Big Data: 20 Trends in 20 Seconds: Most Impactful Trends for California Museums
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"Selfie" by Ziyan Zhang, Cyanotype 2016 | Zhang is incorporating the use of data and technology to inform his aesthetic practice. With the use of a QR code scanner this artwork directs to Zhang's own digital fingerprint made up of Big Data. #Selfie

The California Association of Museum conference which took place at Riverside this past March, raised various concerns across museum fields; the future of best practices was discussed in terms of marketing, education, collections, curatorial, admissions, etc. Amongst it all, an enormous topic was examined however briefly; Ruth Cuadra, Business Applications Administrator at the Getty Research Institute, introduced the concept of Big Data to a room full of people PechaKucha style as a part of the twenty trends in twenty seconds; such an intricate matter however requires deeper understanding and further analysis.
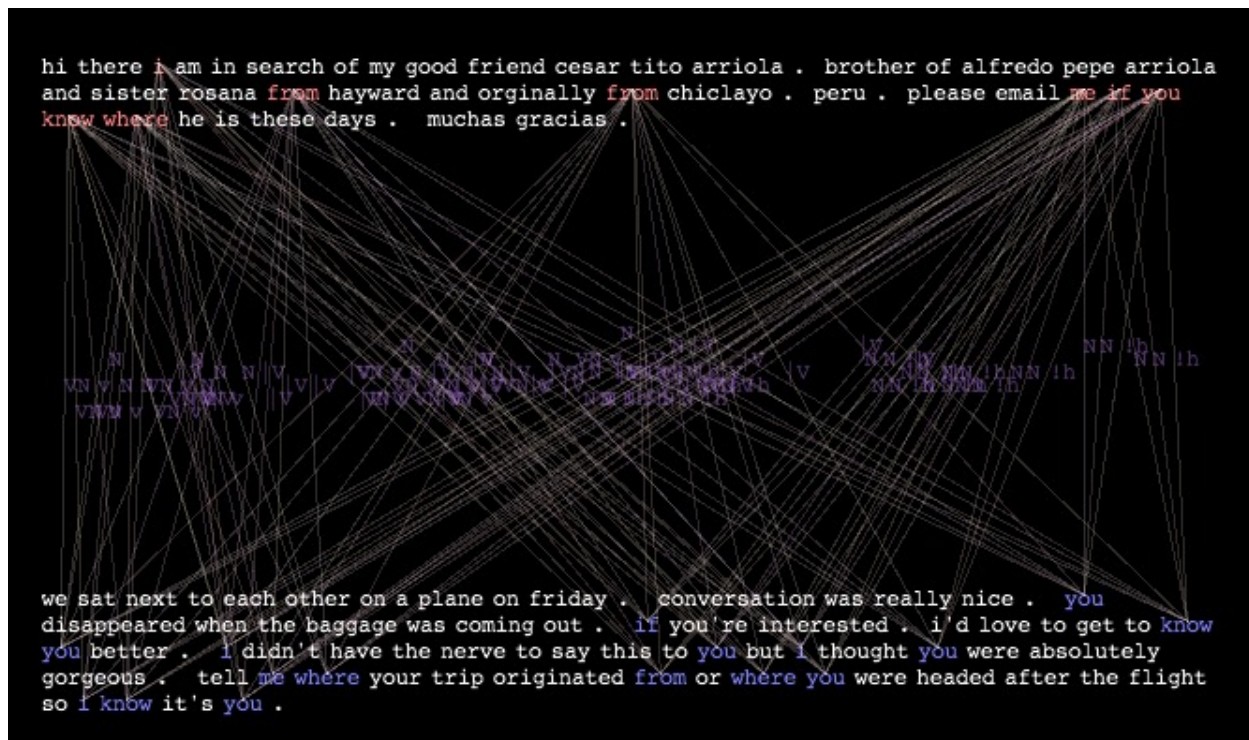
What is Big Data exactly?

Why should this matter to Museums?
How can Museums use big data?

Can Museum Professionals benefit from it?

The truth of the matter is that every museum professional can benefit from understanding Big Data, and by default can stand to loss from not understanding its complexities in this day an age.

"Missed Connections" by Like Dubois| Employing Data Mining from popular online dating sites, Dubois creates aesthetic installations that visually present Big Data in real time. #BigDataArt

What is Big Data exactly?

Big data is a buzzword; it's the term coined by the powers that be to speak about large sets of information. Twitter for instance, has reported that an average of 6,000 users tweet per second (which roughly translates to 200 billion tweets a year), which in turn creates enormous amounts of tangible information provided by active users that can be tracked, analyzed and categorized. Large amounts of digital data today, can be used to better understand any given concern as quantified by Big Data.

Big Data however, lives on various realms outside of social media and can serve multiple purposes; museum admissions and museum store sales for instance generate Big Data. But more so than just museum transactions, today climate statistics are tracked, data is also generated that can pinpoint geographical locations of individuals within any given space, as well as moods and even feeling trackers that serve to better understand an experience.

Corporations today large and small alike, track a number of interactions every minute; anywhere from how being in any given space affects one's mood, to what quantifies someone's favorite beverage, or even specific preferences while shopping; Big Data, is tracked, measured, scrutinized and used in order to offer any given individual alternatives that cater specifically to him or her in any range of interactions. If museums were to adopt these possibilities the amount of wealth gained from statistical analysis would be remarkable; not just financially but in terms of audience engagement, the possibilities for museum strategies are limitless when Big Data is concerned. Big Data can if used accordingly, revolutionize visitor experience at Museums and change the relevance of Museums in the future.

"Witness" by Chaoyi (Stormy) Wu | Wu deconstructs the idea of surveillance and human interaction within his work.
#BigDataInteractions

Why should this matter to Museums?

All museums are not created equal, granted! However, museums large and small can gain a myriad of resources by simply learning to analyze what Big Data tells them about their own practices, or furthermore by learning to draw comparisons across sister entities or to contrast their own information with the city census. For instance, as reported by the Wall Street Journal the Minneapolis Institute of Art analyzes data from thousands of visitor surveys to make curatorial decisions; thus upcoming shows may be restructured, relegated to smaller spaces or postponed in accordance to the survey findings. As per Artnet both the MET and Guggenheim have began to gather an analyze their own data to better inform themselves about visitor experience and have began to experiment with on-site communication. Furthermore, with the use of beacons LACMA has began to challenge said experience by catering specific information available for the tech aficionados who use the LACMA app on-site. By generating and analyzing very simple information, Museum professionals across the various departments stand to benefit vastly from the potential knowledge gained from delving into this concern. Big Data is an ever-expanding resource that can better the mission of a museum, and one that can help a museum resolve almost every concern in a transcendental way based on tangible informartion.

How can Museums use Big Data?

By using the same strategies that companies like Macy's and Netflix employ museums today are informing their decisions; from exhibit design to donor outreach to gift shop marketing strategies (Wall Street Journal). The Dallas Museum of Art for instance launched a very innovative effort to harvest data

while enhancing their long term visitor engagement. They created a free membership program that works on a point system, which members can gain only by repeatedly engaging with the museum. By enrolling in the program visitors generate data which over a period of interactions turns into perks such as free membership or free parking; the interactions mark visitor behavior by having check in spots throughout the museum. In the first year of implementation of this effort the museum reported over 50,000 guests joining the program (Museums and the Web).

Aside from the multi-million dollar institutional efforts that can purchase cutting edge technology such as beacons or devote the man power to oversee thousands of surveys, smaller institutions can benefit from simple queries to understand the complexities of their own audience. A simple Instagram hashtag inspection can be the key to understanding visitor experience, a single tweet can generate a digital survey; internally however contrasting admissions records with the local census can provide knowledge about the museum experience for the local community. In understanding the myriad of uses and complexities of Big Data any Museum large and small stands to benefit from the wealth of information available today.

Potential Big Data benefits per Museum department

Museum Department	Big Data Usage
Curatorial	Surveys on audience engagement can determine the success of the curatorial calendar. Upcoming exhibitions can be postponed, removed, or relegated to a smaller spaces if the audience does not show interest in the curatorial query being explored.
Collections	A conversation has begun to develop around the possibility for various museums sharing collections information on a single platform that will generate larger conversations in between artwork being held at different locations. Loans, management, education and convergences between different collections would be streamlined with the implementation of this particular possibility.
Education	By drawing comparisons between the educational programing of sister institutions, different museums may be able to cross program with other entities or create an education plan for a single community that allows arts education to be presented in different ways at different spaces and thus provide more in depth and audience specific educational resources.
Membership	In contrasting member profiles with the city census, each institution can understand how to better target a new audience as well as better cater to their existing visitors.
Development	By quantifying the financial climate of gifting, development departments would learn how to best use their resources to target specific donors at a given time and maximize their efforts. In learning from other development departments at similar institutions about their own practices, one can inform the appeal process, target future donors and discard processes that don't work.
Visitor Services	By pinpointing visitor interactions within spaces; docents can be placed strategically within museum grounds, coupons can be issued for merchandise for only a selected guest pool, tours can be restructured and museum operating hours can even be customized.
Public Relations	By analyzing the social media usage of hashtags alone, a marketing campaign can be catered specifically to attract new audiences such as millennials.

Can Museum Professionals benefit from Big Data?

A huge concern in the mind of most every museum professional I know, is the future of museums. Should museums stay true to the way they have conducted business in the past? Should museums cater to the ever-growing selfie culture of visitors? What is snapchat, and does a museum need one? How can museums stay current instead of constantly having to catch up to the rest of the world? A possible answer to all these queries is as understanding simple as Big Data. In harvesting, retrieving and analyzing the information available a museum can begin to answer all this concerns. By drawing simple comparison to other institutions museums can understand what has and might potentially work for their own entity.

IBTimes informs that an average millennial takes over 25,000 selfies in his or her lifetime. Whereas Omnicore reports that the number of daily active snapchat users is well over 100,000,000. If a millennial

is coming into the museum space, taking a selfie, posting it on his social media, hashtagging it and creating a conversation around his interaction within the museum space; would it not be fantastic for the museum to use this very interaction to better understand the possibilities it can create for its visitors? Every museum professional from the Director to the docent can gain very valuable information about the logistics of his or her institution by analyzing big data. Everything from hashtags to yearly financial reports can be the key to the museum's success. The magic happens upon the implementation of policies based on informed decisions that came from direct analysis of simple interactions magnified to the scope of Big Data.

"Mine Pipeline" Site Specific Hammer Project by Oscar Tuazon| Tuazon is creating a source of contact for different information to interact in a particular the space. #Museum

One of these photographs was posted on Instagram, one was privately shared, the other had not seen the light of day before this publication; three individuals, three interactions, three ways of observing data. Images courtesy of Erika Hirugami, Alex Kay and Ziyan Zhang (order left to right).

About Author | CAM Fellow
#MuseumSelfie

Erika Hirugami is the founder and chief executive officer at CuratorLove; a global art enterprise that inhabits the rift between museums and galleries; exhibiting cutting edge curatorial projects with a social agenda.

Hirugami recently received her Masters of Art in Art Business from the Sotheby's Institute of Art, in conjunction with the Drucker School of Management and the Center for Management in the Creative Industries at Claremont Graduate University. She holds multiple BAs in the fields of Art History, Chicano Studies and Mexican Studies from UCLA.

Hirugami has developed curatorial statements at museums such as CMA, MOLAA, MAZ, MUAC, and Bellas Artes CdMx, as well as various galleries in the United States and Mexico. Her written work has been published internationally. Her fields of interest include Big data, museum development, contemporary art in Mexico, market value in Latin American art, the convergence of contemporary artists and institutions, technology and engagement, and the rift between galleries and museums which was the focus of her master thesis.