MANDATED REQUIREMENTS

October 20, 2019

Compiled and prepared by the Kiosk Manufacturer Association (KMA) ADA and Accessibility Committee). Members include Olea Kiosks, KioWare, Kiosk Group, Storm Interface, Frank Mayer & Associates, Inc., Vispero, Peerless AV, Mimo Monitors, KIOSK Information Systems, TurnKey Kiosks, DynaTouch, AudioEye and Tech For All Consulting. **Chairpersons** Randy Amundsun of Frank Mayer and Associates, Inc. and Laura Miller of Vispero formerly KioWare.

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Additional Consulted - IMPRESA, TouchPay, Acquire Digital, Self Service Networks, Panel Brite, TTCE, SEKO MedTec, Marathon, CUSTOM, TOKENWORKS, Insight Touch, Microcom, TECA, STEGO, Practical Automation, Ingenico, Esper. IO, Axiohm, TDS TOUCH, Evolis, BOCA Systems, URway Holdings, Alveni, Kiosk Innovations and Apriva. We also recognize multiple retailers, the RNIB (via proxy), NCR Dundee and the University of Maryland for their contributions.

MASTER TABLE OF CONTENTS

1. Introduction Base Document

1.1. Notes About KMA

1.1.1. Kiosk Manufacturer Association (KMA) standards are developed through a consensus standards development process approved by the ADA and Accessibility Committee of KMA. We follow the ANSI standard. This process brings together volunteers representing varied viewpoints and interests to achieve consensus and develop a standard.

1.1.2. The USAB refers to ICT. In our language that is "Interactive Self-Service and Informational Terminals". Also segmented as "Transactional" versus Informational". Many items covered by "Information and Communications Technology" are NOT primary or secondary components in Interactive Self-Service and Informational Terminals

1.1.3. This publication was developed by consensus, which is defined by KMA as "substantial agreement on inclusion for consideration". Consensus implies more than a simple majority, but not necessarily unanimity. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all of this publication.

1.1.4. **Purpose of this document** - 1) Collect and organize all relevant references in one location so that kiosk manufacturers can refer to common repository of relevant regulations, 2) Begin concise document or Code of Practice for plain english guidelines going forward. This includes some areas which have no current regulations (e.g. Voice Recognition).

1.1.5. The document is currently divided into four main sections: Hardware, Software, Devices and Resources (which includes proposed Guide or CoP). It is very often a combination of relevant hardware, software and devices which comprise accessibility. Organizing it in this fashion helps us get all the considerations in one place, and allows hardware manufacturers to advocate for software, and vice versa.

1.1.6. One notable section is under Voice Recognition and Command which has no pre-existing standards on which to base our actions. These standards are being formed as we go thru real practice.

1.1.7. Answering client questions often involves discussing redundancies from one set of regulations to another, therefore we have stated many redundancies though we have tried to conditionalize them so that better explanations and reasoning can be established with customers.

1.1.8.   Although KMA administers the process and establishes rules to promote fairness in achieving consensus, it does not independently test, evaluate, or verify the content of standards.

1.1.9.   KMA is a not-for-profit, nonstatutory, voluntary membership association engaged in standards development and certification activities.

1.1.10.   KMA standards reflect an international consensus of producers and users — including manufacturers, consumers, retailers, unions and professional organizations, and governmental agencies.

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1.1.13.   *Commentary -- Kiosks in the field -- We have made no recommendations regarding existing kiosks in the field. It is possible a limited retrofit package could be developed which would raise accessibility levels.*

1.1.14.   *Commentary: IN NO EVENT SHALL KMA, ITS VOLUNTEERS, MEMBERS, SUBSIDIARIES, OR AFFILIATED COMPANIES, OR THEIR EMPLOYEES, DIRECTORS, OR OFFICERS, BE LIABLE FOR ANY DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO SPECIAL OR CONSEQUENTIAL DAMAGES, LOST REVENUE, BUSINESS INTERRUPTION, LOST OR DAMAGED DATA, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER THEORY OF LIABILITY, ARISING OUT OF OR RESULTING FROM ACCESS TO OR POSSESSION OR USE OF THIS DOCUMENT, EVEN IF KMA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES.*

2. Scope

2.1. Formal Definition - The USAB uses ICT or "Information and Communications Technology) terminals. General consensus by USAB is it should have been Information Technology but the FAR definition was used by default.

Commentary: we propose subcategorizing ICT as used towards kiosks specifically as "Interactive Self-Service Kiosks and Information Kiosks" aka SSK. For purposes of current regulation document section we will continue to use ICT.

2.2. Density & population of accessible kiosks or other ICT terminals in any given location or application.

2.2.1. The stated KMA objective and recommendation is that all ICT/Kiosks should be as inclusive and as accessible as possible. However, it is recognized that this stated objective may not be viably delivered in all locations or applications. It is therefore proposed that the KMA adopt a 'minimum density of accessible kiosks' policy.

2.2.2. It is recommended that only 'accessible' kiosks be installed until 25% of the total kiosk population in any given location, grouping, common purpose or application meet Standards for Accessible Design

2.2.3. This minimum kiosk population density applies to owned, jointly owned, leased, shared use, controlled, franchised or operated kiosks or other ICT terminals deployed in public spaces, public amenities and in places of public accommodation or service.

2.2.4. To comply with the ACAA Standards for Accessible Design only 'accessible' kiosks should be installed until 25% of total kiosk population meets the requirements for Accessible Design.

2.2.5. To comply with the ACAA, 25% of kiosk population must be compliant by December 12th 2022

2.2.6. Example - If three kiosks are located together, for a common purpose(s), in a group, line or other configuration, then a minimum of one kiosk must be compliant with Standards for Accessible Design. If eight kiosks are located together, for a common purpose(s), in a group, line or other configuration, then a minimum of two kiosks must be compliant with Standards for Accessible design. If a single kiosk is located, for a specific purpose(s), whether or not in proximity to other kiosks located for other purpose(s), then it must be compliant with Standards for Accessible Design.

3.   Hardware and Enclosures

3.1.   Current regulations listed and considered

3.1.1.   ADA 2010

3.1.1.1.   305 - Maneuvering and More ADA2010

3.1.1.2.   306 - Depth and Clearance ADA 2010

3.1.1.3.   303 - Changes in level ADA2010 (generally not permitted)

3.1.1.4.   Protruding Objects ADA2010 [refers to 307]

3.1.1.5.   [Suggestion] Kiosks must be visually and tactilely identifiable to users as accessible (e.g., an international symbol of accessibility affixed to the front of the device

3.1.1.6.   General Reach Ranges -- ADA2010 - [reach ranges specified in 508 Guidelines and Operable Parts and included in 407.8 -- refer to those]

3.1.1.7.   Operable Parts -- ADA2010 [refer to Section 508 for complete most current]

3.1.1.8.   305.7.1 Maneuvering Clearance in Alcove ADA2010

3.1.1.9.   403 Clear Width -- ADA2010

3.1.1.10.   404 Maneuvering Clearances -- ADA2010

3.1.1.11.   902.3 Work Surfaces, Countertop, Table Top, Voting

3.1.1.12.   Biometric Devices such IRIS Scan

3.1.1.13.   Camera

    3.1.1.13.1.   Fixed camera

    3.1.1.13.2.   Facial recognition

    3.1.1.13.3.   Gesture control

    3.1.1.13.4.   Using mobile phone

3.1.1.14.   Stereo Audio Jack - synthesized speech capable - see Speakers

3.1.1.15.   Speakers

3.1.1.16.   Audio Recommendations

    3.1.1.16.1.   Speech output must be delivered through a mechanism that is readily available to all users, including but not limited to, an industry standard connector or a telephone handset

    3.1.1.16.2.   Speech output must be recorded or digitized human. Speech output must be coordinated with information displayed on the screen.n, or synthesized.

    3.1.1.16.3.   When asterisks or other masking characters are used to represent personal identification numbers or other visual output that is not displayed for security purposes, the masking characters must be spoken ("*" spoken as "asterisk") rather than presented as beep tones or speech representing the concealed information. ^^^ 508 allows beeps ^^^

3.1.1.16.4. Advertisements and other similar information are not required to be audible unless they convey information that can be used in the transaction being conducted.

3.1.1.16.5. Speech for any single function must be automatically interrupted when a transaction is selected or navigation controls are used.

3.1.1.16.6. Speech must be capable of being repeated and paused by the user.

3.1.1.16.7. Where receipts, tickets, or other outputs are provided as a result of a transaction, speech output must include all information necessary to complete or verify the transaction, except that— (1) Accessible ICT kiosk location, date and time of transaction, customer account numbers, and the kiosk identifier are not required to be audible; (2) Information that duplicates information available on-screen and already presented audibly is not required to be repeated.

3.1.1.16.8. Volume Control - Automated kiosks must provide volume control complying with the following:

3.1.1.16.8.1. *Private listening. Where speech is delivered through a mechanism for private listening, the automated kiosk must provide a means for the user to control the volume. A function must be provided to automatically reset the volume to the default level after every use.*

3.1.1.16.8.2. *Speaker volume. Where sound is delivered through speakers on the automated kiosk, incremental volume control must be provided with output amplification up to a level of at least 65 dB SPL. Where the ambient noise level of the environment is above 45 dB SPL, a volume gain of at least 20 dB above the ambient level must be user selectable. A function must be provided to automatically reset the volume to the default level after every use.*

3.1.1.17. 703 Braille -- [signage] - Also defined in 508 "402.2.5 Braille Instructions"

3.1.1.18. 707 ATM and Fare Machines - older guidelines applicable to ATMs and fare machines. Most relevant information is included in D.O.T. and Section 508. Note that kiosk manufacturers produce ATMs, Reverse ATMs, Turnstiles as well as Fare machines which also are considered vending automation.

3.1.1.19. Form factor considerations - pedestal, countertop, tabletops, thru-wall, wall mount, drive thrus, user-held, countertops, turnstiles, gates, large trucks, standing posts, outdoor. *I am not sure if an underwater kiosk has been done but I would expect one has.*

3.1.2. Section 508

3.1.2.1.   402 - Closed Functionality -- Section 508 Final Rule

3.1.2.2.   407 - Operable Parts -- Section 508 Final Rule

3.1.2.3.   403 Biometrics -- Section 508 Final Rule

3.1.2.4.   302 - Function Performance Criteria

3.1.3. DOT Air Carrier Access Act - Whilst this regulation issued by the US Department of Transport covers public ICT deployed in the Air Passenger Transportation Sector, it would be prudent and good practice for kiosk deployers in all sectors to follow this established legal precedent.

3.1.4. Standards To Consider

3.1.4.1.   Canadian Standards of note
- 3.1.4.1.1.   B651.1 CSA standards
- 3.1.4.1.2.   B651.2 CSA Standards

3.1.4.2.   WCAG

3.1.4.3.   EN301-549 for International

3.1.4.4.   Additional Standards In Play
- 3.1.4.4.1.   HIPAA
- 3.1.4.4.2.   WCAG
- 3.1.4.4.3.   EMV
- 3.1.4.4.4.   PCI
- 3.1.4.4.5.   UL
- 3.1.4.4.6.   NEMA
- 3.1.4.4.7.   Rohs
- 3.1.4.4.8.   CE
- 3.1.4.4.9.   FCC
- 3.1.4.4.10.   Medical 60601
- 3.1.4.4.11.   Gaming - GLI standards.
- 3.1.4.4.12.   Jurisdictions
  - *3.1.4.4.12.1.   California Unruh versus other states*

3.1.5. Rule Review and Clarifications

3.1.5.1.   Clear Floor or Ground Space

3.1.5.1.1.   A clear floor or ground space complying with section 305 of the U.S. Department of Justice's 2010 ADA Standards for Accessible Design, 28 CFR 35.104 (defining the "2010 Standards" for title II as the requirements set forth in appendices B and D to 36 CFR part 1191 and the requirements contained in 28 CFR 35.151) (hereinafter 2010 ADA Standards) must be provided.

3.1.5.2.   Location of Operable Parts

3.1.5.2.1.   Operable parts must comply with section 309 of the 2010 ADA Standards

3.1.5.3.   Notes: - ADA 309 includes Clear Floor and Ground Space (305) and reach requirements specified in 308. Or… include all of the "407.8 Reach Height and Depth" from the Section 508 standards. (worth comparing the ADA and 508 information to see if it's the same) The ADA version as it includes figures (drawings)… The 508 is all text.

4.   Software

4.1.   Current regulations references

4.1.1.   Section 508 Final Rule (US Govt/State Only)

4.1.1.1.   302.1 Without Vision -- Section 508 Final Rule

4.1.1.2.   302.2 Limited Vision -- Section 508 Final Rule

4.1.1.3.   302.3 Perception of Color -- Section 508 Final Rule

4.1.1.4.   302.4 Without Hearing -- Section 508 Final Rule

4.1.1.5.   302.5 Limited Hearing -- Section 508 Final Rule

4.1.1.6.   302.6 Without Speech -- Section 508 Final Rule

4.1.1.7.   302.7 Manipulation -- Section 508 Final Rule

4.1.1.8.   302.8 Reach & Strength -- Section 508 Final Rule

4.1.1.9.   302.9 Limited Language, Cognitive, & Learning Abilities -- Section 508 Final Rule

4.1.1.10.   402.2.1 Information Displayed On-Screen -- Section 508 Final Rule

4.1.1.11.   402.2.2 Transactional Outputs-- Section 508 Final Rule

4.1.1.12.   402.2.3 Speech Delivery Type and Coordination-- Section 508 Final Rule

4.1.1.13.   402.2.4 User Control-- Section 508 Final Rule

4.1.1.14.   407.2 Contrast -- Section 508 Final Rule

4.1.1.15.   407.4 Key Repeat -- Section 508 Final Rule

4.1.1.16.   407.5 Timed Response -- Section 508 Final Rule

4.1.1.17.   410.1 Color Coding -- Section 508 Final Rule

4.1.1.18.   411.1 Audible Signals -- Section 508 Final Rule

4.1.1.19.   413.1.1 Decoding and Display of Closed Captions-- Section 508 Final Rule

4.1.1.20.   502.1 Interoperability w/ Assistive Technology -- Section 508 Final Rule

4.1.2.   ADA2010 - none relevant to software

4.1.3.   DOT - All / most of the DOT standards that address software are included in the 508 content.

4.1.4.   WCAG Considerations - We need to identify WCAG guidelines that are applicable to kiosk software. Access Board to provide guidance on which WCAG guidelines are applicable for kiosks. [Disagreement on this issue] See E207.

4.1.4.1.   WCAG E205.4 Accessibility Standard

4.1.4.2.   WCAG E207.2 Conformance

4.1.4.3.   WCAG C203

4.1.4.4.   WCAG 408 Display Screens Flashing

4.1.4.5.   WCAG 501 General

4.1.4.6.   WCAG 504 Authoring Tools

4.1.4.7.   WCAG 602 Support Documentation

4.1.4.8.   WCAG 2.0 referenced standard location

4.1.4.9.   WCAG Web refs - E205.4, E205.2.1, E207.2, E207.2.1, C203.1, C203.2.1, C205.2, 501.1, 504.2, 504.3, 504.4, and 602.3

4.1.4.10.   WCAG Considerations (web content)

4.1.4.10.1.   General web content specifications -- 2.1 Level AA

4.1.4.10.2.   1.1.1 Non-text content -- WCAG 2.1

4.1.4.10.3.   1.2 Time-based media -- WCAG 2.1

4.1.4.10.3.1.   1.1.2.2 Captions -- WCAG 2.1

4.1.4.10.3.2.   1.2.8 Alternative Time based media -- WCAG 2.1

4.1.4.10.4.   1.3.2 Meaningful Sequence -- WCAG 2.1

4.1.4.10.5.   1.4.1 Use of Color -- WCAG 2.1

4.1.4.10.6.   1.4.2 Audio Control -- WCAG 2.1

4.1.4.10.7.   1.4.3 Contrast Minimum -- WCAG 2.1

4.1.4.10.8.   1.4.4 Resize Text -- WCAG 2.1

4.1.4.10.9.   2.3 Seizures & Physical Reactions -- WCAG 2.1

4.1.4.10.10.   2.5.1 Pointer Gestures -- WCAG 2.1

4.1.5.   EN 301-549 European Standards

4.1.5.1.   Incorporate other ideas

4.1.5.2.   Cross Reference

5.   Devices

5.1.   Visual display screens. Contrast, colours, resolution

5.1.1.   703.5.1 ADA 2010 - Finish and Contrast (for text. Note: appears to not apply to digital signs)

5.1.2.   703.6.2 ADA 2010 - Finish and Contrast (for pictograms)

5.1.3.   703.7.1 Finish and Contrast. (for symbols of accessibility)

5.1.4.   707.6.3.1 Contrast. (for function keys)

5.1.5.   407.3 Operable Parts - Contrast - ICT Refresh Final Rule

5.1.6.   408 Display Screens - ICT Refresh Final Rule

5.1.7.   Outdoor Recommendations

5.2.   Tactile Requirements - Alternative means of content navigation must be provided for those who cannot see, read or interact with touch screens. Alternative means of content navigation must provide access to all information, services and products provided to those without impairments or disabilities.

5.2.1.   Current - 2010 ADA Standards for Accessible Design, section 707.6.

5.2.2.   Current - 2010 ADA Standards for Accessible Design, section 707

5.2.3.   Current Standards - Section 508 Standards for Electronic and Information Technology as published in the Federal Register on December 21, 2000, subpart B Technical Standards section 1194.25 (which refers the user to follow 1194.23)

5.3.   Tactility, Voice Recognition and Speech - SEE PART 4

5.4.   EMV

Commentary - QSR, Self-Order and POS in general uses attended EMV terminals which may or may not support audio output. The majority do not currently but new POS terminals are slated to support. Unattended kiosk EMV terminals as a general rule do not. Customers need to be able to hear total transaction value. POS in general deserves a specific look since it overlaps with kiosks.

5.5.   Privacy and Personal Data Protection

5.5.1.   Screen Technologies

5.5.2.   Physical Barriers

5.5.3.   HIPAA

5.5.4.   Biometrics

5.5.5.   Anti-microbial Considerations

5.5.6.   Data Encryption