



Usability Report

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EXECUTIVE SUMMARY

Over the last four months, the Pratt SILS UX team conducted a study to evaluate the usability of the Brooklyn Visual Heritage (BVH) website. We recruited 18 participants based on the site's intended audiences and designed a usability test to 1) identify users' problem areas while browsing and searching for images and 2) assess users' overall impressions of the website.

Data analysis showed that perceptions of the BVH website were generally positive and that most participants were impressed with the scale and nature of the collections. However, we also identified several obstacles that limited participants' ability to take full advantage of the website's features and content. Overall, we identified 17 problems, 8 of which we consider "high priority" in that they represent a significant usability problem and/or are relatively easy to fix. These high priority problems are (in no particular order):

- The top navigation bar doesn't offer relevant options for BVH's target users.
- Users were confused and overwhelmed by the A-Z subject guide.
- Users were overwhelmed and frustrated with the excessive scrolling and clicking required to navigate the subject heading list.
- Search results don't always match search terms, and users are unclear as to how to find specific images.
- Users were confused by the placement, organization and functionality of the Advanced Search feature.
- The image title is not easily apparent on image description pages.
- Metadata fields on image description pages are arranged inefficiently.
- The existing *About* and *FAQ* sections do not provide sufficient documentation.

A detailed discussion of all 17 usability issues and our recommended solutions are included in this report. Additionally, we offer several "Pie in the Sky" recommendations for BVH to consider as a means to further improve the website and address the needs of their target users.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
TABLE OF CONTENTS.....	3
INTRODUCTION	4
METHODOLOGY.....	5
PARTICIPANTS	5
RECRUITMENT.....	5
DESCRIPTION	5
PROCEDURE.....	6
PRE-TEST QUESTIONNAIRE.....	6
THE ARNOLD EMOTIONAL EXPRESSION TEST (AEET).....	6
POST-TEST QUESTIONNAIRE	7
AFFECT-GRID.....	7
DATA ANALYSIS.....	7
EQUIPMENT & LOCATION.....	7
TASKS	8
FINDINGS & RECOMMENDATIONS.....	9
OVERALL IMPRESSIONS.....	9
SYSTEM USABILITY SCALE (SUS)	9
THE ARNOLD EMOTIONAL EXPRESSION TEST (AEET).....	10
AFFECT GRID	10
NAVIGATION.....	12
BROWSING	16
SEARCHING.....	22
ADVANCED SEARCH	24
IMAGE DESCRIPTIONS	26
HELP, DOCUMENTATION AND INSTRUCTIONS	29
SHARING.....	31
SUMMARY OF ISSUES AND RECOMMENDATIONS	34
CONCLUSION	36
REFERENCES	37
APPENDICES	38

INTRODUCTION

With the cooperation and guidance of Project CHART and the Brooklyn Visual Heritage (BVH) staff, a team of Pratt SILS students (hereto known as the Pratt SILS UX Team) designed a user test with the goal of identifying potential areas for improvement on the BVH website. The study was conducted to ensure that the website is appealing and accessible to all users, with an emphasis on the audiences listed on the website's technical specifications:

- Brooklyn residents
- Researchers who might visit Brooklyn Public Library (BPL), Brooklyn Historical Society (BHS), or Brooklyn Museum (BM) physical collections
- Armchair historians
- Cultural heritage professionals
- Companies/businesses looking for historical photos
- Local educators

We recruited among these six groups and were pleased to find high interest levels; more than seventy people signed up to participate in the study, three times the number of participants we had anticipated. We scheduled usability tests with 18 participants who were representative of the overall target demographics.

In general, study participants' first impressions of the website were very positive. They appreciated the website's clean aesthetic, and were delighted by the content of the photo collections. It was evident from the interface that a tremendous amount of work went into integrating the three collections, and into constructing the web platform.

During the course of our study, we identified several areas for potential improvement. It is our belief that implementing these recommendations would enhance the experience for all users of the website. We are respectfully submitting the following report, which will explain each issue in detail and propose several solutions.

Regarding the format of our findings, in addition to a list of numbered problems and recommendations, we have also included "Pie in the Sky" suggestions in some sections. These are not top-priority items for immediate action, but would be useful to think about as next steps after the initial recommendations have been considered. Some of these suggestions involve significant resources and restructuring of the website's technical framework, so we chose to separate them from our primary recommendations.

METHODOLOGY

This section describes the methodology of our usability study, including a description of our participants, procedure, equipment and location, and tasks.

PARTICIPANTS

Recruitment

A designated recruitment team was formed to enlist participants who represented the BVH website's target demographic. The defined audiences included educators (grade school through higher education), cultural heritage students and professionals, researchers, Brooklyn business owners, and Brooklyn residents.

The recruitment team crafted demographic-specific email invitations and sent them to members of each respective community. The email recipients were those individuals considered best suited to perform the role of "super volunteer," meaning they would be able to forward the email to interested parties within their social and professional networks and thus assist us in casting a wide net. Each email included a description of the project and its goals (see appendix). Also included was a link to a short screening questionnaire to gather the following information:

- Contact information, including Brooklyn neighborhood of residence
- Profession
- Familiarity with basic web functionality and applications
- Level of interest in Brooklyn history

The email invitations were sent to 107 individuals, resulting in 75 respondents. Of those, 44 were selected to participate in the usability testing. Emails were sent to select individuals to determine availability and set up test times at one of two predetermined testing locations: Pratt Manhattan Center or Brooklyn Public Library. We conducted tests with 18 participants during the allotted 2.5-week testing period. Each participant received a \$10 Starbucks gift card as compensation.

Description

Our pre-test questionnaire provided basic demographic information, revealing a generally young and highly educated pool of subjects. Approximately 82% of participants were in their 20s or 30s and all of them had completed college, with 70.6% pursuing or having already earned at least a Bachelor's degree. In addition, a majority of participants (76.5%) were female.

Nonetheless, our participants as a whole represented a wide range of user groups, from leisurely browsers to academic researchers. The final breakdown of participants is as follows:

- 4 cultural heritage professionals/students
- 4 educators
- 3 librarians
- 5 creative professionals
- 2 other (non-cultural heritage student, content manager)

PROCEDURE

Each member of the Pratt SILS UX Team administered a minimum of 2 tests. To ensure proper and detailed documentation, the test session moderator was assisted by a note taker and used Silverback software to record video, screen, and audio. In order to maintain professionalism and neutrality, moderators were prohibited from testing anyone they knew.

The test was designed to be approximately 30-45 minutes long. Participants were tested individually and completed all three tasks (see below). During the test, participants were given time to explore the website and answer questions mindfully, but in the interests of time no more than 5 and 10 minutes were allotted for participants to perform tasks 2 and 3 respectively.

To further augment the testing of the BVH website, pre-test, post-task and post-test questionnaires were administered. Each testing tool is briefly described below.

Pre-Test Questionnaire

The pre-test questionnaire (see appendix), administered via SurveyGizmo¹, was used to enhance qualitative and quantitative information gathered during the recruitment process and assess participants' comfort with technology and frequency and use of the Internet as well as their gender, age, occupation, and highest level of education.

The Arnold Emotional Expression Test (AEET)

The Arnold Emotional Expression Test (AEET) (see appendix) is a novel post-task method for gaining insight into participants' emotional states. The AEET involved asking participants to describe their current feelings by selecting one of six photographs of Arnold Schwarzenegger, each of which corresponds to one of the six universal emotions: anger, disgust, happiness, sadness, confusion, and fear. After making a selection, participants were asked to explain why

¹ <http://www.surveygizmo.com>

they chose that particular photograph, providing insight into not just *how* they felt but *why* they felt that way at that particular moment.

Post-Test Questionnaire

The post-test questionnaire (see appendix), also administered via SurveyGizmo, focused on participants' experience and their evaluation of the BVH website. The first part of the post-test questionnaire was the System Usability Scale (Brooke, 1996), an accepted tool for measuring usability. The second part consisted of five questions to assess participants' overall impressions of the website. The third part of the post-test questionnaire allowed participants to express opinions of the overall user experience in an open format.

Affect-Grid

The final component of the post-test questionnaire consisted of an Affect Grid (see appendix). The grid is a single-item measure of two affective dimensions: pleasure-displeasure and arousal-sleepiness (Russell, Weiss, & Mendelsohn, 1989). For this evaluation we modified the representative emotional response categories as such: High Energy (excitement, frustration), Pleasant Feelings (excitement, relaxation), Low Energy (relaxation, boredom), and Unpleasant Feelings (boredom, frustration). This test allowed us to understand, at one look, each participant's emotional response to the BVH website.

Data Analysis

After completing all 18 test sessions, we created a master list of the most common usability problems encountered and the number of participants that identified each problem. As a group, we discussed these issues and edited our list into a set of concrete items for suggested improvement. We combined these data with an analysis of the quantitative data gathered from the pre-test, post-task, and post-test questionnaires.

EQUIPMENT & LOCATION

Each test was administered on a Mac interface using the Google Chrome browser. All tests were conducted either on MacBook Pro laptops with 17" screens and touchpads or iMac desktops with a wireless keyboard and mouse. Silverback software was used to record the video, screen, and audio of each test session.

To give participants convenient testing location options accessible by public transportation, we selected Pratt's Manhattan campus and the Central Brooklyn Public Library. At Pratt, testing was conducted on the 6th floor in unoccupied classrooms or in the main common area while students were in class to ensure privacy and minimal noise. At the Brooklyn Public Library, meeting rooms were reserved ahead of time to secure a quiet designated testing environment.

TASKS

The tasks assigned to participants were flexible in order to observe how they would naturally browse and search the website. There were no right or wrong answers, as those would inhibit the organic usability process we were encouraging. Participants were prompted to “think aloud” in order to record and facilitate an understanding of how they approached each task, and also to provide insight into their cognitive and emotional responses to the website.

Task #1: *“Look at this website and tell us about your first impressions. You can scroll around but don’t click on anything yet – just take a moment to look at the site and tell us what you think.”*

This opening task allowed us to uncover participants’ immediate reactions to the website as a whole. We were able to determine which sections on the homepage were most salient, which were noticeably absent, and whether the layout of this page matched the participant’s expectations.

Task #2: *“Find an image that is interesting or meaningful to you in some way. You can use any strategy or approach and please remember to think out loud while you do it. Once you find the image, learn as much as you can about it.”*

The intention of this task was to analyze how each participant browsed with no specific end goal in mind. Which browsing method did they naturally select and was this navigational approach adequate? The second part of the task, to learn more about the image, was similar to task #1 in that we wanted participants’ reactions to the image, its metadata and the layout of the page based on their initial expectations.

Task #3: *“Find 2 similar images to the one you just found and save or record them in any way you want. These images can be similar in any way. Again, you can use any strategy or approach and please remember to think out loud while you do it.”*

The final task, a direct extension of task #2, revealed how participants searched once they had specific targets in mind. Did they utilize different methods than before and, if so, how well did these new approaches work? And once an image had ultimately been tracked down, how well did the website accommodate for returning to these pages in the future?

FINDINGS & RECOMMENDATIONS

This section presents the findings from the usability evaluation. We begin this section with a discussion of participants' overall impressions of the BVH website. Then, we present our usability findings and recommendations; to ease interpretation and understandability, we have split the problems into 7 broad categories: Navigation; Browsing; Searching; Advanced Search; Image Descriptions; Help, Documentation, and Instructions; and Sharing. We conclude with a summary of all the issues and their associated recommendations.

OVERALL IMPRESSIONS

Our results indicate that although participants felt the BVH website is well-structured, relatively easy to learn, and provides a wealth of content for users to browse, their reactions to the website as a whole were mixed, ranging from mildly negative to somewhat positive.

System Usability Scale (SUS)

The System Usability Scale (SUS), a 10-item questionnaire given to participants once they had completed the designated tasks, offered us preliminary insight into the overall usability of the website. The SUS is the most widely used questionnaire for measuring perceived usability and has been shown to be a reliable and valid indicator of website usability (Sauro, 2011). The BVH achieved an SUS score² of 69 indicating that, in terms of usability, it is considered average but (marginally) acceptable (Bangor, et al., 2009). A boxplot of the SUS scores is shown in **Figure 1**.

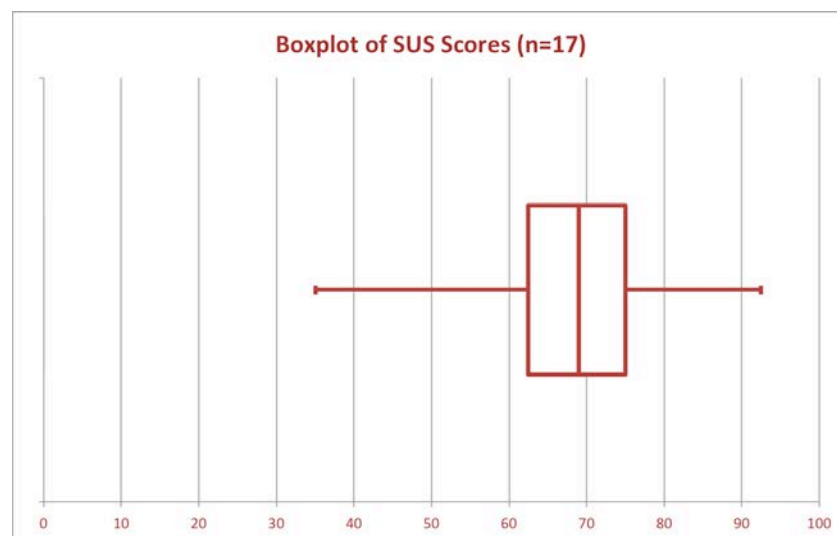


Figure 1. Boxplot of SUS scores, showing range from 35 to 92.5 with an average of 69

To supplement the SUS, additional questions allowed participants to elaborate on their opinions. We learned that the website was considered neutral in terms of appearance (mean =

² The SUS score is based on data from 17 participants as 1 participant provided incomplete data.

4.6 on a 1-7 scale where 1 is “ugly” and 7 is “beautiful”), is perceived moderately good (mean = 5.2 on 1-7 scale where 1 is “bad” and 7 is “good”) and provided a moderately positive experience overall (mean = 5.2 on a 1-7 scale where 1 is “negative” and 7 is “positive”). A majority of the participants also said that they were likely to revisit the website again and that they would recommend the website to someone else. Answers to the final open-ended question (*When you think about a site like Brooklyn Visual Heritage, what would it mean to provide a good user experience?*) also provided generally positive feedback but also showed a desire for a more balanced interface. Some highlighted responses include:

- “...be organized, and visually inviting and appealing.”
- “...keeping it easy to use, simple and beautiful is important.”
- “Visuals and important historical content are important because they will engage the user and entice the user to delve deeper into the site.”
- “I think content is especially important to a site like Brooklyn Visual Heritage. The more information available, the better a resource it will be.”

The Arnold Emotional Expression Test (AEET)

The AEET (see appendix) was employed to create a two-pronged framework to qualitatively and quantitatively measure participants’ response to the BVH website in conjunction with the assigned tasks. The analysis of the results from the AEET have proved much more nuanced and complex than we had anticipated. Due to considerations of time and a desire to present the most accurate information possible, we have decided to set aside this portion of the results pending further examination.

Affect Grid

The Affect Grid was used to quantitatively monitor each participant’s response using competing valence measures of high and low energy with pleasant and unpleasant feelings. This allowed us to assess the general nature of participants’ overall experiences. The data generally reflect, through clustering, a relaxed state with regards to energy levels and a pleasant disposition when using the website overall (Figure 2).

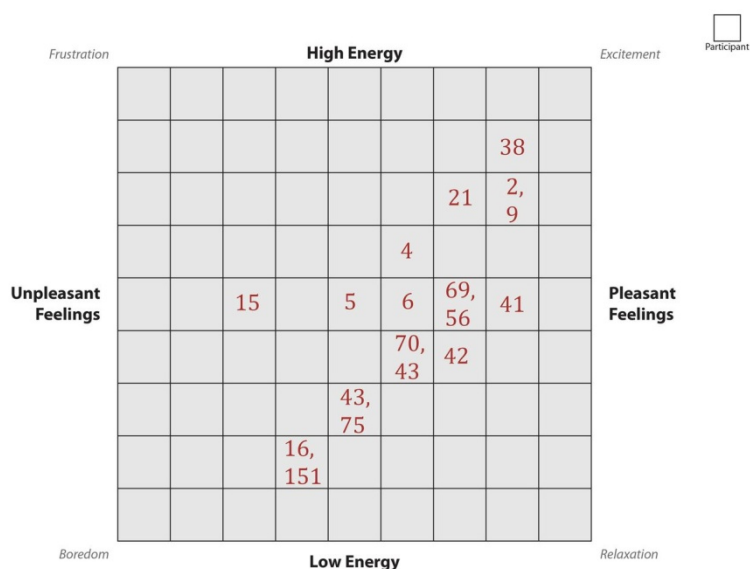


Figure 2. Affect grid with responses³

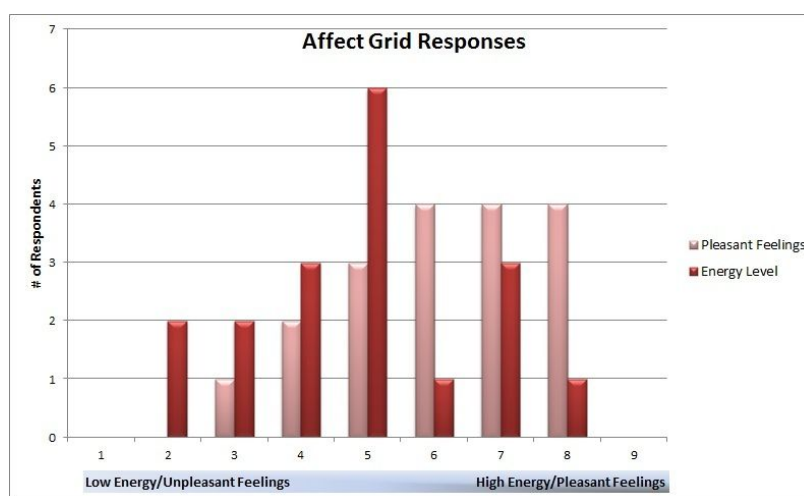


Figure 3. Bar graph of Affect Grid responses

Overall, we can conclude from these data that although participants are generally satisfied by the depth and breadth of the content provided by the BVH website, their experience could be improved by streamlining the interface and creating a more engaging flow through the collection.

³ Each number represents one participant (listed by Participant ID). For instance, the box containing “16, 151” was marked by two participants, #16 and #151.

NAVIGATION

Although most participants were eventually able to find what they needed, the navigation structure of the website presented a significant obstacle for many.

Issue #1: The top navigation bar doesn't offer relevant options for BVH's target users.

We expected a majority of our participants to explore all the links in the top navigation bar, and were surprised to find that most instead chose to use the search box or side browsing options. Several participants expressed confusion at the meaning and location of some of the labels in the navigation bar (e.g., they weren't sure what information was inside the "Resources" tab and weren't sure why "Tech Info" needed to be in the main navigation). Other participants expressed confusion about the general purpose of the website or how to find the images they wanted. We believe these questions can and should be answered by links in the primary navigation.

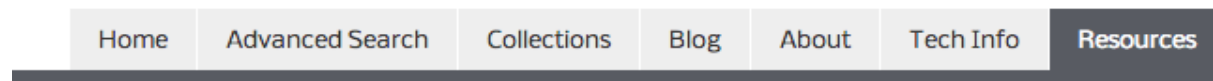


Figure 4. Current navigation bar

Recommendation #1: Reorganize the top navigation bar.

To make the top navigation more useful, we recommend adding a link titled *Explore Images*. This page would present three options for exploring the images: by collection, by subject, and by location. We also recommend including direct links to each of these pages in a dropdown menu.

Participants expressed confusion at finding the Collections and Subjects links in the sidebar; many failed to recognize them as valuable browsing options. We believe if these links are integrated into the top navigation, users will make better use of them. An action verb like 'Explore' will encourage users to notice the option and click. If you are able to make a few changes to each browsing option (see the Browsing and Searching section for more information), you will provide users with exciting and useful tools in a place where they can't fail to notice them.

We also recommend renaming the *Resources* tab to *Links*, which indicates more clearly that content on this page will send users off-site. We believe the Advanced Search function would be better utilized if it were removed from the navigation bar and placed next to the search box. Finally, we recommend giving users a clear understanding of the website's purpose and

background by redesigning the *About* section. We also feel that the *Tech Info* page, which is useful to cultural heritage professionals, would fit better in the redesigned *About* section (see Help, Documentation, and Instructions for more details).

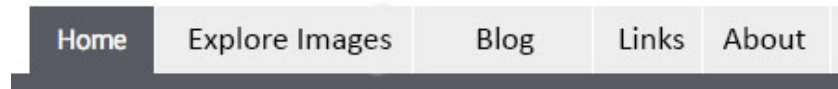


Figure 5. Proposed new navigation bar



Figure 6. Proposed new navigation bar with dropdown menu

Our goal in making these recommendations is for the revised navigation bar to support the needs of users, in this case providing them the tools and resources to navigate the photo collections and find specific images. While this format can be adapted to fit the website as it grows, we recommend limiting the top navigation to action labels (explore, learn, etc.).

Issue #2: Users were misled by content in the sidebar, particularly when navigating within internal pages.

The sidebar navigation options also caused some confusion. For example, one participant expected to find larger size images of Coney Island and the Dodgers when she clicked on “Collections” and “Subjects.” Another participant thought that clicking on the “Gallery” link would help her find images similar to those on the page she was on; the participant didn’t understand that “Gallery” led to a separate and unrelated section.

IMAGE BROWSE



Collections



Subjects

FOLLOW US @BKLYN_HERITAGE



On this day in 1946: Turn the corners and plump the pillows are rules of good bedmaking. ow.ly/iSmSw #thedaily

GALLERY

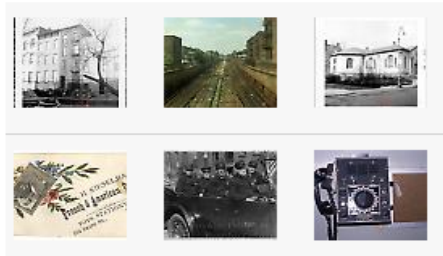


Figure 7. Current sidebar

Recommendation #2: Create distinct sidebars for the homepage and internal pages.

Home Page: We believe the home page sidebar should be a dynamic and fresh space that gets users excited about using the collection. The search box is an essential element -- it's well placed to help users get started right away. Once you move the essential "Image Browse" links to the top navigation, you'll have space to move the Twitter feed up, and supplement it with Facebook and blog feeds. This shift will move your more dynamic content above the fold, and give you more opportunities to curate the collection and give a good first impression. This content could easily fill the entire sidebar, if your blog feed includes a title, thumbnail and first line of content.

Internal Pages: In the short-term, we believe that removing all internal sidebar content except the search box would allow users to focus on the image without distraction, give you more space to rework the subject and collection pages, and direct users to the top navigation links and search bar for more advanced searching.

Since users found the purpose of the Gallery confusing, we recommend removing it from the homepage entirely. Another option would be to move the “Most Viewed” thumbnails to the sidebar to add more visual interest.

Pie in the Sky: Turn the gallery into a faceted search interface

To improve the experience of the Gallery, consider transforming this page into a faceted search interface that would allow users to filter images using a variety of dimensions. As an example, consider Zappos, which allows users to search their entire catalog by clicking facets and slowly narrowing down to the item that meets their needs.

The side navigation could also be a great place to encourage users to dig deeper. During user testing, two ideas came up that, if implemented, would enhance user experience:

- Show the user thumbnails of recently viewed images
- Show the user two or three thumbnails of images in the same collection or with the same subject headings

BROWSING

Due to the great number of images that the website contains and the few navigational inlets, users often received information in the form of excessively long lists. Half of our participants (9 out of 18) expressed frustration with scrolling throughout the website, resulting in a difficult and inefficient search and browse experience.

Issue 3: Users were confused and overwhelmed by the A-Z subject guide.

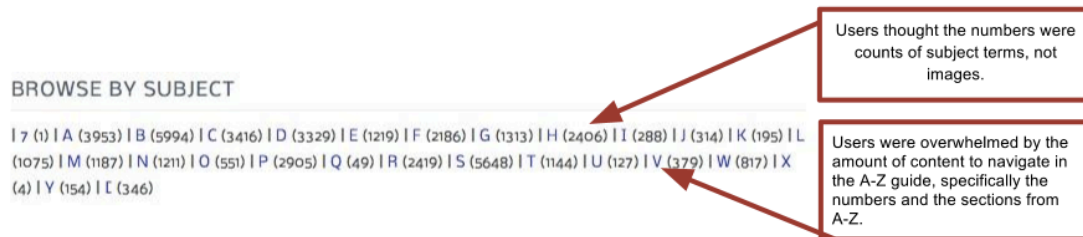


Figure 8. A-Z subject guide

While navigating through the subject terms page is an appealing feature, participants were overwhelmed by the list of results. One participant commented that “this doesn’t make any sense” while other participants thought the numbers were counts of subject terms, not images that are assigned a subject heading beginning with that letter. In general, participants were overwhelmed by the amount of content to navigate in the A-Z guide.

Recommendation #3: Eliminate the numbers on the A-Z subject guide and create more manageable intervals.

We recommend revising the A-Z subject guide to be simpler and less overwhelming. This involves 1) removing the image counts from the letter headings and 2) consolidating the alphabetical listing into more manageable groupings.



Figure 9. Proposed new A-Z subject guide

Issue #4: Users were confused by similar terms in the subject list.

Some of the subject headings in the subject list also caused confusion. One user commented, “I

feel like some of the search terms could be combined” while another said “I don’t know the difference between these, so I will pick the first one.”



Figure 10. Current subject list

Recommendation #4: Consolidate subject terms so that root words with various suffixes are combined into one category.

Addressing this issue would require considerable effort, but consolidating headings from the subject list would provide a substantial improvement to the website's overall usability.

Issue #5: The back button does not save navigational history from the subject terms page.

When browsing the subject lists, the pages are loaded dynamically in the browser. While this provides a quick transition for users as they browse the list of subject headings, it does not allow them to go back to their previous location if they click through to a particular subject.

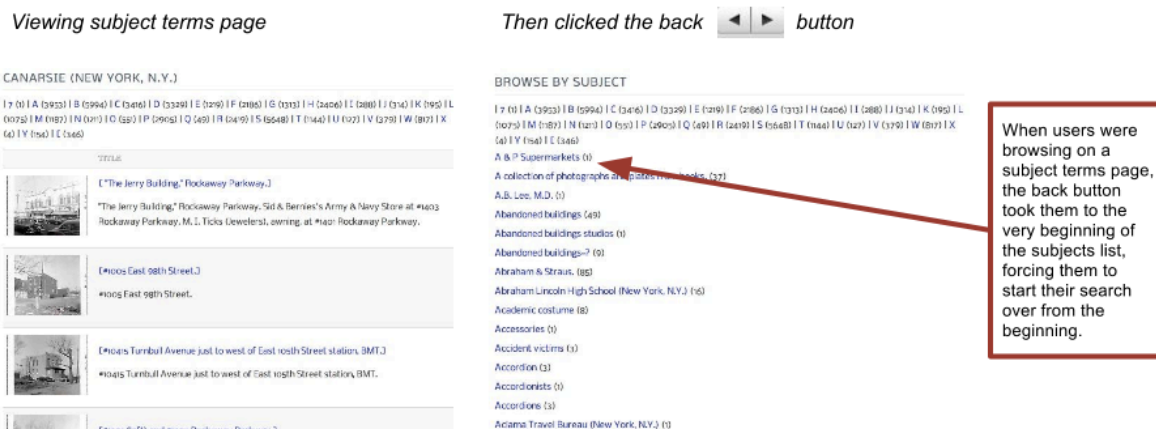


Figure 11. Issues with back button.

Recommendation #5: Enable users to navigate backwards one page at a time when browsing subject headings.

This fix may also require substantial effort but such a change would substantially improve the usability of the “Browse by Subjects” feature, which we believe is currently underutilized by the website’s users.

Issue #6: Users were overwhelmed and frustrated with the excessive scrolling and clicking required to navigate the subject headings list.

Participants expressed frustration at the excessive amount of scrolling required when browsing the list of subject headings. One user commented, “That incredibly long list of subject terms really drives me crazy!” while another said, “I feel like this is really overwhelming. [I have] to scroll and click through and click through and click through.”

Recommendation #6: Arrange subject terms in columns above the fold so that users can scan more subject terms before they need to click to the next page.

To reduce scrolling, ease readability, and maximize the use of space on the page, we recommend presenting the list of subject headings in a multi-column rather than single-column format.

Calories 190	Calories 130	Calories 140	Calories 420
Total Fat 1g 2%	Total Fat 0g 0%	Total Fat 1.5g 2%	Total Fat 13g 20%
Saturated Fat 1g 5%	Saturated Fat 0g 0%	Saturated Fat 1g 5%	Saturated Fat 9g 45%
Cholesterol 10mg 3%	Cholesterol 5mg 2%	Cholesterol 5mg 2%	Cholesterol 35mg 12%
Sodium 130mg 6%	Sodium 150mg 7%	Sodium 140mg 6%	Sodium 250mg 11%
Total Carbohydrate 35g 12%	Total Carbohydrate 19g 7%	Total Carbohydrate 18g 6%	Total Carbohydrate 0g 0%
Sugars 32g	Sugars 18g	Dietary Fiber 4g 16%	Sugars 60g
Protein 11g	Protein 13g	Sugars 15g	Protein 15g
Vitamin A 15%	Vitamin A 15%	Protein 14g	Vitamin A 15%
Calcium 35%	Calcium 45%	Vitamin A 15%	Vitamin C 2%
Caffeine 150mg	Caffeine 150mg	Calcium 40%	Calcium 50%

Enable users to scan more content on each page by laying out subject terms in multiple columns.

Figure 12. Proposed format for subject terms

Issue #7: Users were frustrated with excessive scrolling and reading through text on the Collections page.

Although informative collection descriptions are placed alongside the primary collection images, participants did not immediately want to read through the long texts or to scroll through the long listings. They wanted a clear, concise overview of each collection before

navigating any further. Participants found navigating the collections cumbersome, and several users expressed frustration with scrolling through the long collections listings.

Recommendation #7: Display collection images in a grid layout along with their collection title so that users can get a quick overview of the collections.

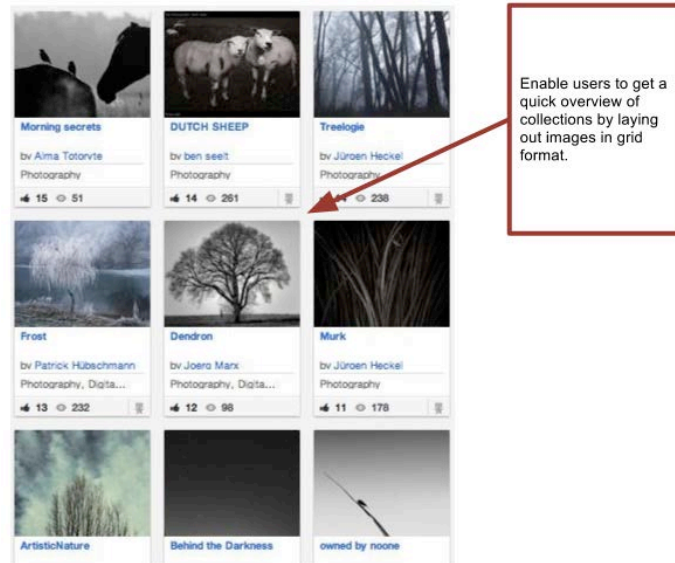


Figure 13. Proposed format for collection images.

We also suggest providing the collection description when hovering over a collection image so that users are not bogged down by lengthy text before they are ready to read it.

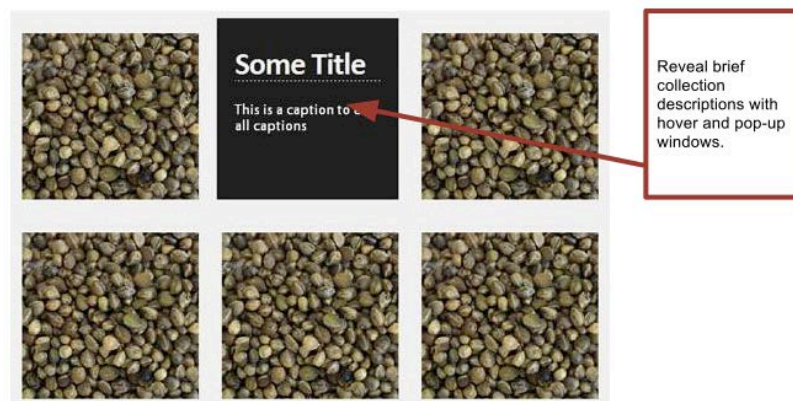


Figure 14. Sample of hover text.

Issue #8: Users were confused by the institutional links at the top of the Collections list.

Participants didn't understand whether collections were developed by individual institutions, or if they were compiled thematically. When participants clicked the institutional links they expected to find a list of institutional collections. Instead they navigated to a complete list of images from each institution.

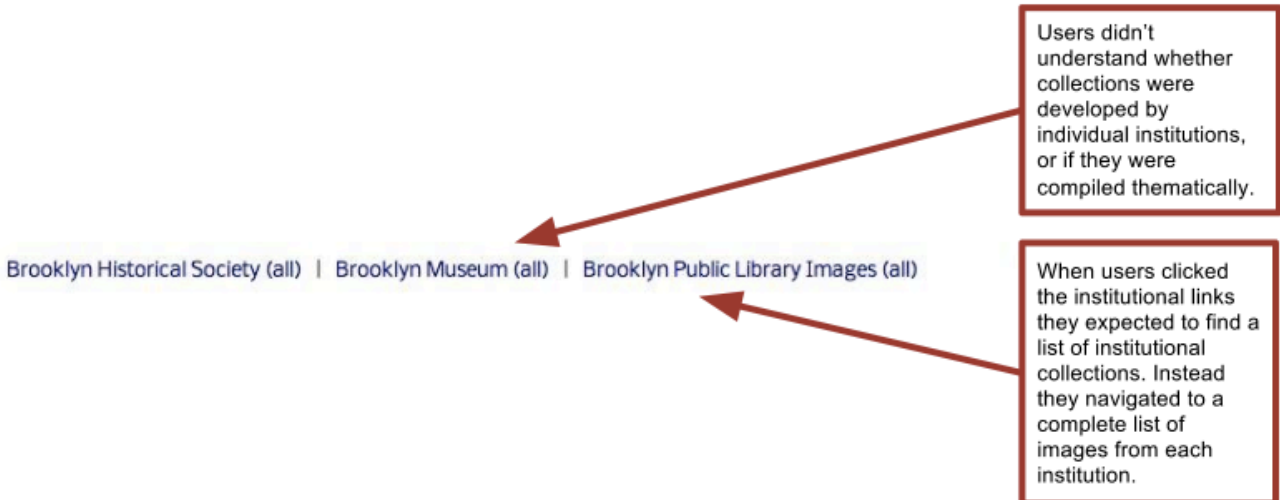


Figure 15. Institutional links

Recommendation #8: When you click on institution names, navigate to corresponding pages that feature the specified institution's collections.

The ideal fix would be to map each individual image collection onto their host institution so that clicking on "Brooklyn Historical Society" shows a list of all collections from BHS. If this is not possible, we recommend revising the text to read "Brooklyn Historical Society (all images)" or removing the institution links entirely from the Collections page. In the latter case, it would then make sense to add an additional option for "By Institution" under the revised "Explore Images" header on the main navigation.

Issue #9: Users want to browse by location.

The Pratt SILS UX Team stumbled upon a pre-existing Locations page that is not featured in the website navigation. During testing, several participants stated that they wanted to browse by location and were unaware that this option existed. We understand the concern that location metadata are only included in the BHS and BPL metadata schemas, but we feel strongly that this is an important navigational option worth offering.

Recommendation #9: Include *By Location* in the primary navigation bar.

This feature was one of the most widely requested features by our participants and we feel it would be a worthwhile addition to the BVH navigation, even though the search will be limited to just the BHS and BPL collections. Most users would probably not realize that they were browsing a limited collection, but it could be helpful to add an explanatory blurb at the top of the “Explore Images by Location” page or in the FAQ section.

Pie in the Sky: Explore alternative ways to explore images by location

Some options include:

- The implementation of an interactive map
- The development of a secondary navigation system featuring neighborhoods

In order to address confusion about neighborhood boundaries over time, we recommend exploring the following options:

- Geotags
- Links to other relevant neighborhoods on image pages
- A guide outlining the historical change of neighborhoods
- Visual tools, such as maps or timelines, that depict how neighborhoods have changed over time

SEARCHING

The search function has to serve both casual browsers and more targeted researchers, and though the format of our study may have predisposed participants to more leisurely browsing, 11 participants encountered problems with search result accuracy or expressed uncertainty as to how they would go about searching for more specific images.

Issue #10: Search results don't always match search terms, and users are unclear as to how to find specific images.

"Bridge" was a popular search term, and one participant tapped into a larger problem when she complained that not all her search results were actually of bridges, as seen in Figure 14. In these search results, "Bridge" appears in the subject headings, titles, and in the descriptions, in which case it can refer to something not pictured or to another use of the word. Thus, though descriptions can yield relevant images, certain words can be more vague.

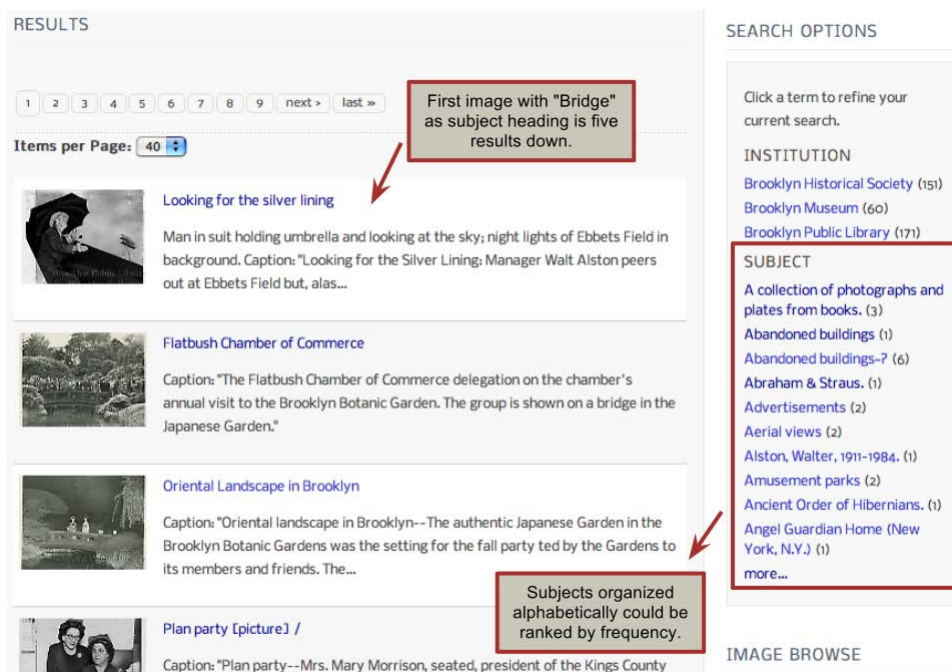


Figure 16. Current search results with comments.

Recommendation #10: Emphasize search options to help users narrow search results more easily.

There are two components to this recommendation: 1) change the "Refine Your Search" so as to order results by frequency (as opposed to alphabetically) and 2) highlight the "Refine Your Search" sidebar on the search results page.

Limiting keyword searches to subject headings only would eliminate relevant, albeit tangentially related, results. A more sophisticated solution would be to order the subjects in the "Refine Your Search" sidebar, seen in Figure 14, by frequency; in this way, more relevant and numerous headings, like "Bridges" and "Bridge construction" in this example, can take precedence over merely alphabetically ordered terms. As is, when users click "More" to see the full list of subject headings included in their search results, they do have the option of ordering them by frequency with "Sort By: Count". If this was the default on the search results page, users could narrow their findings more efficiently from the start.

It's worth saying that none of our participants made use of the "Refine Your Search" sidebar, so if these improvements were to be implemented, it might also help to make this feature more visually prominent. Following the first recommendation, to make sidebar content more useful, may do a good deal to address this problem on its own.

ADVANCED SEARCH

Issue #11: Users were confused by the placement, organization and functionality of the Advanced Search feature.

The advanced search option is an essential tool for researchers and/or users with specific goals in mind. It is an effective way for navigating the robust collections of the BVH website, but there are a few ways it can be improved.

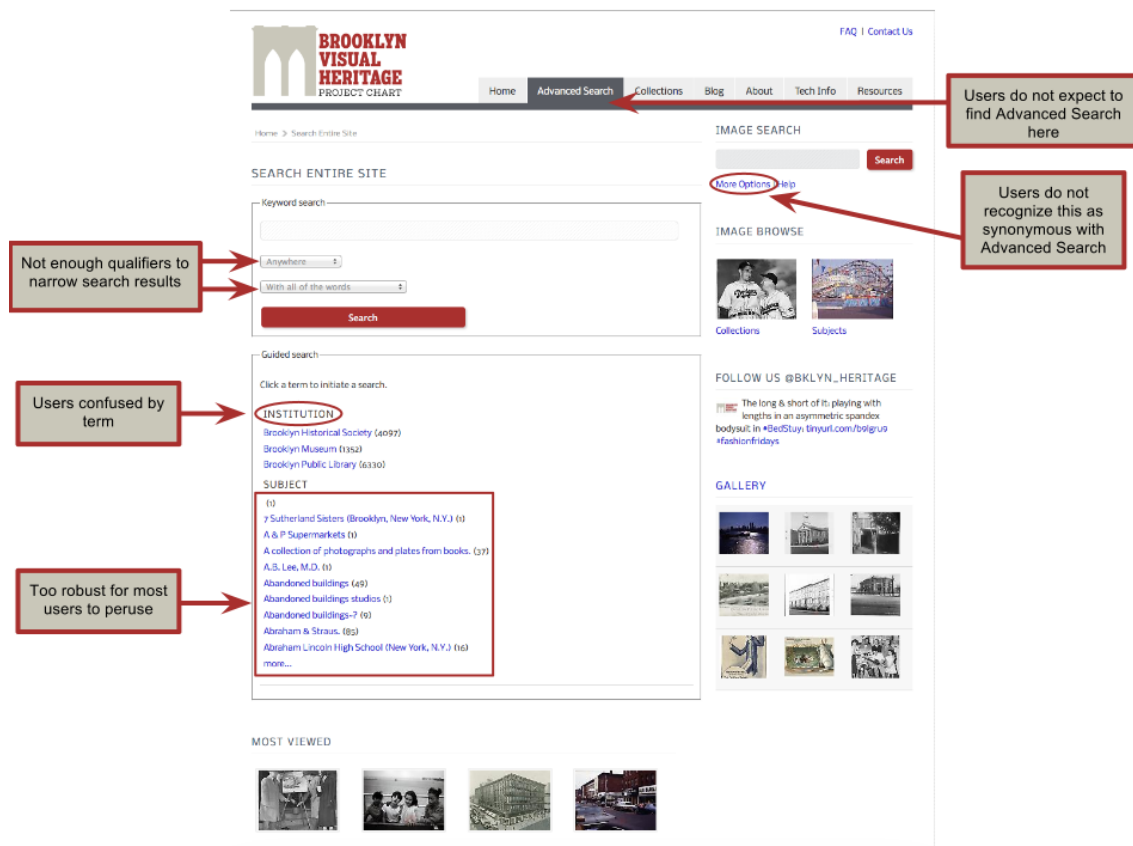


Figure 17. Current Advanced Search page with comments

The advanced search is currently located in the top bar navigation and can also be accessed via the “More Options” link below the search bar. One participant mentioned that an advanced search option would be useful as a separate bar in the top right. This suggests that users are not accustomed to seeing “Advanced Search” as a tab in a top bar navigation but rather nearer the keyword search bar.

Currently, the advanced search is organized in a way that feels unfamiliar. It features both a keyword search and a guided search section. Dividing a search in this way does not offer qualifier options for a given search term. As the keyword search already exists as an independent search bar, its presence on the Advanced Search page suggests faceted functionality, which is currently rather limited. The guided search is a repackaging of the “Subjects” page content and the institutional divisions outlined on the “Collections” page. Our findings suggested that participants were not interested in browsing the exhaustive subject listings past the first few pages. Additionally, dividing images by institution is not a particularly relevant way of searching for most users. One participant mentioned that she was unclear if images were *owned by* said institutions or if the images were *of* those actual institutions. As each institution contributed thousands of images, this option is simply not granular enough as an advanced search qualifier. Several other participants noted that a more faceted search, such as by location or date, would be a helpful way to navigate the website’s considerable content.

Recommendation #11: Revise the position and functionality of the Advanced Search feature.

We have several suggestions as to how this might be enacted:

- Remove “Advanced Search” from the top navigation.
- Rename the “More Options” link underneath the search bar “Advanced Search”.
- Keep the list of A-Z subjects as a link on the advanced search page which users can click into to browse if they so chose rather than overwhelming them with the list right away.
- Either remove the “Institution” qualifier from guided search, add explanatory note such as “Search by Institution” or keep it as a facet option rather than a stand-alone search term.

Pie in the Sky: Update and enhance the Advanced Search feature

Reorganize the Advanced Search option to include more faceted search functionality including search by location (borough/neighborhood), date (with qualifiers like between, before, etc.), and medium/format (pre-selected options).

It would also be beneficial to adopt an autocomplete feature using the subject terms so that users can be guided to the proper subject term without having to browse the extensive subject list.

IMAGE DESCRIPTIONS

Issue # 12: The image title is not easily apparent on image description pages.

On each image description page, the title of the image appears three times: in the breadcrumbs, as a page title, and in the metadata itself. The repetition is helpful because it offers several different options for locating the information, but some participants felt that the title of the image was not highlighted enough as it blended into the background of the page.



Figure 18. Current image description page showing the title three times

Recommendation #12: Make image title stand out more.

We suggest making the main title of the page (position 2 in Figure 18) bolder, larger, and/or in a darker color so that it is more prominent.

Issue #13: Metadata fields on image description pages are arranged inefficiently.

A more substantive critique was leveled at the metadata itself, as many participants felt that it did not provide adequate contextual information about the image. Some issues raised by participants could only be addressed through the time-consuming and difficult task of enhancing and/or revising the underlying metadata (e.g., some users felt the metadata was inaccurate or that it needed to be more descriptive from a biographical or historical perspective). However, we consider that making moderate adjustments to the presentation of these pages could alleviate, although not completely eradicate, some of these issues.

A primary concern with the image description pages is that they look and feel like pages designed to display an image catalogue record rather than pages designed to help users understand and explore images of Brooklyn history.

Recommendation #13: Re-order the metadata according to importance.

We recommend re-arranging the order of the metadata fields in order from most to least important, as indicated in Figure 19 below.

Current Order	Proposed Order	
1. Title	1. Title	} <i>These fields represent core information about the image. They provide all the necessary details. High priority.</i>
2. Creator	2. Description	
3. Date	3. Date	
4. Institution	4. Location	
5. Collection	5. Creator	
6. Subject	6. More Details	
7. Description	7. Collection	} <i>These fields represent information about where the image comes from; they also allow for additional exploration. Medium priority.</i>
8. Citation	8. Subject(s)	
9. More Details	9. Institution	
10. Medium	10. Medium	
11. Location	11. Rights	} <i>These fields are ancillary and only relevant to certain populations. Low priority.</i>
12. ID	12. Citation	
13. Rights	13. ID	

Figure 19. Current search results with comments.

Issue #14: “Most Viewed” section is not optimized for user goals

The “Most Viewed” feature is prominently displayed on every image description page but none of our participants used it. We believe this lack of usage is because the “most viewed” images are not contextually related to the current image being viewed and thus are not seen as a relevant feature on the image description page.

Recommendation #14: Explore ways to better utilize the “Most Viewed” section of the page by instead providing links to “Related” or “Similar” images.

Offering contextual links would enable serendipitous discovery and exploration by helping users quickly and easily identify other images that may be of interest to them.

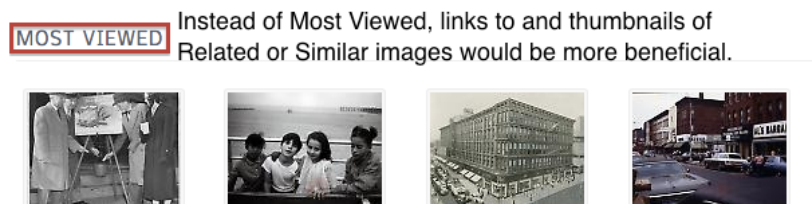


Figure 20. Most Viewed section with comments.

Pie in the Sky: Improve image quality across the collection

We are aware that thumbnails on the BVH website are limited due to technical constraints, but a long-term goal of the BVH should be to improve the image quality across the entire collection so that larger thumbnails could be displayed on the image description pages.

Conduct a quality review of all BVH metadata with a specific emphasis on standardizing and simplifying the following fields: title and description (to help users identify images more quickly) and subject and location (to help users find images more quickly). Some participants also expressed a desire to know more about the subjects of each photo; we recognize that such an endeavor would be virtually impossible due to the size and scope of the collection and the challenges of identifying people from historical photos, but it may still be beneficial to examine each photo in greater detail and add additional contextual information where appropriate.

HELP, DOCUMENTATION AND INSTRUCTIONS

Issue #15: The existing *About* and *FAQ* sections do not provide sufficient documentation.

A recurring request from participants during the observation sessions was the desire for easily accessible documentation explaining the purpose of the website and its various features. Some of the participants' relevant issues include:

- Confusion about how people can actually use the images
- Lack of clarity regarding what the website is about
- No useful help resources on how to use the website and the search function
- Not enough instructions provided
- The purpose of the website is unclear
- No clear protocol for citing images
- Copyright of images is unclear
- Confusion if the Categories section was exclusive to one institution or across all three institutions

While there is an *FAQ* section in the header navigation, the questions and answers presented there did not accurately match those that the participants were seeking. The current *FAQ* is also scattered in terms of what is being addressed, jumping back and forth between information about the project and information about the images. Presently, the *About* link in the header navigation provides information about the project, its mission and acknowledgements to the grants and people essential to its creation. There are also links within the text that lead to information about the participating Brooklyn institutions, press coverage and profiles of the Pratt interns. The *About* page is contained within a single page with 9 links.

Recommendation #15: Revise the structure of the *About* section.

A revamped *About* section, combining the current *About* and *FAQ*, can be more effectively utilized as a documentation tool. This improved section should be comprehensive and well organized, giving users a dependable resource to consult if and when needed. The content in this new *About* section can be reformatted from a single page to a hierarchically structured set of pages. It can also include instructional text indicating the best tactics for using the site. Revising the *About* page with more explicit context and in an organized fashion is a way to

improve the user experience without having to drastically alter the architecture of the site. We recommend the following structure:

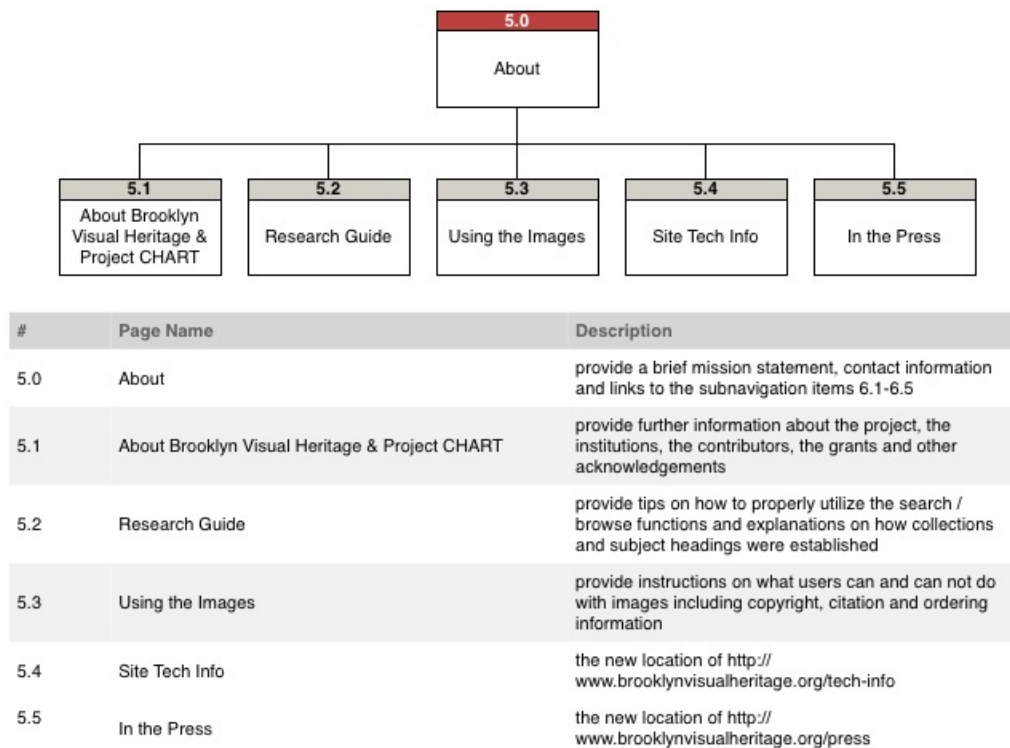


Figure 21. Proposed new structure for *About* section.

Each of these links would be accessible through a drop down menu (see Figure 22):



Figure 22. Proposed new structure for *About* section.

SHARING**Issue #16: Users want to be able to create accounts to internally bookmark images.**

One of the many goals of the BVH website is to showcase the extensive collection of each of the three host institutions. One way the website seeks to engage patrons and disseminate the collection is through various sharing and saving features incorporated on the image page. Some participant comments regarding this issue are as follows:

- “I like sites like Flickr, Tumblr and Pinterest because I can see what other people have picked and other people can see what I have...I am just not engaged”
- “I don’t want to share any of the images, I just want to save it for me”
- “There is no place to log-in, which makes me think that there is no way to save images to share or just for myself”
- “There is so much material on this website that it would be nice if there was just some way to collect everything [searched images] together that you might be interested in looking at more closely”

Recommendation #16: Implement Drupal’s “Save” module for bookmarking.

This option allows users more immediate access to images that they were interested in, may have navigated away from, and want to retrieve again without know their navigation trail. This module is available at: <http://drupal.org/project/save>

Issue #17: Users get confused when trying to save or share images.

The “image link” sends users to another website, where signing in with a library card (BPL) is required. Participants encountered similar problems when trying to save images. Some participant comments:

- “So, I’m not too thrilled to have to go through the Brooklyn Public Library to save my image...I don’t want to dig out my BPL card, enter in the barcode...I would rather stay on the BVH site”
- “I can see that this...image comes out of their collection...if I had not visited the BPL site in a while this would be a little jarring...and I am already getting kind of bored about trying to figure out how to order the image so I will just settle for emailing it to myself”
- “Not quite as straightforward as I thought it would be”

- “Why am I at the Brooklyn Historical Society website?”

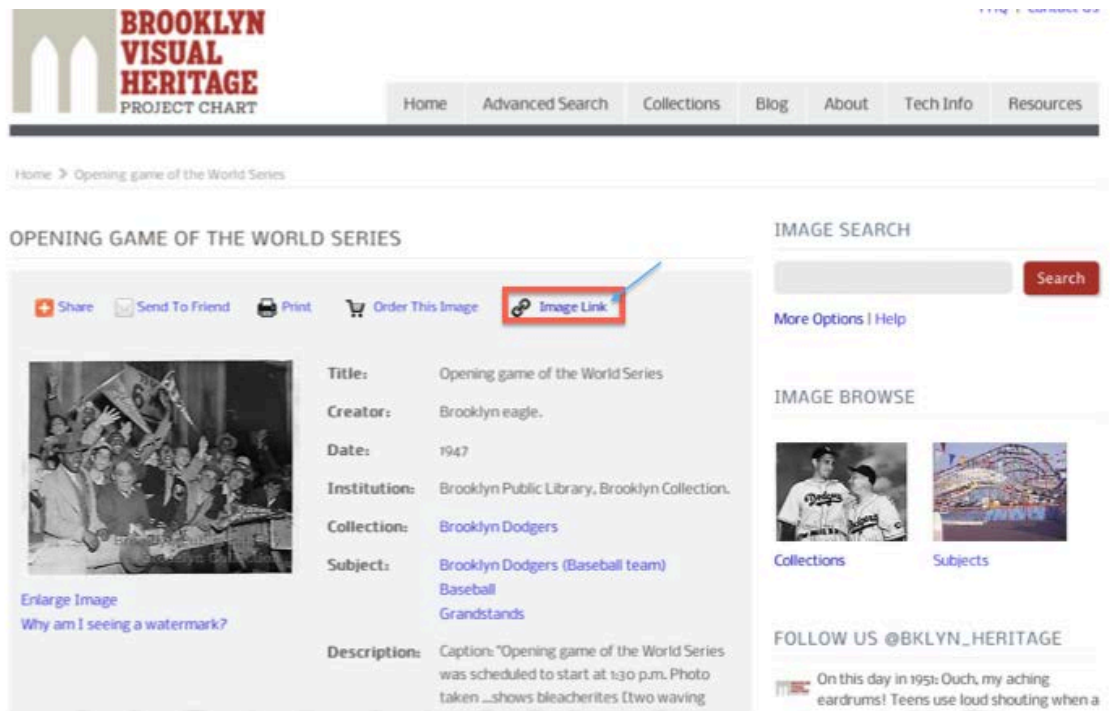


Figure 23. Users desire to save an image using the “Image Link” option

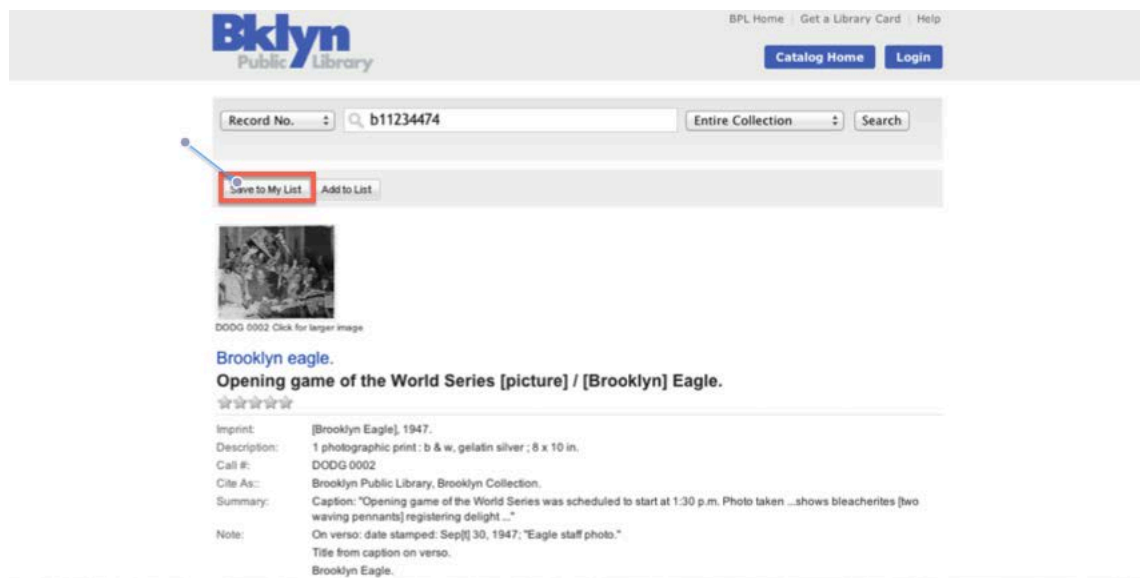


Figure 24. “Image Link” option sends user to Brooklyn Public Library

Bklyn
Public Library

BPL Home | Get a Library Card | Help

Catalog Home Login

Login

To login to your account please fill out the following fields.

Barcode: 14 digit number on the back of your library card.
(Do not use spaces.)

PIN: 4-digit numeric PIN.
[Forgot your PIN?](#)

Login

Get a Library Card

[Sign up now](#)
for a BPL
library card.

Help

If you are new to BPL or just got your BPL library card, then leave the PIN field blank and you will be prompted to create a PIN.

If you log into your library account online for the first time and have trouble accessing it even when leaving the PIN field blank, you may already have a PIN. Oftentimes library staff have users create their PINs at the Circulation Desk when they first get their library cards.

Still unable to access your account? Use our [help form](#).

When you are finished viewing your patron record, remember to **Logout**. This will clear your session from the computer and help protect your sensitive information from unauthorized use. To clear the system completely, close the browser window.

Figure 25. User is asked to sign in with Brooklyn Public Library card

Recommendation #17: Streamline the sharing and saving toolbar by making the labels more descriptive.

Remove the component that sends users to the host institution, or implement a pop-up that informs the user they are about to leave the Brooklyn Visual Heritage website. We also suggest changing the “Image link” label to “View Original Record” and the “Send to Friend” text to “Email” for the purpose of clarity.

Pie in the Sky: Add user accounts for personalized collections

Creating individual and unique login features may prove difficult to implement at the back-end development level, but it might be worth exploring for long-term planning and sustainability.

SUMMARY OF ISSUES AND RECOMMENDATIONS

In the chart below, we identify each of our 17 recommendations and assign them a priority from low to high. High priority items are issues that we feel should be addressed immediately or can be fixed easily. Low priority items, while still of importance, may involve more resources to fix or do not represent a significant impediment to user engagement.

#	Issue Description	Recommendation(s)	Priority	Page
1	The top navigation bar doesn't offer relevant options for BVH's target users.	Reorganize the top navigation bar as follows: Home, Explore Images (By Subject, By Collection, By Location), Blog, About.	High	13
2	Users were misled by content in the sidebar, particularly when navigating within internal pages.	Create distinct sidebars for the homepage and internal pages.	Med	14
3	Users were confused and overwhelmed by the A-Z subject guide.	Eliminate the numbers on the A-Z subject guide and create more manageable intervals.	High	17
4	Users were confused by similar terms in the subject list.	Consolidate subject terms so that root words with various suffixes are combined into one category.	Low	17
5	The back button does not save navigational history from the subject terms page.	Enable users to navigate backwards one page at a time when browsing subject headings.	Med	18
6	Users were overwhelmed and frustrated with the excessive scrolling and clicking required to navigate the subject headings list.	Arrange subject terms in columns above the fold so that users can scan more subject terms before they need to click to the next page.	High	19
7	Users were frustrated with excessive scrolling and reading through text on the Collections page.	Display collection images in a grid layout along with their collection title so that users can get a quick overview of the collections.	Med	19
8	Users were confused by the institutional links at the top of the Collections list.	When you click on institution names, navigate to corresponding pages that feature the specified institution's collections.	Low	21
9	Users want to browse by location.	Include <i>By Location</i> in the primary navigation bar.	Med	21
10	Search results don't always match search terms, and users are unclear as to how to find specific images.	Emphasize search options to help users narrow search results more easily.	High	23

11	Users were confused by the placement, organization and functionality of the Advanced Search feature.	Revise the position and functionality of the Advanced Search feature.	High	25
12	The image title is not easily apparent on image description pages.	Make image title stand out more	High	27
13	Metadata fields on image description pages are arranged inefficiently.	Re-order the metadata according to importance.	High	27
14	“Most Viewed” section is not optimized for user goals.	Explore ways to better utilize the “Most Viewed” section of the page by instead providing links to “Related” or “Similar” images.	Low	28
15	The existing <i>About</i> and <i>FAQ</i> sections do not provide sufficient documentation.	Revise the structure of the About section to contain the following sections: About Brooklyn Visual Heritage and Project CHART, Research Guide, Using the Images, Site Tech Info, In the Press	High	30
16	Users want to be able to create accounts to internally bookmark images.	Implement Drupal’s “Save” module for bookmarking	Low	32
17	Users get confused when trying to save or share images	Streamline the sharing and saving toolbar by making the labels more descriptive. <ul style="list-style-type: none"> • Change “Image Link” to “View Original Record” • Change “Send to Friend” to “E-mail” 	Med	34

CONCLUSION

The BVH website is an impressive resource. Study participants were satisfied with the website and excited about the depth and breadth of the content provided. However, our testing and analysis revealed 17 specific areas for improvement. We understand that it may be difficult to implement all of our ideas, and as such have attempted to focus on realistically actionable items when making our recommendations. As our findings demonstrate, many of the issues with the website's usability could be greatly improved by reorganizing the main navigation bar. This would clarify the website's tone and purpose while offering clear exploratory options for users. Refocusing the sidebar content would also assist in clarifying the website's purpose and drawing viewers' attention to the most useful features. Implementing our browsing and searching recommendations could decrease the feeling of frustration that many users expressed at being unable to find relevant images and could help them recover from search errors. Similarly, a reorganization of the image description pages would help highlight the most informative elements of each image's metadata. Through the course of our testing, ten of our subjects expressed frustration with the sharing and saving options that were available; exploring Drupal's bookmark feature would address these issues. Finally, improving the relevance of advanced search results and allowing for faceted searching could help your more experienced users engage with the collection on a deeper level.

We believe that several of our "pie in the sky" recommendations could be of considerable use. If you chose to invest time and resources in any of these supplementary ideas, we suggest that you develop the faceted search function, as discussed in relation to the Gallery and Advanced Search pages, and consider highlighting the geographic facet of the image metadata, which would give BVH the opportunity to create dynamic visualizations of Brooklyn's historical imagery.

It is our hope that the results of this study have provided you with meaningful insight into your targeted users' needs and desires. It was exciting for us to observe our participants' genuine enjoyment of the website and curiosity about its creation and features. This is a truly exceptional tool that, with a few adjustments, could effectively provide its audience with a wealth of visual, historical and cultural information. We appreciate your organization's time and effort in creating this application, and hope that our work contributes to your mission.

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APPENDICES

RECRUITMENT QUESTIONNAIRE	39
CONSENT TO PARTICIPATE	43
USER TEST MODERATOR SCRIPT	46
PRE-TEST QUESTIONNAIRE	52
POST-TEST QUESTIONNAIRE	54
THE ARNOLD EMOTIONAL EXPRESSION TEST (AEET)	56
THE AFFECT GRID	58
INITIAL IMPRESSIONS FORM	59
RESEARCH PARTICIPANT RECEIPT	62

REVISED PROFILE

“The Serious Researcher”

in a nutshell: will invest time but not money

- interested in seeing physical docs
- willing to put in time/effort to view and interact w/ materials
- has spent time in libraries/archives/special collections conducting research
- familiar w/ digital and physical collections and how to navigate through them
- will want to ask questions and want to see other relevant docs
- want to use, copy, photo, scan docs for free
- motives for research can be personal or academic/scholarly

“Brooklyn Historian”

in a nutshell, will invest money but not time

- has limited time and/or web skills
- expects finding an image will be as easy as a Google search
- is not doing in-depth or exploratory research; will be happy to find the “right” image
- supports local cultural heritage organizations
- has strong interest in local history, but not necessarily a deep knowledge
- is willing to spend money to purchase or license images

“Grade School Teacher”

in a nutshell, has limited time & money - focused on utility

- proficient in technology & social media
- open-minded; looking for ways to integrate new technology into curriculum
- likely to reproduce & share materials
- likes guidance in finding appropriate materials for her class
- is not doing in-depth research

“Cultural Heritage Professional”

like researchers: will take time to find free materials, either for institutional purposes or for constituents

- work in cultural heritage institution or is a student in relevant program
- specific interest in or experience with digital cultural heritage initiatives
- high base level of computer proficiency
- advanced research skills
- social media usage (personal or on behalf of institution)
- colleagues to Project CHART institutions, may be looking to BVH as model for digitization

QUESTIONNAIRE- General

1) What is your name?

2) Can you describe your profession using one or more of the following terms?

- ☐ educator
- ☐ student
- ☐ cultural heritage professional
- ☐ creative professional

- ☐ business owner
- ☐ retired

2a) If not, what do you do for a living?

3) Where do you live?

- ☐ in Brooklyn
- if so, which neighborhood? _____

- ☐ in the NYC area
- ☐ outside the NYC area

{for outside NYC respondents, the survey is either over or we're doing remote testing}

4) How would you describe your income level?

- ☐ under \$8,925 ☐ \$8,926 - \$36,250 ☐ \$36,251 - \$87,850
- ☐ \$87,851 - \$183,250 ☐ \$183,251 - \$398,350 ☐ \$398,351 - \$400,000
- ☐ \$400,000 +

5) What is the highest level of education you have attained?

- ☐ some high school
- ☐ high school diploma or GED
- ☐ some college
- ☐ 2 year degree
- ☐ 4 year degree
- ☐ some graduate or continuing education
- ☐ Masters
- ☐ Ph.D or higher

QUESTIONNAIRE-Technological Skills

How familiar are you with basic web applications & functionality? (email, search, navigation)

- ☐ Very - I use the internet every day, at home and/or at work.
- ☐ Familiar - I use the internet often and can perform most basic tasks.
- ☐ Somewhat Familiar - I use the internet, but not frequently.
- ☐ Not Familiar - I've never used the internet.

Which social media sites do you visit on a regular basis? Check all that apply.

- ☐ Facebook
- ☐ Twitter
- ☐ Tumblr
- ☐ Pinterest
- ☐ Instagram
- ☐ LinkedIn

QUESTIONNAIRE- Historical/Cultural

1) Have you been to any of the following institutions within the past year?

BPL Y/N
BHS Y/N
BM Y/N

2) Have you connected with any of the institutions electronically (via website, Facebook page, follow on Twitter, etc.)?

BPL Y/N
BHS Y/N
BM Y/N

3) Please list any other Brooklyn cultural institutions that you have visited (physically or electronically) in the past year (e.g. libraries, museums, historical societies, etc.)

4) Which of the following describe your interest in history? (Circle all the apply)

- a) Casual: I am interested when I hear about persons, places, and/or events in history, in passing, but I do not specifically seek out the information myself.
- b) Entertainment: I am interested in historic novels, films, podcasts, etc. I have Googled historic persons, places, and/or events for my own personal enrichment and to satisfy my general curiosity.
- c) Research: I am interested in conducting in-depth research into history either for personal or academic/scholarly purposes.
- d) Professional: I am an instructor interested in incorporating historic persons, places, and/or events into lesson plans.
- e) None: I have no interest in history
- f) Other (please specify):

On a scale of 1 to 5 (1 being the lowest, 5 being the highest) how would rate your interest in Brooklyn history?

Have you ever researched (online, in a library/archives, etc.) any persons, places, and/or events related to Brooklyn?

QUESTIONNAIRE- Availability

At which of these times would you be available for a 30 minute(?) test at the Manhattan campus of Pratt Institute? (144 W 14th St, between 7th and 6th Avenue.)

	Mon	Tue	Wed	Thur	Fri	Sat	Sun	
Morning (8am--Noon)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Afternoon (Noon--5pm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Evening (5pm--10pm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUESTIONNAIRE- Contact

If we choose to recruit you for a test, how can we contact you?

Email _____
Phone _____

Pratt Institute
200 Willoughby Avenue
Brooklyn, NY 11205

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE OF STUDY: Brooklyn Visual Heritage User Experience (BVH-UX)

RESEARCH STUDY:

I, _____, have been asked to participate in a research study under the direction of Professor Craig M. MacDonald (cmacдона@pratt.edu) in the School of Information and Library Science at Pratt Institute.

Other professional persons who work with them as study staff may assist to act for them.

PURPOSE:

The purpose of this study is to perform a usability evaluation of the Brooklyn Visual Heritage (BVH) website (brooklynvisualheritage.org), which was developed through Project CHART (Cultural Heritage Access Research Technology), a collaboration between Pratt Institute's School of Information & Library Science (SILS), Brooklyn Historical Society (BHS), Brooklyn Museum (BM), and Brooklyn Public Library (BPL). The project is primarily focused on the digitization of historic images and making them easily accessible to a broad and diverse audience.

DURATION:

My participation in this study will last for 30-45 minutes.

PROCEDURES:

I have been told that, during the course of this study, the following will occur:

1. I will be given a series of tasks to complete on the BVH website. While completing these tasks, I will be asked to "think aloud" to verbalize my thought process.
2. At specific intervals, I will be asked to describe how specific experiences with the BVH made me feel.
3. I will complete two brief questionnaires regarding my background, experience, and opinions of the BVH website.

PARTICIPANTS:

I will be one of about 20 participants to participate in this study.

EXCLUSIONS:

I will inform the researcher if any of the following apply to me:

1. I am under the age of 18.

RISK/DISCOMFORTS:

I have been told that the study described above may involve the following risks and/or discomforts:

- There are no risks in this study other those associated with computer use for an extended period of time. If I feel tired, sick, or uncomfortable, I am aware that I can stop or take a break at any time without penalty.

There also may be risks and discomforts that are not yet known.

I fully recognize that there are risks that I may be exposed to by volunteering in this study which are inherent in participating in any study; I understand that I am not covered by Pratt's insurance policy for any injury or loss I might sustain in the course of participating in the study.

CONFIDENTIALITY:

Every effort will be made to maintain the confidentiality of my study records. Officials of Pratt will be allowed to inspect sections of my research records related to this study. If the findings from the study are published, I will not be identified by name. My identity will remain confidential unless disclosure is required by law.

PAYMENT FOR PARTICIPATION:

I have been told that I will receive a [\\$10 Starbucks gift card](#) for my participation.

RIGHT TO REFUSE OR WITHDRAW:

I understand that my participation is voluntary and I may refuse to participate, or may discontinue my participation at any time with no adverse consequence. I also understand that the investigator has the right to withdraw me from the study at any time.

INDIVIDUAL TO CONTACT:

I understand that if I have any questions about my treatment or research procedures, I may discuss them with the principal investigator, Dr. Craig MacDonald, at (212) 647-7297 or cmacdona@pratt.edu.

If I have any addition questions about my rights as a research subject, I may contact Vladimir Briller, Chair, IRB (718)399-4245

SIGNATURE OF PARTICIPANT

I have read this entire form, or it has been read to me, and I understand it completely. All of my questions regarding this form or this study have been answered to my complete satisfaction. I agree to participate in this research study.

Name: _____

Signature: _____

Date: _____

SIGNATURE OF READER/TRANSLATOR (if the participant does not read English well)

The person who signed above, _____, does not read English well. I read English well and am fluent in _____ (name of the language), a language the person understands well. I have translated for the person the entire content of this form. To the best of my knowledge, the person understands the content of this form and has had an opportunity to ask questions regarding the consent form and the study, and these questions have been answered to his/her complete satisfaction.

Reader/Translator Name: _____

Signature: _____

Date: _____

SIGNATURE OF INVESTIGATOR OR RESPONSIBLE INDIVIDUAL

To the best of my knowledge, the participant has understood the entire content of the above consent form, and comprehends the study. The participants' questions have been accurately answered to his/her complete satisfaction.

Investigator's Name: _____ Signature: _____

Date: _____



User Test Moderator Script

Spring 2013

Prepared by: Pratt-SILS

2/15/2013

This document is the moderator script for the Brooklyn Visual Heritage user test. It was prepared by Pratt-SILS students Liz Leebert, Lars Lindahl, Conrad Lochner, Julia Marden, Sebastian Moya, Anna Rybakov, and Susan Young under the direction of Pratt-SILS professor Craig MacDonald.

Before the Session

Arrive early and set up the testing environment:

1. Open **Silverback** and create new project
2. Organize and arrange all necessary documents and materials:
 - a. Something for participant write with (pen or pencil)
 - b. Notes worksheet
 - c. Consent Form
 - d. Arnold Images
 - e. Affect Grid
 - f. Gift Card
 - g. Receipt
3. Note the participant's assigned ID number and write it at the top of your notes and in the designated spaces on the Notes Worksheet and Affect Grid
 - a. REMINDER: The participant's ID number is their *row* number in the original "BVH-UX Questionnaire (Responses)" spreadsheet
4. Open **Google Chrome**:
 - a. Clear the browser history and cache
 - b. Open all necessary links (can be in different tabs or windows):
 - i. BVH website: <http://www.brooklynvisualheritage.org>
 - ii. Questionnaire: <http://tinyurl.com/bvhuxfinal>
 1. Enter participant's ID number and click "Next" to open the Pre-Test Questionnaire
5. Meet the participant at a pre-determined location

Introduction & Informed Consent

Thank you for agreeing to take part in our study. My name is {Name} and this is {Name} and we're going to be walking you through the session today. Before we begin, I have some information for you, and I am going to read it to make sure that I cover everything.

You probably already have a good idea of why we asked you here, but I'd like to remind you that you're here today because we're testing the Brooklyn Visual Heritage website to see if it works as intended. Here's how it will work: I'm going to give you a few tasks to complete using the website while "thinking aloud" and at some points I'm going to ask about your current emotional state. You'll also fill out two brief questionnaires. Overall, the session should take about 30 minutes to complete.

The first thing I'd like to make clear is that we are testing the website, not you. You can't do anything wrong here and you don't have to worry about making any mistakes. In fact, if you do make mistakes that will actually help us figure out where we can make improvements so please feel free to do things you would normally do if we weren't here watching. Also, we did not create the website and we're not associated with the website so there's nothing you can say or do that will offend us. We truly want to learn what's wrong with the website and how to make it better, so please be as open and honest as possible.

Before we go any further, please read through this document that explains what you're going to be doing in this session and describes your rights as a research participant, which include being free to take a break or stop at any time without any penalty.

Please take as long as you need to read through it and let me know if you have any questions. When you're ready to continue, please sign your name at the end of the form.

[Give participant consent form]

Before you sign the form, do you have any questions?

[Have participant sign the form; then, you sign the form]

Pre-Test

First, we'd like to learn a little bit more about you so please take a few minutes to fill out this brief questionnaire. All of the questions are optional so feel free to skip any questions you don't want to answer.

[Open Pre-Test Questionnaire]

As part of this session we'd like to record the screen and video of your reactions to the website. The recordings will only be used for research purposes and will not be made public. Do we have your permission to record both screen and video?

*[If **Yes**: Start Silverback recording. If **No**: Place post-it note over the camera.]*

Task #1

As you use the site, we'd like you to think out loud as much as possible: to say what you're looking at, what you're trying to do, what you're thinking – just verbalize your thought process as much as possible.

[Open up Brooklyn Visual Heritage website]

The first thing we'd like you to do is **look at this website and tell us about your first impressions**. You can scroll around but don't click on anything yet – just take a moment to look at the site and tell us what you think. What do you think you can do or find on this website? Does anything stand out immediately?

[Give participant about 1 minute to give their impressions]

Before we go any further, take a moment to think about how this website makes you feel.

[Place Arnold cards face up on the table]

Which facial expression best represents how you're feeling right now?

[Give participant a few seconds to select an image; record this number on the Notes Worksheet]

Why did you pick that expression?

Task #2

Now I'm going to give you some tasks to complete on this website. I'm going to read each task aloud and give you a few minutes to try to complete it. Are you ready?

OK. The first thing I'd like you to do is **find an image that is interesting or meaningful to you in some way**. You can use any strategy or approach and please remember to think out loud while you do it. Once you find the image, learn as much as you can about it. We'll give you a few minutes to find an image and learn about it.

[Give them no more than 5 minutes to browse/search for an image; if it goes on for too long or if they get too frustrated, just ask them to pick any image they find interesting]

Now, think about how the experience of finding an image made you feel.

[Place Arnold cards face up on the table]

Which Arnold best represents how you're feeling right now?

[Give participant a few seconds to select an image; record this number on the Notes Worksheet]

Why did you pick that expression?

Task #3

[Return to the BVH homepage]

For the last task, I'd like you to **find 2 similar images to the one you just found and save or record them in any way you want**. These images can be similar in any way. Again, you can use any strategy or approach and please remember to think out loud while you do it. We'll give you a few minutes to find these similar images and save or record them.

[Give them no more than 10 minutes to browse/search for similar images]

Now, think about how the experience of finding similar images made you feel.

[Place Arnold cards face up on the table]

Which Arnold best represents how you're feeling right now?

[Give participant a few seconds to select an image; record this number on the Notes Worksheet]

Why did you pick that expression?

Post-Test

OK, now think about your entire experience using the Brooklyn Visual Heritage website. Take a look at this graph that shows different combinations of energy and pleasure.

[Place the Affect Grid in front of participant]

Place an "X" in the box that best describes how you feel about your entire experience with this website. If you have any questions, please let me know.

[Give them time to select a box]

Why did you place the mark there?

We'd like to learn more about your experience using the Brooklyn Visual Heritage website so please take some time fill out this questionnaire. Once again all of the questions are optional and you can skip any questions you don't want to answer.

[Open Post-Test Questionnaire and give participant a few minutes to fill it out]

Great! Do you have any other comments or questions about the website?

Debrief

Thank you again for participating in this study. As a sign of our appreciation, here is a \$10 Starbucks gift card. Please sign this receipt showing that you received it.

[Hand user the \$10 starbucks card and receipt; have participant sign the receipt]

Again, we really appreciate your comments and feedback. Please remember that all information you provided will remain anonymous and confidential and will not be shared with anyone outside the research team.

Do you have any other questions or comments? If you think of anything, please feel free to contact me. Thank you again for your time.

[Stop Silverback recording]

After The Session

[Talk with your partner and make a list of all the problems you observed during the session. Problems will include things they said and things they did that were unexpected or incorrect.]

Pre-Test Questionnaire

Please answer the following questions to the best of your ability. No answers are incorrect and you can skip any questions if you don't want to answer them.

1) You are:

- ☐ Male
- ☐ Female

2) Your age:

- ☐ 18-24
- ☐ 25-34
- ☐ 35-54
- ☐ 55-64
- ☐ 65+

3) Your occupation:

4) Your highest level of education:

- ☐ High school
- ☐ Some college
- ☐ Bachelor's degree
- ☐ Some graduate school
- ☐ Master's degree
- ☐ Doctorate

Pre-Test Questionnaire

5) Are you currently a student?

☐ Yes

☐ No

6) If you answered Yes to question 5, what is your degree program?

7) How frequently do you search the internet for historical images ?

☐ Never

☐ Rarely

☐ A few times a month

☐ One or two times a week

☐ Daily

8) Have you ever purchased digital images from a website?

☐ Yes

☐ No

☐ Not sure

Thank you!

You have completed the pre-test questionnaire. Now, the moderator will give you a few tasks to complete on the Brooklyn Visual Heritage Website.

Post-Test Questionnaire

Please answer the following questions to the best of your ability. No answers are incorrect and you can skip any questions if you don't want to answer them.

9) Please indicate your level of agreement with each of the following questions.

	Strongly Disagree 1	2	3	4	Strongly Agree 5
I think that I would like to use this website frequently.	()	()	()	()	()
I found the website unnecessarily complex.	()	()	()	()	()
I thought the website was easy to use.	()	()	()	()	()
I think that I would need the support of a technical person to be able to use this website.	()	()	()	()	()
I found the various functions/features of the website were well integrated.	()	()	()	()	()
I thought there was too much inconsistency in this website.	()	()	()	()	()
I imagine that most people would learn to use this website very quickly.	()	()	()	()	()
I found the website very awkward to use.	()	()	()	()	()
I felt very confident using the website.	()	()	()	()	()
I needed to learn a lot of things before I could get going with this website.	()	()	()	()	()

10) The BVH website is:

Ugly	()	()	()	()	()	()	()	Beautiful
	1	2	3	4	5	6	7	

11) The BVH website is:

Bad	()	()	()	()	()	()	()	Good
	1	2	3	4	5	6	7	

Post-Test Questionnaire

12) Overall, my experience using the BVH website was:

Negative	()	()	()	()	()	()	()	Positive
	1	2	3	4	5	6	7	

13) How likely are you to use the Brooklyn Visual Heritage website again?

Not at all likely	()	()	()	()	()	()	()	Very likely
	1	2	3	4	5	6	7	

14) How likely are you to recommend the Brooklyn Visual Heritage website to someone else?

Not at all likely	()	()	()	()	()	()	()	Very likely
	1	2	3	4	5	6	7	

15) When you think about a site like Brooklyn Visual Heritage, what would it mean to provide a good user experience?

(Open-ended)

Thank You!

Thank you for your completing our study! We value and appreciate your time and your feedback.

The Arnold Emotional Expression Test

The Arnold Emotional Expression Test (AEET) is a novel method for gaining insight into an individual's current emotional state. The AEET involves asking individuals to describe their current feelings by selecting one of six photographs of Arnold Schwarzenegger, each of which roughly corresponds to one of the six universal emotions: anger, disgust, happiness, sadness, confusion, and fear. After making a selection, individuals are asked to explain why they chose that particular photograph, which will provide insight into not just *how* they feeling but *why* they are feeling that way at that particular moment.

The six photographs are provided on the next page.

NOTE: The AAET is an experimental method developed specifically for the Brooklyn Visual Heritage project. As such, it has not been scientifically validated and its results should not be considered definitive or generalizable. However, the method is heavily inspired by existing approaches to capturing or measuring affective responses. Some examples include:

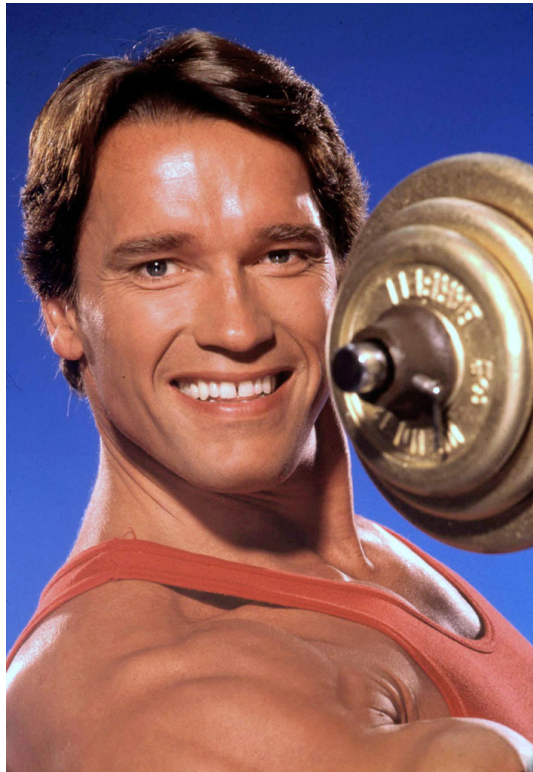
1. Emocards
 - a. Users are given set of eight pairs of cartoon faces (each pair consists of one male and one female face) which depict eight distinct emotions. Users select one pair to represent their current emotional state.
 - i. Source: Desmet, P. M. A., Overbeeke, C. J., & Tax, S. J. E. T. (2001). Designing products with added emotional value; development and application of an approach for research through design. *The Design Journal*, 4(1), 32–47.
2. The Self-Assessment Manikin (SAM)
 - a. Users are presented with three sets of cartoons depicting non-human manikins with emotional expressions. Users are asked to select one manikin to represent their current emotion for each of three dimensions: pleasure–displeasure, degree of arousal, and dominance–submissiveness.
 - i. Bradley, M., & Lang, P. (1994). Measuring emotion: The self-assessment manikin and the semantic differential. *Journal of Behaviour Therapy and Experimental Psychiatry*, 25(1), 49–59.
3. Expressing Experiences and Emotions (3E)
 - a. Given a template of a stick figure with an empty face and a speech bubble, users draw and write their experiences and emotions about a specific application or interface.
 - i. Source: Tähti, M., & Arhippainen, L. (2004). A Proposal of collecting Emotions and Experiences. *Volume 2 in Interactive Experiences in HCI*, pp. 195–198.



1



2



3



4



5



6

Excitement

High Energy

Frustration

Instructions:

Mark the box that best represents your current emotional state.

Unpleasant Feelings

Pleasant Feelings

Boredom

Relaxation

Low Energy

Task #1: Initial Impressions

Notes:

Arnold:	1	2	3	4	5	6
Why was this Arnold selected?						

Task #2: Find an Image

Notes:

Arnold:

1

2

3

4

5

6

Why was this Arnold selected?

Task #3: Find Similar Images

Notes:

Arnold:

1

2

3

4

5

6

Why was this Arnold selected?

Research Participant Receipt
Pratt Institute, School of Information and Library Science

Principle Research Investigator:

Craig M. MacDonald, Ph.D.

Research Project:

Brooklyn Visual Heritage User Experience

By signing below, I indicate that I have received a **\$10 Starbucks gift card** in exchange for participating in the above research study.

Participant Name:

Participant Signature:

Date:
