



**A. Cover Page**

**NASCIO 2008 Award Submission**

**Title: Validation Tool Improves Web Accessibility for NYS Citizens**

**Category: Digital Government – G to C Government to Citizen**

**Submitted by: New York State Office of the Chief Information Office/Office for Technology on behalf of the NYS Forum IT Accessibility Committee**

**IT Accessibility Committee Membership**

**Chief Information Office/Office for Technology**

**Governor's Office of Employee Relations**

**Department of Civil Service**

**Department of Health**

**Commission on Quality of Care/Office of Advocate for Persons with Disabilities**

**Department of Education**

**Department of Environmental Conservation**

**Department of Insurance**

**Department of Labor**

**Office of Mental Health**

**Office of Mental Retardation and Developmental Disabilities**

**Department of Public Service**

**Department of Taxation and Finance**

**State University of New York**

**AT&T**

**Cornell Cooperative Extension**

**MicroKnowledge, Inc.**

## **B. Executive Summary**

Many government entities have web sites that inadvertently exclude potential customers. They hide content from blind people, ignore the needs of their deaf customers, lose motion-impaired consumers, cater only to those on one side of the digital divide, and exclude aging baby boomers who find tiny print a challenge. To address this some government sectors, like NYS, have issued policies and standards to assist state entities in making their websites and their web based applications more usable and accessible. Few, however, have developed training and tools that breath life into those policies. This proposal outlines how a group of NYS agencies and a not-for-profit entity that represents the IT community, came together to ensure that the State's intended policy outcome did indeed expand access to, and independent use of, NYS digital services.

New York State has had a long history, dating back to 1999, of mandating that its agencies provide accessible web-based services to employees and citizens. However, in 2004, the State went further by issuing design standards. The resulting standards were a hybrid of the World Wide Web Consortium's (WC3) Web Content Accessibility Guidelines (WCAG) version 1.0 and the Federal Section 508. Because of the hybrid nature of New York's standards, there was no one validation tool that could test to New York's accessibility standard. This situation significantly hampered compliance.

Commercial accessibility testing software was geared toward either the WCAG or Section 508 standards, and as a result, did not directly address New York's standard. In presentations to the web development community, we repeatedly heard complaints that assessing compliance with New York's standard required the performance of multiple tests, and web developers claimed that specialized knowledge was required to determine which tests to comply with and which tests to ignore.

In August of 2006, the State's IT Accessibility Committee, in concert with the NYS Forum, a network of state and local government organizations and information technology leaders and professionals concerned with information management, policy, and operations, convened a group to establish requirements for an automated tool to assess and, where possible, remediate accessibility problems with State agency web sites, in accordance with the NYS standards. In September of 2006, work began to develop an RFP for selecting a contractor to develop the NYS-specific tool.

The application resulting from this project, the NYS Forum Validation Tool, comprises two separate components: an online tool that checks published content for agency web developers and contractors working on agency web content, and a desktop-based tool which can be used for local content (e.g., testing applications in development behind a firewall, and testing intranets) in addition to being useful for checking online content.

This validation tool – a first in the nation and a model for other government entities – is now used by 60 NYS agencies and compliance with the standards has gone from 27 percent at project inception to over 50 percent at the present time. State agency policies and standards are only effective if developers know how to implement them. Too often, policy makers mandate change, but fail to provide the tools that ensure accountability. This tool, together with training, helps the state come much closer to compliance and also helps mitigate any potential liability for sites that do not provide access to information for people with disabilities using assistive technology. The first lawsuit brought against state government has already occurred in the State of Texas and there is even a more urgent imperative now that this nation has its first blind Governor.

## C. Description

### The Problem:

In 2004, the NYS Office for Technology issued Technology Policy P04-002 (<http://www.oft.state.ny.us/Policy/p04-002/index.htm>), and Mandatory Technology Standard S04-001 (<http://www.oft.state.ny.us/Policy/s04-001/index.htm>), on Accessibility of State Agency Web-based Intranet and Internet Information and Applications. The 14 Standards issued were an amalgam of checkpoints selected from the World Wide Web Consortium's (WC3) Web Content Accessibility Guidelines (WCAG) version 1.0 and the Federal Section 508.

Commercial accessibility testing software was geared toward either the WCAG or Section 508 standards, and as a result, did not directly address New York's standard. In presentations to the web development community, we repeatedly heard complaints that assessing compliance with New York's standard required the performance of multiple tests, and web developers claimed that specialized knowledge was required to determine which tests to comply with and which tests to ignore.

### Barriers, Challenges and Opportunities/Problem Context:

In 1999, New York State issued Technology Policy 99-3, Universal Accessibility for NYS Web Sites. This policy required State agencies to ensure that their web site content was accessible to individuals with disabilities, and required such conformance to the World Wide Web Consortium's (W3C) Web Content Accessibility Guidelines at a Priority 1 level. Underlying that policy was an assumption that the individuals preparing content for agency web sites understood enough about the code underlying web pages to make corrections when necessary. In many instances, however, this was not the case.

Many agencies had existing web sites, and the responsibility for an agency's web site could reside in any part of the organization. In rare instances, it was integrated into the agency's IT infrastructure, but more often, it was a function of the agency's public information office or some other business unit.

An attempt was made in 2000, with the Governor's e-Commerce/e-Government initiative to instill some coherence and quality assurance for agency web sites, but that attempt was cut short by shifting priorities after September 11, 2001 – specifically, the part of that initiative that would have provided standards-based web development training, to be delivered on a limited basis to each state agency.

The lack of training and support for Technology Policy 99-3 was a significant impediment to achieving the goal of universally accessible state web sites, and consistently cited as a problem by web developers and content providers.

The Forum's Webmasters' Guild has been active since 1995, and the Forum's IT Accessibility Committee was formed in November 2003. The Webmasters' Guild provides educational sessions for state employees who work on the State's official web sites. The IT Accessibility Committee is charged with supporting efforts by that same group to provide sites accessible to people with disabilities.

Forum groups provided informal training, but everyone recognized that something more comprehensive was needed. One of the problems recognized by both the Guild and the IT Accessibility Committee was the wide range of technical expertise among the state's web developers, which made development of a comprehensive curriculum nearly impossible unless we could develop a reliable skill base upon which to build.

### **Assessment and Decision Process:**

In August of 2006, the Committees convened a group to establish requirements for an automated tool to assess and where possible, remediate, accessibility problems with State agency web sites, according to the NYS standards. In September of 2006, work began to develop an RFP for selecting a contractor to develop the NYS-specific tool.

The RFP was completed in the spring of 2007, and was issued in July of 2007. The project consisted of development/customization of a desktop-based tool that could be used to test content on intranets and content behind firewalls, and an online-based tool that could be used to check published content. The engagement was also to include reporting and maintenance capabilities.

Proposals were evaluated by a mix of volunteers including both web developers and agency managers, and in August 2007, HiSoftware was selected to build the NYS-specific tools.

HiSoftware proposed their AccVerify/AccRepair tools for the desktop component, and we solicited a twelve-member evaluation team from a variety of organizations to work with the product and evaluate its ability to test to New York's standards. The evaluation period lasted two weeks while comments and concerns were collected by HiSoftware. We used a similar approach for evaluating the online tool. The project team's subject matter experts took over management of the changes needed in both tools, while the remaining members of the team worked out distribution and training logistics.

### **Solution:**

The application resulting from this project, the NYS Forum Validation Tool, comprises two separate components: an online tool that checks published content for agency web developers and contractors working on agency web content, and a desktop-based tool which can be used for local content (e.g., testing applications in development behind a firewall, and testing intranets) in addition to being useful for checking online content.

Both tools can also test to full versions of the two *de facto* standards for accessibility, the W3C's WCAG and U.S. Section 508. The ability to test for Section 508 compliance will be especially useful for those agencies administering programs funded with federal monies. Both versions of the tools can also test pages in batch mode. The desktop tool also includes some capabilities for remediation and link checking.

The desktop tool consists of customized reports created for HiSoftware's AccVerify/AccRepair off-the-shelf product. The online tool is a customization of HiSoftware's Cynthia Says that was modified to conform to the NYS Standard.

This project was collaboration between the NYS Forum and state agency staff who worked on the two Forum committees that spearheaded the project. We also had a volunteer project manager from the Division of State Police. With Forum Executive Director Greg Benson, this formed the core NYS Project Team. The co-chairs of the IT Accessibility Committee accepted the roles of technical managers and subject matter experts, while the co-chair of the Webmasters' Guild took on the role of public relations and implementation planning.

Agency staff constructed the technical requirements, and under the Forum's coordination, drafted the RFP, evaluated bids, selected the winning proposal and worked with the winning vendor to tailor the tool to New York's hybrid accessibility standard. Work on the tool has been coordinated with the Office of the

CIO/Office for Technology, and the products were put through a strenuous evaluation process by web developers in a variety of state agencies.

The Forum's Executive Committee approved the project, and the Forum provided development costs and paid for all licenses and subscriptions for a one-year period.

The New York State Forum funded development of the tools (which cost approximately \$220,000), and is providing (free of charge for the first year) an online tool hosted by HiSoftware that is available to any State agency web developer as well as contractors working on State agency web content. The Forum is also providing 2 one-year license subscriptions for the desktop tool to each State agency. HiSoftware has agreed to provide special pricing with volume discounts for any organization that wishes to buy additional license subscriptions for the desktop tool.

#### **Baseline and changes in Metrics:**

Since the inception of this project in 2006 and the build of the tool in October, 2007, 60 out of 90 eligible state agencies are using the validation tool. Over 150,000 web pages have been tested and compliance with the standards has risen from 27% of pages being compliant at the tool's roll-out to over 50% now.

#### **Leverage and Transferability:**

This project is the first of its kind. To date we have had inquiries from State's like California and Kansas about the possibility of having this tool adapted to their state's requirements. Hi-Software is confident that this can easily be done for other states and there is a great possibility of transferability to NYS localities. This is particularly important because, in NYS, localities often buy off of NYS Contracts and they also frequently voluntarily adopt our technology standards. NYS is currently considering an aggregate buy of future licenses for its state agencies.

#### **Communications Plan:**

We have attempted to reach users through numerous channels. First, we announced the tool to agency CIOs and invited them to appoint agency administrators, who would coordinate access to both tools within their agencies. Second, we announced the availability of the online tool at the January Webmasters' Guild meeting, which was attended by nearly a hundred people. We used the appointed agency administrators to disseminate information about the availability of the tool and an introductory webinar (which was attended by 175 people), and we have been reserving seats in training classes for those within each agency who would be providing further training and support for the tool. Two more introductory sessions, an agency administrator session, and desktop training sessions were conducted.

You can use the online tool by going to <http://nysf.hisoftware.com> and registering (the link to register is at the top of the page). Under "agency," select "NYS Forum".

#### **D. Significance**

##### **Beneficiary groups:**

Beneficiary groups for this validation tool include: state agency web developers, vendors, disabled consumers, the general public and state government.

##### **State agency web developers and vendors:**

More government services and transactions are being transitioned to the web everyday. More and more

staff, not just technical staff, are involved in developing and uploading content to the web. More and more disabled people are using the web to access services. This created a “perfect storm” for NYS to develop a tool that not only helps NYS web developers ensure that their content is accessible to people with disabilities, it also enables vendors, who provide products to the State, do so as well.

Prior to this tool, there was no application which tested specifically to the NYS standard. The same information could be gleaned by performing a five-stage validation, but few developers knew enough about the standard to perform the tests successfully.

Previously, the five-stage validation took nearly half an hour to complete. The new tool performs the test in less than a minute. Also, the five-stage validation relied on free tools that limited the number of pages that could be tested to one at a time. The new tool allows users to test up to 5,000 pages at a time.

#### **Consumers:**

According to the 2000 census, there are 49.7 million persons over the age of 5 in the US who have a disability. The fastest growing segment of the population – the babyboomers age 65 and over – 42% has disabilities. In NYS, according to the 2004 census, 3.6 million people self identify as being disabled. People with disabilities accessing web content via the use of assistive technology benefit from the use of the validation tool to ensure web site content will be available to them. They will be more likely to be able to do their jobs and will be able to more easily access government services.

The general public benefits, because use of the tool to create accessible sites can also benefit those using PDAs and other mobile devices to access web content.

#### **State government:**

State agency policies and standards are only effective if developers know how to implement them. Too often, policy makers mandate change, but fail to provide the tools that ensure accountability. This tool, together with training, helps the state come much closer to compliance and also helps mitigate any potential liability for sites that do not provide access to information for people with disabilities using assistive technology. The first lawsuit brought against state government has already occurred in the State of Texas and there is even a more urgent imperative now that this nation has its first blind Governor.

The online tool will also enable the State CIO/OFT to assess performance of its state web applications because the tool provides aggregate reporting that indicates the percentage of web pages that are in compliance with its standards. This will meet the new Administrations priorities of making NYS Government services more accessibly to its citizens as well as finally enabling the State CIO/OFT to gain compliance with the mandatory technology standards first issued in 2004.

### **E. Benefits of the Project**

In addition to the many benefits noted above, the NYS Forum Validation Tool will create benefits such as cost avoidance, efficiency and effectiveness and better training opportunities.

#### **Cost Avoidance:**

Law suits cost millions of dollars. The better able NYS is in making its online services and transactions accessible, the greater the cost avoidance is.

**Efficiency:**

Previously developer had to go through a 5 stage validation of their pages and had to do the pages one at a time. The five-stage validation took nearly half an hour to complete. The new tool performs the test in less than a minute. Also, the five-stage validation relied on free tools that limited the number of pages that could be tested to one at a time. The new tool allows users to test up to 5,000 pages at a time.

**Better Training Opportunities:**

This validation tool trains web developers as they use it. It reinforces the standards, teaches them how to build pages that comply and also remediates errors. I