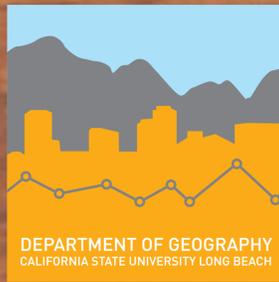


Visualizing Historic San Francisco Shanghaiing Data from 1881-1891 Using GIS

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INTRODUCTION

In the mid 1880s, the whaling capitol shifted from New Bedford, MA to San Francisco, CA. This shift, along with the loss of sailors who left the hard conditions of ship life to find fortunes on land, created a labor shortage of sailors in San Francisco. Crimps, also known as sea pimps or Shanghaiers, supplied crooked captains with new crewmembers, most of whom were pressed to serve unwillingly [Figure 1]. This practice of kidnapping men and selling them to shipping masters is known as Shanghaiing.

James Laflin, the shipping master of San Francisco, kept a ledger book of every sailor who went through his port, including those who were Shanghaiied. His ledger not only included each Shanghaiied sailor's name, but also the location where he was Shanghaiied, the crimp who Shanghaiied him, and how much the crimp was paid by the shipping master. Recently, this ledger and his entries were uploaded online and made accessible for public use.

The purpose of the project is to spatially represent and visualize this new found data in two different ways. One visualization represents the data for historical research purposes, and the other approaches the cartographic visualization for historic story telling.

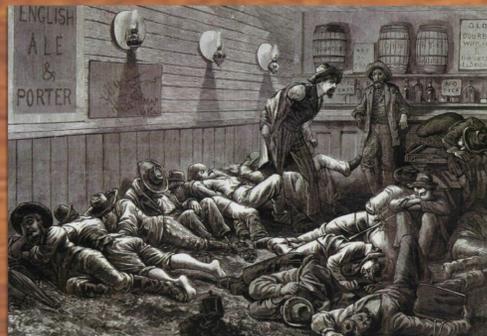


Figure 1. Port city barrooms where out-of-work men might pay for a night's sleep often provided crimps with a ready source of men to Shanghai.

Image from Corbis Images

METHODOLOGY

Adding Zip Codes

Because the current day zip code system did not exist until the mid-1960's, original address data lacked zip code information. An internet search engine was used to obtain the zip codes for usable addresses.

Address Locator

Using data from the US Census Bureau, I created a dual range address locator for the City of San Francisco. The following parameters were used:

- From Left - LFROMHN
- To Left - LTOHN
- From Right - RFROMHN
- To Right - RTOHN
- Street Name - FULL NAME

Geocoding Addresses

Using the address locator, I geocoded the addresses in the database. Out of the 665 entries, 308 addresses were geocoded. Addresses that were unable to be geocoded had incomplete data.

Visualization

Different visualization techniques were used for the different maps. For the map used for historic research purposes, Dr. Quam-Wickham was consulted, as it was her needs that had to be met. This map was created in ArcMap. For the map that focused on reaching a broader audience through historic story telling, imagery, and stories were pulled from various sources. This map and its elements were created and compiled in Adobe Photoshop.

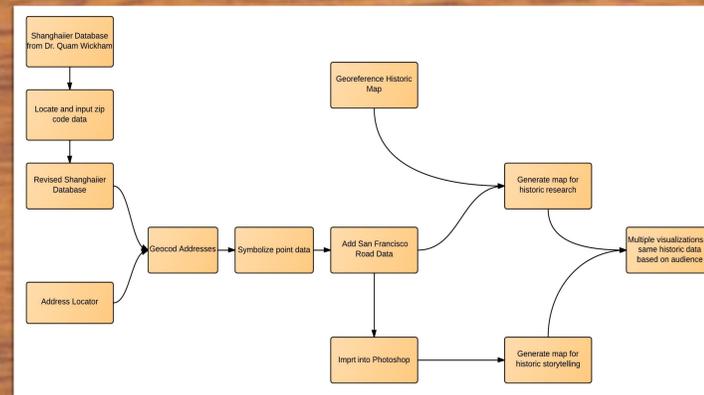


Figure 2. Spatial representation of the project workflow

DATA AND DATA SOURCES

Dr. Nancy Quam-Wickham, Professor of History at CSULB compiled the Laflin online ledger data into an Excel database. The data was used to geocode locations using addresses obtained from current and historical road data sources (Table 1).

Dataset	Source
Shanghaiier Database	National Maritime Digital Library & Nancy Quam-Wickham
San Francisco Roads	US Census Bureau
San Francisco Neighborhood Boundaries	National Oceanic and Atmospheric Administration
Historic San Francisco Map	U.S. Geological Survey & UC Berkeley

Table 1. List of data and data sources used in the project

RESULTS

The methodology resulted in two distinct visualizations of the data [Figure 3 and 4]. Both visualizations show a high cluster of Shanghaiing events close to the port of San Francisco. This area, being so close to the docks, was full of bar rooms and hotels used by incoming and outgoing sailors. There is also a cluster of locations where multiple Shanghaiings took place by the same individual. These points probably depict barrooms and hotels that were well known by men of the city, which provided ample stock for the Shanghaiers to choose from.



Figure 3. Map created for Dr. Quam-Wickham and used for historic research purposes. Map distinguishes between multiple event and single event points. No background on history is supplied.

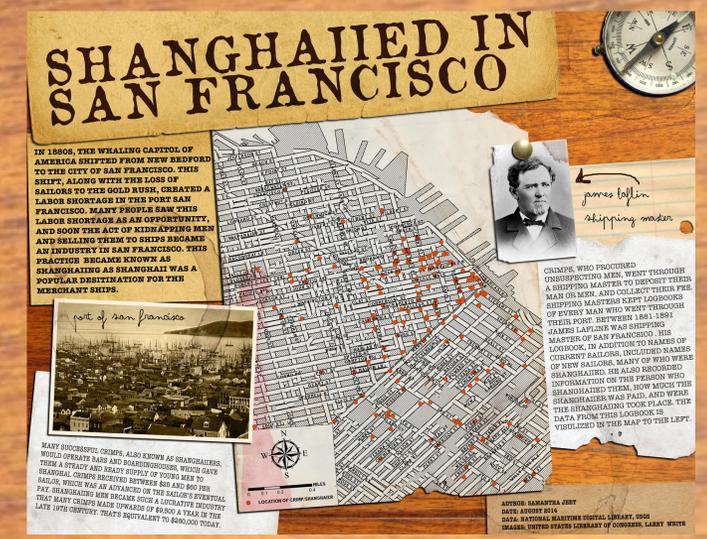


Figure 4. Map used for historic storytelling. Intended for general audience that may not have background interest in historic research. This map does not distinguish between multiple event and single event points.

DISCUSSION

Data

Only just over half of the entries (52%) could be geocoded. This was due to entries with addresses that did not exist anymore, and entries that were incomplete such as having no street name and/or house number. Therefore the final visualization doesn't properly represent the occurrences of Shanghaiing, or the correct spread of Shanghaiing events. In the final map, most of the kidnapping events were clustered on the northeast section of the city. Though having a cluster in this area would make sense as it's very close to the port, without the other 300+ entries, the representation of this area as a cluster is potentially biased.

Map for Historic Research

The map created for historic research purposes [Figure 3] visualized the data without background on the history of Shanghaiing in San Francisco because it is assumed the audience would already have some sort of background on the topic. The intended use for this map is to supplement a narrative by Dr. Quam-Wickham. Points of Shanghaiing events are visualized. People who committed multiple kidnappings and those who committed one kidnapping are differentiated.

Map for Historic Story Telling

The map of historic storytelling [Figure 4] does not differentiate between locations of multiple and single events of Shanghaiing. It offers artistic elements that are reminiscent of the late 18th century by including additional imagery. Artistic elements provide interest and excitement to the topic for those who do not have a strong background or interest in historic research.

CONCLUSION

As a cartographer, knowing your intended audience is vital. By using the same datasets, I demonstrated that different visualization techniques can result in very different outputs which will be attractive to different audiences. Both maps produced were created for print or digital viewing and each have aspects and styles that are attractive to different audiences. Creating an integrative online map would attract an even broader audience, as well as further illustrate that data visualization impacts data interpretation by different audiences.

I would like to thank and acknowledge Dr. Nancy Quam-Wickham, the History Department Chair at CSULB, for providing the project context, the data used in the project and her expertise.

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