QualityLogic®

WHITEPAPER

GUIDE TO WEBSITE ACCESSIBILITY & WCAG COMPLIANCE

In this 3-part guide, we review the history of website accessibility and its importance to businesses. You'll discover how the WCAG evolved from ADA Section 508 and learn about the steps that need to be taken for to achieve website compliance and certification.

Table of Contents

PART ONE

The Evolution of User Experience to Website Accessibility

Websites have come an exceptionally long way since the Unix-based text-heavy pages of the late 1980s. The Netscape browser was the first to approach web design as a way to connect with audiences while creating a more user-friendly environment, but it took the 21st century to usher in tools and technologies that would become a part of our everyday lives.

However, that content is only as useful as the interface that presented it. Hence, the term User Experience Design (UX design) was born and would pave the way for what we know today as website accessibility. And it's a term that was last year brought to the forefront of business owners and legal departments across the nation by its journey to the Supreme Court.

The Importance of Compliance

While it seems like web design has become second nature to branding and design firms all over the world, there is still some confusion on exactly what website accessibility entails. Compliance with website accessibility guidelines is only now reaching a fever pitch with the recent case involving a blind man who sued pizza chain giant, Domino's. The suit was filed after Guillermo Gobles was not able to order food on the Domino's website and mobile app, even with the use of screen-reading software. Domino's petitioned the Supreme Court to hear a case on whether its website is

required by law to be accessible to the visually impaired. The Court denied the case, resulting in a huge win for the blind community.

In short, the decision has bolstered the requirements for web and mobile accessibility, not only for the blind, but any disabled user based on the Americans with Disabilities Act which requires businesses with physical locations to make their websites and other online platforms accessible to those with disabilities.

> *A panel of the 9th U.S. Circuit Court of Appeals sided with Robles, writing that the "alleged inaccessibility of Domino's website and app impedes access to the goods and services of its physical pizza franchises—which are places of public accommodation."*
> *— CNBC News*

Clearly, the fear of litigation, as in the Domino's case and many others, has made the compliance of web accessibility a priority. But it does not have to be a point of anxiety. It can be an incredible business opportunity, especially when you are working with the right partner. Implementing the most robust website testing techniques and processes have become just as important as choosing the most credible web design or marketing team. Advancements in technology have presented issues and experiences that have fostered an entire industry. Quality assurance testing companies like QualityLogic have made it their business to know what you don't – and website accessibility testing and certification is one of those areas.

What You Don't Know Will Hurt You

Approximately 1.3 billion people have some visual impairment, such as low vision, color blindness, and partial blindness. That accounts for nearly 20 percent of the global population who struggle with accessibility. — World Health Organization (WHO)

The first thing businesses need to understand is that website accessibility is not confined to the vision impaired. According to the website compliance accessibility guidelines, also known as WCAG, website accessibility must be extended to anyone with a permanent, temporary, or situational disability, including the following:

- **Visual:** Visual impairments including blindness and various types of low vision, poor eyesight, and color blindness.
- **Motor/mobility:** Difficulty or inability to use the hands, including tremors, muscle slowness, loss of fine muscle control, etc., due to conditions such as Parkinson's disease, muscular dystrophy, cerebral palsy, stroke.
- **Auditory:** Deafness or hearing impairments, including individuals who are hard of hearing.
- **Seizures:** Photo epileptic seizures caused by visual strobe or flashing effects.
- **Cognitive and intellectual:** Developmental disabilities, learning difficulties (dyslexia, dyscalculia, etc.), and cognitive disabilities (PTSD, Alzheimer's) of various origins, affecting memory, attention, developmental "maturity," problem-solving and logic skills, etc.

The good news is that an experienced website accessibility and testing partner will keep you up to date on the WCAG compliance standards and provide the proper testing necessary to ensure equal access for all. QualityLogic applies the following four steps to complete accessibility, making it easier and more thorough than ever before:

1. **Automated Testing**

   Test your site using specific automation tools that discover errors that can be programmatically validated. These tools will detect the most common problems like contrast errors, structural issues, and common HTML bugs.

2. **Manual Testing**

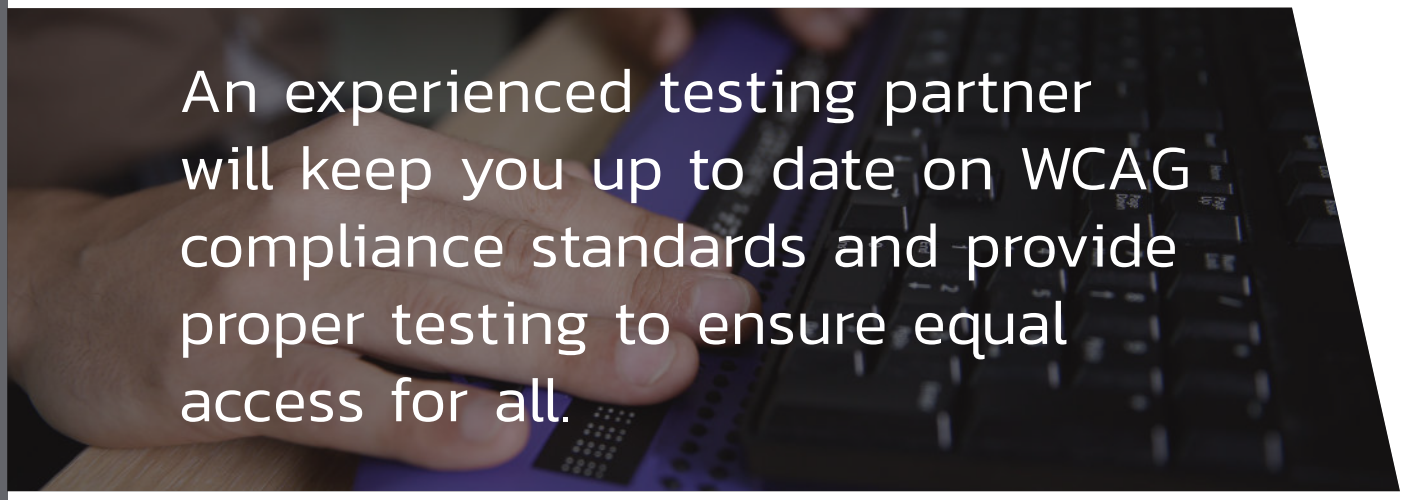
   Have your site or mobile app audited by a team of WCAG test technicians using the most common assistive technologies. That means the tests will identify the issues most likely to impact your customers.

3. **Remediation & Regression Testing**

   Once testing is complete, you'll receive a full WCAG or VPAT compliance report that contains a summary of the errors found. Once the errors are fixed by your team or ours, regression tests are run to ensure complete WCAG 2.1 AA or AAA compliance.

4. **Accessibility Certification**

   Once the site passes, you'll receive attestation from QualityLogic certifying full WCAG compliance. Daily monitoring will continue in order to ensure the site maintains compliance.



PART TWO

What Do All the Letters and Numbers Mean?

Most conversations surrounding website accessibility are making constant reference to WCAG, WCAG 2.1 AA, WCAG AAA and ADA Section 508 which is understandable because those standards indicate compliance. But what do all the letters stand for and what do they mean?

From part one, we already know that WCAG stands for Web Content Accessibility Guidelines. It is technical criteria that was developed to provide a single shared standard for web content accessibility, meeting the needs of all users including individuals, organizations, and governments across the world. Content accessibility pertains to text, images, and sounds as well as source code that defines structure, presentation, and functionality. WCAG 2.1 indicates the evolution of the standard and the ongoing effort for improvement. Content is also categorized into three levels of conformance in order to meet the needs of different groups and different situations: A (lowest), AA (mid-range), and AAA (highest).

To provide a better understanding of what the WCAG guidelines require, WAI (Web Accessibility Initiative) breaks it down into 3 categories as follows:

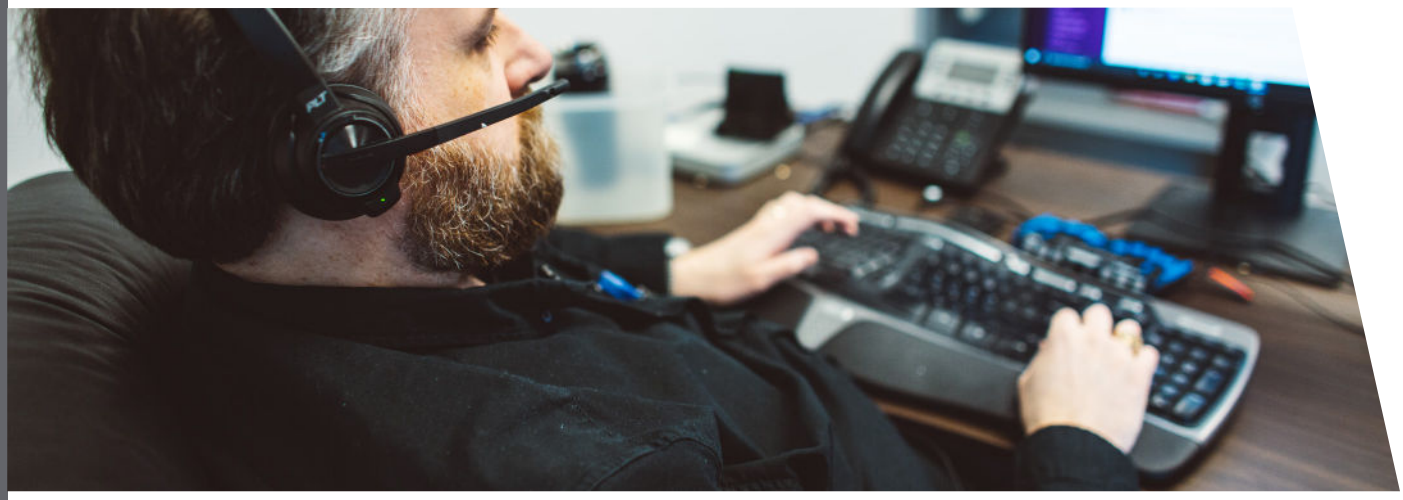
1. **Perceivable**
    - Provide text alternatives for non-text content.
    - Provide captions and other alternatives for multimedia.
    - Create content that can be presented in different ways, including by assistive technologies, without losing meaning.

- Make it easier for users to see and hear content.

2. **Operational**
   - Make all functionality available from a keyboard.
   - Give users enough time to read and use content.
   - Do not use content that causes seizures or physical reactions.
   - Help users navigate and find content.
   - Make it easier to use inputs other than keyboard.
3. **Understandable**
   - Make text readable and understandable.
   - Make content appear and operate in predictable ways.
   - Help users avoid and correct mistakes.

WCAG compliance is required by law under the updated ADA Section 508 (Rehabilitation act of 1973) established to require Federal agencies to make their electronic and information technology (EIT) accessible to people with disabilities. Under Section 508, agencies must give disabled employees and members of the public access to information comparable to the access available to others.

The most current version of compliance, WCAG 2.1 has not yet been widely adopted, but it is recommended that companies looking to initiate compliance now, update to WCAG 2.1 in order to meet the level of conformance compatibility that many third parties and vendors will require sooner than later.

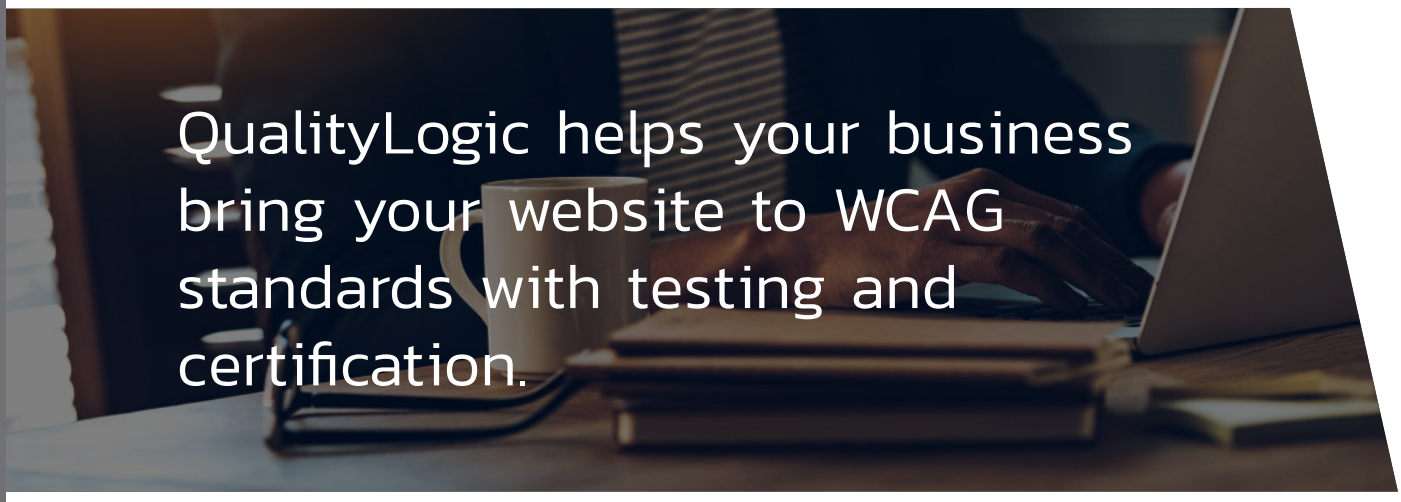


How Can Your Business Get There?

While it all seems very complex, the good news is that there are experts who have a deep understanding of the requirements and exactly how to achieve compliance quickly and continuously. QualityLogic has a team of those accessibility experts. We can help your business bring your website to WCAG standards with testing and certification. We also offer assistance in fixing the errors if you don't have the internal resources.

Additionally, once the site is compliant and certified, QualityLogic will provide ongoing monitoring and support services to ensure the site maintains that compliance and evolves as the guidelines require. Also, by monitoring current market trends in the accessibility landscape, we can provide implementation of the leading assistive technologies.

QualityLogic is committed to testing WCAG 2.1 AA and AAA and ADA Section 508 with a higher standard that not only meets but exceeds compliance levels. And by including visually impaired QA engineers who know first-hand what is required for accessible functionality, our audit team can promise a seamless user-experience regardless of the technology or platform being used.



PART THREE

The Evolution: From ADA to WCAG

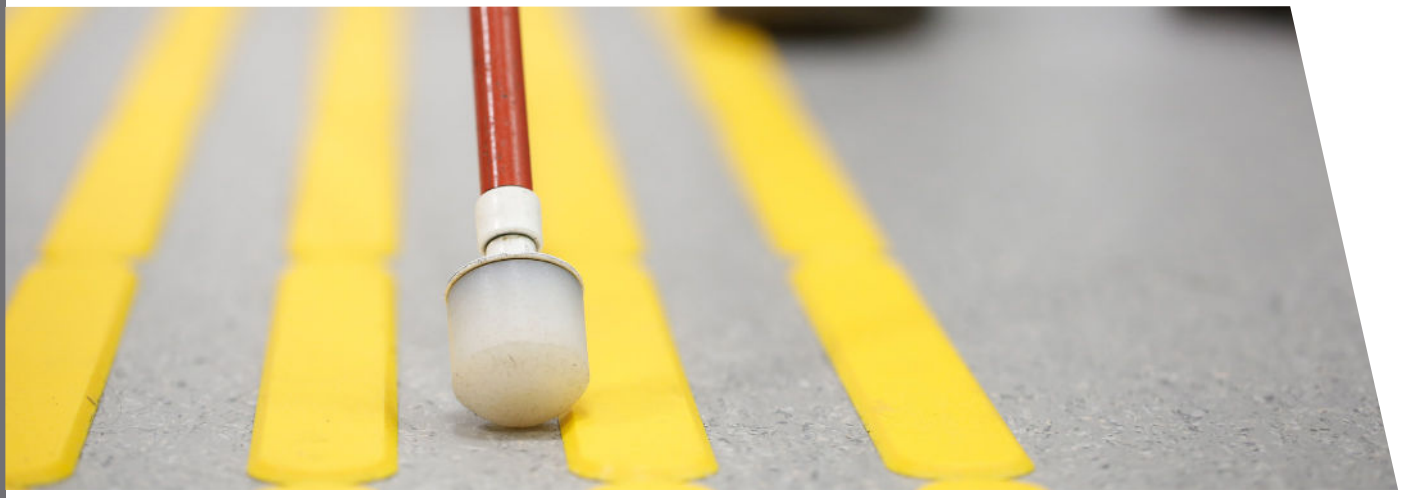
For those of us who live and breathe quality assurance and software testing, the term WCAG has become a key phrase in our daily lexicon. It has to be, because as a website accessibility testing provider, we must ensure our clients are compliant with what this regulation requires and are able to provide the best user experience possible. Continuous testing on ever-evolving WCAG guidelines has started an evolution toward a standard of excellence that the entire world is attempting to reach.

However, those four initials – and the great responsibility they represent – are steeped in history. As the final part of this guide, we thought it valuable to explain the evolution of the Web Content Accessibility Guidelines (WCAG) from the Rehabilitation Act and Section 508 to where we are today with WCAG 2.1 in the US and the equivalent regulations in Canada and Europe.

Let's Start From The Beginning

The evolution of web accessibility was born out of shared empathy and the recognition that people with disabilities should be provided with the same level of access available to others. A rough timeline of the steps taken to ensure the implementation and focus for that effort looks a little like this:

- In 1973, The Rehabilitation Act of 1973, as amended, was the first significant effort by the U.S. government to provide protection against discrimination on the basis of disabilities for those working



in some capacity with the government.

- July 26, 1990, President George H.W. Bush signed into law the Americans with Disabilities Act (ADA). The legislation prohibits discrimination and guarantees that all people with disabilities have the very same opportunities as everyone else.
- In 1998, Congress amended the Rehabilitation Act of 1973 to require federal agencies to make their electronic and information technology (EIT) accessible to people with disabilities. The law applies to those agencies when they develop, procure, maintain, or use electronic and information technology.
- In 1998, Section 508 of the Rehabilitation Act required federal agencies give disabled employees and members of the public access to information comparable to the access available to others. Many private employers began to adopt Section 508 standards as a way to ensure their technology infrastructure would be accessible.
- On January 18, 2017, the Access Board – the board responsible for developing Information and Communication Technology (ICT) accessibility standards to incorporate into regulations that govern Federal procurement practices – issued a final rule that updated accessibility requirements covered by Section 508.
- On January 18, 2018, the updated Section 508 ruling went into effect. The ruling updated and reorganized the Section 508 standards in response to market trends and innovations in technology, e.g. the evolution of the internet. The refresh

also harmonized these requirements with other guidelines and standards globally, including standards issued by the European Commission and the World Wide Web Consortium (W3C). Those standard guidelines were introduced as Web Content Accessibility Guidelines (WCAG 2.0), a globally recognized voluntary consensus standard for web content and ICT.

Shared Standards and Global Guidelines

To provide further context, it is important to recognize the Web Accessibility Initiative (WAI). This initiative was put in place to develop web accessibility guidelines, technical specifications, and educational resources to help make the web accessible to people with disabilities. WAI is part of the World Wide Web Consortium (W3C) – the organization responsible for developing web standards – and follows the W3C Process for developing web standards as well. WAI has developed several W3C recommendations which include Web Content Accessibility Guidelines.

Web Content Accessibility Guidelines (WCAG) was developed to provide a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments. The WCAG are documents that explain how to make web content or information in a web page or web application more accessible to people with disabilities.

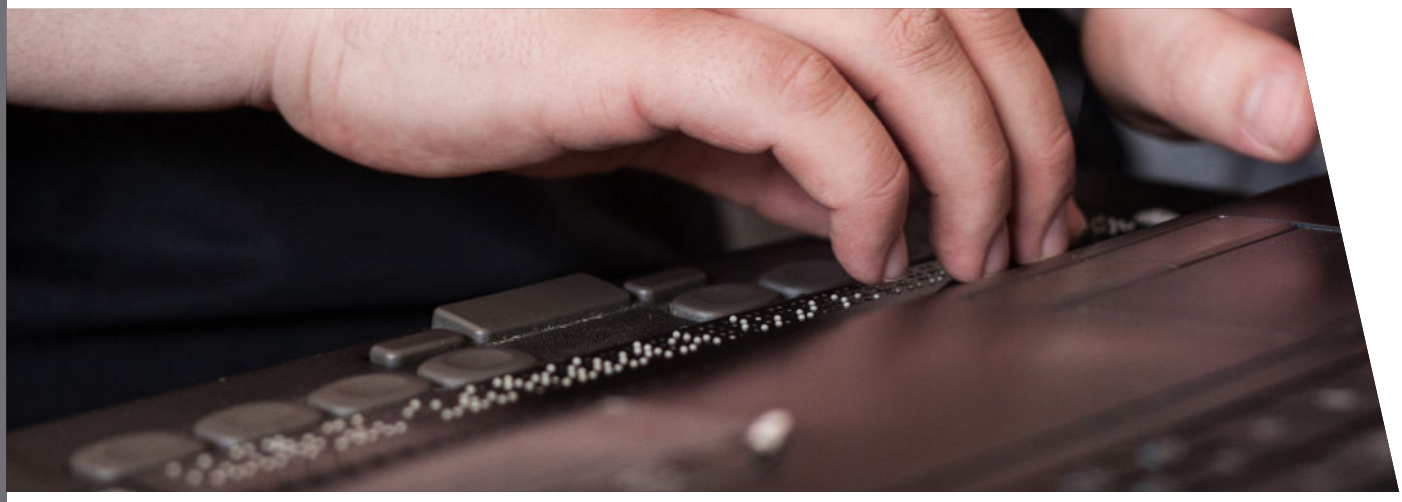
To put it simply, the WCAG guidelines ensure that content in text, images, and sounds be equally accessible and functional to disabled employees and

members of the public comparable to the access available to others.

Canada and Europe Commit to Compliance Testing

The US, along with Europe and Canada are giving a focus to Web Accessibility not necessarily as a legal mandate but as a new standard of excellence. Canada specifically follows the Web Content Accessibility Guidelines (WCAG) 2.0 AA. They have developed a clear and straightforward Assessment Methodology that helps government departments comply with the standards easily. The government also developed the Web Experience Toolkit (WET), a set of reusable web components for building innovative websites. The WET helps government departments build innovative websites that are accessible, usable and interoperable and therefore comply with the government's standards. The WET toolkit is open source and available for anyone to use.

The WCAG equivalent in Europe specifies that standards will need to be updated to add accessibility requirements for mobile applications and evaluation methodologies for compliance testing. Additionally, In 2019 the European Union introduced the European Accessibility Act which is now seen as one of the leading pieces of legislation for digital accessibility.



From Evolution to Revolution

Since its inception in 2008, WCAG has introduced multiple iterations. The most recent edition, WCAG 2.1, was published on June 5, 2018. All requirements from 2.0 are included in 2.1. The 2.0 success criteria are the same in 2.1., but with the addition of some success criteria not included in 2.0.

It is important to note content that conforms to WCAG 2.1 also conforms to WCAG 2.0. If your website meets WCAG 2.1, it will also meet the requirements WCAG 2.0. While WCAG 2.1 does not discount or supersede WCAG 2.0., W3C – and QualityLogic – does encourage implementing the most recent version of WCAG when developing or updating content or accessibility policies.

While it may seem like way too many numbers and letters, it represents an almost revolutionary effort to nurture a culture of

inclusion and excellence in technology and communications on a global scale.

These standards have created a movement that has changed the way websites communicate. The evolution of WCAG and the Canadian and European counterparts have not only pushed companies to pay attention to user experience, it has forced standards of excellence in the way technology is developed from beginning to end.

Ensuring these standards are properly implemented and regularly tested have become passionate goals for the QualityLogic team. While there are legal precedents being set, our company sees the inclusion of all as a good business practice and we're excited to be a part of making it a reality.

For More Information

Visit www.QualityLogic.com or call +1 208-424-1905

BONUS:

From Chemist to QA Engineering Manager

Diagnosis and Change

A few years into his career as a chemist with the United Kingdom's laboratory of the Government Chemist in the mid-90s, Paul Morris noticed he was having issues with his eyesight. After a series of consultations with his physician, he was diagnosed with retinitis pigmentosa, a genetic disorder of the eyes that eventually causes the loss of vision. The physicians believed Paul's sight would slowly deteriorate, so they predicted he would maintain much of his vision through his 50s or even 60s.

However, Paul's condition turned out to be more severe than initially believed, and soon his vision had declined to the point where he could no longer work in the chemistry lab. Uncertain about his future, he transferred departments and began work as an administrator for the UK Ministry of Defence. He purchased his first personal computer and began teaching himself how to code. During this time, he also began to talk online with a fascinating woman in the United States.

A New Career in the US

After moving from the UK to the US in 1999 and marrying his bride, Paul began searching for a new job stateside. The second job he applied for was as an entry-level test technician for QualityLogic. Shortly after his interview, he was offered the job and he began work in the company's Boise, Idaho office.

Paul's eyesight continued to deteriorate, but he was determined not to let it get in the way of work. He quickly expanded his technical skills; the fundamentals of testing and coding came naturally to him and he found he had an intuitive understanding of how the technology should work. His talent and hard work led to him earning more responsibility and promotions, and soon Paul was a QA project manager for QualityLogic.

In 2006, Paul's vision had reached a point where he felt he would benefit from the use of some assistive technologies. He submitted a request to his manager and was provided with JAWS, a screen reader developed by Freedom Scientific that provides speech and Braille output for computer applications.

Paul was able to pick up the use of the new technology almost instantly and began to expand his technical skills even further. While using JAWS, he taught himself how to program in Ruby, JAVA, Python, and became a SQL administrator. During this time, he also realized that many websites and software were not set up for the use of the assistive technologies he now required.

A Passion for Excellence

Over the next several years, Paul continued to expand his programming and QA testing skills and began to help QualityLogic clients identify ways to adapt their software and technologies to be able to be used by all individuals. His passion for delivering exceptional work to clients propelled Paul into his current role as QualityLogic's Engineering Manager and Test Lab Manager.

Through the years, Paul has continued to bring additional QA testers and engineers on board who are just as passionate about accessibility testing for software and websites. Together, they comprise one of the most qualified QA and accessibility testing teams in the country and have worked with some of the most recognized and influential brands in the world.

Though Paul's career trajectory took an unexpected turn, he has never let the loss of his vision dictate his life. In fact, he's used the lack of sight to create new opportunities for himself and for the blind community. Today, Paul continues to test new technologies and brings his innovative approach to the QualityLogic leadership team and the community as a whole.