

# OH, THEY HAVE THE INTERNET ON COMPUTERS NOW! —HOMER SIMPSON

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Restaurateurs will be the first to tell you that building a wheelchair ramp doesn't drive up sales. That's old news. Big government remedied physical access issues many years ago by pushing rules down and out, touching nearly every public and private operation.

But take accessibility issues across the wire — from analog to digital — and you'll begin to feel as though you've traveled back in time. Countless technology players have spit up mission statements full of talk about an internet for everybody. But the truth is that we're still many years away from a real *internet for everybody*, and the challenges we face are absolutely blind to our physical status.

As consultants and researchers — first-string information consumers — many of us have stood witness to the transmutation of information services. Books became CD-ROMs, CD's became web-based applications, database searches moved from local archive queries to plunges across the depths of globally distributed systems. Soon, we will all unwittingly embrace a world of personalized web services.

We are now positioned to realize a full suite of light applications and services which will require only a web browser to achieve utility. However, the design, delivery, and integration of all such solutions and services do not infer web standards equally. Without web standards, researchers with disabilities might be left behind, wrestling in isolation with antiquated services and promoting a potential sub-class of knowledge workers.

Recently, I had an opportunity to explore this area of the technology divide through dialogue with David M. Clark. David is a pioneer in development of technology

accessibility standards, a former chairman of Microsoft's Accessibility Advisory Council, a veteran start-up executive, writer, and all around digital Renaissance man. David also has cerebral palsy. What follows is a summary of our recent dialogue.

## What's your definition of accessibility?

To me, accessibility is not about disability, it is simply a matter of user defined input and output. A user needs to be able to read, hear, or feel the same information and act on it irregardless of their input method — keyboard, mouse, voice or other input.

## When were you first exposed to technology?

Technology has always been a key part of my life. I was the type of kid that would rather spend Saturday night at home calling bulletin board systems with my 300 baud modem. But it goes back further than that.

My mother convinced the school district to give me an electric typewriter when I was three — there were no personal computers in the mid-seventies. Her argument was that other kids were learning how to write their names, and since I did not have the muscle coordination, I should be learning how to type my name. To this day, I do everything on the computer. I cannot even sign my name — I use a stamp.

## How did you come to the accessibility side of the technology market?

I got involved in assistive technology conferences when I was in high school. I made many presentations and really was a poster boy for what

was possible. Though I had no desire to work in the disability field, I had so many connections by the time I graduated from UC Berkeley that is was the path of least resistance in terms of finding work.

I was recruited by CAST — an educational think tank just north of Boston that does training and software development for the K-12 market. At the time, they were more focused on special education and assistive technology. I was involved in the development of software that supports students, like eReader Kidbooks.

By late 1999, the dotcom wave was huge, and an opportunity for me came up with HalfThePlanet.com. I was originally hired on as an accessibility consultant working remotely. It quickly became apparent that I was more tech savvy than 95 percent of the tech guys there, so I ended up commuting to New York City and staying in a hotel three to four nights every week — thanks to that venture capital money.

## What's the history of "Bobby"?

In the summer of 1995, the web was really getting going. It was the days of level one browsers and html 2.0. Browsers did not even support the same set of tags. This was pre-wai, pre-508 (explained below)— accessibility was nowhere near anybody's radar. CAST met a brilliantly creative freelance developer by the name of Josh Kreiger. He was given a problem to work on — educating teachers about web development and accessibility.

The only guidelines at the time were the "unified access guidelines" from the Trace Research and Development center. Though not exactly what CAST was looking for, Kreiger came up with Bobby. The initial

interest in Bobby had nothing to do with accessibility. It originally got the attention of web developers as a way to check for tag and browser compatibility. We used this as a Trojan horse to talk about web accessibility.

The concept of “Bobby approval” is any marketer’s pipe dream, and was completely unintentional. Bobby became the de facto accreditation and certification body – a role with huge responsibility. One does not realize the role you play until you make a change and get a torrent of complaints and feedback – I was the one responsible for technical support and customer service.

## How did Watchfire Corporation come to accessibility software?

Watchfire bought Bobby from CAST in the summer of 2000. CAST really did not have the resources to do development further and had not since 1998. Yet the brand power was unbelievable, and that is what Watchfire bought. There are now other tools similar to (and arguably better than) Bobby, but they all have the same downfall – they are not nor ever will be validators.

Over 40 percent of the guidelines out there are things that currently could never be checked by a machine. It’s like a Japanese guy who only speaks and writes Japanese relying on Babblefish and a grammar checker to write the next Pulitzer in English.

## How did the US Rehabilitation Act drive major changes?

The logic behind 508 (section 508 requires that Federal agencies’ electronic and information technology is accessible to people with disabilities) is that the federal government is the single biggest consumer of goods and services. For companies to sell to government, their product has to be deemed accessible. I think it has helped with awareness overall, but I have heard it compared to the Y2K hype.

The World Wide Web Consortium (W3C) has its own Web Content Accessibility Guidelines (WCAG). But

there’s a key difference – W3C’s WCAG only covers web content. 508 covers all information technology – everything from photocopiers and automated phone systems to web content. The web portion is actually based on WCAG, though watered down.

## What’s the state of the art in web accessibility initiatives?

Two words for you: web standards. Go see [webstandards.org](http://webstandards.org). I come to all of this as a technologist, and not as a disability advocate. Web Accessibility — or any information technology accessibility for that matter — really has nothing to do with disability. The same modifications that ensure accessibility also make content more usable by people using handheld devices, and make it more easily indexed by search engines.

For example, YouSearched.com is a search engine designed to strict accessibility standards. But it is a site designed to flaunt its accessibility, and therefore is not any more accessible than Google. When accessibility is done right, it does not have any noticeable impact on the user experience for any type of user.

## What companies are really getting it right and really working hard toward accessibility?

The companies that are embracing open source technologies are the ones that get it, like Sun and Apple and others. And it isn’t about government mandates or slick marketing – it’s just about good design.

For example, there are many enhancements in Mac OS 10.3 and even more in the works for 10.4. that are system level and have an impact on accessibility. 10.3 actually *speaks* menu items, and 10.4 plans to have a complete spoken interface (like a screen reader) built into the operating system. This is all happening without a real accessibility department the way it once had.

I think the most exciting work is that which Sun Micro is involved in.

They’re developing everything from screen readers to onscreen keyboards (for single switch users) – and it’s all being developed in the open source model

## Does the technology industry fully understand the issues around web accessibility standards?

Very few people get it. The whole *accommodation mindset* misses the point. When things (like standards) are considered in the early stages of development, there really is no extra work. It should not be a separate issue handled by particular people.

## Your motorized wheelchair has some serious power – ever hit a squirrel?

Squirrels are the least of my problems.

## REFERENCES

Bobby: <http://bobby.watchfire.com/bobby/html/en/index.jsp>  
Section 508: <http://www.section508.gov/>  
FWorld Wide Web Consortium accessibility guidelines: <http://www.w3.org/TR/WCAG10/full-checklist.html>

David Clark lives and works in Boston and is always interested in speaking about technology, web standards and accessibility design. If you have questions, please feel free to send a note to Dave at [david@davidsaccess.com](mailto:david@davidsaccess.com).

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