Accessibility on the Library Horizon

The *NMC Horizon Report > 2017 Library Edition*

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Panelists

Melissa Green

Academic Technologies Instruction Librarian

The University of Alabama

@mbfortson

Panelists

Melissa Mallon

Director of Peabody Library/Director of Liaison & Instruction Services

Vanderbilt University Libraries

@librarianliss

Panelists

Rachel Thompson

Director of Emerging Technology and Accessibility

The University of Alabama

@rshuttle

Panel format

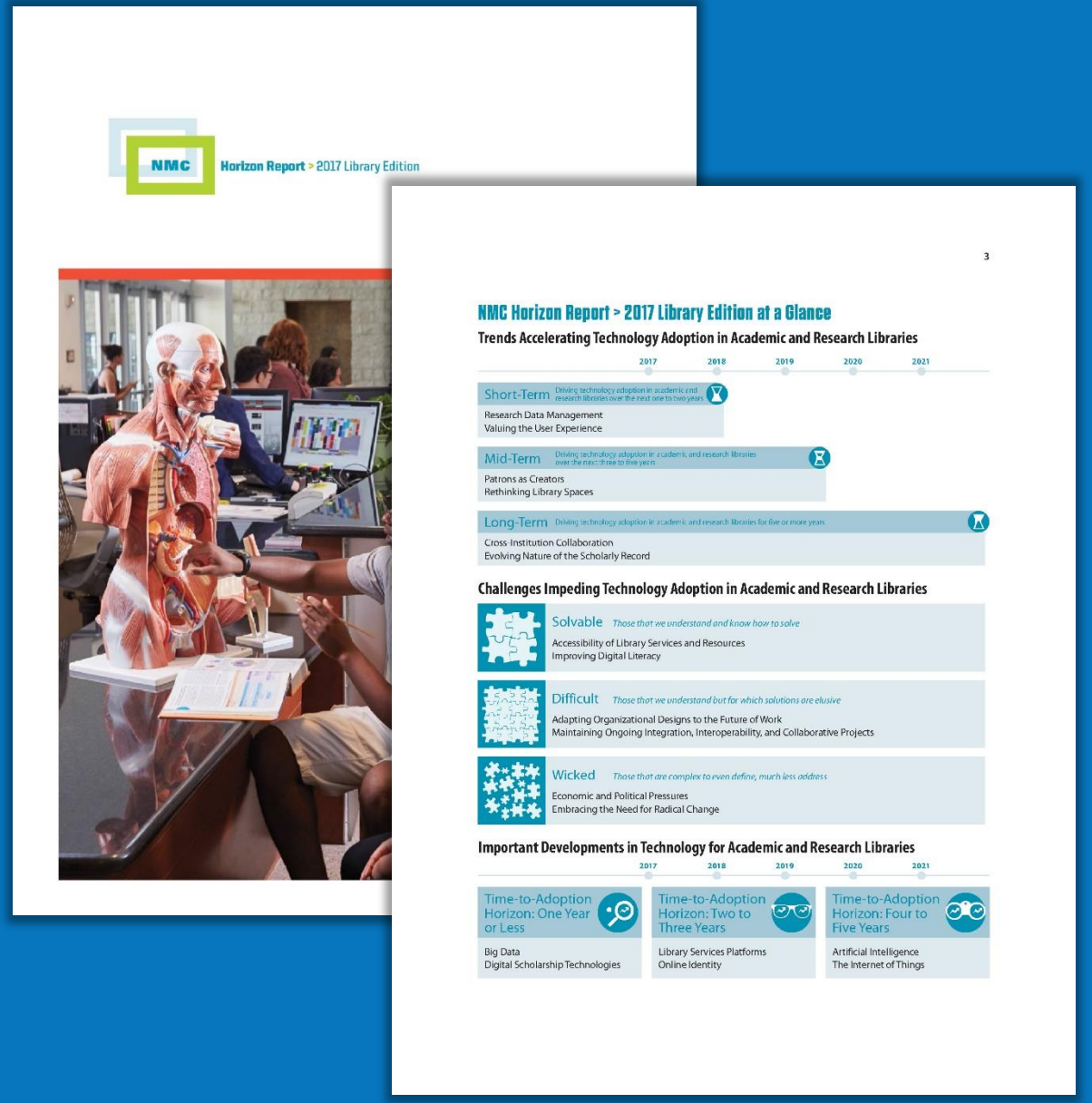
- The *NMC Horizon Report > 2017 Library Edition*
- Six important technological developments
  - What they are
  - Potential to enhance accessibility and learning
  - Potential to diminish accessibility and learning

Engage with us

- Twitter hashtag: #ACRL2017Horizon
- Google Doc: http://bit.ly/ACRL2017Horizon
- Resources: https://accessibility.ua.edu/acrl/

Poll:
https://pollev.com/melissamallon

The *NMC Horizon Report: 2017 Library Edition*



NMC Horizon Report > 2017 Library Edition at a Glance

Trends Accelerating Technology Adoption in Academic and Research Libraries

2017 2018 2019 2020 2021

Short-Term
Driving technology adoption in academic and research libraries over the next one to two years

Research Data Management
Valuing the User Experience

Mid-Term
Driving technology adoption in academic and research libraries over the next three to five years

Patrons as Creators
Rethinking Library Spaces

Long-Term
Driving technology adoption in academic and research libraries for five or more years

Cross-Institution Collaboration
Evolving Nature of the Scholarly Record

NMC Horizon Report > 2017 Library Edition at a Glance

Challenges Impeding Technology Adoption in Academic and Research Libraries

Solvable *Those that we understand and know how to solve*

Accessibility of Library Services and Resources
Improving Digital Literacy

Difficult *Those that we understand but for which solutions are elusive*

Adapting Organizational Designs to the Future of Work
Maintaining Ongoing Integration, Interoperability, and Collaborative Projects

Wicked *Those that are complex to even define, much less address*

Economic and Political Pressures
Embracing the Need for Radical Change

NMC Horizon Report > 2017 Library Edition at a Glance

Important Developments in Technology for Academic and Research Libraries

2017 2018 2019 2020 2021

Time-to-Adoption Horizon: One Year or Less

Big Data
Digital Scholarship Technologies

Time-to-Adoption Horizon: Two to Three Years

Library Services Platforms
Online Identity

Time-to-Adoption Horizon: Four to Five Years

Artificial Intelligence
The Internet of Things

Six Meta-categories for *NMC Horizon Report* Topics

Expanding Access and Convenience

People expect to be able to learn and work anywhere, with constant access to learning materials, as well as each other. Academic and research libraries have made great strides in generating more methods and platforms for students, faculty, and researchers to collaborate and be productive wherever they are. The advent of always-connected devices has provided more flexibility in how, when, and where people learn and conduct research, and many libraries have updated their IT infrastructures accordingly. Further, libraries must continuously update their policies and services to accommodate all patrons, regardless of disabilities.

Solvable Challenge: Accessibility of Library Services & Resources

- New obstacles surfacing as technology changes the way we access information
- Growing accessibility focus impacts required skills
- Need to implement technologies and learning resources with diverse needs in mind
- Incorporation of universal design principles can improve user experience for all

Solvable Challenge: Accessibility of Library Services & Resources

- Additional strategies
  - Usability testing
  - Digital accessibility audits
  - Learning technologies accessibility standards
- Integrating student voices will be paramount
- Libraries can pave the way

NMC Horizon Report > 2017 Library Edition at a Glance

Important Developments in Technology for Academic and Research Libraries

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Near-term

Time to adoption horizon: one year or less

Big Data

- Growing, massive amounts of data generated by our behaviors and actions
- Increasingly easy to analyze and identify patterns that may have otherwise gone undetected
- With the complexity surrounding such large, diverse sets of data, displaying the information in a digestible format is crucial to its success

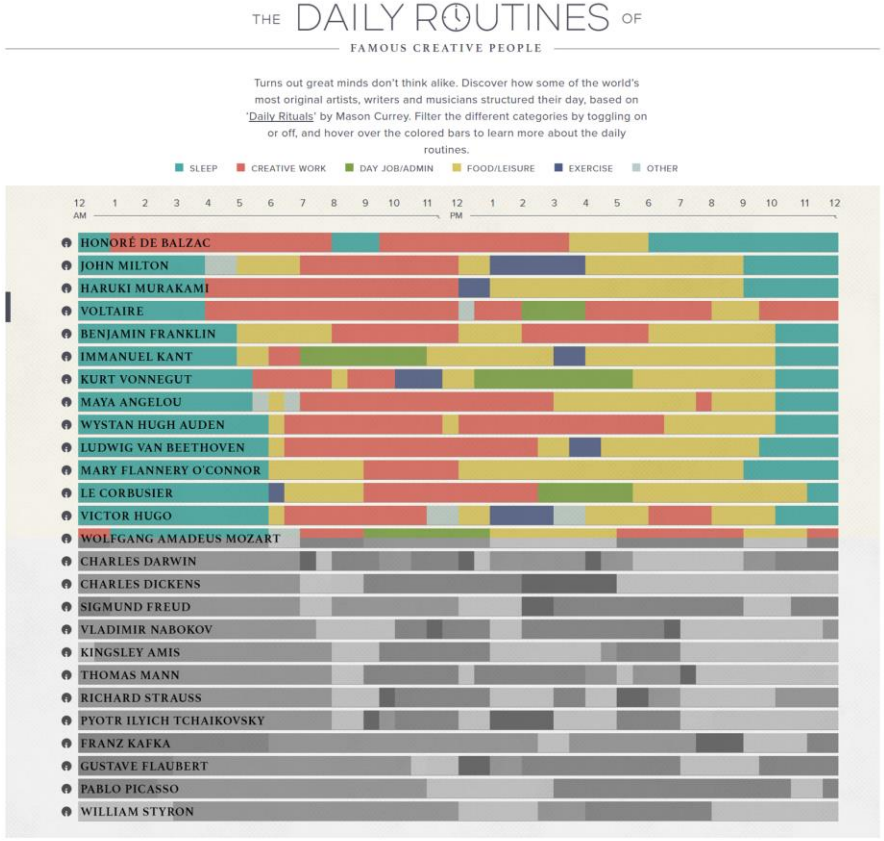
Big Data

- Impact on teaching and learning
  - Mining our institutional data to examine student behavior and predict student needs
  - New avenues for research in many fields
  - New ways to make big data understandable and meaningful

  - Questions regarding privacy and security
  - How dirty is our data?

Big Data

- Potential to diminish accessibility:
  - Privacy, trust, and stereotyping potential
  - Increased focus on visual representations of data can exclude some users
  - Equivalent experience quandary for innovative tools without access



Big Data

- Potential to enhance accessibility:
  - Offers inroads to explore other ways to perceive and comprehend data relationships.
    - Describler screen reader
    - Sonification of data and auditory graphs
  - Reaching visual learners
  - Data analytics may show areas of concern and opportunity
  - Digitization projects offer unprecedented access to materials

Digital Scholarship Technologies

- The expansion of scholarship to the digital realm, where the components of scholarship are digital or accomplished digitally, including evidence, research, methods of inquiry, creation/authoring, editing, dissemination, and curation.

- Includes use of and study of digital media, including social media.

Digital Scholarship Technologies

Impact on Teaching and Learning:

- Evolution of the academy? Acceptance of diverse scholarship, communication, publication, and research.
- New areas of inquiry and frontiers for research:
  - Social media as evidence:
    - No Homophobes (trigger warning)
    - Twitter data research
- Potential for near-immediate access to source and primary documents
- New tools available frequently, some more reliable and useful than others

Digital Scholarship Technologies

- Potential to diminish accessibility
- Access for all is crucial in the tool development, usage, and output
  - Prezi
  - "To conclude, the entire world seems to believe that blind people make terrific musicians with the exception of the companies that make technology related to music who seem to ignore our needs as a matter of course." - Chris Hofstader
  - What could we do if we tried to make digital scholarship (new and existing) accessible to all?

Digital Scholarship Technologies

- Potential to enhance accessibility
  - If tools to create and engage with digital scholarship are created with accessibility in mind, everyone benefits.
    - Gesture Input for Accessible STEM
  - Methods of envisioning data that can activate the creativity of students who don't thrive in traditional classroom activities
  - Learning communities that can unite PwD in ways difficult to achieve with physical, face-to-face campus
    - #cripthevote Twitter chat Disability Visibility Project

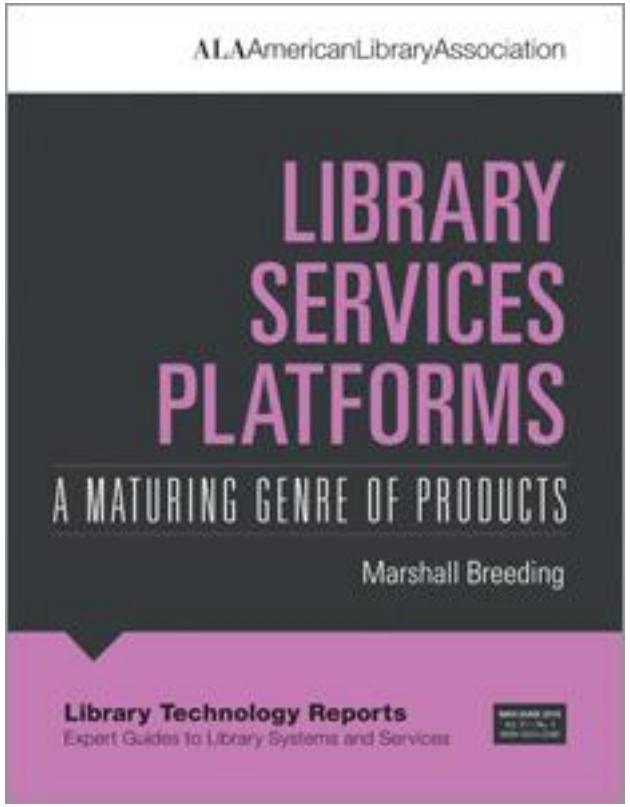
Mid-term

Time to adoption horizon: two to three years

Library Services Platforms

- Next-gen of integrated library systems are referred to as “library service platforms” (LSPs), coined by Marshall Breeding

- Shift to discovery interfaces, cloud-based platforms and integrated resource management



Library Services Platforms

- Impact on teaching and learning
  - Cloud-based LSPs
  - Curriculum driven use of library materials
  - Faculty looking beyond the LMS
    - API integration
    - Enterprise platform in SirsiDynix's BlueCloud LSP

Library Services Platforms

- Potential to enhance accessibility
  - The Folio Project - https://www.folio.org/
  - Google Impact Challenge - https://www.google.co.uk/about/values-in-action/impact-challenge/

Library Services Platforms

- Potential to diminish accessibility
  - Lack of interoperability
  - Vendor swapping
  - Need for vendors to acknowledge UDL

Online Identity

- Listed as a "social medial technology" in the 2017 Higher Ed Horizon Report, which are classified as ubiquitous, ever-evolving ideas, tools, and platforms.

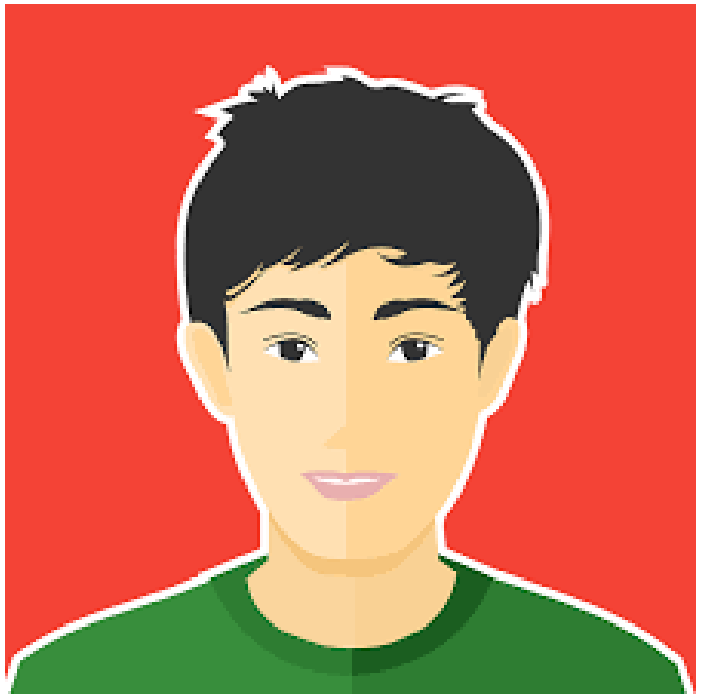
- **Spreading digital fluency is a core responsibility.** Libraries are well-positioned to lead efforts that develop patrons' digital citizenship, ensuring mastery of responsible and creative technology use, including online identity, communication etiquette, and rights and responsibilities.

Online Identity

- Impact on teaching and learning
  - Implications for digital literacy
  - Research & identity management
  - Single sign-on / user authentication

Online Identity

- Potential to enhance accessibility
  - Creation of avatars or alternate identities
  - Tracking user data for targeted content



Online Identity

- Potential to diminish accessibility
  - Participatory engagement . . . for some
  - Password security affected by physical, visual impairments

Far-term

Time to adoption horizon: four to five years

Artificial Intelligence

- The design, implementation, and use of programs, machines, and systems that exhibit human intelligence
  - Voice recognition
  - Image identification
  - Natural language processing
  - Expert systems
  - Neural networks
  - Planning
  - Robotics
  - Intelligent agents

Artificial Intelligence

- Impact on teaching and learning
  - More sophisticated databases and search engines
    - Semantic Scholar
  - Increase in personalization
  - AI agents/bots
    - Hugh
  - Intelligent tutoring
  - Virtual reality and computer vision for immersive, hands-on learning
  - Simulations and gamification with rich learning analytics

Artificial Intelligence

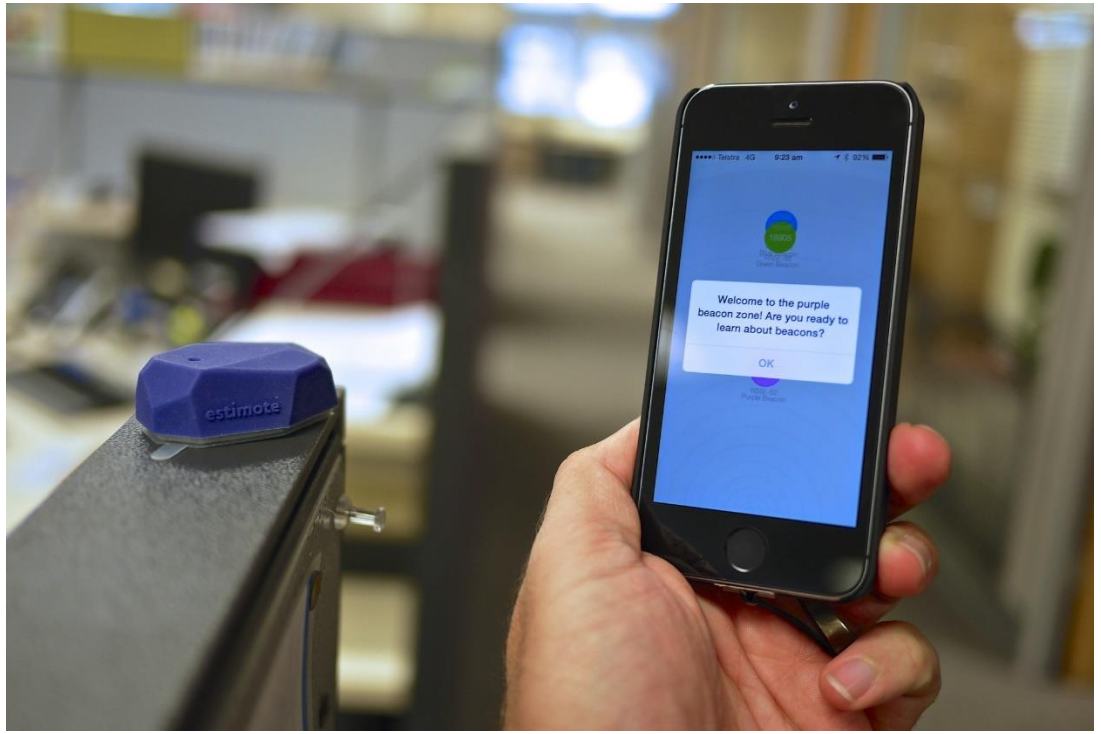
- Potential to enhance accessibility
  - Tool for differentiated instruction
  - Offers ability to create personalized user experiences hat take accessibility needs and preferences into account
  - May be able to recognize emotions and other non-verbal cues

Artificial Intelligence

- Potential to diminish accessibility
  - Concerns about the accessibility of the technologies themselves
  - Intelligent tutoring/adaptive learning perhaps not an effective approach for students who don’t test well
  - Personalization concerns for AT users

The Internet of Things

- Network of connected objects that link the physical world with the world of information



The Internet of Things

- Impact on teaching and learning
  - Libraries can use beacons to:
    - Connect patrons to exhibit information
    - Provide targeted notifications about events and services based on location in the library
    - Suggest relevant electronic resources as patrons browse the stacks
    - Share instructions for technology usage as patrons approach devices
    - Better understand their patrons
    - Monitor equipment and environmental conditions
  - Additional uses outside the library

The Internet of Things

- Potential to enhance accessibility
  - Can be used to create more accessible environments
  - Beacons can be used to provide audio directions
  - Sensor-laden gloves could facilitate communication between those who use sign language and those who don’t
  - Networked sensors could inform drivers of the availability to accessible parking
  - Can provide notifications about physical space access
  - Can offer personalized information and resources tailored to accessibility preference or need

The Internet of Things

- Potential to diminish accessibility
  - Privacy concerns
  - “Over personalization”
  - Digital Divide
  - “Smart” technologies may not be so smart or may not play nicely with assistive technology

Think-Pair-Share

- Think of a library and/or learning technology at your institution and its potential to enhance and diminish accessibility.
- Pair with the person next to you to discuss your ideas.
- Share your thoughts with the group by reporting back on your discussion.

Continue the conversation

- Twitter hashtag: #ACRL2017Horizon
- Google Doc: http://bit.ly/ACRL2017Horizon
- Resources:

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