

Collaboration as a Means to Add Value in Digital Libraries

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Digital Initiatives: Howard-Tilton Memorial Library. Tulane University

Digital libraries allow the relatively narrowly accessible holdings of museums, libraries, archives and related institutions to be broadly accessible to the global community. The main barriers to online access of the analog holdings of museums, libraries and other repositories have been removed. The infrastructure of digital libraries, the workflows for creation and the tools for discovery and unlimited dissemination are in place and improving.

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Millions of images, manuscripts, ephemera and other unique material have been digitized and made public. There is almost no end to the amount of material which will continue to be made available.

This is a significant achievement and trend for our digital libraries. Within a relatively short period of time, the library focus has switched. From the acquisition of holdings and functioning as places where the public had to physically enter in order to learn, study, research or simply visit, libraries in particular now have to be broad disseminators of data, information and sometimes knowledge. Not only has the “traditional” digital library changed how special collections are accessed, but the “traditional” library and book industry has been transformed by digitization. E-Books, journal publishing, and globally searchable databases of open access material are transforming the library from a place and destination into global digital information providers. This is a transformative time for libraries and it is a great position to be in order to have input and influence on what the future will look like.

And yet the same pitfalls exist in the digital realm as the physical world. I have a fear that digital collections may become the equivalent of the majority of books on the shelves of library stacks: uncirculated yet counted as a measure of success simply as a numeric value of

prestige. Shelves filled with outdated books. The digital library has a chance of lazily drifting towards the same fate as traditional libraries.

The question for most of us now is what we (Tulane) do with our digital library collections to evolve into more than just digital bookshelves of fairly narrowly focused niche data. How do we add value, i.e. knowledge, to these resources so that they become relevant and usable to a much larger number of people? What is the return on investment for all of this scanning and cataloging? What is the return for the patron?

Brief Background

Tulane University's progress on its digital library was abruptly halted on August 29th, 2005. Hurricane Katrina had a profound impact on New Orleans and the entire region. The disaster made previous plans for not only the University but for every person, city, business and institution irrelevant.

For the university, immediate efforts were focused on making sure the students were taken care of. Schools from across the country took in our students and ensured that they resumed their academic studies with as little disruption as possible. A complete rebuilding of the university's programs within a new strategic plan was initiated. Resources were needed for Tulane's recovery and for its reinvention as a university which not only teaches and generates knowledge but which also raises the level of community initiatives and engagement to a main focus of its mission. Rebuilding the university and the community it has been a part of New Orleans since 1834 led to Tulane incorporating community service requirements for all of its students.

194 Obviously, everyone's efforts were re-focused. Howard-Tilton Memorial Library, Tulane's main library, suffered serious water damage to its collections and building. Staff had evacuated and had to be re-integrated into a crippled city. All work was necessarily aimed at not just surviving but on the tremendous opportunity for rebuilding and reinventing our school, city and region.

In January 2012 when I started working for Tulane University, I encountered a library environment which was poised and excited to make significant changes to its digital services. The Library Dean and the Director of User Services and Information Technology, Lance Query and Patricia Vince, were positioning the library and Tulane to enter the arena of open access journal publishing, broadening the scope of the digital library, building an in-house electronic theses and dissertation system, and working towards creating an institutional repository for the academic output of the school. All of these initiatives stemmed in some way from the mandates and direction put forth by the United States' federal research funding agencies, the National Science Foundation and the National Institutes of Health. In the most simple of explanations, universities and other recipients were being required to create data management plans to outline how research data funded by public money was to be managed and preserved, with the end goal having that data be open and accessible to the rest of the scientific community. These "big data" policies and initiatives are being advanced by the European Union and other global players.

This opening up of data and digital repositories is broadening the opportunities for our digital libraries. The tools and systems needed for ingestion, search, retrieval, collaboration, and archiving/preservation of big data, while not specifically aimed at digital libraries, will still have a positive impact for their future development. The need to move toward open

access of scholarly work and big data and the ability to remove barriers to collaboration across the sciences and humanities, is influencing the direction of our primarily humanities focused digital libraries.

The question for digital libraries and Tulane's digital library specifically, is how do we actively forge our evolution to continue to add value to digital collections beyond their mere existence as collections? How do we add greater value in order to engage, educate and even entertain our communities with often very narrowly focused collections?

I believe the answer to this question is that value is achieved by both direct collaboration within and outside of our institutions and by actively participating in the social networks with the goal of creating collections which deliver information and knowledge. Collaboration is by no means a new or revolutionary idea. Building relationships, not matter what the discipline, is the basis for collaborations.

"Relationships provide the social context in which we exchange information and make choices. The dynamic health of our relationships affects, and is in turn affected by, the quality of our information and choices. Through our relationships, the knowledge, wisdom, and understanding of each individual have the potential to contribute to greater shared meaning and choices that provide greater mutual benefit. Meanings, choices, and relationships are inextricably and dynamically interdependent and are at the core of collaboration."¹

It is fairly easy to create a digital collection. It is the first thing one does to get things going. We have all created plenty of excellent and worthy collections which are simply digitally accessible versions of the actual objects. A lot of these collections were for the most part in-house, small collaborations between curators, archivists and the digital library staff, all within the same department or institution. After becoming proficient in the technical aspects of digital library collections, including digitizing, metadata, cataloging, ingestion, search, etc., the question becomes, now what? There is a fork in the road. One way leads down a familiar street of discreet collections of material. The other road leads to a broadening of purpose, to new relationships which hold the promise of creating new value and experiences for the user.

Does the patron receive sufficient value from record level items in a digital library? I do not believe they do.

Is there greater value which can be added to the primary record level item and to the whole digital collection which delivers not only these records but also context and knowledge and the tools to integrate digital collections? With the exception of trained scholars and researchers, users of digital collections can benefit from the addition of knowledge by the creators of these collections and through their own contributions to what should become a dynamic and expanding resource. Adding content partners, context, commentaries, social tagging, and links to relevant material from other sources bring added levels of engagement to not only end users but to the creators of these collections.

Collaboration, dissemination of information, creation of knowledge and enabling social dialog are paths to building progressive and inter-related digital libraries.

¹Dantas, Luisa. *Land of Opportunity* website, 2011 [online]. [Viewed on 07 August 2012]. Available from: <<http://www.landofopportunitymovie.com/pages/detail/18/Film-Synopsis>>. Tucker, Ph.D, Susan. Collection proposal description for Gender and Memory. Tulane University Digital Library. 2012. [online] Viewed on 05 August 2012], Available from: <<http://digitallibrary.tulane.edu/>>.

Schuman, Sandor P., ed. Adapted from *Creating a Culture of Collaboration* [online]. Jossey-Bass/Wiley, August 2006 [viewed 15 August 2012]. Available from: <<http://www.albany.edu/~sschuman/Creating-a-Culture-of-Collaboration--Values-Principles-Beliefs.pdf>>.

The best digital libraries, specifically including those represented by the people in attendance at this conference, are actively engaged in this and are demonstrating the inherent value of strong relationships and a deep respect for inclusiveness of multiple viewpoints.

While a collection may be on the surface narrow in its scope, the inter-related and often inter-disciplinary content which can come from them provides tremendous opportunities to collaborate and build relationships on knowledge generating projects.

There are several factors in our world which are embedded and continue to develop and which can drive the development towards more collaborative digital library projects.²

Globalization and hyper localization

There is no doubt that globalization is having a profound impact on life and that short of some major global catastrophe, the interdependence of commerce, communication, research and knowledge is firmly embedded within our collective lives. At the same time, the hyper localization of the push and pull of content based around space and time is unfolding and becoming entrenched in our lives. These two phenomena, while semantically disparate, are the logical result of the advances in communication and information technology we have seen and which continue to develop.

The macro and the micro are inherently interdependent and provide a valuable way of thinking and planning for the future of our digital libraries. From the digital library side, these two extremes are already built-in and exist in various forms. The global view of a collection, whether it is composed of items from a single institution or contains items from other sources both near and far, is dependent on each part of the chain and can be simply visualized as a line made up of segments. Fig. 1

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Fig. 1. Jeff Rubin, 2012

The goal is to transform the straight line into a mashup of multi-directional lines of flow and related, active spheres which spread out from the source and allow for information and knowledge to be not only discovered and retrieved but integrated back into the collections through the various Web 2.0 social channels. Fig. 2

² Oracle White Paper – *The Business Case for Enterprise Collaboration*, March 2010 [viewed 15 August 2012]. Available from: <<http://www.oracle.com/us/corporate/insight/enterprise-collaboration-wp-171715.pdf>>.

Visualizing value in dynamic collaborative digital library collections

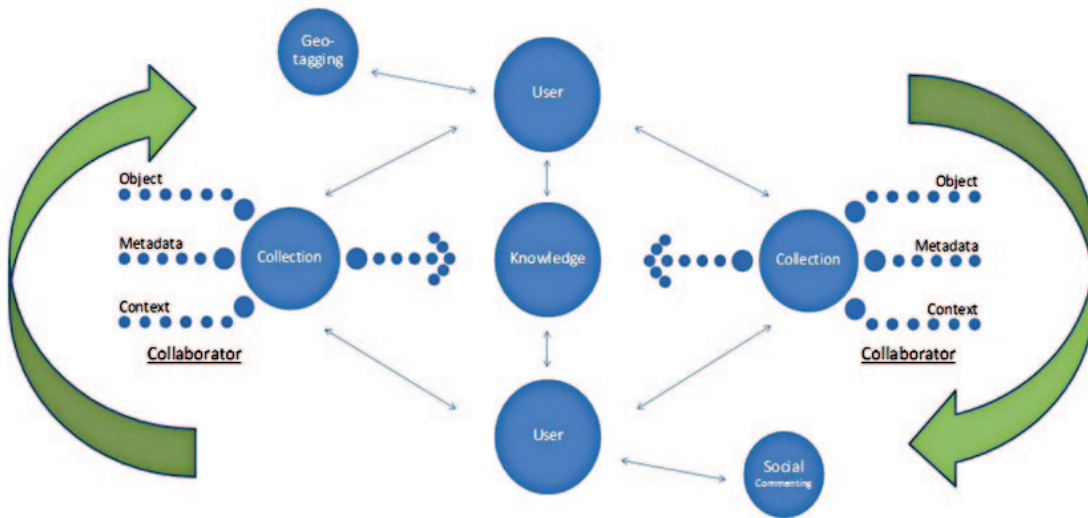


Fig. 2. Jeff Rubin, 2012

Reduced communication costs

Getting a product from one country or continent to another is still a cost based on time and fuel. There are significant incremental cost differences between shipping one car overseas and shipping hundreds. That cost is directly factored into what we all pay for the things we need and want.

Getting data or an idea around the globe is virtually instantaneous and aside from the sunk cost of a data connection, the cost, no matter how big an idea is or how many ideas are sent, is virtually free. The reduced cost of access to the global communication network is beginning to allow the poorest of nations and peoples to leap frog over the linear path of the development of wired systems. Access to mobile networks is allowing people to communicate and interact without the need for establishing a wired network of copper first. The low cost of accessing and sharing digital information is continuing to put a greater premium on knowledge. Access to data and information is relatively cheap. At best they represent an opportunity.

Transforming that data and information into value added products for our patrons (customers) are not inexpensive however. The infrastructure and development of these systems requires skilled programmers and developers to build interoperability between complex data systems in order to make ingestion, search, retrieval and collaboration possible. The systems we need to develop and integrate this capability at Tulane are being pushed by the mandates being put in place by the United States through federal funding agencies like the National Science Foundation and the National Institute of Health. Similar efforts are underway across the European Union, Australia, Great Britain and others. While these complex new systems for handling massive amounts of data are being built to advance scientific research, they will also enable the social sciences, humanities and our digital libraries to mine data, share and collaborate on a greater level.

But that future capability is not necessary for us to collaborate today. Adding context to our own digital collections and to relevant collections in other repositories can be as simple as telling stories. Building strong and trusting relationships with a wide variety of people and institutions powers us to achieve more.

Increased specialization

The increase of specialization is seen in all aspects of our lives. The sheer expansion of data, information and knowledge demands continued specialization in order to understand and piece together the granularity of this data and information being accumulated. The growth of specialization and knowledge is a direct outcome of the advances in science and especially computer and information sciences.

This conference is a great example of a discipline expanding towards specialization in order to evolve with the information trends we are seeing and the changing needs of patrons. Digital librarians and archivists, metadata specialists, digital preservationists, and scanning and digitization technicians are all career paths within libraries today. This trend is only beginning. Libraries are caught in this flood of information and it is vital for us to be able to acquire the skills and tools to navigate our way through it in order to remain relevant to the public.

Early Collaborations in the LOUISiana Digital Library

The LOUISiana Digital Library had its start as the Louisiana State University Digital Library and operated out of the Office of Computing Services at LSU. During my twenty year tenure at the Louisiana State Museum, I was in a position to integrate the emerging technologies of digital libraries and virtual exhibitions into the curatorial functions of the Museum. This included being an early member of the LSU Digital Library in the late 1990s. The earliest digital collections were composed of discreet collections of photography; low hanging fruit which were relatively easy to digitize and make available online.

198 The earliest collaborative projects were several international virtual exhibitions organized by the Canadian Heritage Information Network (CHIN). *Festivities of the Living and Dead*³, which arose out of the Summit of the Museums of the Americas held in Costa Rica in 1998, explored the role of festivals in local communities throughout the Americas. Participating countries were Canada, USA, Mexico, Costa Rica and Brazil. In 2002, another CHIN virtual exhibition went online. *Perspectives: Women Artists of North America*⁴, was a collaborative project featuring artwork created by women in North America and featured work from several Canadian museums, the Louisiana State Museum in the United States and from several museums in Mexico.

The LSU Digital Library received a new name in 2003 to better reflect the broad number of institutions participating. The LOUISiana Digital Library consortium, of which Tulane University is a member, was now operating under the LOUIS Library Network, an organization separate from the Louisiana State University and which provides library services to academic and state libraries throughout Louisiana.

The first major collaboration in the LDL consortium began with a series of grant funded projects under the umbrella of the *Teaching American History* program sponsored by the United State Department of Education. This national program funded projects in each U.S. state in order to build digital collections created around the goal of bringing primary re-

³*Festivities of the Living and Dead* [online]. Canadian Heritage Information Network, 1999 [viewed on 15 August 2012]. Available from: <<http://www.museevirtuel-virtualmuseum.ca/>>.

⁴*Perspectives: Women Artists of North America* [online]. Canadian Heritage Information Network, 2002 [viewed on 08 August 2012]. Available from: <<http://www.museevirtuel-virtualmuseum.ca/>>.

search sources into primary and secondary education classrooms. Teachers were trained to use the digital library collections in order to incorporate these resources into the statewide Louisiana history curriculum. Workshops for teachers were conducted so that the teachers could then train their colleagues within their districts in how to use the LDL. LDL members worked with teachers on building lesson plans which aided them specifically in the curriculum requirements which the State of Louisiana requires for graduating.

These collaborations were successful in integrating the collections into K-12 education; in training educators, earning trust and building strong relationships that are continuing to grow and spread to new teachers and students.

In 2004, a group of LDL members wrote a grant proposal and received a National Leadership Grant from the Institute of Museum and Library Services. Entitled *Louisiana Gumbo: A Recipe for Empowerment*⁵, the project involved digitizing more than 30,000 vintage artifacts ranging from jazz radio broadcasts to Acadian textiles. The value added components, in addition to the collection items, were standards-based instructional materials for educators and students and a series of teacher and library workshops designed to train a core group of educators, continuing where the TAHIL project ended. The educators would then bring this knowledge into their schools to train their colleagues. This approach of providing training to teachers in how to use the collections in the classroom and passing that knowledge on to other teachers built on the relationships created by the TAHIL project and enabled the LDL and its member institutions to reinforce and grow a strong network of knowledgeable educators comfortable with using digital libraries. The lesson plans and curricula guides allowed teachers to integrate the digital collection into the classroom without having to rewrite or create new lesson plans. By removing the barrier of burdening already overworked teachers with creating new materials, the project not only brought tens of thousands of highly inaccessible museum and library objects online but integrated the creation of knowledge within the classroom. The two year project lasted more than four years due to the impact of Hurricane Katrina.

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New Collaborations and the Tulane University Digital Library

How are we conceiving new digital library collections? Traditionally, new collections in the digital libraries I have worked on are conceived by museum curators and special collection librarians and archivists. These collections focus on a discreet group of material which the staff wanted to make available to the public. There is a need for these discreet collections of items to be made available. They are the building blocks of information, knowledge and future collaborations. Digital collections remove the need for researchers to continue to physically handle what are often fragile materials. This virtual move from storage boxes to storage servers is one goal of creating new collections. In the past three months, the TUDL has published several collections built around the holdings of the Howard-Tilton Memorial Library Special Collections department: Ralston Crawford Jazz Photography Collection of 800 photographs, Early Images from Latin America containing more than 2,000 photographs, Tulane University Football Programs, and Louisiana Restaurant and Menu Collection of more than 1,000 objects.

⁵*Louisiana Gumbo: A Recipe for Empowerment* [online]. IMLS DCC.[viewed on 08 August 2012]. Available from: <<http://imlsdcc.grainger.illinois.edu/Collection.aspx?c=2645>>.

What is next?

An exciting and wonderful characteristic of a university is that the faculty, students and staff are actively involved in their own collaborative work. Since arriving at Tulane in January 2012, my main focus has been on taking advantage of this spirit by opening up the Tulane University Digital Library to not only the extraordinary holdings of our Howard-Tilton Memorial Library Special Collections but to include the creation of new collections by faculty and other Tulane communities outside of the library. This is a move from creating narrow niche collections towards using these existing collections and new collections of non-traditional materials as a means of capturing a broader range of subjects and adding context and knowledge. Collaborative and interdisciplinary collections can create context and knowledge through associating item level records with multiple points of view, commentary, relations to other online material, and integrating user participation via social networks. The goal is to build active and dynamic collections which expand the diversity of material and information within the digital library; to provide a digital space where ideas and knowledge generated within the school can reach and engage with the public.

So new collaborative collections at Tulane will incorporate some or all of these elements:

- a. Items from multiple sources and regional, national and global partners including non-traditional items such as course material, student writings, student projects, faculty research and projects, text, data sets (spreadsheets, databases, etc.)
- b. Focus on ideas, theories and/or points of view rather than solely on an object
- c. Integrating collections into the classroom and curriculum
- d. Active social media capabilities

200 One of the first tasks that our library Digital Initiatives group completed was creating an online collection proposal form and workflow. This gateway opens the process of submitting new collection proposals to virtually anyone, although it is targeted primarily at faculty, students and staff of Tulane. Reaching out to the wider Tulane community has generated several new projects which significantly diversify the TUDL collections:

Gender and Memory: The Role of Gender in Personal Archiving and Local Histories

Proposed by Dr. Susan Tucker of the Newcomb Archives, this project seeks to “explore the history of record keeping and new digital approaches to considering who creates knowledge about the past— subjects that archivists and public historians share with a number of others in the humanities. In the project, technology itself becomes a template that allows us to explore the boundaries of the past, and within these boundaries, provides access to history. The project now includes a blog like website where institutional memory keepers and outsiders such as family historians can add their descriptions of collections. The collection will unite a diverse group of archival material (scrapbooks, diaries, photographs, drawings) from several rich geographic areas of American culture: New England, Pennsylvania Dutch and New Orleans. The collections will be open for memory keepers and others on the Tulane campus, around New Orleans and from the represented geographic areas to begin adding descriptions and commentary of the material and in other ways work with memory keepers in the city. In this way, we will

begin to tell and visualize some of the complexities in considering a gendered (or not) past-keeping.”⁶

“The creation of a digital library on family record keeping (eighteenth century-present) is of importance for two main reasons. First, little attention within the humanities has been paid to family record keeping. Two scholarly works explore genealogical art in New England and Pennsylvania, for example, but no scholar has looked at other regions. Second, though a number of scholars have commented on the central role of women as family record keepers and their simultaneous absence from many family records, no scholar has ever explored these perspectives. This project offers an unprecedented opportunity to study record keeping and the patterns of creation of records by regions and gender”⁷.

Various groups of archival family histories from several regions in the United States and from overseas will form the foundation of this collection. Dr. Tucker’s blog will encourage viewers to post their stories about family history and the roles gender played in recording them. The digital library collection will collect comments and tagging submitted by the end users. These social feeds will be aggregated and fed back into both sites. The blog posts and social media activity can then be streamed to a Facebook page for the project, with the hope of attracting other participants to add to the overall project.

Land of Opportunity

Luisa Dantas is a documentary filmmaker and teaches creative writing and screenwriting at Tulane. Her latest film, *Land of Opportunity*, chronicles the everyday lives of people who are struggling to rebuild their lives and the city of New Orleans after Hurricane Katrina. “The film asks the question: What kind of cities do we want to inhabit in the 21st century? Through the eyes of urban planners, displaced residents, immigrant workers, developers, community activists, artists and public housing residents this question is asked, answered and asked again. But this is not just a situation that is happening somewhere else and to someone else, as the tagline points out: it’s “happening to a city near you”. As cities all over the world struggle to recover from disaster, whether economic, natural or man-made, we believe that the lessons of post-Katrina New Orleans have only become more urgent. We want to utilize the diverse stories we’ve captured to galvanize and educate urban America around the core urban issues of urban redevelopment, immigration, and affordable housing. We aim to inspire nuanced discussions and support the work of organizations that cut across single-issue frameworks to build a broad-based and multi-racial movement for urban spatial justice.”⁸

In our discussions on working to create a digital library collection around her film and associated web media project (<<http://demo.joluproductions.com/>>), Luisa and I have been investigating ways in which her archival material of the film could be digitally archived and preserved and then used as the basis of a collection from which record level items (film clips, interview transcripts, research, etc.) can be pulled into her web media project. 450

⁶ Tucker, Ph.D, Susan. Collection proposal description for Gender and Memory. Tulane University Digital Library. 2012 [online]. Viewed on 05 August 2012. Available from: <<http://digitallibrary.tulane.edu/>>

⁷ Tucker, Ph.D, Susan. Collection proposal description for Gender and Memory. Tulane University Digital Library. 2012. [online] Viewed on 05 August 2012], Available from: <<http://digitallibrary.tulane.edu/>>

⁸ Dantas, Luisa. Land of Opportunity website, 2011 [online]. [Viewed on 07 August 2012]. Available from: <<http://www.landofopportunitymovie.com/pages/detail/18/Film-Synopsis>>.

hours out of the total 1500 hours of video shot will be cataloged and ingested into the TUDL. In addition to the video, there will also be daily filming logs, transcripts and other film production items which will be put into the digital library collection. The digital video will be stored and archived on Tulane's storage network and will also be deposited into the Digital Preservation Network dark archive to preserve the digital material in perpetuity.

The *Land of Opportunity* web media site is an interactive web player centered on the core components of the film. Video segments are linked to information directly related to the content and links to additional information from beyond the film. Our plan is to tie the web media player to the TUDL Land of Opportunity collection through a search interface and pull that content on demand for users on the site. Our digital library platform allows for social channels to be available on item level records in the collection and this in turn will integrate with the social media channels on the web media site. This will provide an opportunity for users to tell their stories which relate to the topics highlighted within the TUDL collection and the web media project.

MediaNOLA and TUDL collections

MediaNOLA is a collaborative project organized by Dr. Vicki Mayer, Professor of Communications, between Tulane students, programmers, archivists and nonprofit organizations to record the history of important sites of cultural production in New Orleans. The site is designed around a wiki platform for editorial content which is written and tagged by Tulane students. An interactive map of New Orleans is integrated into the site and maps locations of cultural importance which have been entered by the students into the wiki. The mapping enables the user to view and compare cultural production sites through time and space and according to categories of production.

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As the amount of content in MediaNOLA grows, Vicki and I are looking for ways to query and pull various digital library collections into the wiki and especially the map. The Louisiana Menu and Restaurant Collection will be the first collection we map in MediaNOLA. The menu collection features more than one thousand menus in full-text searchable PDFs. Each metadata record has the location of the restaurant or bar. Working with our library's Digital Development group, a data pipe will be established between TUDL and MediaNOLA to allow querying and retrieval of items into MediaNOLA. This will allow the item level records to be integrated into Google Maps and is a good example of incorporating hyper-local features into the digital library. Not only will you be able to view historic and contemporary menus but a user can map historical trends based on dishes, ingredients and cuisine type. For example, the growth of Vietnamese cuisine can be mapped in order to view the areas where Vietnamese immigrant communities have settled. Even recipes and ingredients can be mapped to see where they are or have been served in the city.

Conclusion

The need to facilitate and incorporate collaboration in our digital libraries parallels the larger movement towards big data and open access which is occurring in the sciences. National funding agencies, both in the United States and the European Union, are beginning to mandate that research funded by public money be openly accessible. This includes not just the

product of research, which is most often published in journals, but all of the data generated by the research. This is one of the most significant series of policies to emerge in our digital age and it will have a tremendous impact on the advancement of science, access to data and the role of collaboration and sharing. These coming changes will require building data systems and applications for handling massive amounts of data. The systems will require the capability for multi-disciplinary metadata schemas which will enable ingestion, discovery, and retrieval of data and information. New platforms will be needed to support collaborating and creating knowledge projects. Libraries are an integral part of this development.

What does this mean for our digital libraries? As the transition of libraries into not only digital information providers but knowledge providers plays out, our mostly humanities oriented digital libraries will be in a position to incorporate the systems and resources being created by the scientific community. In the academic arena, universities are building institutional repositories for the academic output of their faculty and students and for institution's archival records. Many of these efforts at American universities are being led by the libraries. Tulane University Digital Repository incorporates the different initiatives we are undertaking as part of the process of building a comprehensive institutional repository and data curation platform. Tulane Journal Publishing, Electronic Theses and Dissertations, the Tulane University Digital Library, and Researcher Services form the core of our repository, with the data curation platform in the early stages of development.

These are significant, disruptive and optimistic times for all of our libraries. The very nature of books has changed in the blink of an eye. Books are no longer bound to the physical world. Next to the invention of the printing press, the *e-Book* is the second most important development in the history of the written word. Whether you like it or not, it is an extraordinary achievement and we are here to experience it firsthand.

And yet at times it feels as if the entire weight of our digital world is about to crush us. All of this digital tonnage contains the faceless and soulless bits of the real lives and work of human beings. How do we maintain and strengthen our human links to the binary bits of our lives which we create every day? In our shrinking and flattening world, collaboration is the tool to bring greater meaning to our work and lives. The process of working together on or toward a shared goal is the most positive and productive way to both create something new and to build strong relationships with a wide range of people across our planet.