iMapLibraries: Mapping Opportunities for Lifelong Learning

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Abstract

The iMapLibraries project combines social media with online mapping to help users find free lifelong learning classes available at local public libraries. Data on classes is solicited through a social media campaign which invites public libraries to "put themselves on the map." Libraries can add data about classes directly into the iMapLibraries tool through an online registration page.   Data is collected into a Google Fusion Table which produces a Google Map of the libraries with five categories of classes offered plus clickable links for more information via the library's web site, Facebook, Twitter, and calendar page. iMapLibraries offers potential for improving public access to lifelong learning classes in libraries, and demonstrates new ways for libraries to collect and share data on available lifelong learning programs and services through social media and online mapping. Future possibilities include mapping other library use data such as meeting spaces, book groups, and tutoring services offered in different languages, which could be found on interactive maps accessible on the web, through social media, and via mobile apps.

Keywords: libraries, social media, mapping, GIS

Introduction

Libraries continue to provide a traditional service to communities in that they bring people and information together (Prentice, 2011). Although this purpose has shifted in response to user adoption of personal technologies and the proliferation of household Internet access, the library's role as the intermediary for those who are challenged by digital technologies' access barriers such as digital literacy, expensive devices and inconsistent or costly service provision, continues to grow. Public libraries have embraced the role of information technology facilitators, providing computer access, training, digital collections and virtual entertainment, and supporting lifelong learning. According to the Public Library Funding and Technology Access Study, 2011-2012 (Hoffman, Bertot & Davis), libraries are the " lifeline to the technology resources and digital skills essential to full participation in civic life and in the nation's economy. Libraries continue to transform lives by providing critical services and innovative solutions to technology access" (2012, p. 6). Over 96% of public libraries reported that they provide assistance to patrons seeking e-government services in the form of computer and Internet access, website navigation and even in completing applications for government financial assistance (Hoffman, Bertot & Davis, 2012). However, an ongoing challenge for libraries is to make visible to local learners the wide variety of programs, services and resources for lifelong learning available for free to the community in local neighborhood libraries.

The iMapLibraries project explores social media and online interactive mapping as a way to connect people to libraries, and to connect libraries to each other in building a social media-based research community of practice. Libraries use social media to connect with the iMapLibraries project, and interactively "put themselves on the map" by sharing data on their programs and services.

Phase 1: Exploratory Research

The first phase of the project involved exploratory work on developing a coding scheme for the lifelong learning classes, and testing potential online mapping tools.

Lifelong Learning Classes

To identify categories of free classes offered at local libraries that support adult lifelong learning in everyday life, a small-scale pilot study was conducted by searching the web sites of 30 public libraries nationwide. Five major types of lifelong learning classes were identified:

- **Computer** classes included introductions to basic software such as Windows, Microsoft Office applications, Internet searching, email basics, and social media, as well as how to use e-books, iPad and Kindle e-readers, and instruction on avoiding online identity theft and scams.
- **ESL** classes included English language tutoring programs, including providing conversation partners and regular lectures.
- **Government** related classes included instruction on social security disability and supplemental security income, social security, food stamps, tax refund assistance and citizenship testing.
- **Health** related classes featured Medicare and health insurance, and talks on breast cancer, strokes, cardiovascular diseases and more.
- **Workforce** readiness classes included resume writing workshops, interview skills, job-searching and seeking skills, and GED testing assistance and tutoring.
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The coding scheme for these five major types of lifelong learning classes offered at public libraries [*Computer, ESL, Government, Health, and Workforce*] formed the basis for subsequent data entry and data collection.

Social Media for iMapLibraries

Concurrently with the exploratory phase for identifying class types, social media networking was launched, setting up the social media sites to be used in the iMapLibraries project with a Wordpress blog, Facebook, Twitter, and YouTube. An iMapLibraries web site was also launched (http://www.imaplibraries.org). From September through December 2012, the iMapLibraries social media built a network of social media connections with U.S. public libraries and library community leaders through a multifaceted Facebook, Twitter, and blogging campaign, and disseminated information about the iMapLibraries mapping and data collection project.

The iMapLibraries social media network building process particularly targeted public libraries with one of two major characteristics:

- **Social media presence**: Direct connections were made from the iMapLibraries Facebook and Twitter pages to public libraries active on social media by "following," "friending," and "liking" the public libraries' social media sites in seeking to solicit reciprocal "likes" and "follows."

- **Diverse populations served**. 2010 Census data was used to identify public libraries serving diverse populations with a 2-mile radius of the library branch location, based on 20 socioeconomic and demographic factors such as race, poverty and linguistic isolation (Jue, 2012) Libraries identified as serving local populations with all 20 of the diversity factors were particularly targeted for inclusion in social media outreach efforts.

The iMapLibraries social media network also sought to connect with opinion leaders in the library community. Connecting with key influencers or information "gatekeepers" (Metoyer-Duran, 1993) can influence wider dissemination of information through trusted leaders in a community.

Exploratory Mapping

Initial testing of mapping tools for the project involved using Google Maps by inputting library data on lifelong learning classes, calendar links and social media sites into a shared Google Map (see: https://maps.google.com/maps/ms?msa=0&msid=207581887152590798604.0004cc2d2bd4866020372) An ideal mapping tool for the project would allow participating libraries nationwide to easily "add themselves to the map," interactively adding their own data on their library and their lifelong learning classes for learners to be able to find on the map. From these exploratory efforts, it was determined that key requirements for a mapping tool included 1) support for shared data entry by many participants, 2) high usability, in terms of being easy and quick to use, and, 3) potential for usability even at a low level of technical skill, in order to facilitate wide-scale use among a diverse range of participants.

Ultimately, Google Maps was found not to be feasible for iMapLibraries due to a slow data entry process, and the need for participants to have HTML knowledge to use the tool most effectively. Google Fusion Tables emerged as an alternative possibility for shared participatory mapping (see: https://www.google.com/fusiontables/DataSource?docid=1HLwfV6GRjAIcY6a7R-XqvuHFon8cybw--2cGAGM#map:id=3). Using the five coding categories for classes, a Google Fusion Table was created that could receive data typed in by library participants through an embedded Web-based registration form, generating an online map of libraries with lifelong learning classes.

The Google Fusion Tables allowed a distributed and participatory approach in which participants at libraries nationwide entered their data into the map via a simple Web-based form that did not require HTML knowledge or other special skills. Attempts were also made to write a script that would update and refresh the resulting Google Map periodically to reflect new data entered through the online Google Fusion data collection form. The Google Fusion Tables map was embedded on the iMapLibraries site (see: http://imaplibraries.org/maps.html), allowing libraries to participate by directly entering their own data on lifelong learning classes (see: http://imaplibraries.org/register.html).

Phase 2: Project Launch with Google Fusion Tables

In further testing of the Google Fusion Tables functionality for data collection and mapping, possibilities of filtering by variables were tested. Using Census Bureau 2010 diversity data on libraries serving diverse communities within 2-mile radius of the library branch, an additional Google Fusion map showing public libraries serving categories of diversity was created (see Figure 2).
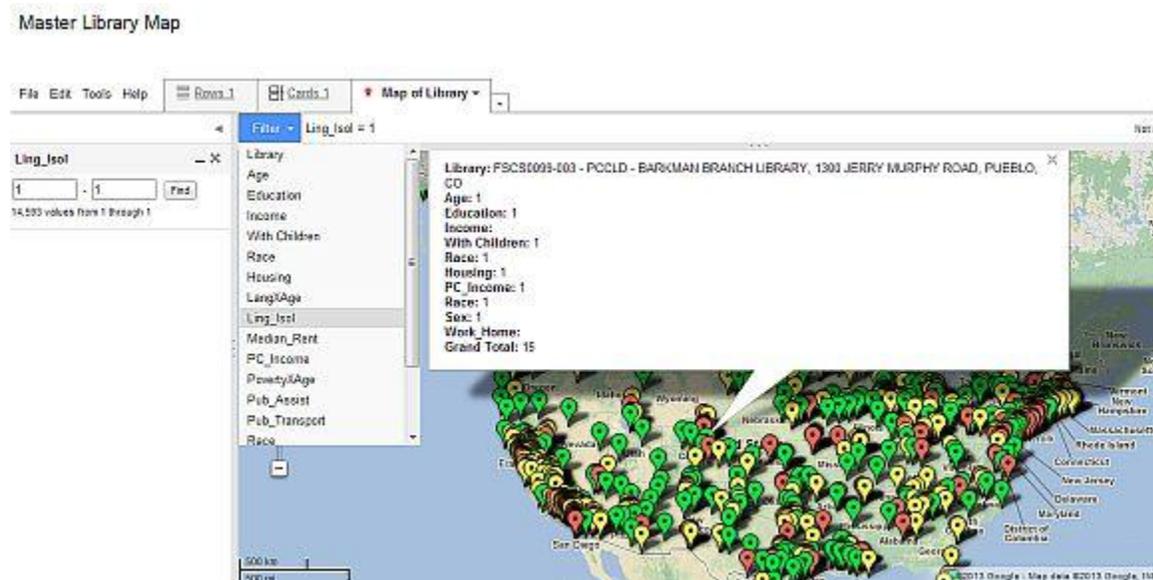

Figure 2: Google Fusion Tables Map for iMapLibraries: Libraries Serving Diverse Communities https://www.google.com/fusiontables/DataSource?docid=1BnT2Dugkot2tJv69P6vdYZ7AaGm7b4MFg_Xq8ZY

Different colored and shaped markers in the Google Fusion Tables map were used to indicate the range of diversity served by the library within the local community population, as follows:

- Red Push Pins indicate libraries with 15+ diversity variables within two miles of the library
- Yellow Push Pins indicate libraries with 10-14 diversity variables within two miles of the library
- Red Dots indicate libraries with 5-9 diversity variables within two miles of the library
- Yellow Dots indicate libraries with 1-4 diversity variables within two miles of the library

In filtering for the different variables, public libraries using the Google Fusion Tables map could locate other libraries serving similar patterns of diversity variables within their local populations to share and compare programs and services offered for learners and contact the other libraries from map web and social media links or through the iMapLibraries social media network. This experiment also demonstrated the feasibility of filtering by other variables in Google Fusion Tables, such as users filtering the lifelong learning classes map to find libraries that offered only specific types of classes.

Conclusion

iMapLibraries explored potential tools for connecting public libraries with online mapping via social media, finding that Google Fusion Tables offered useful functionalities for participatory mapping and filtering by variables. The experimental mapping project resulted in three interactive maps: 1) a Google Maps-based map of lifelong learning classes at U.S. public libraries; 2) a Google Fusion Tables-based map of lifelong learning classes at U.S. public libraries, and 3) a Google Fusion Tables-based map of public libraries serving diverse local populations with a 2-mile radius of the library's location, using diversity data drawn from the U.S. Census.

In its potential for mapping libraries and their services offered, the iMapLibraries project helps learners to find lifelong learning opportunities in libraries, and by also mapping the diverse demographic and socioeconomic populations that libraries serve, iMapLibraries also helps librarians to learn more about their community and what local needs are for lifelong learning resources, programs and services. Social media connected libraries to iMapLibraries and to each other, and embedded interactive mapping into the social network discourse. Social media also offered potential for bringing maps to potential learners via Twitter, Facebook, blogs, as well as news feeds and media outlets. In using social media with interactive mapping, iMapLibraries could make more visible to local learners the wide variety of programs, services and resources for lifelong learning that are available for free in local neighborhood libraries.

Ongoing implementation efforts by iMapLibraries will continue to explore how participatory online mapping can be used to collect and share research data about library programs and services. Future possibilities include mapping other library use data such as services offered in different languages, and developing mobile apps for user populations who may not have access to computers and Internet, but may be able to access information using mobile technologies.

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