

Smart Libraries Newsletter

News and Analysis in Library Technology Developments



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Smarter Libraries through Technology

Looking Forward into the New Year

By Marshall Breeding

This January issue of *Smart Libraries Newsletter* gives us the chance to review some of the events in the field that happened in 2018 and speculate about what might lie ahead in the next year or so. It's helpful to look at past events to get a better sense of the trajectory of ongoing trends that will impact the technology decisions that face libraries in the near and long term.

The library technology industry last year can be characterized as a period of incremental advancement on existing products and strategies, though there were some important new initiatives. The realm of integrated library systems (ILSs) has especially been in the mode of gradual evolution. Each of the products from global companies, such as SirsiDynix and Innovative, have seen important enhancements in features and a gradual evolution of their underlying technologies. The ILSs from The Library Corporation, Auto-Graphics, and Biblionix have likewise seen steady enhancement, as well as the open source products Koha and Evergreen.

The BLUEcloud Suite from SirsiDynix continues to gain new capabilities in its web-based interfaces, though the most advanced features continue to be accessed using the staff interfaces to the underlying Symphony or Horizon ILS. For SirsiDynix, BLUEcloud has been a wise strategy even though it has taken longer than planned to fully develop. Innovative likewise has made advancements in providing web interfaces for Sierra

and Polaris, but most libraries continue to rely on the graphical desktop client software. The release of a new version of Evergreen with a fully web-based staff client was an important improvement.

This incremental approach seems endemic with the genre of ILSs, most of which have evolved over decades and multiple phases of technology architecture. For many libraries, incremental advancement may not necessarily be seen as a negative quality since it has resulted in stable and feature-rich products. Any new-from-the-ground-up development comes with significant disruption, even when imbued with innovations that will ultimately improve library workflows or strategies.

The library services platform arena has been one of steady advancement for the last few years, even though these platforms were initially launched not quite a decade ago as a new and disruptive product genre. The academic and research library arena is well along the way to a broad shift to services such as Ex Libris Alma and OCLC WorldShare Management Services that provide comprehensive automation spanning electronic and print resources. The periodic deployment of new releases characteristic of true SaaS offerings means that the concept of incremental advancement is essentially baked into the product. As Alma becomes more mature and well-established, it has seen a continual growth in its rate of adoption. Seen as a riskier choice a few years ago, the selection of Alma today has become the safe option for large academic libraries and consortia.

Libraries remain conservative in their procurement decisions. They tend to have a low tolerance for risk and often prefer to remain with an incumbent product and vendor even through periods of dissatisfaction. Movement to shift to a new vendor is triggered only when difficulties rise to a high level. These difficulties may take the form of vendor performance or changing circumstances, where the software in place no longer meets the basic needs of libraries.

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These dynamics lead to a couple of ongoing trends to expect in the near term. The incremental development of ILSs has led to less differentiation among products, especially from the perspective of public and school libraries. Given a field of products with such similar capabilities, the motivation to change systems remains low, resulting in a fairly low churn of system migrations. There are some cases of libraries moving from one ILS to another even though the moves are almost lateral in terms of functional capabilities and technical architecture.

We can anticipate that academic libraries still running ILSs will continue to shift to Alma and WorldShare Management Services. EBSCO Information Services stands strong in the mix on the discovery front. These products have a great deal of momentum and the ILS has difficulties in managing the vast proportions of electronic resources in the collections of these libraries. Companies offering ILSs used by multiple types of libraries have significant challenges in competing against products developed specifically for academic libraries. In the longer term, we can anticipate the customer base of each company to increasingly drift according to library type. The businesses offering library services platforms are already dominantly academic; over the course of the next few years ILSs will prevail mostly among public and school libraries.

Next year will mark a new phase of disruption in system selections and migrations. Multiple products are on the cusp of entering the market with the potential to alter some of the current dynamics. The level of impact will depend on early implementations delivering on the promises and vision that have been articulated during the development phase.

The FOLIO project to develop an open source library services platform has been underway since late 2015. This initiative has built an extensive global community of libraries, developers, and companies working together to create a new microservices platform able to deliver typical library management capabilities as well as an operating environment for other types of applications. Early adopters are scheduled to put the software into production in 2019. EBSCO Information Services helped launch the FOLIO initiative and has provided significant financial support and has been a major contributor to its architectural design and technical development. Index Data was engaged by EBSCO to develop the initial microservices environment and user interface framework and has continued as an ongoing contributor. The FOLIO project was featured in the May 2016 and January 2018 issues of *Smart Libraries Newsletter*. A significant group of libraries, spanning multiple international regions, are on track to implement FOLIO once it is considered ready. Some of these implementations will take place in early 2019. This year will be a critical year for FOLIO as it enters its implementation phase and will

be an indicator of whether interest in this open source product will make a dent in the momentum of Alma.

Axiell's *Quria*, featured in the April 2018 issue of *Smart Libraries Newsletter*, is poised at a similar juncture. This new library services platform was built new from the ground up apart from any of the company's legacy ILS. *Quria* is the first library services platform created specifically for public libraries and is based on a digital-first design. Its first implementations were completed in 2018 in libraries in Norway and Germany. In the global public library market dominated by ILSs with marginal differentiation, a new library services platform carries a strong possibility for disruption.

OCLC's *Wise* platform may likewise have interesting possibilities for public libraries. As covered in the April 2018 issue of *Smart Libraries Newsletter*, *Wise* is based on the *bicatWise* product OCLC acquired from KHA in 2013, which is used in about three-fourths of the libraries in the Netherlands and has recently been selected by a large consortium in the Flanders region of Belgium. OCLC positions *Wise* as more of a "community relationship management system" than a traditional ILS, with a much stronger focus on patron use patterns with built-in marketing and engagement capabilities. In 2018, OCLC launched the product in North America, following some new development to accommodate interests of libraries in this region. *Wise* has seen some initial interest by some influential libraries including the Allen County Public Library in Indiana and the Anythink library system in Colorado.

Innovative has articulated plans to launch its new platform in 2019 that will support its future products. Its initial product will be a new discovery service based on technology and content sources it positions as a "context engine." Success of this new product will be critical for Innovative as it works to stem the bleeding of its academic customers to Alma and WorldShare Management Services.

Cicero, a new platform developed by Systematic for the public and school libraries in Denmark, may also be ready to seek new global opportunities. This new platform was featured in the June 2018 issue of *Smart Libraries Newsletter*, following the completion of its implementation in the public and school libraries in 97 out of the 98 municipalities in Denmark. It has subsequently been implemented in the final hold-out, making it a truly national system, and it has been adopted by a neighboring Southern Schleswig region of Germany. Implementation of *Cicero* in a consortium of 500 private schools is also underway. With over 2,500 libraries automated through a single instance of the platform, *Cicero* has proven itself as scalable and reliable. We can anticipate its expansion into other global regions, though that move may be a few years away.

Ex Libris, has not rested on its laurels with the development of Alma, but has instead taken advantage of its base platform

to create products addressing other aspects of the academic institution. Leganto, released in 2015, addresses the teaching side of the institution through its reading list and copyright management capabilities. Esploro was announced in 2018 as a new institutional research services platform based on the Alma platform. These products further strengthen the capacity of Ex Libris as a formidable competitor in the academic library sector.

Following a period of sluggish turnover in systems for public libraries, these developments indicate the possibility for a faster rate of change in the public library sector. In the academic library realm, it's hard to anticipate a major interruption of the momentum of Ex Libris Alma.

Business Consolidation?

The library technology saw only a low level of mergers and acquisitions activity in 2018. Events included the acquisition of Talis Group by Sage Publishing and Lean Library (see the October 2018 issue of *Smart Libraries Newsletter*), Ex Libris acquired Research Research, Ltd. (see the September 2018 issue), Follett acquired Fishtree (see the August 2018 issue) and NextTier Education (see section below), and Clarivate acquired Kopernio (see the May 2018 issue).

Although it isn't possible to predict these kind of business events in advance, the library technology industry may be poised for a higher level of consolidation in the next year or two. Several companies now owned by private equity firms may be reaching the period in their ownership cycle where the incumbent investors are seeking an exit. The investment periods in the industry have varied from four to eight years. Any possible exits could take the form of lateral transfers of ownership to other investment firms, an acquisition of multiple companies by a single investor to create a merger, or a strategic acquisition by a larger scale entity in an adjacent industry.

The scholarly publishing sector is currently in the throws of disruption. Demand for a transition to open access has reached a critical threshold. The past year has been busy with new initiatives that challenge the current stranglehold that the large scholarly publishers have gained through the incumbent subscription-based business model. Plan S (<https://www>

.coalition-s.org/) is a broad-based initiative supported by many European countries, the Wellcome Trust, the Bill & Melinda Gates Foundation, and others demanding:

After 1 January 2020 scientific publications on the results from research funded by public grants provided by national and European research councils and funding bodies, must be published in compliant Open Access Journals or on compliant Open Access Platforms.¹

A growing number of influential organizations have taken aggressive steps, such as not renewing their contracts with publishers such as Elsevier. Examples include the University of California system in the US, and Projekt DEAL, an initiative led coalition of research institutions in Germany, recently including the influential Max Planck Institute.

The scholarly publishing industry has resisted a complete transition to open access, offering instead hybrid journals that include both subscription-based and open access articles. This hybrid approach is increasingly under fire as interest in comprehensive open access for new publication intensifies.

The demand for open access has disrupted the business models of scholarly publishers. While these organization continue to successfully monetize open access publishing through premium article processing fees, they are also working toward new business models based on deeper involvement with the research process. We can see major companies including Elsevier, Clarivate, Digital Science, Gale, EBSCO, and ProQuest each working to complete a matrix of product offerings that address the full lifecycle of research and publishing, especially focusing on workflow, analytics, and discovery. Filling in cells of the matrix has mostly been accomplished through business acquisitions. We can anticipate these acquisitions to continue and to even reach more deeply into the publishing and library business ecosystem.

Regardless of whether any big moves are in store for the next year or two, it would be unusual for the next year to be absent of business transitions of modest impact. However these trends play out, expect to see detailed coverage in upcoming issues of *Smart Libraries Newsletter*.

Follett Acquires NextTier Education

In a move that strengthens its position in the educational technology sector, Follett has acquired Chicago-based NextTier Education, a relatively new startup offering a platform designed to help students apply for post-secondary education

programs. This acquisition builds on a previous arrangement announced in May 2018, where Follett became the exclusive distributor of NextTier Education products to domestic and international institutions.

NextTier Education has assembled its service, positioned as a “postsecondary education readiness platform” to help high school students with the process of applying to post-secondary educational institutions or career opportunities. Applying to colleges can be a daunting process for high school students. Challenges include knowing all the steps that need to be completed and meeting the required deadlines, which will usually be different for each institution. NextTier has created an app that brings all this information together and helps the student complete each task needed on schedule.

The NextTier platform provides features and knowledge bases to guide students through the college application process as well as identify options for financial support. The platform includes features that help students identify the institutions to which they are likely to have the best success for acceptance. The NextTier app incorporates aspects of gamification to motivate and reward students as they complete each step of the application process.

For schools or districts, the NextTier platform provides systematic tools to help guidance counselors and other administrators track and manage the progress of students in their jurisdiction as they pursue post-secondary options. In a typical educational setting, each school counselor may work with hundreds of students. The NextTier platform provides a comprehensive management and assessment tool for schools and school districts as they work with their students as they continue their education.

At the core of the NextTier platform sits a knowledge-base populated with detailed information regarding potential schools, application deadlines, and financial support opportunities. According to the company’s website, sources for the data include the publicly available resources such as those from National Center for Educational Statistics and the Office of Employment Statistics, as well as from proprietary resources. NextTier uses technical processes and manual quality assurance methods to ensure the currency and accuracy of the data.

The integrated NextTier database includes extensive information regarding all types of educational institutions in the United States, including public and private universities, community colleges, and trade schools. Data available includes documents required for applications and submission deadlines. The platform can handle early admission processes as well as regular applications.

Students access the NextTier platform via an app available for iPhone and Android smartphones. After downloading the app, students can sign in using accounts set up by their school. Some schools may use the Clever authentication service (<https://clever.com/>), which provides integration and single sign-on among multiple campus applications.

NextTier does not submit applications directly to institutions but rather guides the students through the process. It provides links to the Common Application or other institution-specific forms.

NextTier guides the student through the college application process from start to finish. It brings together all the information needed for each step in the process, including the deadlines set by each school for submitting the application. Other tasks and target dates managed include required SAT tests, completion of FAFSA submission (Free Application for Federal Student Aid), submission of letters of recommendation, or other forms or documents required by an institution as part of their application.

The NextTier app enables each student to set up a group or team that might include parents or school counselors. This feature enables others to be involved with the process in a way that remains consistent with student privacy regulations such as FERPA (Family Educational Rights and Privacy Act).

Strategic Positioning for Follett

According to Nader Qaimari, President for Follett School Solutions, the acquisition of NextTier Education fits well into the company’s business strategy. Follett’s businesses span PreK-12, post-secondary educational institutions, as well as public libraries. In the same way that NextTier assists students in the transition from high school to their next step in education or career path, its technologies can also serve as a bridge spanning Follett’s business units.

From a product perspective, Follett plans to integrate the NextTier platform into its Aspen student management system, which is used by about 240 school districts in the United States and Canada. The NextTier platform would extend the functionality of Aspen beyond management of student records to tracking progress for each student in completing action items for their post-secondary educational plans. This institutional integration will also be available for schools or districts through integration of NextTier with the Destiny library management system.

Follett has also indicated that it would develop a version of the product oriented to public libraries, which would be developed through Baker & Taylor, which it acquired in 2016. This product would be oriented to municipalities interested in providing broad support to students preparing for college regardless of the high school attended.

Follett also sees the NextTier platform as able to support partnership between school districts and other educational organizations. There are an increasing number of arrangements where eligible students can attend community colleges or universities or state universities with no or reduced tuition.

The NextTier platform could help channel students to these opportunities.

The acquisition of NextTier Education can be seen as part of Follett's strategy to reach beyond libraries and to provide business solutions that penetrate deeper into the organization of the school or school district.

According to Qaimari, Follett has ambitious plans for the ongoing development of NextTier in addition to integrating it with its existing products. Possibilities include incorporating virtual reality experiences to enable students to explore educational or career directions. Simulations could be developed, for example, to show students what it is like to work in a given discipline, such as chemistry, medicine, or engineering.

NextTier Education Background

NextTier Education was founded in 2014 by Justin Shiffman, an entrepreneur interested in educational technology. Shiffman's background includes serving as CEO of ActofGood.org, which focused on helping non-profits improve their use of social media. His educational background includes a M.B.A. from the University of Illinois at Chicago and a law degree from John Marshall Law School.

Jeff Allen helped launch the company and served as the company's Chief Technology Officer during its start-up phase. Allen had previously been involved in a variety of technology projects, including the project leader at Microsoft for the development of Xbox Live and as a Senior Vice President at RedBox for Technology. At NextTier, Allen shifted to an advisory role in 2016 as he became involved in other projects.

The initial phase of NextTier Education focused on gaining traction directly with students, working to attract a body of users as the company worked out ways to monetize the service. This consumer-oriented model eventually evolved into a commercial model based on institutional subscriptions from school districts or municipalities.

As a start-up, NextTier Education was able to raise funding needed for its technical development, operations, and

marketing. The company raised \$1.2 million in venture capital funding in 2014, supplemented by a \$500,000 in debt financing raised in 2015.²

Following the acquisition, Shiffman and the TextTier Education employees will continue their work from their offices in Chicago.

More information about NextTier Education is available on their website (<https://nexttier.com/>).

Follett Background

Follett Corporation, a large family-owned company with over \$3.5 billion in annual revenue, offers a wide range of products and services spanning PreK-12 schools, colleges, and public libraries. The company offers print books, ebooks, reference material, digital resources, video, and other multi-media content to schools and retailers.

Follett has grown both organically through the direct development of products and through strategic acquisitions. The company's most significant expansion took place in 2016 with the acquisition of Baker & Taylor, covered in detail in the June 2016 issue of *Smart Libraries Newsletter*.

Other recent business transactions include the July 2018 acquisition of Fishtree, a company that had developed an adaptive learning platform based artificial intelligence technologies. According to the announcement: "The Fishtree platform brings together district-wide resources for every subject, aligns them to any standard or competency and then personalizes the experience for each student based on specific learning profiles, while providing a streamlined user experience for the educator and administrator."³

In November 2016, Follett acquired Valore Inc, a company offering a marketplace for students to buy, sell, or rent college textbooks. This acquisition complements Follett's other business activities in the college bookstore management sector.

For a comprehensive listing of announcements regarding Follett's business acquisitions, see <https://librarytechnology.org/repository/search.pl?Company=Follett&Subject=Mergers%20and%20Acquisitions&Format=Press%20Release>.

People in the News

Bart Murphy has joined OCLC as its new Chief Technology and Information Officer, responsible for the company's global technology infrastructure and software development initiatives. Murphy comes to OCLC from the healthcare sector, where he previously held executive roles in companies

including PriorAuthNow, York Risk Services Group, CareWorks, and Cardinal Health.

Innovative Interfaces has appointed **Joe McMorris** as its Global Chief Information Officer. McMorris previously served as Chief Information Officer for Wolters Kluwer.

Innovative CEO James Tallman led the Wolters Kluwer Enterprise Legal Management Solutions prior to his appointment as CEO for Innovative. Other executives at Innovative holding prior positions with Wolters Kluwer include Don Schad (Chief Financial Officer), Chris Fields (Chief Technology Officer), Shaheen Javadizadeh (Executive Vice President, Global Sales), and Akin Adekeye (General Counsel and Vice President for Partnerships and Business Development).

It is not unusual for a CEO to build an executive team with individuals.

Ian Downie has joined **Third Chapter Partners**, which does business as **Patron Point**. Downie had previously worked with collectionHQ as its Director for International Business Development. CollectionHQ was acquired by Baker & Taylor in 2011. Other principals at Third Chapter Partners include **Ted Fons** and **Gene Shimshock**.

Smart Libraries Q&A

Each issue, Marshall Breeding responds to questions submitted by readers. Have a question that you want answered? Email it to Samantha Imburgia, Associate Editor for ALA TechSource, at simburgia@ala.org.

We've recently had several patrons ask for technology to magnify documents and print books. What's the best tech for this (portable, desktop computer peripheral, and/or standalone)?

Libraries naturally want to make their materials easily used by all the individuals they serve, including those with disabilities. Assistive technologies are available to help persons with different types of disabilities.

For those with visual disabilities different levels of technical help is available. For those with no or very limited eyesight, for example, screen readers convert text into spoken language. Commercial products commonly used in libraries include the JAWS screen reader and Open Book text reader, both from Freedom Scientific.

Returning to the question at hand, many individuals have some degree of visual limitation and benefit from magnifying the size of text. Magnification can be accomplished in different ways, depending on whether the text is in print or on a digital device.

The National Library Service for the blind and physically handicapped of the Library of Congress maintains the reference guide "Assistive Technology Products for Information Access," which lists products and devices across multiple categories.⁴

This guide includes the category of "portable video magnifiers," which can be used to magnify the text of a book or document.

Several approaches are available to help those with low vision view magnified text. In a library context, it is probably helpful to have a desktop unit that can be used with library

materials, such as books or documents. The material is placed on the device and the device displays the magnified text on the attached screen display. The user would be able to pan through the document to read the text and control the level of magnification. An example of this type of device is the TOPAZ desktop video magnifier, available through Freedom Scientific.

Portable video magnifiers are also available, which may be well suited for personal use. Handheld devices are available that are quite portable but may be more suitable for magnifying text for quick reference than for sustained reading. The RUBY handheld video magnifier falls into this category.

Smartphones can also provide adequate video magnification for some purposes. The Apple iPhone, for example, has a built-in magnifier function. This feature is not enabled by default but can be activated through the accessibility tab in general settings. Once activated, a triple click on the home button opens the camera app with a variable magnification slider. Magnifying glass apps are also available for Android devices. Like other portable magnifiers, this approach can be used for quick tasks such as reading the fine print on a label but would be tedious for reading an entire book.

Many more magnification options are possible with digital text and devices. When implemented according to current standards, text in a digital context can be easily magnified to meet the needs of persons with low vision. Desktop computers and portable devices give the option to set the default size of text, a great help to those not able to read small print. Many e-book readers and smartphones also include features for verbal reading of text on the screen. Again, using the iPhone as an example, text-to-speech capability is activated in the accessibility section of general settings. Once activated, a two-finger swipe gesture from the top of the screen initiates verbal reading of the text on the page.

It's important for library websites and content resources to follow current standards for accessibility. Following these

standards ensures that the text can be scaled to the size needed, can be navigated easily without a mouse, and can be processed by screen-reading software. Section 508 of the United States Rehabilitation Act specifies the requirements for websites, digital content, and devices to be accessible by persons with disabilities. Libraries using reasonably current technologies to develop and deploy their websites will be compliant with these standards.

These are just examples of the technologies available. Libraries interested in setting up a suite of assistive technologies would want to perform a more systematic review of the disabilities they intend to address and the products available. Libraries interested in providing a diverse set of assistive services may want to work with a specialist in this field that can help identify needs, select and implement the best array of products, and train library personnel on their use.

Notes

1. "10 Principles," Science Europe, accessed December 18, 2018, <https://www.coalition-s.org/10-principles/>.
2. Next Tier Education, Inc. SEC filing, United States Securities and Exchange Commission, accessed December 18, 2018, https://www.sec.gov/Archives/edgar/data/1622677/000162267714000001/xslFormDX01/primary_doc.xml.
3. "Follett Acquires Fishtree Adaptive Learning Platform," Follett Corporation, press release, July 12, 2018, <https://www.follettlearning.com/about-us/news/press-releases/press-release-follett-acquires-fishtree>.
4. "Assistive Technology Products for Information Access," National Library Service for the Blind and Physically Handicapped, Library of Congress, accessed December 18, 2018, <https://www.loc.gov/nls/resources/blindness-and-vision-impairment/devices-aids/assistive-technology-products-information-access/>.

Questions or suggestions
for topics in future issues?



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