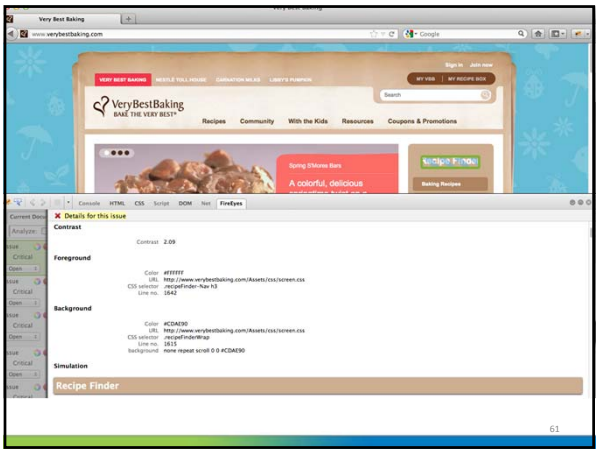
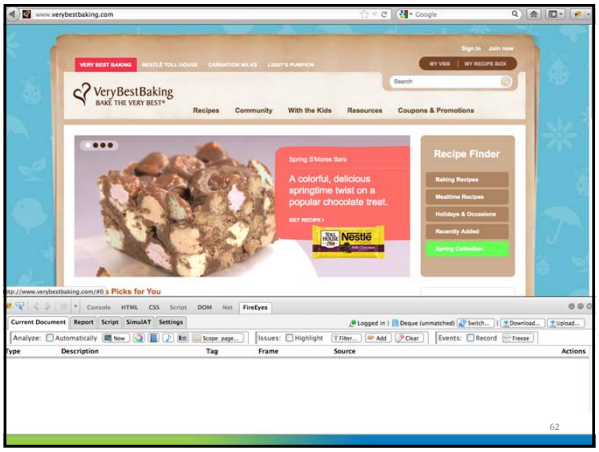
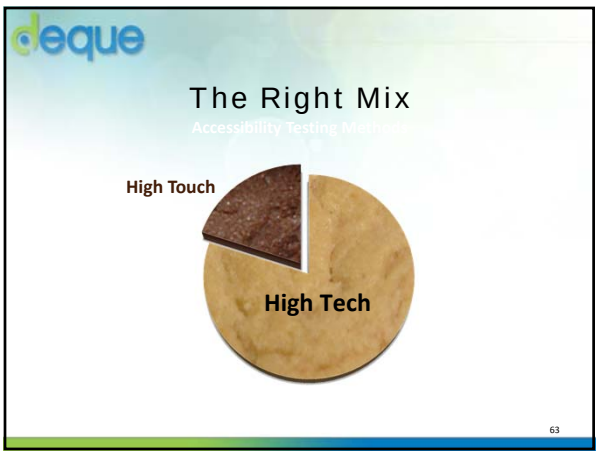

VeryBestBaking
Recipes
Community
With the Kids
Resources
Coupons & Promotions
Contrast
Foreground
Background
Simulation
Recipe Finder
61


VeryBestBaking
Recipes
Community
With the Kids
Resources
Coupons & Promotions
A colorful, delicious springtime twist on a popular chocolate treat.
Recipe Finder
62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The Right Mix
High Touch
High Tech
63

Shoestring Testing Plan

1. **Home Page**
   - **Smoke Test**
2. **Representative Pages**
   - **Page by Page Testing Tool(s)**
   - **Expert Functionality Testing**
     - **No Eyes – Screenreader**
     - **No Ears – No Sound**
     - **No Hands – Keyboard Only**

Practical Testing

1. **Comprehensive Testing**
   - **High Tech**
     - Enterprise Accessibility Scans
2. **Representative Pages**
   - **High TouchTech**
     - Page by Page Testing Tools
   - **High Touch**
     - Expert Functionality Testing
       - **Screenreader**
       - **No Sound**
       - **Keyboard Only**
3. **Key User Paths**
   - **High Touch**
     - **Hands-on Accessibility Testing**

No Sight
No Sound
No Mouse

No Problem

Equal Access for All

Resources

Enterprise:

- Compliance Sheriff from HiSoftware - http://www.hisoftware.com/products/hisoftware-compliance-sheriff.aspx
- AMP (Accessibility Management Platform) from SSB Bart - https://www.ssbbartgroup.com/amp/index.php
- Accenture Digital Diagnostics Engine (ADDE) - http://www.accenture.com/us-en
- Worldspace from Deque Systems – http://worldspace.deque.com

Resources

Local to your computer

Wave
- wave.webaim.org

Jim Thatcher's Favelet's
- jimthatcher.com/favelets

Web Developer (Firefox Extension)
- addons.mozilla.org/en-US/firefox/addon/60

Accessibility Evaluator
- addons.mozilla.org/en-US/firefox/addon/accessibility-evaluation-toolb/

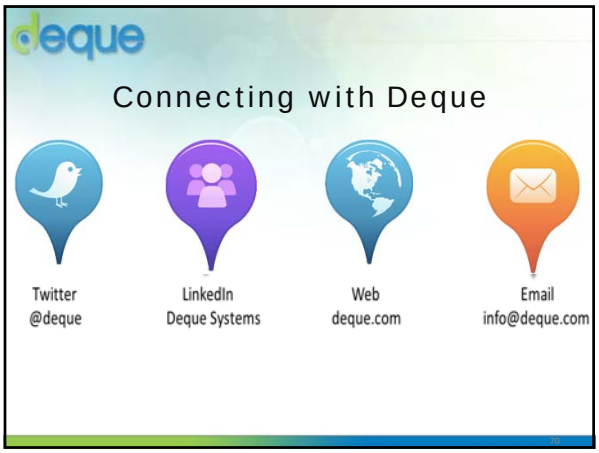
Juicy Studio Accessibility Toolbar
- addons.mozilla.org/en-US/firefox/addon/juicy-studio-accessibility-too

Headings Map
- addons.mozilla.org/en-us/firefox/addon/headingsmap/

FireEyes
- www.deque.com/deque-fireeyes

Questions?

- Thank you for coming today
- Are there any questions?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