Association for Computing Machinery (ACM)
US Public Policy Council of ACM (USACM)

1828 L Street NW, Suite 800
Washington, DC 20036
Main Phone: 212-626-0541
acmpo@acm.org

March 7, 2012

VIA FEDERAL RULEMAKING PORTAL - REGULATIONS.GOV

Office of Technical and Information Services
Access Board
1331 F Street NW, Suite 1000
Washington, DC 20004-1111

Re: Public comment on the Advance Notice of Proposed Rulemaking on the Telecommunications Act
        Accessibility Guidelines: Electronic and Information Technology Accessibility Standards
        Docket ID: ATBCB-2011-0007

Dear Members of the Access Board:

Thank you for the opportunity to comment on the proposed updated standards and guidelines for accessibility under Section 508 of the Rehabilitation Act, as applicable to federal agencies, and Section 255 of the Telecommunications Act, as applicable to telecommunications manufacturers. Advance Notice of Proposed Rulemaking (ANPRM), 76 Fed. Reg. 76640, 76640-46 (Dec. 8, 2011). We appreciate the continuing opportunity to engage in this important dialog with the Access Board on how to promote greater public accessibility to information and services provided by federal agencies, particularly in the context of rapid and emergent technological advances in computing and telecommunications systems.

With nearly 100,000 members, the Association for Computing Machinery (ACM) is the world's largest non-partisan, nonprofit association of computer and technology professionals. ACM works, in part, to foster improvements in the field of information and communication technologies and the responsible use of these technologies in society. Our members include computer scientists, educators, researchers, and other technology professionals. Our comments were developed by our expert members within the ACM U.S. Public Policy Council (USACM) and reviewed and endorsed by the ACM Special Interest Group on Computer Human Interaction (SIGCHI). Both of these interdisciplinary groups include ACM members focused on the design and effective implementations of useful, usable technologies.

We have reviewed the text of the ANPRM Draft Information and Communication Technology (ICT) Standards and Guidelines, dated December 2011, and respectfully submit the attached comments in response to the nine questions in the ANPRM. In addition to addressing the specific questions in the ANPRM, we provide general comments and recommendations on the standards and guidelines and their implementation.

Overall, we are encouraged by many of the structural and substantive changes of the 2011 ANPRM as compared to the 2010 ANPRM. We appreciate the restructuring of the document to promote increased readability, comprehensibility, and usability. We strongly support the efforts by the Access Board to

ACM US Public Policy Council (USACM)   Tel: +1-212-626-0541   acmpo@acm.org
1828 L Street NW, Suite 800   Fax: +1-202-667-1066   usacm.acm.org
Washington, DC 20036

harmonize the standards and guidelines with the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines (WCAG) 2.0, an international standard, and to promote functional performance criteria rather than specific technical provisions. These actions and requirements will advance and balance appropriately the values of accessible participation, technical flexibility, and innovation.

The ACM U.S. Public Policy Council appreciates the attention and effort the Access Board is dedicating to improving the accessibility of information and communication technologies provided by federal agencies and equipment manufacturers. The staff and members of the ACM U.S. Public Policy Council and the ACM Special Interest Group on Computer Human Interaction are available to discuss any follow-up questions you may have.

Sincerely,

Eugene H. Spafford, Ph.D.
Chair, ACM US Public Policy Council (USACM)

Harry Hochheiser, Ph.D.
Chair, Accessibility Committee
ACM US Public Policy Council (USACM)

Gerrit van der Veer, Ph.D.
President, ACM Special Interest Group on Computer
Human Interaction (SIGCHI)

ACM US Public Policy Council (USACM)   Tel: +1-212-626-0541   acmpo@acm.org
1828 L Street NW, Suite 800   Fax: +1-202-667-1066   usacm.acm.org
Washington, DC 20036

COMMENTS ON ADVANCED NOTICE OF PROPOSED RULEMAKING
Telecommunications Act Accessibility Guidelines:
Electronic and Information Technology Accessibility Standards
76 Fed. Reg. 76640 | Docket ID ATBCB-2011-0007
Architectural and Transportation Barriers Compliance Board

RESPONSE FILED BY
U.S. Public Policy Council and
the Special Interest Group on Computer Human Interaction
of the Association for Computing Machinery

Thank you for the opportunity to comment on the Draft Information and Communication Technology (ICT) Standards and Guidelines, dated December 2011, for accessibility under Section 508 of the Rehabilitation Act and Section 255 of the Telecommunications Act. In addition to our responses to the nine specific questions of the ANPRM, we first provide background information about our organization and general comments on the ANPRM and its subsequent implementation.

About ACM

With nearly 100,000 members, the Association for Computing Machinery (ACM) is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources, and address the field's challenges.[1]

The ACM U.S. Public Policy Council (USACM) serves as the focal point for ACM's interaction with U.S. government organizations, the computing community, and the U.S. public in all matters of U.S. public policy related to information technology.[2]

The ACM Special Interest Group on Computer Human Interaction (SIGCHI) is an interdisciplinary group of ACM members focused on the design and effective implementations of useful, usable technologies.[3] Its forthcoming 30th Annual Conference on Human Factors in Computing Systems in May 2012 is the premier international conference on human-computer interaction and brings together 2000+ professionals for extensive programs that explore innovative ideas in research and practice.[4]

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[1] Association for Computing Machinery (ACM), http://acm.org.

[2] ACM US Public Policy Council (USACM), http://usacm.acm.org.

[3] ACM Special Interest Group on Computer Human Interaction (SIGCHI), http://sigchi.org.

[4] ACM SIGCHI, 30th Annual Computer-Human Interaction Conference (CHI 2012), Austin, Texas, May 5-12, 2012, http://chi2012.acm.org.

ACM US Public Policy Council   - 1 -   Public Comment
1828 L Street NW, Suite 800   Docket: ATBCB-2011-07
Washington, DC 20036   March 7, 2012

General Comments

Functional Performance Requirements
In general, we urge the Access Board to adopt functional performance-based requirements rather than prescriptive technical requirements. Given the rapid changes in technologies and the generally lengthy processes to develop and promulgate updated standards and guidelines, a preferred regulatory approach to standards would be to decouple prescriptive technical requirements and specific technologies from functional performance criteria and goal-based accessibility objectives. Standards reliant on functional performance-based requirements will provide better responsiveness to changes in technologies and emergent accessibility mechanisms. Thus, functional performance-based requirements will better advance and balance the values of accessible participation, technical flexibility, and innovation.

Harmonization with International Standards
We support the incorporation by reference of the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines (WCAG) 2.0, an international standard, and its Success Criteria and Conformance Requirements. Harmonization with an international standard, rather than reliance on a separate national standard, will enable federal agencies, developers, and manufacturers to leverage a broader range of supporting materials, tools, training, and collaboration opportunities. We anticipate industry efficiencies, costs reductions, and increased built-in accessibility features in ICT services, products, and equipment because industry will be able to leverage a single standard across multiple markets and throughout their supply chains.

We emphasize that WCAG 2.0 is readily available online, free, and supported by extensive resources to help federal agencies, developers, interface designers, and manufacturers easily understand how to make more accessible products and services.[5] Online resources include the full-text of the WCAG 2.0 standard, its Level A and Level AA Success Criteria and Conformance Requirements, its other supporting materials, and links to several compliance-testing tools. To facilitate ease of use and understanding, the full-text of the standard contains hyperlinks within various sections to additional supporting guidance materials on how to comply with or further understand a specific requirement, as applicable. Other online supporting materials include, in part, detailed reference guides, instructions and a customizable quick reference guide for designers and developers, sample scenarios, and test procedures. Further, widely used automated tools exist to evaluate and test some of the WCAG 2.0 Level A and Level AA Success Criteria and Conformance Requirements.

To ensure ongoing harmonization and consistency with the international standard, the Access Board should consider referring to "WCAG 2.0 or later" to allow for updates and evolution of the referenced international standard.

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[5] World Wide Web Consortium (W3C), Web Content Accessibility Guidelines (WCAG) 2.0 (Dec. 11, 2008), available at http://w3.org/TR/WCAG20/ [hereinafter WCAG 2.0].

ACM US Public Policy Council   - 2 -   Public Comment
1828 L Street NW, Suite 800   Docket: ATBCB-2011-07
Washington, DC 20036   March 7, 2012

Providing Updated Technical Assistance to Federal Agencies
The Access Board, as a trusted resource with technical expertise, should be ready to assist federal agencies by providing information about implementations, tools, and audit resources that will help covered entities achieve compliance. Ongoing assistance could include updates on best practices, case studies, examples of successful implementations, developer and authoring toolkits, testing and evaluation tools, training opportunities, and relevant online resources.

Harmonization of Public and Private Internet Accessibility
The proposed incorporation of WCAG 2.0 will foster increased harmonization of accessibility across public and private efforts, particularly given that many software and equipment manufacturers integrate WCAG 2.0 into their commercial products used in the private sector. Our comments are informed by our previously issued statement on universal internet accessibility, which addresses both public and commercial internet-based information and services.[6] That statement places an emphasis on increasing awareness of the value of building accessibility into systems, fostering the development of evaluation tools, promoting and funding research, and extending accessibility standards while minimizing regulatory burdens.

Responses to Specific Questions

Question 1: **As discussed above, in response to public comments, the Board has made significant changes to the 2010 ANPRM by consolidating, streamlining, and removing provisions and advisories to improve readability, comprehensibility, and usability. The Board seeks comment on this new approach.**

Overall, we appreciate and support the significant changes to the 2010 ANPRM that the Board made to promote increased readability, comprehensibility, and usability. The restructuring provides greater clarity of compliance requirements across technologies and across the differing sections of the document. The improved conciseness provides a clearer and more usable document that can be quickly and more easily understood by federal agencies, software developers, interface designers, providers of information and services, and equipment manufacturers. This clarity and simplification will foster the ability to create federal information and communication systems that more effectively embrace accessibility by design.

The goal of making the document easier to understand and thus implement, however, has introduced new uncertainties with respect to some substantive compliance requirements. For example, some functional performance criteria now are inconsistent with language of WCAG 2.0, as described in further detail in our response to Question 3. Further, in the absence of advisories, some functional performance criteria lack clarity on the level of performance required for compliance. Thus, we encourage the Access

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[6] ACM US Public Policy Council, Universal Internet Accessibility Policy Recommendation (Jan. 17, 2008), available at http://acm.org/public-policy/accessibility.

ACM US Public Policy Council
1828 L Street NW, Suite 800
Washington, DC 20036

- 3 -

Public Comment
Docket: ATBCB-2011-07
March 7, 2012

Board to consider harmonizing the functional performance criteria with the language in WCAG 2.0 and to provide additional clarification as to what level of functional performance constitutes compliance.

Question 2: **As noted above, the Board has changed the approach taken towards covered electronic content (E205.1) in the 2011 ANPRM. The proposed requirement in Section E205.1 requires electronic content falling into certain categories of official communications by federal agencies to be accessible. Should additional or different types of communications be included in this subsection? What are the benefits and costs of this approach? Would such an approach have any unintended consequences on federal agency communications?**

Electronic information and data produced, published, distributed, or stored by the federal agencies should be in formats and approaches that promote accessibility, analysis, and reuse of that information and data, now and in the future. The proposed approach under E205.1 limits accessibility requirements to nine categories of content and excludes works in progress and drafts from these nine categories when they are "not public facing" and "intended for limited internal distribution." Given that reasonable means, such as low-cost technologies, exist to provide accessibility, we encourage the Access Board to consider a more inclusive approach to accessibility to government information and data in electronic formats.

Section E205.1 also excludes archival electronic content, which includes both natively electronic content and scanned-to-electronic content. This exemption appears to balance the needs of accessibility to contemporary and active information with the practicalities of archival records management, such as storage capacity, long-term data migrations to newer storage formats, and costs. On the one hand, archiving information and data with today's accessibility features and/or technologies could create a risk of narrowing future technical choices to access, use, and interact with that information in the future.

On the other hand, exempting archival content could have the unintended consequence of permitting the removal or alteration of important accessibility information required for meaningful use and accessibility of the archived electronic content in the future. For example, it is unclear whether accessibility metadata (data about data), such as that containing information about the format of the content (audio, braille, subtitles, language, complexity of language level, etc.), would need to be retained when the content is archived. Under Section 404.1, such accessibility information must be preserved for non-archival content that is transmitted or converted. Its advisory note explains that accessibility information must be retained or restored when using compression technologies (encoding, compressing, or transforming). The advisory note also prohibits the stripping out of captioning for video. The requirement to preserve accessibility information only pertains to non-archival content. Thus, the archival exemption could result in the removal of such accessibility information prior to archiving, thereby making it more difficult for people with disabilities to search, retrieve, access, and/or use the archived content in the future when retention of such accessibility information and metadata potentially could be achieved through reasonable technical means and at low costs.

Question 3: **In the discussion above, the Board has changed the approach to the functional performance criteria for limited hearing (302.5) and limited vision (302.2) in the 2011 ANPRM to require three specific features to be provided. These features may be provided either directly or**

through the use of assistive technology. **The Board requests information on whether the features listed in these functional performance requirements will provide accessibility to users with limited vision or hearing, or whether there are other features which should be required in addition or instead. What are the costs and benefits associated with requiring the three features?**

The revised language for the functional performance criteria for limited vision under 302.2 (magnification, reduction of the field of vision, contrast control) and limited hearing under 302.5 (audio clarity, reduction of background noise, and volume control) introduces terms that are not always consistent with WCAG 2.0 and its supporting materials and that lack clarity on what constitutes the level of performance required for compliance. We encourage the Access Board to consider revising the language for consistency with WCAG 2.0 so that software developers, designers, the makers of testing and auditing tools, and equipment manufacturers can read, interpret, and work with one common, harmonized framework of requirements and explanations. Alternately, the Access Board should provide greater clarity and guidance on these functional performance criteria, including the scope of their application and what level of performance is required for compliance.

For example, it is unclear how the required "mode of operation that magnifies" to accommodate limited vision under 302.2 would be implemented and evaluated and how inconsistencies with WCAG 2.0 would reconciled. Specifically, it is unclear whether the mode of operation must allow the user to magnify text, text within images, graphical images, or all of these and to what extent. WCAG 2.0 contains no reference to magnification, and its derivatives, within its substantive provisions and only limited references to it within Appendix A.[7] The Glossary given in Appendix A refers to "magnified content" and "screen magnifiers" under the term "assistive technology" and to "virtual magnifying glasses" for a user's agent under the term "viewport."[8] Magnification also appears in the explanation of Success Criterion for Section 1.4.4 on Resizing Text.[9] The functional purpose of Section 1.4.4 is to make information and content "perceivable" by users by rendering it "distinguishable" and thus "easier for users to see and hear content."[10] Notably, the explanation differentiates between "magnification" (up to 200% for resizing text) and "zoom" (resizing text beyond 200% and text within images).[11]

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[7] WCAG 2.0, *supra* note 5.

[8] *Id.*, Appendix A: Glossary.

[9] WCAG 2.0, Understanding Success Criterion Section 1.4.4, available at http://www.w3.org/TR/UNDERSTANDING-WCAG20/visual-audio-contrast-scale.

[10] WCAG 2.0, *supra* note 5, Sec. 1.4.4.

[11] WCAG 2.0, Understanding Success Criterion Section 1.4.4, *supra* note 9 ("Above 200%, zoom (which resizes text, images, and layout regions and creates a larger canvas that may require both horizontal and vertical scrolling) may be more effective than text resizing. Assistive technology dedicated to zoom support would usually be used in such a situation and may provide better accessibility than attempts by the author to support the user directly.").

ACM US Public Policy Council   - 5 -   Public Comment
1828 L Street NW, Suite 800   Docket: ATBCB-2011-07
Washington, DC 20036   March 7, 2012

Would compliance under 302.2, as proposed, require: (a) providing magnification controls to resize text to 200%, (b) providing controls that can "zoom" beyond 200%, and/or (c) using browsers or user agents that support the resizing of text and/or zoom? Would it be sufficient for federal agencies solely to specify or mandate the use of specific browsers or user agents that support "zoom," as consistent with "Sufficient Techniques" to demonstrate compliance under Success Criterion 1.4.4? To what extent must the sizing control, browser, or user agent "magnify" to be compliant? Must federal agencies provide a minimum level of magnification for text within images and/or graphical images?

Similarly, other modes of operations proposed under Sections 302.2 and 302.5 lack clarity and do not fully address what are acceptable or desirable levels of performance for compliance. As such, the proposed revised language gives little guidance to software developers and telecommunications manufacturers as to how to pragmatically implement the required modes of operation for limited vision and limited hearing.

We encourage the Access Board to take an approach that would provide increased clarity and consistency with WCAG 2.0 for the purpose of assisting covered entities understand and achieve compliance on these key functional performance criteria for users with limited vision and limited hearing. Further, as many of the proposed modes of operation are generally available to implement cost-effectively, we encourage the Access Board to provide adequate guidance and supplementary information about the range of implementation options to further encourage federal agencies, developers, and equipment manufacturers to implement these functional performance measures concurrently wherever possible and to implement additional modes of operation beyond the minimum requirements.

The absence of advisories on these criteria makes it challenging not only for federal agencies to determine what is pragmatically required for compliance but also for testing procedures and automated tools to be constructed to show compliance.

***Question 4*: As noted above, the 2011 ANPRM has changed the relationship between the functional performance criteria and the technical provisions (E204.1). The Board seeks comment on the proposed approach requiring conformance with the functional performance criteria at all times, even when the technical provisions are met. What are the costs and benefits associated with this approach?**

We concur with the proposed requirement that the functional performance criteria must be satisfied at all times, even when the technical provisions are satisfied. The purpose of accessibility requirements is first and foremost to ensure the ability of the user to access, use, and/or exchange information and data and to use computer and telecommunications equipment to accomplish these tasks. A technical requirement, when met, may provide access to information, but it does not necessarily guarantee the usability of that information, particularly for persons with disabilities.

***Question 5*: The 2011 ANPRM requires Web sites to be accessible to individuals with disabilities by conforming to WCAG 2.0. WCAG 2.0 allows a non-conforming (i.e., inaccessible) Web page to be**

ACM US Public Policy Council
1828 L Street NW, Suite 800
Washington, DC 20036

- 6 -

Public Comment
Docket: ATBCB-2011-07
March 7, 2012

considered compliant if there is an accessible mechanism for reaching an accessible version of the Web page that is up to date and contains the same information and functionality as the inaccessible Web page. . . . Should the Board restrict the use of conforming alternate versions? The Board seeks comments on whether allowing inaccessible content, even with conforming alternate versions, negatively affects the usability and accessibility of Web sites by individuals with disabilities. The Board also requests comments on the difficulty or costs that may be incurred if federal departments or agencies are not free to use conforming alternate versions of content along with inaccessible content.

WCAG 2.0 Conformance Requirements and supporting guidance allow for conforming alternate versions when the "preferred method of conformance [to] make all content directly accessible" is not technically available, feasible for large quantities of legacy documents, legally permissible, or the best means to specifically accommodate a certain disability.[12] In such cases, a conforming alternative version must provide the same up-to-date information and functionality, such as completing a transaction.

Further restricting or prohibiting conforming alternate versions beyond those already identified in WCAG 2.0 could potentially preclude the evolution and adoption of more effective or emergent modes of information delivery and exchange and could make it more difficult for makers of software, testing and evaluation tools, and equipment to leverage the efficiencies of effort and costs across multiple markets.

The intent of accessibility standards and guidelines is to make information, data, and telecommunications equipment directly accessible, as well as usable, to people with disabilities whenever possible. With technological innovations and changes in how we use and rely on those technologies in government, the marketplace, and society, a variety of incentives have worked in favor of the preferred approach of designing unified, accessible information, data, and equipment, rather than duplicative efforts to deliver information and data to differing audiences with differing needs. Despite these advances, full, direct accessibility still is not always technically possible or desirable.

For example, Recovery.gov demonstrates the value of meaningful access to information and data provided by conforming alternate versions for people with disabilities when implemented as consistent with WCAG 2.0. The Recovery.gov website, mandated by the American Recovery and Reinvestment Act of 2009 (ARRA), provides public transparency and accountability through public access to government information and data related to stimulus funding. Its data-driven geospatial visualizations are not accessible and no current cost-effective technology is available to make them fully and directly

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[12] WCAG 2.0, Conformance Requirements, available at http://www.w3.org/TR/WCAG/#conformance; Understanding the Conformance Requirements, available at http://www.w3.org/TR/UNDERSTANDING-WCAG20/conformance.html#uc-conforming-alt-versions-head.

accessible to all audiences in one unified format.[13] More than 90,000 visualizations of the data are available for users to interact with so that they can understand more readily where the federal government spent money from the national level down to a particular zip code. These visualizations of the data include static and interactive charts, graphs, and geospatial maps on more than 250,000 awards.[14] Although the visualizations are not fully accessible, the data tables that are used to generate the visualizations are accessible and are available for download in multiple formats that are compatible with widely available open source and low-cost commercial software applications.[15] The conforming alternate versions of accessible downloads provide all users, including those without vision or with limited vision, a broad range of options to download, view, and interact with the data in their choice of applications. Recovery.gov also has shown that content can easily and cost-effectively be maintained up-to-date in conforming alternate versions, as consistent with WCAG 2.0.

The Access Board also should consider whether a conforming alternate version could be appropriate when it provides increased data privacy or security for people with disabilities or enhanced systems security as compared to access through a unified interface. For example, it may be desirable in certain circumstances to provide a conforming alternate version for time-based media, for pages involving sensitive data or personally identifiable information about the user where an alternate format could allow for greater privacy, or for pages reliant on visual-interpretation security tests designed to defeat automated registration software.

We encourage the Access Board to work with federal agencies to encourage the preferred approach of direct accessibility and compliance with WCAG 2.0. Notably, we are encouraged by recent research on new approaches to Human Interaction Proof (HIP) technologies and techniques that could provide greater usability through unified interfaces without sacrificing systems security against automated attacks.[16] Accordingly, we urge the Access Board to work with federal agencies to replace visual CAPTCHAs,[17] which are frequently inaccessible or problematic to users without vision or with limited

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[13] Recovery.gov (providing non-accessible graphical representations of spending data by each of the 50 states using Adobe Flash, JavaScript, XML, SQL databases, and spreadsheets and stating on the page titled Accessibility: "Text only versions of data provided where needed to comply with Section 508 standards") (last visited Mar. 1, 2012).

[14] Jonathan Lazar, et al., *Ensuring Accessibility and Section 508 Compliance for the Recovery.gov Web Site*, in INTERACTION DESIGN: BEYOND HUMAN-COMPUTER INTERACTION (3d ed. 2011), at 2.

[15] Recovery.gov (providing accessible data for download in CSV, XML, and XLS formats and additional resources for software developers seeking to create widgets, mobile applications, and web-based applications).

[16] Graig Sauer, Jonathan Lazar, Harry Hochheiser, and Jinjuan Feng, *Towards a Universally Usable Human Interaction Proof: Evaluation of Task Completion Strategies*, 2 ACM TRANSACTIONS ON ACCESSIBLE COMPUTING 15 (2010) (demonstrating effective and accessible menu-based and free-text entry security features can be successfully accessed and used through a single, unified interface and concurrently provide adequate security against automated attacks).

[17] Completely Automated Public Turing tests to tell Computers and Humans Apart (CAPTCHA) (e.g. distorted text that the user must type into an input box).

vision, with these newer technologies and techniques as they become increasingly technically possible, reasonable, and realistic to implement.

The Access Board also could play a valuable role in informing and training federal agencies on best practices of information and software architecture and design so they can better understand and incorporate technologies and methods of implementation to use the same underlying information and data across multiple modes of delivery and presentation, thereby avoiding content versioning issues and fostering compliance with WCAG 2.0 and its supporting documentation.

Question 6: **The Board seeks comment on whether it should provide additional provisions to address accessibility concerns associated with features of ICT, such as content displayed on small screens, which are not otherwise addressed. For example the Board is considering whether to allow an exception to subsection 402.4 for text size for ICT which has a smaller screen. Should the Board require a minimum or maximum screen size to display content? Should a minimum text size be specified for display on a screen? When ICT communicates or produces electronic content or retrieves information or data, are there additional unique limiting features that are not adequately addressed in these provisions, such as screen and text size and battery life, which the Board should address?**

First, where WCAG 2.0 currently does not readily extend to non-web services, platforms, and devices, we encourage the Access Board to work with W3C or other competent international authorities to amend or provide additional guidance, rather than introduce exceptions or impose new requirements domestically that could undermine the purpose and benefits of global harmonization.

Should the Access Board choose to adopt exceptions or its own requirements beyond WCAG 2.0, specific requirements need to be straightforward and focus on functional performance criteria and accessibility goals rather than mandate specific design criteria or technologies. This approach will allow the providers of information and services, as well as developers, to focus on achieving compliance rather than trying to innovate within rigid constraints reflective of older and possibly soon-to-be-outdated technologies. By promoting solid principles of functional design, rather than specific implementation details, the standards will be more durable and provide the necessary flexibility for developers and manufacturers to build accessibility features at reasonable costs that account for the wide range of ICT technologies, including small-screen devices.

For example, rather than create an exception to minimum text size under subsection 402.4 for smaller screen devices, the Access Board should define functional performance requirements as consistent with the framework of the four accessibility principles codified in WCAG 2.0: perceivable, operable, understandable, and robust (POAR). Our concern is that, although such an exception could promote flexibility and innovation in mobile services and products, it could do so at the risk of creating an overly broad exception from accessibility.

Question 7: **Are there some features or technologies addressed in the ANPRM that are obsolete or that have changed in a way that makes the proposed requirements irrelevant or difficult to apply? If so, commenters should recommend revisions to those section(s) of the ANPRM that should be**

ACM US Public Policy Council
1828 L Street NW, Suite 800
Washington, DC 20036

- 9 -

Public Comment
Docket: ATBCB-2011-07
March 7, 2012

updated and, if possible, recommend specific changes that would address the needs of individuals with disabilities and the unique characteristics of the technology concerned.

Certain hearing technologies, such as cochlear implants, are increasingly providing alternative forms of adaptive and assistive technologies for those experiencing hearing loss. These newer hearing technologies may pose difficulties when applying the proposed requirements. We urge the Access Board to encourage the ANSI/IEEE C63 working group to continue its work to address the relevant issues for incorporation in the next revision of the standard and to provide interim guidance on relevant issues, as appropriate, until the promulgation and adoption of future revisions of the standard. We support the broad language of "hearing technologies" used in Sections 408.3 and 408.4.

See our response to Question 6 as related to a recommended approach when WCAG 2.0 does not readily extend to non-web services, platforms, and devices.

See our response under Question 8 as related to changes in technologies for input controls that would not be tactilely discernible.

Question 8: **Some modern touch screen devices, such as versions of some smartphones and tablets, have proved popular with people who are blind, despite not having keys which are tactilely discernible. Should the provision requiring that input controls be tactilely discernible (407.3) be revised to allow for such novel input methods? Should the Board add an exception to 407.3 to allow for input controls which are not tactilely discernible when access is provided in another way? If so, how should access be addressed when the controls are not tactilely discernible? Should a particular technology or method of approach be specified?**

We support a revision of Section 407.3 to allow for existing and emergent input methods for the blind that do not rely exclusively on tactilely discernible controls. Some current smartphones and other mobile devices, which are widely available at competitive low-cost consumer prices, provide audio and visual feedback for touchscreen controls and thus allow the user to interact with the interface or device without a tactile keyboard. We recommend revising the language of Section 407.3 to reflect functional performance criteria that can be accomplished through multiple means of implementation.

We caution against mandating a particular technology or method of approach because it could stifle innovation, preclude the use of more effective technologies, and result in the unintended consequence of encouraging more alternate versions for non-conforming products and services.

Question 9: **Is applying the WCAG 2.0 Success and Conformance criteria to electronic documents and applications outside the web browser environment sufficient and clear to users, or should the Board provide further clarification? Are there other accessibility standards more applicable to user interface components and content of platforms and applications than WCAG 2.0 that the Board should reference?**

Applying WCAG 2.0 Success and Conformance criteria directly to non-web services and products may

ACM US Public Policy Council

pose difficulties, particularly with respect to applications and operating systems. For these situations, we encourage the Access Board to consider additional clarification and continued harmonization with WCAG 2.0 and other international standards.

We note the Final Report, released December 2011, of the Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities.[18] Its first recommendation urges Congress to authorize the Access Board to establish guidelines for accessible instructional materials for use by the federal government, as well as other government entities, the private sector, and academic settings.[19] In the related discussion of the recommendation, the report observes that multiple stakeholders advocated in support of basing any new accessible instructional materials guidelines on the updated Section 508 guidelines.[20]

Thank you again for the opportunity to comment on this ANPRM. We appreciate the Access Board's careful and ongoing consideration of accessibility issues and your willingness to engage with the wide range of stakeholders on these important issues.

The staff and members of the ACM U.S. Public Policy Council (USACM) and the ACM Special Interest Group on Computer Human Interaction (SIGCHI) are available if you have questions or would like additional information about the issues raised in this public comment.

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[18] U.S. DEP'T OF ED., ADVISORY COMM'N ON ACCESSIBLE INSTRUCTIONAL MATERIALS IN POSTSECONDARY EDUCATION FOR STUDENTS WITH DISABILITIES, FINAL REPORT (Dec. 2011), available at http://www.ed.gov/about/bdscomm/list/aim/.

[19] *Id*., at 42.

[20] *Id*.