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# Show me the data: Analyzing item level metrics from CONTENTdm reports to aid digital collection assessment

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#### Show Me the Data

Analyzing item level metrics from CONTENTdm reports to aid digital collection assessment

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Good afternoon, my name is Lauren Work, and I'm the digital collections librarian for VCU libraries. Thanks to the conference coordinators invitation to present, and thanks very much to all of you for spending time with someone who wants to talk about data.

That said, I'm here to talk about how I have been experimenting with an approach to massage data out of CONTENTdm reports to aid our digital collection assessment at VCU.

My ultimate goal to develop a working approach for evaluating digital collections at VCU Libraries, but this is very much a nascent project that is just dipping into the complicated world of digital collection use and assessment, and I welcome any feedback or suggestions you may have.

I'll talk about why I've been looking closely at the data provided by CONTENTdm reports and how it fits into our current assessment picture. I'll then move into how I've manipulated reports by using Excel to more easily get an overall picture of our collections, and I'll finish by talking about a few discoveries and future steps.



I'll start with a bit of background as to why I've started working more closely with CONTENTdm reports, and why I think this could be useful for others who work within digital collections in CONTENTdm.

#### Background

- New position as Digital Collection librarian
- Establish a baseline for digital collection use
- Create a defined method for digital collection assessment

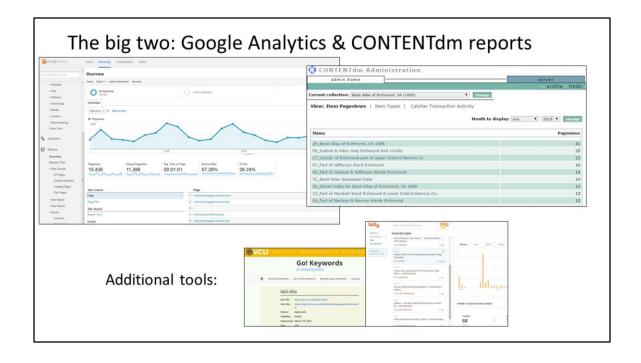
I started my job as Digital Collections librarian at VCU just over 1 year ago this week. It was a brand new position that included responsibilities for growing the digital collections and digital library program at VCU. Growth of digital collections includes developing new approaches to improve the discoverability and use of our digital collections, as well as their long term preservation.

As I'm sure many in this room know, being tasked to define growth or track change in a program oleads you to look *everywhere* you can for baseline information, and CONTENTdm reports provided some of that baseline data.

I'm also interested in creating a standardized method of assessment for our digital collections - something we can look to on a consistent and methodical basis. Something that can be of use both when evaluating ourselves internally - for instance, tracking how initiatives like joining Flickr Commons may impact our digital collections use - but can also be shared more widely with university administration, donors or when working on grants.



Speaking of baseline information, what is VCU Libraries' current approach to digital collection assessment and analysis?



Like many libraries, we use Google Analytics to help us evaluate and track use of our digital collections. Coupled with the reports available through CONTENTdm, these two resources give us a good chunk of the data we use to review our digital collection.

I've also included two additional tools that help us evaluate the sources of our collections traffic. Clifford Anderson touched on this yesterday in his keynote, but I'm also interested in tracking how our collections are discovered and accessed from social and open source spaces and these tools reflect some of that space.

Vcu Go! keywords are an internal resource for shortening and tracking links, and I've also increasingly used bitly over the past year to gather more data about collections shared through our social media platforms. And finally, I also set up Google alerts on all of our collections and track items that way as well.

Before I dive into the use of CONTENTdm reports, I wanted to mention why we're not just looking at Google Analytics right now with our iterative assessment approach.

While Google Analytics is extremely useful and can tell you many things, especially through the CONTENTdm setup which allows for things like tracking downloads, which can be difficult to do, there were two tasks that I wanted to easily perform as a GA novice, and these tasks were easier to do within CONTENTdm reports for my purposes.

- Easily review stats for a collection set
- Simple identification of objects that are not being accessed



Question by Nathan David Smith from the Noun Project

The first task is to be able to look at all numbers for objects that make up a specific collection set.

The second is to quickly identify & evaluate not only those objects that are being accessed frequently (and therefore show up in your data), but maybe just as importantly, I want to be able to evaluate and identify those objects that are not being accessed or used much at all.

CONTENTIAM reports provide some of this information for me in a fairly straight forward way, and this is what I've done to examine this available baseline data.



When I started to take a look at these reports, I decided to take a pilot project approach. So I selected three similar VCU digital collections and used these as the basis for exporting and working with the report data I wanted to use.

#### Pilot Project

- Three small to medium collections (31, 146 and 491 objects)
- Mix of new and older collections
- All collections are loaded as single items
- All collections are images
- Two collections part of VCU Flickr Commons







For the pilot project, I selected three collections that, for VCU Libraries, represent small to medium-sized collections. Keeping the project relatively small made working with the data a bit easier to start.

Chose a mix of new collections (launched this year) and older collections (launched a year or two ago)

So we could have the option to look at both longitudinal and short term information as needed, and to potentially examine the effect of initiatives like social media features versus simply being a brand new collection.

Collection types in the pilot project are all the same, in that they are all loaded into CONTENTdm as individual items. There are no compound object collections in this pilot project, because the way pageviews are counted in CONTENTdm differs between compound objects and individual items.

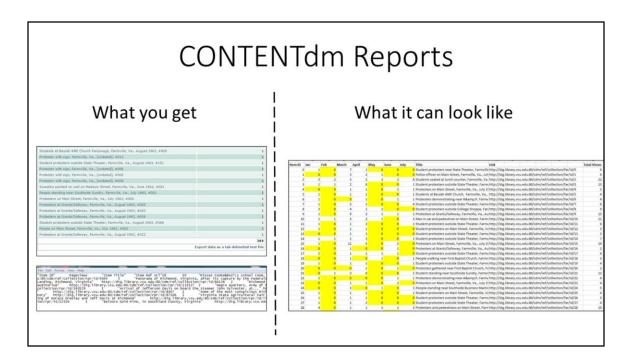
All collections are the same format – they are all image collections. This is one of the most common types of collections we have, and it was helpful to be able to compare similar objects for use.

Finally, I wanted to take a look at how various collections might be impacted by recent digital initiatives at VCU, such as our joining Flickr Commons this year. Two of the three collections in the pilot are represented in VCU's Flickr Commons

#### Data



So let's take a look at the data for the pilot project, and I'll talk a bit about how I used Excel to corral CONTENTdm reports into a format that worked well for my future assessment and analysis purposes and helped round out the information we can use for assessment.



I'm sure all of us here are very familiar with CONTENTdm reports. You can obtain collection level reports, which show the current and past month of total collection level views, and you can also download item level reports, which shows you the pageview count for each individual item in a collection. I'll be discussing the item level reports here.

Pictured to the left of the dotted line is what you see when you navigate through the item level reports by collection – data for pageviews, displayed one month at a time. You have the option to export the data as a tab delimited text file, which is depicted just below.

To the right of the dotted line is what I have been transforming this available data into for the past few months for the three pilot collections.

#### The Basics

- Export text file out of CONTENTdm, import into Excel
- · Tabs for each month of data
- Sort, filter, and remove duplicates
- Use of VLOOKUP function to reference each monthly tab into master "Yearly Snapshot" tab

Template spreadsheet

Currently, I'm using Excel to pull and work with the data, because I wanted something I could set up quickly and import the data into each month easily for evaluation. I'd love to set up something with more scripts at some point, but this approach has worked so far for this pilot.

Template spreadsheet:

https://docs.google.com/spreadsheets/d/1hAuM6MyE4YKnQQyOu95-iW5Ausk18L4lUq3NjEs7Pv4/edit#gid=258633265

So for an overview – the basic functionality includes exporting the available text files from CONTENTdm for the collection each month, and then importing that same text file into an Excel spreadsheet for that collection, separated by tabs for each month. I use the Data – "Get External Data from Text" function from Excel for this. After import of the data into Excel is when you need to do a bit of massaging to record not only the items with pageviews, but those without pageviews as well, which are, by default, not recorded by the report.

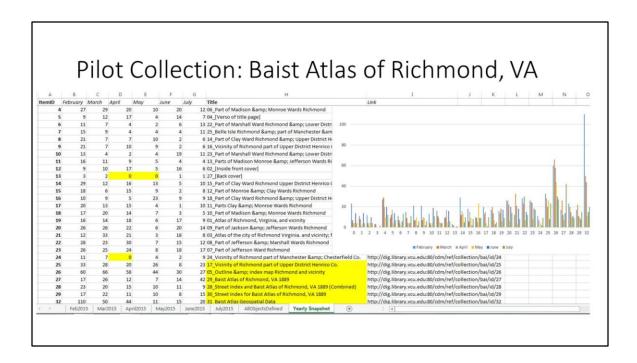
To do this, I list all item ID numbers below the existing output report data, sort smallest to largest, and then remove the duplicates.

What this does is weed out all items that have already been recorded by the report

(those with "positive" pageviews), and also shows me all item IDs that do NOT have any pageviews recorded – these rows are blank – therefore allowing me to see what has not been accessed.

I then compile all data in a "Yearly Snapshot" main tab.

I use the VLOOKUP function to easily compile all of the monthly data in one place, so I can see it all at once, over time. I also use some conditional formatting to make the items that have not been accessed pop out a bit more. Those cells are the ones you see in yellow on the next slide. So lets take a closer look at one of the pilot collections to see this in action.



So here we have a view of the "Yearly Snapshot" tab, which shows us all data in one place. You can see just a bit of yellow conditional formatting for those items that were not viewed during those months.

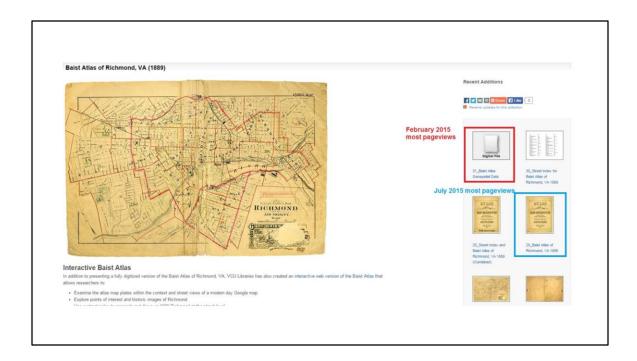
This is a young collection that was very publicized – we also created an interactive website for the Atlas along with the CONTENTdm collection that was well received, so it's not surprising to see that there are not too many holes in the pageviews. It's also a fairly small collection, and was just launched February of this year.

I really like using this Snapshot tab because this is where you can really start working with the provided data.

You can view change in access to items over time, potentially find trends, compile graphs like the one you see to the right of the screen, and figure out the top accessed (or least accessed) items in your each CDM collection according to these pageviews.

It also gives you a way to compile a picture of your digital collections from another angle outside of Google Analytics that is a bit more specific to your collection decisions within CONTENTdm.

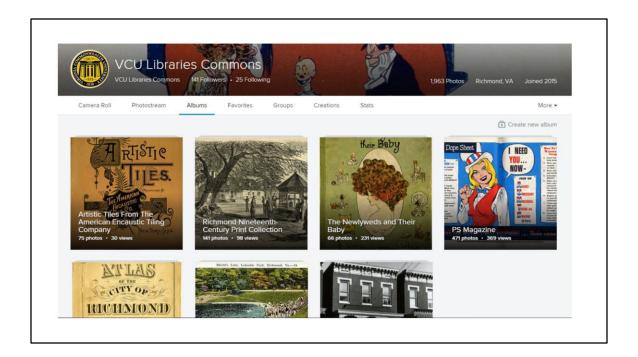
For instance, this particular collection has the typical feature to preview the most recent items of the collection on the landing page – that small box that features a few objects from the collection.



It was very interesting to see how many people click on those items, as evidenced by the pageviews in both CONTENTdm and Google Analytics. One of the most clicked items was our geospatial data download that we added to the collection, though I think it is likely that many people were disappointed after clicking because it wasn't actually an image, but a data download.

However, it's interesting to review this because its likely that the placement on the page meant that it was one of the most highly accessed items initially. You see this even out of the following months, as other more popular images gain traction (such as the one outlined in blue - which is a full Atlas PDF download)

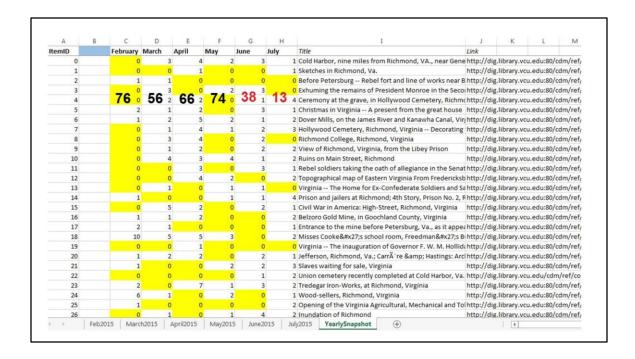
So this is one straightforward example of how the picture of access and use of collections can be easier to see once the data is compiled.



So what about the other two collections in the pilot project? What other discoveries

I mentioned before that one of the things I'm interested in assessing are our digital initiatives, including things like our Flickr Commons launch, and the Richmond 19<sup>th</sup> Century Prints collection data provided a good start for evaluation.

The 19<sup>th</sup> Century Prints collection is very Richmond-specific – it focuses on images of Richmond from six different periodicals from 1853 to 1901 in a form referred to as illustrated journalism. This is a collection that is going on two years old that we recently fed out to Flickr Commons in June, so I was interested in this data over time.

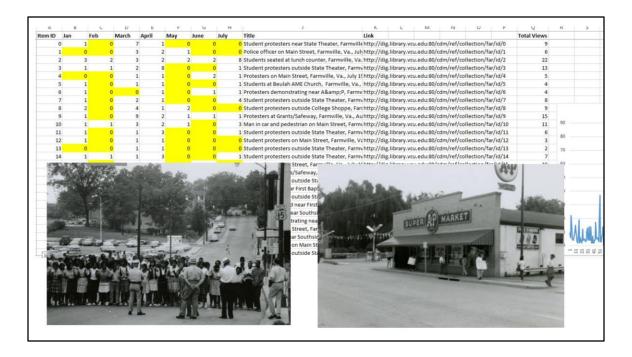


So here's the data for this medium sized collection with 147 items. I still aim to obtain data from even further back, but this provides a decent example of what reviewing the unaccessed items may show you in a collection

Depicted in each column with the bold number is the total number of items that were *not* viewed at all that month.

So in February 2015, 76 items out of 147 were not viewed. This collection was launched in Flickr Commons in late June of 2015, and those numbers are marked in red.

You can see that the number of unviewed items has dropped significantly, and this coincides with the launch of this collections into Flickr Commons. It will be interesting to see if these numbers sustain themselves or begin to climb up again, but it was certainly nice to be able to access and review this data in relation to our Commons launch and to be able to potentially share this with those interested at VCU



The last collection in the pilot was also the largest, and that is our 1963 Farmville Civil Rights image collection that depicts protests to draw attention to racial discrimination in Farmville, VA.

With 491 items, this collection produced the most data, and I used this to test out reviewing the most accessed items in a particular collection.

The most popular image by far is on the left of the slide, and this is the very first image when you enter the collection from the landing page. The second most popular image was interesting to see, in that it's buried in the middle of the collection, and is a bit blurry.

So these are just a few examples of the types of things you may be able to see by pulling this data, but there are more. You could share this data publically for others to work with and analyze. The CARLI consortium in Illinois shares all of their digital collections report data this way.

## Known Gaps



Overall, running the pilot project to use CDM reports to help aid our picture for digital collection assessment showed me some interesting things, and I aim to continue working with and expanding on the data from the pilot project to help us create our overall assessment approach.

However, as with many things related to data and assessment, there are some known gaps and next steps to consider, including:

**Internal traffic** – pageviews do not discriminate within Cdm reports. Internal traffic from the library will count for pageviews, and how do we consider that with our assessment? GA has similar problems, even with filters, so this is something that I continue to think about.

**Compound objects** – how do we best consider this data when pageviews are counted differently?

**Large collections** – we have some collections that have thousands of individual items. Is this approach sustainable or usable for these large collections?

Collections with non-sequential Item IDs. I think this was discussed during the open refine session so maybe I can get an export from Cdm of all item ids for a collection, but while running this pilot I ran into problems with existing collections that had highly varied ids that I was unable to process because I could not extract all items with their associated IDS if they didn't have pageviews.

So, we still have a good deal of work to do to shape our assessment approach for our digital collections, but I hope this baseline information was a helpful to you as it has been to me to get an idea of our digital collections data, and how we can use it as part of our assessment in the future.

#### Thank you!

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