



New York Philharmonic Leon Levy Digital Archives

Usability Evaluation

Rachel Bronstein, James Lemoine, Seth Persons
Pratt Institute, School of Information and Library Science
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Executive Summary

This report documents a usability evaluation completed for the Leon Levy Digital Archives of the New York Philharmonic (henceforth “Digital Archives,” “Archives”). The Digital Archives’ collection includes programs, sheet music, visual materials, business-related documentation, and related ephemera from the mid-twentieth century. Since its launch in 2011, over 250,000 unique users from 175 countries have consulted the Archives, accommodating a user population that would otherwise not be able to access these materials.

Three emerging usability experts (henceforth “experts”) based at Pratt Institute’s School of Information and Library Science administered this evaluation. The experts relied on the user test, a product evaluation method that draws on user’s observations and behaviors as they complete meaningful, real tasks to determine a system’s usability. The test itself consisted of three tasks based on the Archives’ potential functionality. Six participants were identified and asked to complete these tasks and think aloud as they navigated the Archives’ interface. Participants were documented via audio-visual screen capture applications (Silverback, SnagIt) to allow for subsequent reviewing. Finally, participants completed questionnaires to compile demographic data, determine the interface’s user affect potential, and generate the Digital Archives’ overall usability score via the System Usability Scale (SUS).

Qualitative findings informed a series of actionable recommendations to improve the Archives’ usability and maximize overall user experience. These recommendations are supplemented with end-user feedback and visual mockups, and organized around four main interface areas: the **landing page**, the **About Us page**, the **search-results environment**, and the **item-level page**. The experts reached these conclusions:

Landing Page

Search tasks are easy to complete thanks to the search form’s placement and intuitive data input fields. Landing-page content could benefit from clearer labeling and organization, and the Archives links and those of its parent organization are indistinguishable and overlapping, complicating backtracking tasks via the global navigation toolbar. The proposed redesign of the search form and global navigation toolbar increases visual clarity, and distinguishes the Digital Archives’ unique access points.

About Us Page

The profusion of information impressed users, yet the page’s text density impedes access to detailed information. A content-based restructuring with larger typefaces and shorter sections would greatly improve presentation and access.

Search-Results Environment

Search results are accurate and their display was deemed generally successful, yet room for improvement does exist. The proposed redesign enlarges images and typefaces to improve scannability and swift information retrieval. The redesign restructures results-based labeling to emphasize a holding's name over its internal identifier and file path and improve clarity.

Item-Level Page

The program and image viewer tools were considered enjoyable, yet the red typeface's prominence on the item-level page may incite confusion due to red's pervasive connotations. The proposal improves the navigation-based labeling scheme with the addition of a bordered color field behind the hyperlinked metadata fields and larger thumbnail images and typefaces to reduce visual fatigue and improve user experience.

This report further details these actionable recommendations with the goal of maximizing the Leon Levy Digital Archives' positive user experience potential.

Introduction

The Leon Levy Digital Archives of the New York Philharmonic launched in 2011, enabling access to an otherwise inaccessible collection of materials from the mid-twentieth century and accommodating 250,000 unique users from over 175 countries. Currently, the Archives include 1.3 million pages, with:

- 1,781 scores marked by Leonard Bernstein, Andre Kostelanetz, and others
- 15,896 music parts marked by Philharmonic musicians
- 3,235 printed programs, 1943–70
- 4,069 business and planning folders
- 16,339 photographs and images

The searchability of the Digital Archives' holdings was the evaluation's main objective. Evaluators observed users' ability to complete tasks in the interface and locate specific information, and noted how easily users were able to find relevant information and any setbacks that arose during task completion.

In addition to identifying the interface's potential weaknesses, this study provides potential solutions to maximize the Digital Archives' usability and align the resource with end-user needs and expectations.

This report details the study's underlying methodology, describes and analyzes the obtained qualitative results, and amends usability issues with actionable recommendations.

Methodology

User testing is an interface-evaluation method that draws on users' observations as they complete meaningful, real tasks to determine overall usability (Barnum, 2011). This method requires extensive preparation and a strong understanding of the product. Once the usability experts identified the New York Philharmonic's mission for this resource and the Archives' potential functionality, three tasks were devised:

1. You are curious about the Digital Archives' founding and its holdings. Browse the site and find out when this collection launched and its scope.
2. You were speaking to your grandmother, and she recalled seeing a performance conducted by Leonard Bernstein in New York in the 1940s. She thinks it was at the Metropolitan Opera House, but she can't recall what piece was performed. You'd like to find this information for her.
3. You are a scholar of 20th century avant-garde music and you are writing about John Cage's involvement with the New York Philharmonic.
 - A. You know that Philharmonic programs sometimes feature contributions written by the conductors and are hoping to find a Cage quote about a specific piece.
 - B. You would also like a photo to accompany your article but would need to obtain reproduction rights and aren't sure who to contact.

A user-test script (Appendix A) was devised in natural (rather than system-based) language to ensure test-administration consistency, a carefully balanced tone of informality, approachability, and authority, and the participant's overall comfort. The issued consent forms (Appendix B) follow a similar vein in their informing participants of the user test's overarching trajectory, time frame, and anticipated outcome. Both the script and the consent form stress these three pivotal points:

The evaluation was concerned with the interface's ability (or inability) to conform to a participant's sense making strategies and worldly knowledge, not his or her technological aptitude.

Users were encouraged to think aloud as their observations and feedback would inform actionable recommendations to ensure a more positive user experience for the Digital Archives.

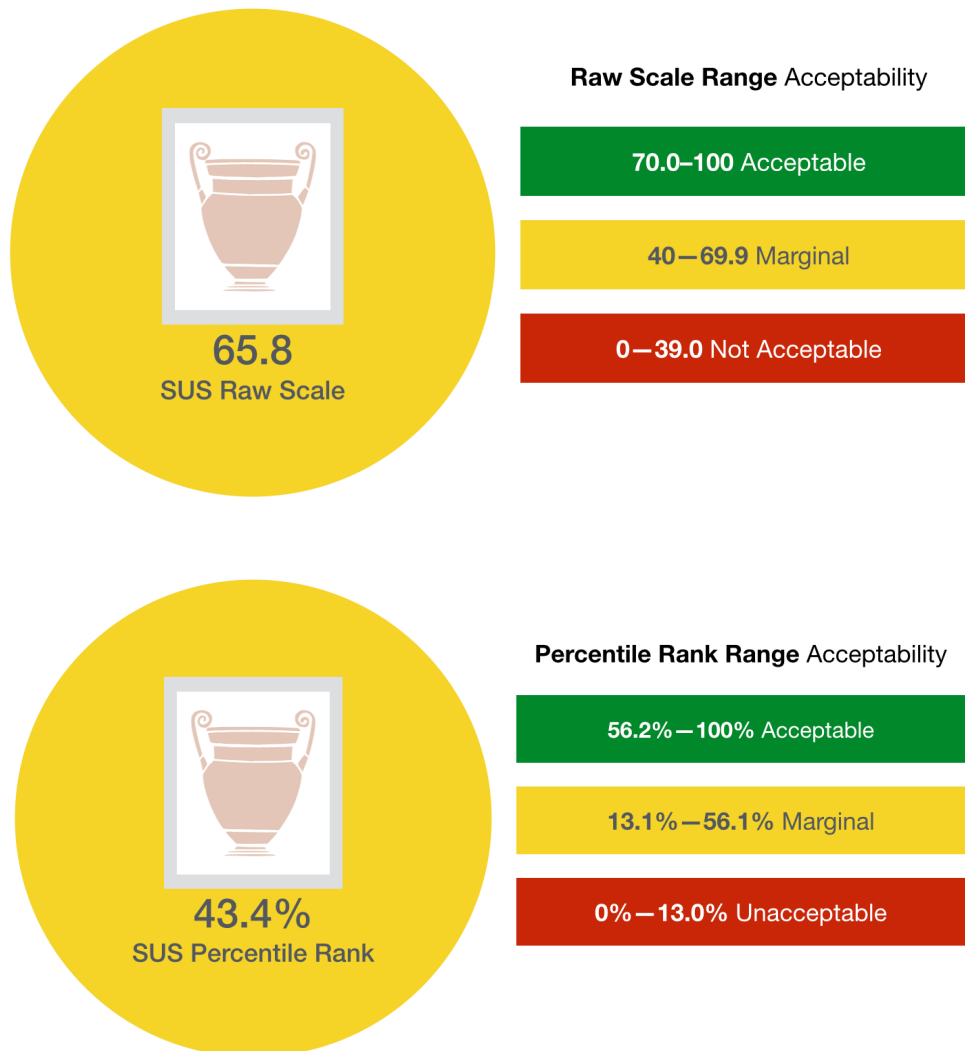
Anonymity and confidentiality were guaranteed.

The experts also identified screen-capture applications to document users' task-based interactions and observations, including Silverback, an audio-visual recording and screen capturing software, and SnagIt, an audio recording and screen capturing tool.

Two Google-Drive based questionnaires were issued to correspond with the test's initiation and completion stages. The pre-test questionnaire (Appendix C) collected information on age, occupational and educational background, knowledge of the Digital Archives and similar repositories, and general information-seeking behavior. The post-test questionnaire (Appendix D) focused on user affect and was structured to follow the System Usability Scale (SUS) format –the language was modified to be more in keeping with the user's rather than the internal system (Barnum, 2011; Finstad, 2006).

Findings

The pre-test questionnaire revealed a generally young and highly educated participant pool (refer to Appendix E). All test **subjects were under 35 and had completed a Bachelor's Degree**, with **66.6% currently pursuing or having already earned at least a Master's Degree**. Participants were 50% male and 50% female, and **represented a wide user-group range, including information professionals, educators, and a musicologist**. The post-test questionnaire revealed the Digital Archives' system usability scale (SUS) raw score to be 65.8, placing it in the 43rd percentile as a marginally usable system (refer to Appendix F).



An assessment of the raw qualitative findings revealed the following:

Landing Page

Search tasks are easy to complete thanks to the search form's placement and intuitive data input fields. Landing-page content could benefit from clearer labeling and organization, and the Archives links and those of its parent organization are indistinguishable and overlapping, complicating backtracking tasks via the global navigation toolbar. The proposed redesign of the search form and global navigation toolbar increases visual clarity, and distinguishes the Digital Archives' unique access points.

About Us Page

The profusion of information impressed users, yet the page's text density impedes access to detailed information. A content-based restructuring with larger typefaces and shorter sections would greatly improve presentation and access.

Search-Results Environment

Search results are accurate and their display was deemed generally successful, yet room for improvement does exist. The proposed redesign enlarges images and typefaces to improve scannability and swift information retrieval. The redesign restructures results-based labeling to emphasize a holding's name over its internal identifier and file path and improve clarity.

Item-Level Page

The program and image viewer tools were considered enjoyable, yet the red typeface's prominence on the item-level page may incite confusion due to red's pervasive connotations. The proposal improves the navigation-based labeling scheme with the addition of a bordered color field behind the hyperlinked metadata fields and larger thumbnail images and typefaces to reduce visual fatigue and improve user experience.

Recommendations

The following recommendations are supplemented with qualitative and quantitative data and mockups, and organized around four areas: the **landing page**, the **About Us page**, the **search-results environment**; and the **item-level page**. By drawing on user feedback and pervasive information-seeking behaviors, these recommendations seek to generate positive user experience.

Landing Page

Participants were generally receptive to the landing page's search-query form: novice users can complete information-retrieval tasks relatively easily thanks to the form's simplicity, prominent placement, and adherence to cultural precedent. The recommendations devised for this space stem from the following observations:

- One-third of participants moved themselves closer to the screen and visibly strained their eyes to view content.
- One participant was unable to view one of the carousel's four slides because he had missed the temporal cue.
- One participant was unsure of the placement of the Archives' mission and scope, arguing that this should be more prominent: *I thought [information about the Archives] would be in 'Digital Archives,' not just 'About Us.'*
- One-third of participants motioned towards the three-column featured-content section and were visibly unsure of its purpose,
- The Digital Archives links and those of the larger New York Philharmonic are indistinguishable and overlapping, making backtracking via the global navigation bar difficult and unintuitive.

Global Navigation Toolbar and Search Form

These actionable solutions improve the navigation bar and search form's visual clarity and prominence (Figure 1A) and distinguish the Digital Archives' unique functions and content access points from those of the larger organization.

- The search-form fields and links are made larger to increase visual perception and prevent eye strain and fatigue, and spatially oriented to compliment search-inquiry task completion steps.

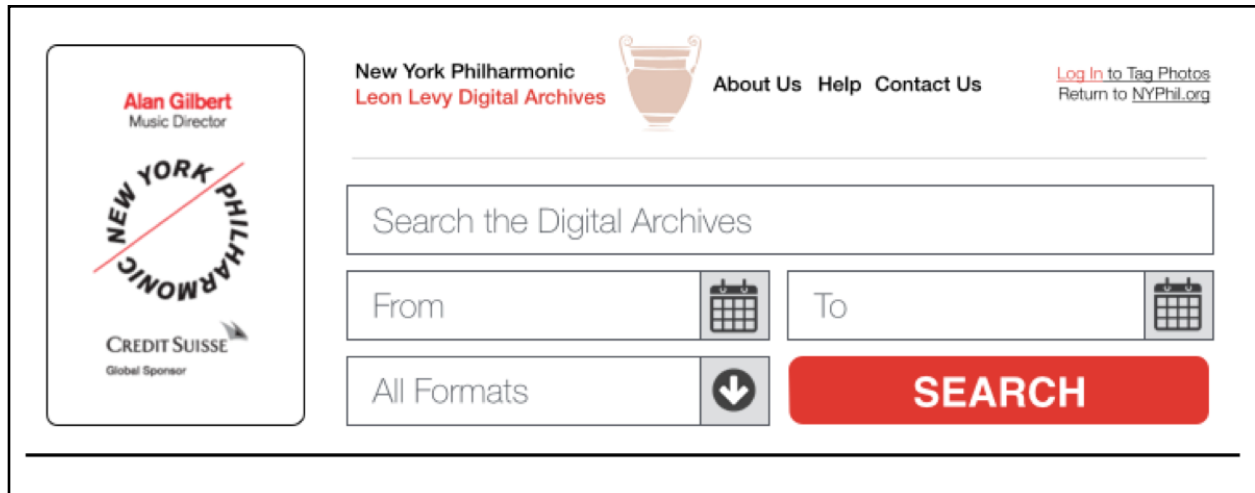


Figure 1A Proposed re-design of the Digital Archives global navigation toolbar and search form

- The Leon Levy Digital Archives logo is now situated to compliment pervasive reading behaviors, and strengthen the semantic connection between the Digital Archives and the About Us, Help, and Contact Us links.
- The New York Philharmonic logo is featured in a rounded rectangular frame to distinguish this global access point from the Digital Archives’ unique links.
- The NYPhil.org link is abandoned as the logo’s added frame also increases visual prominence.

Content

These recommendations improve end-user interaction and knowledge discovery potential by increasing visual prominence of and assigning meaning to the landing page’s content.

- The carousel is replaced with a horizontal introductory banner that compliments the screen’s orientation, functions as a more perceptible access point to the Archives’ mission and scope, and affords access without temporal limitations.
- The Archives’ audience statistics are featured to generate a sense of end-user inclusivity.
- The featured content section is formally presented as “Highlights from the Leon Levy Digital Archives” to assign this content a clear and meaningful purpose.
- The three-column arrangement is replaced with three horizontally oriented static banners stacked vertically to compliment the introductory banner’s established pattern and the abandoned carousel’s appearance.

- The graphic material corresponding to each of these three banners is significantly larger to substantiate its semantic status as a collection highlight and improve knowledge discovery potential. Each banner also features a white semi-transparent field with descriptive text to improve knowledge discovery potential.
- The link to the Archives' highlighted content are larger and situated between the graphic banner and the textual description to draw more attention towards this access point.
- A banner describing the Leon Levy Foundation's financial backing of the Archives is adopted from the carousel and featured at the very bottom of the web page, reinforcing the Foundation's placement as a supportive footing.

[N. B. The mockup rendered for this set of recommendations is featured in its entirety in Appendix G]

New York Philharmonic
Leon Levy Digital Archives

250,000 visitors, 150 countries,
over 1,900,000 views, and counting...

[Learn more about the Archives](#)

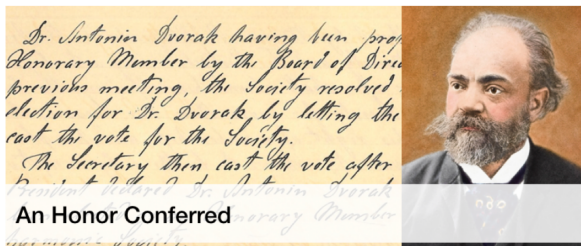
Highlights from the Leon Levy Digital Archives

Celebrating Dvořák and the New World Symphony



[View the Program](#)

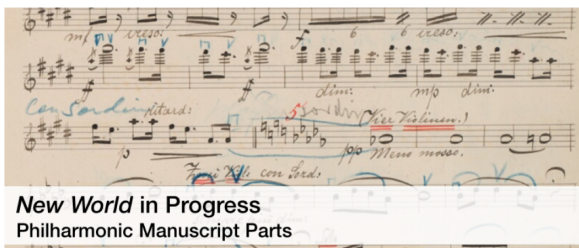
Prior to the first performance of Dvořák's 1893 symphony, the Philharmonic had given the World Premiere of only seven works over its 50 year history. The symphony's outstanding and immediate success signaled the beginning of American orchestras and culture. The N.Y. Evening Post deemed it "the greatest symphonic work ever composed in this country."



[An Honor Conferred](#)

[View the Document](#)

Following Dvořák's New World Symphony's brilliantly successful premiere, the Philharmonic musicians elected Dvořák an Honorary Member of the Philharmonic Society, a rare honor that had been bestowed on only a few, including Richard Wagner and Felix Mendelssohn. Dvořák accepted with pleasure, and the certificate still hangs in Dvořák's summer home in Vysoka, Czech Republic.



[New World in Progress](#) [Philharmonic Manuscript Parts](#)

[View the Parts](#)

The Philharmonic's librarian received Dvořák's manuscript score less than four weeks before the first performance. These hand-copied parts, used by the Orchestra for the next 40 years, reflect conductor Anton Seidl's interpretation with the composer in attendance. At the early rehearsals, Dvořák and Seidl added notes, changed tempi, and tweaked dynamics; the musicians recorded the changes in their parts.



THE LEON LEVY FOUNDATION

About Our Funder

The Leon Levy Foundation's support has been essential in allowing the Philharmonic Archives to develop an online digital site that makes possible the most realistic and comprehensive research experience. The Philharmonic expressed its gratitude to the Foundation for its \$5 million of support with a surprise serenade. [Watch the video](#)

Figure 1B Proposed re-design of the Digital Archives landing-page content

About Us


Users appreciated the comprehensive information on the About Us page, yet most expressed frustration with the information presentation. The recommendations for the About Us page are based on these observations:

- Almost all participants expressed difficulty in completing information-seeking tasks and frustration over text density. One participant found the top links that connect to a section of the same page “odd” and mentioned that it was “really hard to know where to look.”
- Users were overwhelmed by the contact list. One participant commented: *The mix of stuff is really challenging to navigate and I have no idea what all these different contacts are. It would be a lot simpler if there were fewer contacts but expecting someone to wade through this list of 30 or 40 people...if I weren't an expert, I would get really confused.*
- Users deemed the press-release format ineffective.

The following recommendations (Figure 2) increase information access and improve the About Us page's overall content organization.

- Retaining the most informative content concerning the collection but devoting separate pages to sections including “Our Partners,” “Printed Music Collections,” “Future Plans for the Digital Archives,” “Rights & Permissions,” and “Press Releases” would diminish this page's content-based visual overload.
- A clearly defined and prominently displayed section at the top of the page describing the collection's holdings would circumvent the frustration users expressed in locating essential information.
- The remaining content should be displayed in a larger typeface, broken down into shorter sections, and juxtaposed with strong visual elements to increase scannability.

[N. B. The mockup rendered for this set of recommendations is featured in its entirety in Appendix G]



The Philharmonic Archives is one of the longest running, highly detailed collections documenting all the activities of a single cultural institution. The Digital Archives will eventually make available almost 6 million pages of documents and 7,000 hours of audio and video. [Watch the video...](#)

About the Digital Archives

Funded by the Leon Levy Foundation and launched in February 2011, the New York Philharmonic Leon Levy Digital Archives currently includes historic material from 1943—70:

- 1,781 scores marked by Leonard Bernstein, Andre Kostelanetz, and others
- 15,896 music parts marked by Philharmonic musicians
- 3,235 printed programs, 1943—70
- 4,069 business and planning folders
- 16,339 photographs and images

172 Years and counting...

1842


The Archive Expands

The New York Philharmonic has received a \$2.4 million grant from the Leon Levy Foundation to complete the digitization of its extensive Archives, beginning with its founding in 1842 through the present day. The grant builds on previous funding from the Leon Levy Foundation — now totaling \$5 million since 2007 — which funded the digitization of the **1.3 million pages currently available**. When completed, the New York Philharmonic Leon Levy Digital Archives **will contain almost 3 million pages** comprising all documents in the New York Philharmonic Archives.

The completion of the New York Philharmonic Leon Levy Digital Archives will create **one of the world's most comprehensive online collections documenting a single cultural institution**, as well as provide the structure for growth into the future.

Research and Use

Since its launch in February 2011, the newly named New York Philharmonic Leon Levy Digital Archives, available online at archives.nyphl.org, has generated **more than 250,000 unique visitors from more than 176 countries, resulting in 1,895,000 page views**, with usage growing more than five-fold from the launch, achieving an average of 5,500 hits per week. Of those 250,000 unique visitors, 62,900 researchers have returned to the site ten or more times; of those, **11,044 individuals have used the New York Philharmonic Leon Levy Digital Archives more than 200 times**. This magnitude of research would not be possible without the digital availability of the material, as there would be no way to physically accommodate so many interested researchers.




1943–1970

The International Era

Why 1943-70? The International Era

The Archives collections contain material that dates back to the Philharmonic's first concert in 1842, but the first phase of our digitization begins in the middle of this long history. In deciding where to begin with our digitization project, we held a roundtable discussion that included librarians, historians, musicians, conductors, journalists, and students to evaluate the different time periods in the Philharmonic's history and to determine what might provide the most unique source material.

The International Era was selected for several reasons. [Find out more.](#)



A Word About Our Sponsor: The Leon Levy Foundation

The Leon Levy Foundation, through its archives and catalogues program, helps arts and humanities institutions preserve, use and make available important records, manuscripts, letters, photographs and other historical materials in their archives and store rooms, with the ultimate goal of promoting advanced scholarship and expanding knowledge. Since its start in 2007, the Leon Levy Archives Grant program has awarded more than \$12 million to 25 institutions.

Our Partners
[Press Release Announcing Leon Levy Foundation Grant](#)
[Printed Music Collections](#)
[Future Plans for the Digital Archives](#)
[Rights & Permissions](#)

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Marianne Barcellona
 749 West End Ave, Apt. 8B
 New York, NY 10025
<http://www.maribhbarcellona.com>
mb@mariannebarcellona.com

[back to top](#)

Figure 2 Proposed re-design of the About Us page (global navigation and footer toolbars omitted)

Search Results Environment

Participants appreciated the search query form's effectiveness and the system's efficiency in locating information. Many participants expressed frustration in response to the Search Results display. The recommendations for this interface are based on these observations:

- Multiple users struggled with the typeface and image size in the search results, expressing a desire for both to be larger.
- Users felt somewhat overwhelmed by the amount of information provided on the search results page. One user admitted to being confused when initially looking at the results due to the prominence given to each item's institutional identifier and file path.
- Multiple users expressed frustration at the absence of "New York, NY" as a location and had a hard time remembering to search by borough (i.e. Manhattan, Brooklyn, etc.). One user worried that searching by borough for New York area performances may not occur to researchers outside the New York area.
- While most users liked the tabbed results display showing search result counts for each archival document type, some users were confused disappointed by the complete absence of audio- and moving-image content despite the presence of Audio and Video tabs.

The following recommendations (Figures 3A and 3B) address these issues and reduce potential end-user confusion.

- Increasing photo size and typeface to facilitate content browsing.
- The item-name display should be larger and displayed above institutional identifiers and internal file path to streamline the search-result interface layout and reduce confusion.
- Listing New York area concerts under "New York, NY" to create consistency in location options, increase information access, and correlate with vernacular conceptualizations of the Greater New York area.
- Adding a hover box to the Audio and Video tabs with the text string "Audio/Video Coming Soon" to prevent disappointment and encourage users to return to the Digital Archives at a later date.



Figure 3A Proposed re-design of the Digital Archives search-results interface, with cursor hovering over “Video” field to display cursor-sensitive prompt with the text string “Video content coming soon”

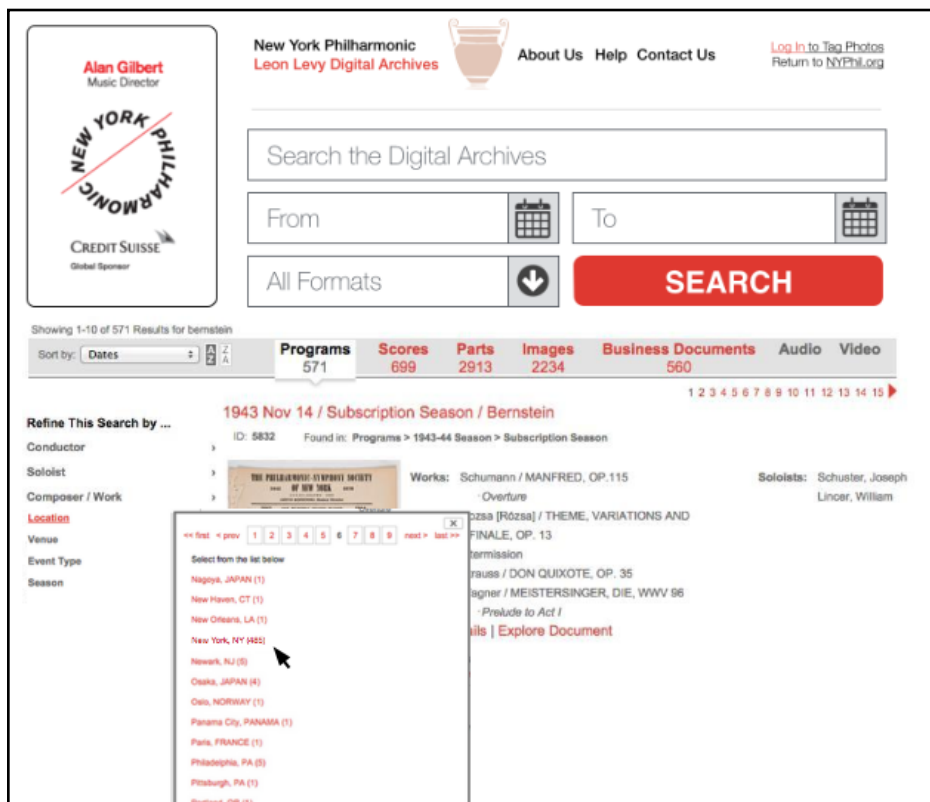


Figure 3B Proposed re-design of the Digital Archives search-results interface, with “Location” filter activated and cursor pointing to devised “New York, NY” facet.

Item-Level Page

Users were satisfied with the item-level pages and enjoyed using the program- and image viewing applications. Issues were identified however with respect to information display, which frustrated users throughout our tests. Our recommendations are based on these observations:

- Users repeatedly clicked the “Back to Results” phrase rather than the searched phrase, “Bernstein” in our example, despite the search phrase being red rather than gray, indicating it as a hyperlink.
- Multiple users were overwhelmed by the amount of red typeface, which is due to the number of existing hyperlinks. One user expressed confusion over what was clickable and found the “Show All” feature after considerable searching.
- Users generally felt the thumbnail image and typeface were too small.

The following recommendations (Figure 4) suggest minor changes to the item-level page layout that resolve these issues and reduce visual fatigue without compromising intended functionality:

- Removing the search phrase and creating a “Back to Results” hyperlink to streamline the display and eliminate frustration users experienced when unsure of how to continue or backtrack.
- Adding a bordered color field behind the hyperlinked metadata to create a visual separation between these item-specific hyperlinks and the general navigation ones (i.e. “Back to Results,” “View Program,” and “Log In”). This will reduce visual fatigue without compromising hyperlink availability.
- Increasing the thumbnail image and typeface to reduce any visual fatigue experienced by users and streamline information retrieval tasks.



Alan Gilbert
Music Director

NEW YORK PHILHARMONIC

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Global Sponsor

New York Philharmonic
Leon Levy Digital Archives



About Us Help Contact Us

[Log In to Tag Photos](#)
[Return to NYPhil.org](#)

From 

To 


All Formats 

SEARCH

[<< Back to Results](#)

Found In: [Programs](#) > [1943-44 Season](#) > [Subscription Season](#)

1943 Nov 14 / Subscription Season / Bernstein ID: 5832



View Program

<p>Orchestras New York Philharmonic</p> <p>Conductors Bernstein, Leonard</p> <p>Soloists ? Schuster, Joseph / Cello / S Lincer, William / Viola / S</p>	<p>Works Schumann / Manfred, Incidental Music to Byron's Dramatic Poem, Op. 115 -Overture</p> <p>Rozsa [Rózsa] / Theme, Variations and Finale, Op. 13a</p> <p>Intermission</p> <p style="color: #e74c3c; text-align: center;"><Show All></p>
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Dates / Event Types / Venues
Nov 14, 1943 / 3:00PM / Subscription Season / Carnegie Hall / New York, NY

Notes

Assistant Conductor Leonard Bernstein's NYP debut, substituting for an indisposed Bruno Walter.

Related Programs:

Project Funder:
- Leon Levy Foundation

Collection Guarantor:

Figure 4 Proposed re-design of the Digital Archives item-level page, with gray monochromatic field backing the hyperlinked metadata to distinguish this from “Back to Results” and “View Program” links

Conclusion

This report documents a usability evaluation completed for the Leon Levy Digital Archives of the New York Philharmonic, a digital collection of mid-twentieth century archival materials and ephemera consulted by over 250,000 unique users from over 150 countries. Three emerging usability specialists at Pratt Institute's School of Information and Library Science administered this evaluation. The specialists relied on user testing, a product evaluation method that draws on user's observations and behaviors as they complete meaningful, real tasks to determine a system's usability. The conclusive findings were analyzed and then used to support a series of actionable recommendations that diminish user-experience limitations and solidify the Leon Levy Digital Archives of the New York Philharmonic as a trusted resource.

References

Barnum, C. M. (2011). *Usability testing essentials: Ready, set-- test!*. Amsterdam: Morgan Kaufmann Publishers.

Finstad, K. (2006). The System Usability Scale and non-native speakers. *Journal of Usability Studies* 1(4), 185-188.

Appendix A

User Testing Script

I. Session Introduction & Confirmation of Consent

- A. Hello, I'm **[name]** and I want to thank you for taking part in this study of the New York Philharmonic's Digital Archives. Your feedback will be used to evaluate the Archives' usability and inform refinements and improvements to the site.
- B. Before getting started, I'd like to go over the consent form. **[Hand them a copy of the form]** Please take a moment to read the form and feel free to volunteer any questions or concerns you may have. When you're ready, please sign the form so we can continue.
- C. During this session, I will be using Silverback usability testing software to document your activity on the site and any comments you make while completing today's tasks. I want you to think aloud while you use the Archives as it will greatly help in identifying the Archives' strengths and weaknesses and support the final usability report.
- D. After completing the test, my partners and I will review the collected data and compare it to previous findings. Your feedback will be featured in a final report discussing the Archives' usability and identifying potential areas of improvement based on your thoughts. Your personal information will not be disclosed at any time.
- E. This test will take between 30 and 45 minutes. We will begin by having you complete a brief questionnaire to learn more about you. You will then be asked to complete three tasks, which will be documented using the Silverback application. Finally, we will ask you to complete a post-evaluation assessment to gather information on your emotional reaction to the Archives and the tasks.
- F. Before we get started, do you have any questions?

II. Pre-Evaluation Questionnaire

- A. Please fill out this brief questionnaire so that we can learn more about you, and provide as much information as you can. Your information will be kept completely confidential and used only to support our tasks in creating a more positive user experience for the New York Philharmonic Leon Levy Digital Archives.

III. Introduction to Tasks

- A. Thanks for answering those questions. Again, there are no right or wrong answers, and we are interested in how you interact with and make sense of the Digital Archives, not your technological aptitude. At this point, we can go over the three tasks created for this usability test. [*Hand over a handout listing the tasks*] We want to make sure that you understand these tasks, and you are more than welcome to refer back to this handout as needed throughout the test. You can also make annotations on this handout if you want to write a set of instructions for yourself. Do you have any questions about these tasks? [*Prompt*] Great! If you think of a question later on or have some input to offer, feel free to tell me or my colleague.
- B. We will now turn to the computer screen and start the usability test. As a reminder, as you complete these tasks, an application will be running in the background: Silverback will track your screen activity and how you interact in this environment, and create a video recording to document how you felt while using the Digital Archive. The video recording will not be published or shared with anyone, and is meant to make sure that our results account for users' feelings when using the Digital Archive. Are you still comfortable with us recording this session? [*If Yes, begin the test. If No, discuss concerns over video recording, cover the audio/video components, or terminate the session*]
- C. Wonderful! Let's go back to the handout and get started. We highly encourage you to think aloud as you complete these tasks, and if you have any extreme difficulties with the interface or problems materialize with the hardware or software, we will be here to tend to any potential setbacks.

IV. Tasks

- A. For the first task, you are curious about the Digital Archives' founding and its holdings. Browse the archives.nyphil.org site and find out when this collection launched and what the collection includes. [*Be sure to encourage the user*

throughout his or her sense making process by acknowledging what he or she is saying out loud]

1. *[Upon task completion] Great! Do you have any concerns or comments about this task or think it could be improved upon? [Prompt, collect data as needed]*

B. For the second task, you were speaking to your grandmother, and she recalled seeing a performance conducted by Leonard Bernstein in New York in the 1940s. She thinks it was at the Metropolitan Opera House, but she can't recall what piece was performed. You'd like to find this information for her. Use the Digital Archives to find out what piece Leonard Bernstein conducted at the Metropolitan Opera House in the 1940s. *[Be sure to encourage the user throughout his or her sense making process by acknowledging what he or she is saying out loud]*

1. *[Upon task completion] Wonderful! Do you have any concerns or comments about this task or think it could be better? [Prompt, collect data as needed]*

C. For the final task, we have two related tasks. You are a scholar of 20th century avant-garde music and you are writing about John Cage's involvement with the New York Philharmonic.

1. You know that Philharmonic programs sometimes feature contributions written by the conductors and are hoping to find a Cage quote about a specific piece.
2. You would also like a photo to accompany your article but would need to obtain reproduction rights and aren't sure who to contact. Find out who to contact. *[Be sure to encourage the user throughout his or her sense making process by acknowledging what he or she is saying out loud]*

- a) *[Upon task completion] Amazing! Do you have any concerns or comments about this task or think it could be better? [Prompt, collect data as needed]*

V. Post-Evaluation Questionnaire

Before we end the session, we would like to give you a brief post-test questionnaire to get your final thoughts about your experience with archives.nyphil.org. There are no right or wrong answers.

VI. Conclusion/Thank Yous

- A. Thank you so much for participating in this usability test of the New York Philharmonic's Leon Levy Digital Archives. Your input and feedback is very important to us, and we thank you for your time and efforts. Again, any and all information shared with us today will remain anonymous and confidential. Your observations will be reviewed and combined with those of other participants to support a conclusive usability evaluation report that ultimately wants to make sure the Digital Archives are attuned to end user needs and expectations.
- B. Do you have any final questions or comments for us? Again, if questions or comments do come to mind, feel free to contact us. [*Provide contact information*] Thanks again for participating!
- C. [Compensation]

Appendix B

Participant Consent Form

New York Philharmonic Digital Archives Usability Study

Participant Consent Form

This study seeks to evaluate the usability of the New York Philharmonic Leon Levy Digital Archives (archives.nyphil.org). The study will focus on findability and navigation, and examine the Archives' search functionality and overall information organization. The study is part of a graduate seminar at Pratt Institute's School of Information and Library Science under Dr. Craig MacDonald's supervision.

Procedure Should you decide to participate, you will:

- Complete brief online questionnaires before, during, and after the usability test
- Be assigned three tasks to complete using archives.nyphil.org
- Be encouraged to think aloud while completing tasks
- Be observed by Pratt-based usability evaluators
- Be recorded for subsequent usability analyses

Six people will participate in this study, and generated results will be featured in a usability report. Your name will not be included in the report nor be associated with any session data collected unless disclosure is legally required.

You may end a session or leave at any time. If you wish to abandon a task, inform your moderator so you can move on to the next task.

Remember, we are testing the website; we are not testing you. The session will last no longer than 45 minutes.

Statement of Consent

I, _____, have read and fully understand the extent of the study and any risks involved. All of my questions, if any, have been answered to my satisfaction. My signature below acknowledges my understanding of the study and indicates that I am 18 years old or over.

Signature _____

Date _____

Thank you for your participation!

Appendix C

Pre-Test Questionnaire via Google Drive

Pre-Test Questionnaire, New York Philharmonic Leon Levy Digital Archives

The following questions are part of a larger usability test of the New York Philharmonic Leon Levy Digital Archives, and are meant to find out relevant information about you.

*** Required**

What is your name? *

How old are you? *

- 18-25
- 26-35
- 36-45
- 45+

Education Level *

Check the most recent degree obtained or the degree currently in progress

- High School
- Bachelors Degree
- Masters Degree
- PhD
- Other:

What is your occupation?

- Librarian or Information Professional
- Musician
- Musicologist
- Academic or Independent Researcher
- Student
- Other:

How comfortable are you using the Internet for research?

Uncomfortable Very Comfortable

Have you ever used a digital archive before?

- Yes
- No
- Not sure

Have you ever used archives.nyphil.org?

- Yes
- No
- Not sure

When seeking information online, what resources do you typically use?

When browsing for content, what are you more inclined to click on?

- Images
- Text
- Video
- Not sure

Submit

Never submit passwords through Google Forms.

Appendix D

Post-Test Questionnaire via Google Drive

Post-Test Questionnaire, New York Philharmonic Leon Levy Digital Archives

The following questions are part of a larger usability test of the New York Philharmonic Leon Levy Digital Archives, and are meant to document your thoughts following the test's conclusion.

I think that I would like to use this website frequently.

1 2 3 4 5

Strongly Disagree Strongly Agree

I found the website unnecessarily complex.

1 2 3 4 5

Strongly Disagree Strongly Agree

I thought the website was easy to use.

1 2 3 4 5

Strongly Disagree Strongly Agree

I think that I would need the support of a technical person to be able to use this website.

1 2 3 4 5

Strongly Disagree Strongly Agree

I found the various functions in this website were well integrated.

1 2 3 4 5

Strongly Disagree Strongly Agree

I thought there was too much inconsistency in this website.

1 2 3 4 5

Strongly Disagree Strongly Agree

I would imagine that most people would learn to use this website very quickly.

1 2 3 4 5

Strongly Disagree Strongly Agree

I found the website very cumbersome to use.

1 2 3 4 5

Strongly Disagree Strongly Agree

I felt very confident using the website.

1 2 3 4 5

Strongly Disagree Strongly Agree

I needed to learn a lot of things before I could get going with this website.

1 2 3 4 5

Strongly Disagree Strongly Agree

How would you rate your experience using the search function?

1 2 3 4 5 6

Terrible Magnificent

How confident did you feel about your search results?

1 2 3 4 5 6

Unsure Very Confident

Did you find anything particularly frustrating while navigating the site?

Do you have any suggestions to improve the interface?

Submit

Never submit passwords through Google Forms.

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Appendix E

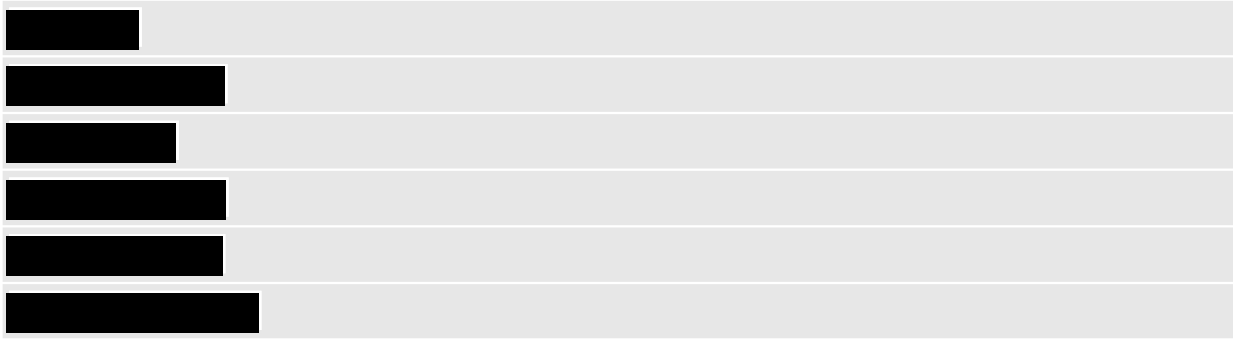
Pre-Test Questionnaire Results via Google Drive

6 responses

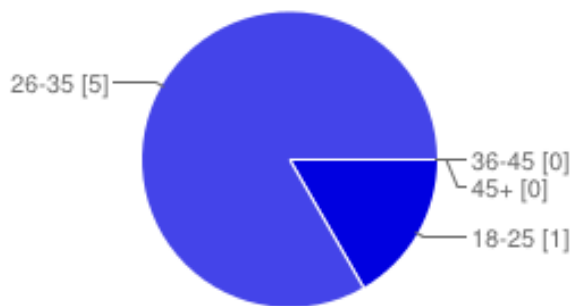
[View all responses](#)[Publish analytics](#)

Summary

What is your name?

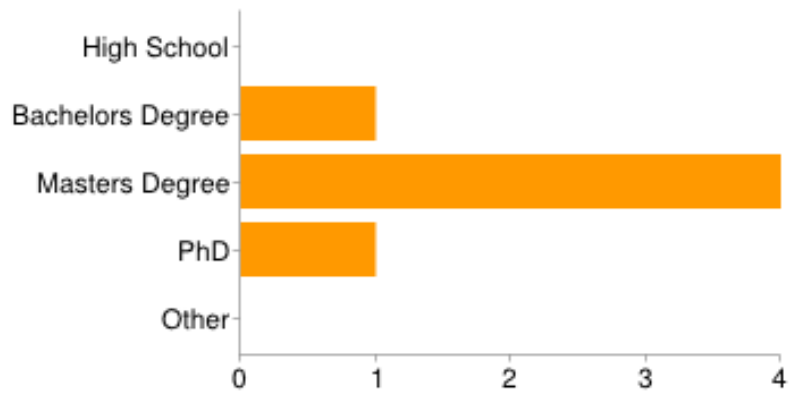


How old are you?



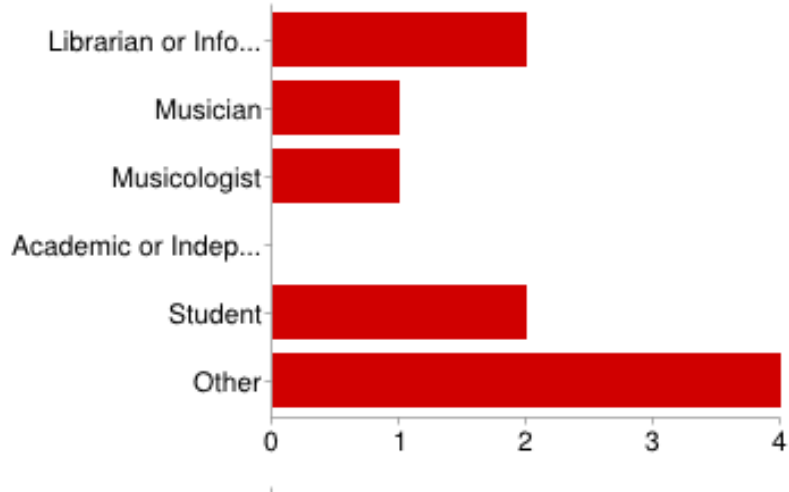
18-25	1	17%
26-35	5	83%
36-45	0	0%
45+	0	0%

Education Level



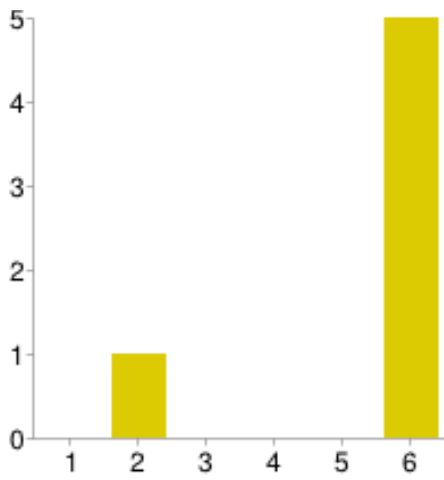
High School	0	0%
Bachelors Degree	1	17%
Masters Degree	4	67%
PhD	1	17%
Other	0	0%

What is your occupation?



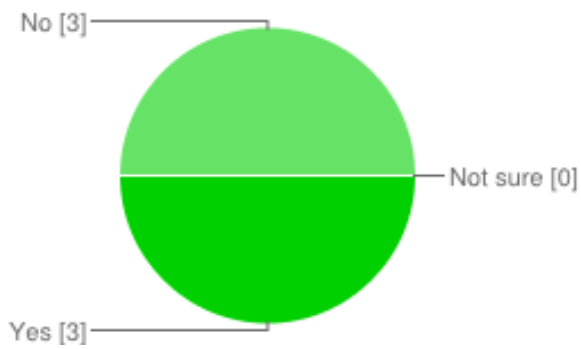
Librarian or Information Professional	2	33%
Musician	1	17%
Musicologist	1	17%
Academic or Independent Researcher	0	0%
Student	2	33%
Other	4	67%

How comfortable are you using the Internet for research?



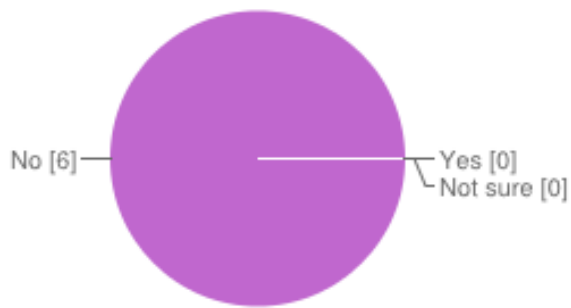
1	0	0%
2	1	17%
3	0	0%
4	0	0%
5	0	0%
6	5	83%

Have you ever used a digital archive before?



Yes	3	50%
No	3	50%
Not sure	0	0%

Have you ever used archives.nyphil.org?



Yes	0	0%
No	6	100%
Not sure	0	0%

When seeking information online, what resources do you typically use?

Google, Wikipedia, YouTube, JSTOR, academic journals and others

Google, News website search engines, Twitter, or research databases through my school library website.

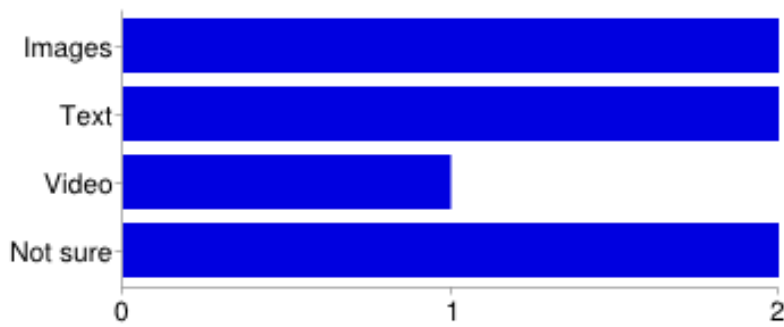
online databases through my university library

google

Google, academic article databases

Google

When browsing for content, what are you more inclined to click on?



Images	2	33%
Text	2	33%
Video	1	17%
Not sure	2	33%

What is your name?

How old are you?

Education Level

What is your occupation?

How comfortable are you using the Internet for research?

Have you ever used a digital archive before?

Have you ever used archives.nyphil.org?

When seeking information online, what resources do you typically use?

When browsing for content, what are you more inclined to click on?

Number of daily responses



Appendix F

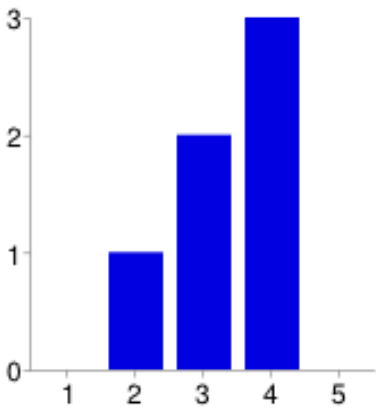
Post-Test Questionnaire Results via Google Drive

6 responses

[View all responses](#) [Publish analytics](#)

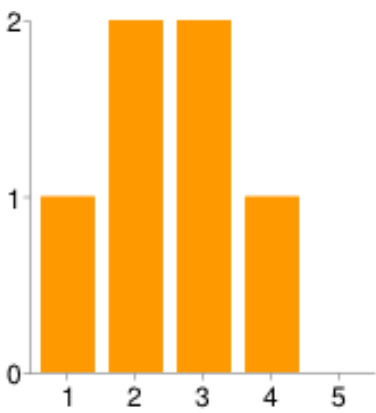
Summary

I think that I would like to use this website frequently.



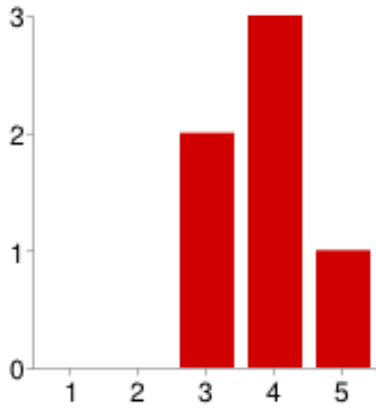
1	0	0%
2	1	17%
3	2	33%
4	3	50%
5	0	0%

I found the website unnecessarily complex.



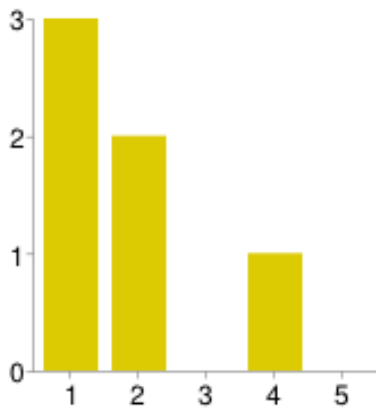
1	1	17%
2	2	33%
3	2	33%
4	1	17%
5	0	0%

I thought the website was easy to use.



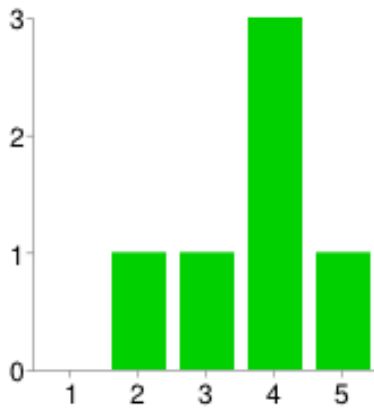
1	0	0%
2	0	0%
3	2	33%
4	3	50%
5	1	17%

I think that I would need the support of a technical person to be able to use this website.



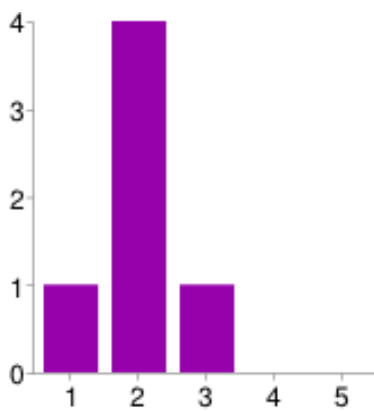
1	3	50%
2	2	33%
3	0	0%
4	1	17%
5	0	0%

I found the various functions in this website were well integrated.



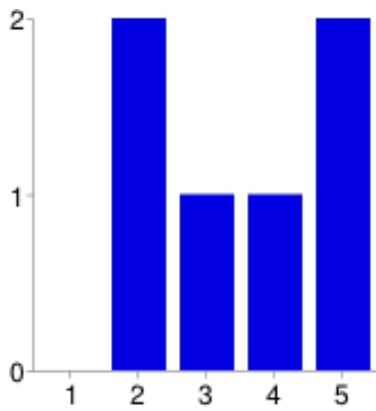
1	0	0%
2	1	17%
3	1	17%
4	3	50%
5	1	17%

I thought there was too much inconsistency in this website.



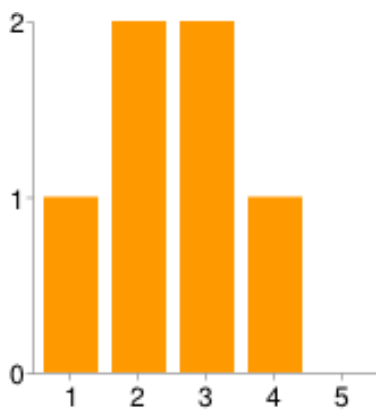
1	1	17%
2	4	67%
3	1	17%
4	0	0%
5	0	0%

I would imagine that most people would learn to use this website very quickly.



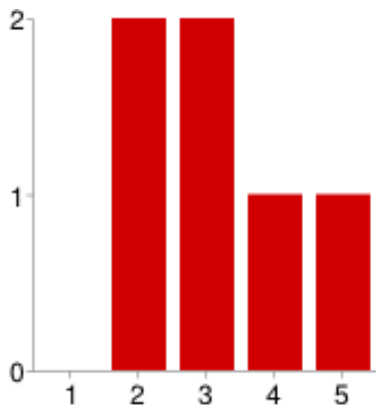
1	0	0%
2	2	33%
3	1	17%
4	1	17%
5	2	33%

I found the website very cumbersome to use.



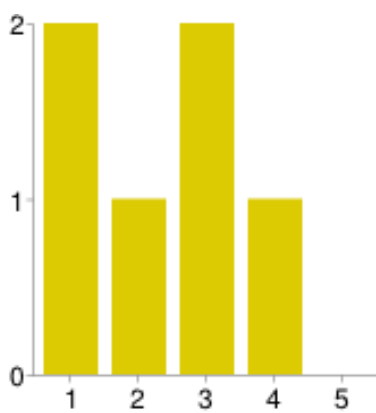
1	1	17%
2	2	33%
3	2	33%
4	1	17%
5	0	0%

I felt very confident using the website.



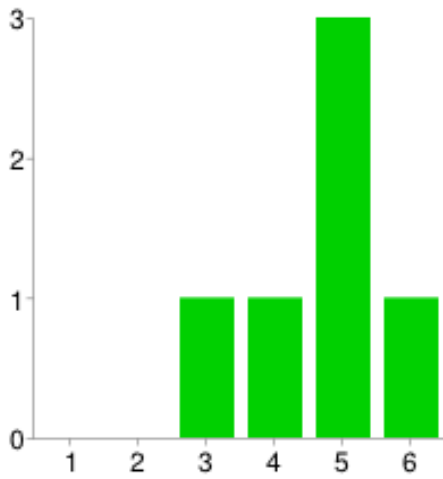
1	0	0%
2	2	33%
3	2	33%
4	1	17%
5	1	17%

I needed to learn a lot of things before I could get going with this website.



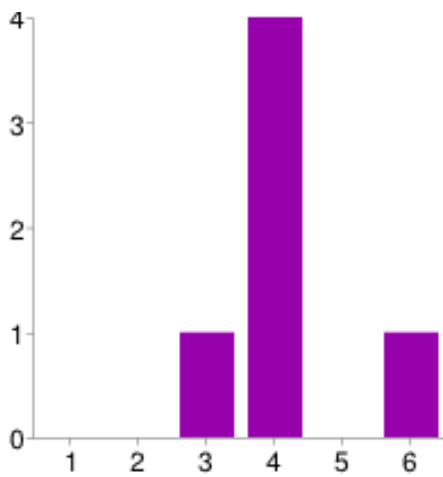
1	2	33%
2	1	17%
3	2	33%
4	1	17%
5	0	0%

How would you rate your experience using the search function?



1	0	0%
2	0	0%
3	1	17%
4	1	17%
5	3	50%
6	1	17%

How confident did you feel about your search results?



1	0	0%
2	0	0%
3	1	17%
4	4	67%
5	0	0%
6	1	17%

Did you find anything particularly frustrating while navigating the site?

Since I do not know anything about music, I felt like some the terms and search items were not clear to me.

not particularly.

No.

The about us page was hard to navigate. The information wasn't clearly presented. Specific information was hard to find because everything was in paragraph form.

there was no advanced search feature

The text was somewhat small, especially in the search results, it was hard to grasp what was most important.

Since I do not know anything about music, I felt like some the terms and search items were not clear to me.

Do you have any suggestions to improve the interface?

Use more graphics on the about us page. Split the content into smaller sub-pages with clear focuses ("about the collection," "rights and permissions", etc.), rather than having everything on one long page.

No

Nope.

No.

spell checker or a drop down menu to list the names of conductor, piece, etc may be helpful?

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 in this website were well integrated.

I thought there was too much inconsistency in this website.

I would imagine that most people would learn to use this website very quickly.

I found the website very cumbersome 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.

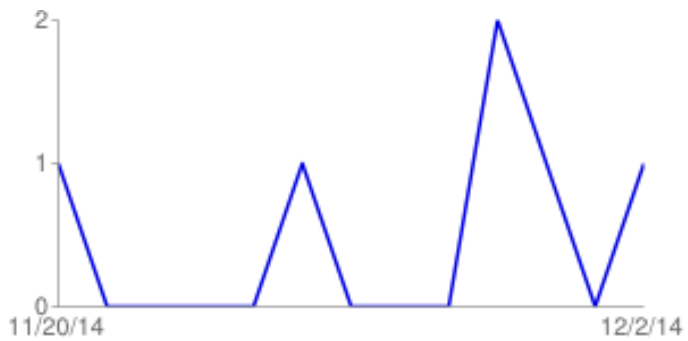
How would you rate your experience using the search function?

How confident did you feel about your search results?

Did you find anything particularly frustrating while navigating the site?

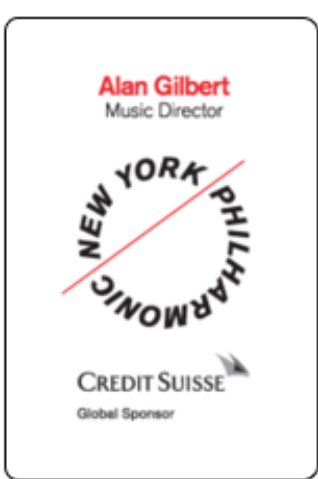
Do you have any suggestions to improve the interface?

Number of daily responses






Appendix G

Mockups for Recommendations



Search the Digital Archives

From  To 

All Formats 

SEARCH

New York Philharmonic Leon Levy Digital Archives

250,000 visitors, 150 countries, over 1,900,000 views, and counting...

[Learn more about the Archives](#)

Highlights from the Leon Levy Digital Archives

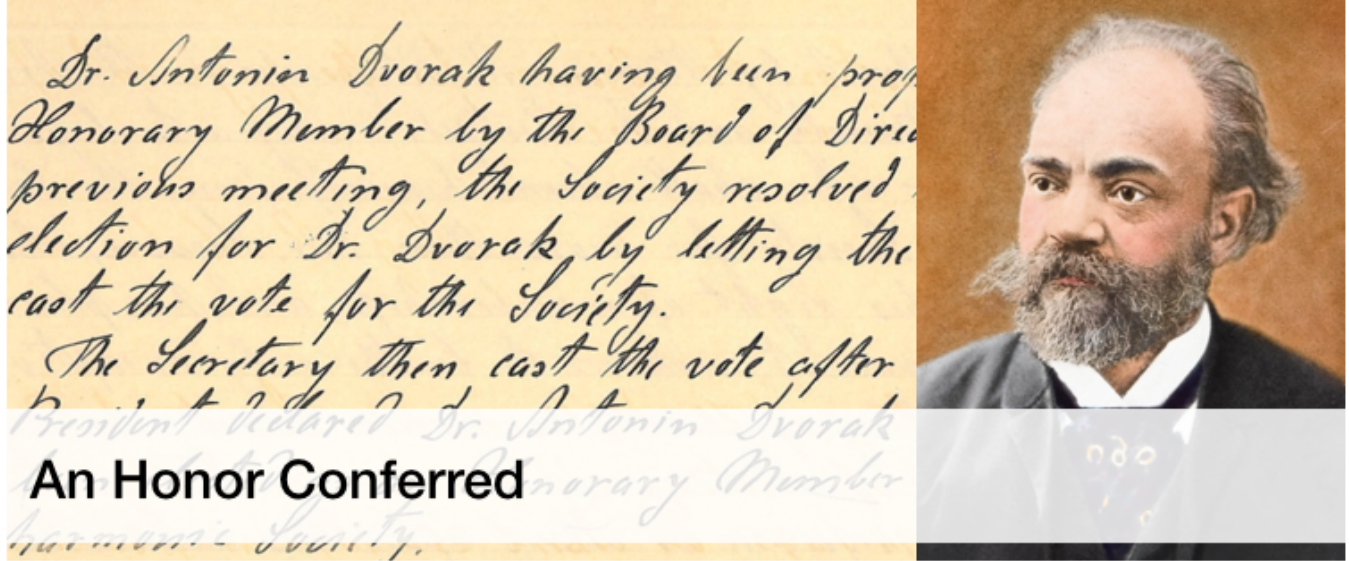
Celebrating Dvořák and the New World Symphony



From the New World The Groundbreaking Premiere

View the Program

Prior to the first performance of Dvořák's 1893 symphony, the Philharmonic had given the World Premiere of only seven works over its 50 year history. The symphony's outstanding and immediate success signaled the beginning of American orchestras and culture. The N.Y. Evening Post deemed it "the greatest symphonic work ever composed in this country."



An Honor Conferred

View the Document

Following Dvořák's New World Symphony's brilliantly successful premiere, the Philharmonic musicians elected Dvořák an Honorary Member of the Philharmonic Society, a rare honor that had been bestowed on only a few, including Richard Wagner and Felix Mendelssohn. Dvořák accepted with pleasure, and the certificate still hangs in Dvořák's summer home in Vysoka, Czech Republic.



New World in Progress Philharmonic Manuscript Parts

View the Parts

The Philharmonic's librarian received Dvořák's manuscript score less than four weeks before the first performance. These hand-copied parts, used by the Orchestra for the next 40 years, reflect conductor Anton Seidl's interpretation with the composer in attendance. At the early rehearsals, Dvořák and Seidl added notes, changed tempi, and tweaked dynamics; the musicians recorded the changes in their parts.



THE LEON LEVY FOUNDATION

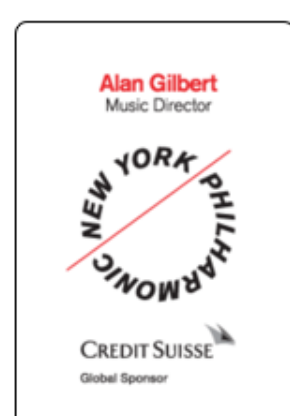
About Our Funder

The Leon Levy Foundation's support has been essential in allowing the Philharmonic to develop an online digital site that makes possible the most realistic and comprehensive research experience. The Philharmonic expressed its gratitude to the Foundation for its \$5 million of support with a surprise serenade. [Watch the video](#)

This project is funded in part by Save America's Treasures through a partnership between the National Endowment for the Arts and the National Parks Service, Department of the Interior.

The Digital Archives Are Growing.
[Get Updates >>](#)

[tumblr](#) [twitter](#) [YouTube](#) [facebook](#)



Search the Digital Archives

From



To



All Formats



SEARCH



A Vision for the Future

The Philharmonic Archives is one of the longest running, highly detailed collections documenting all the activities of a single cultural institution. The Digital Archives will eventually make available almost 6 million pages of documents and 7,000 hours of audio and video. [Watch the video...](#)

About the Digital Archives

Funded by the Leon Levy Foundation and launched in February 2011, the New York Philharmonic Leon Levy Digital Archives currently includes historic material from 1943–70:

- 1,781 scores marked by Leonard Bernstein, Andre Kostelanetz, and others
- 15,896 music parts marked by Philharmonic musicians
- 3,235 printed programs, 1943–70
- 4,069 business and planning folders
- 16,339 photographs and images

172 Years and counting...

The Archive Expands 1842

The New York Philharmonic has received a \$2.4 million grant from the Leon Levy Foundation to complete the digitization of its extensive Archives, beginning with its founding in 1842 through the present day. The grant builds on previous funding from the Leon Levy Foundation — now totaling \$5 million since 2007 — which funded the digitization of the **1.3 million pages currently available**. When completed, the New York Philharmonic Leon Levy Digital Archives **will contain almost 3 million pages** comprising all documents in the New York Philharmonic Archives.

The completion of the New York Philharmonic Leon Levy Digital Archives will create **one of the world's most comprehensive online collections documenting a single cultural institution**, as well as provide the structure for growth into the future.

Research and Use

Since its launch in February 2011, the newly named New York Philharmonic Leon Levy Digital Archives, available online at [archives.nyphil.org](#), has generated **more than 250,000 unique visitors from more than 175 countries, resulting in 1,695,000 page views**, with usage growing more than five-fold from the launch, achieving an average of 5,500 hits per week. Of those 250,000 unique visitors, 62,900 researchers have returned to the site ten or more times; of those, **11,044 individuals have used the New York Philharmonic Leon Levy Digital Archives more than 200 times**. This magnitude of research would not be possible without the digital availability of the material, as there would be no way to physically accommodate so many interested researchers.



Why 1943-70? The International Era

The Archives collections contain material that dates back to the Philharmonic's first concert in 1842, but the first phase of our digitization begins in the middle of this long history. In deciding where to begin with our digitization project, we held a roundtable discussion that included librarians, historians, musicians, conductors, journalists, and students to evaluate the different time periods in the Philharmonic's history and to determine what might provide the most unique source material.

The International Era was selected for several reasons. [Find out more.](#)



A Word About Our Sponsor: The Leon Levy Foundation

The Leon Levy Foundation, through its archives and catalogues program, helps arts and humanities institutions preserve, use and make available important records, manuscripts, letters, photographs and other historical materials in their archives and store rooms, with the ultimate goal of promoting advanced scholarship and expanding knowledge. Since its start in 2007, the Leon Levy Archives Grant program has awarded more than \$12 million to 25 institutions.

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- [Printed Music Collections](#)
- [Future Plans for the Digital Archives](#)
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Marianne Barcellona
749 West End Ave, Apt. 88
New York, NY 10025
<http://www.mariannebarcellona.com>
mb@mariannebarcellona.com



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