Museums for America

Sample Application MA-251861-OMS-22
Project Category: Collections Stewardship and Access

Newfields

Amount awarded by IMLS:	$250,000
Amount of cost share:	$518,297

Newfields will conduct a multi-year project to redesign and expand its online art and historical collections into a single, integrated collections portal. In addition to the delivery of art collection data and assets, the integrated collections portal will serve as an access point to archival collection descriptions, item-level information, and digitized records relating to Newfields' historic properties and the Indianapolis Museum of Art's 138-year history. This project will support two full-time positions, a Digitization and Metadata Specialist and a Rights Researcher, as well as a User Testing contractor who, along with a cross-departmental museum team, will develop, publicize, and launch the new integrated collections portal. The resulting portal with open-access infrastructure will make Newfields' resources more widely available to researchers and the public.

Attached are the following components excerpted from the original application.

- Narrative
- Schedule of Completion
- Digital Product Plan

When preparing an application for the next deadline, be sure to follow the instructions in the current Notice of Funding Opportunity for the grant program and project category to which you are applying.

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Narrative

Project Justification

<u>Proposed project</u>: The Indianapolis Museum of Art, Inc. (dba Newfields) respectfully requests a two-year grant of $250,000.00 through the Institute of Museum and Library Services' (IMLS') Museums for America grant program to support the project *Open and Integrated: Redesigning Newfields' Online Collections*. The project will involve the redesign and expansion of Newfields' existing online art and historical collections into a single, integrated collections portal. In addition to the delivery of art collection data and assets, the integrated collections portal will serve as an access point to archival collection descriptions, item-level information, and digitized audio and visual materials from the Indianapolis Museum of Art historical and exhibition files, the Indianapolis Museum of Art archives, and Stout Reference Library artist files. Together, these collections contain a wealth of information and material culture on topics including but not limited to:

- local and national artists, collectors, and arts organizations;
- exhibitions and installations at the Indianapolis Museum of Art dating back to the 19th century;
- two U.S. National Historic Landmarks, Oldfields–Lilly House & Gardens and Miller House and Garden, both operated by Newfields; and
- more than 135 years of institutional history.

The development of an integrated collections portal for Newfields' art and historical collections will enable the institution to expand on its Open Access program and to make its resources more readily available to the more than 4.66 billion active internet users worldwide. A goal of the project is to bring Newfields into alignment with Open Access leaders in the cultural heritage sector, such as the Cleveland Museum of Art, Metropolitan Museum of Art, and Rijksmuseum, that have made significant advancements in efforts to grant public access to images and information in recent years, specifically since 2015, when Newfields last launched its art and archives collections sites. To this end, the underlying architecture of the integrated collections portal will include a publicly accessible and documented application programming interface (API) and an International Image Interoperability Framework (IIIF) server for delivery of media assets. Additionally, the implementation of standardized rights statements (through RightsStatements.org) and licenses (through Creative Commons) and the utilization of the Local Contexts Institution Notices and/or Traditional Knowledge Labels will provide clearer guidance for users of the integrated collections portal seeking to make informed decisions for reuse of content based on copyright status and cultural considerations.

Newfields asks partnership of IMLS to support the work of a cross-departmental project team consisting of staff from the Newfields Lab technology team, Library & Archives department, and Rights & Reproductions department to launch the integrated collections portal and Open Access infrastructure to the public. Grant funds will primarily be used to:

- create two full-time, multi-year positions—one dedicated to archival digitization and metadata creation and the other dedicated to rights research and cataloging;
- contract an agency with expertise in user testing to gather feedback from stakeholders regularly throughout the development of the integrated collections portal; and
- publicization of the project and public launch of the integrated collections portal.

Newfields will contribute $508,043.50 in cost share to the project, the total costs of which amount to $758,043.50. A Museums for America grant from IMLS, combined with the staff and technological resources that Newfields will dedicate to the project, will bring the integrated collections portal to fruition and further research, education, and public engagement with Newfields' exceptional collections.

<u>Project background and need</u>: Newfields' existing art collections portal (collection.imamuseum.org) was designed and developed in 2013 and 2014 and launched to the public in early 2015. It represented the first step in offering users unique experiences with the Indianapolis Museum of Art collection online, in that the site was built with flexibility and growth as core concepts. The existing art collections portal currently provides access to more than 42,000 accessioned

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Narrative

object pages for artworks that are presently part of the Indianapolis Museum of Art's collection (one page per object, containing data and media assets, such as high-resolution photography, gallery labels, provenance information, related text, multimedia content, rights and reproductions information, and collection data), and approximately 13,000 additional object pages for deaccessioned artworks which were previously part of the Indianapolis Museum of Art's collection. The site was developed to sync nightly with the institution's collections management system, EMu, and digital asset management system, Piction, so object pages reflect the most up-to-date research on the collection.

Newfields' existing digital archives portal (archive.imamuseum.org) launched shortly after the art collections portal, in mid-2015, and was built with the same user interface design as the art collections portal, but with some modified metadata and search fields specific to the archives collection metadata. Unlike the art collections site, the archives site is completely static, with no automatic additions of new content or updates. There have only been two time-intensive manual content generations: the first, just prior to launch of the site in 2015, with more than 9,400 digital records from the Miller House and Garden Collection,[1] and the second, in 2016, with the addition of approximately 2,000 digital records of the Percival Gallagher Papers and the Marie Webster Study Collection. No additional content has been published to the digital archives portal since 2016, even though the Library & Archives staff has continued to digitize and describe archival material for special projects and research requests every year. Without systematic digitization, the archives collection has grown via "digitization on demand," meaning items are digitized when queries and requests are received by the Library & Archives, Curatorial, and Registration departments. (Last year, the Library & Archives staff alone fielded 31 such requests, which accounted for 16 percent of reference questions.) In the past six years, the "digitization-on-demand" backlog has grown to more than 5,000 items. Recently, the Library & Archives department, with the assistance of a temporary, part-time Metadata Specialist, was able to process and ingest about 600 of these items.

Notably, these two sites—the existing art collections portal and digital archives portal—lack integration. A beta test to assess the functionality of linking from archival items to related objects in the art collection was undertaken with the 2016 manual content generation. For those few archival records, a "Referenced Items from the IMA Collection" section is included within the digital archives portal, with thumbnails and links that lead to the relevant art collection object pages for those related items.[2] However, since no new content has been published to the digital archives collection portal since then, this process of linking items between the two sites was discontinued. The project team, in the meantime, has researched the models set by other art museums, including the Georgia O'Keeffe Museum and Virginia Museum of Fine Art, that have designed their art and archives collections sites so that they are easily accessible, interconnected, and encouraging of further exploration between the collections.

The project will result in an integrated collections portal that is designed and built with cross-collection exploration as a defining characteristic, so that users will be able to seamlessly navigate between art and archives collections, following their interests or cues within the user interface that are designed to lead to related material, as defined in various ways). The integrated collections portal will conform to established portal data structure, rights, and access standards. This includes a public application programming interface (API) for access to collections data for machine processing and reuse in external applications; open licensing (Creative Commons' CC0 – "No Rights Reserved" dedication) on all metadata; metadata harvesting via Indiana Memory for inclusion in the Digital Public Library of America (DPLA); and a variety of interactive search and browse options to facilitate cross-collection discovery.

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[1] The project *Documenting Modern Living: Digitizing the Miller House and Garden Collection* was supported by a three-year grant from the National Endowment for the Humanities (award number PW-51217-12).

[2] As an example, see http://archive.imamuseum.org/record/9503/.

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Narrative

Intended results: The integrated collections portal will not only provide unprecedented access to Newfields' collections but also include several new features not present in the existing art collections and digital archives portals, including:

- standardized, simple rights statements and use licenses: Since the launch of Newfields' art and archives collection sites in 2015, numerous advancements have occurred in the cultural heritage sector making the communication of copyright status and any potential restrictions on use clearer for users as they make determinations on allowable use and/or reuse of both data and digital surrogate representations of collections. The Rights & Reproductions staff will expand on Newfields' Open Access program with the implementation of standardized rights status language (through RightsStatements.org) and affirmative licenses (through Creative Commons). In addition, the Rights & Reproductions staff will also plan to implement Institutional Notices and/or Traditional Knowledge Labels (through Local Contexts) on digital surrogates of Indigenous collections. Newfields is fortunate to have on staff the author and editor of the current leading publication on the management and dissemination of the Intellectual Property assets maintained by cultural institutions.[3] In addition to her expertise, Newfields will engage a Rights Researcher to research and evaluate archival materials deemed a priority for inclusion in the integrated collections portal.

- exhibition history and select multimedia files: Exhibition history, in the form of exhibition checklists, installation photography, label copy, exhibition catalogues, lectures, and promotional materials, is not pulled or published in Newfields' existing art collections portal, even though it is a major area of interest for internal and external stakeholders. The frequency of inquiries received about exhibition history as well as the trend in art museums to include such data in online collections and related standards[4] have led the project team to prioritize this as a feature of the integrated collections portal. The Library & Archives staff will digitize materials related to exhibition history, which exist in a variety of formats ranging from handwritten paper notes to photographs, contact sheets, and slides. Although audio and video digitization are out of scope for the project, a limited amount—approximately 12 items—of historical audio and video content that has already been digitized but never described or made publicly available will be added to the integrated collections portal.

- additional archival data: The Library & Archives staff, with the assistance of the Digitization & Metadata Specialist, will digitize approximately 8,000 to 10,000 items representative of the archives holdings, which include records, manuscripts, personal papers, ephemera, scrapbooks, photographs, and artifacts that chronicle the 138-year history of the institution.[5] The Libraries & Archives staff will follow The *Federal Agencies Digital Guidelines Initiative's Technical Guidelines for Digitizing Cultural Heritage Materials* in the creation of master formats, resolution, and other technical parameters.[6] See Digital Products Plan attachment for more information. The Library & Archives offices are equipped with one Epson Expression 12000XL Graphic Arts scanner with a transparency unit (purchased in 2019), and two Epson Expression 10000XL Graphic Arts scanners (purchased in 2012). The project budget includes funding to update one of the 10000XL models and a computer terminal with dual monitors for management of the scanning workflow. The workstation will be equipped with Adobe Creative Suite and SilverFast scanning software, which the current Library & Archives staff has experience using for ad-hoc reproduction requests and projects.

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[3] Anne M. Young, Rights and Reproductions: The Handbook for Cultural Institutions, 2nd ed. (Lanham, MD: Rowman and Littlefield; Washington, DC: American Alliance of Museums, 2019).

[4] As exemplified by the work of the Linked Art community to establish a standard for publishing data describing art objects as Linked Open Data. The Linked Art data model extends beyond basic descriptions of art objects to encompass people and organizations, places, events (e.g., exhibition history), etc. This expanded scope reflects the complexity of important data that cultural heritage organizations create and manage related to the life cycle of art objects. See https://linked.art/.

[5] This estimate is informed by knowledge of staffing and time required for digitization of the Miller House and Garden Collection.

[6] See http://www.digitizationguidelines.gov/guidelines/digitize-technical.html.

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Narrative

<u>Intended audiences</u>: User behavior has not changed significantly since the launch of the existing art collections portal in 2015. While the number of users of the art collections site has increased 29 percent, from 93,957 users in 2015 to 121,400 users in 2021, the number of sessions and the number of pageviews have decreased: the number of sessions declined by almost six percent, from 164,880 sessions in 2015 to 155,516 sessions in 2015, and the number of pageviews declined by more than three percent, from 548,774 pageviews in 2015 to 529,771 pageviews in 2021. This data indicates that although there are more users of the arts collections portal today, they are viewing fewer object pages and spending less time exploring Newfields' collections. Conversely, usage of the digital archives portal has steadily increased since its launch in 2015. The number of users has nearly tripled, from 624 users in 2015 to 1,736 users in 2015, and the numbers of sessions and number of pages have also increased: the number of sessions grew by nearly three percent, from 1,775 sessions in 2015 to 2,262 sessions in 2021, and the number of pageviews grew from 17,723 pageviews in 2015 to 20,557 pageviews in 2021. As evidenced by this data and growing "digitization on demand" backlog, users seek greater access to Newfields' archival holdings.

Users of the existing art collections and digital archives portals skew younger, between the ages of 18 and 34 years old, perhaps representing undergraduate and graduate students and early career professionals. The highest percentage of users for both sites, 23 percent of users of the art collections portal and 28 percent of users of the digital archives portal, are between the ages of 18 and 24 years old. This data suggests that Newfields' resources are utilized by higher education faculty to enhance their curricula and learning for their students.

The integrated collections portal will attract many of these same users, who include not only educators and students but also staff, scholars, artists, collectors, and other interested members of the general public.

<u>The project's alignment with IMLS' priorities and Newfields' strategic plan</u>: The project fulfills Goal 3: Collections Stewardship and Access, which is to "advance the management and care of collections and their associated documentation," of the Museums for America grant program. The proper management, care, and provision of improved access to collections are also integral to the work of Newfields staff; are of interest to various stakeholders, ranging from researchers to casual learners; and are key components in Newfields' strategic plan, particularly the goals associated with the institution's core values of Stewardship and Excellence. For both internal and external stakeholders, the online collections are the primary access point to search for and discover information about Newfields' collections. While many staff members do not have access to the art or archives collection management systems, EMu or AtoM, even those staff who do have access often prefer the simplified user interface and quicker connection to the public art collections and digital archives portals when seeking information. The project, with support from IMLS, will meet the Museums for America program goals by enabling greater and wider use of Newfields' collections, not only by staff, but also by scholars, artists, students, collectors, and the general public.

Project Work Plan
<u>Key project activities</u>: A goal of the project is to break down silos between Newfields' art and historical collections, exposing and highlighting cross-collection connections in the process. Art objects are currently described in Newfields' collection management system, EMu, while archival collection-level descriptions are created and managed in the archives management system, AtoM. Digital surrogates of both art objects and archival items are stored in the digital asset management system (DAMS), Piction. In addition to the digital surrogates, item-level metadata about archival material is also stored in the DAMS. The project will require the time and efforts of staff from various Newfields departments to design and develop an automated pipeline which will pull data and assets from EMu, AtoM, and Piction into a new collections site infrastructure, populating the open application programming interface (API), the International Image Interoperability Framework (IIIF) server, and, ultimately, the integrated collections portal. This work is expected to occur over a two-year period, September 1, 2022 though August 31, 2024. A brief description and approximation of the timeline of project activities follows:

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Narrative

- **September – October 2022**: The Project Director, Head of Libraries & Archives, and Director of Legal Affairs and Intellectual Property will work with Newfields' Human Resources department to post job descriptions, identify candidates, hire, and onboard the two grant-funded positions of Digitization & Metadata Specialist and Rights Researcher; they will coordinate with Newfields Information & Technology department to set up computer workstations for new hires. The Newfields Lab technology team will lead the identification of internal and external stakeholders and assessment of their needs and expectations for the integrated collections portal.
- **November 2022 – March 2023**:
  - The Newfields Lab will identify shared entities between the existing art and archives collections, model and map metadata and reconcile entity records across those systems, and begin prototyping the user interface of the integrated collections portal.
  - The Libraries & Archives department will create metadata for the backlog of "digitization-on-demand" assets and ingest those into the digital asset management system, Piction.
  - The Rights & Reproductions department will implement standardized rights status language (through RightsStatements.org), affirmative licenses (through Creative Commons), Institutional Notices and/or Traditional Knowledge Labels (through Local Contexts) on art objects cataloged in the collection management system, EMu.
- **April 2023 – August 2024:** The iterative development and testing of the three central features of the integrated collections portal will occur consecutively. The Newfields Lab will first develop the Open Access data pipelines and expanded Open Access functionality within the beta public portal for the art collection site (a one-to-one replacement of collection.imamuseum.org, developed prior to the beginning of the project). The user testing contractor will test the Open Access functionality with internal and external stakeholders and the Newfields Lab will make modifications, based on user testing. Then, the exhibition history section of the integrated collections portal will be developed, tested, and modified, followed by the archives section.

The project team will hold meetings, beginning in October 2023, the second month of the project period, to ensure all project activities, expenses, and goals are on track. Between meetings, the project team will manage document sharing, task assignments, and deliverables through Microsoft Teams. Information about the project will be shared with professional communities through conference presentations at, for example, the Museum Computer Network Annual Conference, MuseWeb Annual Conference, and/or American Alliance of Museums Annual Meeting in 2024. (At the time of submission of this application, dates have yet to be determined for these conferences.) Newfields will reach the local community and the general public with announcements about the public launch of the integrated collections portal coverage via the personal and professional networks of staff; the institution's social media channels, including Facebook, Instagram, and Twitter (approximately 157,200 followers across platforms); member e-newsletter (approximately 33,300 subscribers); and general e-newsletter (approximately 123,400 subscribers).

See the Schedule of Completion attachment for a more detailed sequence of project activities.

The timeline and scope of the project assumes that progress will have been made toward the development of data pipelines, application programming interface (API) endpoints, and a beta public portal for the art collection by the time the project will begin in September 2022. To mitigate any risk of not meeting those requisites, the Newfields Lab has already finalized design mock-ups for the beta site (see the Supportingdoc2 attachment), begun work towards the development of the art collection data pipelines and API, and scheduled sufficient staff time within the first eight months of 2022 to complete this work.

Key project personnel: The project team will consist of members of the Newfields Lab technology team, Library & Archives department, and Rights & Reproductions department, including:

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Narrative

- **Jill Dodge, Interactive Designer – Project Director**. Dodge works on information architecture, user interface design, and user experience research. She will devote 30 percent of her time as Project Director and design all user interface prototypes, based on identified requirements and results of user testing.
- **Patrick Cavanagh, Manager of Technology Development and Implementation**. As manager of Newfields Lab, Cavanagh coordinates the work of the technology team. He will devote five percent of his time to overseeing the Newfields Lab workload, balancing the development of the integrated collections portal with other, already-scheduled internal and external projects. As a software developer, he will be available to assist in both back- and front-end development on the integrated collections portal.
- **Daniel Keller, Senior Software Developer**. Keller will serve as the senior software developer for the project; he will devote 25 percent of his time organizing and scheduling sprints for the developer team as well as supervising and guiding the work of the other software developers. He will also contribute directly to the code base, particularly for more complicated aspects of the infrastructure and interface, and ensure that all aspects of the portal technology stack are well-documented for both internal and external stakeholders.
- **Samantha Norling, Digital Collections Manager**. Norling will devote 15 percent of her time in contributions to data and digital asset management activities such as metadata mapping and entity reconciliation across collections and systems, the development of data pipelines and application programming interface endpoints, and the determination of appropriate information architecture for both the back and front ends of the integrated collections portal.
- **Brandon Upp, Software Developer**. Upp will contribute significant portions to the code base of the integrated collections portal. He will devote 60 percent of his time as the primary developer working on the data pipelines from source collection and asset management systems to the integrated collections portal infrastructure. He will also develop the public API endpoints on which the integrated collections portal will be built.
- **Alba Fernandez-Keys, Head of Libraries & Archives**. Fernandez-Keys will devote five percent of her time onboarding, training, and supervising the Digitization & Metadata Specialist. In addition, she will provide guidance on the selection of archival materials to be digitized and described for publication in the integrated collections portal.
- **Anastasia Karel, Archivist**. Karel will devote five percent of her time providing guidance and support related to archival metadata and assets. Specifically, she will assist the Digitization & Metadata Specialist in finalizing metadata mappings from archival collection- and item-level descriptive systems into the larger collections portal data and asset ecosystem.
- **Anne Young, Director of Legal Affairs and Intellectual Property**. Young provides guidance and interpretation on a variety of institutional standards, policies, and procedures intersecting with legal issues, particularly intellectual property matters, such as copyright, privacy, publicity, and trademark. She will devote ten percent of her time to manage the expanded Open Access with the implementation of standardized rights, use, and cultural statements and oversee the work of the Rights Researcher.
- The **Digitization & Metadata Specialist** will digitize and create metadata for a selection of archival materials supporting the documentation of the Indianapolis Museum of Art's art collection and exhibition history. This is a 21-month grant-funded position expected to start November 1, 2022 and conclude July 31, 2024.
- The **Rights Researcher** will be responsible for copyright research, primarily within the art collection, and provide guidance for archival collections rights as needed. The Rights Researcher will also be responsible for updating rights records in the collection management system to uniformly record and update copyright status and rights holders. The Rights Researcher will work with the Newfields Lab to integrate RightsStatements.org statements, Creative Commons licenses, and Local Contexts Institutional Notices and/or Traditional Knowledge Labels between the metadata in the collection management system, digital surrogate metadata in the digital archives management system, and forward facing in the integrated collections portal. This is an 18-month grant-funded position expected to start November 1, 2022 and conclude April 30, 2024.

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Narrative

The Newfields Lab technology team will also contract with a user testing agency to conduct usability testing during three distinct stages of the project (Open Access functionality [May – June 2023], exhibition history section and integration across the site [September – October 2023], and archives section and integration across the site [June – July 2024]) and secure key insights into how internal and external stakeholders interact with the design of the integrated collections portal. The **user testing contractor** will recruit primary (scholars, artists, and students) and general public users, as well as involve users with low sight and those who have trouble using a keyboard, to carry out testing. The user testing contractor will compile and analyze data of the testing and submit a report of the findings to the Project Director. The Newfields Lab has identified three agencies, Smallbox, TrendyMinds, and UserTesting Inc., for consideration as the user testing contractor.

See the Resumes attachment for qualifications of the above named Newfields staff, job descriptions of the Digitization & Metadata Specialist and Rights Researcher, and scope of work and descriptions of the potential candidates for the user testing contractor.

Project Results
Changes in knowledge, skills, behaviors, and/or attitudes: The integrated collections portal will involve:
- expansion of Newfields' Open Access functionality to better align with recent developments in the field;
- incorporation, for the first time in Newfields' online collections history, of historical exhibition data; and
- digitization of between 8,000 and 10,000 archival items and enlargement of the online archives collection, integrated with the art collection and exhibition history features.

The project will result in more complete collections data available in a single, integrated collections portal, which will facilitate broader and more in-depth engagement with Newfields' resources as well as greater educational and presentational opportunities for scholars, artists, students, collectors, art connoisseurs, and the general public. Collections data will be easier to navigate: for internal stakeholders this translates to quicker retrieval of information and images by conservators, curators, and other museum staff and freeing of Libraries & Archives staff time associated with "digitization-on-demand" requests; for external stakeholders this is an inducement to further explore Newfields' collections and to follow linkages between various art and historical records.

Project sustainability and ongoing collections stewardship and access: Newfields understands the importance of technology, resources, and organizational commitment for successful long-term preservation of permanent digital assets; this is most evident in the maintenance of the Newfields Lab technology team, a staff of five full-time designers, developers, and digital strategists. The Newfields Lab and other members of the project team, in recognizing the key role of Open Access online collections and the value that they add for internal as well as external stakeholders seeking to engage with Newfields' collections, will continue to collaborate on updates and revisions to the integrated collections portal for many years after the project, just as they have on the maintenance of the existing art collections and digital archives portals (collection.imamuseum.org and archive.imamuseum.org, respectively) since their launch in 2015. The Newfields Lab, Library & Archives department, and Rights & Reproductions department will continue to review, update, and add new data and features in response to shifting user needs and expectations.

Along with continued maintenance, additional content will be published through the integrated collections portal in the regular course of stewarding Newfields' collections. This includes the addition of newly-acquired art and archives collections; new digital surrogates for those art objects not photographed by the conclusion of the project period; the embedding of multimedia materials produced for exhibitions and installations onto related art object pages; and new collection-level archival records, as well as item-level surrogates and descriptions for archival materials digitized for other projects. The underlying open application programming interfaces (APIs) of the integrated collections portal will continue to provide programmatic access to Newfields' collections data and assets.

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Schedule of Completion

Schedule of Completion	Year 1							(September 1, 2022 - August 31, 2023)				
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Project Management Activities												
Purchase equipment and set up work stations for project hires	▓	▓										
Post, interview, and hire Digitization & Metadata Specialist and Rights Researcher	▓	▓										
Form project stakeholder group, with representation across the institution	▓											
Full project team meetings, with extended project stakeholders in attendance as needed		▓		▓		▓		▓		▓		▓
Conference attendance and presentation to museum community about the project												
Formal public launch and promotion of the integrated collections portal												
Portal Architecture and Design												
Requirement gathering from stakeholders, based on defined user profiles and stories	▓	▓	▓									
Metadata modeling and mapping across collections, identifying shared entities between collections			▓	▓								
Initial prototypes and iterative design modifications based on requirements				▓	▓							
Reconciliation of entity records across systems, including implementation of thesauri and controlled vocabularies (ULAN, AAT, TGN)						▓	▓					
Final flats prepared for development							▓					
Open Access												
Implementation of RightsStatements.org statements and Creative Commons licenses on art objects with rights already determined, cataloged in the collection management system (EMu)			▓	▓	▓	▓						
Cultural Institution Notices and Traditional Knowledge Labels research and implementation, cataloged in EMu							▓	▓	▓	▓	▓	
Ongoing rights research and cataloging for prioritized art objects, archival collections/items, exhibition records, and historical file materials											▓	▓
Expanded Open Access data pipeline development (art, exhibitions, and archives								▓				
Development of expanded Open Access functionality within beta art collection site								▓	▓			
User testing of expanded Open Access functionality with internal and external audiences										▓		
Modifications to user interface design and devleopment, based on user testing											▓	
Creation of public documentation for all collection site application programming interface (API) endpoints, leading to public launch												
Exhibitions												
EMu data pipeline development from exhibitions module into new collection site serve									▓			
Digital asset management system (Piction) asset pipeline development from archives and non-collection photography categories into International Image Interoperability Framework (IIIF) server												
Exhibitions API endpoint development												
Development of exhibition history section of the portal and integration of exhibition histories into art object page											▓	
User testing of exhibition history section and integrations with internal and external audiences												
Modifications to user interface design and devleopment, based on user testing												
Archives												
Metadata creation for backlog of digitization-on-demand assets (image, video, and audio), ingest into Piction			▓	▓	▓	▓						
Selective digitization and metadata creation, prioritizing archival items of high research interest and related to art/exhibitions, ingest into Piction									▓	▓		
Piction data and asset pipeline development from archives category												
Access to Memory (AtoM) archival collection-level data pipeline development												
Archives item and collection API endpoints development												
Development of archives section of the portal, including access points for art object and exhibiton history page												
Integration of archives into art object and exhibition history pages												
User testing of archives section and integrations with internal and external audiences												
Modifications to archives user interface design and devleopment, based on user testing												

Key - Lead Project Staff	
▓	Project Director and Supervisors of Grant-Funded Personnel
▓	Newfields Lab Technology Team
▓	Digitization & Metadata Specialist
▓	Rights Researcher
▓	Full Project Team
▓	User Testing Contractor

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Schedule of Completion

Schedule of Completion	Year 2								(September 1, 2023 - August 31, 2024)			
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Project Management Activities												
Purchase equipment and set up work stations for project hires												
Post, interview, and hire Digitization & Metadata Specialist and Rights Researcher												
Form project stakeholder group, with representation across the institution												
Full project team meetings, with extended project stakeholders in attendance as needed		█		█		█		█		█		█
Conference attendance and presentation to museum community about the project			█					█				
Formal public launch and promotion of the integrated collections portal												█
Portal Architecture and Design												
Requirement gathering from stakeholders, based on defined user profiles and stories												
Metadata modeling and mapping across collections, identifying shared entities between collections												
Initial prototypes and iterative design modifications based on requirements												
Reconciliation of entity records across systems, including implementation of thesauri and controlled vocabularies (ULAN, AAT, TGN)												
Final flats prepared for development												
Open Access												
Implementation of RightsStatements.org statements and Creative Commons licenses on art objects with rights already determined, cataloged in the collection management system (EMu)												
Cultural Institution Notices and Traditional Knowledge Labels research and implementation, cataloged in EMu												
Ongoing rights research and cataloging for prioritized art objects, archival collections/items, exhibition records, and historical file materials	█	█	█	█	█	█	█	█				
Expanded Open Access data pipeline development (art, exhibitions, and archives												
Development of expanded Open Access functionality within beta art collection site												
User testing of expanded Open Access functionality with internal and external audiences												
Modifications to user interface design and devleopment, based on user testing												
Creation of public documentation for all collection site application programming interface (API) endpoints, leading to public launch										█	█	
Exhibitions												
EMu data pipeline development from exhibitions module into new collection site serve												
Digital asset management system (Piction) asset pipeline development from archives and non-collection photography categories into International Image Interoperability Framework (IIIF) server												
Exhibitions API endpoint development												
Development of exhibition history section of the portal and integration of exhibition histories into art object page	█											
User testing of exhibition history section and integrations with internal and external audiences	█											
Modifications to user interface design and devleopment, based on user testing			█									
Archives												
Metadata creation for backlog of digitization-on-demand assets (image, video, and audio), ingest into Piction												
Selective digitization and metadata creation, prioritizing archival items of high research interest and related to art/exhibitions, ingest into Piction	█	█	█	█	█	█	█	█	█	█	█	
Piction data and asset pipeline development from archives category		█										
Access to Memory (AtoM) archival collection-level data pipeline development			█									
Archives item and collection API endpoints development			█	█	█	█						
Development of archives section of the portal, including access points for art object and exhibiton history page								█	█	█		
Integration of archives into art object and exhibition history pages												
User testing of archives section and integrations with internal and external audiences										█		
Modifications to archives user interface design and devleopment, based on user testing												█

Key - Lead Project Staff	
█	Project Director and Supervisors of Grant-Funded Personnel
█	Newfields Lab Technology Team
█	Digitization & Metadata Specialist
█	Rights Researcher
█	Full Project Team
█	User Testing Contractor

Indianapolis Museum of Art, Inc. (dba Newfields)
Museums for America, FY22 Application: *Open and Integrated: Redesigning Newfields' Online Collections*
Digital Products Plan

Type
The primary digital product created for the project will be the integrated collections portal, a public website where data about and digital surrogates of Newfields' collections (art accessions and deaccessions, archival collections, and individual items) and institutional exhibition history will be accessible. Existing metadata and assets will be pulled from source collection management systems (EMu, Access to Memory), the digital asset management system (Piction), and online content hosting websites (i.e., Newfields' YouTube channel) to populate the integrated collections portal. An Open Access framework will inform the site's architecture, so that it is built on open application programming interfaces (APIs) with an International Image Interoperability Framework (IIIF) server for image delivery, and functionality, providing public access to download high resolution photography for Public Domain and other openly licensed media.

Priority cataloging related to copyright, licensing, and cultural sensitivities will be undertaken by the Rights Researcher, under the guidance of the Director of Legal Affairs and Intellectual Property. This work will produce additional data points for all art objects (approximately 42,000 items) and digital archives (approximately 15,000 previously digitized items, including an estimated 4,000 items which have not yet been made public due to lack of description). New data points will include a standardized RightsStatements.org statement for each and Creative Commons licenses and Traditional Knowledge Labels, where applicable. The Digitization & Metadata Specialist, who will work closely with the Head of Libraries & Archives and the Archivist, will create digital surrogates of priority archival items, with the goal of 10,000 new surrogates, as scans in PDF/A format with minimum 300 ppi for textual materials and minimum 600 dpi for visual materials or studio photographs of oversized materials saved in camera raw DNG and TIF formats, and fully describe those digitized items according to the Library & Archives department's metadata profile, which is based on the Dublin Core metadata standard, modelled after the Digital Public Library of America metadata application profile, and requires or recommends the use of specific shared vocabularies and thesauri, such as Library of Congress Subject Headings, Getty Vocabularies, etc.

In the development of the integrated collections portal, the Newfields Lab technology team will utilize Javascript, HTML, and CSS for front-end development, and programming languages such as PHP and Javascript for server-side development. These are all standard programming and markup languages for modern web development, with large bases of community support. The integrated collections portal will run off a PostgreSQL database engine. Software that will be used to create the integrated collections portal includes various text editors commonly used by software developers (e.g., Sublime), integrated development environments (e.g., Eclipse), and the Adobe Suite of software products for graphic and user interface/user experience design. Central to the infrastructure of the portal will be the development of multiple publicly accessible RESTful application programming interface (API) endpoints and an International Image Interoperability Framework (IIIF) server, both of which are becoming common standards for improved access to data and image assets across the cultural heritage sector. All code created for the integrated collections portal, along with detailed documentation of the code base, will be managed in the Newfields Lab's GitHub site (https://github.com/imamuseum). Those parts of the code base and documentation that will be made public, such as the documentation on accessing and utilizing the public API endpoints, will be accessible from this GitHub.

Availability
The integrated collections portal will be made publicly available as a website hosted on Amazon Web Services (AWS). The site will be accessible by standard/modern web browsers, with both desktop and mobile layouts provided. All collections data underlying the site will be accessible via multiple RESTful application programming interfaces (APIs), which will be fully documented for public consumption, including programmatic access to and reuse of the data. As these APIs will power the integrated collections portal's user interface, they will provide access to all data points published in the user interface, as well as additional data points, such as detailed measurements and parts data, not available through the interface views. Images and accompanying metadata published in the portal will be delivered to the site via an International Image Interoperability Framework (IIIF) server, so those digital assets will be accessible and reusable via those open specifications.

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Access

While the code base for the integrated collections portal will be private, the underlying APIs and IIIF servers that deliver data and assets to the integrated collections portal will be fully accessible and documented to support use. To encourage confident reuse of Newfields' collections data and assets, standardized statements related to current copyright status (RightsStatements.org) and licensing for reuse (Creative Commons) will be applied consistently to both art objects and archival items published in the integrated collections portal. In addition to these standards, Local Contexts Institution Notices and/or Traditional Knowledge Labels will be applied to objects within the art collection which are subject to cultural limitations on using or sharing data or digital surrogates; any limitations will be reflected in the level to which the data/assets are published by Newfields in the integrated collections portal. For those art objects and archival items determined to be in the Public Domain or otherwise open for unrestricted use, high resolution digital surrogates will be downloadable to the public with no imposed barriers to access. Where downloadable images cannot be made available, credit lines and standards copyright/licensing statements will make applicable terms of reuse clear to users. All data published in the integrated collections portal interface and accessible via the API will be available with a Creative Commons' CC0 – "No Rights Reserved" license.

Sustainability

Newfields demonstrates a commitment to the sustainability of its various digital products by funding and staffing the in-house Newfields Lab technology team (currently comprised of three software developers, a digital designer, and a digital asset and data manager, with plans to expand the team with the hiring of an additional software developer/data analyst prior to the start of the project period). The Newfields Lab builds sustainability into all their digital projects, utilizing open frameworks and standards while avoiding the use of proprietary technologies. The creation of detailed documentation is an integral part of the developers' process, to mitigate the loss of knowledge that can occur should there be turnover on the team. Newfields is committed to maintaining the integrated collections portal for years into the future, until such time that technological advancements or changes in the professional standards around the publication of collections data and assets necessitates the development of a new access portal. The Newfields Lab will manage periodic server migrations, updates to the code base and underlying technologies to keep up to date with any new versions or releases, and develop additional features and functionality as needed to meet institutional goals and the informational needs of stakeholders.

Newfields understands the importance of technology, resources, and organizational commitment for successful long-term preservation of permanent digital assets, such as the digital surrogates of collections objects that will be created for the project. The institution is currently undergoing a multi-year upgrade to the technology infrastructure that will make it possible to move away from our current storage practice of onsite (on-prem) servers and monthly tape back-ups. The institution will soon complete the first phase of this upgrade, which includes: hardware, software, on-prem and virtual servers, the storage area network, and a new gig line. Newfields will then enter phase two, which will increase long-term solutions by transitioning data into cloud-based services with built-in geo redundancy and incorporating dark storage for permanent assets.

Concurrent to the technology infrastructure upgrade, Newfields' Intelligent Information Management and Digital Preservation Task Force is creating a strategic plan for the future of institutional digital storage, document retention and disposition, and permanent asset management. In 2020, the institution engaged in preliminary discussions with vendors for two comprehensive digital preservation systems, Archivematica and Preservica, to inform long term planning. Final decisions on a digital preservation system, implementation, and policy development are expected to be made in future phases of this major technology infrastructure upgrade.