Standards Column-Is the World Wide Web Dying? And Where Are the Standards for "Apps?"

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Is the World Wide Web Dying? And Where Are the Standards for “Apps”? 

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The print copy of Wired magazine’s September issue arrived in my mailbox with an eye-catching orange cover proclaiming the death of the Web. The lead article by Chris Anderson and Michael Wolff (http://www.wired.com/magazine/2010/08/ff_webrip/) points out with a colorful graphic that while we may be spending a great deal of time sharing information over the Internet, we are increasingly not using the World Wide Web as our primary interface. We are entering a world where devices, applications, and services are our entry point to content on the Internet.

I am probably a typical example of the behavior described by Anderson. Instead of reading the New York Times or E-Store Posts that I find in a function, I have dedicated applications for those publications. I stream Netflix either through an application or via my Wii. iTunes, LastFM, and Pandora are my music portals, as well as where I stream many podcasts and radio shows. Twitter, Facebook, LinkedIn and Skype, where I carry on a fair amount of my communications, are all applications, not plain vanilla browser interfaces. Most, if not all of these, do have dedicated “hosted” applications that I could use but they lack some of the functionality I have come to expect. Although, Anderson’s article was pilloried in some tech circles for its misleading use of graphics (http://www.boingboing.net/2010/08/17/is-the-web-really-de-html), and overstating known trends (http://techcrunch.com/2010/08/17/wired-web-dead/), his article and post highlighted a growing problem with our interactions online, not just for users, but also for content creators, aggregators, and libraries.

Back in the mid to late 1990s, development of online journal platforms was challenged by the need to test out the various browsers (http://upload.wikimedia.org/wikipedia/commons/7/74/Timeline_of_web_browsers.svg) to see how a site would be rendered, and how a user would navigate an interface that I could use but that I properly however users accessed it. In the early days of Web publishing, browser differences could make a site nearly unreadable on some of them. Testing on different versions of Netscape, Internet Explorer, Mosaic, or Opera was a critical component of pre-launch work to ensure that the coding was appropriate for the rendering. This is less the case now, although some variations remain.

Today, we’re stepping back to those days of needing a proprietary software application and perhaps lagging the interoperability we’ve come to take for granted with the Web. Jonathan Zittrain (http://cyber.law.harvard.edu/people/zittrain) at the Harvard Berkmen Center for Internet and Society (http://cyber.law.harvard.edu) is one of those watching the trend and who decries the move away from open standards and integrated technology, which he argues drove the success of the Web.

If we’re indeed moving to the “Age of the App” where Internet users have to interact with content via some interface that is not a browser, this will have significant implications for publishers. While I am a big fan of publication-specific apps, such as Slate, the NY Times, the Wall Street Journal, Wired and others, not every publisher — indeed most publishers — are not in a position to build such an app. They’d also have to modify the app for the iPad platform, the Android platform, the BlackBerry platform, various e-readers, etc. Plus there are all the devices that may develop next year or three years from now and the devices’ software upgrades that go on continuously. A figure quoted frequently earlier this year during the American Association of Publishers/Professional Scholarly Publishing meeting was that a good custom-built app could cost upwards of $50,000, not counting the cost of the post-release support and tweaking.

A publisher’s $50,000 development investment might have a shelf life of 12-18 months because of upgrades to the platform and maintaining such an app. Although there is some advocacy for standards, such as EPUB for eBooks, most eBooks are still issued in the proprietary format of each e-reader usually wrapped by some form of DRM, Netscape or Firefox formatted pages for the publisher’s navigation app. From a user perspective, interoperability is even more critical than ever, because few people have only one device and they need to be able to move their content between their smartphone and their laptop, or their PDA and their organization’s file server. This is exactly the kind of interoperability that requires the use of common standards, not proprietary applications.

Smaller publishers will likely have to partner with aggregators to deliver their content to their audience with pooling resources for Web-based distribution platforms like HighWire, Project Muse, or BioOne. As yet such aggregators have not launched device specific applications. For the moment only larger publishers are venturing forth with multi-platform development platforms like Nature Publishing Group’s (http://www.nature.com) or the American Institute of Physics with their iResearch iPhone App (http://it.scitation.aip.org/labs/10_09/iResearch_iPhone_app) released last year or the Nature Publishing Group’s (http://www.nature.com) or the Public Library of Science (PLOS) (http://itunes.apple.com/us/app/plos-medicine/id362137769?mt=8) each with multiple apps distributed through the iTunes store. Highlighting the underlying problem, though, is that the fact all of these are applications for the Apple iPhone or iPad, not for other platforms. Although OCLC has allowed its WorldCat data to be served up via third-party applications on a range of platforms, OCLC itself has only also developed for the Apple suite of products.

And where are libraries in this new app world? With ever-shrinking budgets, libraries can’t afford to manage a digital collection with multiple proprietary versions of each content and each content management system required to run them. If a library chooses (or is forced through budget constraints) to “standardize” on one or a few devices and platforms, they are then limiting the availability of content to what has been developed for those platforms. Just like book publishers, libraries will likely need to work with one or more aggregators to ensure access to all the desired content — when or if such aggregators are available at an affordable price. The preservation issues that will become even more complicated than they currently are in the browser-based environment, where libraries are still struggling with how to ensure preservation of content. As if preservation of digital content alone were not difficult enough, there is ample proof of the difficult

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collections given the complexities of campus stakeholder preferences. Sensitivity to user needs and ability to deploy strong rationales for decision-making can help leaders navigate difficult choices.

This Against the Grain issue focuses on managing print collections, but the truth is that each of the profiled initiatives is fundamentally about library strategy and services. In an environment of constrained resources, libraries strive to serve user needs with new formats and innovative support roles, find mission alignment with their parent organizations / funding bodies, and avoid deviating from the vital shared value of preservation. Finding the right balance for print collections is imperative to planning a strategy for the library to meet user needs in a changing environment.

Pelican’s Antidisambiguation from page 14

have at hand, and if our “desktop” and everything we’ve left there, comes with it — well, that’ll be a bunch of steps further toward the kind of environment many have been envisioning for a long time.

So let’s all take a look at Bloo. Regard it not as an app that runs on a Windows machine, but recognize it as the next step toward a uniform, multi-platform environment that goes where you go — and that isn’t necessarily or automatically run by either of those twin gorillas, Apple or Amazon.

Google’s a pretty big gorilla too. And Microsoft — a fair-sized gorilla itself — hasn’t died off — The user is also affected by having to install (and possibly purchase) a different app for every publication and launch a new app when switching publications. Clicking on links within the publication can launch yet another platform (or ironically, a Web browser). The library community is further challenged by serving diverse communities only some of whom may access a portion of the licensed content.

Operating system changes, platform dependencies, and user demands for increased functionality has threatened the traditional model of electronic publishing. But the World Wide Web’s success, especially as an information distribution platform, was due to its ability to circumvent most of these issues and that ability was due to the underlying standards infrastructure. The way we seem to be entering is taking us back to those earlier problems, multiplied by a much larger variety of devices to support. In an app world, the only standards are those of the platform and all others are required by each device. Although there is some advocacy for standards, such as EPUB for eBooks, most eBooks are still issued in the proprietary format of each e-reader usually wrapped by some form of DRM, Netscape or Firefox formatted pages for the publisher’s navigation app. From a user perspective, interoperability is even more critical than ever, because few people have only one device and they need to be able to move their content between their smartphone and their laptop, or their PDA and their organization’s file server. This is exactly the kind of interoperability that requires the use of common standards, not proprietary applications.

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<http://www.against-the-grain.com>
Reserach libraries have inherited a legacy of print duplication; duplication that made sense in its time to ensure institutional competitiveness. But a network-wide shortage of storage space requires us to reduce the physical footprint of retrospective collections. Research libraries seek ways to make informed decisions about what to preserve and what to withdraw. The recent growth in last copy agreements suggest there is real momentum in the community to find collaborative solutions.\(^1\) But taken together, these efforts do not reach the scale that is needed to address the systemic and long-term shortage of space to house physical collections. Among the factors that have hampered such efforts, are: the absence of business models, organizational structures, collection decision-making models, disclosure systems, and incentives to create and sustain trusted archives. Large-scale collection consolidation has real operational costs that surpass existing consortial capabilities. A network level (regional, national, international) solution is required. Research libraries and consortia in the western United States have prepared a business model and operational structure for a Western Regional Storage Trust (WEST) which is designed to support network level archive creation services to preserve the scholarly record, provide access, when needed, and manage reallocation of space.

### About Aggregate Print Journal Collections

Print journal archives are ideal candidates for space reclamation for reasons that are well-known; large amounts of shelf space can be reclaimed with a relatively small number of titles (and decisions about those titles). To put the size of the aggregate print journal collections in perspective, there are about 4.18 million print serials in WorldCat and the average number of libraries that hold a title is about nine. At the high end of the duplication spectrum are roughly 10,000 titles in Portico and JSTOR with average holdings of 250 and 600 libraries, respectively.\(^2\) While titles

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### Table 1: Levels of Print Duplication within WEST Planning Libraries

<table>
<thead>
<tr>
<th>Duplication Level</th>
<th># Copies</th>
<th># Journal Families (current + previous titles)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>5 or more</td>
<td>17,233</td>
<td>28%</td>
</tr>
<tr>
<td>Moderate</td>
<td>3 or 4</td>
<td>13,381</td>
<td>22%</td>
</tr>
<tr>
<td>Low</td>
<td>1 or 2</td>
<td>29,966</td>
<td>49%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60,580</td>
<td></td>
</tr>
</tbody>
</table>

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1. The scale of collaboration requires careful consideration: state, regional, national? Creating archives at a certain pace has real operational costs and requires dedicated staff trained in project management and validation. In 2009, the University of California Libraries considered going it alone with a consortial archiving service that would serve the ten UC campuses. Experiments were conducted...