Universal Design:

Transform IT Accessibility in the Federal Government

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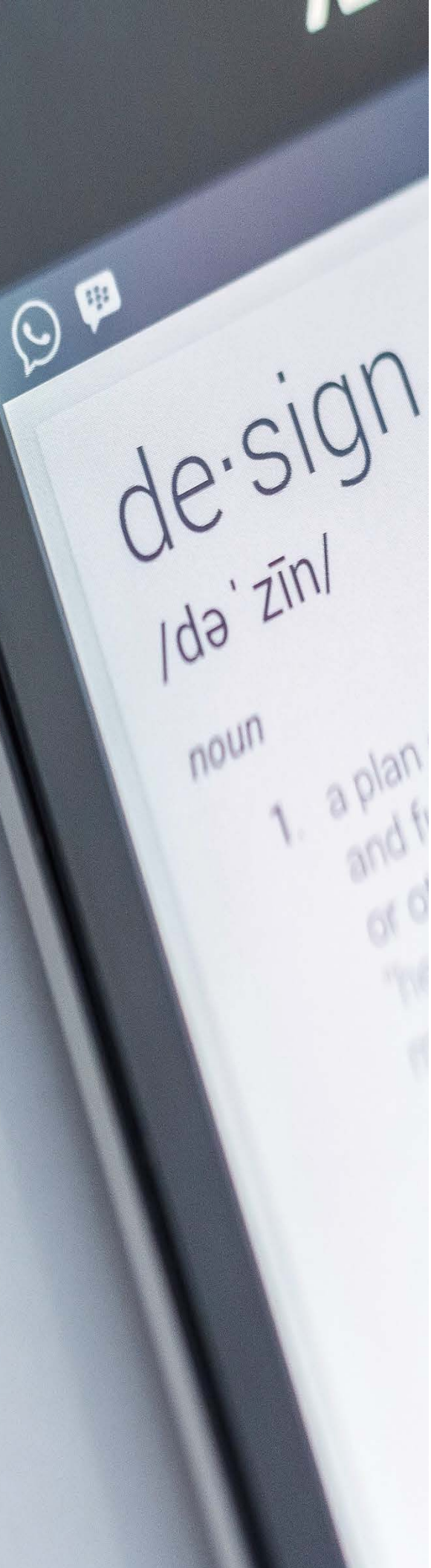

Introduction

The technology sector has long been a haven for innovative solutions that improve the way we live. 2018 is no different, with trends indicating that artificial intelligence, virtual reality and augmented reality are set to define the digital landscape and lead the way in innovation[1]. These innovations can allow technology to become more accessible to all. But what does "accessible to all" really mean?

Over the last few years, leaders in the tech industry have committed to creating inclusive technologies with *all* users in mind. To achieve this, private sector organizations have adopted principles of inclusive design, design thinking and universal design, building tools that function to meet the needs of any user, regardless of ability. As a result, accessibility is prioritized as a core design component, rather than bolt-on functionality.

In the federal space, accessibility has to be addressed differently. While compliance with Section 508 Standards and the Web Content Accessibility Guidelines (WCAG) 2.0 are legal requirements, thoughtfully applying accessibility means more than ticking the compliance checkbox. Federal Chief Information Officer (CIO) priorities include data center optimization, cybersecurity and budget management, but what about accessibility? How can improving accessibility help CIOs engage their workforce, save money and innovate to meet their goals for 2018?

The answer is through universal design.

This paper will:
1. Define universal design;
2. Explore the benefits of adopting universal design in Federal IT; and
3. Provide recommendations for how to embed universal design into the workplace.

[1] Weller, Chris, "12 tech trends that will define 2018", Business Insider, http://www.businessinsider.com/tech-trends-that-will-define-2018-2017-12, (December 20th, 2017)

What is Universal Design?

Universal design is:

> "[T]he design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. 'Universal design' shall not exclude assistive devices for particular groups of persons with disabilities where this is needed."[2]

Applied to technology, this means products are created to serve the needs of all citizens. Functionality is inclusive of all ability and does not cater to one specific need. Universally designed products promote ease of use, convenience and comfort.

Why it's Smart to Invest in Universal Design

Here are three reasons why investing in universal design will help federal agencies to deliver better products and services.

1. Inclusivity

Building tools that are accessible to everyone creates a more inclusive work environment. Think about product usability as serving all, including people with disabilities.

2. Responsibility

Openly committing to universal design to give back to the community. Organizations that invest in corporate responsibility to show that they care about their employees and strive to create an inviting environment to attract and retain talent.

3. Usability

Universal design helps to create products with improved usability and broader functionality. It allows for a larger audience to use these products while remaining compliant. Move beyond compliance to create better products in the long term.

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[2] Convention on the Rights of Persons with Disabilities – Articles, "Article 2 - Definitions", https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/article-2-definitions.html

Advantages of Universal Design

Drivers for Success in the Federal Government

Last year, the General Services Administration's Office of Government-wide Policy conducted research and interviewed leaders in the tech industry who prioritize accessibility using universal design. This research revealed three key business drivers that underpin the benefit of adopting universal design: Workforce Inclusiveness, Innovation and Financial Savings.

Workforce Inclusiveness

Organizations need to cater to the needs of all employees, including those with disabilities or those that might develop disabilities later in life. Doing so will help to maintain an engaged workforce.

Tools, products and resources that are accessible to all empower individuals with disabilities and attract diverse talent.

McKinsey reported that companies with the most ethnically diverse executive teams are 33 percent more likely to outperform their peers on profitability. It's proven that a more diverse workforce results in greater productivity and leadership engagement is essential to drive diversity.

Innovation

To build tools for all abilities, designers and developers need to collaborate, be creative, flexible and adaptable. This collaboration allows for better communication and alignment on requirements, including accessibility requirements.

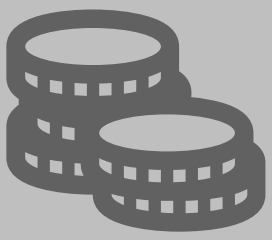
Train developers to build for a range of needs, to inspire creativity and create more innovative products.

Involve users with disabilities at every step of product design. These users can validate functionality, provide solutions, and pinpoint pitfalls to make sure products meet the needs of those with visual impairments, hearing loss or other physical disabilities.

Financial Savings

Retrofitting products for accessibility once they've launched can be very expensive. Universally designed products, by default, use a process of real-time evaluation to catch bugs and issues early. The average cost to fix a bug found by a customer is $15,000 (IBM, 2012). Fixing issues during development will avoid remediation costs associated with upgrades and redesign.

Capture user requirements of all potential customers to understand required functionality. Know exactly what your users need, to buy and build products efficiently. Use this information in the procurement process to buy the most accessible solution and reduce costs in the long run.



How to implement Universal Design

Recommendations

Below is a list of recommendations to help CIOs and Federal agencies implement universal design in line with top priorities for Federal IT.

1. View accessibility in the same way as cyber security

With the Federal cybersecurity market estimated to reach $22 billion by 2022[3], it's clear this remains a top priority for the Federal Government. Citizens trust and expect their data to be safeguarded and protected from external threats. Citizens also expect tools, products and services provided by the government to be usable by all people, whether they have a disability or not. Cybersecurity makes sure no one accesses information they shouldn't, but accessibility makes sure those who should... CAN. Agencies need to recognize the benefit and importance of accessible IT and make the Federal Government a role model when it comes to accessibility. CIOs can help drive this mission by prioritizing accessibility in their modernization strategy and push for products and solutions to be universally designed.

2. Embrace universal design as part of your (agile) methodology

Maintenance of legacy systems is costly and may not serve customers' needs or help achieve business goals. Some organizations are adopting an agile approach to upgrade and implement new systems quickly and efficiently to keep up with modernization trends. An agile methodology allows a solution to be built and tested in the form of sprints. Before each sprint, developers reflect on development challenges to address functionality issues. By incorporating universal design into development sprints, developers get real-time feedback about accessibility requirements and can address them along the way. When organizations innovate and iterate, the result is better products designed with user and business needs at the heart of the process.

[3] "U.S. Federal Cybersecurity Market Forecast 2017-2022", Market Research Media, https://www.marketresearchmedia.com/?p=206, (January 9, 2018)

3. Establish Return on Investment (ROI) for accessibility

In 2018, it's estimated that the Federal Government could spend up to $95 billion on IT.[4] Transparency of IT investments empowers CIOs to make intelligent spending decisions with a clear return on investment (ROI). Adopting universal design principles enables agencies to purchase the most accessible products on the market. Agencies need to conduct research, request accessibility product information from vendors, and understand and document specific accessibility user requirements. Take this one step further and define customer experience as a measurable factor. Expect to gain a return on investing in tools that make the government a "best provider" of digital services, with the goal of serving and improving the experience of *all* citizens.

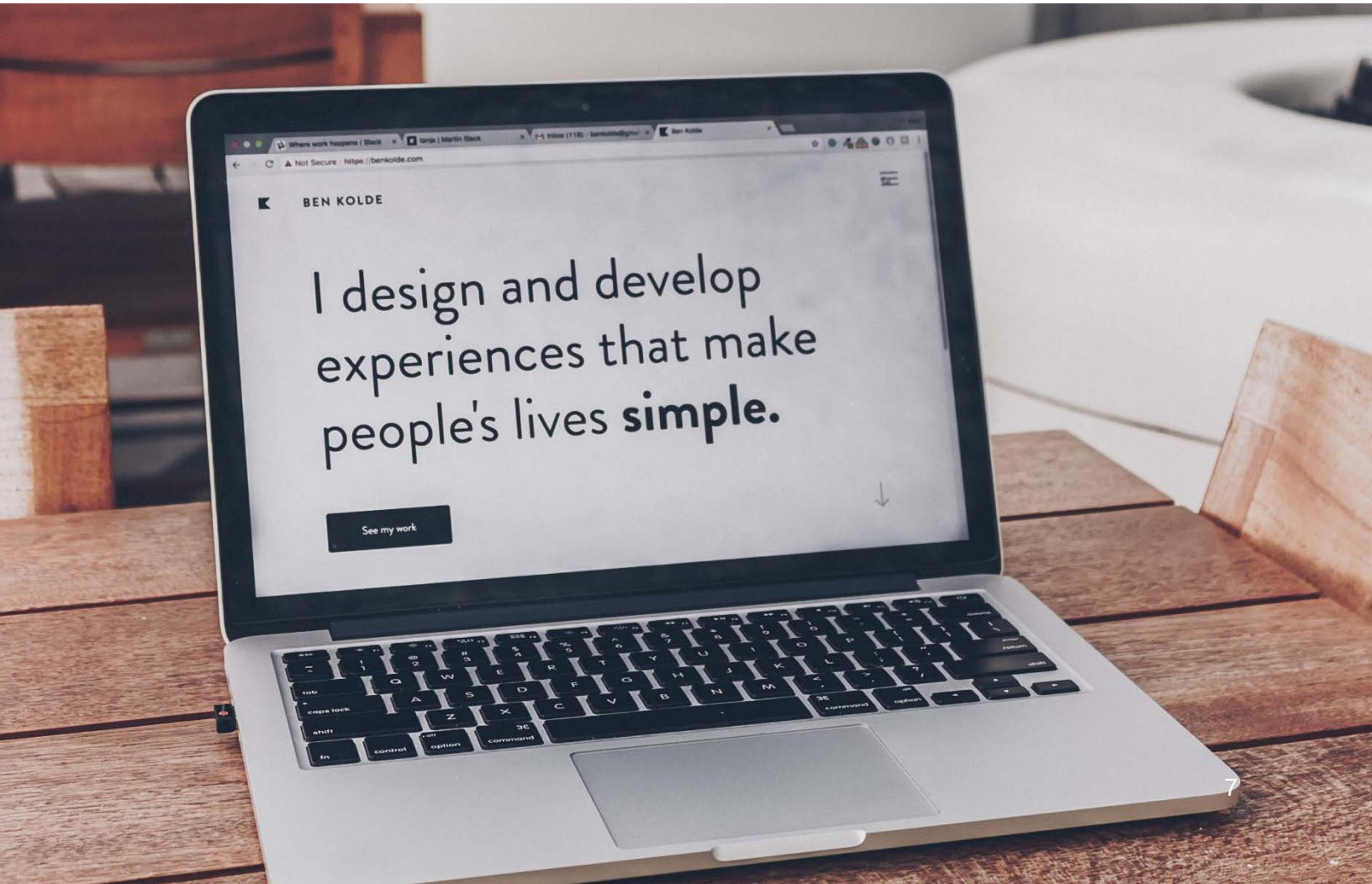
4. Invest in customer experience management and put users first

Leaders in the tech industry who are committed to inclusive technology have invested in customer experience. Become an organization that puts the needs of its users first, to produce content and products that are customer centric. Agencies need to know who their users are to make it easier to design for them. Hire a customer experience manager, create customer experience journey maps, and include users with different abilities in the design, build and test phases of a project. Once a firm understanding of a user base has been established, share best practices and promote cross-agency collaboration, to improve citizens' experience using government tools, and forward the accessibility mandate. All of this can be achieved by adopting a universal design mindset.

[4] Miller, Jason, "Federal spending on technology could reach $95 billion in 2018", Federal News Radio, https://federalnewsradio.com/budget/2017/05/federal-spending-on-technology-could-reach-95-billion-in-2018/, (May 24, 2017)

Conclusion

The Federal Government has a responsibility to serve all citizens, inclusive of all abilities. We need to stop thinking about accessibility as an afterthought. Federal CIOs and agencies who adopt universal design demonstrate a commitment to prioritize the needs of their citizens. Developing accessible tools and solutions serve not just the needs of a single community, but improve usability for all.

In the federal space, universal design has many benefits. It can help CIOs create a more inclusive culture and work environment; spur innovative solutions by bringing designers and developers together; and avoid the unnecessary cost of retrofitting products down the line. Citizens of all abilities expect to be able to use their government's tools and services. Pair universal design with an agile methodology to create products that, through iteration and improvement, meet all user needs. Improve your accessibility ROI by focusing on user and customer experience. Agencies who understand their customer base make informed IT decisions that respond to their needs. Universal design can help CIOs become pioneers in transforming IT usability and accessibility in the Federal government.

Want more information to become a leader in accessibility? Contact section.508@gsa.gov