1 DIGITAL RIGHTS MANAGEMENT

Arnhem, J. (., & Barnett, L. (2014). Is Digital Rights Management (DRM) Impacting E-Book Adoption in Academic Libraries? The Charleston Advisor, 15(3), 63-65. Retrieved July 20, 2017, from https://library.wayne.edu/resources/article-databases

In this article, Jolanda-Pieta Arnhem and Lindsay Barnett discuss the challenges associated with the adoption of digital materials, specifically e-book adoption. E-books have been steadily gaining popularity since the early 2000s as e-readers and tablets have become more and more widespread. The largest stumbling block to the adoption of e-books by academic libraries is the use of digital rights management to protect the media offered by e-books. Arnhem and Barnett find that many library users are frustrated by DRM's interference with seamless access to information. While it is fathomable why e-book publishers would want to protect their product when selling to individuals, but when selling to a library it can cause patrons and librarians unnecessary strife when it comes to accessing materials. Many publishers have removed DRM from their e-book collections and have seen no negative affects to their business. It is a prerogative of librarians to protect their patron's access to information and, in this instance, DRM can be a costly stumbling block to the addition of e-books to academic collections.

Durant, D. M., & Horava, T. (2015). The Future of Reading and Academic Libraries. Portal: Libraries and the Academy, 15(1), 5-27. Retrieved June 25, 2017, from https://library.wayne.edu/resources/article-databases.

What should academic librarians put in their collections? Which should they delete? David Durant and Tony Horava believe that maintaining a hybrid collection of many types of physical and digital media that contains duplicates to serve each patron's taste and ability. The authors have found that e-books and varied media help to serve the different "realities of reading and learning" each of us perceive. Some are more apt to use print editions of periodicals or books, others use pdfs or e-books with more ease. Many use the physical sensations that come with reading a book to help them remember information, others need electronic modes of reading because of poor vision or simply because they use their tablet or e-reader daily. There has been a "shift in media" that affects how patrons interact with literature. Because each patron is different and has different needs, digital and physical media should be regarded as complimentary instead of interchangeable.

Peet, L. (2015). NEH, Mellon Foundation revive backlist work: converts in-copyright, out-of-print works to Creative Commons ebooks. Library Journal, 140(6), 22. Retrieved July 14, 2017, from https://library.wayne.edu/resources/article-databases.

Non-Profits Andrew W. Mellon Foundation and the National Endowmant are working to convert books that are out of print but still copyrighted humanities materials into public e-books for the use of libraries. They intend to use pilot grants to create what they call a "Humanities Open Book", a collection of digitized works published since 1923 which are still under copyright. Most of the money entitled under the grants is in exchange for the rights. Librarians should strive to exhibit the most content they can from as many time periods and cultures as possible. Especially for the humanities, literature from between 1918 and 1945 is extremely hard to aquire. When examining literary trends or composing an historiography, it is critical to be able to look at as many time periods as possible to get the clearest picture. Creative Commons serves as an alternative to DRM in that it makes works public and free for all to access and projects like these are undertakings all librarians should strive for.

Sirett, K. (2013). Opening Ceremonies & Keynote Speaker Cory Doctorow. Feliciter, 59(4), 34. Retrieved July 10, 2017, from https://library.wayne.edu/resources/article-databases.
Kelly Sirett discusses what she took from a Keynote speech by author and technology activist Cory Doctorow during a Canada Library Association conference in 2013. Doctorow's topic was the danger of DRM policy, his major concerns being "privacy, interoperability, competition, access, and transparency." He argues that because our world is becoming more and more interconnected, from the phones in our pockets to our televisions to our cars, and these networks create a new frontier for government involvement. DRM is one of these areas where the needs and rights of individuals and the duty of librarians intersect: Librarians should avoid purchases that require DRM because providing patrons with electronic media equipped with DRM would be like giving your patrons a book equipped with a digital video camera they cannot turn off. DRM also serves to frustrate user access or obfuscate information that a library would otherwise share freely. The potential for government involvement or legal action against patrons should make any library raise questions or devise methods to prevent such actions befalling their patrons.

2 AUTHENTICATION METHODS

Ellern, G. (., Hitch, R., & Stoffan, M. A. (2015). User Authentication in the Public Areas of Academic Libraries in North Carolina. Information Technology and Libraries, 34(2). Retrieved July 9, 2017, from https://library.wayne.edu/resources/article-databases.
Maintaining the balance between anonymity and security can be a delicate dance. Using the academic libraries of North Carolina as a case study, the authors of this paper hope to profile libraries as one that should authenticate or not. Because of the events of 9/11/2001 and the subsequent security decisions made by the US government, many academic libraries must limit access to certain materials in storage. This presents an ethical dilemma for the librarian as the need for authentication creates issues with patron privacy, restricted use by guests or the public, freedom of inquiry, and the frustration patrons face when dealing with more complicated log on and authentication procedure. Some 66% of libraries polled by the authors use authentication on public area pcs. They also gathered information on factors each library faced with security. Factors like the type of media and enrolment play a major part in IT security decisions, and they found that religious academic libraries tended to omit the need for authentication.

Halling, T. D., & Hahn, D. C. (2013). Bringing interlibrary loan services under a single sign-on umbrella. Library Hi Tech, 31(1), 76-86. Retrieved July 25, 2017, from https://library.wayne.edu/resources/article-databases.
The authors of this study seek to change the Texas A&M Interlibrary loan system to a Lightweight Directory Access Protocol (LDAP) system. The obvious flaw with this authentication protocol is that a user's password is broadcast in plain text along with user information that can include phone numbers and email addresses. Halling and Hahn propose an elegant solution that has become standard over the last few years: Before logging in to ILLiad, the user must provide authentication through another system entity. At Wayne State, we can see this same implementation in our Microsoft Office suite. Before we can access our Outlook, we must first log in though academia or another Wayne State system. The simplification of authentication means that users are less likely to become frustrated, as it takes less time to access the Inter Library Loan system, and spend less time using ILS systems space because of this ease of access. The authors of this article show us how to walk the thin line between user privacy and system security.

Schlegel, R., & Wong, D. S. (2012). Anonymous overlay network supporting authenticated routing. Information Sciences, 210, 99-117. Retrieved July 20, 2017, from https://library.wayne.edu/resources/article-databases.
This article serves to map out a new form of authentication protocols that does not lower bandwidth, speed, or usability by overlaying internal networks over a conventional IP network and using multiple digital security schemes to protect both the patron and the network. This overlay acts like a digital switching yard where the user uses a virtual address to retain anonymity while interacting with the information on the library network. The information passes hands between these two secure connections making both the patron and the network less prone to digital attack. To further secure both patron and library from malicious software or cyber-attack while maintaining anonymity, a scheme of multiple, rotating protocols including a digital trap door, digital signatures, and collision-resistant coding to preserve and protect network topology from leaks typical of traditional routing protocols. While this article is a bit heavy with jargon and hard theory, it is a good idea for librarians to have a general idea of what type of cyber-attack their networks may face some day and what modes of defense are best for retaining the security of the collection and the anonymity of patrons who use library systems and digital content.

Ye, G. (., & Bryant, S. (2015). Streamlined request services: the integration of ILS, ILL and Consortia borrowing systems. OCLC Systems & Services: International digital library perspectives, 31(3), 144-152. Retrieved July 14, 2017, from https://library.wayne.edu/resources/article-databases.
Gan Ye, Digital Systems Librarian, and Sally Bryant, Head of Access Services, of Pepperdine University in California conduct a study of authentication and security between their integrated library system and Almost half of all academic consortia fall under the resource sharing category which includes interlibrary loan and document delivery. This is because many libraries are facing funding, staffing, and space shortages. Especially in academic libraries that serve the humanities, aisles and shelves are stuffed with collections that can take up multiple floors of a building and thousands of dollars' worth of offsite storage. A consortia or ILL system is a necessity for an academic library to maintain a healthy, large collection of works in physical format. So many different libraries working in conjunction requires complicated, multi-leveled authentication. The authors of this study have proven that cloud based ILL and Consortia sharing systems create a new, secure space that requires simpler authentication and allows both patrons and librarians to more easily find, identify, and select titles from outside each library's individual collection. They have also found that such could based systems encourage collaboration between academic libraries.

3 CODING FOR LIBRARIANS

Crystle, M. (2017). Libraries as Facilitators of Coding for All. Knowledge Quest, 45(3), 46-53. Retrieved July 25, 2017, from https://library.wayne.edu/resources/article-databases.
Most interaction we have with digital media today is as a consumer. Computer science has never been a large part of primary or secondary schooling in the United States and, until recently, has been exclusively reserved for college or trade school. The White House recently announced an initiative entitled "Computer Science for All" to equip American students from kindergarten through high school with computational thinking skills. Martin Crystle hopes that educational librarians can be at the forefront of this initiative, holding classes to train kids and make them creators of digital content instead of just consumers. By holding Scratch (an online visual coding language intended for young learners) workshops, even librarians with novice level coding skill can help children gain digital literacy and create responsible and active citizens in this

digital world. These simple courses help to bridge the digital divide by providing easy to access and understand resources to underprivileged youths and organizations.

Humphrey, B. (2016). Get Coding! Learn HTML, CSS & JavaScript & Build a Website, App & Game. The School Librarian, 64(3), 189. Retrieved July 25, 2017, from https://library.wayne.edu/resources/article-databases.
This short article acts as a guide for the book Get Coding and the attached website getcodingkids.com. Bev Humphrey makes a good argument for adding this book to children's library or educational library collection. The book works in tandem with the website, the book providing the story, the challenge, tips, and tricks, the website providing code needed to complete each challenge in the book. Though the book's six "missions", the child will learn how to build a webpage, create a password, build an app, plan a route, and make a game. While all of these skills are simplified and very basic, it is a brilliant way to gamify coding and help kids start thinking and coding in HTML, CSS and JavaScript. Education for computer science and coding generally does not start until late high school or college. Allowing children to play around and create their own web media is one of the best ways a librarian can instill digital literacy and begin teaching children to create and manipulate digital media.

Ma, H. (2015). Free programming sites for librarians to gain coding skills. Technical Services Quarterly, 33(1), 99-100. Retrieved July 25, 2017, from https://library.wayne.edu/resources/article-databases.
It is becoming increasingly common for librarians to have experience and understanding of programming. There are a number of reasons a librarian should learn code even if they do not work directly with databases or IT: with a bit of coding knowledge, a librarian can better communicate with IT staff and software vendors as well as maintain, customize, and improve library web-based resources. Understanding concepts and knowing some jargon can help the librarian describe problems, make cost-benefit decisions, and specify technology goals. Though librarians try to keep with the times, technology is moving too fast for most of MLIS education. Many MLIS courses do not offer coding as a part of the curriculum. If that is the case, Hong Ma offers several free sites that offer diverse learning techniques and coding languages incuding Codecademy, Kahn Academy, Coursera, and edX. Coursera and edX are known for their academic nature and offer courses offered at a variety of universities.

Yelton, A. (2015). Learning to Code. Library Technology Reports, 51(3), 26-30,2. Retrieved July 20, 2017, from https://library.wayne.edu/resources/article-databases.
Andromeda Yelton, A self-employed librarian who specializes in software, uses this article to answer a question she is often posed: "How can I learn to code?" This is a pertinent question for the fledgling librarian as modern library systems rely on many types of digital infrastructure, many of which require multiple types of coding skill to skillfully manipulate. Yelton offers friendly, reliable advice for teaching oneself to code. Her first tip is to find a project to work on. This solution provides natural answers to simple questions like "which coding languages are commonly used?" or "which language should I learn?" She also advises new coders to find code through google or another format and manipulate it themselves. This hands-on approach is best for learning what different commands do and helps new coders see the language in action. Her biggest tip is to simply persevere. As with any learning experience, you must devote time, energy, and mistakes to coding before you see any proficiency. Of the librarians Yelton has talked with, each used around 14 different coding languages in their work. She recommends using Google or Codecademy as free resources to expand the librarian's coding lexicon.

4 APPS AND JAVA FOR LIBRARIANS

Brown, S. (2012). The Top 40: Best Mobile Apps for Handheld Librarians. The Reference Librarian, 53(4), 456-465. Retrieved July 14, 2017, from https://library.wayne.edu/resources/article-databases.

Scott Brown endeavors to collect a list of useful apps for librarians. He focuses on user and device friendly apps that are available on both Android and iOS devices and has categories that include productivity, business and news, communication, location, apps of special interest to librarians and information specialists, and some unusual apps to have fun with. With the tens of thousands of apps currently available and the thousands that come out each year, lists like these are helpful in tracking down useful and creative apps which may help the librarian in their day to day work. Apps like Dragon dictation, Dropbox and Skype are very helpful in keeping in touch with other librarians and sharing resources while Apps like Layar and Aloqa can be used to direct patrons around the library or share information through augmented reality and social media. Information like this is important to the librarian as more patrons become reliant upon digital methods of finding information and may need technical assistance. Familiarity with many of these apps can also help librarians introduce new schemes and resources through handheld digital technology.

Brunelle, J. F., Kelly, M., Weigle, M. C., & Nelson, M. L. (2015). The Impact of JavaScript on archivability. International Journal on Digital Libraries, 17(2), 95-117. Retrieved July 25, 2017, from https://library.wayne.edu/resources/article-databases.

Because of it's easy to use nature and its reliability, JavaScript has become one of the most widespread client-side executed scripts used on webpages and apps. Over 54% of today's webpages rely on JavaScript for embedded resources. This has made it more difficult for digital archivists to capture mementos, a static version of a webpage preserved in an archive, as the JavaScript does not load unless there is user interaction. This might seem like a small hiccup for digital archivists, but it reduces the effectiveness of bot operated recording systems (namely the author's Archive-It resources) on sites such as twitter from just over 30% perfect preservation to 4.2%, rendering any automated attempts at preservation useless. While it is a bit dense with web oriented jargon, it is a great source for any librarian to learn about web content accessibility and how different forms of coding can affect it and how JavaScript in particular hinders the digital preservation of webpages.

Hennig, N. (2014). App Literacy for Librarians. Library Technology Reports, 50(8), 5-14. Retrieved July 20, 2017, from https://library.wayne.edu/resources/article-databases.

Why is app literacy important for librarians? How much app literacy should the typical librarian try to acquire? If you have questions like these, Nicole Henning has an article for you. The ubiquity of mobile technology has become ever-present, and the number of apps grows day by day. Librarians should strive to include as many new formats and technologies in their collections as they can. Apps exist in many forms and can do things like connect readers with local writers, offer digital media labs, and teach new skills. To keep up with the latest apps, it is best to familiarize yourself with the strengths, limitations, and popularity of mobile operating systems like Apple's iOS and Google's Android and how each maneuver through the digital ecosystem. Many apps work on many platforms, but each has its own quirks or problems. Understanding the ins and outs of app usage and design can help librarians adapt in the digital age and allow them to help patrons with small technology issues and implement new uses for apps within the library.

Petrie, H. (2014). Apps for Digital Storytelling. The School Librarian, 62(1), 22. Retrieved July 10, 2017, from https://library.wayne.edu/resources/article-databases.
With the advent of hand held digital technology and augmented reality, many app designers have set out to create inventive applications to entice children to learn and imagine. Hilary Petrie has put together a list of helpful apps for the children's librarian as well as a few ideas of how to use them in the library. She has also listed them out in order of accessibility. The more device and user-friendly apps are listed towards the top and Android or iOS only apps are listed below, and every app she lists is free to use. Most of the apps are simple photo and video editors with a focus on usability or whimsical stickers and filters. Several of the video apps are more complex and, with a little planning and writing, kids can make their own simple action movies with built-in effects like car crashes and fire balls. Another let the user add credits or a title as well as simple special effects. Apps like these have the potential to bring cinematography and screen writing into the children's library, letting kids write, act, and show us their stories.

5 DATABASE ENGINES AND USAGE

100 Time-Saving Search Engines for Serious Scholars (Revised) - Online Universities. (2016, October 19). Retrieved July 20, 2017, from http://www.onlineuniversities.com/blog/2012/07/100-time-saving-search-engines-serious-scholars-revised/
One of the many duties of the research librarian is assisting patrons in collecting information on a subject. Especially for non-scholarly libraries, this can be a challenge when funding or staffing issues create a less-than-premium research environment as databases with large fees are omitted from digital collections and more responsibilities are lumped onto the research librarian. This list, compiled by the Staff Writers at onlineuniversities.com, would be helpful for the academic librarian as well as each different search engine has a different focus or access to information. The authors have divided the list into several categories including General, Meta Search, Databases & Archives, Books & Journals, Reference, History, Science and many more. Most of the search engines included in this list are free to use as well as most of the information they can access. With an understanding of the strengths and limitations of a variety of these search engines, the research librarian can help direct patrons to the information they need for personal or academic studies.

Arnold, S. E. (2015). Search Challenges: Both Old and New Demons. Information Today, 32(4), 14-15. Retrieved July 21, 2017, from https://library.wayne.edu/resources/article-databases.
This article by Stephen Arnold begins with a straightforward google search in March of 2015. He searched for the words "concept searching." He knew that these words were both the name of a company and an information retrieval term and was curious to see how google reacted to his request for information. To Arnold's surprise, the search returned only results for the company. Microsoft's Bing search engine has similar problems. Both Google and Microsoft try to integrate social media into their search results and, depending upon your query, Some results are skewed in strange directions or are polluted by unrelated content because of these systems use of social media information. The suggested search results to the author's original query included the names of businesses that were no longer in operation, results that contained no metadata, and a plethora of companies that do not do concept indexing. By leaning how search engines operate and where they pull their search materials, the librarian can avoid many research pitfalls that befall patrons and teach patrons how to avoid them.

Craven, J., Jefferies, J., Kendrick, J., Nicholls, D., Boynton, J., & Frankish, R. (2014). A comparison of searching the Cochrane library databases via CRD, Ovid and Wiley: implications for systematic

searching and information services. Health Information & Libraries Journal, 31(1), 54-63. Retrieved July 20, 2017, from https://library.wayne.edu/resources/article-databases.
The Authors of this study are concerned because the databases at Cochrane Library use three different interfaces, all of which access the same databases and information. Through both the anecdotal evidence of patrons and their searches and results, this study seeks to understand the differences between results drawn from each user interface and, in the long run, work to create a "best match" system that works in each interface. By making a detailed analysis of searches and their results, looking at the free text, proximity operators, truncation and other functions of the CRD, Wiley and Ovid interfaces. They expanded this dataset by including rewordings and common misspellings. Their results, as expected, were that each database returned different results, showing a lack of consistency in the different interfaces. While this article is on the technical side, it is important for a librarian to understand how different search engines affect search results. It can be frustrating, both to patron and librarian, when inconsistencies like this are found especially when it comes to local databases. By understanding potential flaws in a system, a librarian can more accurately guide a patron to the information they need.

The 10 Most Popular DB Engines (SQL and NoSQL). (2013, December 14). Retrieved July 10, 2017, from https://blog.jooq.org/2013/10/03/the-10-most-popular-db-engines-sql-and-nosql/
This blog post tries to analyze the ways in which data is gathered to create ranked popularities of databases. The author sites several biases that were used to generate this list including number of mentions, Google Trends interest, regularity of appearance on technical discussion boards, job offers that mention a system, and mentions through LinkedIn. By using these biases to construct a numerically ordered chart based upon actual use and bias, the author hoped to let people know which systems were truly more popular. A report by an Austrian IT company which inserted a database they own into the top ten list even though it wasn't a Relational Database. According to this blog's results, the most popular databases run on SQL and while many of them support jOOO, the results for these Java databases ranked very low on mentions outside their own sites. SQL also ranks higher in use than NoSQL systems. Lists like these are handy for those new to database management who may wonder which systems or languages they should learn when searching for a job or joining the profession.