From portals to platforms: building new frameworks for user engagement

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The Digital Public Library of America (http://dp.la/) was launched in April 2013. Explaining what it actually was, Dan Cohen, the Executive Director, pointed to three key elements (http://dp.la/info/2013/04/18/message-from-the-executive-director/): the DPLA was a portal, a platform, and an advocate for open public access to scientific and cultural content.

We understand portals – they're just web gateways or starting points. Similarly, the need for advocacy around open access is well-recognised within library and research communities. But what makes the DPLA a 'platform'?

The DPLA is not just a database or a website, it provides a set of tools that anyone can use to build their own application or interface on top of the DPLA's aggregated data. This toolset is called an Application Programming Interface (API). APIs let computer programs talk to other computer programs, enabling application components to fit together like Lego blocks.

DPLA's API, Dan explained, would make 'millions of items available in ways so that others can build creative and transformative applications upon them'.

Portals are for visiting, platforms are for building on. While a portal can present its aggregated content in a way that invites exploration, the experience is always constrained – pre-determined by a set of design decisions about what is necessary, relevant and useful.

Platforms put those design decisions back into the hands of users. Instead of a single interface, there are innumerable ways of interacting with the data. Instead of a single website, the data is free to be displayed anywhere on the web.

APIs are everywhere. If you use a Twitter or Facebook client you're using their APIs. Most of the social media services you're familiar with are, to some extent, platforms, providing APIs that allow third-party developers to create new apps that interact with the core service.

Even in the cultural heritage sector we've seen APIs from a number of individual institutions. The idea that this data has value not simply because of what it describes, but because of why it might become, isn't new.

So why is the DPLA's focus on the importance of the platform so interesting?

What interests me, what gets me really excited, is what happens when you pair the possibilities of the platform with the reach and scale of an aggregation service – when a single key can unlock the cultural heritage of a nation or a continent.

It's early days for the DPLA, they currently provide access to around 5 million resources.

But then there's Europeana (http://europeana.eu/), pulling in content from countries across Europe and pumping it through their own API – 29 million objects, 36 countries, 1 API.

Closer to home, of course, DigitalNZ (http://digitalnz.org.nz/) has long been showing the way – they've had an API since the beginning back in 2008, and it now opens up more than 26 million resources.

And of course, Trove (http://trove.nla.gov.au/). Our API (http://trove.nla.gov.au/general/api) went live last year and can currently use it to retrieve the details of around 300 million books, articles, objects, images, manuscripts and more.

So let's add those up – 360 million resources, through just 4 APIs. And of course unlike websites, APIs can themselves be connected together.

Earlier this year twelve digital humanists were brought together at George Mason University in Virginia and given a task – in the space of a week they had to design, develop and promote a new digital tool. This was a learning exercise for participants, but what they produced was a web app called Serendip-o-matic (http://serendipomatic.org/).

(http://serendipomatic.org/)

If you feed Serendip-o-matic a text or a Zotero library, it will extract keywords from the content and then use these keywords to search for images in a number of collection databases. It's a simple idea, but one that encourages us to think more broadly about connections, about the power of serendipity to point us in new directions – to think differently.

At it's launch Serendip-o-matic was hooked up to the Flickr Commons, DPLA and Europeana. 34 million possibilities (plus whatever's in Flickr), 3 APIs, one web app. But it didn't take much to build on those figures. The source code was released to the public at the same time as the app itself. So after a couple hours hacking, I'd connected up Trove and contributed my modifications back to the project.

More than 41 million possibilities, 4 APIs, one web app.

But it's not just about scale and mind-boggling statistics. APIs help aggregators position themselves as something more than discovery services – as information infrastructure – key components in a broader landscape of access, democracy, creativity, research, and economic development.

For individuals, the promise of the platform is that collection data will, as Europeana puts it, find it's way into our workflows, offering possibilities for more efficient discovery, annotation and use. But by freeing access from the prison of portals we also create opportunities for innovation through contextualisation and interpretation – new interfaces can be built, new visualisations framed, new meanings made and stories told.

As a digital historian myself, I was playing around with the Trove API (http://discontents.com.au/tag/trove/) before I became part of the official team. What excited me was the possibility of moving beyond discovery as the primary mode of online interaction with cultural collections. Instead of just finding interesting newspaper articles, for example, I could start to explore trends and patterns across the aggregated resource.

(http://dhistory.org/querypic/86/)
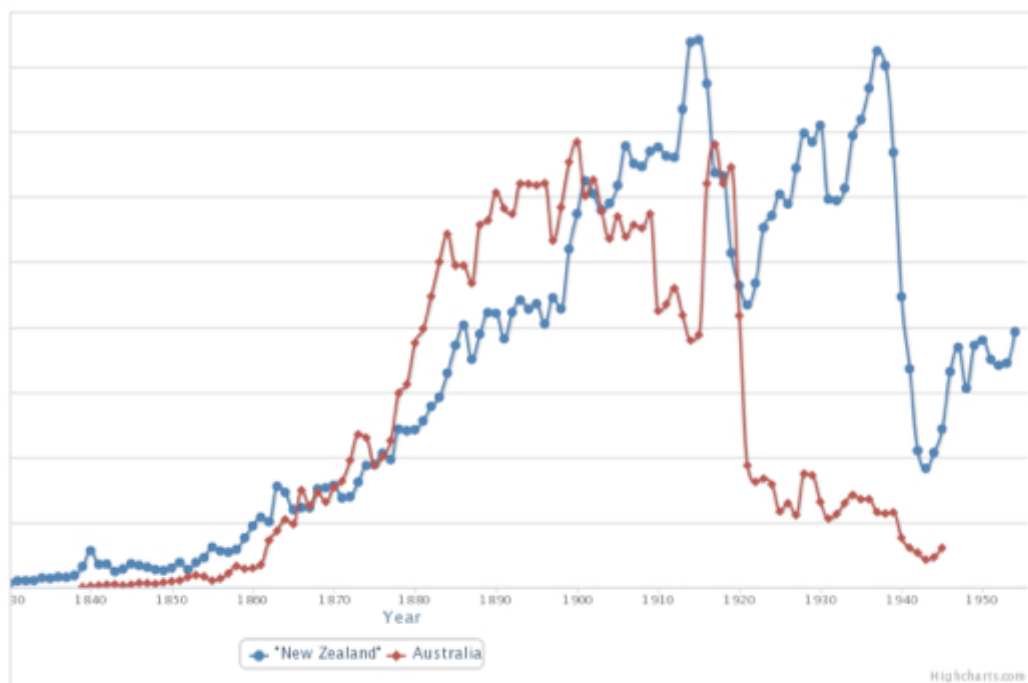
QueryPic (http://dhistory.org/querypic/) is a web app I built that graphs search results from the Trove newspaper database over time. It's a simple tool, but it allows you to ask new new types of questions. And when you've hooked up one API, why not another. By using DigitalNZ to access PapersPast, I made it possible to compare results from Australia and New Zealand.

But why should we just be targetting our 'workflows'? Why shouldn't we be working to get cultural collections 'in our lives'.

After attending a DPLA planning meeting, Ed Summers reflected (http://inkdroid.org/journal/2011/05/25/the-dpla-as-a-generative-platform/) on the characteristics of a 'generative platform', suggesting that projects like DPLA need to look at the broader environment within which metadata is published, harvested, exposed and linked. Ed argues that aggregators should work *with the the grain of the web*, not against it. APIs are convenient and well understood by developers, but they're not the answer to everything and shouldn't define the principles of our platforms.

David Weinberger, a well-known thinker about the culture of the net, directed the technical team that developed the DPLA's API. But he's also reflected more broadly (http://lj.libraryjournal.com/2012/09/future-of-libraries/by-david-weinberger/) on the nature of platforms and how they relate to the work of libraries. Switching our thinking from portals to platforms, he suggests, means thinking about libraries 'as infrastructure that is as ubiquitous and persistent as the streets and sidewalks of a town, or the classrooms and yards of a university'.

But embracing the possibilities of the platform means giving up the ability to control, or even predict, what will be constructed using this infrastructure. Indeed, he notes that 'a platform gains value the less can be predicted about what will be built with it'.

By exploring these two characteristics – ubiquity and unpredictability – we can move beyond the platform as set of methods, or a technical framework, to conceive of it more broadly as an open, creative space full of possibilities. Thinking like a platform, not a portal, or a website, means enabling a set of opportunities, experiences and emotions, that are yet to be known, or even imagined.

EverywhereNess

Aggregation services collect stuff. We vacuum up metadata, do a bit of cleaning, then file it away for future reference. Through our websites and APIs we show people all the cool things that we've found – Look here! Did you know about this?

But platform thinking asks us to expand our notions of dissemination to think about how we can be everywhere at once – part of the fabric of online existence, and not just a service to be queried. How can we, supernova like, explode our aggregations, sending the building blocks of life out into surrounding space?

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http://branchesleavespollen.blogspot.co.nz/p/trove-tuesday.html

(http://branchesleavespollen.blogspot.co.nz/p/trove-tuesday.html)

Every Tuesday a loosely-organised group of bloggers post about their latest Trove discoveries using the tag #TroveTuesday (http://branchesleavespollen.blogspot.co.nz/p/trove-tuesday.html). This wasn't our idea. Indeed, our involvement is generally limited to a few retweets. It was the brainwave of one passionate Trove user, taken up by others who simply want to share the excitement of discovery – as of course we all do.

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(https://www.ravelry.com/)

In a similar way, we've noted that one of our main referrers, alongside the likes of Google and Wikipedia, is a service called Ravelry (https://www.ravelry.com/). It's a site for knitters. Ravelry users trawl through newspapers and the Australian Women's Weekly looking for knitting and other craft patterns, which they collect and share on the site. Again, this was not something we planned or initiated. It just happened.

In the age of social media we are all sharers. But what these examples remind us is that there's something really fundamentally human about the desire to share that need not be mediated through the APIs of social media services. There is more to sharing than a 'Like' button – it can evolve its own forms in and around the specific technologies we provide.

But of course there are things we can do to help. We can develop tools, employ standards, and pursue practices that not not only simplify the process of snipping and sharing, but add a bit of useful structured data into the mix.

Paul Hagon, from the National Library of Australia, has created a Wordpress plugin (http://www.paulhagon.com/2012/07/09/trove-wordpress-plugin/) that makes it easy for users to embed the contents of a Trove newspaper article in their own posts – complete of course will a full

citation and a link back to the site. One Trove user has created their own browser plugin (https://addons.mozilla.org/en-US/firefox/addon/cite-trove/?src=external-trove-forum) for quickly capturing newspaper citations, while I've developed a translator for Zotero (http://zotero.org/)that let's you save structured metadata from the newspapers site into your own research database.

By finding ways to work with the grain of the web we can leave more options open.

We can also explore other ways of mobilising our collections, letting them loose into the spaces where people already are.

(https://twitter.com/TroveNewsBot)

Let me introduce you to TroveNewsBot (https://twitter.com/TroveNewsBot). TroveNewsBot lives on Twitter, where he spends his days tweeting random newspaper articles from Trove and answering people's queries – yep, you can tweet some keywords at him and he'll reply with a relevant newspaper article.

He also has conversations. He looks at the collection items tweeted by his friend DPLABot (https://twitter.com/DPLAbot) and tries to find a related article. Most interestingly, he looks at the latest news items posted on the Australian Broadcasting Commission's website and tries to find

echoes amidst the 100 million historical newspaper articles at his command. The result is a fascinating discussion between past and present.

All of this is done, I should emphasise, without any human intervention. I'm as surprised as anyone by what TroveNewsBot comes up with.

I created TroveNewsBot for fun, but I've become rather excited by the possibilities of turning our collections from passive repositories into active online participants. But why just online? With locative technologies, wearable computing and 3d printing, why shouldn't the everywhereness of our platforms carry us from the virtual to the physical and back again.

UnclosedNess

The more we become aware of the power of networked information, the more we become concerned with making and preserving its 'openness'. To me open data is a process not a product (http://discontents.com.au/a-map-and-some-pins-open-data-and-unlimited-horizons/) - each visualisation, or interpretation can challenge our assumptions and help us to see things differently. Each use is an opening into new contexts.

'A library platform', David Weinberger argues (http://lj.libraryjournal.com/2012/09/future-of-libraries/by-david-weinberger/#), 'should be measured less on the circulation of its works than in the circulation of the ideas and passions these works spark'. He imagines platforms giving rise to 'messy, rich networks of people and ideas'. But how can we avoid the temptation to clean up some of the messiness, to close some options for the sake of efficiency or a more familiar user experience?

Game designers are grappling with similar questions (http://www.poetpainter.com/thoughts/article/from-paths-to-sandboxes), contrasting the experience of 'sandboxes' – online spaces for open, collaborative play – with 'pathways', where the narrative journeys are largely predetermined. One writer describes this (http://www.slideshare.net/dings/dont-play-games-with-me-promises-and-pitfalls-of-gameful-design) as the difference between 'exhaustibles' and 'possibility engines'.

Users can enrich the content of Trove in a number of ways: by correcting OCR'd newspaper articles, or by adding tags and comments. They can also create lists. Lists are simply collections of resources and provide a convenient way for people to save and share their research. DigitalNZ has something similar, called 'sets'.

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all Trove lists

http://voyant-tools.org/tool/Cirrus/?corpus=1379486510033.189

(http://voyant-tools.org/tool/Cirrus/?
corpus=1379486510033.189&query=&stopList=stop.en.taporware.txt&docIndex=0&docId=d1379477
863196.e194f225-b9aa-4796-1dff-963bf623a76f)

There are currently more than 27,911 public lists (http://trove.nla.gov.au/list/result?q=) on Trove created by 5,796 users. Those lists contain almost half a million items. Analysing the frequency of words in the titles of these lists reveals, unsurprisingly, that most are related to family history. But there are also some unexpected joys – such as the fact that there are 107 lists about lawn mowers. Lists are a very simple tool, but with that simplicity comes an open invitation to the making of meanings. It's this sort of opening out that creates possibility engines.

But if we're trying to kick start the engines of possibility we have to admit that the biggest barrier is not the design of our APIs, but the lack of access to technical skills, knowledge and support.

This means, I think, that we have to consider another aspect of platforms – elevation – platforms can lift us up.

Elevation

'The DPLA', John Palfrey noted (http://lj.libraryjournal.com/2013/04/future-of-libraries/whats-is-the-dpla/), 'will serve as an on-ramp, allowing local and regional organisations to move into the digital realm, and to help DPLA users build essential digital skills'.

DigitalNZ's Make it Digital (http://www.digitalnz.org/make-it-digital) service is a great example of this sort of skills development in operation, and we have to do more of it, recognising the effects of unequal access to technical expertise. Otherwise whose collections will be aggregating and who will be using them?

I think platforms also have a special obligation to their users to be open about their limitations and biases – about the artificial, constructed nature of the aggregation itself. I would like to think that this discussion could broaden into a deeper critical understanding of search technologies, an opportunity to open some blacks boxes, and pull apart some of the uncontested algorithms that are shaping ever more aspects of lives.

Neither can we forget our non-users. According to a recent evaluation survey (http://library.ifla.org/245/) of Trove the people we are not reaching include 'the young, the less affluent, the less well educated, Indigenous Australians, and the large proportion of the Australian population for whom English is not the primary language spoken in the home'. How do we lift these groups up to join us on the platform?

All of this seems rather daunting, but I think the thing that excites me most about services like DPLA, Europeana, DigitalNZ and Trove, is the possibility that we might be exercise the power that comes through aggregation to deliver some leadership in these sorts of areas. We should remember that platforms are also for speaking from.

Link:
Full version of this paper (PDF)
(http://www.lianza.org.nz/sites/lianza.org.nz/files/sherratt_tim_from_portal_to_platform_-_building_new_frameworks_for_user_engagement.pdf)
Slides for this presentation (via SlideShare) (http://www.slideshare.net/wragge/from-portals-to-platforms)

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