John Wymer's DC: A Digital Integration Project for Image Collections
Designing a Map Interface for Historic Image Overlay

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Dedication and Acknowledgements

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Abstract

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In recent decades, online access to museum material has become more commonplace as it enables users to rapidly acquire information from any location with internet. Thus, digitization is the next step in order to make paper-based museum collections widely accessible. For historic photograph collections, an essential part of the digitization process should be to provide contextual background. For geolocative images, this can be accomplished through a user-interactive mapping interface, grounding the photographs in their geographic context by reference to maps and contemporary images.

This project examines the development of such a mapping tool; how it can be applicable to the work of museum professionals, anthropologists, and historians; and how it can connect the public with cultural heritage and public history resources. Institutions that have tried similar projects are critically evaluated based on accessibility of the material and the narrative presented. Topics such as cultural heritage, museum digital content, and education are explored through the lens of public accessibility.

A case study of the implementation of this mapping tool is provided using the John Wymer Photograph Collection from the Historical Society of Washington, DC. This collection contains approximately 4,000 images of Washington, DC, photographed by Wymer from 1948 to 1952. To demonstrate the power and use of integrating historic collections into the interactive digital sphere, a website hosts a map interface which allows users to toggle between the historic Wymer images and modern Google Street

View. Additional context about Wymer, the collection, and the project are also incorporated on the website.

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Chapter 1 – Introduction

The core of this thesis project is the development of a mapping interface which allows for users to toggle between a historic image and a modern image (provided by Google Street View). This thesis is a response to the under-utilization of historic image collections due to limited access provided by conventional research institutions, such as libraries and archival repositories. Digitization of collections is the best way to provide access, from any geographic location, at any time of day. Thus, a mapping interface was developed that not only makes these images publicly available, but also organizes them on a map, such that the collection is browseable in a new way which lends each image greater context.

Libraries and archival repositories are phenomenal sources for local information. However, as they are usually municipally-funded or non-profit organizations, these institutions usually have limited budgets and a small staff. With small budgets comes the careful distribution of funds between research services and collection care. This means that these institutions have limited hours in which they can accommodate research appointments to access their historic collections. As a direct result of limited budgets, the collections housed by these institutions are under-used, whether because they are largely unknown to the public, or because those who wish to use them are not able to visit the institution during its limited open hours.

One response to this problem has been a movement towards digitizing collections in order to increase online access to these valuable resources. Most institutions now have online catalogs for their collections, and some, like the Smithsonian Institution, have created 3D scans of some of their most culturally rich objects (Smithsonian 3D n.d.). This

type of online access is the first step towards full digital integration of collections. It is an expensive and labor intensive process, but as society becomes more and more dependent on technology, digitization is a very powerful way to engage the public with these materials.

Some groups have chosen a different path to digitization and created an interface onto which they map geolocative image collections.[1] Such projects include *Old San Francisco* and "Histories of the National Mall," projects specializing in historic architecture and urban landscapes. These are unusual compared to other digitization efforts in that they place each image into its correct position on a map which allows users to understand geospatial relationships. These interfaces also include dates, so that the evolution of changes to a landscape can be studied.

As useful as these geolocative interfaces are, they are not without drawbacks for the user. Both *Old San Francisco* and *Histories of the National Mall* mark the location of each image on an interactive map with a pin icon. Clicking on the pin opens a view of the image and provides some context, such as date and subject. However, each interface relies on the user to have a prior understanding of the area. For example, while a user is able to see what a particular area of San Francisco looked like in 1914, unless she is familiar with what that area looks like now, it is not compelling to the casual user.

With this issue in mind, I have created a map interface incorporating Google Street View to showcase geolocative image collections in the District of Columbia. This interface provides both current and historic views by overlaying the historic image on top

[1] Geolocative images are ones which have a geographic location and could theoretically be placed on a map if that location was known to the institution. An example of this type of image would be a photograph of a building's architecture. This is in contrast to images that are inherently non-geolocative, such as formal portraiture.

of the contemporary one and allowing the user to toggle between them. It is a far more immersive experience for the user than the type of mapping interface used by organizations like "Old San Francisco."

In order to demonstrate this interface, I have used a geolocative image collection from the Historical Society of Washington, DC (HSW) – the John P. Wymer Photograph Collection.[2] HSW houses an immense collection[3] of historic materials, but due to small staff size and a limited budget is only open to researchers four days per week during regular business hours and can only accommodate up to six researchers per day. For this project, the Wymer Collection was digitally integrated into a website featuring the new map design in order to showcase the utility and value of such an interface in an academic and educational setting.

The website highlights the historical images and places them in a contemporary context which provides the public with a new lens through which to explore the nuanced history of Washington, DC. This website is fully functional and can be used by HSW and researchers just as the physical collection is used, although now it can be accessed outside of business hours.

The software for the mapping interface is publicly available and the project as a whole may be used as a template to guide others who may wish to plot their historic

[2] The John P. Wymer Photograph Collection consists of about 4,000 images of the District of Columbia. These photographs were taken by John P. Wymer from 1948 to 1952. He divided the city into 57 districts, each with an approximate area of 1 square mile, then photographed a sample block from each, noting the location of each photograph. The photographs from each sample block range from a single dwelling to all of the buildings on the block. This collection captures the city's local urban scenes, from neighborhoods and parks to commercial and public spaces.

[3] The Historical Society of Washington, DC has amassed a collection consisting of over 660 processed archival collections, published materials totaling over 8,000 titles, photograph collections exceeding 100,000 pieces, and map and broadside collections numbering in the thousands.

images in a similar way. This type of image overlay should not be limited to historic images; any photograph with a known geographic location may be plotted. Additionally, archaeologists who have drawings of a site re-creation may use the template for their images and experience the visual shift between modern and historic.

Chapter 2 – Current Methods for Integration of Digital Content with Museum Collections

Museums and cultural institutions are organizations which seek to collect, preserve, interpret, and exhibit objects of educational value. However, in recent decades, museums have had to seek new ways of remaining relevant in the face of newer technologies. In order to increase visitor attendance, some museums are changing the ways in which they exhibit materials, moving away from a twentieth century style of objects displayed in cases with captions. New methods of increasing audience engagement with material culture emphasize interactive materials, either physical or digital. This section explores the current state of the integration of digital technologies in the public sphere of museum programming.

In order to engage an audience, museums first need to understand the visitor motivations and expectations. A recent study by Brida *et al.* finds that museum visitors fall into two categories: those who visit for edification and those who visit as a form a recreation (2015). The study finds that those who go primarily for recreation are often on vacation outside of their city of residence (Brida *et al.* 2015). These visitors are often passive consumers of museum content. If museums want their content to translate to passive consumers, they will need to find novel ways of engaging their visitors with their exhibitions (Marty 2008).

There are three practices that museums are adopting to create more affecting content for their visitors: interactive exhibits with physical materials; the integration of digital materials into their exhibitions; and the creation of online content, both as a resource that complements a physical exhibition and a standalone product. Interactive

exhibits may appeal to a new subset of museum visitors because they allow visitors to engage with the content beyond reading captions and viewing objects (Allen 2004). Interactive exhibits may allow visitors to touch replicas, listen to audio content, and interact with the exhibit in ways which help them understand the narrative.

The incorporation of digital content into physical exhibition space is another way to involve museum visitors with the content and narrative. However, this integration can be difficult to do with long-term success as what is cutting-edge technology may quickly become outdated and appear antiquated and stale to museum visitors (Tallon and Walker 2008). Furthermore, the introduction of technology into museum exhibitions is a delicate issue, as it requires balancing visitor experience, interaction, and exhibit design (Falk and Dierking 1995). The technology should be integrated into, not detract from, the educational impact, visitor experience, and curatorial mission for the exhibition (Ciolfi and Bannon 2003).

The final trend for enhancing visitor engagement is the production of online content. This content may either complement an existing exhibition or the material may be web-only content which has no corresponding physical space. The World Wide Web is a "placeless space" and is an obvious avenue to pursue for museums wanting to create a digital presence for their materials (Grincheva 2014; Bennett 2005).

For the online content which complements a physical exhibition, the purpose is to provide a way for visitors to refer back to what they saw and learned when visiting the museum. This may include narrative sources, provenance, and images of the exhibition material. Additionally, this online content may act as a surrogate for viewing the exhibition in person for those people who cannot visit.

In contrast, some museums create online content that is intended solely for web-use and has no physical counterpart in their museum. In general, this is done to increase accessibility for objects that cannot be exhibited (Geismar 2013). The material may be too fragile for exhibition, culturally sensitive (Leopold 2013; Hiko 2007), or it may not lend itself well to exhibition, such as paper-based materials (Lynch 2002). Online content is a way to provide access to materials which would otherwise be prohibited. Museums still retain control of who has access to the online content; digitization does not imply that museums lose the right to restrict access, but rather that they may grant access more easily to those who meet the donor-imposed criteria.

Some types of material, such as photographs or historic documents and records, do not lend themselves well to exhibition. They may either be too physically small to be visually impactful in a gallery or better suited to research than to exhibition. These collections are excellent candidates for online integration because they would otherwise not be available to the general public. Photographs provide an abundance of information, from cultural knowledge and practices to nuances of a landscape (Stephenson and McClung 1998). Walter Benjamin may have contemplated the authenticity of non-original material, but it is better to view some form of the content than to ignore its presence outside of those who can physically access it (1939).

Further chapters of this thesis will explore ways in which paper-based collections can be integrated into online content, through a novel mapping interface. As museums look to diversify their content outside of the traditional, physical space, focusing on creating online content that features those materials that are not good candidates for exhibition is a powerful way to increase accessibility.

Chapter 3 – Analysis of Mapping Interface Models

Introduction

There are many existing examples of mapping models which integrate historic images onto a geolocative interface. These mapping interfaces bring visibility to otherwise obscure historic images through digital integration. The interface allows the public to view these historic images anytime when internet access is available which brings greater accessibility to the photograph collections. Each mapping model has its own historical niche and approach to design and context. Additionally, the interfaces differ in scale of the project, geographic focus, and types of images uploaded. Because they are designed for specific audiences and user experiences, no two interfaces are the same.

In this chapter I compare four of these models (*Old San Francisco*, *Histories of the National Mall*, *Historic Aerials*, and *Google Cultural Institute*) in order to highlight the particular choices made with regard to what type of information to include, how to visually present it, usability and engagement by intended audience, and how well it features the collection.

Old San Francisco

Old San Francisco [4] is a map interface produced by Dan Vanderkam and Raven Keller. It features approximates 13,000 images of San Francisco. Vanderkam and Keller used digitized photographs from San Francisco Public Library's (SFPL) San Francisco Historical Photograph Collection (approximately 40,000 images) for the project (Vanderkam and Keller, n.d.).

[4] http://www.oldsf.org/

Vanderkam and Keller are not affiliated with SFPL and were not part of the digitization project. SFPL retains the copyright on the images and for reproduction use, SFPL must be contacted. Vanderkam and Keller disclaim any copyright to these photographs and they did seek permission from SFPL for this project. Their site is simply an online tool through which to view this impressive assemblage.

Vanderkam notes that the project was inspired by the misidentification of a photograph in SFPL's online catalog. Because of the error in identifying the street from which the photograph was taken, the photograph was overlooked and underused. Through the creation of an interface which integrates historic photographs into their geo-specific context, users are able to navigate through the collection using a geospatial lens, rather than using key words and tags in an online catalog. This different perspective on the collection may be useful to researchers interested in specific areas and it may also illuminate other errors in the catalog.

Old San Francisco has an engaging and easily understood interface. The map interface was created using Google Maps in the "map view" [5] format. See Figure 1 for an image of the *Old San Francisco* map interface. Vanderkam and Keller use black dots to indicate locations of images. If a particular area is densely clustered with historic images, the size of the black dot increases. To view an image, the user clicks on a black dot and the historic image appears in a bar along the right hand side of the screen. Once selected, the black dot changes to red in order to indicate which location was selected. The historic image which appears in the bar along the right hand side can be clicked on to view an enlargement of the photograph. Additionally, a link is provided to SFPL's online catalog

[5] Map View is one of several map view options provided by Google Maps. The others include "satellite," "terrain," and "street view."

entry for the particular image. This feature allows users to have access to as much context as is available about the image, such as call number, rights and permission information, and collection name. See Figures 2 and 3 for examples of the image context and catalog.

A chronology filter enhances the user's experience. This feature allows users to narrow the results of which images appear on the interface by selecting a limited time frame (See Figure 4). The ability to limit results to only a particular time frame greatly enhances the usability of the website. Certain patrons may only be interested in photographs from a particular date range and this feature accommodates that preference. Without this feature, patrons may find the map intimidating to use because of what may appear to be an overwhelming number of dots. Limiting the images which appear on the interface at one time is one way to make the site more approachable to casual users and also useful to researchers studying a particular timeframe.

Old San Francisco is a great digital resource for people interested in the photographic history of San Francisco. Vanderkam and Keller succeeded in developing an attractive and usable map interface which allows users previously unattainable levels of accessibility to historic photographs. One caveat is that the project is not very engaging for people unfamiliar with contemporary San Francisco. When presented with just a map view and the historic image, there is no comparative image for what the area looks like now. The result is that the historic image is underwhelming as there is not visual context provided. However, despite this limitation, Vanderkam and Keller have created a phenomenal tool for quickly finding photographs of a particular region by increasing the accessibility of historic photographs of the San Francisco area.

Histories of the National Mall

Histories of the National Mall [6] is a digital public history project developed by the Roy Rosenzweig Center for History and New Media at George Mason University (Brennan *et al.* 2015). It was funded in part by the National Endowment for the Humanities. The goal of this project is to create a mobile site which highlighted the "complex, contested …[and] often invisible history of the National Mall" of Washington, DC (Brennan *et al.* 2015). To do this, a team created a mobile phone-compatible site which features interactive maps of the National Mall with specific areas marked with pins to highlight the particular history of each location. The intention is to create a site which emphasizes the "histories of indigenous people, segregation, slavery, unbuilt monuments, demolished structures, children, activists, and laborers" and can be used by tourists while at those sites (Brennan *et al.* 2015).

Compared to *Old San Francisco*, *Histories of the National Mall* (HNM) has a less visually appealing interface, although it is relatively easy to use. Part of the problem with the aesthetic appeal of the interface is that the entirety of the map does not fit within a single screen view. Users have to scroll down in their browser to view all of the map application (See Figure 5). This makes the map interface more cumbersome to use and more difficult to understand. Additionally, because HNM created its own map through the consolidation of many historical maps, the end result is not sleek in appearance due to its overly complicated color scheme and level of detail.

[6] http://mallhistory.org/map

Figure 1 – Image of *Old San Francisco* map interface. This is the layout used by Vanderkam and Keller. Each black dot corresponds to either an image or group of images. The bigger the dot, the more images are clustered in the area. Once an image is chosen, it is displayed in the white bar along the right, along with some basic context. The map has a zoom feature which allows users to identify specific areas which are of interest to them. Additionally, the black time scale in the top left corner allows users to filter image results by selecting a narrowed time range.

Figure 2 – Image of historic photograph enlargement from *Old San Francisco*. Once a black dot is selected, the corresponding image appears along the right hand side of the screen, along with the location and date of the photograph. If that image is selected, the photograph becomes enlarged and centered. A direct link for the SFPL's online catalog entry is available should the user wish to seek more information.

Figure 3 – Image of the corresponding online catalog entry for an historic image used by *Old San Francisco*. Here, the user may learn more information about a particular photograph, such as the format of the photograph, rights and permissions, etc. Image is from http://sflib1.sfpl.org:82/record=b1020853~S0.

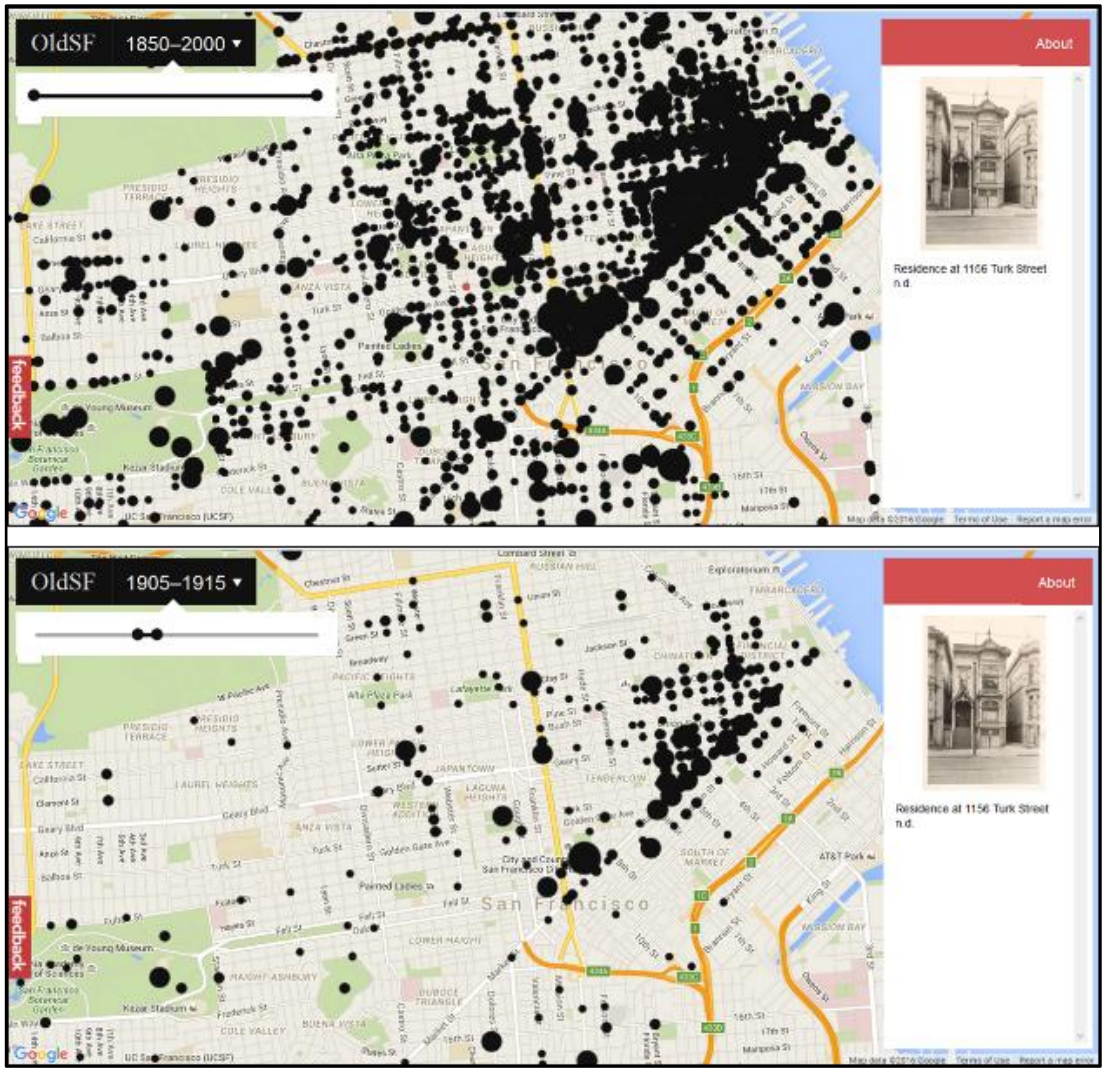


Figure 4 – Comparison of interface results of *Old San Francisco* when using the chronology filter to limit results to a particular time range.

However, what the website lacks in visual appeal, it more than makes up for in content. It was important to the developers to include not just basic information about each photograph, but to also provide interpretation by historians as to the meaning of each area (Brennan et al. 2015). Even though this extra material is valuable, the website utility is not as functional because it is complicated by the extra material (See Figure 6). Each pin on the map interface first links to a page of historical interpretation, as written by the developers of HNM. From that page, users can click on links to see more images and obtain further context regarding the pictures.

The map interface of *Histories of the National Mall* has two additional features which enhance the user experience: the map era toggle and a filter to sort pins by item type. The map era toggle (Figure 7) is divided into thirty year ranges for the 19th and 20th centuries. Once selected, the map interface toggles to an historic map of the Mall with pins for images of features which were present on the Mall at that time. This is an interesting feature which gives a more immersive experience to the user. The filter feature (Figure 8) sorts the item type by place, event, document, image, video, or audio. Depending on the type selected, the map either displays the pins which were tagged with that type or it displays further options for filtering, as shown in Figure 8.

One flaw which greatly diminishes the utility of the website is how opaque the interface is regarding the depth of information it contains. For example, very little information is displayed on the map interface itself and users must click through several pages before being able to view additional historic images or a longer description of the site. For a site designed for a mobile audience, this model is not ideal. While the original content (historical interpretation) of the site is a compelling feature, it does not feature

prominently enough. The design of the map interface is more compatible with computers than tablets or mobile devices since most of the information is not presented together, but is accessed via clicking through multiple different pages. Mobile devices tend to have slow, unreliable internet connections, so each click may cost the user several seconds of wait time. A map interface with fewer separate pages could be used more efficiently by mobile users. The structure of Histories of the National Mall interface hinders efficient usability by mobile users.

Even though information from the site is difficult to obtain for mobile users, the design is not much better structured for at-home users. While the content of the site is academically oriented, it is not organized in a way which makes it easy for a professional audience to use. The developers of HNM clearly state that their secondary audience is "off-site users, comprising history enthusiasts, and fellow public historians and cultural heritage professionals interested in the work we were doing" (Brennan *et al.* 2015). For a professional audience, the site should be structured in a way which accommodates source documentation. It takes three clicks to find a page with a URL that could be cited or saved for future reference. When a researcher is done with the detail page, pressing the browser's Back button returns to the initial map view – the map does not retain the information of which pin was open. The pages also lack "share buttons" such as an email link on the website. If a researcher were trying to use the site as a way to gather information, it would not be convenient to document the source of the information he or she was obtaining. A greater focus on usability testing could help resolve problems like this.

In addition, there is a disparity between who the developers claim as their intended audience and the realities of what they built. The content on the site is too spaced out to be efficient for mobile users who must click through several pages in order to access historic photographs. For computer users such as professionals in related fields, the interface is not designed to accommodate research documentation. While image sources are provided, they are done on an individual basis which, again, makes the site inefficient. Given the realities of the design, HNM seems best suited for educational purposes for users at computers, such as school-age children. The content of the site is of a high quality, but it is the structure of the site which is limiting. The design of HNM does not feature the assembled materials as well as it could by obscuring it behind multiple pages. The site would be a much more powerful tool if it was denser with information.

Historic Aerials

Historic Aerials [7] is a repository of historic aerial photography compiled from multiple government sources. It is hosted by Nationwide Environmental Title Research and includes imagery (aerial photography and topographic maps) from the 1920s to present day. It covers a geographic area of the continental United States plus Hawaii.

The map interface of *Historic Aerials* is simple in design which allows users to quickly understand the site mechanics. The interface on the home page of the website is a static map (Figure 9) which includes a search bar. Once an area is searched for, the interface changes to include more advanced features (Figure 10). There are buttons along the left hand side of the interface which correspond to the year an historic aerial photograph of the area was taken. The years present varies by area. Users may select a

[7] http://historicaerials.com/

year to view and, by selecting the “compare” feature, they can use a split screen to see how the landscape has changed through time (Figure 11). There is an additional feature which allows users to add layers such as roads names, in order to better orient themselves (Figure 12).

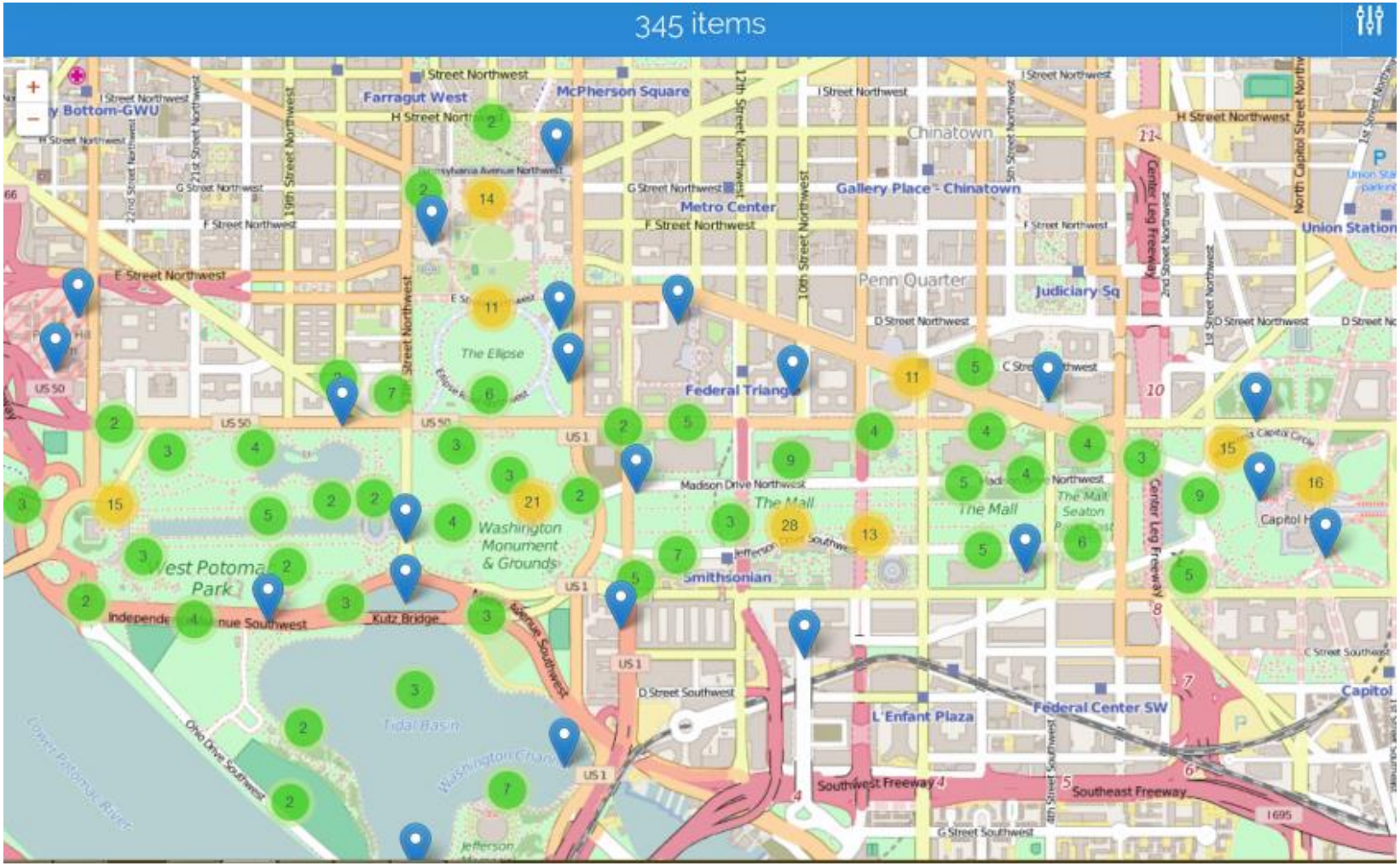


Figure 5 – Image of the *Histories of the National Mall* map interface. In this interface, each blue pin corresponds to a single image and each green circle corresponds to a cluster of images. If the user clicks on a green circle, the map will zoom into the particular area and display the same number of blue pins as was listed in the green circle. Once a pin is selected, the website re-directs to a page with additional context.

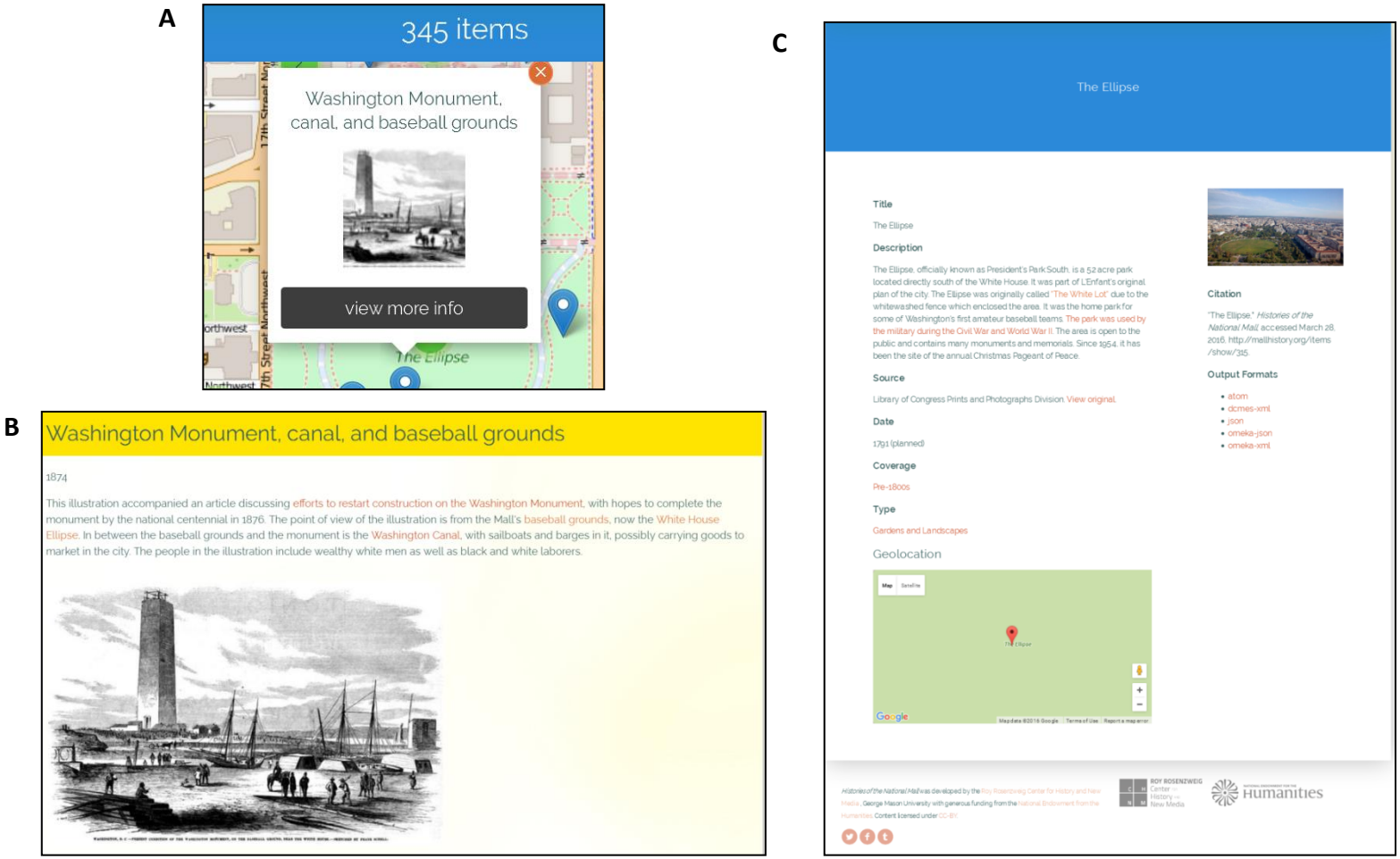


Figure 6 – Sample images of contextual information about a single pin provided by HNM. (A) This is the first thing displayed once a pin is selected. This box shows an historic image as well as the name of the location. (B) is the result of selecting "view more info" from Image (A). Each red link in (B) reroutes to contextual information of a single historic image of the site chosen (C). Images from (A) and (B) http://mallhistory.org/map; (C) http://mallhistory.org/items/show/315

Figure 8 – An example of the map era toggle mechanism on *Histories of the National Mall*. Users may choose to view the map interface with historic map skins which gives a more immersive experience. Image source: http://mallhistory.org/map.

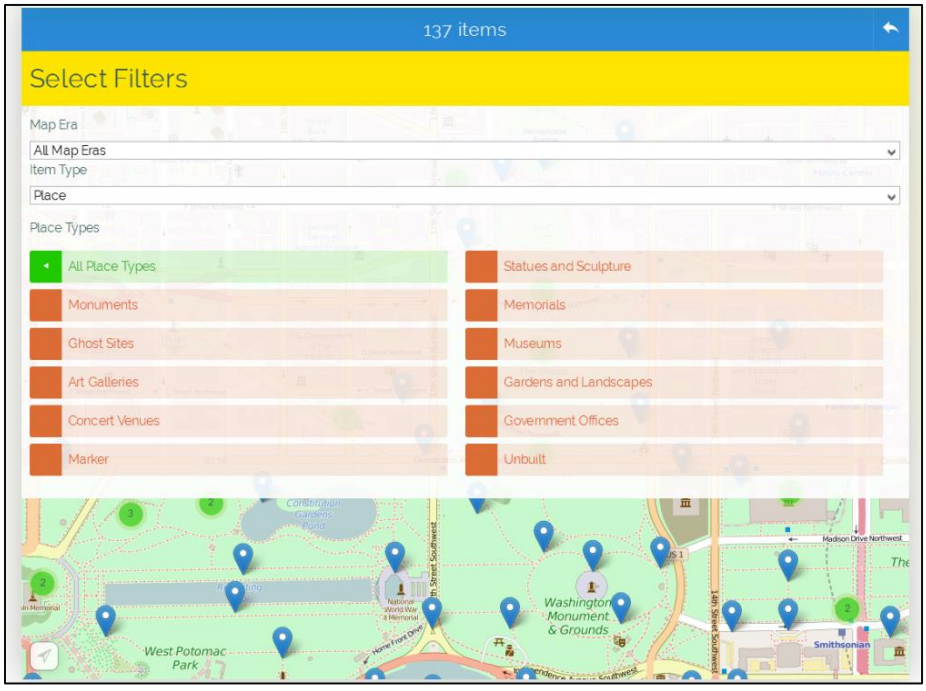


Figure 7 – An example of the filter feature on *Histories of the National Mall*. Users may select to view pins based on type. Some types, such as the "place" type shown above, have additional filter possibilities. Image source: http://mallhistory.org/map.

Due to the simplicity of the website, the interface is easy to understand and use. For example, the controls for changing the date of the imagery are much more obvious than those on the Histories of the National Mall map. However, one distracting feature is the inclusion of a large, opaque watermark which prevents users from using the photographs for personal use without permission. There is a purchase button which allows a user to pay for a copy of the image and receive permission from copyright holders, but even the price is hidden until the user creates an account with his or her address and phone number. For someone who is not directly interested in purchasing photos, the watermark is a very negative element of the user experience.

Historic Aerials is a valuable resource for researchers due to its design simplicity and powerful features. Because of its basic structure, the interface is tailored more towards professionals or enthusiasts, but not the average user who may not understand the utility of the site without context. *Historic Aerials* is a simple, but powerful interface which brings increased access to otherwise obscure photographs.

Google Cultural Institute

Google Cultural Institute[8] is a Google initiative launched in 2011 as part of a campaign to "make important cultural material available and accessible to everyone and to digitally preserve it to educate and inspire future generations" (Google Cultural Institute, N.D.) It is an online repository for high resolution collection highlights from museums across the world. As of 2016, the site boasts images from approximately 1,100 different museum collections. Although it does not feature a mapping interface like the other websites discussed in this section, *Google Cultural Institute* (GCI) is a worthy example of non-affiliated institutions working towards making collections more

[8] https://www.google.com/culturalinstitute/u/0/home

accessible to the public at large via digitization of material. Old San Francisco was also produced by a non-affiliated group and both are examples of powerful digital tools that result from a collaboration between the holding institution and an interested third party.

The web interface for GCI is simple and easy to use. The user can search the collections by keyword if he or she has a particular subject in mind, or the user can browse through the list of collections and find what is visually appealing (See Figure 13). Once a collection is selected, the user is able to browse through images of the materials which are being highlighted (Figure 14). On this page, the user can see an overview of the collection, as well as the institution which hold the collection. Once an image of interest is selected, details such as historical description, object metrics, and the provenance is displayed (Figure 15).

The web interface for navigating the materials on *Google Cultural Institute* is easy to use for users of all ages. It allows users to save images or collections which interest them, compare images, and share their findings with others. This website is an excellent tool for children to explore diverse museum holdings and also for adult enthusiasts who would benefit from the more academically rich contextual information provided by the site.

This type of exploratory and educational website is exactly the type of project in which more museums ought to engage.[9] This interface is different from an online catalog which lists objects with simple descriptions and a small thumbnail image used for brief identification. GCI uses high resolution images which engage the audience and also offer

[9] Some large institutions are implementing digitization projects just like this. The British Library has uploaded over 1 million historic photographs in a high resolution at https://www.flickr.com/photos/britishlibrary/. The Internet Archives has a similar image digitization project which has uploaded over 5.3 million images at https://www.flickr.com/photos/internetarchivebookimages/.

descriptions based on historical significance. It does not limit itself to certain countries or chronological periods. It is a site meant to have universal appeal and to engage the public with valuable cultural materials through the aggregation of digital content from hundreds of institutions.

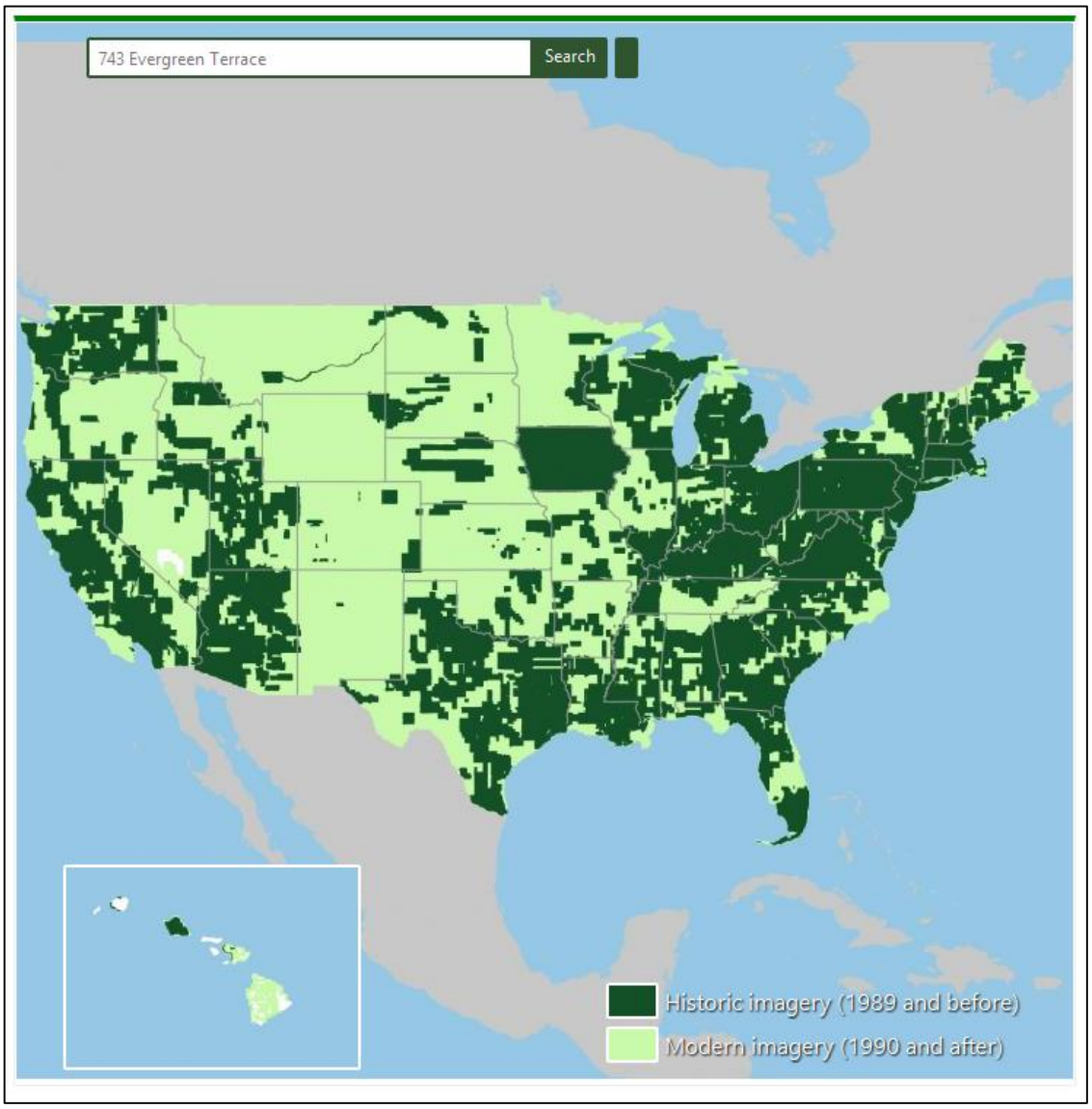


Figure 9 – Example of the static map interface of *Historic Aerials*. The user must enter a location in the search bar to begin viewing the aerials. Image source: http://www.historicaerials.com/aerials.php?op=home.

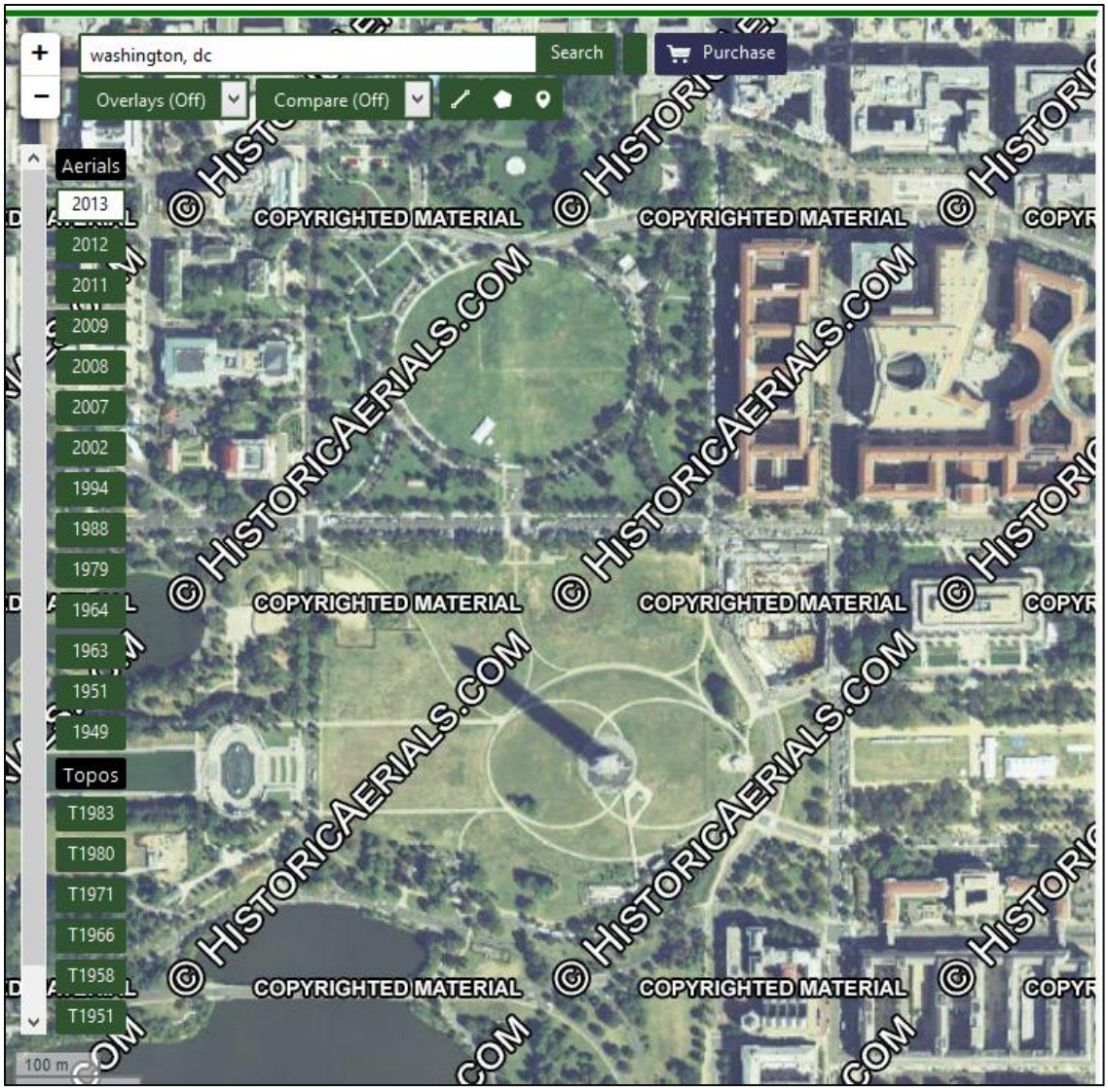


Figure 10 – Example of the interactive map interface of *Historic Aerials*. The user may select different photographs to view, organized chronologically. Note the large and distracting watermark which obscures some fine details on the map. Image source*:* http://www.historicaerials.com/aerials.php?op=home.

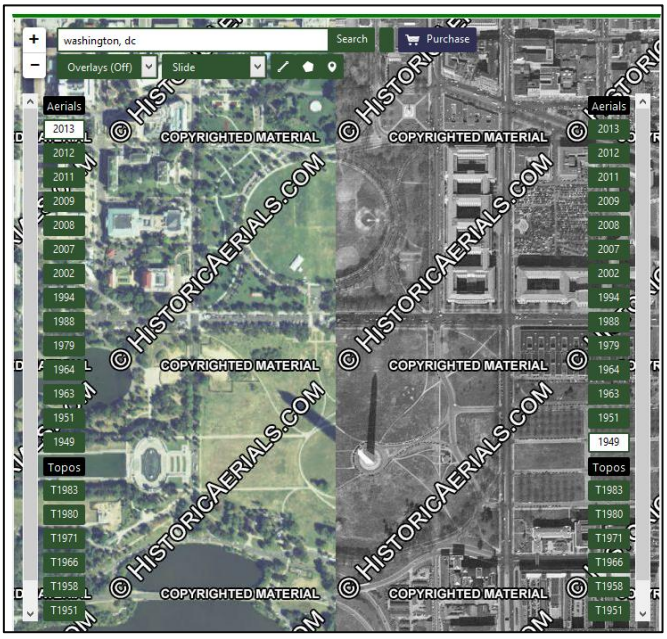


Figure 11 – Example of the side-by-side comparison feature on *Historic Aerials*. The user may via maps in the same locations, but at different time depths with this advanced feature. Image source: http://www.historicaerials.com/aerials.php?op=home.

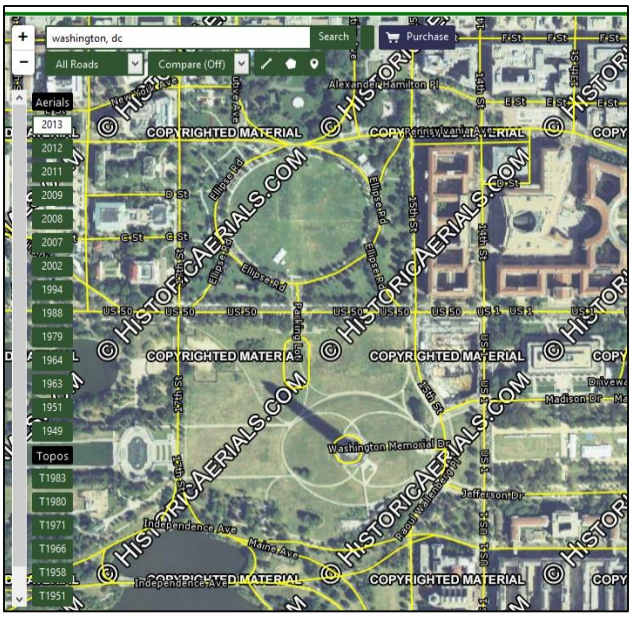


Figure 12 – Example of the overlay features on *Historic Aerials*. The user may choose to overlay city names, county names, or roadway names, depending on preference. The above image includes yellow lines, depicting roadways. Image source: http://www.historicaerials.com/aerials.php?op=home.

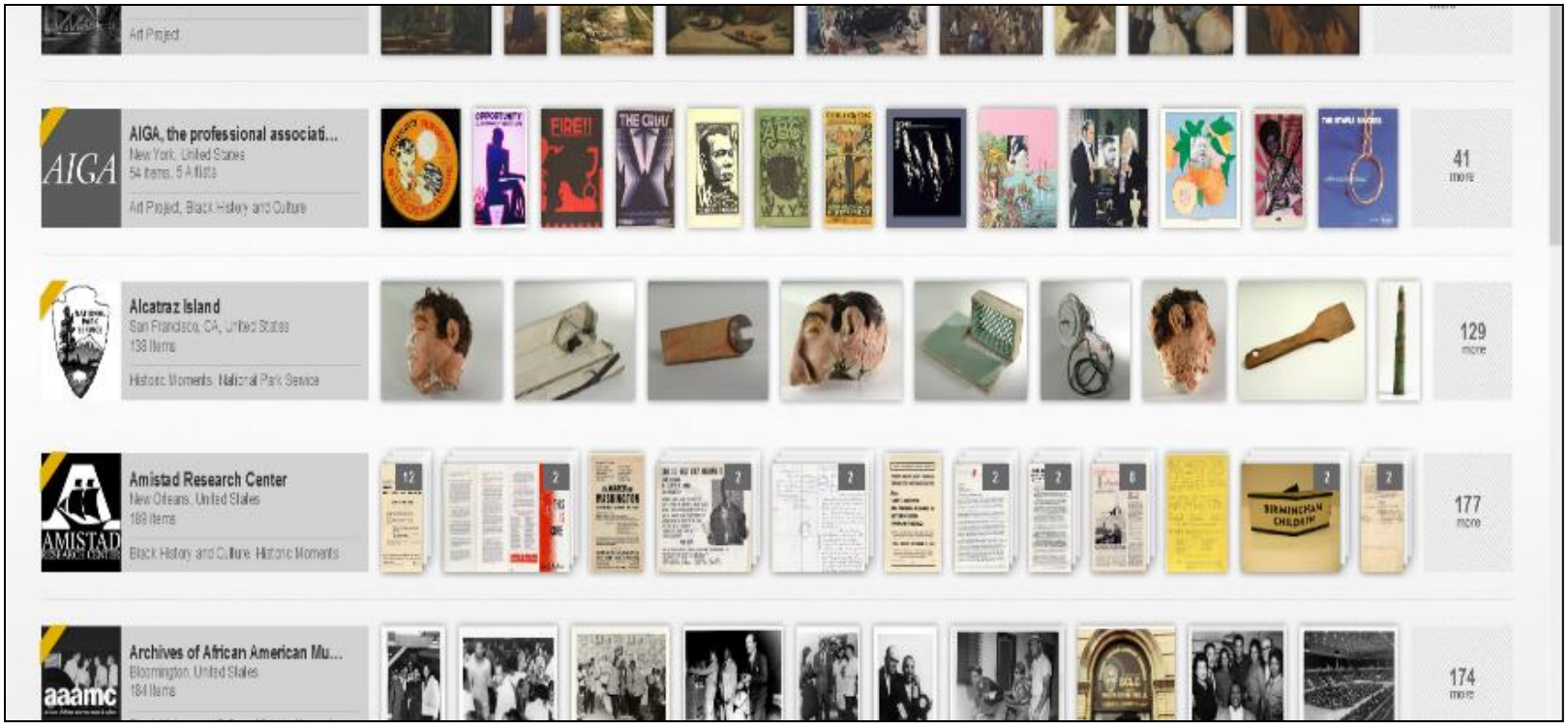


Figure 13 – Example of the collection search page on the *Google Cultural Institute* website. Users may search by keyword or visually browse the thumbnails to find collections that interest them. Image source: https://www.google.com/culturalinstitute/u/0/collections.

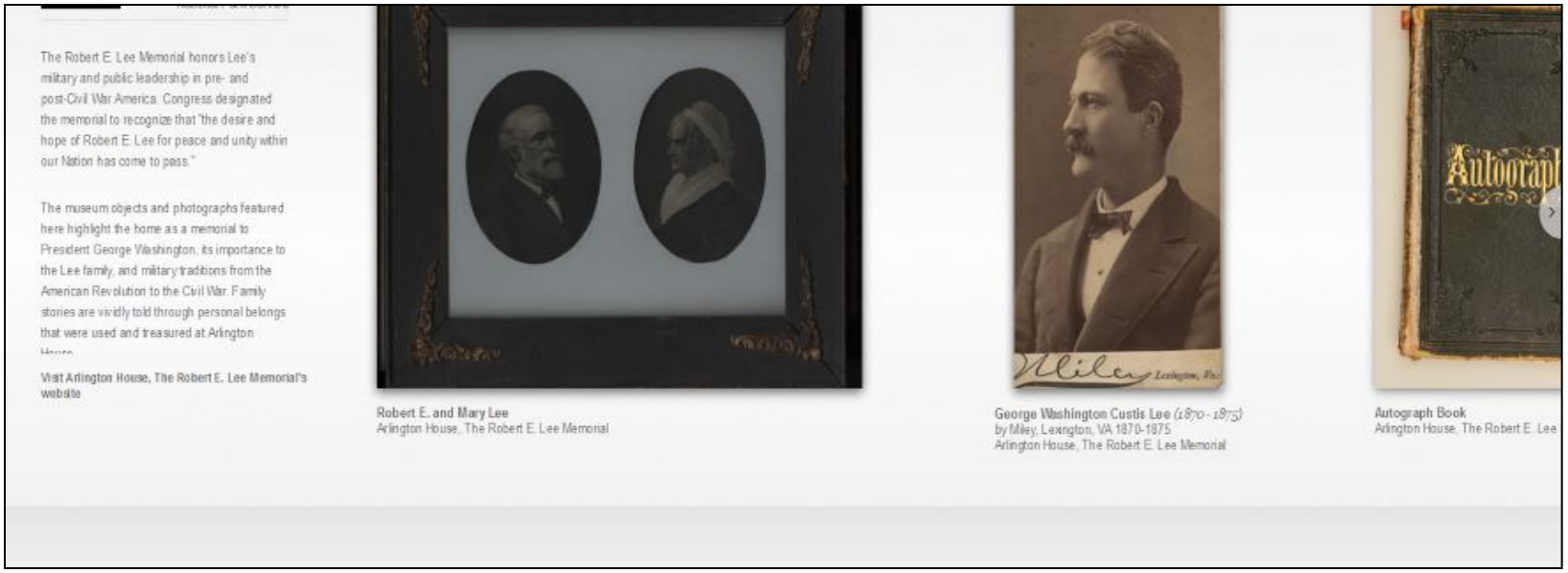


Figure 14 – Example of an individual collection page on *Google Cultural Institute*. Users may browse the images of highlighted materials as well as learn more about the museum that holds the collection. Image source: https://www.google.com/culturalinstitute/u/0/collection/arlington-house-the-robert-e-lee-memorial.

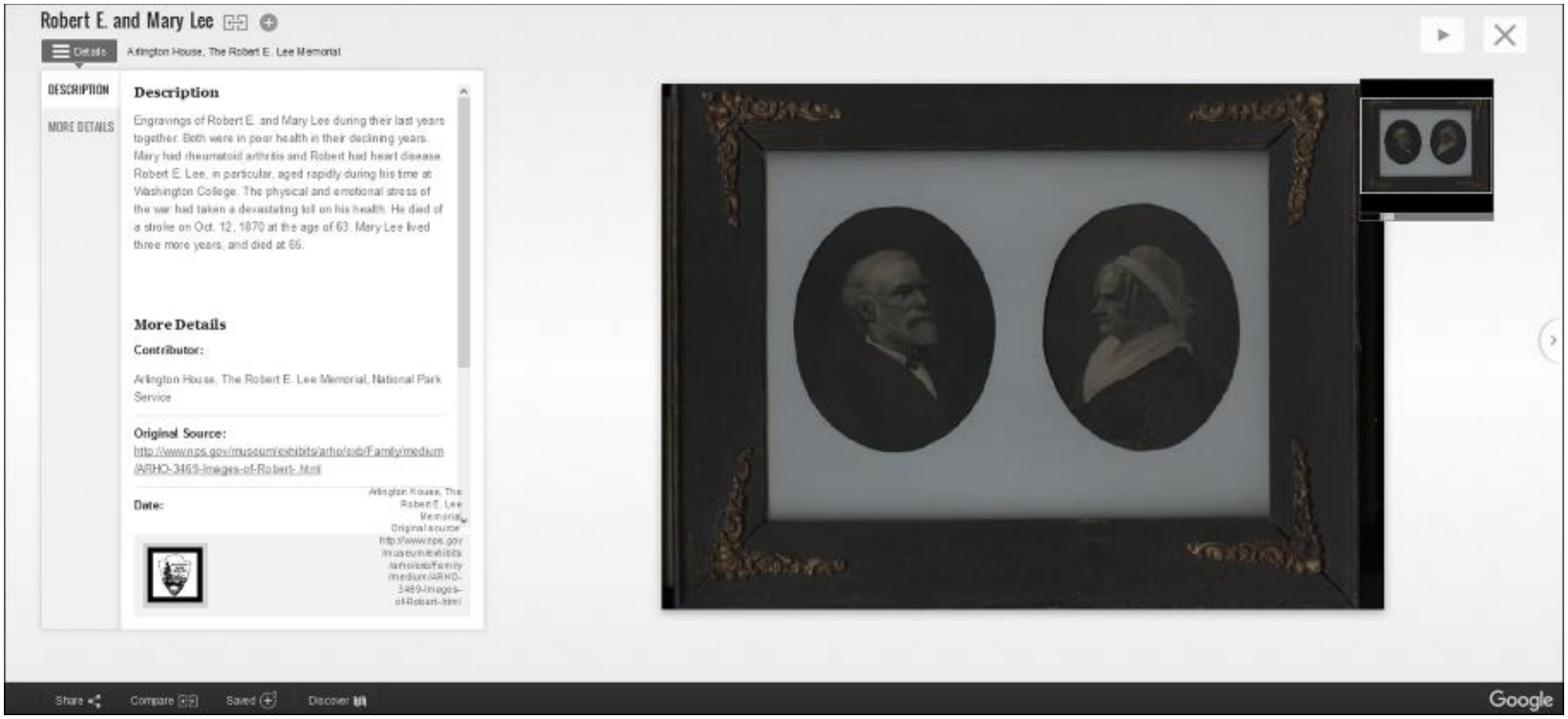


Figure 15 – Example of the single object-level detail page from *Google Cultural Institute*. Users may view a high resolution image of the object as well as learn more about the context of the material. Image source: https://www.google.com/culturalinstitute/u/0/asset-viewer/robert-e-and-mary-lee/WwHjXfUFWR81EA.

Chapter 4 – Problems with Collection Accessibility in Modern Museums

Publicity and the Push for Engagement

Archival repositories, such as libraries and historical societies, house a wealth of historic collections which are presently being under-used by the public. This is likely the result of a two-pronged issue: the public is unaware that these institutions exist to serve anyone who is interested; and institutions are not able to provide regular access to their collections outside of weekday business hours. To address this problem, many institutions are turning to the creation of online content[10] as a way to provide more comprehensive access to their materials. With these efforts come media campaigns to publicize the collections which draw public awareness. Furthermore, once the content is online, the collection material will appear in search engine results and may draw visitors who would otherwise be unaware of the material.

Paper-based collections, particularly photographic collections, are a valuable source of historic documentation. These collections can appeal to casual enthusiasts, interested in its visual appeal, and also to researchers, looking for documentary sources for their work. For increased use by all interested parties, these image collections should be digitized and made available in order to provide online, universal access.

For those members of the public who are more casual enthusiasts, visiting a research institution may seem daunting, especially if they do not have a specific interest in mind. Moreover, for visitors with causal interests, trips to institutions that have limited

[10] For the purposes of this paper, online content refers to any information at an object-level that is put online for researchers to use. Online content can range from a searchable catalog of materials to an exhibition. In order to put images of the objects online, they must first be photographed or scanned at a high resolution. This process will be referred to as digitization in this chapter.

open hours may be nearly impossible to warrant. However, online access to such collections would provide an avenue to engage with the materials at the leisure of those interested.

In order to be a functional research tool which replaces in-person research, the online content needs to go above and beyond online catalogs, which are intended as a way for researchers to understand the scope of an institution's holdings. Online catalogs lack a narrative and are usually only populated by thumbnail images, which are too small and of low resolution to be useful in research. This new type online content must host higher resolution images and be visually engaging, almost like an online exhibition

Online exhibitions have a structured narrative and a purposeful organization which are intended to captivate an audience. What constitutes an online exhibition is a flexible notion; it can range from online content of a physical exhibition to a web-only exhibition, arranged like a traditional museum exhibit, or the content can be more interactive, like the mapping interfaces discussed in the previous chapters. While there are drawbacks to online content as the sole representation of a museum's exhibitions and programs, online content can be an excellent way to complement and broaden a museum's educational and programming material.

Digitization of collections, particularly paper-based collections, and the designation of an online space to view the content, is one way to engage the public with materials which are otherwise difficult to obtain. It is also a way to tap into social media and encourage members of the public to view the online content which could expand the visitor pool beyond those who regularly visit the museum or institution.

Accessibility of Museum Collections

Not only are museums learning centers for the public, they are also research institutions that have been tasked with preserving and maintaining artifacts for the future. In order to retain as much knowledge as possible about material and its context, collections must be processed and records kept updated so that no information is lost. In the 19th and the first half of the 20th centuries, all excavation records, provenience data, and inventories were handwritten and kept in journals or notebooks (Buck 2010). There was no codified way to approach keeping museum records and, as a result, there is a high degree of variability in museum records from this time.

In the latter half of the 20th century, museums began to assemble these documents and make comprehensive computer databases and re-process old collections to new standards (Buck 2010). As new technology developed, these records were migrated to newer versions of databases. However, these endeavors are expensive and labor intensive.

Regardless, museum records must be accessible to those who seek them. By contemporary standards, the translation of paper records to digital format is the only solution since it allows not only for comprehensive storage of the material but also universal access.[11] Lanthrop *et al.* outline the four major issues with having written records and research material that has not been computerized:

1. Collections with non-computerized records are not widely known to researchers because they are not searchable in online catalogs

[11] Universal access to those who have been granted permission by the institution. It is less common for researchers to have to travel to an institution to read source documents than it was in the past.

2. Collections with non-computerized records (and more rigorous online content) are inaccessible to geographically disparate researchers if they do not have the budget for travelling
3. Collections with non-computerized records are difficult for researchers to use because they rely on museum staff for their institutional memory and use (2010).

Computerizing inventories and amassing source records into a single, online database is in keeping with the basic tenet of museums which is to store and provide access to research materials.

These concepts can also be applied to the argument for digitizing (creating high resolution images through photographing or scanning) image collections that are then put online for public access. Though an expensive and labor-intensive project, digitizing materials and producing online content that is functional for in-depth research can reach an untapped audience and expand the ways the collections are used.

Chapter 5 - A New Mapping Interface: Promoting Public Engagement and Collection Legacy

FlipKit – A New Approach to Mapping Interfaces

In response to the problem of accessibility of cultural material, groups have started to create websites based around photographic collections that are geolocative, such as those discussed in Chapter 3. These are essentially online exhibitions of particular collections, sometimes produced by institutions and other times produced by third-party groups, with permission. However, those mapping interfaces are not without issues and no single mapping model contains all the elements necessary to be functional for people of all ages and interest levels.[12] With that in mind, for this thesis project, I collaborated with Thomas G. Smith to create FlipKit.[13] This is a customizable software package, intended to be used as a template for fully functional historic photograph mapping interfaces.

FlipKit is the software template for a mapping interface which overlays historic image collections onto Google Street View. FlipKit was designed to incorporate all the high utility features of other mapping models with new features to enhance user experience, such as the use of Google Street View. Just like the other mapping models, the FlipKit map interface provides public access to the image collection, as long as internet access is available. It also provides a new lens through which to view geolocative

[12] It is acknowledged that each of those mapping models (*Old San Francisco, Histories of the National Mall, Historic Aerials, and Google Cultural Institution*) were designed for a particular collection with an intended, limited audience. However, there are ways in which each mapping model could be improved in order to appeal to a larger audience.

[13] FlipKit is the result of a collaboration between Jessica E. Richardson, the author, and Thomas G. Smith, a professional Python programmer. Ms. Richardson approached Mr. Smith regarding her idea for a mapping interface and together they collaborated on the project and subsequent case study from January –May of 2016.

photograph collections, by arranging them on a map, rather than chronologically or alphabetically.

To demonstrate the research utility and features of FlipKit, I conducted a case study using a 4,000 plus historic photograph collection from the Historical Society of Washington, DC.[14] The collection used is the John P. Wymer Photograph Collection (SP 00052), an assemblage of photographs of Washington, DC, taken between 1948 and 1952. Wymer, an amateur photographer, wanted to document the urban evolution of the city in which he lived. The resulting content was the *Wymer's DC* website[15] which not only contains the mapping interface, but also the context of the collection and the FlipKit software. For a detailed description of the software behind FlipKit, see Appendix 1; for more on the process of building the map interface for the case study, see Chapter 6.

Educational and Academic Uses

Integrating historic image collections into a mapping interface like FlipKit will not only expand the ways the physical collection is already in use, but it will open new avenues of study since the collection can now be viewed through a different lens.

The physical Wymer collection (SP 0052) is held at the Historical Society of Washington, DC. Researchers may make an appointment to view the collection during the institution's open hours (24 hours per week). Once there, the first line of physical access to the collection is via surrogate copies made available in binders in the library. Researchers may examine those copies and request to see the originals if they need to

[14] A website with contextual information about the Wymer Collection and the case study can be found at http://www.wymersdc.com. The mapping interface which hosts the Wymer Collection can be found at http://map.wymersdc.com and can also be accessed from the website.
[15] Wymer's DC is located at http://www.wymersdc.com and the interface can be found directly at http://map.wymersdc.com.

view greater detail. If interested, researchers may obtain photocopies or scans of the images for a fee.

The Wymer Collection is also included on the Historical Society's online catalog which is a very useful tool for researchers. Each of the images has been cataloged by description and tagged with additional keywords that will help a researcher find what he or she needs. This is a particularly helpful feature as it allows researchers to enter keywords that pertain to their research, rather than have to sort through finding aids or the full collections to find relevant material.

However, any catalog is only useful if the information entered is correct. Sometimes entries get miscataloged or tagged with the wrong words which will limit the number of people who find the entry. Additionally, Wymer himself could have mislabeled a photograph which would also make the image more obscure in the database. Finally, the search feature is only as powerful as the programming behind it. Some search engines cannot automatically correct for spelling mistakes or search for spelling variations of the same word, such as searching for "First Street" versus "1st street." While an online catalog is a huge asset, there are still sources of error with using it unless the researcher is vigilant in his or her searches.[16]

The Wymer Collection has traditionally been used by researchers for gathering information about mid-twentieth century architecture of residential homes and

[16] This development of the Wymer case study required a thorough examination of the Wymer Collection data, accessible via the online catalog. Via the process of manually placing each photograph onto the map, over 100 errors were found within the catalog entries, ranging from typographical errors to a misidentification. Those errors were noted and will be submitted to the Historical Society of Washington, DC who will then update the catalog records. This project, in addition to creating a mapping interface, acted as a sort of rigorous data cleaning for the Wymer Collection which makes the collection more accessible via the online catalog.

commercial buildings. Because Wymer was so thorough in his project, he photographed many of the notable buildings and institutions in the city, as well as ordinary buildings and landscapes, which is an asset for historic research. For this reason, the Wymer Collection is often sought out by researchers as a source for obtaining historic images of particular buildings in the Washington, DC area.

However, with the organization of the Wymer images on a map, the collection can now be viewed through a different lens. With each image overlaid on its modern day equivalent image in Google Street View, researchers may now compare the changes in the landscape between the mid-twentieth century and present day. The map interface will allow for researchers to more efficiently study diachronic changes which have taken place throughout the city. With the filter feature on the interface, users may also search by type of building, such as places of worship, schools, residential areas, commercial buildings, etc.

The FlipKit map interface was designed to be functional for users of any age or skill level and has a range of features designed to support peoples' range of interest levels, from serious academic research to casual browsing. See Chapter 6 for a complete listing of interface features.

Potential Problems with Increased Access to Collections

With the digitization of any collection, there are increased risks taken on by the institution. With higher levels of public access the institution risks having image reproduction use and copyright violated. Precautions should be taken to avoid such violations, whether intentional or accidental. As first lines of defense against unlawful use, the right-click function to copy and paste an image should be removed from the

interface. Also, the images uploaded to the interface should be of a lower resolution than highest quality available from the institution. This will lessen the appeal of using the images without permission. This will incentivize the public to use the appropriate channels in order to obtain copies of the image.

Additional safeguards have been put in place on the FlipKit interface to give clear attribution of the images to their owner. Each image is hyperlinked to its corresponding catalog page on the Historical Society of Washington, DC's website. On the interface itself, the Historical Society is acknowledged as the owner of the photographs. Finally, there is a link on the interface to the complementary website which has sections devoted to rights and permission information as well as corresponding links to the Historical Society webpage.

A mapping interface such as the Wymer case study project should never be done without full permission and understanding of the project by the institution which holds the collection. With an understanding in place, the developer may obtain higher resolution images to use on the project. Additionally, the developer would have the support of the institution and they may do joint publicity and social media campaigns. Projects such as digitally integrating historic collections onto mapping interfaces are time consuming but with the right tool and publicity, there is huge payoff for both the members of the public who benefit from such a tool and the collection itself as the website helps ensure its legacy.

Chapter 6 - *Wymer's DC*: A Case Study for Mapping Models of Historic Image Collections

Project Rationale

Washington, DC is more than just the seat of the Federal government; it is a complex city with a diverse demographic and a rich cultural history, independent of its Federal association. Washington as a city can be overlooked because of its ties to bureaucracy and the misconception that Washington is populated only by politicians.[17] Washington has an identity independent of the Federal government and a unique cultural history that is worth celebrating and exploring.

This project was developed in order to explore local Washington culture by examining the evolution of the built environment and the urban changes to the landscape between 1950 and 2016. It is hoped that this project will encourage Washington residents to learn more about the city in which they live.

Introduction to the Collection

With this mission in mind, the author deemed the John P. Wymer Collection (SP 00052) of the Historical Society of Washington, DC the perfect candidate for an educational mapping interface. As one of the Historical Society's most used collections, this collection was an early candidate because it would allow increased access to such an in-demand collection. However, the story of the collection and the photographer, John Wymer, is compelling in its own right.

[17] Washington, DC, as of 2015, has a population of 672,228 people, spread out over 68 square miles. These statistics were sourced from the United States Census Bureau.

John Wymer (October 19, 1904 – January 12, 1995) was an employee of the Bureau of the Standards who relocated to Washington, DC from California in the 1930s (Amsler 1997). An amateur photographer and a non-native Washingtonian, Wymer embarked on an urban photography project as a way to document the city he now called home.

A driven and methodical man, Wymer organized his project by dividing a map of the city into equal sized areas (Figure 16). He then meticulously photographed sample blocks from each area, resulting in over 6,000 black and white photographs taken on a Pentax camera (Amsler 1997). See Appendix 3 for more information on how Wymer organized his project.

Unsatisfied with the quality of some of his work, he later discarded over 2,000 of the images and pasted the remaining photographs into photo albums, arranged by area. Additionally, for each area he hand-drew a small map and compiled a summary of his reflections (Figure 17). These were also put in the album along with the photographs. In total, the project lasted four years, from 1948 to 1952, completed during weekends and vacation time.

From the project's inception, Wymer recognized the powerful utility of his photographic collection for future Washingtonians as a lens through which to study the city as it was in the mid- twentieth century. He took care to document the demographics of each area (race, class status, etc.) in tandem with his photographs.

For several decades after the completion of the project, these photographs were largely unknown to Washington historians. Wymer, said to be a shy and reserved man, never shared his collection beyond his close circle of friends (Amsler 1997). Finally,

Wymer and this collection received recognition when, in 1978, Dr. James Goode, the noted DC historian, got word of the collection and persuaded Wymer to donate the albums to the Historical Society of Washington, DC. Since that time, the Wymer Photograph Collection has been one of the most used research collections at the Society. This collection is a true gem for historians due to its comprehensive coverage of the city and the limited time frame which provides an authentic snapshot of the city

Figure 16 – An image of Wymer's original map, divided into 57 areas. This object is part of the Wymer Collection (SP 0052) and is housed at the Historical Society of Washington, DC.

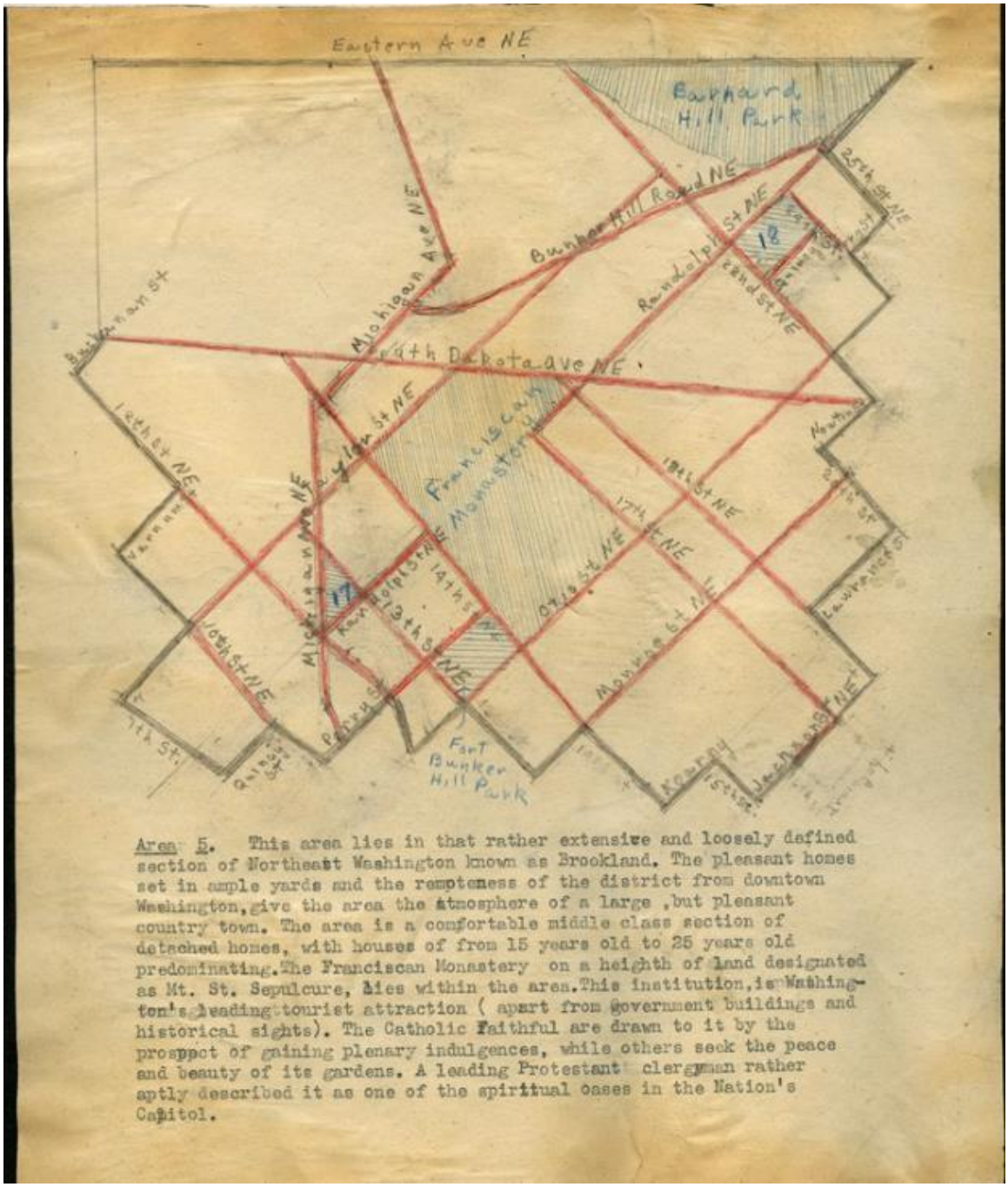


Figure 17 – Example of Wymer's Map and Area Descriptions. Image shown is Area 5, the neighborhood of Brookland. This object is part of the Wymer Collection (SP 0052) and is housed at the Historical Society of Washington, DC.

in the mid-twentieth century. Furthermore, Wymer's own reflections on the project are an equally authentic glimpse into how individuals viewed the city. See Appendix 4 for Wymer's summary of the importance of the project.

At the Historical Society of Washington, DC, the Wymer Collection is used primarily as a source for historic photographs of the city. DC residents and historians use the collection as a way to view what buildings and neighborhoods looked like between 1948 and 1952. Residents may be in search of their home or their neighborhoods. Professionals use the Wymer Collection for historical research (on topics like architecture, urbanization, gentrification, "greening of DC," etc.) and historic reconstruction. However, Wymer photographed more than residential buildings and his collection can be used to trace the evolution of places of worship, parks, commercial sites, and more throughout the city.

Audience

The intended audience or use for this project falls into two functional categories: educational use and personal or professional use. For educational purposes, this website would be a powerful tool to use in classrooms. There is such a diversity in the types of photographs taken by Wymer, that this collection could be explored by students through a myriad of lenses like transportation (buses, streetcars, automobiles, etc), neighborhood evolution, historic architecture, places of worship in Washington, study of racial diversity, etc. There are countless ways that this project could help school-age children understand and gain a more nuanced appreciation for their city.

The mapping interface also contains more rigorous features which cater to a more advanced or enthusiastic audience with particular research queries. The inclusion of the

advanced search features would cater to a more professional audience such as historians or casual enthusiasts who wish to research particular topics in DC history.

Project Team

The project team for the digital integration of the Wymer Collection onto the FlipKit interface was Jessica E. Richardson and Thomas G. Smith. Jessica Richardson developed the idea for the project and collaborated with Thomas Smith, a professional Python programmer for help with the technical part of the project.

Mr. Smith took on responsibility for building the software to produce the mapping interface while in communication with Ms. Richardson as to what features to include, layout, etc. Ms. Richardson conceptualized the project, received permission to use the Wymer Collection, created the corresponding webpage, and manually placed each image on the interface.

Support for this project came from Anne McDonough, Library and Collections Director at the Historical Society of Washington, DC, as well as numerous volunteers at the Historical Society who acted as a test audience and provided feedback on the interface during all stages of its production.

Technical Infrastructure

See Appendix 1 for an expanded section on the technical development mapping interface, written by Thomas Smith. See Appendix 2 for a complete list of reference links for each of the building blocks listed below.

Contextual Website:

- Website built using Squarespace

Map Interface Web Application:

- Client-side application built using the Google Maps API

- Image placement calculations based on the "Street View Overlay" example by Team Maps
- JavaScript libraries: jQuery, Mousetrap, UA-Parser, Porter-Stemmer

Data compilation:
- Excel
- Python
- Python libraries: parcon, tablib
- GraphicsMagick image processing package

Content Development and Approach

In order to create a fully functional project that could be useful for members of the public, independent from this thesis, both a map interface and a contextual website were created. The website acts as contextual base through which more details regarding the mapping interface can be obtained. This section will explore the rationale for the inclusion of each feature of the website and interface. Because this project was designed to be an improvement of the existing mapping interfaces, some features will be similar to the models explored in Chapter 3 and others will be new features to fill gaps in the site's utility.

Development of Contextual Website Features

The website is divided into six sections: Home; Wymer Collection; About Flipkit; Rights and Permission; Contact; and Help. The sections contain information related to the organization of the John P. Wymer Photograph Collection, the development of the *Wymer's DC* project, and the mapping interface software. This was intentionally done so that the site can be used as an independent source for historic research and does not rely on re-directing researchers to other sites for more information about the project components.

The homepage serves as an introduction to the material on the site. It introduces users to the Wymer collection and how the collection was integrated with the Google Street View (Figure 18). The homepage is also the official access point to the mapping interface. Users may click on a ward of DC to access the live, interactive map.

The Wymer Collection tab contains four different pages: 'John P. Wymer,' 'About the Collection,' 'Maps and Area Descriptions,' and 'In his own words.' Each of these sections provides useful information about Wymer and the photograph collection. The 'John P. Wymer' page is a short biography of Wymer (Figure 19); 'About the Collection' explains the basics of the collection structure and how it can be used for research (Figure 20); 'Maps and Area Descriptions' features images of all 57 of Wymer's hand-drawn maps and typed descriptions (Figure 21); and 'In his own words' is an essay Wymer himself wrote about the project (Figure 22). Each of these sections is a way for the reader to understand and connect with the Wymer Collection via either original documents or a summary of his work.

The 'About FlipKit' section is a brief overview of the mapping interface software that was designed for this project (Figure 23). The text of the page is written for a casual audience in order for the public to get a basic understanding of the impotence and potential for the interface template. There is also contact information available for anyone interested in pursuing a similar type of mapping project.

The Rights and Permissions page is a portal through which users may understand more about the copyright of the Wymer Collection (Figure 24). As the copyright is held by the Historical Society of Washington, DC, *Wymer's DC* disclaims any holdings over

the collection and re-directs all traffic to the appropriate pages on the Historical Society's website.

The Contact page on the website allows users the opportunity to learn more about the developers of the project and provides a way to contact them (Figure 25). A brief biography is provided for both Ms. Richardson and Mr. Smith. An email address, wymersdc@gmail.com, was specifically set up to receive any queries regarding *Wymer's DC*.

The final section of the website is the Help content. It is divided into two pages: 'Map Tutorial' (Figure 26) and a 'Frequently Asked Questions' page (Figure 27). The mission of the Map Tutorial page is to help users understand how to use the mapping interface to meet their needs. It is divided into two sections: Basics and Advanced. The Basics section details the features that are crucial to understanding how the mapping interface operates and the minimum that users need to understand. The Advanced section gives details on each supplementary feature on the interface which will enhance the user experience, such as the filter feature and search option. Finally, the FAQ page was added to expand upon issues touched upon in other areas of the website, such as copyright, image use, and project development.

With an emphasis on making a website which could be a standalone, comprehensive tool for the public to use, each of these six sections seemed necessary to include on the website. Users can go to the website to learn more context about the collection, the type of software used to make the interface, as well as find answers to any other question they may have.

Development of Mapping Interface Features

The map interface was designed to be compatible with users of differing interests and skill levels. For this reason, the most basic features necessary to use the interface are simple in design. There are more advanced features which can be used by users who choose to do so, but the visual presence of those features on the screen is not overwhelming. The result is a clean and streamlined interface which can accommodate anyone from a casual user to a professional in the field.

The interface is divided into two fields: the left hand side is the Map View screen and the right hand side is the Street View screen. The screens operate in tandem to give the user both an immersive experience via the Street View, a traditional map view screen for

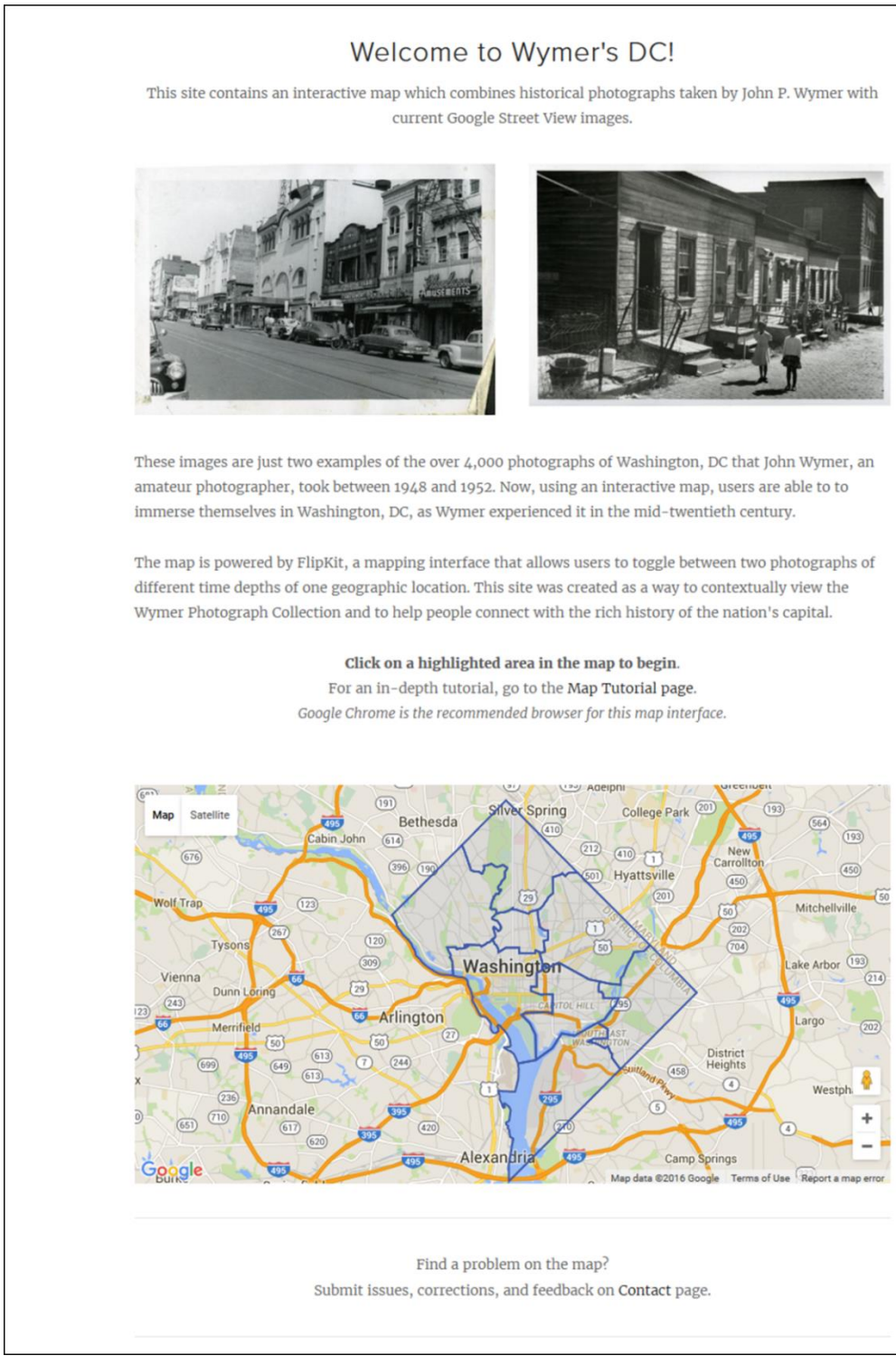


Figure 18 – The *Wymer's DC* Homepage. On this page, users may access all other pages, access the map, and learn the basics of the project.

John Philip Wymer

October 19, 1904 – January 12, 1995

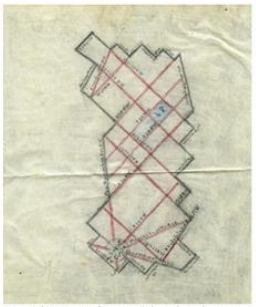
Wymer was a California native who moved to the Washington area in the late 1930s. He worked as a statistician at the Bureau of Standards and was a resident of Cleveland Park. As a non-native Washingtonian, Wymer embarked on an urban photography project as a way to document the city in which he lived.

A driven and methodical man, Wymer organized his project by dividing a map of the city into equal sized areas. He then meticulously photographed sample blocks from each area, resulting in over 6,000 black and white photographs taken on a Pentax camera.

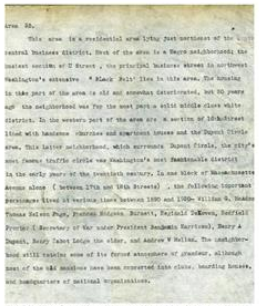
John P. Wymer, 1950 (WY 4000). Image courtesy of the Historical Society of Washington, DC.

The areas of the city, as divided by Wymer. Image courtesy of the Historical Society of Washington, DC.

Dissatisfied, he discarded over 2,000 of the images and pasted the remaining photographs into photo albums. Additionally, he hand-drew a small map as well as compiled a summary of his reflections on each area. These were also put in the album along with the photographs, arranged by area. In total, the project lasted four years, from 1948 to 1952, completed during weekends and vacation time. Visit the **Map and Area Description** page for a complete listing.



Area 35, the area east of Dupont Circle, as drawn by Wymer in 1949. Image courtesy of Historical Society of Washington, DC.



Description of Area 35 as Wymer viewed it, circa 1949. Image courtesy of the Historical Society of Washington, DC.

Wymer recognized the powerful utility of his photographic collection for future Washingtonians as a lens through which to study the city as it was in the mid-century. He included **the following poem** on the first page of the album:

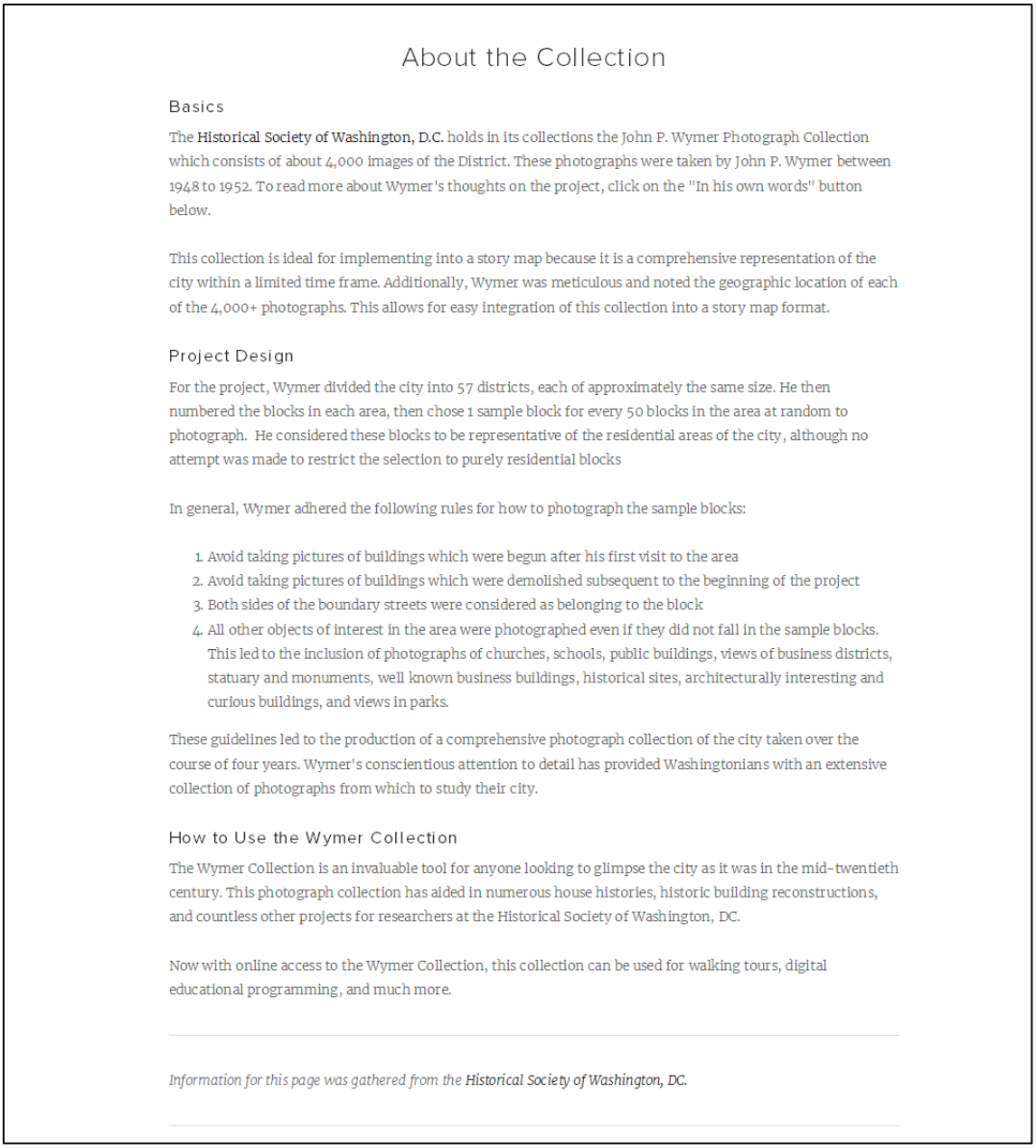
To a Young Historian
~
If Washington tonight were hid
In ashes as was once Pompeii,
Some one, as Bulwer-Lytton did,
Would sometime have a word to say.
And he would always seek, of course,
An excellent primary source.
~
On looking back to 1950
This future Toynbee, Beard, or Scott,
Would find that Jack's three books are nifty
And he would use them, like as not,
To see our town, as it appears
Across the intervening years.
~
So don't give up, Jack, gifts I bear,
Procured by this, your humble rhymer.
And all salute that noble pair,
Herodotus and John P. Wymer.
Littera scripta manet. Paucis verbis:
Nosce te ipsum. Ars longa, vita brevis.

For several decades, these photographs were largely unknown to Washington historians. Finally, Wymer and this collection got the recognition they deserved when, in 1978, Dr. James Goode, the noted DC historian, got word of the collection and persuaded Wymer to donate the albums to the **Historical Society of Washington, DC**. Since that time, the Wymer Photograph Collection has been one of the most used research collections at the Society.

Information for this page was gathered from **Goethe Institut** and the **Historical Society of Washington, DC.**

For more information on the life of John P. Wymer, please refer to Sarah S. Amsler's article in 1997 issue (volume 9) of *Washington History* called, "Washington in the Mid-Century: Wymer's Photo Survey, 1948-1952." Available through the **Historical Society of Washington, DC** and JSTOR.

Figure 19 – The biography page of John Wymer on the *Wymer's DC* website. Source: http://www.wymersdc.com/john-p-wymer/



About the Collection

Basics

The Historical Society of Washington, D.C. holds in its collections the John P. Wymer Photograph Collection which consists of about 4,000 images of the District. These photographs were taken by John P. Wymer between 1948 to 1952. To read more about Wymer's thoughts on the project, click on the "In his own words" button below.

This collection is ideal for implementing into a story map because it is a comprehensive representation of the city within a limited time frame. Additionally, Wymer was meticulous and noted the geographic location of each of the 4,000+ photographs. This allows for easy integration of this collection into a story map format.

Project Design

For the project, Wymer divided the city into 57 districts, each of approximately the same size. He then numbered the blocks in each area, then chose 1 sample block for every 50 blocks in the area at random to photograph. He considered these blocks to be representative of the residential areas of the city, although no attempt was made to restrict the selection to purely residential blocks

In general, Wymer adhered the following rules for how to photograph the sample blocks:

1. Avoid taking pictures of buildings which were begun after his first visit to the area
2. Avoid taking pictures of buildings which were demolished subsequent to the beginning of the project
3. Both sides of the boundary streets were considered as belonging to the block
4. All other objects of interest in the area were photographed even if they did not fall in the sample blocks. This led to the inclusion of photographs of churches, schools, public buildings, views of business districts, statuary and monuments, well known business buildings, historical sites, architecturally interesting and curious buildings, and views in parks.

These guidelines led to the production of a comprehensive photograph collection of the city taken over the course of four years. Wymer's conscientious attention to detail has provided Washingtonians with an extensive collection of photographs from which to study their city.

How to Use the Wymer Collection

The Wymer Collection is an invaluable tool for anyone looking to glimpse the city as it was in the mid-twentieth century. This photograph collection has aided in numerous house histories, historic building reconstructions, and countless other projects for researchers at the Historical Society of Washington, DC.

Now with online access to the Wymer Collection, this collection can be used for walking tours, digital educational programming, and much more.

Information for this page was gathered from the Historical Society of Washington, DC.

Figure 20 – The About the Collection page on the *Wymer' DC* website. Source: http://www.wymersdc.com/about-the-collection/

Maps and Area Descriptions

As part of this photography project, John Wymer divided the city into 57 roughly equal areas and then photographed a sample block from each. For each area, he produced a hand-drawn map as well as a summary of his reflections on the area. This page contains those maps and area descriptions.

In the descriptions, his choice of language is an authentic representation of the attitudes of some people in the mid 20th century. Much can be learned about the frame of mind of middle class, white, urban Americans by reading his text. These descriptions and photographs are a brief, but immersive glimpse into how Wymer viewed the people and city of Washington, DC. To read more of Wymer's writing, visit the 'In his own words' page.

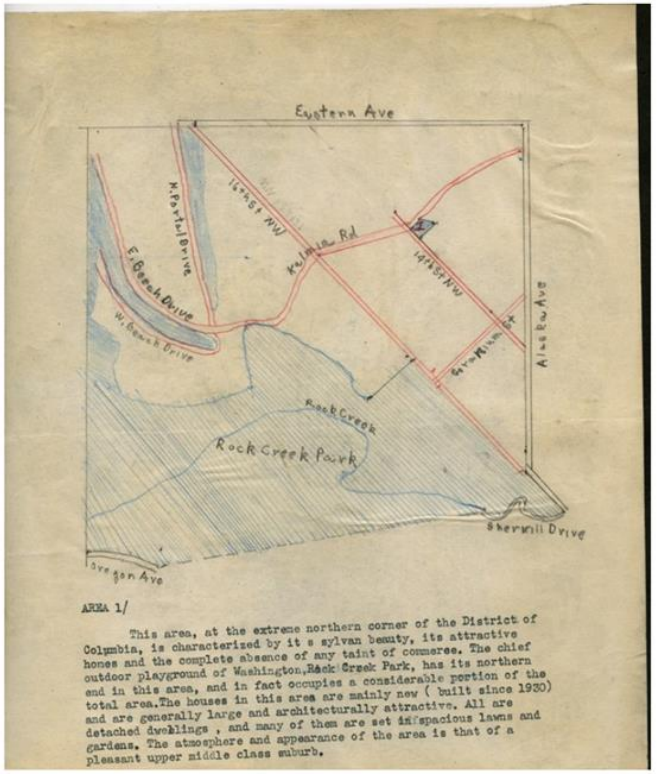
To navigate this section quickly, click on the hyperlink for the area you want to jump to that section.

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 20 / 21 / 22 / 23 / 24 / 25 / 26 / 27 / 28 / 29 / 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 38 / 39 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 48 / 49 / 50 / 51 / 52 / 53 / 54 / 55 / 56 / 57

City Map

The areas of the city, as divided by Wymer. Image courtesy of the Historical Society of Washington, DC

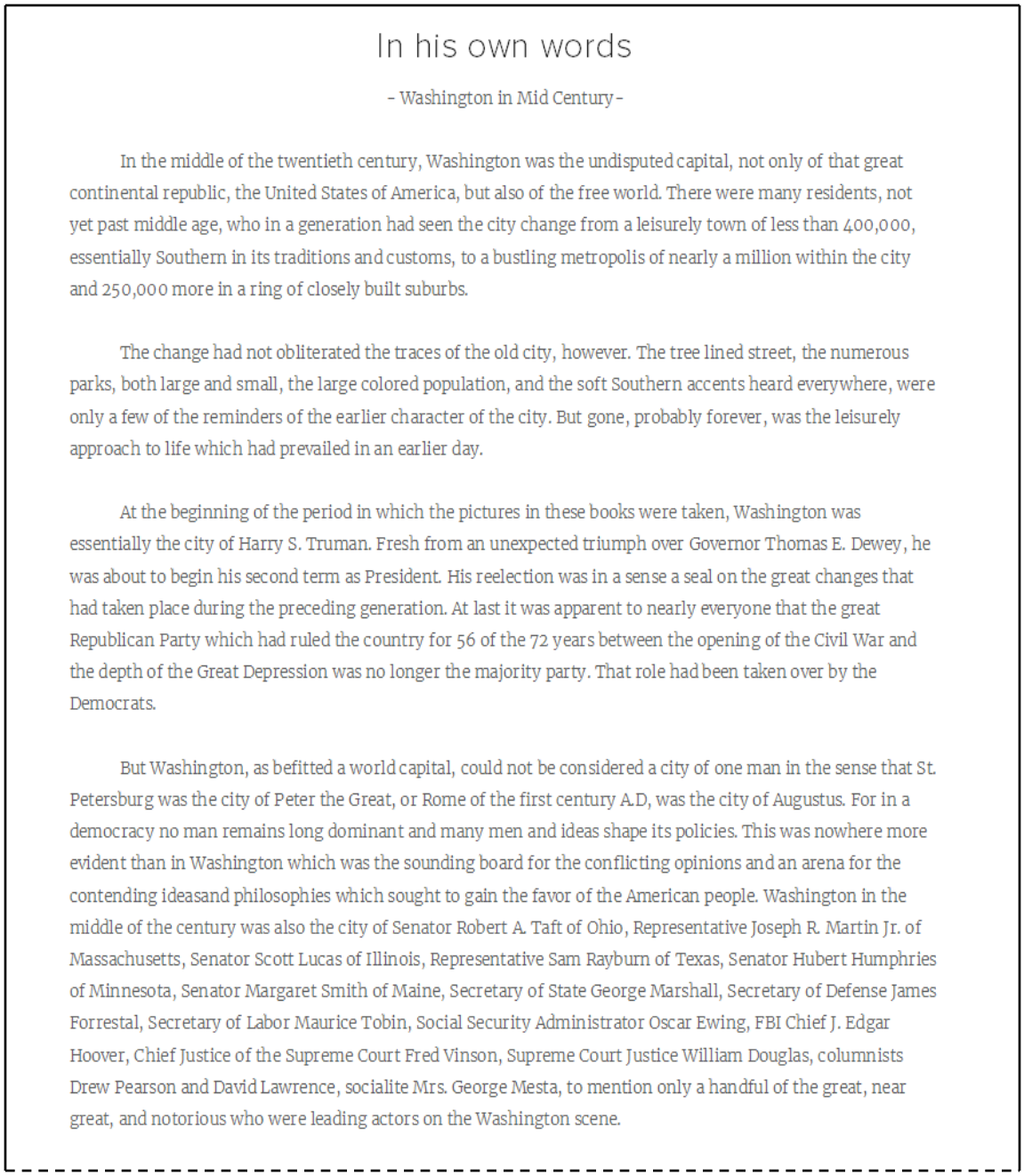
Area 1



AREA 1/

This area, at the extreme northern corner of the District of Columbia, is characterized by it s sylvan beauty, its attractive homes and the complete absence of any taint of commerce. The chief outdoor playground of Washington, Rock Creek Park, has its northern end in this area, and in fact occupies a considerable portion of the total area. The houses in this area are mainly new (built since 1930) and are generally large and architecturally attractive. All are detached dwellings , and many of them are set in spacious lawns and gardens. The atmosphere and appearance of the area is that of a pleasant upper middle class suburb.

Figure 21 – The Maps and Area Descriptions page on the *Wymer' DC* website. Source: http://www.wymersdc.com/map-and-area-description/



In his own words

- Washington in Mid Century -

In the middle of the twentieth century, Washington was the undisputed capital, not only of that great continental republic, the United States of America, but also of the free world. There were many residents, not yet past middle age, who in a generation had seen the city change from a leisurely town of less than 400,000, essentially Southern in its traditions and customs, to a bustling metropolis of nearly a million within the city and 250,000 more in a ring of closely built suburbs.

The change had not obliterated the traces of the old city, however. The tree lined street, the numerous parks, both large and small, the large colored population, and the soft Southern accents heard everywhere, were only a few of the reminders of the earlier character of the city. But gone, probably forever, was the leisurely approach to life which had prevailed in an earlier day.

At the beginning of the period in which the pictures in these books were taken, Washington was essentially the city of Harry S. Truman. Fresh from an unexpected triumph over Governor Thomas E. Dewey, he was about to begin his second term as President. His reelection was in a sense a seal on the great changes that had taken place during the preceding generation. At last it was apparent to nearly everyone that the great Republican Party which had ruled the country for 56 of the 72 years between the opening of the Civil War and the depth of the Great Depression was no longer the majority party. That role had been taken over by the Democrats.

But Washington, as befitted a world capital, could not be considered a city of one man in the sense that St. Petersburg was the city of Peter the Great, or Rome of the first century A.D, was the city of Augustus. For in a democracy no man remains long dominant and many men and ideas shape its policies. This was nowhere more evident than in Washington which was the sounding board for the conflicting opinions and an arena for the contending ideasand philosophies which sought to gain the favor of the American people. Washington in the middle of the century was also the city of Senator Robert A. Taft of Ohio, Representative Joseph R. Martin Jr. of Massachusetts, Senator Scott Lucas of Illinois, Representative Sam Rayburn of Texas, Senator Hubert Humphries of Minnesota, Senator Margaret Smith of Maine, Secretary of State George Marshall, Secretary of Defense James Forrestal, Secretary of Labor Maurice Tobin, Social Security Administrator Oscar Ewing, FBI Chief J. Edgar Hoover, Chief Justice of the Supreme Court Fred Vinson, Supreme Court Justice William Douglas, columnists Drew Pearson and David Lawrence, socialite Mrs. George Mesta, to mention only a handful of the great, near great, and notorious who were leading actors on the Washington scene.

Figure 22 – The In his own words page on the *Wymer's DC* website. This is John Wymer's reflection on his photography project. Source: http://www.wymersdc.com/about-the-project/

FlipKit

What is it?

FlipKit is a map interface with a built-in toggle mechanism which allows users to rapidly flip between modern Google Street View images and another image assemblage of their choice. FlipKit was designed in order to provide users with contextual foundation for an historic image collection.

We live in an age where digital content of material is necessary in order for the majority of the public to have regular access to it. FlipKit was designed as a way to provide greater accessibility to beautiful and informative historic photograph collections that are currently being underutilized due to a lack of easy access. Historic photograph collections are a valuable component of our present and FlipKit allows for easier access to the images while at the same time rooting them in their geographic context.

What can it be used with?

FlipKit can be used for many different types of image collections, not just historic photographic collections, like the Wymer Collection on this site. Any images with a known location can be embedded into a map and used with FlipKit. Archaeological site re-creations (drawings) could also be used with FlipKit, as could artistic renderings of real places.

Side by side comparison of Wymer's photograph (WY 0196.03) and Google Street View, both taken at Oglethorpe Street NE looking east from New Hampshire Avenue NE.

How can I use it?

The source code template for FlipKit is available for public use. It can be adapted for an academic purpose or for general use. For more information regarding FlipKit, please contact Thomas G. Smith via the contact page.

The FlipKit software is open source under the terms of the MIT License:

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Figure 23 – The FlipKit informational page on the *Wymer's DC* website. Source: http://www.wymersdc.com/about-flipkit/

Figure 23 – The Rights and Permissions page on the *Wymer's DC* website. Source: http://www.wymersdc.com/rights-and-permissions/

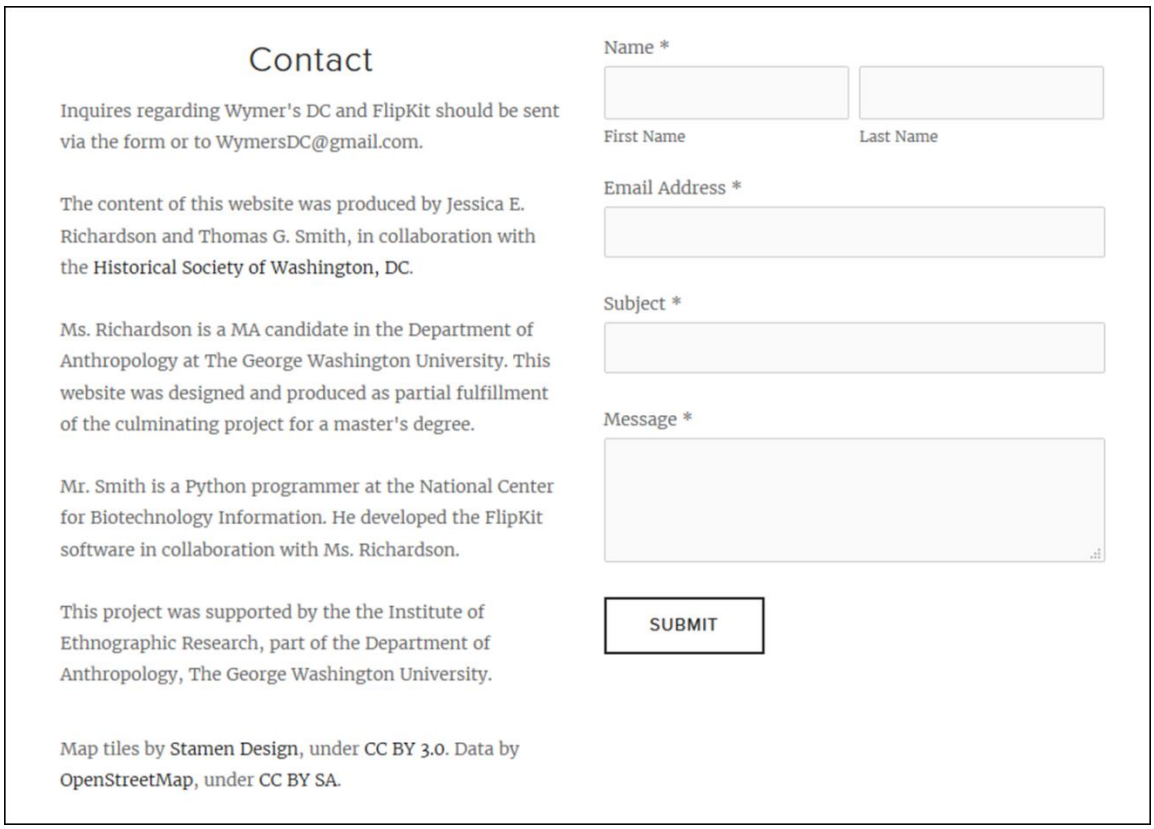
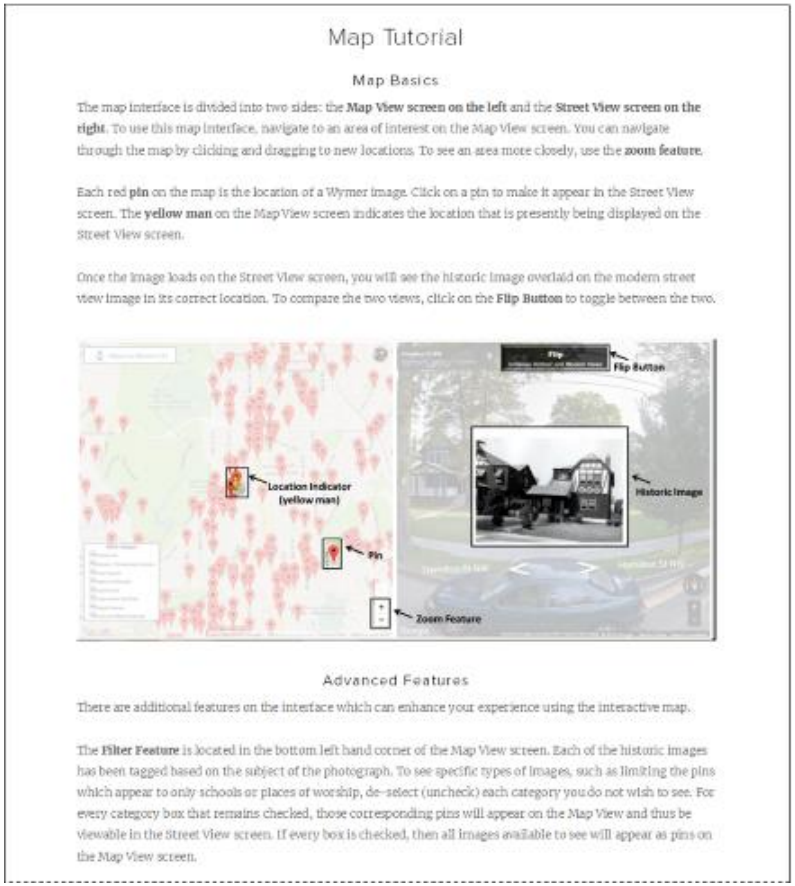


Figure 24 – The Contact Page on the *Wymer's DC* website. Source: http://www.wymersdc.com/contact/



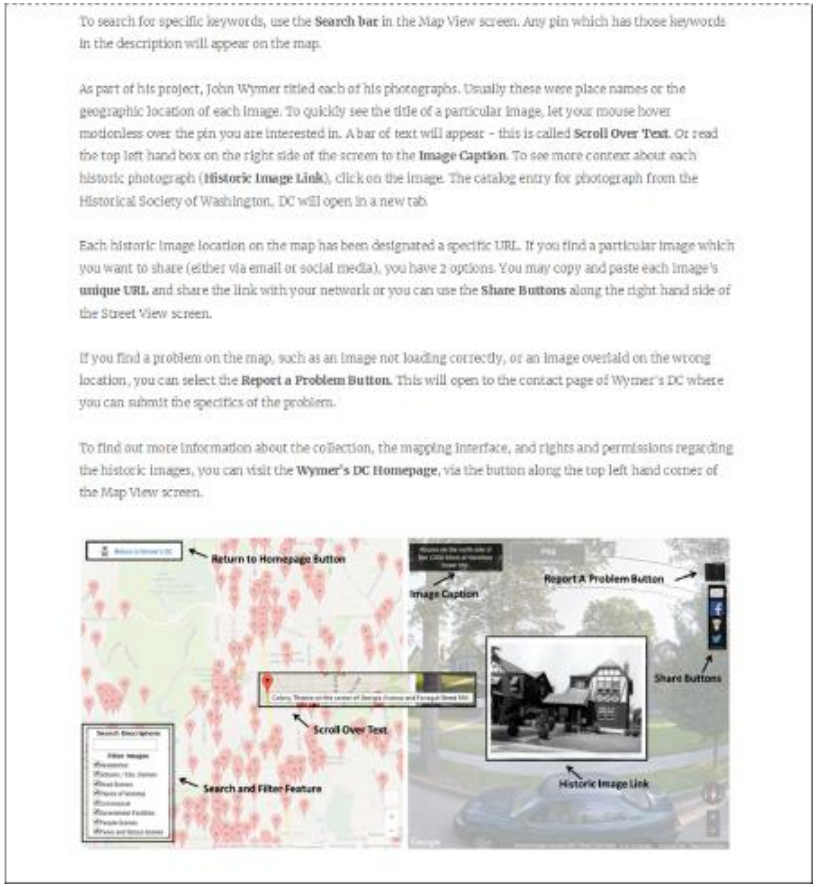
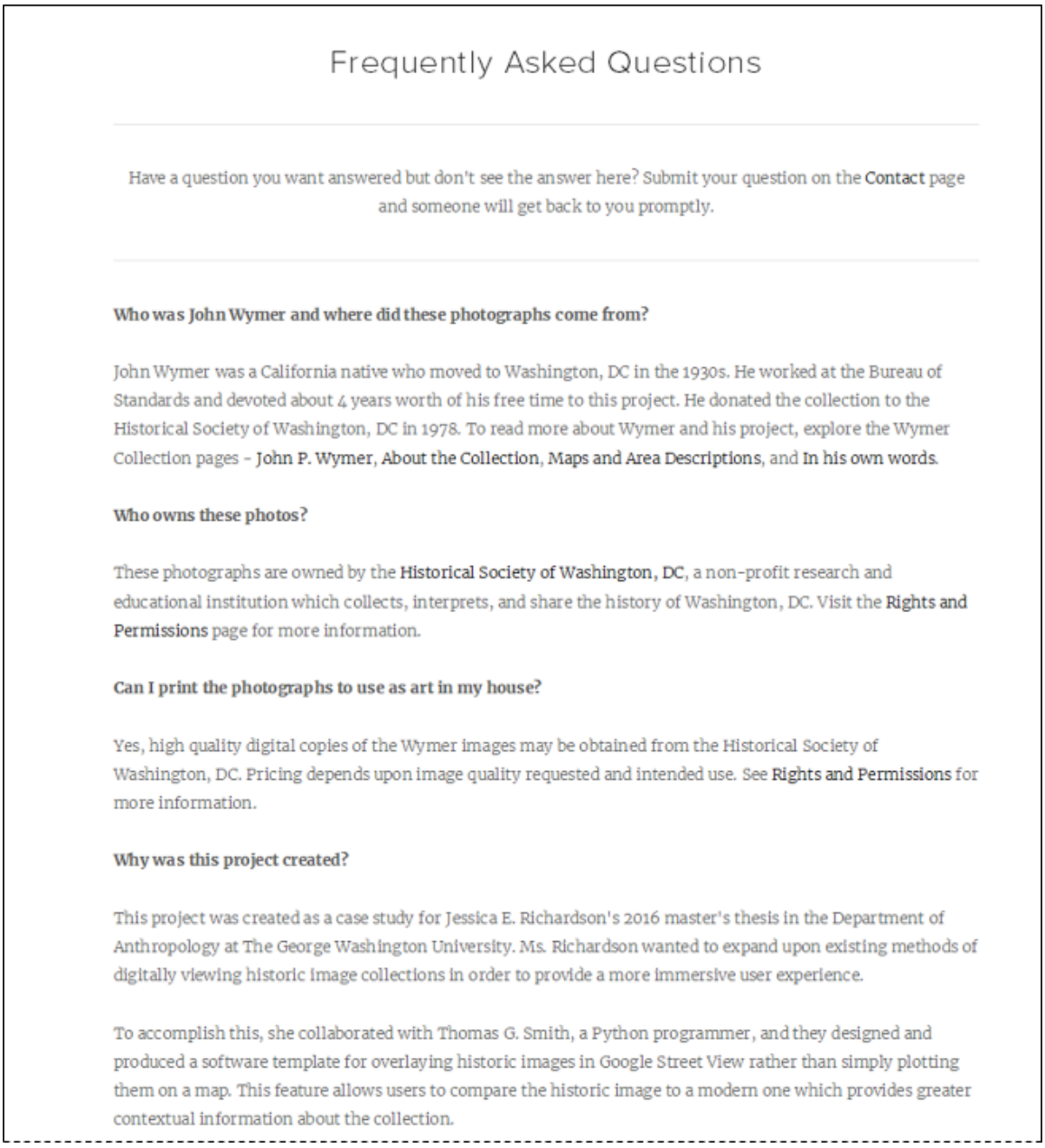


Figure 25 – The Map Tutorial page on the *Wymer's DC* website. Source: http://www.wymersdc.com/map-tutorial/



Frequently Asked Questions

Have a question you want answered but don't see the answer here? Submit your question on the **Contact** page and someone will get back to you promptly.

Who was John Wymer and where did these photographs come from?

John Wymer was a California native who moved to Washington, DC in the 1930s. He worked at the Bureau of Standards and devoted about 4 years worth of his free time to this project. He donated the collection to the Historical Society of Washington, DC in 1978. To read more about Wymer and his project, explore the Wymer Collection pages - **John P. Wymer**, **About the Collection**, **Maps and Area Descriptions**, and **In his own words**.

Who owns these photos?

These photographs are owned by the **Historical Society of Washington, DC**, a non-profit research and educational institution which collects, interprets, and share the history of Washington, DC. Visit the **Rights and Permissions** page for more information.

Can I print the photographs to use as art in my house?

Yes, high quality digital copies of the Wymer images may be obtained from the Historical Society of Washington, DC. Pricing depends upon image quality requested and intended use. See **Rights and Permissions** for more information.

Why was this project created?

This project was created as a case study for Jessica E. Richardson's 2016 master's thesis in the Department of Anthropology at The George Washington University. Ms. Richardson wanted to expand upon existing methods of digitally viewing historic image collections in order to provide a more immersive user experience.

To accomplish this, she collaborated with Thomas G. Smith, a Python programmer, and they designed and produced a software template for overlaying historic images in Google Street View rather than simply plotting them on a map. This feature allows users to compare the historic image to a modern one which provides greater contextual information about the collection.

Figure 26 – The Frequently Asked Questions page on the *Wymer's DC* website. Source: http://www.wymersdc.com/faqs/

positioning context. The Map View screen is populated with red pins, each of which indicates the presence of a historic photograph at that particular location. The Street View screen overlays the historic image onto the modern images from the perspective of the photographer. To see what the area appears like now, users may click the flip button at the top of the screen to toggle between the two views.

There are other features embedded on the interface which provided an enhanced user experience. Figure 28 provides an example of these features and their locations on the interface. Table 1 provides a comprehensive list of the components and features on the map interface as well as their functions.

User Experience and Content Testing

The mapping interface was shown to numerous people throughout the development process as a way to hear feedback and gauge usability. For example, the library volunteers of the Historical Society of Washington, DC provided user feedback on ease of use. In total, an estimated ten people viewed the website and mapping interface and provided feedback on how functional the site was. This test group ranged in age, skill, and interest in the collection, so a range of feedback was received in regards to how a sample of the demographic would use the site. Additionally, different types of technology were used to access the site and access its content, from different operating systems (Windows, Linux, Mac), to different browsers (Firefox, Chrome, Safari, Internet Explorer), to different types of devices (laptops, mobile phones, and tablets).

Based on user feedback, new features were added to accommodate gaps in the functionality of the interface. These include the incorporation of a search feature, the image captions box, and the linked catalog entry page. The user feedback has greatly enhanced

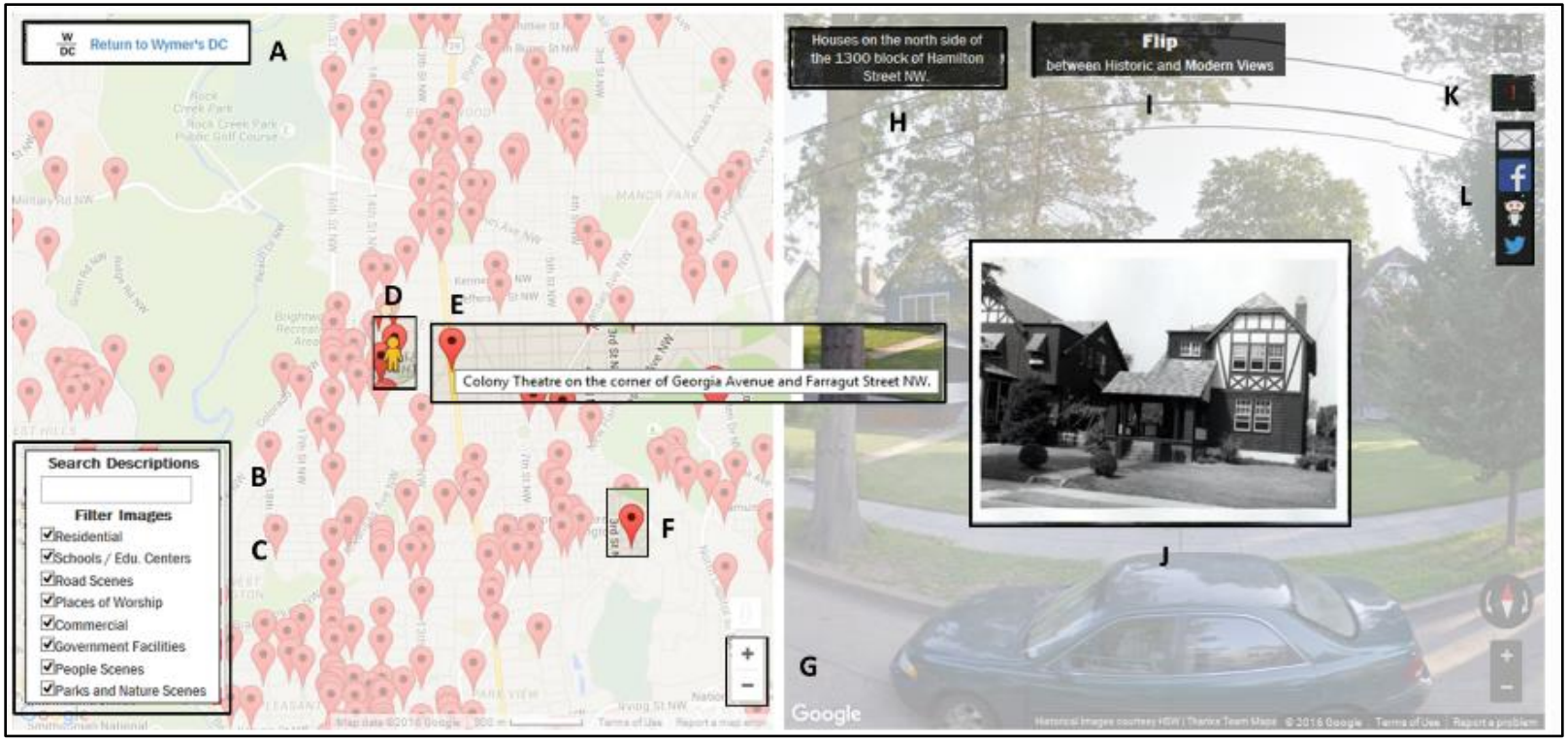


Figure 27 – View of the mapping interface of *Wymer's DC* and its features. (A) Return to *Wymer's DC* Homepage button; (B) Search Bar; (C) Image Filter Options; (D) Position Indicator; (E) Scroll Over Text; (F) Red pins indicate every location of an historic image; (G) Zoom button; (H) Image Caption; (I) Flip Button which toggle between historic and modern view; (J) Historic image which is linked to its catalog entry page; (K) Report a Map Error Button; (L) Share buttons Source: http://map.wymersdc.com

the utility of the site. As public use grows and direct feedback is received from the consumers, the site will continue to evolve as features are changed and added.

Public Use and Outreach

The digital integration of the Wymer Collection onto a mapping interface will increase public access to the material as well as help promote the legacy of the collection. Furthermore, the public can now use the collection in ways that were previously time prohibitive. For example, the search function and filter feature allow users to query the interface for specific keywords and view the collection *in situ* rather than in a list like an online catalog. With the new format, the public can easily conduct projects related to the change in landscape and architecture; trace the evolution of neighborhoods and demographics, and much more.

There are also ways for the public to become directly involved in the project. For the first phase of this project, only 2,300 of the 4,000 plus images in the collection have been scanned and mapped. A further subset of images could not be placed on the map for a number of reasons, such as Google Street View does not extend into that area or the precise location of an image could not be located due to extreme urban development. With a project like this, members of the public could help crowdsource the unfinished parts of the project by

1. helping to place remaining images on the map after another round of scanning
2. taking and uploading their own photographs of the uncharted areas into the Google PhotoSphere[18] which would allow the unchartable photographs to be incorporated onto the interface

[18] Google allows the public to take original photographs and upload them into the PhotoSphere. There, the photographs get automatically incorporated into Google Street View. This is particularly useful for areas that Google Street View does not cover, such as the grounds of public institutions (universities, museum complexes, etc) or public parks. For more information, visit the PhotoSphere site: https://www.google.com/maps/streetview/publish/.

3. helping to find exact locations for those photographs which could not be placed in the original round of image placement
4. provide funding to support the cost of digitizing the additional 1,700 Wymer images that are not yet scanned

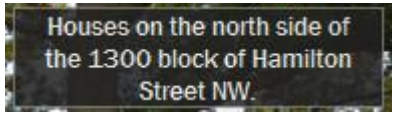
These methods for public involvement in the project could be done by any interested member of the public. Able-bodied people could volunteer to photograph the areas not covered in Google Street View while others may use their institutional knowledge of the city to place images whose locations had not been found. The technologically-skilled members of the public may be interested in the plotting process and volunteer to help place the remaining 1,700 images onto the map, once they are scanned.

FlipKit makes it possible for these types of mapping projects to be completed by third-party members who are not affiliated with an institution. For this type of project, the developers do not need administrative access to the museum databases for the entire extent of the project. Once permission is obtained from an institution, some information will need to be transferred such as a database of objects in the collection and copies of the scanned images. All other work can be completed independent of institutional help and does not require special access, particularly if the collection is accessible via an online catalog.

There are also opportunities for smaller projects which would complement the map interface. Students could conduct a public history project by visiting the sites of these historic images and conducting oral histories with older generations who remember the old sights of the city. The Wymer Collection, while it seems removed from modern day life, is actually not that old. There are many people still living who remember what Washington, DC was like in the

Table 1 – Map Interface Components and Functions

Feature / Component Image	Feature / Component	Location	Function / Details
	Filter Terms	Map View screen	Each historic photograph has been tagged with keywords that correspond to the subject of the photograph. Users can choose to view only specific types of photographs by deselecting boxes they do not want to view. The categories are residential, schools, road scenes, places of worship, commercial, government facilities, people scenes, and parks / nature scenes.
	Location Indicator	Map View screen	The yellow figure icon changes position on the Map View screen to the most recently selected pin. The historic image which is displayed on the Street View screen is identified on the Map View screen by the position of the yellow figure.
	Map Zoom Buttons	Map View screen	In the lower right hand corner of the Map View screen are two buttons – a plus and minus. By clicking one or the other, the Map View will zoom in or out, respectively. Zooming in allows for greater clarity on the exact location of the pins.
	Return to *Wymer's DC* Button	Map View screen	Located in the top left hand corner of the screen, this button allows users to access the *Wymer's DC* website and its related materials.

Feature / Component Image	Feature / Component	Location	Function / Details
	Scroll Over Text	Map View screen	The captions of the each image can be viewed by allowing the cursor to hover motionless over the red pin.
	Search Bar	Map View screen	Users may search the historic images by keywords in order to identify pins which fit their research query.
	Caption Box	Street View screen	Located in the top left hand corner of the street view, this box displays the caption of the image, as titled by Wymer.
	Explore Arrows	Street View screen	Users may navigate the landscape of the map by clicking the white arrows that appear near the ground on the Street View image. As they move down a street, red pins will appear on the Street View map. These mark the locations of nearby historic images.
	Flip Button	Street View screen	This button allows users to toggle between the historic and modern view of a particular location to observe diachronic changes to the landscape.

Feature / Component Image	Feature / Component	Location	Function / Details
	Linked Catalog Entry	Street View screen	Each historic image is hyperlinked to the corresponding catalog entry page on the website of the Historical Society of Washington, DC. To view, click on the image and the catalog entry will open in a new tab of the browser.
	Report an Error Button	Street View screen	If users find an error on the interface, such as a rotated photograph or an image placed in the wrong location, they may submit their findings by using this button.
	Share Buttons	Street View screen	If users wish to share a particular image with friends, colleagues or social media, they may use the share buttons to do so. Additionally, each image has a unique URL, so users may copy and paste that to share.

1950s. Now is the perfect time to gather as much first person perspective on the photographs of the collection while that generation is still healthy.

Challenges of the Project

This project was a large undertaking for a small team to accomplish in a limited amount of time (5 months). This section highlights the issues that the team faced while developing the project, as well as issues that could endanger the longevity of the project.

Mapping

For a mapping initiative like this, the developer must be willing to dedicate a huge amount to time to the production of the map. For the Wymer Collection, there was an existing layer of geolocative context in that Wymer himself recorded a general geographic location for each area. While an extremely useful starting place, each image still had to be manually placed in order to obtain the proper angle and most unobscured view. I estimate that each image took approximately 1 to 4 minutes to place on average.[19] In total, it took approximately 83 hours just to place 2,000 photographs on the map. This does not account for the production of other features of the project, such as adjusting the scaling and position of each image, building the website content, inter-developer collaboration on interface content, etc.

Furthermore, the placement time of each image was variable due to several factors:

1. Amount that the area had changed since Wymer took his photographs. Large amounts of development to an area made each image harder to place as there were fewer obvious landmarks.

[19] Wymer arranged his photographs geographically, so once the general area was found, many of the remaining photographs could be placed much more quickly than the first. It was moving to a new section that always took the longest to acclimate to.

2. How digitally accessible the area was via Google Street View (GSV). There is a feature on GSV which allows users to view archived images of the location from previous iteration of GSV in the area. Oftentimes, these archived images were consulted in order to determine if an image with better clarity, angle, or a more unobstructed view was possible than the most recent image (the default display).
3. How accessible the physical geographic location was via GSV. If the area was largely undocumented via GSV (private property, large public institutions like universities, museum complexes, government facilities, etc), more time was spent determining if it was possible to even place the image on the map.

Each of these reasons contributed to the approximately 300 images which were scanned but not able to be placed on the map. With more time or a greater institutional knowledge of the city, more of these images could be placed on the mapping interface. As previously discussed, crowdsourcing could be a way to solve this problem.

Sustainability

For this project to continue in the future, there will need to be an assured source of money in order to pay hosting fees, domain name licensing, and image storage costs. This amounts to approximately $120 per year, but could increase if site traffic necessitates the need for more advanced capabilities. Currently, Jessica Richardson bears all the costs associated with the site and will continue to do so for the foreseeable future.

In order for this project to grow, there needs to be a dedicated team of people willing to foster its path to progress. With an estimated 1,700 more images to scan and place on the map, there is as much as 200 hours of work left before the map can host all of the images in the Wymer Collection. As this project, and those like it, is unfunded and completely based on volunteers, this work takes place during evenings, weekends, and

vacation time. This time budget does not account for the time it would take to place those images which could not be placed during Phase 1 mapping.

Publicity

Finally, the last hurdle in making this a successful mapping project is actually informing people of its existence as a tool they could use. If no one knows about the mapping interface, then it goes unused, and thus the time spent producing it was wasted. Ways to inform and involve the public include

1. Informational flyers which could be set out at related cultural institutions such as libraries, historical societies, and museums.
2. Use of social media which targets the intended audience (Facebook group, Twitter account, etc.)
3. Academic publication in a topical journal or presentation at a related conference to attract an academic audience
4. Demonstration of the utility of the project to a casual enthusiast crowd (for example, onlookers at public gathering spaces like farmers markets, etc). Members of the public could use the site to find their homes, neighborhoods, places of business etc. That would be a way to connect with and energize an otherwise untapped audience.
5. Changes to the map interface allowing search engines to index the image descriptions (and possibly locations). This could allow people searching the public Internet for particular terms to come across images in the *Wymer's DC* collection.

To make the site successful and a worthwhile use of time, more energy must be expended in order to bring the site to the attention of the public.

Chapter 7 – Conclusion and Future Applications

Paper-based collections are often under-used by their target audience due to several factors such as lack of public awareness and inaccessibility for the public. One way to potentially increase public engagement with paper-based collections, while at the same time increasing accessibility, is to digitize the material for online content. This approach has increasingly become common as online technology become not only more widespread, but also more ingrained in everyday life.

In contrast to more traditional museum online content and exhibitions, some groups have re-envisioned how collections, like photographic collections, can be put online, such as through the use of a mapping interface. The integration of historic photograph collections on an interactive map not only serves as an online exhibition to the collection, but it is also a powerful research and educational tool. Websites like *Old San Francisco* and *Histories of the National Mall* are excellent examples of interactive maps which feature historic photographs, contextualized by their geospatial positioning.

However, these interfaces are not without flaws in their functionality which limits the efficiency of research which can be conducted using the maps as a tool. In answer to this, I have provided a new mapping interface, FlipKit. This interface has many of the same features as the other types of interfaces examined in this thesis, but it adds the use of Google Street View. This allows researchers to not only see the position of each photograph relative to another on a traditional mapping interface, but it also overlays the historic photograph in the correct position in Street View. The overall effect is a much more immersive experience for the user and it also makes the interface more compelling for casual users because of the greater visual context it provides.

It is my hope that others will use the software template of FlipKit to design and create their own mapping interfaces to showcase wonderful historic photograph collections. They are an invaluable tool for users in that they provide unlimited access to an otherwise restricted collection, whether by time or finances. The digital integration of collections onto mapping interfaces also helps to preserve the collection's legacy, by raising awareness and creating an online footprint.

While these types of projects are labor intensive and can be difficult to set up, FlipKit should help to ease the burden on anyone interested in doing a project like this because it lays out the foundation for the processes necessary to create a mapping interface. Based on the size of the collection as well as the team working on it, a project like this could be completed over the course of several months. It would make a great project for summer interns at museums or a small class of undergraduates or graduate students. Not only would they be actively involved with museum collections and issues such as public history and cultural heritage, but finite products would be created and available for the public at large to use.

Finally, it should be noted that FlipKit is a software package designed for the overlay of *any image* over its Google Street View equivalent. While a historic photographic collection was the subject of the case study, any geolocative image could be used. Possibilities include archaeological site re-creations, cultural heritage photographs, architectural drawings, and more.

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Appendix 1 - Technical Development Guide of FlipKit

Written by Thomas G. Smith[20]

https://github.com/tgs/FlipKit/

Part of the goal of the *Wymer's DC* project is to make components that can be re-used by other groups to make similar web sites. This document will help to guide such an effort.

Before technical work can begin, there are some very important limitations to consider:

First of all, this software package works by keeping data about every image in a single file that's downloaded by the user's web browser. This approach is not feasible for more than a few thousand images! If you want to display more than that, some elements of this project will still be applicable, but you will need to do significant development yourself.

Second, the code in this project makes it difficult for nontechnical users to save the images that they view. However, to view an image in a web browser *is to download it*. Because of this property of the World Wide Web, it's likely that any experienced web developer would be able to systematically download all of the images from a web site like this. All of the stakeholders should know this, and agree that the substantial accessibility and visibility advantages that can be gained for the collection are worth it. There are some actions you can take to make the images less useful to someone who tries to steal them: limit the image resolution, and add a watermark.

With that out of the way, we can move on to the technical work!

Initial Data Collection

For each image, the FlipKit system needs to know four high-level items.

An identity or accession number

This will become part of the URL of the view of the image, and is used internally for various tracking purposes.

A label or description

This will be shown when viewing the image, and is also used to allow users to search for images.

[20] Thomas G. Smith is a professional Python programmer at National Center for Biotechnology Information, part of the National Library of Medicine and National Institutes of Health. More of his work can be found at https://github.com/tgs.

One or more 'tags'

These tags are used to let users filter the images.

A Google Street View URL showing approximately the same scene

For each image, someone will need to use Google Maps and Street View to approximate the location of the camera when the image was taken. It's most important to get the location correct in this step because the precise orientation (the *direction* of the camera) can be fine-tuned later in the process.

It's a good idea to put together the data for a small number of images, maybe a dozen, and then begin work on the web development tasks (or hand the data off to the person who will do so). The earlier your team touches each distinct part of the project, the earlier any problems or opportunities can be identified.

Initial Web Development

You should start by thinking about your web hosting situation. There are two parts to the *Wymer's DC* web site. One, `www.wymersdc.com`, contains the introduction and project information, which was created using Squarespace, a flexible and easy-to-use web host with attractive templates. The other part is the map interface, which we placed on a subdomain, `map.wymersdc.com`, hosted on Amazon S3. This was accomplished by using the Squarespace console to set up a CNAME record for `map.wymersdc.com` pointing to the S3 bucket's static website hosting URL (`map.wymersdc.com.s3-website-us-east-1.amazonaws.com`). More details can be found in the many tutorials about hosting your web site on S3.

The FlipKit map interface should be easy to host in most situations, because it is purely a client-side application. It should be possible to host it from any web server that your organization may run. Alternatively, Amazon S3 may require less coordination in your organization, and it is incredibly inexpensive.

There are two parts to the code. First, we have the front-end, which is a single-page JavaScript application. It's assembled out of several purpose-written modules and a few libraries, using Browserify. The second part is the data collection machinery, which is written in Python with some Makefiles. The front-end shouldn't require many modifications to use in a new project, but the data-collection assumptions are more likely to need revision.

There are some UNIXisms in the code, such as the use of symbolic links, so the experience will be most seamless on a Mac or Linux computer. However, it should be perfectly possible to develop FlipKit web sites on Windows, too.

Getting started developing the FlipKit front-end

Start by making sure you have Node.js and Git installed on your system. Relatively old versions should be OK. Use git to download the project's source code, and then use NPM to install the development tools and some required libraries:

```
$ git clone git+ssh://TODO FIXME
....
$ cd flipkit
$ npm install .
```

Now, you should be able to use Gulp to build the web site:

```
$ node_modules/.bin/gulp
[19:48:04] Using gulpfile ~/src/flipkit/gulpfile.js
[19:48:04] Starting 'browserify'...
[19:48:04] Starting 'htmlReplace'...
[19:48:04] Finished 'htmlReplace' after 25 ms
[19:48:08] Finished 'browserify' after 3.95 s
[19:48:08] Starting 'default'...
[19:48:08] Finished 'default' after 7.5 µs
```

Now, the `dist` directory should contain the complete web site. In order to use the Google Maps API, you will need to run a web server here. If you have Python installed, you can use `python2 -m SimpleHTTPServer` or `python3 -m http.server`. Otherwise, Node certainly has web servers, for example the `gulp-webserver` package. At this point, you should be able to visit`http://localhost:8080/` (or whatever address you've had the dev server listen on) and see a demo version of the web site.

Once that works, you can begin replacing the demo image data with your own.

Getting started adding your own image data

Start with a few images. Make sure they are reasonably-sized JPEG files, and put them in `collection/800`. The filenames should be be the *identity or accession number* discussed earlier, with a lower-case `.jpg` extension.

Make a spreadsheet with exactly these column names: `imageID`, `TITLE`, `MAPS URL`, `Tag 1`, `Tag 2`, `Refined Position`, and `CAT Record URL`. You can change the names, but it's probably best to start with these and get it working first - you'll need to change various parts of the code too. At first, it's fine if all of the columns except `imageID` and `MAPS URL` are empty. Save the spreadsheet as a CSV file, and copy that file to `dbwrangle/current.csv`.

Change to the `dbwrangle` directory and run these commands:

```
virtualenv ./env
source ./env/bin/activate
pip install -r requirements.txt
make
```

Two things should happen: the `identify` program should collect information about all the images in `collection/800`, and the spreadsheet should get converted into a file called `locations.json`. If you copy this file to `js/imageList.json` and run the `gulp` command again, the web site should get built with your images!

It is very likely that you will need to edit `dbwrangle/make-json-url-db.py` at some point - it is the most direct interface with the spreadsheet/database. Your data format will probably be different from the one we used for *Wymer's DC* in some way or another.

Putting your version of the web site online for the first time

Google Maps requires an API key before it can be used in many situations. FlipKit is distributed with an API key that allows use on 'localhost', but not anywhere else. So you will need to change line four of `app.js` to read `GoogleMapsLoader.KEY = 'your key here!'`.

After rebuilding the site with Gulp, you should be able to put everything in the `dist` directory onto a web server and have it work correctly! This completes the first "iteration" - you have touched almost all of the major components of the project, and you have something to show off.

Fine-tuning the positioning of the images

FlipKit thinks of images as being anchored by the Street View point that produces a similar view. FlipKit includes an "adjustment mode" that allows you to fine-tune the orientation of each image in Street View. You can activate it by setting the variable `useAdjustmentMode` to `true` in `js/fancy.js` and re-building the web site with `gulp`. When adjustment mode is active, you can use the following keys to control the view:

- `a`: make the image bigger
- `s`: make the image smaller
- up-arrow: move the image up
- down-arrow: move the image down
- left-arrow: move the image left
- right-arrow: move the image right
- space: flip the historical image on and off

- `n`: change to the next image by `imageID`
- `p`: change to the previous image

When you press one of the keys that manipulates the image's position, some JSON text appears in the white box on the left side of the screen. If you copy and paste this text into the `Refined Position` column of the spreadsheet, then rebuild the `imageList.json` file and the web site, then the image will appear at its adjusted position from then on.

Conclusion

This has been an overview of all of the technical tasks that you will need to do to put together a web site similar to *Wymer's DC*. If something doesn't work and you can't figure out why, feel free to open an issue ticket on the FlipKit GitHub project, https://github.com/tgs/flipkit/. The newest version of this development guide will always be available at https://github.com/tgs/flipkit/blob/master/README.md. Contributions to increase the generality of the data processing, or add interesting features, would always be welcome.

Appendix 2 - Technical Infrastructure Package Sources

Table 2 – List of sources for more information regarding the packages and tools used in the technical infrastructure of the project.

Package / Tool	Application of Package / Tool	Source
Google Maps API	Map Interface Web Application	https://developers.google.com/maps/
GraphicsMagick	Data Compilation	http://www.graphicsmagick.org/
JavaScript Library: jQuery	Map Interface Web Application	https://jquery.com/
JavaScript Library: Mousetrap	Map Interface Web Application	https://craig.is/killing/mice
JavaScript Library: UA-Parser	Map Interface Web Application	http://faisalman.github.io/ua-parser-js/
JavaScript Library: Porter - Stemmer	Map Interface Web Application	https://github.com/jedp/porter-stemmer
Python Library: parcon	Data Compilation	https://pypi.python.org/pypi/parcon
Python Library: tablib	Data Compilation	http://docs.python-tablib.org/en/latest/
SquareSpace	Contextual Website	http://squarespace.com/
“Street View Overlay” by Team Maps	Map Interface Web Application	http://projects.teammaps.com/projects/streetviewoverlay/streetviewoverlay.htm

Appendix 3 - Project Design of the Wymer Collection

For his photography project, Wymer divided the city into 57 districts, each of approximately the same size. He then numbered the blocks in each area, then chose 1 sample block for every 50 blocks in the area at random to photograph. He considered these blocks to be representative of the residential areas of the city, although no attempt was made to restrict the selection to purely residential blocks

In general, Wymer adhered the following rules for how to photograph the sample blocks:

1. Avoid taking pictures of buildings which were begun after his first visit to the area
2. Avoid taking pictures of buildings which were demolished subsequent to the beginning of the project
3. Both sides of the boundary streets were considered as belonging to the block
4. All other objects of interest in the area were photographed even if they did not fall in the sample blocks. This led to the inclusion of photographs of churches, schools, public buildings, views of business districts, statuary and monuments, well known business buildings, historical sites, architecturally interesting and curious buildings, and views in parks.

These guidelines led to the production of a comprehensive photograph collection of the city taken over the course of four years. Wymer's conscientious attention to detail has provided Washingtonians with an extensive collection of photographs from which to study their city.

Appendix 4 - Wymer's Project, In His Own Words

- Washington in Mid Century - [21]

In the middle of the twentieth century, Washington was the undisputed capital, not only of that great continental republic, the United States of America, but also of the free world. There were many residents, not yet past middle age, who in a generation had seen the city change from a leisurely town of less than 400,000, essentially Southern in its traditions and customs, to a bustling metropolis of nearly a million within the city and 250,000 more in a ring of closely built suburbs.

The change had not obliterated the traces of the old city, however. The tree lined street, the numerous parks, both large and small, the large colored population, and the soft Southern accents heard everywhere, were only a few of the reminders of the earlier character of the city. But gone, probably forever, was the leisurely approach to life which had prevailed in an earlier day.

At the beginning of the period in which the pictures in these books were taken, Washington was essentially the city of Harry S. Truman. Fresh from an unexpected triumph over Governor Thomas E. Dewey, he was about to begin his second term as President. His reelection was in a sense a seal on the great changes that had taken place during the preceding generation. At last it was apparent to nearly everyone that the great Republican Party which had ruled the country for 56 of the 72 years between the opening of the Civil War and the depth of the Great Depression was no longer the majority party. That role had been taken over by the Democrats.

But Washington, as befitted a world capital, could not be considered a city of one man in the sense that St. Petersburg was the city of Peter the Great, or Rome of the first century A.D, was the city of Augustus. For in a democracy no man remains long dominant and many men and ideas shape its policies. This was nowhere more evident than in Washington which was the sounding board for the conflicting opinions and an arena for the contending ideas and philosophies which sought to gain the favor of the American people. Washington in the middle of the century was also the city of Senator Robert A. Taft of Ohio, Representative Joseph R. Martin Jr. of Massachusetts, Senator Scott Lucas of Illinois, Representative Sam Rayburn of Texas, Senator Hubert Humphries [sic] of Minnesota, Senator Margaret Smith of Maine, Secretary of State George Marshall, Secretary of Defense James Forrestal, Secretary of Labor Maurice Tobin, Social Security Administrator Oscar Ewing, FBI Chief J. Edgar Hoover, Chief Justice of the Supreme Court Fred Vinson, Supreme Court Justice William Douglas, columnists Drew Pearson and David Lawrence, socialite Mrs. George Mesta, to mention only a handful of the great, near great, and notorious who were leading actors on the Washington scene.

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[21] The text of this appendix is part of the John P. Wymer Photograph Collection; copyright is held by the Historical Society of Washington, DC. The content was reproduced with their permission.

Washington also bore the imprint of that vast company of departed figures from George Washington and Thomas Jefferson to Franklin Roosevelt who had participated in guiding and shaping the destinies of the Republic through 160 years of its history. In particular, though he had been dead for nearly four years, the influence of FDR's ideas and ideals deeply permeated almost every phase of Washington life.

Further, since Washington was the capital of a great nation, it belonged in part to everyone in the republic, even if they had visited the city only via a movie travelogue.

But every city and town, even the Petrograd of Peter the Great or the most "management dominated" company coal town belongs in final analysis to the people who live and work there on a more or less permanent basis. The 200,000 government workers-minor officials, administrators, clerks, professionals, laborers, and mechanics-, the thousands of members of the armed services below the rank of major general or rear admiral, the tens of thousands who purveyed goods and services for the city, and the wives and children of all these people, constituted the vast bulk of the inhabitants of Washington. The city in 1948 also belonged to D E Buckingham, Grace L Evans, Dock Judd, Louise Marshall, John William Phalen, Benjamin Segundy, Lewis B. Thomas, William A. Spicer, Charles R. Norberg, Capt. Alexander N. Loker, USN, William Hartnagel and Jean Crouse (to quote a dozen names selected at random from the 1948 Washington telephone directory) and to hundreds of thousands like them.

This series of books is intended to convey some impression of how Washington looked to its inhabitants around 1950. It purports to show the kind of homes they lived in, the stores they shopped in, the parks they played in, the churches they worshipped in, and the schools their children attended. Monuments, public buildings, national shrines, curiosities, historic sites and all the sights which help to make Washington one of the world's greatest tourist attractions receive their full quota of attention. No attempt is made, however, to record the great events of these years, whether they be of national or local interest. These will be well recorded elsewhere. The project is sufficiently ambitious as it is.

Even if the author were infinitely talented and provided with the finest equipment the imagination can conceive, the task he has set himself would be impossible of complete realization. It is possible to catch only fleeting glimpses of the life or appearance of a city. It is hoped, nevertheless, that this work will be of some interest to a few present Washingtonians, and some who come later, as an indication of what Washington looked like in the middle of the twentieth century.

From one point of view, however, the project was a "howling" success. The author's knowledge and appreciation of the city in which he makes his home was vastly increased and the planning and execution of the project brought his many hours of pleasure.

John P. Wymer
January 9, 1949