Museums for America

Sample Application MA-10-15-0094-15
Project Category: Learning Experiences
Funding Level: $25,001-$150,000

Minneapolis Institute of Arts

Amount awarded by IMLS:	$117,297
Amount of cost share:	$117,318

Attached are the following components excerpted from the original application.

- Abstract
- Narrative
- Schedule of Completion

Please note that the instructions for preparing narratives for FY2016 applications differ from those that guided the preparation of FY2014 and FY2015 applications. Most obviously, the names of the three narrative sections and the order in which they appear have changed. Be sure to use the narrative instructions in the

To provide museum visitors with learning opportunities about exchanges of populations, ideas, and materials, as they have been reflected in works of art over the past millennium, the Minneapolis Institute of Arts (MIA) will create a large interactive map for display in three areas of the galleries dedicated to its permanent collection: Asia, the Americas before 1600, and Europe and America 1600-1900. The map will be mounted on 46-inch high-definition touch-sensitive video monitors. Building on the museum's success in creating a popular interactive map for its African art galleries, the proposed map will feature art works that were made in locations along three historic trade routes: the overland and maritime routes comprising the Silk Road connecting China to Europe; the networks using such pathways as the Inca Trail and Camino Real linking South, Central, and southern North America; and the Atlantic Triangle, connecting Great Britain, Africa, and the North American and Caribbean colonies.

Because trade routes remained fairly constant due to their geographical and navigational efficacy, they served for centuries as avenues for international exchanges of materials, ideas, and artistic practices. Works of art featured on the map will be those representing such physical and intellectual exchanges. By touching images of these art works, visitors will zoom to stories entailing scientific discoveries, the spread of religions, military conquests, and changing tastes in consumer goods. For example, the MIA's mahogany furniture and silver sugar bowls tell stories about the history of the triangle trade connecting England to Africa and the Americas. England shipped enslaved Africans to work sugar and rice plantations and harvest mahogany in the Caribbean and southern United States; the plantations traded these materials to the northern American colonies and Europe in exchange for finished goods; the plantations then traded these finished goods in Africa for more African slaves.

"North, South, East, West" will address the need to engage visual arts audiences in new ways by connecting art works to people's interests in other domains, such as science, economics, religion, popular culture, social history, and political science. The MIA feels that these connections inhere in art works and strives to make them manifest to provide a richer arts experience for visitors, as well as to offer a perspective on cultural fluidity and creative exchange. As an encyclopedic art museum with a collection of over 86,000 art works, the MIA is well-positioned to use this collection to provide self-directed learning opportunities for visitors seeking a deeper understanding of how an unending chain of discoveries, encounters, and transactions have shaped the global society we now inhabit.

Children, as well as adults, will benefit from the project. The museum has chosen to design the project based on trade routes partly because they lend themselves to content related to science, technology, engineering, and math (STEM), both to appeal to wide audiences and to support STEM learning for young visitors. Although casual use of the map is not anticipated to make a measurable impact on users' attitudes or behaviors, such use is anticipated to engage users in the interconnections of art and science and such physical processes as metal-smithing, navigation, and currency conversion.

The intended results of "North, South, East, West" are that visitors will:
- Spend more time in the galleries to absorb art works and interpretive materials
- Discover content that interests them even if they generally do not enjoy looking at art
- Learn together by exploring images of art works
- Gain a deeper understanding of the global origins of historical art works

In collaboration with Debra Ingram, PhD, Research Associate at the Center for Applied Research and Educational Improvement, University of Minnesota, the MIA will track its progress toward achieving the project performance goals and intended results by conducting front-end, formative, and summative evaluations involving focus groups with educators, tour guides, and adult and child audience members. The summative evaluation will involve short gallery exit interviews with visitors and observations of visitor behaviors while using the map.

The MIA is committed to developing software using open source, industry-standard methods and code. Tools created by MAT for audience engagement are shared across the entire cultural heritage sector, free of charge, over open source repositories such as GitHub.

Learning Experiences

1. Project Justification

What do you propose to do? The MIA proposes to provide museum visitors with learning opportunities about histories of cultural exchange, as illustrated in works of art, by creating a large interactive map for display in three areas of the galleries dedicated to its permanent collection: Asia, the Americas before 1600, and Europe and America 1600-1900. Building on the museum's success in creating a popular interactive map for its African art galleries, the proposed map will feature zoomable images of at least nine art works (or groups of art works) that were made in locations along three historic trade routes: the overland and maritime routes comprising the Silk Road connecting China to Europe; the networks using such pathways as the Inca Trail and Camino Real linking South, Central, and southern North America; and the Atlantic Triangle, connecting Great Britain, Africa, and the North American and Caribbean colonies. The museum has chosen these particular routes because they best reflect its permanent collection.

Because trade routes remained fairly constant due to their geographical and navigational efficacy, they served for centuries as avenues for international exchanges of materials, ideas, and artistic practices, as well as consumer goods. Works of art featured on the proposed map will be those representing such physical and intellectual exchanges. By touching images of the art works, visitors to the museum will zoom to stories entailing scientific discoveries, the spread of religions, military conquests, and changing tastes in consumer goods. For example, one story the MIA's collection can tell eloquently—with sculptures from 3rd-century India, 8th-century Korea, 11th-century Cambodia and China, 13th-century Japan, and 14th-century Tibet—is that of the spread of Buddhism across Asia. The sculptures reveal how the philosophy flourished uniquely in each setting, sometimes manifested in multi-limbed deities reflecting complex cosmologies and sometimes in elegantly simple figures seeking enlightenment through meditation. Based on audience evaluations of its recent exhibition "Sacred," the MIA believes that this story will be of wide interest to regional audiences familiar with Western variations of Buddhist practices.

Another story might use images of Peruvian ear spools, Panamanian pendants, and a 17th-century nautilus shell cup decorated with silver and gilt to tell the story of the trade in precious metals in the Western Hemisphere before and after European colonization. People in the Andes became skilled goldsmiths millennia ago, crafting jewelry and animal figures. When the Incas conquered the Chimu in the 15th century, they retained Chimu goldsmiths for their skill. This tradition was shattered by the Spanish invasion of South America. During the colonial period, European countries extracted natural resources from the Americas to provide luxury goods at home. Between 1503 and 1600, as much as 150 tons of gold was exported to Spain. Silver from South America, where it was mined by the Spanish, traveled not only to Europe but also to Asia, particularly to China, where it was minted into coins. In return for the silver pouring in from South America by way of European trading companies, Asia provided Europe with silks, spices, porcelain, tea, and rare natural materials, such as nautilus shells from the Indian Ocean.

The MIA's mahogany furniture, delftware and silver sugar bowls, and 18th-century English tobacco box provide clues to the history of the triangle trade, the three-legged route connecting England to Africa and the Americas. England shipped enslaved Africans to work sugar and rice plantations and harvest mahogany in the Caribbean and southern United States; the plantations traded these materials to the northern American colonies and Europe in exchange for finished goods; the plantations completed the cycle by trading finished goods in Africa for more African slaves. The MIA's Providence Parlor, its first period room, itself came from the Rhode Island home of Joseph Russell, a prosperous merchant in the West Indies trade who sold exotic goods.

Similar narratives using art works in the MIA collection might tell of how cochineal dye, shells, tea, and lapis lazuli drove commercial and political alliances across Europe, up and down the Americas, and around the trans-Atlantic triangle, bringing with it ideas, technologies, the exploitation of resources and populations, and also new opportunities for artistic expression. The stories will be told through lively, short-form texts, graphs, animations, supplementary images, film clips, and brief interviews with curators and members of the Twin Cities' diverse

community. Installed on 46" screens in three locations, the map will use art works to illustrate that cultures have for centuries been interdependent (although exchanges have sometimes been far from equal). Visitors will be able to choose how far to journey along these routes and how wide to travel along the web of global connections.

To provide a second means of introduction to the collection for visitors who are curious about the stories told by works of art but seek a less complex narrative experience, users of the map will be able to activate an overlay featuring approximately eleven works of art linked to myths and legends from around the world. Many of the museum's art works—from a Yoruba crown to a Maurice Denis painting of Orpheus and Eurydice to figures representing the Nio guardians of the Buddha—represent myths and legends. In addition to providing a global perspective on how human beings have addressed such questions as Where do we come from? What happens when we die? What powers control our world, and how can we influence them to make our lives are easier?, building this additional functionality for the map will provide a new challenge for the MIA in its work to make digital learning tools for museums.

Laying a foundation for the current proposal, in 2013 the MIA created an interactive map, presented on an 80" touch-sensitive screen using GestureWorks software, for its reinstalled African galleries. This map placed Africa within a broader global context, using geography as the platform on which to tell stories about the Atlantic and Indian Ocean slave trades, the spread of religious beliefs, and trade of luxury materials. According to a March 2014 impact evaluation completed by Audience Viewpoints Consulting, 40% of visitors to the African galleries used the map, with stop times ranging from four to six minutes. This is a considerable amount of gallery time; a study at the Metropolitan Museum tracked how long people spent with six art works and found the mean time spent to be 27.2 seconds, with a median time of 17.0 seconds. Further, the evaluation indicated that over 90% of users were able to operate it easily, contributing to a satisfying experience. Not least, the map promoted social interaction among simultaneous users, offering opportunities for people to learn and discover together.

Because of the Africa map's success with visitors, the MIA has decided to expand the approach, in a new and improved version, to other areas of the museum through "North, South, East, West." For the proposed project, the MIA will redevelop the map software to increase flexibility regarding both the depth and the scope of content presented; make all content accessible, regardless of the point of entry (such as gallery space or subject area), and make content accessible in the gallery on supplied hardware or remotely on personal devices.

What need, problem, or challenge will your project address and how was it identified? "North, South, East, West" will address the need to engage visual arts audiences in new ways by connecting art works to people's interests in other domains, such as science, economics, religion, popular culture, social history, and political science. The MIA feels that these connections inhere in art works and strives to make them manifest to provide a richer arts experience for visitors, as well as to offer a perspective on cultural fluidity and creative exchange to counterbalance ever-present examples of rigidity and intolerance in many parts of the world, including our own. As an encyclopedic art museum with a collection of over 86,000 art works, the MIA is well-positioned to use this collection to provide self-directed learning opportunities for visitors seeking a deeper understanding of how an unending chain of discoveries, encounters, and transactions have shaped the global society we now inhabit.

The need for engaging visitors in new ways emerges as art museums strive to serve a broader public, beyond the cultural elite who have composed their traditional audience. Predicated partly on the acknowledgement that old models for art museums are economically unfeasible, the desire to reach a more diverse, less specialized audience through a multidisciplinary approach to knowledge also aligns with integrative learning and multidisciplinary studies, an approach to education at all levels whose study takes place at many American universities under the rubric of the Scholarship of Interdisciplinary Teaching and Learning (SOITL). Simply put, "Interdisciplinary teaching and learning promotes connectedness between two or more disciplines, integrating and synthesizing knowledge from both in a way that is greater than the sum of its parts" (fod.msu.edu/oir/interdisciplinary-teaching-and-learning).

By helping learners to synthesize knowledge, multidisciplinary approaches teach them how to make meaning out of complex combinations of facts and experiences. The proposed project builds on the assumption that, because art emerges from the human desire to create meaning, it can in turn become a lens through which viewers discover the vital elements that fuse to form social and historical phenomena, from the spread of Buddhism throughout Asia beginning in the 3rd century BCE to the importation of enslaved Africans to Colonial America to the use of South American dyes in the manufacture of red wool flannel in 18th-century England.

The MIA's recognition of the need to engage visual arts audiences in new ways began with the arrival in 2008 of its current Director and President, Kaywin Feldman, who articulated a new vision for the museum as an audience-centered institution and championed a new mission statement to institutionalize this vision: The MIA exists ***to enrich the community*** by collecting, preserving, and making accessible outstanding works of art from the world's diverse cultures (emphasis added). Since then, the MIA's internal and external research has indicated that successful museums today will place visitors at the center of operations, anticipate their varied motivations for attending, and provide satisfying art experiences to people with diverse backgrounds and learning styles. Among other efforts to achieve this ideal, the museum conducts focus groups prior to each major exhibition to learn how to promote, display, and interpret the exhibition meaningfully to the public. When projects focus on the art of particular cultural groups, the museum has instituted the practice of convening advisory groups representing that culture. This practice began with the renovation of the African galleries and will continue with upcoming exhibitions of Islamic African, Chinese, and Native American art.

Central to the museum's interpretive strategy is ArtStories, an initiative to engage audiences more deeply with the museum experience. Delivered over iPads, the multimedia stories empower visitors to be their own guides, exploring works of art in the context of history, culture, and current events and discovering compelling narratives about the objects and their makers. They help to create an environment in which works of art extend and stimulate ongoing conversations about people's lives as global citizens. Run on Griot, a software program developed at the MIA, and piloted in the MIA's redesigned African galleries alongside an interactive map of the continent, ArtStories will soon arrive in galleries across the museum to highlight key pieces in the MIA's collection as part of its 100th birthday celebration. Guided by curatorial scholarship, an intramural team of writers, graphic artists, media producers, educators, and technologists created made-for-digital content presented in a modern, accessible vernacular. Experience in creating ArtStories will position the "North, South, East, West" team to take storytelling to the next level in a map format with improved digital content and presentation software and hardware.

Who or what will benefit from your project? The primary beneficiaries of the project will be the museum's over 600,000 annual visitors, who will have opportunities to learn about the history of cultural exchanges represented in the museum's collection while engaging with a multimedia tool designed to appeal to a variety of interests. During the small exhibition "Saint Paul the Hermit: Restoration and Rediscovery" in spring 2012, the museum noticed that an unusual number of male visitors, often with young children, spent a good deal of time in the gallery, studying videos and panels describing the technical process of restoring a 1772 sculpture by Andrea Bergondi. Since the majority of the museum's adult visitors are women, staff hypothesized that possibly the "how to" nature of the exhibition appealed to men who do not usually enjoy looking at art, but who were drawn to an exhibition connecting art to a process and who used the exhibition as a learning opportunity for themselves and their children. While hardly scientific, this observation aligns with the museum's audience research, underwritten by the General Mills Good Works program in 2013 and 2014, indicating that non-specialists visiting the museum appreciate opportunities to connect art to outside interests such as science, spirituality, and history. They also value chances to interact with friends and family while enjoying art in a learning environment. The proposed project represents the MIA's effort to create such a learning environment, in which people are encouraged to interact and art is made more accessible through narratives that interpret it from the point of view of people's varied interests.

Children, as well as adults, will benefit from the project. The MIA's robust school tour program serves over 62,000 students annually, including all Minneapolis third-graders, free of charge. (The student population of Minneapolis is

approximately 37% African American, 33% Caucasian, 19% Hispanic, 5% Asian American, and 4% Native American.) Rigorously trained museum guides provide these tours. In the past three years, guides have been trained to use digital learning tools in gallery tours and in arts education lessons transmitted over the web from the MIA's galleries into classrooms. Guides will use the proposed global maps to enrich school tours with multimedia presentations designed to engage young minds and content related to students' diverse cultural heritage.

The museum has chosen to design the project based on trade routes partly because they lend themselves to content related to science, technology, engineering, and math (STEM), both to appeal to wide audiences and to support STEM learning for young visitors. For example, when accessing stories about the Atlantic Triangle, visitors will find information about how trade winds and astronomy featured in navigation during the colonial period. When accessing stories about trade networks in the Western Hemisphere, visitors will learn how red dye was made from insects to become the second most important South American export to Europe, after gold. Visitors to the Silk Road stories will discover how the precious stone lapis lazuli, imported into Europe from Central Asia since the Middle Ages, was ground into powder to create ultramarine, a cherished pigment for depicting the Virgin Mary during the Baroque period. Although casual use of the map is not anticipated to make a measurable impact on users' attitudes or behaviors, such use is anticipated to engage users in the interconnections of art and science and such physical processes as metal-smithing, navigation, and currency conversion. Below are just a few samples of Minnesota academic standards in science and math for third and sixth grade that the project will incorporate in stories related to art works created along the trade routes:

Science standards

- Perfection of the junk in the Ming Dynasty results in explosion of China's global trade.*3.1.3.2. Men and women throughout the history of all cultures . . have been involved in engineering design and scientific inquiry.*
- Invention of the sextant in the mid-18th century, replacing the astrolabe, increases accuracy of navigation. *3.1.3.4. Tools and mathematics help scientists and engineers see more, measure more accurately, and do things that they could not otherwise accomplish.*
- European countries find a maritime route to Asia around the Cape of Good Hope to avoid overland trade routes controlled by unfriendly or expensive intermediaries. *6.1.2.2. Engineering design is the process of devising products, processes and systems that address a need, capitalize on an opportunity, or solve a specific problem.*

Math standards

- Maritime routes were longer in miles, but might cost less to the trader than overland routes. *3.3.2. Understand perimeter as a measurable attribute of real-world and mathematical objects. Use various tools to measure distances; 6.3.1. Calculate perimeter, area, surface area and volume of two- and three-dimensional figures to solve real-world and mathematical problems.*
- Exchange rates and the value of commodities fluctuate based on accessibility (the worth of silver and gold decrease after new supplies are exported from South America). *6.3.3. Choose appropriate units of measurement and use ratios to convert within measurement systems to solve real-world and mathematical problems.*

What are the performance goals and intended results of your project? The performance goal of "North, South, East, West" is to produce an interactive global map, displayed in three areas of the museum, to be used as an interpretive tool by visitors, tour guides, and educators to enrich visitors' experience of art works in the MIA's galleries. The MIA will achieve this goal through an iterative process resulting in the following deliverables:

- A written scenario and paper prototype of the map showing story hotspots and potential user interactions
- Prototype software and an interface design showing story hotspots and potential user interactions
- A developed and crafted software and interface, to be tested with visitors to inform revisions
- A map installed and tested in the museum galleries
- Documentation of hardware and software development and installation.

The map will be mounted on 46-inch high-definition touch-sensitive video monitors. (These screens will be a size smaller than the Africa map to fit the available wall space in the Asia, pre-1600 Americas, and post-1600 Europe

and America galleries.) Building on recent successes in software development for ArtStories, the museum will create its own open-source website-based software for a map that:

- Is easy to comprehend and navigate, responding quickly to touch commands
- Legible from a distance for tour group audiences
- Offers reward-based learning (with each discovery of content on the map, users are compelled to navigate to the next discovery because they have been rewarded with learning something of value or interest to them)
- Allows museum-goers to zoom out to see and learn about art works in a global setting, with lines connecting a work from where it was made to where and how its materials were sourced, where and to whom it was traded, and where the ideas it represented (as for example with Buddhist art) took root
- Allows museum-goers to zoom into specifics about an art work and the myth or legend it references

The intended results of "North, South, East, West" are that visitors will:

- Spend more time in the galleries to absorb art works and interpretive materials
- Discover content that interests them even if they generally do not enjoy looking at art
- Learn together by exploring images of art works
- Gain a deeper understanding of the global origins of historical art works

How will your project advance your institution's strategic plan? In 2012, based on projections of participation at art museums nationally in the foreseeable future, Director and President Kaywin Feldman spearheaded the development of the museum's current strategic plan, mandating the institution to increase audience engagement, reflect global interconnectivity in its programs and practices, and develop "Museum, Inc.," the monetization of its assets to provide ongoing financial stability. The proposed project helps to carry out the mandates both to increase audience engagement through the use of digital media and accessible storytelling and to reflect global interconnectivity by illustrating the role of art in the transmission of materials, ideas, and artistic practices.

2. Project Work Plan

What specific activities will you carry out? When and in what sequence will your activities occur?

Activities Year 1

Oct-Dec 2015: Conduct front-end evaluation to discover audience knowledge of subject and criteria for a satisfactory experience, to be conducted with teachers, tour guides, and museum visitors. Consulting evaluator (Ingram) and project core team (Bortolot, Tongen, Mouw, Gardner)

Oct 2015-Mar 2016: Building on ArtStories software developed at the MIA, develop new and improved software for large interactive map. Media and Technology (MAT) development team (David, Jurgens, Olsen)

Jan-Mar 2016: Conduct formative evaluation to test project themes, software design, and learning outcomes. Evaluator and project core team

Jan-Sep 2016: Select art works and develop storylines, emphasizing art works that tell global stories and connect with STEM curricular standards. Project core team and temporary research assistant

Apr-Sep 2016: Edit text narratives. Temporary writer/editor

Jul-Sep 2016: Create supplementary film and animation. MAT interactive media team (Wang, Dust, Lee)

Activities Year 2

Oct-Dec 2016: Create supplementary film and animation. MAT interactive media team

Oct 2016-Mar 2017: Obtain image rights. Temporary research assistant

Jan-Sep 2017: Load content into software. Visual Resources staff (Lynn) and temporary research assistant

Activities Year 3

Oct-Dec 2017: Install new wiring in galleries to support screens. Facilities (Johnson)

Install new network drops in galleries to support interactivity. Vendor (All-Systems, Inc.)
Install and test map in galleries. MAT interactive media team (Lee)

Jan-Jun 2018 Conduct summative evaluation. Evaluator and project core team

Who will plan, implement, and manage your project?

- Alex Bortolot, MIA Curatorial Content Strategist, will lead the project and co-lead content development.
- Karleen Gardner, MIA Director of the Learning and Innovation Division, will co-lead content development and oversee project evaluation.
- Meaghan Tongen, MIA Project Coordinator in the Media and Technology Division, will support the core team and manage logistics for the project.
- Douglas Hegley, MIA Director of the Media and Technology Division, will provide oversight of the technical components of the project.
- Mike Mouw, a temporary part-time employee of the MIA in the Media and Technology Division, will lead technical development of the project.
- A temporary part-time research assistant (TBD), will assist with content research for the project team.
- Debra Ingram, PhD, Research Associate at the Center for Applied Research and Educational Improvement, University of Minnesota, will lead project evaluation.

What financial, personnel, and other resources will you need to carry out the activities? To carry out the proposed activities, the MIA will require personnel (the project core team, support staff, a temporary part-time research assistant, a temporary part-time writer / editor, and an outside evaluator); equipment (three 46-inch high-definition touch-sensitive video monitors) and additional wiring and Wi Fi connectivity; and incentives ($25 Target gift cards) for evaluation participants.

What resources will your institution contribute to the project?
The MIA will contribute all full-time staff time and a portion of temporary part-time technologist Mike Mouw's time; fringe benefits for full-time staff and a portion of benefits for temporary part-time staff; and indirect costs of full-time staff time and fringe benefits at a rate of 10%.

How will you evaluate your project? The MIA will evaluate the project in collaboration with Debra Ingram, PhD, Research Associate at the Center for Applied Research and Educational Improvement, University of Minnesota.

Evaluation Focus	Data Collection	Notes
Front-end Evaluation: Discover audience knowledge of subject and criteria for a satisfactory experience, including expectations for digital learning	1 focus group with 5 tour guides and 5 educators grades K-6; 1 weekend focus group for 5 adults with 5 children k-6	Focus groups will last 60 minutes
Formative Evaluation: Test project themes, software design, and learning outcomes	1 focus group with 5 tour guides and 5 educators grades K-6; 1 weekend focus group for 5 adults with 5 children k-6	Focus groups will last 60 minutes
Summative Evaluation with Gallery Visitors: Measure intended project results	Post-visit interviews to measure change in understanding of the global origins of historical art works; timing and tracking of visitors in gallery, including observation of social interaction at the map	1.5 weeks of data collection in the galleries during museum hours.
Summative Evaluation with Staff: Reflect on the map development process and the results of the Summative Evaluation with Gallery Visitors	1 focus group with staff involved in the project	Focus group will last 60 minutes.

How will you track your progress toward achieving your performance goals and intended results? The MIA will track its progress toward achieving the project performance goals and intended results by conducting front-end, formative, and summative evaluations. The front-end and formative evaluations will involve focus groups with educators, tour guides, and adult and child audience members. Formative evaluations with the same participants will allow the museum to make adjustments to the project based on audience feedback. The summative evaluation will involve short gallery exit interviews with visitors and observations of visitor behaviors while using the map.

How and with whom will you share your project's results? To reach general audiences, the MIA will feature the results of the project in its award-winning digital magazine, *Verso*, with 12,000 unique readers. To reach museum professionals, the core team will present project findings at professional conferences, possibly to include the American Alliance of Museums, Museums and the Web, or the Museum Computer Network. In addition, the MIA is committed to developing software using open source, industry-standard methods and code. Tools created by MAT for audience engagement are shared across the entire cultural heritage sector, free of charge, over open source repositories such as GitHub.

3. Project Results

How will the knowledge, skills, behaviors, and/or attitudes of the intended audience change as a result of your project? As a result of using the map, visitors will:

- Spend more time in the galleries to absorb art works and interpretive materials
- Discover content that interests them even if they generally do not enjoy looking at art
- Learn together by exploring images of art works
- Gain a deeper understanding of the global origins of historical art works

What performance indicators will you use to measure this change and what are their proposed targets?

- Percent of gallery visitors who use the map. Target: 40% of visitors to the galleries where the map is displayed will use the map.
- Number of minutes visitors spend in the gallery. Target: Visitors who use the map will stay in the gallery five minutes longer than those who do not.
- Visitor self-report in post-visit interview. Target: 80% of visitors who use the map will discover content that interests them even if they generally do not enjoy looking at art.
- Percent of map users who talk with others in their group. Target: 25% of visitors in groups of two or more who use the map will discuss what they are discovering and learning.
- Post-visit interview measure of understanding of global origins of historical art works. Target: 80% of visitors who use the map will gain a deeper understanding of the global origins of historical art works.

How will you compare the proposed targets to actual outcomes? Using the evaluator's final report, the museum will compare the proposed targets to actual outcomes in order to guide changes in the iterative process of building digital learning tools and interpreting the collection.

What tangible products will result from your project? The project will produce a map linking art works in the museum's collection to stories about global exchanges of people, ideas, and materials along historic trade routes. The map will also feature an overlay of works of art linked to world myths and legends.

How will you sustain the benefit(s) of your project? Programmatically, the museum will reuse the content created for the map in appropriately revised versions for the web site, *Verso* digital magazine, materials produced for educators, and tours for schools and the general public. Financially, the museum will sustain the digital devices used for the project by routing repairs through the Media and Technology Division Help Desk and purchasing hardware replacements through an allocation in its annual multi-year capital budget, funded by a plant fund reserve. MAT full time permanent staff will also maintain the open-source software used for applications. The full time permanent cross-divisional storytellers and producers will refresh or create content as needed for the foreseeable future.

Activities Year 1	Personnel and hours	Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Jul-Sep 2016
Conduct front-end evaluation to discover audience knowledge of subject and criteria for a satisfactory experience, to be conducted with teachers, tour guides, and museum visitors	Consulting evaluator and project core team (Bortolot, Tongen, Mouw, Gardner) @ 20%	X			
Building on Griot software developed at the MIA for ArtStories, develop new and improved software for large interactive map	Media and Technology (MAT) development team (David, Jurgens, Olsen) @ 20%	X	X		
Conduct formative evaluation to test project themes, software design, and learning outcomes	Consulting evaluator and project core team @ 20%		X		
Select art works and develop storylines, emphasizing art works that tell global stories and connect with STEM curricular standards	Project core team (Bortolot, Tongen, Gardner @ 20%; Mouw @ 25%) and temporary research assistant @ 20%		X	X	X
Edit text narratives	Temporary writer/editor for 10 days			X	X
Create supplementary media (film and animation)	MAT interactive media team (Wang, Dust, Lee) @ 5%				X
Activities Year 2	Personnel and hours	Oct-Dec 2016	Jan-Mar 2017	Apr-Jun 2017	Jul-Sep 2017
Create supplementary media (film and animation)	MAT interactive media team @ 5%	X			
Obtain image rights	Temporary research assistant @ 20%	X	X		
Load content into software	Visual Resources staff (Lynn) @ 5% and temporary research assistant @ 20%		X	X	X
Activities Year 3	Personnel and hours	Oct-Dec 2017	Jan-Mar 2018	Apr-Jun 2018	Jul-Sep 2018
Install new wiring in galleries to support screens	Facilities (Johnson) for 2 days	X			
Install new network drops in galleries to support interactivity	Vendor (All-Systems, Inc.) @ estimated flat rate of $7,000	X			
Install and test map in galleries	MAT interactive media team (Lee) for 2 days	X			
Conduct summative evaluation	Consulting evaluator and project core team for 2 days		X	X	