From the President

Happy New Year!

For those of us whose jobs revolve around schools, the real New Year is upon us. As LIRT President for 2016-2017 I’m looking forward to working with all of you. We had a great conference in Orlando, and I was extremely pleased to see a packed house for our annual program at 8:00 a.m. on a Sunday—kudos to the Program Committee!

To pick up where Andy Revelle left off in our last issue of LIRT News, I am very pleased to see LIRT changing and evolving to better serve our membership. What makes LIRT unique among library instruction groups is that we address library instruction across library types: academic; public; and school. When I started in LIRT barely ten years ago, the benefits of membership—annual programs and discussion forums—required physical attendance at conferences (LIRT News aside). Many librarians, particularly those outside of academic libraries, simply cannot afford this travel. If we are serious about engaging public and school librarians in our round table, we must offer value to those who are unable to travel to conferences.

So, while I am thrilled to see full attendance (and glowing reviews) of our conference programs, I am also really happy to see us branch out into new ways of engaging our members. The Teaching, Learning, and Technology Committee held LIRT’s first webinar in May, entitled “Ready to Roll: Incorporating the Framework into Online Instruction.” As with any new venture, there were some technical glitches encountered. But they gained some important experience that will help them make it even better next time! I’m thrilled to see our committees looking for new ways to engage our members—I would love to see this continue and develop further.

Happy New (academic) Year to everyone! Stay awesome!

Jeff Knapp, LIRT President

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From the Editor

Member A-LIRT:

ALA in Review: Annual 2016 (Orlando) Reports and Photos

Committee Reports

Liaison Reports: Instruction Related Meetings at Annual

TechTalk: The Internet of Things

LIRT Standing Committees

LIRT empowers librarians from all types of libraries to become better teachers through sharing best practices, leadership and professional development, and networking.
Thinking of you, our readers…

What a great conference we had in Orlando! I hope you will enjoy reviewing LIRT’s various programs and get-togethers in this issue of the LIRT News as much as I enjoyed participating in them and I hope that if you didn’t have the opportunity to join us in Orlando that you’ll be able to find the time at future conferences. I believe you will find yourself rewarded and satisfied by the quality of the presentations and the opportunities to connect with colleagues involved in library instruction. We look forward to sharing all that is best in library instruction with you!

Photo by Kenneth Orenic
Fountain near conference hotel in Orlando.
Maria Cherrie  
**Librarian, Public Libraries Division, National Library and Information System Authority (NALIS), in Trinidad and Tobago**

**What brought you to LIRT?**

In 2009 I attended an engaging and informative Brown Bag session organized by the LIRT Transitions to College Committee at the ALA Annual Conference in Chicago. It was entitled, “Helping High School Students become ‘College Ready’”. The LIRT representatives were welcoming. Additionally, the content of the session was relevant to my work portfolio at that point in time. This positive experience influenced in my decision to join LIRT.

**What was your path to librarianship?**

In 1999 when I returned to Trinidad and Tobago after living in England, I got a job as a library assistant at a junior secondary school. On the first day of the job a young female student approached me while I stood at the entrance of the school library. She excitedly inquired if I was the new librarian because the library had not been staffed for a few months. I told her that I was a library assistant. Her eagerness about the recommencement of the library services at her school left a lasting impression on me. During the next two and a half years I worked at a school library and a special library. I was successful in obtaining a scholarship sponsored by the National Library and Information System Authority (NALIS). I pursued a Master of Science degree in Library and Information Science at Syracuse University, Syracuse, New York, USA. The interdisciplinary approach to learning and the content of my courses at the School of Information Studies, Syracuse University, made me become more passionate about librarianship.

**Tell us about your current position; what do you like most about it?**

I currently work as a Librarian IV, Public Libraries Division, NALIS, in Trinidad and Tobago. My portfolio involves areas such as library projects, policies and outreach initiatives with stakeholders. Since I have worked primarily in educational library contexts for most of my career, my current job facilitates meeting the information needs of a different user community, i.e. members of the public.

**In what ways does it challenge you?**

My current position introduced me to the new world of library building projects. However, over time I have been gaining more confidence and learning about that aspect of my job.

**Throughout all your educational experiences, what teacher inspired you the most and why?**

My most inspirational teacher was my secondary school French teacher, Mrs. Gonourie. She had fun and innovative ways to engage her students. She also inspired me to learn beyond what was being taught during class time. She shared international perspectives with her students based on her experiences of living in other countries. My philosophy of education and instructional approaches have been greatly influenced by her.

**When you travel, what do you never leave home without?**

I usually have a digital camera or a device with a camera due to my love of photography.

**If you could change one thing about libraries today, what would it be?**

I would explore establishing libraries and/or library services in non-traditional contexts, for example, university residences or transportation hubs.

**Tell us one thing about yourself that most of us probably don’t know.**

I collect shot glasses from the different countries.
Adult Learners Committee
Committee Chairs: Ning Zou and Kristy Padrón
Since the Midwinter conference, the committee has held a virtual conference creating specific selection criteria for the Annotated Bibliography project, including the intended library settings, topics for annotated bibliography, and characteristics of sources. The ALC has also updated the LIRT Adult Learner Resource Center website. Two new goals for the upcoming year are to continue working annotating a list of selected recent publications on adult learning theories and applications, and market the ALC and LIRT through non-LIRT conferences.

Annual Program Committee Report
The Wonderful World of Library Instruction: Pedagogy and Practices to Inspire Learning

Report by Kimberly Copenhaver, 2016 LIRT Conference Program Chair
Photography by James Walther, 2017 LIRT Conference Program Chair

The 2016 LIRT Conference Program was held Sunday, June 26th at the Orange County Convention Center and featured presentations from three distinguished speakers on library instruction pedagogy and practices designed to engage library users, enhance critical thinking and inspire lifelong learning. Attendees were treated to a membership coffee prior to the start of the program, hosted by the LIRT Membership Committee and staffed by members of the LIRT Executive Board, who were on hand to welcome attendees and share information about the value of membership in the Library Instruction Roundtable. The early morning session began with a welcome from current LIRT President, Andrew Revelle who noted that LIRT will be celebrating their 40th anniversary in the coming year! Andrew highlighted many of the special programs in store for the 2017 ALA Annual Conference in Chicago in honor of this special occasion! Make plans now to attend

Annual Program Committee Report continued on page 5
these special events in Chicago next June! Silvia Lin Hanick, First Year Experience Librarian and Assistant Professor, LaGuardia Community College (CUNY) was the first speaker of the morning session and shared her experiences integrating the principles of the ACRL Framework into the current instruction program at LaGuardia Community College. Ms. Hanick notes that while information literacy instruction should start with the library, it is most powerful when it extends beyond the single academic assignment; with a shift toward conceptual teaching. The framework allows librarians to teach students to reimagine the conditions of their entire information landscape and increases opportunities for faculty collaboration.

Next, Jennifer Underhill, School Librarian at Florida State University Schools – the Developmental Research School at Florida State University shared the benefits of incorporating the principles of action research into the school library setting and the corresponding value data collected from these research initiatives has had on curriculum development and faculty partnerships. Jennifer engaged attendees with real world examples shared from her experiences at the FSU iSchool and inspired participants to consider integrating action research into their instruction plans for the coming year.

Finally, Andrea Sáenz, First Deputy Commissioner, Chicago Public Library inspired attendees with descriptions of the innovative programming taking place within the Chicago Public Library system and the impact of these programs on their respective communities. Attendees were engaged by Saenz’s descriptions of tutoring services, career assistance programs and the innovative digital music production facilities available within the YOUmedia teen programming campaign. YOUmedia operates teen learning spaces in 11 Chicago Public Library locations and helps teens build digital media skills through an approach dubbed “HOMAGO,” an acronym for “hanging out, messing around, and geeking out.” Chance The Rapper has become the most visible alumnus of the program and is an active supporter of the YOUmedia program. Saenz’s notes digital media can play a role in expanding diversity and building community capacity and as a result, the YOUmedia initiative has become an integral component of community programming at Chicago Public Libraries.

For more information on the 2016 LIRT Conference Program, please visit http://www.ala.org/lirt/conference-program-2016.

See additional photos of the event on page 6.
Committee Reports, continued

Annual Program Committee Report, continued

The Wonderful World of Library Instruction: Pedagogy and Practices to Inspire Learning

photos by Kenneth Orenick
Awards Committee Report

The second annual LIRT Awards ceremony was held at the Rosen Centre in Orlando on Sunday June 26th during ALA Annual. Refreshments and lively discussion took place during the event. Michael Saar, 2016 LIRT Awards Committee chair, began the ceremony with an overview of the awards and an acknowledgement of those who served on the committees. He then introduced the award honorees – Sue Ann Brainard and Daniel Ross (not pictured) from SUNY Geneseo, recipients of the 2016 Innovation in Instruction award for their Access Opportunity Program and Caroline Sinkinson from the University of Colorado Boulder, recipient of the 2016 Librarian Recognition Award. The honorees briefly spoke about their views on information literacy and their passion for library instruction as well as their achievements that earned them these awards. Discussion continued among the attendees and honorees over refreshments through the conclusion of the event. The LIRT steering committee met the following day and spoke highly of the event. While the plan is to continue offering a separate awards reception at ALA Annual, the 2017 annual will be slightly different in that the reception will be incorporated into the LIRT 40th Anniversary Gala.
Membership Committee Report

Members present at the all-committee meeting:

- Katie Bishop - current chair
- Ken Orenic – former chair, rolling off the committee
- Mitch Fontenot

At Annual we rolled out our new promotional brochure and swag. During the all-committee meeting we discussed the committee charge with our new member, and explained the various events held by the Membership Committee such as BITES with LIRT, and our coffee event before the LIRT program at Annual. Also discussed was the possibility of dropping the Sunday Bites with LIRT during Mid-Winter as this event has been sparsely attended in the past. This will be further discussed at the next virtual meeting. Katie Bishop will organize Bites with LIRT for Midwinter.

photos by Kenneth Orenick
Organization and Planning Committee Report

At Annual, the Committee reviewed results of Ease-Impact Analysis. We identified 3 items that have been implemented, 7 items that are in the process of being implemented, and 5 that have not yet been implemented. We discussed updating the LIRT Manual. Revisions will happen in Google Docs. Committee Chair Jennifer Corbin sent an email on June 9 to LIRT Executive Committee members with assigned sections and sent a reminder after Annual. Deadline discussed is the end of August. The Committee is working to complete migration of Chair Training from Prezi to Google Slides.

Teaching, Learning, & Technology Committee Report

Committee members: Mandi Goodsett (co-chair), Alyssa Archer (co-chair), Karen Tercho, Joe Eshleman, and Cinthya Ippoliti

Committee members decided to try a new project this year, hosting a webinar. The steering committee provided valuable feedback when chairs brought proposal to the ALA Midwinter meeting, recommending that the webinar be offered solely to LIRT members, to provide membership value. We began planning in earnest, creating a CFP, selecting proposals, and rehearsing.

All 99 seats for the webinar, “Ready to Roll: Incorporating the Framework into Online Instruction” filled hours after the invitation to attend the webinar was issued via the LIRT-M listserv. The full recording is available via Adobe Connect. The feedback from our post-webinar survey was generally positive, although some technical difficulties were acknowledged; we also received some kudos on our quick adaptations. We provided our slides to the LIRT-Mem list to fill in the gaps during the Adobe Connect created by the technological issues.

Our committee added additional value after the webinar with a one-week session on Slack, moderated by committee members. During this, attendees and other interested LIRT members could workshop technology-infused lessons related to the Framework.

Based on the completion of our first webinar, 10 web meetings throughout the year, publication of the article that the 2014-2015 committee in the LIRT newsletter, and full commitment/contributions from all committee members, we believe this was a successful year. The committee looks forward to providing a guiding document to help planning webinars to other LIRT committees in the near future, and look forward to an exciting 2016-2017 committee year.
Transitions to College Committee Report

The Transitions to College Committee hosted its networking event on Friday, June 24th at Tapa Toro in Orlando. The event attracted 30 librarians, from academic, school and public libraries across the country. It was a great opportunity to make new connections, talk about library instruction, and kick off the conference. See photos on page 11.

The Transitions Committee will continue hosting this event at the Midwinter Meeting and Annual Conference in 2017. The committee is interested in identifying other professional librarian committees who are interested in co-sponsoring this event.

Any questions may be directed to the new Transitions Co-Chairs, Beth West at bwest@linfield.edu or Matt Upson at matthew.upson@okstate.edu.

photos by Kenneth Orenick
more photos on page 11
Transitions to College Social Gathering

photos by Kenneth Orenick
ANNUAL IN REVIEW

LIRT Meetings & Events @ 2016 ALA Annual Conference

photos by Kenneth Orenick
Authority is Constructed and Contextual: A Critical View
Michael Saar, Lamar University

The program began with the ACRL Instruction Section Awards Ceremony. Heather Jagman (DePaul University) and Troy Swanson (Moraine Valley Community College) received the Eileen Rockman Instruction Publication of the Year Award for *Not Just Where to Click: Teaching Student How to Think about Information*. The Instruction Session Innovation Award went to Heather Collins (University of Kansas Medical Center) and Sara Kearns and Joelle Pitts (Kansas State University) for the New Literacies Alliance project. Finally the Miriam Dudley Instruction Librarian Award was given to Wendy Holliday, head of teaching, learning and research services at Northern Arizona University.

After the awards were distributed, the program proper began with an introduction of the discussion panel by moderator Ann Bueler. Each panelist introduced themselves and discussed the different critical perspectives they brought in engaging with the Authority frame. These points were explored in greater detail following the introduction through the discussion. Nicole Pagowsky (University of Arizona) noted her interest in the frame through the lens of voice discourse, which investigates whose voices are heard and whose are privileged. Kevin Seeber (University of Colorado, Denver) uses the frame as a way to get students to connect with their own authority via their lived experiences. Dave Ellenwood (University of Washington Bothell and Cascadia College) praised the frame for encouraging us to think about different ways of knowing, including non-dominant knowing. James Elmborg (University of Iowa) expressed interest in how the frame causes students to critically examine how authority is defined and assigned. Finally, Yasmin Sokkar Harker (CUNY School of Law) values the frame’s potential to get people thinking about their own civic participation and support for social change.

The remainder of the session followed a discussion format with the following highlights:

- The frame brings social dimensions of authority into discussions of information literacy.
- Engaging with the frame has been repositioning the librarian as the sole authority in the classroom and allowing students to reference the ideas they bring into the discussion.
- Creating authoritative work is an emotional process the frame helps prepare students for the process of becoming authorities on a topic.
- The frame asks students to move away from a dichotomy of an author being good or bad and asks students to think more critically about how the conversation contributes to a topic.
Practical Instructional Design: Diverse Perspectives in Academic Librarianship

Michael Saar, Lamar University

This program examined different approaches to instruction design (ID) from an academic librarian’s perspective. The presenters were Brandon West and Michelle Costello of SUNY Geneseo and Kim Hoffman of the University of Rochester. The presenters discussed their personal background with ID before moving to a shared definition of the term. The presenters acknowledged the difficulty in specifying a singular definition of ID noting the many variations in how different sectors understand and apply the concept. For the purposes of the presentation they defined it as “intentional sound instruction or programmatic creation, delivery and assessment.” This takes into account the audience, course, or program context as well as shared learning goals.

To further explore this idea the presenters shared the findings of a survey sent to administrators and librarians in early 2015 examining how instructional design was employed in libraries. From this survey common themes regarding ID emerged associating the concept with developing instruction materials, associating it with technology, tying it to online instruction, and/or dealing concretely with information literacy lesson planning. From the survey respondents most librarians who identified as performing ID were involved in reference/instruction (53% of 402 respondents). Most respondents felt that ID would be somewhat or very important in the future.

The presenters then discussed three case studies exemplifying how instructional design may be implemented. The first example demonstrated how ID was utilized to show teaching faculty that library sessions could consist of more than database navigation. A lesson was created incorporating note-taking in a research context. This was well received and picked up by other faculty and has since been incorporated into an ethics in writing course. The second case study discussed how Julia Feerrar at Virginia Tech used instructional design in the process of creating video tutorials. Ms. Feerrar aimed to create tutorials that were engaging to a variety of audiences using storytelling. She integrated storytelling components into the analysis and development phases of ADDIE and solicited student input instead of making assumptions about what should comprise the video content. The final case study demonstrated how the Jerrold Kemp design model can be used in programming and outreach. Ingrid Jovonne Ruffin and Michelle Brannen from UT Knoxville utilized this model in creating a four hour film festival. The Kemp model was particularly helpful in that it allowed for non-linear student focused design and allowed for the solicitation of feedback while the event was taking place.
Bites with LIRT

photos by Kenneth Orenick
Dear Tech Talk: Every time I turn around, I hear the phrase "Internet of Things". What is the Internet of Things; does it impact me and the work I do? Ignorance of the Internet of Things

-- Ignorance of the Internet of Things

Dear IoT

The Internet of Things (IoT) is another concept that has been around for a while, but is now receiving more attention. The concept for the “Internet of Things” dates back as far as 1982, but it didn’t start to gain momentum until around 1999, via the Auto-ID Center at MIT, which was associated with the development of RFID technology. Kevin Ashton is credited with the origin of the phrase. In 1999, Gershenfeld (who also worked in the Auto-ID Center) published the book When Things Start to Think, as well as co-authored an article in Scientific American in 2004 that suggests the framework for what would ultimately become the “Internet of Things”. Additionally, a broad search of the literature yields an early appearance of “the Internet of Things” as a newspaper article title in The Guardian in 2003. (Dobson, 2003), implying an introduction of the concept to the general public. A historic overview of the Internet of Things can be found in the Wikipedia (https://en.wikipedia.org/wiki/Internet_of_things), and Postscapes (https://postscapes.com/internet-of-things-history/) provides a timeline outlining major contributions that led to the development of the IoT.

Figure 1. Definitions of the IoT abound – everyone who writes on the topic provides a definition. Using a multitude of definitions and Wordle, a visual representation of the dominant characteristics of the IoT emerges: objects, devices, physical, data, connected, network. These characteristics do, indeed, contribute significantly to the definition of the IoT.

Tech Talk, continued on page 17
For a more traditional definition, the Oxford English Dictionary states: “a proposed development of the Internet in which many everyday objects are embedded with microchips giving them network connectivity, allowing them to send and receive data” (emphasis mine). The OED provides examples of this phrase from 2001, 2007, and 2013. (http://www.oed.com/view/Entry/248411?redirectedFrom=internet+of+things#eid332666668)

A more metaphoric definition is provided by Bates (2015), “The IoT’s where bytes and atoms truly mix, where the analog and digital worlds meet. Things will become holders of digital data”. (p. 80) At this point the definition should be clear – the use of networks (local and worldwide) to share data in meaningful ways is no longer limited to traditional computing devices.

As a matter of fact, many already use the IoT in their daily lives – devices like: the Apple Watch, Fitbit, remote home monitoring (surveillance cameras or thermostats), and smart electrical outlets. All of these devices, some of which are “wearables”, use a network to communicate data. The Apple Watch synchronizes with the iPhone, perhaps guiding you (silently) as you walk to a destination in an unfamiliar neighborhood; the Fitbit monitors the number of steps walked during a day, uploading and aggregating that data to a cloud-based location that is accessed via a mobile device or standard computer; home surveillance cameras or thermostats send data to the cloud, which can be accessed and remotely controlled by an app on a mobile device; standard electrical outlets become “smart” through the use of smart plugs that control when lights go on or off and can also be controlled and monitored using apps on mobile devices.

Kompella (2015) provides a wide selection of IoT use cases, including:

- Automotive: connected cars
- City management: parking, traffic control, and waste management
- Consumer services: appliances, home automation, security, and wearables
- Healthcare: hospital equipment monitoring and health checks via body sensors
- Manufacturing: equipment monitoring and supply chain management
- Retail: inventory and shelf management and logistics
- Transportation: fleet management and remote diagnostics for engines
- Utilities: smart grids and meters and remote temperature control” (p. 31)

Engard’s (2015) recorded webinar on YouTube also provides many examples of IoT devices already available and in use by ordinary consumers, and she discusses “If This Then That” (http://ifttt.com), which enables the creation of simple connections between IoT devices. From the “IFTTT” channels page (https://ifttt.com/channels), you can see a growing list of IoT tools along with “recipes” to interconnect them to achieve specific results.

The IoT is clearly on the rise for commerce, consumers, and education. The New Media Consortium Horizon Higher Education Report 2012 lists the Internet of Things “Time-to-Adoption Horizon” as 4-5 years (http://www.nmc.org/pdf/2012-horizon-report-HE.pdf), as does the 2015 report (http://cdn.nmc.org/media/2015-nmc-horizon-report-HE-EN.pdf)


What has changed in the last few years to cause this growth spurt? Basically, the technological stars have aligned. Itai Asseo (2016), Strategic Innovation Executive Salesforce, states: “The plunging cost and size of processors and chipsets, the massive expansion of the IP address space, and the growing coverage of broadband networks allow virtually any object to be connected to the Internet”. (p. 12) However, even earlier, the 2012 Horizon Report implied that the development of smart sensors, new forms of low-energy radio transmission, and an expanded Internet address space would enable the IoT. (Johnson, Adams, Cummins, 2012, p. 31) Two years later, the EDUCAUSE Learning Initiative (2014) makes a comparable statement in 7 things you should know about. . . the Internet of Things. (p. 1)
Looking into the future, Hotel News Resource predicts a 476% increase in the growth of IoT devices from 8.7 billion in 2012 to 50.1 billion in 2020.

Likewise, Gartner predicts tremendous growth in the installation base of IoT units, broken down by broad categories: Automotive, Consumer, Generic Business, and Vertical Business. Of particular interest – perhaps to librarians – is the growth of consumer units from 1,842.1 million to 13,172.5 million – an estimated increase of 615% by 2020.

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Another indicator of on-going growth, a Pew Research Center survey of experts reported in The Internet of Things Will Thrive by 2025 that those surveyed expected the IoT to be evident in:

- **Bodies**: Many people will wear devices that let them connect to the Internet and will give them feedback on their activities, health and fitness. They will also monitor others (their children or employees, for instance) who are also wearing sensors, or moving in and out of places that have sensors.

- **Homes**: People will be able to control nearly everything remotely, from how their residences are heated and cooled to how often their gardens are watered. Homes will also have sensors that warn about everything from prowlers to broken water pipes.

- **Communities**: Embedded devices and smartphone apps will enable more efficient transportation and give readouts on pollution levels. ‘Smart systems’ might deliver electricity and water more efficiently and warn about infrastructure problems.

- **Goods and services**: Factories and supply chains will have sensors and readers that more precisely track materials to speed up and smooth out the manufacture and distribution of goods.

- **Environment**: There will be real-time readings from fields, forests, oceans, and cities about pollution levels, soil moisture, and resource extraction that allow for closer monitoring of problems”. (Anderson and Rainie, 2014, p. 2)

This same report found that 83% of those who responded believe the IoT “will have widespread and beneficial effects by 2025”. (Anderson and Rainie, 2014, p. 24)

So, the IoT sounds pretty good, right? However, there are some caveats to consider. Mikton (2015) presents the dichotomy: “For many of us the convenience of a frictionless experience with our digital devices, tools, and environments is a huge plus. For this frictionless experience, many of us are willing to give up a level of our privacy to third parties. . . Our usage is so embedded in our daily routine, both social and professional; it becomes a non-negotiable part of our life”. (p. 57)

So, as the IoT becomes integrated into our digital lives, not surprisingly, a quid pro quo emerges. The most significant issues are privacy and security; but additional issues include:

- The collection and storage – in the cloud – of ginormous amounts of data (infinite data).

- A lack of standardization among IoT communication – how do devices from different entities communicate with each other? To this end, Koerber and Sauers (2015) state, “The Internet of Things will not succeed in its goals of universal functionality and massive amounts of data if everything is speaking a different language”. (p. 82)

- Machine-generated, algorithmic predictions can’t take into consideration the nuances of human interpretations/ understandings – no matter how ginormous the data set.

- The deepening digital divide – those who “have not” now will “have even less” in an IoT future.

- A growing dependency on the IoT – what happens if the electricity fails, the network is down, or something worse?

- Value vs. cost – ROI, perhaps especially important for any library considering IoT services.

- The impact on the environment – in order to have the latest technology, one must have the latest device; consequently, older devices are discarded, perhaps at a faster rate than they are currently discarded.

But really, **security** and **privacy** represent the most significant issues with the growth of the IoT. Williams (2016) writes that smart devices track how much and when we exercise and when we sleep; record our voices when we don’t realize it; energy meters track when we are home, who is there, what we do, what appliances we use, even what TV show we’re watching. “And when aggregated – or ‘blended’ – this infinite data can paint a powerful and detailed picture of a person’s everyday life. This data can then be used to make inferences about a person, such as how healthy he or she is, what he or she plans to do tomorrow, and when he or she will or will not be home”. (Williams, 2016, p. 15) These issues also apply to children, as toys and child-care devices incorporate the IoT technology, such as: KidFit (http://shop.x-doria.com/kidfit); hereO (http://www.hereofamily.com); Sproutling baby monitor (http://www.sproutling.com); Teddy the Guardian (http://teddytheguardian.com); Skylanders (http://www.skylanders.com/uk/en) (Manches, et. al., 2015)

Returning to the Wordle image, one of the significant components identified in the image was – **data**. As Williams (2016) states, “the amount of data collected about each and every one of us via our connected devices is increasing exponentially”.

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**TECH TALK, CONTINUED ON PAGE 20**
later referencing Joseph Salvo’s use of the phrase, “infinite data”. (p. 15) If the IoT continues to grow at the pace identified by Gartner and others, an incredible amount of data will be collected, stored, and accessed in the cloud. There’s no other viable way to manage this infinite data that exists for the express purpose of easy, ubiquitous access by anyone (who is authorized) at any time from anywhere. This store of infinite data becomes a “tempting morsel” for those who want data for nefarious purposes. The security of user names and password, along with highly secure storage environments becomes even more vital with the IoT.

In an effort to begin addressing these issues, the Federal Trade Commission issued a report in January 2015 in which they identified recommendations for companies developing IoT devices, including:

- “build security into devices at the outset, rather than as an afterthought in the design process;
- train employees about the importance of security, and ensure that security is managed at an appropriate level in the organization;
- ensure that when outside service providers are hired, that those providers are capable of maintaining reasonable security, and provide reasonable oversight of the providers;
- when a security risk is identified, consider a ‘defense-in-depth’ strategy whereby multiple layers of security may be used to defend against a particular risk;
- consider measures to keep unauthorized users from accessing a consumer’s device, data, or personal information stored on the network;
- monitor connected devices throughout their expected life cycle, and where feasible, provide security patches to cover known risks”. (Federal Trade Commission, 2015)

Additionally, they recommended that companies limit the collection and retention of consumer data, noting “that data minimization addresses two key privacy risks: first, the risk that a company with a large store of consumer data will become a more enticing target for data thieves or hackers, and second, that consumer data will be used in ways contrary to consumers’ expectations”. (Federal Trade Commission, 2015)

While this report from the FTC is a step in the right direction, Williams (2016) points out that “there is currently no legal framework demanding good security and privacy protections. There is nothing requiring companies to adopt good – and transparent – security and privacy practices”. (Williams, 2016, p 15) He goes on to say that “There is often also little transparency regarding, or limits on, how the data collected about users will be used. . . It has been predicted that the infinite data collected about us through our connected devices will, in the near future, be sought by employers, banks, and insurance companies in order to make inferences about employment potential, creditworthiness, and health [and]. . . the surveillance opportunities for the government will vastly increase”. (Williams, 2016, p. 15-18) Scary stuff for librarians who both want to enable more convenient services but also want to protect the privacy of their patrons.

Bob Nilsson (Director of Solutions Marketing Extreme Networks) feels that “Security is definitely a concern, but if managed properly, it is not an insurmountable challenge”. (Asseo, et.al, p22) However, these are non-trivial issues and Fernandez expresses the concern that – based on past performance – “we cannot count on technology companies to invest in security on the front end unless there is an active demand for it”. (Fernandez, 2015, p. 6)

Regardless of these issues, for good or for ill, the IoT is already here and is most likely here to stay. Familiar examples of library implementations include: beacons, QR Codes, and RFID tags. A tiny number have experimented with other IoT services:

- A partnership between North Carolina State University Libraries and the Office of Information Technology to create MakerspaceIOT, a more open network for experimenting with the Internet of Things in the D.H. Hill Makerspace. (https://www.lib.ncsu.edu/do/iot)
- The use of Amazon Echo (Alexa) to provide assistance to students in the Murray Hill Middle School Library. (http://www.thedaringlibrarian.com/2015/06/echo-in-my-library.html)
And then, there are the multitude of ideas others have suggested:

- Provide Apple Watches or other wearables for patrons to try out; (Scardilli, 2015, p. 25)
- Use patron data to make tailored recommendations from real-time data; (Pera, 2014)
- Provide wearable 'library cards' for materials checkout or authenticated access to the internet; (Pera, 2014 and Engard, 2015, p. 13)
- Use noise-level monitors to help patrons find spaces suitable to their needs; (https://www.rss4lib.com/2014/07/what-could-the-internet-of-library-things-be/)
- Use motion sensors in study rooms to show availability; (https://www.rss4lib.com/2014/07/what-could-the-internet-of-library-things-be/)
- Enable impromptu book discussion clubs by identifying others with similar reading interests and introducing them to each other; (https://www.rss4lib.com/2014/07/what-could-the-internet-of-library-things-be/)
- Trigger the purchase of additional book copies, if all copies are checked out; (Fernandez, 2015, p. 4)
- Use checkout trends in comparable libraries to predict what kinds of materials should be ordered; (Fernandez, 2015, p. 4-5)
- Develop ‘smart bookmarks’ to remember where you are in a book and when the book is due back and recommend other books similar to the one you are reading; (Engard, 2015, p. 13)
- Place sensors in the floors to identify the most popular areas or areas needing signage and/or inform the redesign of spaces; (Engard, 2015, p. 13)
- Implement smart mirrors or smart screens that provide suggestions of other related materials or events based on the materials patrons are holding; (Engard, 2015, p. 13)
- Use motion sensors to enable the ‘grabbing’ of content displayed from the online catalog and placing it on their smartphone; see https://youtu.be/eYveEdhTgBs for a demonstration; (Engard, 2015, p. 13)
- Ensure that library ebooks, audiobooks, and streaming media can be easily accessed on next-generation smart cars, smart TVs and other devices, which is on the horizon for OverDrive. (Enis, 2015, p. 16)

Kompella (2015) suggests that to enable the successful implementation of IoT services, “pick relevant use cases, use an iterative implementation approach, and build on your existing digital enterprise skills”. (p. 31) Consequently, implement IoT services carefully and judiciously, which means it may take some time for useful IoT library services to evolve. In the meantime – from a more pragmatic perspective – perhaps librarians should consider services around IoT:

- Provide opportunities for patrons and library personnel to learn about the IoT and to understand that the IoT is, most likely, already entwined in their lives;
- Educate patrons and library personnel on the security, privacy, and legal issues they need to be aware of when dealing with IoT devices and services;
- Monitor local, state, and national government activities around the implementation of laws and/or regulations;
- Advocate to vendors the importance of addressing security/privacy measures on the front end, as opposed to “fixes” on the back end – when it may be too little, too late.

Last, consider Fernandez’s (2015) advice, “… as it develops, the IOT will create and share new types of information about the world. Libraries are repositories of information and, therefore, have a role to play in the conversation about how that information is stored and transmitted”. (p. 6)

Additional Resources


Additional Resources, continued


Dobson, S. (2003, Oct 09). The Internet of Things: A tiny microchip is set to replace the barcode on all retail items but opposition is growing to its use. The Guardian


Engard, N. C. (2015). What is the Internet of Things and how can we use it. Retrieved from https://www.youtube.com/watch?v=91_1g3ItdWU


Additional Resources, continued


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Have you created an instruction program or developed a unique classroom strategy? Please share your experiences with LIRT. Send your articles to Barbara Hopkins (barbaraw.hopkins@gmail.com)
Get into LIRT!

Interested? Login to ALA and find our Volunteer form under Get Involved at http://www.ala.org/lirt/

LIRT STANDING COMMITTEES

**Adult Learners**
This committee is charged with assisting library professionals to more effectively serve adult learners.

**Awards**
This committee is charged with selecting the recipients for the LIRT Innovation in Instruction Award and the LIRT Librarian Recognition Award.

**Conference Program**
This committee shall be responsible for annual program preparation and presentation.

**Liaison**
This committee shall initiate and maintain communication with groups within the American Library Association dealing with issues relevant to library instruction and shall disseminate information about these groups' activities.

**Membership**
This committee shall be responsible for publicizing the Round Table’s purposes, activities and image; and for promoting membership in the Round Table.

**Newsletter**
The committee shall be responsible for soliciting articles, and preparing and distributing LIRT News.

**Organization and Planning**
This committee shall be responsible for long-range planning and making recommendations to guide the future direction of LIRT.

**Teaching, Learning, & Technology**
This committee will be responsible for identifying and promoting the use of technology in library instruction.

**Top 20**
This committee shall be responsible for monitoring the library instruction literature and identifying high quality library-instruction related articles from all types of libraries.

**Transitions to College**
This committee builds and supports partnerships between school, public, and academic librarians to assist students in their transition to the academic library environment.

**Web Advisory**
This committee shall provide oversight and overall direction for the LIRT Web site.

For more information about our committees visit http://www.ala.org/lirt/committees