



Museums for America

Sample Application MA-251667-OMS-22
Project Category: Collections Stewardship and Access

University of Kansas (Spencer Museum of Art)

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

The University of Kansas' Spencer Museum of Art will convert its current digital management database to a supported, cloud-based database. The database is the museum's repository for collections, artist/makers, exhibitions, events, collection transactions, conservation, publications, contacts records, and all digital resources associated with those records. It is the foundation of a suite of five browser-based applications that present collections, exhibitions, and educational content in directed, audience-driven tools. This project will support acquiring new software, data migration, and fund a full-stack developer to reconfigure the browser-based applications and website-related linking. The migration to the cloud-based database will support increased access to museum resources for audiences within the galleries and digitally across Kansas, the United States, and around the world.

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.

Database and Application Development for Access, Education, and Research

PROJECT JUSTIFICATION

Project Overview: With support from IMLS, the Spencer Museum of Art at The University of Kansas (KU) will upgrade its primary content management system (CMS) to ensure long-term, sustainable public access to its collection and linked digital tools for research and education. This upgrade is critical as the Spencer’s current CMS, MuseumPlus Classic, is outdated and its manufacturer, zetcom, is no longer developing or providing updates for this edition. During a two-year grant period, the Spencer will 1) migrate all records from MuseumPlus Classic into zetcom’s 2017 cloud-based edition of MuseumPlus and 2) reconfigure and continue development on its suite of digital tools that will interface with the new CMS. These activities will strengthen the Spencer’s capacity to steward its collection and associated documentation and to provide meaningful access to these resources for the many communities it serves locally, nationally, and globally.

The Spencer’s database contains more than 200,000 records and multimedia files that document 49,000+ objects created by 9,000+ artists, manufacturers, and cultural groups. The CMS also manages records for decades of exhibitions, public programs, and tours; institutional archives that span the last 100 years; conservation activities; images, videos, publications, and other multimedia; and university instructors’ class assignments and K–12 teachers’ lesson plans that are inspired by collection objects. These records are foundational to all activities that fulfill the Spencer’s mission, from organizing exhibitions and programs to facilitating class visits and research requests.

A substantial amount of the Museum’s data is also shared through Spencer Art Apps (<http://spencerartapps.ku.edu>), a suite of digital platforms that were custom built in-house to advance core tenants of the Museum’s mission: stimulating research and curiosity for a diverse global audience, enhancing university-level teaching and research, guiding arts integration in K–12 classrooms, and encouraging interdisciplinary exploration of ideas. The applications include a collection search platform that displays records for nearly 100% of the Museum’s objects along with their related multimedia, exhibition, and publication history; two assignment databases to support integration of the collection into K–12 and university curricula; the Spencer Mobile App for enhanced in-gallery experiences; and other purpose-built platforms to support ongoing initiatives and arts research. The Museum’s online events calendar (<http://spencerart.ku.edu/calendar>) also draws content from the CMS, as does an internal-facing metrics dashboard that supports evaluation and reporting. Connecting directly to the CMS ensures users receive the most up-to-date information and adds efficiencies to staff’s internal workflows by pulling information straight from a single data source and eliminating duplicate data entry.

In addition to the urgency of replacing a database that is nearly obsolete, the CMS upgrade will coincide with the Spencer’s IMLS-funded project to unify and redesign its multiple websites, which includes an overhaul of the user interfaces for Spencer Art Apps and other digital tools. By upgrading the database concurrently with the website rebuild project, the Spencer can create more sustainable and reliable web platforms that connect directly to the vendor-provided Application Programming Interface (API) for the 2017 edition of MuseumPlus. The efficiency gained by linking web platforms to MuseumPlus with zetcom’s API is significant. This will eliminate the need to recode and reconnect substantial portions of the Spencer’s website if the database were to be upgraded after the website build and will reduce the time that digital tools will be offline for the public.

Needs and Challenges Addressed: As one of the first museums to make the entirety of its collections available online, the Spencer has long been a leader among small- to mid-sized museums in sharing digital content. Much of this work is dependent on the Spencer’s use of MuseumPlus Classic, which was developed by zetcom in 1998 and its latest update was released in January 2019; no additional updates are anticipated. As of October 2021, 85% of zetcom’s 40 U.S.-based clients employ the new cloud-based MuseumPlus, making the Spencer one of only a few institutions still using the older system. Likewise, 80% of zetcom’s 1,000 European clients have already upgraded to the 2017 edition. Before zetcom ceases to support this older software, the Spencer must secure external support to purchase the new system, migrate all existing data, and link Spencer Art Apps to the new CMS—activities that require financial and staff resources beyond the capacity of the Spencer’s annual operating budget.

Over the past two years, the Spencer has conducted a study of its digital outputs. This work is supported by a grant from the Andrew W. Mellon Foundation, recognizing the Spencer’s digital accomplishments over the past two

decades. Evaluations and studies completed by multiple external consultants, input from Museum staff as well as key university partners, and workshops with digital leaders from prominent museums across the country have informed the Spencer’s first-ever institutional digital plan (see supporting documents). Part of this work also included exploring transitioning to an entirely different database, rather than a new version of the current CMS. Spencer staff, in consultation with external experts, concluded switching vendors would be far more complex, time intensive, and monetarily expensive without providing additional meaningful functionality.

The 2017 cloud-based version of MuseumPlus offers new features and functionality that will not only improve how the Museum serves its array of audiences but will also make internal staff workflows more efficient, which will in turn provide greater access to the Spencer’s data. Through the cloud-based version, querying the database and organizing results and information are vastly improved from MuseumPlus Classic. This increased ease of access to data will make responding to research requests and scholarly inquires much easier and quicker because a wider range of staff will be able to assist in answering questions. The new version also offers the ability to link objects to event records, which will allow the Spencer to better assess how its collection is used in teaching. Improved data and expanded data collection will better position the Spencer to prepare reports for external funders and university stakeholders and reflect on its collecting and community engagement practices. Additional new features will build efficiency of internal workflows by allowing bulk data changes, scheduled data updates, and an improved, web-based user interface. A side benefit to the data migration process will be significant data assessment and clean-up, which will increase the quality and accuracy of the data the Spencer publishes.

Alignment with IMLS Goals: Upgrading the Spencer’s database and related web-based applications aligns with the IMLS goal “Collection Stewardship and Access: Advance the management and care of collection and their associated documentation” and the objective to “support database management, digital asset management, and digitization.” The Spencer will acquire the latest edition of MuseumPlus to replace the 1998 edition it uses currently. This change will lead to more relationally integrated data and greater discoverability of and use of the Museum’s collection. Support for a web developer to link Spencer Art Apps to the new CMS will sustain these custom applications created based on audience needs. The latest version of MuseumPlus will be the focus of zetcom’s development of new features and integration with new versions of other software. Acquiring a cloud-based database will also support ongoing stewardship of the collection, as the database is the foremost tool used by Spencer staff for managing the works of art in its care, and also supports planning for exhibitions, public programs, class visits, marketing, conservation, publications, research visits, and all other activities that rely on information about the collection. Migrating this extensive content to the new MuseumPlus will strengthen the Spencer’s ability to support students, faculty, and staff at KU and nearby colleges and universities; regional K–12 students and teachers; 60,000 annual visitors to the galleries; more than 40,000 digital users; and an international research community.

Alignment with the Spencer’s Strategic Plan: This project will advance three strategic directions outlined in the 2018-2023 strategic plan: 1) activate art, 2) stimulate engagement, and 3) inspire inquiry. By activating art, the Spencer endeavors to develop and steward its collection in order to share it with audiences in broader ways. Key goals for this strategic direction include expanding information about the collection and increasing ways of sharing information based on user demand. A benchmark for this goal is developing a comprehensive digital plan (see supporting documents). Acquiring the latest version of MuseumPlus fulfills two key components of the digital plan: 1) securing a modern CMS and 2) continuing to sustain and expand web-based platforms that make the data archived in that CMS broadly discoverable. Refinement of these educational platforms will be informed by the recent study of the Spencer’s digital practices, which confirmed through user-testing (conducted by consulting firm One Further) the impressive amount of content available through Spencer Art Apps and the desire of audiences to readily access that information.

Efforts to stimulate engagement include the specific goal of expanding inclusive opportunities for communities across Kansas and beyond to experience Spencer resources. In 2020, the Spencer Art Apps platform received hits from users in more than 1,600 cities in the United States and supported nearly 200 tours for K–12 and university classes while the Museum’s galleries were closed due to the COVID-19 pandemic. Upgrading the CMS that supports these digital initiatives to a more stable and sustainable version will position the Spencer to continue meeting the ever-evolving needs of its communities.

As part of the Spencer’s goal to inspire inquiry, it develops public platforms to broadly disseminate research and facilitate resource discovery. The Collection Search app makes records available for publications, exhibitions, digital resources, and other forms of research about or inspired by the collection. Every object record in the Collection Search app presents all related multimedia, the object’s exhibition history, an archive of past and present label copy, and literature citations. This strategy provides researchers as well as casual users the ability to deeply explore the collection and make connections via structured and serendipitous means. The recent analysis and user-testing of the Spencer’s applications resulted in specific recommendations for modifications to the search functions in this app to increase discoverability. The current Collection Search runs a full-text query of the entire CMS, which can return many irrelevant records in results. The Spencer will build a new technology layer with Elasticsearch (or similar software), which will provide a more dynamic indexing of data and help users find the specific data they seek by returning and sequencing results by relevance and at greater speed. These changes will be addressed alongside connecting these tools to the new CMS.

Target Group and Beneficiaries: As the only art museum in Kansas with a collection that spans six continents and 5,000 years of human history, the Spencer is a dynamic cultural resource for the city of Lawrence, the Midwest region, and beyond. The Spencer is a leader among university art museums in integrating its collection into the KU curriculum through a robust academic programs department and a thriving object study center (with a second study center to open summer 2022). The Spencer’s database both documents class visits and stimulates university engagement through the data shared in Spencer Art Apps. In 2019, the collection supported teaching for 355 classes at KU across 40 different departments. For professors at KU and other regional colleges, the ability to research the collection through Spencer Art Apps before visiting with students is invaluable—giving them the power to identify works in current exhibitions as well as works they can request be shared with their students in the study center. KU faculty and students can also use this app to access higher resolution images and create portfolios of objects to support their research and teaching. Portfolios can be shared publicly and with students for assignments. Metrics built into the system collect information related to the successful integration of the collection into curriculum across campus, allowing the Spencer to evaluate its strategic goals to stimulate engagement and inspire inquiry.

Through its Partners in Education Across Kansas program, the Spencer collaborates with K–12 educators to infuse art into classroom teaching. In 2019, the Spencer engaged more than 30 educators across 12 Kansas school districts professional development programming on arts integration, resulting in dozens of lesson plans created by teachers and inspired by Spencer collection objects. These lesson plans are archived in MuseumPlus and shared through the K–12 Lesson Plans Database. The U.S. Department of Education recently awarded the Spencer a grant to expand its K–12 educator programs across Kansas over the next five years, underscoring the importance of sustaining access to the K–12 Lesson Plans Database, which will continue to disseminate new lessons created by educators.

To continue serving the audiences described above and offering new functionality that aligns with the needs of other communities, the Spencer must upgrade the database upon which these teaching and learning platforms are built. Without a more sustainable, stable, and vendor-supported CMS the Museum risks compromising the future development of new features and platforms, as well as encountering unexpected service interruptions, roadblocks to troubleshooting due to lack of vendor support, and ultimately the failure of these platforms.

PROJECT WORK PLAN

Key Personnel: Spencer Director Saralyn Reece Hardy provides leadership and supervision of project goals and key staff and the Spencer’s cross-departmental Information Management Team will coordinate project activities. Members of the Team who will play key roles for this project are Deputy Director for Operations and Innovation Jennifer Talbott, Director of Creative Services Ryan Waggoner, Head of Collection Management Sofía Galarza Liu, and Director of Education and Interpretation Kristina Walker. Each oversees one or more of the CMS modules, which include collections, collection transactions, conservation, artists/makers, exhibitions, events, archives, addresses, literature, and digital resources. The Information Management Team will work closely with Collection Managers Sarah Schroeder and Angela Watts to implement the CMS upgrade by verifying data post-migration, testing the new CMS, updating data entry standards, and training staff on the new CMS and standards.

Talbott has worked at the Spencer for over 16 years and the last 9 years in a leadership role. She directs digital initiatives and founded the Information Management Team. Waggoner has 10 years of experience at the Spencer and is a leader among staff for expanding digital strategies for educational engagement. Galarza Liu has stewarded the Spencer’s collection for more than 19 years and co-manages the database with Waggoner. She has served as an implementation consultant for zetcom and provided user training to multiple U.S.-based MuseumPlus clients. Talbott, Waggoner, and Galarza Liu are alumni of the Getty Leadership Institute. Watts joined the Spencer 14 years ago and led the rehousing and transfer of records into MuseumPlus for more than 9,500 Global and Indigenous objects, which the Spencer acquired in 2007. Schroeder joined the Spencer five years ago and coordinated the rehousing of over 25,000 works on paper. All of these key staff have presented at conferences about the Spencer’s collection and digital initiatives and offered consultation to peers at small and mid-sized museums.

Reconfiguring the Museum’s web platforms that are linked to MuseumPlus will be led by Talbott and Waggoner, who spearheaded the Spencer’s assessment of its digital practices supported by the Mellon Foundation and are overseeing the website redesign. Critical to reconfiguring Spencer Art Apps is a full-stack developer who will modify the queries that extract content from the database, using the API that is provided with the new MuseumPlus. The Spencer currently employs a full-stack developer, Ryan Thorup, who is responsible for creating and maintaining all the Spencer Art Apps. Thorup was hired three years ago in a grant-funded role and funding for his position must be raised annually. The Museum requests IMLS support for 50% of his time in Year 1 and 100% in Year 2, so he can lead the reconfiguration of the Spencer Art Apps, drawing on his expertise in creating these platforms.

Thorup will collaborate with partners at the KU Information Technology Department’s (KU IT) during the reconfiguration of the Spencer Art Apps, the online events calendar, and the internal Metrics Dashboard to the new API. Key personnel at KU IT include Associate Programmers Greg Carlson, Matt Schott, and John Baranski. Carlson oversees the events calendar and will focus on the programming necessary to integrate this tool with the new CMS. Schott created and maintains the Spencer’s first API, which he built for the Spencer Mobile App. This API is currently utilized for both the Mobile App and all of the Spencer Art Apps platforms, and will be either reconfigured or replaced during the project. Baranski configured the Spencer’s first extract, transform, load (ETL) process, which copies the data from the API created in-house daily to provide up-to-date information to Spencer Art Apps. Baranski and Schott will create the new ETL, which will connect to the vendor-supplied API for MuseumPlus. Creating the ETL will allow more access to data and provide greater flexibility in querying the large amount of data in the Spencer’s CMS, which is not possible through a direct query from the MuseumPlus API.

In addition, the Spencer plans to link additional website content directly to MuseumPlus to increase efficiency in data entry, which Schott and Thorup will complete. For example, the Spencer plans to link object record data to a virtual exhibition web template developed during the pandemic-induced shutdown. This template allows non-developer Museum staff to build virtual exhibition webpages (<https://spencerart.ku.edu/virtual-exhibition>) from start to finish, and currently requires significant data entry for basic object information. By pulling this data directly from MuseumPlus, efficiencies are gained in building web platforms. Direct connection to MuseumPlus will also make these pages self-sustaining by ensuring public-facing data is accurate and up-to-date while gaining efficiencies that build capacity to develop more and better virtual exhibitions and other digital resources.

Activities and Timeline: In preparation for migrating content to the new CMS, the Spencer has thoroughly evaluated its current system and completed extensive data clean-up. The programming tools used to develop Spencer Art Apps added significant efficiency to the data clean-up process. To function successfully, these applications rely on clean data—for instance, if a person wants to filter search results to show only works by artists from Asia in the Collection Search app, then all uses of that field need to be identical and free of misspellings or stray punctuation to return all relevant results. The data clean-up resulting from Spencer Art Apps also included additions to catalogue records and led to the Geographic Association data being entered for 97% of object records, a significant increase from previous years. The Museum is currently undertaking an address module and events module clean-up project as a result of developing the Metrics Dashboard, which allows staff to generate customized reports to assist in data management and clean-up. These activities have positioned the Museum to have clean, well-structured data ready to be migrated to the new version of MuseumPlus at the start of the grant period.

When the grant period begins in September 2022, the Spencer will purchase the latest version of MuseumPlus from zetcom. Spencer staff have secured zetcom’s commitment to the project (see letter of commitment in supporting documents), conducted detailed planning discussion with their staff regarding the migration, and participated in demonstrations of the new cloud-based product. Spencer staff have also been in touch with other US-based MuseumPlus clients who have upgraded recently to learn from their experiences and better prepare key staff for the migration. In collaboration with staff at zetcom, the Museum will undertake several preparatory steps before migrating data to the new database. The most critical step will be zetcom mapping the Spencer’s data stored in MuseumPlus Classic to the new version of the database to ensure all content will transfer correctly into the new system. Not all fields or modules will be identical, so the Spencer’s Information Management Team and collection managers, in coordination with development staff and zetcom staff, will need to determine how the non-conforming content will be fitted into the data structure of the 2017 edition. This process will require an extensive review of content and careful mapping to new fields. Based on the appended quote from zetcom (see supporting documents), the data analysis, data and image migration, and testing should take the equivalent of 17 days (136 hours) of zetcom’s staff time, which could extend over multiple months, as the vendor will not be working exclusively nor continuously on the Spencer’s migration. It should occur October – December 2022.

After mapping is complete, the Spencer will install and test the new database over a three-month period (January – March 2023). The Information Management Team and collection manager will familiarize themselves with the new system during this period as well. By April 2023, the Spencer will be ready to migrate data into the new system. Data entry into MuseumPlus Classic will cease before the migration begins. A key part of the migration is data verification to ensure that no content has been lost, therefore the MuseumPlus Classic database will be maintained for at least one year after data is copied into the new system. The Information Management Team, collection managers, and key stakeholders in various departments will test the new system for functionality and migration accuracy. Particular attention will be paid to any data mapping that is not a one-to-one match, ensuring that new fields being utilized are suitable for legacy data from the previous version of the database. This phase of the project will also see the Museum shift the storage of its digital assets connected to MuseumPlus from on-site campus storage to cloud storage managed by zetcom. This new storage solution will more secure and reliable due to zetcom’s data storage practices. Migration, data verification, and user testing will occur from January – June 2023.

Once the migration and data verification conclude, the Spencer will go live in the new system in July 2023. A core team of staff will be trained to resume data entry (primarily those who were involved in verification and testing and previously had data entry permissions). While completing training, Museum staff will work to update database reports that support internal queries of the CMS. These reports are critical for curatorial, programming, promotion, evaluation, and reporting activities. Significant work has already been completed to consolidate and fine tune existing database reports so that only those absolutely necessary will be transitioned to the new version of the database. These activities will take place July and August 2023.

During September and October 2023, the Information Management Team will update data entry standards documents, cataloging worksheets, and cataloging procedures and workflows that correspond to the specifics fields the new CMS. These will be refined on an ongoing basis and particularly as all staff begin using the new database in October 2023. At this time, the Information Management Team will oversee staff-wide training on the new system. Since most staff will have used MuseumPlus Classic, they should quickly adapt to the new system. Procedure documents prepared by the Information Management Team will support staff training and these documents will be updated as needed for further details or clarifying language are requested by staff.

Throughout the project period, Full-Stack Developer Ryan Thorup and KU IT partners will work to configure Spencer Art Apps, the online events calendar, and Metrics Dashboard to connect to the new database. This work will happen in tandem with an IMLS-funded project to redevelop and redesign the Museum’s existing website and the user interfaces of the associated web platforms. Designing and developing these connections is anticipated to take nine-twelve months and will occur throughout the second year of the grant.

At the beginning of the grant period, the developers and programmers will establish a new API configuration in conversation with zetcom staff. The connection to vendor-supplied API is critical to be able to feed Spencer web

platforms with up-to-date data on a consistent and reliable basis. Thorup and Baranski will then begin the reconnection process by mapping zetcom’s API to the new database structure and creating a custom ETL (extract, transform, load) process that will act as a middleware piece between zetcom’s API and the Museum’s web platforms. This ETL will run daily and ensure that all data presented on the Museum’s web platforms is consistently up-to-date. Mapping the API to the database and creating the custom ETL should be completed by April 2023.

Throughout and following the development of the new API configuration and ETL process, the developers and programmers will be reconfiguring and rebuilding existing Spencer Art Apps platforms to align Museum’s website as it is redesigned. Website features developed during this process are likely to necessitate new and reconfigured database connections, an effort that will be led by Thorup. Once the new database structure and back-end systems are in place, continued development, testing, and implementation will be required to meet the needs of the redesign of the Museum’s web presence. One known planned improvement is the implementation of an ElasticSearch layer across all linked web platforms to drastically increase the speed and accuracy of user searches. This work will proceed throughout the rest of the grant period to address audience-driven needs. As Spencer staff continue to learn the new functionality of the cloud-based MuseumPlus and look towards the rapidly-changing art museum and technology landscape, Thorup will also develop new features and applications in the last six months of the grant period as opportunities unfold.

Mitigation of Risks: The project’s greatest risk is the potential to lose data upon which Spencer staff and audiences depend during migration from the old CMS to the new one. Mapping the data structure is a critical step that will be undertaken systematically and with tremendous care to counter this risk. Data will be copied into the new CMS rather than moved and MuseumPlus Classic will retain data for at least one year until decommissioned. This duplication of content allows a period of overlap for staff to verify the migration was successful. Another risk is the disruption to public access to data while digital tools are reconfigured to the new CMS. During the transition, the Spencer Art Apps will remain online and linked to the old database to sustain access to data available up to the point of migration, which will minimize disruption to the public’s use of existing web platforms and applications. Retaining Thorup will also reduce the time digital tools are offline as his deep knowledge of these systems he developed will be critical to troubleshooting the connectivity processes and any unexpected issues.

Tracking Progress and Evaluation: Project leaders Talbott and Waggoner will manage all tasks with the project management software Asana, which the Spencer adopted in 2019. Asana’s monitoring and progress metrics will allow project leaders to see where bottlenecks might occur, view timelines in relation to other Spencer projects, and monitor tasks completed according to schedule. The project’s success will be measured by the timely completion of tasks, as recorded in Asana, and accomplishment of key benchmarks, which include: mapping data structure, migrating all content, developing and implementing new data entry standards and workflows, creating new reports for staff to use to query the database, reconfiguring applications to the new database with a minimal period of static data, and staff-wide training and adoption of the new database standards.

PROJECT RESULTS

Intended Results: By the conclusion of the grant period, the Spencer will have 1) migrated all data managed in MuseumPlus Classic to a modern, vendor-supported CMS, 2) reconfigured connections between the Spencer’s web platforms and the new CMS, and 3) increased public access to the Spencer’s data through expanded integration of website content with the CMS. The Spencer’s CMS is foundational to collection management, exhibition development, program planning, and supporting teaching and research. Transitioning from an obsolete version to the latest edition of MuseumPlus is critical for the long-term management of this data. With IMLS support to retain the Spencer’s full-stack developer Ryan Thorup, the new version of MuseumPlus will interface with the Spencer’s web platforms and more website content to sustain public access to records about the collection, exhibitions, artists, educational resources, and more. An investment in the Spencer’s digital infrastructure at this time will generate lasting benefits for all audiences who experience art at the Museum and engage virtually with its digital resources.

Improved Management and Access to Data: The latest edition of MuseumPlus offers more functionality than the Classic version, such as the ability to link more than one exhibition record to an event record and link collection objects to event records, which will allow the Spencer to construct a more accurate record of its activities. For

instance, being able to link a class tour or visit to multiple exhibitions will more accurately record the use and impact of exhibitions on particular audience segments.

The continued development of digital tools will be significantly easier with the new edition of MuseumPlus. Previous application creation required time-intensive translation of the back-end data tables, which were all in German in the 1998 edition. The Spencer aims to increasingly integrate community voices into its digital records and having a modern database and linked digital platforms will contribute to the visibility of and engagement with the collection. At present, the Spencer’s database contains content for assignments and lesson plans created by university instructors and K–12 teachers, visitor comment cards, poems crafted by community members in response to works of art in the collection, video interviews with artists, and short audio files generated by middle school students about specific works in the collection, to give a few examples. With a sustainable and supported database in place the Museum will be able to continue to develop and evolve its web offerings to provide dynamic virtual spaces that support community interaction with the collection.

Impact on Target Group and Beneficiaries: By the conclusion of the grant period, the Spencer’s data will be stored in a CMS that is vendor-supported and that will continue to be upgraded with new functionality as increasingly museums rely on digital content and engagement to thrive. This transition to a modern, stable CMS safeguards the Spencer’s data for internal staff and key audiences, including university faculty and students, K–12 educators and students, researchers, and the public. Ongoing access to information about the collection, educational resources, event schedule, and more are crucial for sustaining community engagement and fulfilling the Museum’s teaching and research mission. Ultimately, this project will position the Spencer to continue facilitating meaningful experiences at the intersection of art and ideas for many communities of learners across Kansas and beyond.

Resulting Products: The primary output for the project will be the new CMS containing more than 200,000 records and multimedia files documenting the collection and associated activities. The Information Management Team will also produce a new data entry standards document. Linked web applications will also be significant products and will include 1) Collection Search, 2) K–12 Lesson Plans Database, 3) Curricular Resources Database, 4) Collection Tours, 5) Spencer Projects, 6) Spencer Museum App, 7) Events Calendar, and 8) Metrics Dashboard.

Sustaining Benefits: Integral to sustaining the benefits of the database upgrade are regularly updated and widely adopted data entry standards and ongoing staff training. All staff use MuseumPlus, some significantly more than others, and specific positions on staff are responsible for managing certain modules of the database. Currently, every new staff member is trained on MuseumPlus within the first months of employment. Bi-monthly Information Management Team meetings ensure that issues with data entry and management are addressed promptly and with cross-departmental input.

Financially, the Spencer supports annual database licensing fees through its operating budget and will continue to do so, while also seeking corporate sponsorship. The public-facing online Collection Search and the internal Metrics Dashboard both allow staff access to a significant amount of the information stored in the database, which will reduce the number of licenses the Spencer requires for staff access by half, thus minimizing ongoing licensing costs (an annual savings of approximately \$15,000). The Museum is also committed to securing sustained external financial support for its web platforms and technology initiatives, comprising a key goal in the Spencer’s digital plan.

Ongoing and consistent data entry and management is critical to ongoing fulfillment of the Spencer’s mission. The Spencer has a strong foundation of structured data on which much of its internal and external success have relied. A majority of this data is housed in MuseumPlus Classic and the corresponding web-based public platforms are reliant on a stable connection to this data source. Upgrading to the new version of MuseumPlus will mitigate the current substantial risk to this data and web platforms, and it will allow the Museum to continue innovating and finding new ways to make its collection and research accessible in response to the many audiences it serves. With a supported and sustainable data source in place, the Spencer Museum of Art will be well positioned to fully leverage the decades of work that have gone into MuseumPlus Classic, as well as take full advantage of recent intensive efforts to evaluate, plan, and redesign the Museum’s digital ecosystem.

Database Development for Access, Education, and Research

Digital Products Plan

TYPE

No new digital products will be created within the scope of the grant-funded activities, however, the project itself will involve the upgrade of the Spencer Museum of Art's (SMA) current MuseumPlus content management system (CMS) to the latest cloud-based version and the migration and publication of existing digital resources (approximately 120,000 digital files). These include, but are not limited to:

- photographs of works of art in the collection, museum exhibitions, and events;
- sound and video recordings related to works of art, museum exhibitions and events;
- collection, event, and exhibition documents; as well as
- archival documents.

This project also addresses existing web platforms ([Spencer Art Apps](#)) developed in-house by the SMA, which are connected to the CMS. These platforms serve the aforementioned digital files, along with information about the SMA's collection, assignments for K-12 and university classes, and other purpose-built platforms to support ongoing initiatives and arts research. Upgrading the Museum's primary CMS as part of the grant-funded activities will necessitate the migration of these digital products, as well as the reconnecting or reconfiguring of Spencer Art Apps.

AVAILABILITY

Since the Spencer Museum first published its collection online in 2009, it has strived to provide robust and free access to its collections and all related multimedia. Today nearly 100% of the Spencer's collection is presented online, along with all related images, audio files, videos, and other associated media. Throughout the upgrade to the new CMS and subsequent required migration of all digital resources, the Museum will ensure that this level of digital product availability is maintained if not exceeded. All digital content regarding collections that is public facing is available online through [Spencer Art Apps](#), and is accessible through standard web browsers and Android/iOS mobile devices. No special tools are required beyond access to a device with data/internet access. All of this functionality will be maintained during and after the upgrade to the new CMS, with limited disruption to the applications for the public.

ACCESS

The MuseumPlus vendor, zetcom, owns the intellectual property of the software that will be licensed under this grant. All users of Spencer Art Apps can freely access 100% of the digital products provided in a read-only capacity. For images of works of art with copyright restrictions, thumbnail size images are provided to mitigate any improper use of copyrighted works of art. For works in the Museum's collection that are in the public domain, higher resolution image files are made available to all users. An additional level of access is provided for the University of Kansas community, allowing authenticated users to access higher-resolution image files of all works in the collection for teaching and research.

SUSTAINABILITY

All digital resources described will be stored on servers maintained by zetcom. This cloud storage solution will ensure long-term, stable access to all of the Museum's digital resources. In addition, regularly scheduled check sums will run to verify file integrity.