Procurement as a Vehicle for Meeting Organizational IT Accessibility Objectives

Dr. Chris Law
AMAC Accessibility Solutions

• AMAC Accessibility is a social change organization on a mission to create affordable services for governmental, private and non-profit organization working with individuals with disabilities. Services include e-text, braille, captioning, assistive technology, office management software and consulting.
AMAC creates practical solutions that work, with a focus on utility, ease of use, and high quality.

- **Accessibility Consulting** focuses on organizational accessibility needs with evaluation, technical assistance, customer support, and website accessibility solutions.

- **Braille Services** produces customized projects from both print materials and electronic text including partial books and chapters, or graphics only, using cutting-edge technology.

- **Captioning Services** makes classrooms, meetings, labs, and other audio environments fully accessible for the deaf or hard-of-hearing.
AMAC creates practical solutions that work, with a focus on utility, ease of use, and high quality.

- **Audio Description Services** makes visual information present in multimedia accessible to persons who are blind or low vision.

- **Professional E-Text Producers** provide high-quality e-text in many formats such as PDF, DOC, DAISY, and HTML.

- **AMAC’s Certified Assistive Technology team** provides on-site and remote assessments, demonstrations, training, and technical assistance for education, work, and daily living environments.
AccessGA represents a joint initiative of the Georgia ADA Coordinator’s Office, AMAC, and GTA. The objective is to support Georgia’s state agencies with ICT accessibility, and promote equal and timely access for employees and customers with a wide range of disabilities.
AccessGA Offerings

• Webinar Offerings
• Technical Assistance and Hands-On Training
• Monthly Newsletters
• Up-to-Date Wiki of ICT Accessibility Resources and Information
• Web Accessibility Audits
• Procurement and VPATs
Procurement as a vehicle for meeting organizational IT accessibility objectives

Chris Law
Accessibility Track Consulting, LLC

Nov 5, 2015
Outline

• Traditional procurement language
• Measuring accessibility
• Roles and responsibilities around testing
• Tying measurement to contracts
• Organizational accessibility
Procurement language

(traditionally low on details)
Why address accessibility?

- Equity and diversity and corporate culture
  - Gender
  - Race
  - Religion
  - Sexual orientation
  - Disability*

* the only category that requires you to change your products, systems and physical environment
"The <software product> will comply with the accessibility requirements of Section 508 of the Rehabilitation Act (36 CFR Part 1194)."

How do you know?
Measuring accessibility

(a very brief history)
An outlet and a plug
### Corporate-Wide Communications Review Priorities

<table>
<thead>
<tr>
<th>Impact Rating</th>
<th>Non-Executive</th>
<th>Executive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manager</td>
<td>Director</td>
</tr>
<tr>
<td>Low</td>
<td>R</td>
<td>R + S</td>
</tr>
<tr>
<td>Medium</td>
<td>R</td>
<td>S</td>
</tr>
<tr>
<td>High</td>
<td>R*</td>
<td>R + S</td>
</tr>
</tbody>
</table>

R = Review; S = Sign-Off

*High Impact Communications are not normally generated at this level*
## Tables

### Moving within tables

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>Table Quick Key</td>
</tr>
<tr>
<td>Ctrl + Alt + →</td>
<td>Cell to Right</td>
</tr>
<tr>
<td>Ctrl + Alt + ←</td>
<td>Cell to Left</td>
</tr>
<tr>
<td>Ctrl + Alt + ↓</td>
<td>Cell Below</td>
</tr>
<tr>
<td>Ctrl + Alt + ↑</td>
<td>Cell Above</td>
</tr>
<tr>
<td>Ctrl + Alt + Home</td>
<td>First Cell</td>
</tr>
<tr>
<td>Ctrl + Alt + END</td>
<td>Last Cell</td>
</tr>
<tr>
<td>Ctrl + Alt + Shift + ↑</td>
<td>First Cell in Column</td>
</tr>
<tr>
<td>Ctrl + Alt + Shift + ↓</td>
<td>Last Cell in Column</td>
</tr>
<tr>
<td>Ctrl + Alt + Shift + &lt;</td>
<td>First Cell in Row</td>
</tr>
<tr>
<td>Ctrl + Alt + Shift + &gt;</td>
<td>Last Cell in Row</td>
</tr>
</tbody>
</table>

### Table reading

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl + Alt + Num Pad 5</td>
<td>Say Current Cell</td>
</tr>
<tr>
<td>Insert + Shift + ↑</td>
<td>Read Current Row</td>
</tr>
<tr>
<td>Insert + Shift + Home</td>
<td>Read from Start of Row</td>
</tr>
<tr>
<td>Insert + Shift + Page Up</td>
<td>Read to End of Row</td>
</tr>
<tr>
<td>Insert + Shift + Num Pad 5</td>
<td>Read Current Column</td>
</tr>
<tr>
<td>Insert + Shift + End</td>
<td>Read from Top of Column</td>
</tr>
<tr>
<td>Insert + Shift + Page Down</td>
<td>Read to Bottom of Column</td>
</tr>
</tbody>
</table>
Assistive-Technology based testing

**Variability**
- Choice of settings for each AT?
- Choice of version of each AT?
- High cognitive demand on the tester
- Test processes often ad hoc

**Niche activity**
- By niche personnel
- Niche tools
- At end of development process
- Relatively long turnaround
- Low impact
## Corporate-Wide Communications Review Priorities

<table>
<thead>
<tr>
<th>Impact Rating</th>
<th>Non-Executive</th>
<th>Executive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manager</td>
<td>Director</td>
</tr>
<tr>
<td>Low</td>
<td>R</td>
<td>R + S</td>
</tr>
<tr>
<td>Medium</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>R*</td>
<td>R + S</td>
</tr>
</tbody>
</table>
Software / Web features

**Keyboard access**
- Interactive controls
- Data tables
- Links
- Images
- Color dependence
- Color contrast
- Flashing
- Metadata

**Multimedia**
- Time outs
- Language
- Headings
- Form instructions
- Form fields
- Style sheet use
- Frames / iFrames
- Skip links
- Alternative versions
Code-Inspection based testing

<table>
<thead>
<tr>
<th>Consistency</th>
<th>Sharable activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Consistent (no settings to deal with)</td>
<td>• By development personnel</td>
</tr>
<tr>
<td>• Test process can be clear step-by-step (no need to remember commands)</td>
<td>• Familiar style of tools</td>
</tr>
<tr>
<td></td>
<td>• Throughout development</td>
</tr>
<tr>
<td></td>
<td>• Relatively fast turnaround</td>
</tr>
</tbody>
</table>
Code-inspection:
common, specific language

• Common language between all parties: vendors, acquisitions, developers, 508 teams
• Test process can contain specifics
  • Rationale for each test
  • Step-by-step instructions for using inspection tools to test each element
• Specific failure conditions
• Specific failure scenarios
  • Nonconformant, Conformant, Not Applicable
A side note on VPATs
"Voluntary Product Accessibility Template"

• No requirement for vendors to state how anything was measured
• So VPATs are not really a "measure"
  (even though some rely on VPATs as their only source of information on a product's level of accessibility)
The current testing frontier

(improving efficiency by changing roles)
Team roles where **Assistive Technology** based testing dominates

**Development / programmer teams**
- Send the (nearly completed) product to the accessibility team to test
- Learn by osmosis
- Try to incorporate test results just before the design is finished

**Accessibility team (Section 508 Office)**
- Has the knowledge and the skills as to what "passes" and what "fails" tests
- On the periphery of the development teams
- Concerned on their overall "impact"
Team roles where Code-inspection based testing dominates

Development / programmer teams
- Learn through available courses
- Can test throughout development
- Owns the testing (the same as other types of testing)

Accessibility team (Section 508 Office)
- Shares a common language with developers on what passes and fails
- Can act in a QA and SME role to support developers
- More on outreach and training etc.
Addressing accessibility at the organization level

(measurement as a hook for change)
Study of Successful Organizational Approaches

1. Adopt the social model of disability
2. Establish executive-level backing
3. Establish accessibility as a priority on the agenda
4. Take a planned, proactive approach
5. Make accessibility a shared task
6. Provide enabling resources
7. Provide sources of accessibility expertise

Additional IT success factors

- Means of measuring accessibility
- Usable test processes and usable standards
- Accessibility in SLDC and Governance
- Accessibility in the acquisition process
Addressing accessibility at the organizational level

<table>
<thead>
<tr>
<th>Accessibility Teams</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>• IT Accessibility Team (e.g., 508)</td>
<td>• IT Development</td>
</tr>
<tr>
<td>• HR Accessibility Team (e.g., 504)</td>
<td>• IT Testing / QC</td>
</tr>
<tr>
<td>• Employee / Affinity Groups</td>
<td>• Acquisitions</td>
</tr>
<tr>
<td>• Buildings &amp; Facilities (e.g., ADA)</td>
<td>• Training</td>
</tr>
<tr>
<td></td>
<td>• Executives / Management</td>
</tr>
</tbody>
</table>
Tying measurement to contracts

(Returning to procurement language)
Accessibility in the Systems Development Lifecycle

Inception

Procurement

Acquisition

Design, build, test

Delivery and use through to disposal

With Assistive Technology based testing

With Code Inspection based testing
Accessibility out of the box

With Assistive Technology based testing:
Variability on both sides

With Code Inspection based testing:
Commonality on both sides
Returning to contract language...

Traditional

"The [software product] will comply with the accessibility requirements of Section 508 of the Rehabilitation Act (36 CFR Part 1194)."

Upgraded

... the following subsections of 508 apply: x,y,z ...
... tested according to the following test process ...
... using the following tools ...
... will be tested by certified personnel ...
Summary

• You can tie procurement to measurement to meet legal requirements

• You can also tie procurement to measurement and then make additional voluntary changes
  
  ▲ improve efficiency
  
  ▲ increase quality
  
  ▼ decrease risk
  
  ▼ reduce cost
Resources

• Accessibility Track Consulting, LLC
  www.acssessibilitytrack.com
• Unified Test Method and online training courses: www.dhs.gov/accessibility
• Thesis: Responding to accessibility issues in business
  researchbank.rmit.edu.au/view/rmit:6156