

## Arizona Cultural Inventory Project Usage: A Case Study

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**Abstract.** The purpose of this study is to identify usage patterns of the Arizona Cultural Inventory Project (CIP), a directory of cultural institutions. The author analyzed quantitative web log statistics collected from the website over a 16-week period, and found that the website was visited 2,073 times. Furthermore, the average visitor was located in Phoenix, Arizona, and accessed the website via a desktop computer.

**Keywords.** Case study, web log statistics, website, usability

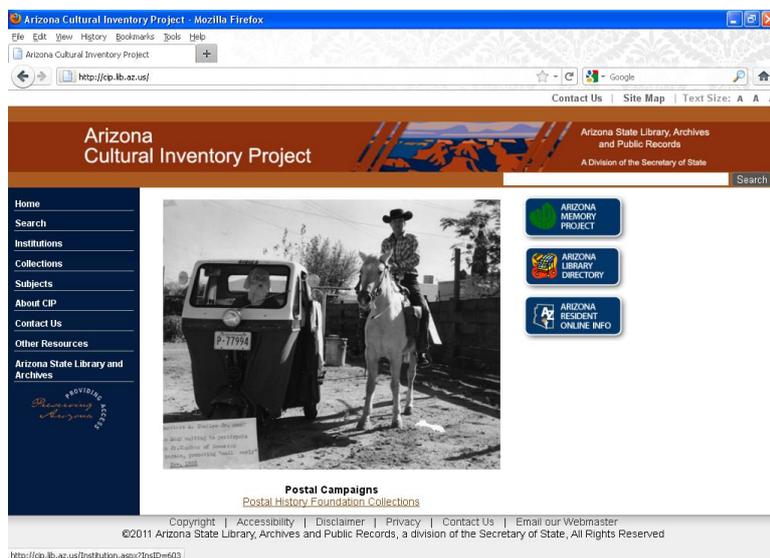
### 1. Introduction

The Arizona Cultural Inventory Project (CIP, <http://cip.lib.az.us>), a directory of cultural institutions and collections in Arizona, was created in 1998, but usage patterns of the website had not been analyzed as of July 2011. The author collected and analyzed web server log statistics from the CIP website over a 16-week period to establish how the website is utilized and improve the user experience.

There are two primary methods of establishing website use: system log files gathered by the server a website is hosted on (Jacoby & Laskowski, 2004) and web server log files supplied by services such as Google Analytics (Chen, Kochtanek, Burns, & Shaw, 2010). Both types of data have limitations. Cohen notes that “server logs record computer behavior, not visitor behavior” (2003, 317). System log files can provide the originating IP address for hits to a website, but cannot differentiate among multiple visitors using the same workstation. Chen et al. (2010) note that Google Analytics does not list IP addresses of site hits for privacy reasons, which negatively impacts researchers’ ability to infer user behavior from Google Analytics data. In spite of these limitations, Cohen (2003) and Chen et al. (2010) agree that pertinent information about website usage can be gleaned from system and web server log files.

## 2. Overview of the Arizona Cultural Inventory Project

The CIP is divided into three areas: Institutions, Collections, and Subjects. These areas, as well as a search page, can be accessed from the homepage (Figure 1). The search box and left-hand navigation menu appear on every page of the website.



**Figure 1** The Arizona Cultural Inventory Project home page

Each Institution listing (Figure 2) contains the institution's contact information, mission statement, and description, as well as subject headings describing the institution's collections. Many Institution pages also include a collection development policy or summary of the intellectual content and extent of the institution's collections. Some institution pages have linked Collection pages (Figure 3) which contain information such as size of collection and subject areas collected. Some subject headings were drawn from the LC Subject Headings and Name Authorities, while others were generated by the website administrators.

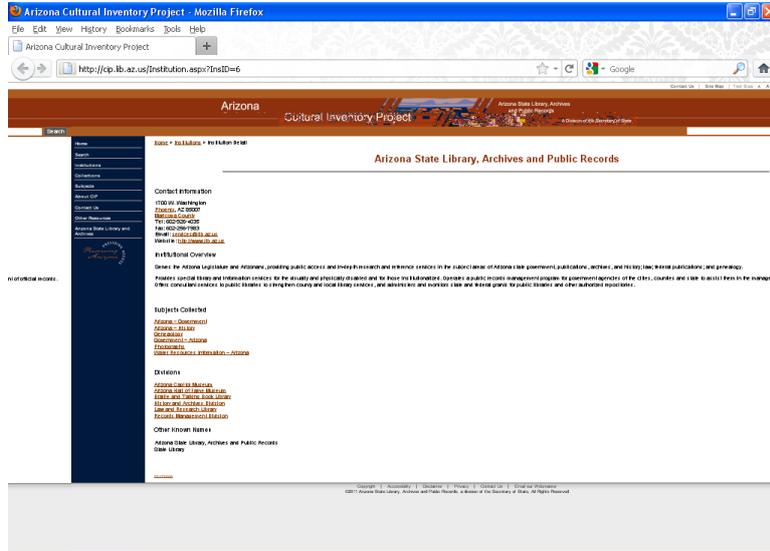


Figure 2 Institution listing, Arizona State Library, Archives and Public Records

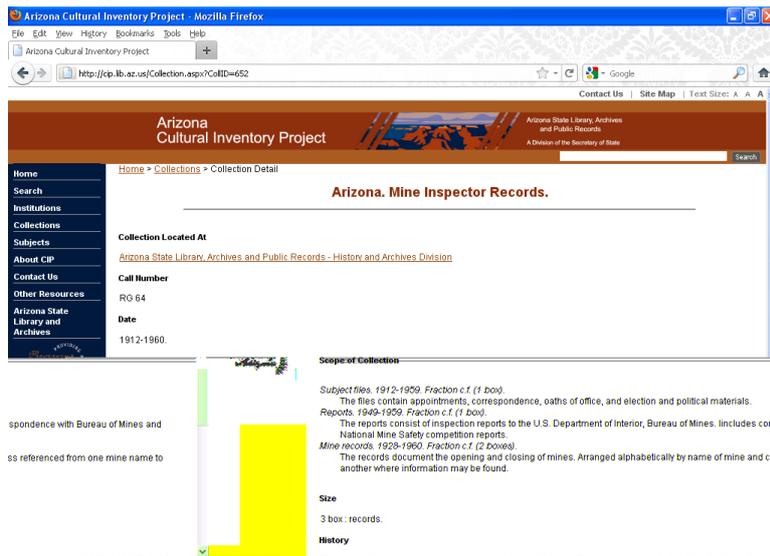


Figure 3 Collection page: Mine Inspector Records, ASLAPR History and Archives Division

### 3. Methodology

Use statistics for the CIP were collected using Google Analytics version 5. This tool was chosen for its flexibility and built-in data analysis capabilities. The Google Analytics tracking code was inserted into the header of the CIP website so the code would automatically appear on every page of the website. Counts of visits were collected over sixteen weeks beginning on July 5, 2011 and ending on October 24, 2011. Visits from ASLAPR staff were not discarded from the sample, but all data were analyzed by the author and extraneous, machine-generated visits removed.

### 4. Overview of Results

The results of the Google Analytics were analyzed to establish the geographic location and device used by visitors, the means by which visitors arrived at the website, and the website content viewed by visitors. During the sixteen-week study period, 2,703 visitors accessed the CIP website. Visitors originated from 57 countries, but 92.6% (n=2,504) of visitors originated from the United States. Of U.S. visitors, 58% (n=1457) originated from Arizona. Ninety-four percent of visitors used desktop devices, while the remaining six percent used mobile devices.

Number of Absolute Unique Visitors by Country	
United States	2504
Canada	25
Mexico	16
Philippines	14
Germany	13
Other	131
Total	2703

**Table 1 Number of Absolute Unique Visitors by Country**

Visitor Device	
Desktop	2541
Mobile	162
Total	2703

**Table 2 Visitor Device**

The CIP website is comprised of over 3,900 pages. The majority of pages belong to subject terms, followed by pages for collections and institutions (Table 3). During the study period, 33% (n=1280) pages of the CIP website were visited 9,769 times. Visitors accessed 89% (n=338) of institution listings, but only 40% (n=480) of collection listings and 19% (n=404) of subject listings.

Area of Site	# Pages	Pages Visited During Study
Institutions	380	338
Collections	1210	480
Subjects	2160	404
Other	200	58
Total	3930	1280

**Table 3 Types of pages on Arizona Cultural Inventory Project**

Ten percent (n=260) of visitors reached the site by navigating to it directly, 17% (n=468) were referred from another site, and 73% (n=1975) were referred from search engine results. Visitors to the CIP conducted 189 searches. Two percent (n=3) of search terms exactly matched subject headings and 41% (n=78) of searches returned results. Full-name searches did not return results, because users entered names John Smith but names on the CIP were listed Smith, John. ASLAPR corrected this inconsistency by reentering all personal name subject headings in the form John Smith.

**5. Discussion**

In spite of the limitations of web server log files, it was possible to build a general picture of how the CIP website is used. The CIP website is accessed an average of 169 times a week. Most visits originate from desktop devices in Arizona. The average visitor arrives at the CIP website via a Google search. Less than a third of the site was visited during the study period. Searches of the CIP website indicate that although few visitors use formal subject headings, 41% of searches return results. These numbers suggest that visitors are more likely to find a collection based on the words in the body of the listing, not subject headings. Finally, the search function had to be modified to allow users to find names regardless of the order first and last names were entered.

In spite of the limitations of web server log statistics, the results of this study provide useful information. The discovery that users search for names in natural order caused ASLAPR to reenter personal names to improve search results, and to begin work on a more sophisticated search engine to further enhance usability of the search function. Although quantitative statistics can show user location and search behavior, they cannot show whether visitors are librarians, teachers, or students, nor whether visitors found the information sought on the CIP.

**References**

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