In 2014, The Association of Art Museum Directors (AAMD) issued the first publication in our “Next Practices” series—resources designed to share information about our members’ innovative programs in a range of different focus areas. The response from AAMD members, and others in the museum field, to that first publication was even more enthusiastic than we had hoped. Now I’m delighted to share this year’s publication: “Next Practices in Digital and Technology.”

This installment of Next Practices includes 41 submissions from our members, exploring a wide range of ways to apply digital technology—from social media and mobile apps, to in-gallery interpretation of works and enhancing visitors’ experiences, to improving public access to data as well as behind-the-scenes collections management. It also showcases how AAMD members are integrating digital tools in their operations and programs, and rethinking how museums approach membership, accessibility, scholarship, education, and visitor services.

The Next Practices series highlights creative and innovative initiatives to spark new ideas for how museums operate and serve the public. Next Practices publications also provide practical information on how institutions start, support, and evaluate these programs. The series is designed to be both a guide and an inspiration.

I hope you find the 2015 Next Practices as thought-provoking and useful as our previous publication, and I welcome your suggestions on topics for future exploration.

Lori Fogarty
Chair, AAMD Education & Community Issues Committee
Director, Oakland Museum of California
Art Madness and Art World Cup are two social media campaigns we developed in the spring and summer of 2014 to educate our online community about the Albright-Knox Art Gallery’s fine art collection. The tournaments have been our most successful social media campaigns to date in terms of participation and engagement. Both campaigns offered creative and interactive ways for us to share both modern and contemporary paintings, as well as sculptures from the museum’s collection, and to allow our online community to vote for their favorites.

Art Madness, which coincided with the 2014 NCAA March Madness basketball tournament, featured sixteen well-known artworks from our collection. Art World Cup, which coincided with the 2014 FIFA World Cup soccer tournament in Brazil, featured sixteen lesser-known artworks from our collection, selected based on the artists’ nationalities.

As an institution, we are focused on finding the most effective ways to use our limited human and financial resources to engage our audiences online. With the recent change in Facebook algorithms, we
saw that our reach and level of engagement was dwindling. Because a handful of 2014 NCAA games were being played in our home city of Buffalo, New York, and, as we know, most people (even non-basketball fans) enjoy filling out NCAA brackets, we decided to create our Art Madness tournament.

Each day during Art Madness and Art World Cup we posted a matchup on Facebook and Twitter and asked our online community to vote for their favorite artwork. The following morning, we announced the winner on both platforms and shared an updated bracket. The campaigns continued until the winners of the tournaments were selected, on April 8 for Art Madness, and on July 12 for Art World Cup.

In addition to voting in the tournaments people contributed colorful commentary. In fact, the dialogue that surrounded both campaigns was the most surprising and rewarding aspect of these digital initiatives. Participants shared personal stories about different artworks and their experiences at our museum, and even got into some heated discussions about the merits of different works and styles of art.

For the second campaign (Art World Cup), we added additional educational content, featuring information about a selected artist and his or her artwork each day on our Tumblr blog in the weeks leading up to the first match. This was meant to provide educational context about the featured artworks to our online audience and to capitalize on the excitement and anticipation that builds during the initial round of the soccer tournament. We also created Tweets that tagged museums in countries that were scheduled to play, hoping to attract a diverse group of new followers and to help promote other cultural institutions.

The campaigns received a large amount of positive feedback on our social media platforms and were even covered by The Buffalo News and local television news programs. Both campaigns confirmed how much our community loves our museum and the artworks in our fine art collection.
Most first-time visitors to The Andy Warhol Museum, as well as newcomers to Warhol’s history and practice, are surprised to learn about the artist’s prolific body of work in film and video. As part of the recent 20th Anniversary rehang of the museum’s collection, the film, video, and television galleries have been re-imagined on our fourth floor—allowing guests to get a taste of just how epic this portion of his canon is.

The new Film and Video gallery contains 12 ‘stations’ for guests to view more than 100 individual works by Warhol. The custom-designed system allows for instantaneous streaming and scrubbing through dozens of hours of content (including the full eight-hour film Empire). Utilizing high definition, multi-touch displays, users are presented with a simple, intuitive interface—similar to a large iPad—to swipe and tap across the work, which is divided into the categories of film, video, and television. Contextual statements about the genres and individual works enhance the experience. Each station also contains two hard-wired, dynamic stereo headphones as well as jacks for guests who wish to bring their own.
Hands On! Multisensory Tours for People with Alzheimer’s and Low Vision at the Art Institute of Chicago allows enhanced access to works of art for adult museum visitors of all abilities. Many of the works in the collection were intended by their original owners to be handled and used. Using 3D printing technology, a series of works has been reproduced to allow visitors to explore the texture, scale, and sensory elements of proxy objects. While allowing visitors with low-vision and Alzheimer’s primary access to works of art, these experiences enhance the experience of all visitors to the Art Institute of Chicago by engaging their curiosity, allowing them a unique tactile experience not otherwise possible in the galleries, and fostering a greater understanding of form and function.

In advance of the tours, museum staff selected objects from the collection that would be scanned, 3D-modeled, and printed for participants to hold and touch. Although the printed objects are not created using the same materials as the original objects, they were printed (when possible) at a 1:1 scale. In addition, appropriate infill was added in some cases to simulate the weight of the original artwork.

The tours provide a multisensory experience, activating sight, sound (when/if possible), and touch. At each stop on the tour, participants handle the object replicas while discussing and learning about the original works of art, listening to music related to the objects, and interacting with the objects by making sounds from them (a bell, a whistle).
What lies just beneath the surface of a painting? How do art elements shape composition? Why do artists do what they do? These guiding questions make for fun hands-on learning as youth, ages 7–14, virtually roam the rooms and leap into paintings at the Barnes Foundation with the new Keys to the Collection app.

GAME PLAN

Kids experiment with artful traditions, explore new ideas, and curate their own display as they play through a series of mini games that help them connect to the collection with thrilling new technology. With 3D immersive graphics and touchscreen capability, three game levels turn playable characters into art inspectors with dazzling encounters that take them trekking through paintings and completing an assortment of art missions. Art inspectors collect keys to enter different realms, solve an array of mysteries by restoring works of art, and add pieces to their expanding portfolio. Players earn badges and points to chart their quest for the gold key, which allows them to unlock a special room, create their own art gallery, and win the game.

From the start, we envisioned the app as a groundbreaking way for young people and their families to let their imaginations soar with the possibilities of what art can be in their lives and in the world around them. This technology allows for electrifying experiences that inspire refined looking, creative thinking, and innovative designing that enhance the very practice of art and art making.
Game-based learning has been the engine that drives all of the Family and Community Programs initiatives we develop, with interactive multi-generational enrichment opportunities that are fun for everyone. Keys to the Collection is a beautiful addition to our growing list of resources for the community and beyond.

**LET’S PLAY**

Players get started by customizing an avatar art inspector, receiving a badge, acquiring works of art, and searching for clues on how to find the keys to the collection.

There are four different gameplay experiences:

- **ArtSee:** Jump into worlds inspired by paintings from the Barnes Foundation to restore their lines, shapes, and colors
- **ArtDash:** Race along art tracks to the theme-matched paintings at the end
- **ArtPuzzle:** Solve puzzles by rearranging parts of paintings into their proper spots
- **Ensemble Creator:** Design an ensemble and share it online

**THERE’S MORE!**

Visit the bonus rooms to gather more art for your portfolio. If you’re playing at the Barnes, an extra special AR (augmented reality) scavenger hunt and map are available. Want to save your character, ensembles, badges, and points? All you have to do is create a login. The App is free in the iTunes store and at the Barnes Foundation and can be played everywhere in the world.

Keys to the Collection app is available at [http://www.barnesfoundation.org/education/app](http://www.barnesfoundation.org/education/app).
The Brooklyn Museum adopted its current mission statement in 2001: to act as a bridge between the rich artistic heritage of world cultures, as embodied in its collections, and the unique experience of each visitor. At the same time, we set a goal of becoming the most visitor friendly museum in New York City.

Today, we continue to be guided by that goal in everything we do. Our audience is welcomed from the very start of their museum experience through a newly created public plaza and new entrance. Both the plaza and the entrance support the vision of making our institution a welcoming center for the visual arts by embracing visitors the moment they arrive.

Inside the museum, a variety of interpretive projects have been implemented over the past two decades, which have asked visitors to participate in helping shape the contents of our spaces. From labels that feature community voices to electronic kiosks that ask for their thoughts, the visitor voice has a regular and important presence in our institution. Through participatory projects like Click!, Split Second, and GO, visitors have become co-creators and collaborators who help determine the shape of an exhibition and what art is installed on our walls.

ASK is a new initiative at the Brooklyn Museum, which seeks to improve our visitor experience from entry to exit, with the goal of fostering dialogue and sparking conversation between visitors and staff. Using the ASK mobile app and iPad kiosks stationed throughout the building, visitors to the museum
can ask questions and receive answers in real-time during their visit. Location-based technology is being implemented throughout the museum so that a visitor’s location can be used to provide relevant answers as well as to recommend objects in close proximity.

The museum’s entry experience will be reconfigured into an interactive space, the design of which is being influenced by proven examples of success from the retail and hospitality industries. ASK conversations will also be integrated into our website and throughout the museum on new digital signage. ASK will set a new standard for visitor engagement by aligning our human resources with our technology to create a truly responsive museum environment.

Archaeology of the Digital is a long-term project initiated by the Canadian Centre for Architecture (CCA) in 2012. The project is comprised of in-depth research into digital architecture and a historical reading of its trajectory, from early experiments in the late 1980s, to its wider implications in the early 2000s. The research has resulted in a new acquisition strategy for born-digital material and the formation of a digital archive composed of 25 key projects. The project, which is curated by architect Greg Lynn, also includes a multiyear exhibition plan and a publication program in print and digital formats.

Archaeology of the Digital is a transformative, internal force for the CCA, which helps rethink the approach and structure required to engage the challenges posed by digitally produced and stored material. It is a first step towards collecting and documenting digital material. Just as important, it is an imperative phase for the emergence of a process of cataloguing, preserving, storing, and accessing digital records and related media for future researchers. Due to its complexity and the need for a broad, collective expertise, this project has required the collaboration of most departments at the CCA: collections, conservation and preservation; programs; publications; research; and IT.

A publishing strategy developed across different media platforms promotes awareness of the Archaeology of the Digital project and the born-digital archive. This program, which is strategically challenging the boundaries of what it means to publish architecture, combines print publications, e-books, and an online presence in the form of articles and oral histories on the CCA’s website and its associated social media channels.

As part of the research on how to present this initiative, the main component of the publishing strategy is a monthly e-book series that highlights the specificity of the born-digital material, covering both the way it is disseminated and experienced, while also aiming to make it as widely accessible as possible. The e-books are small monographs on each of the projects exhibited and acquired by the CCA. Each monograph consists of a conversation between the series editor, Greg Lynn, and the architect, as well as a selection of material from the projects, which are published as digital files for the first time.
Art++ aims to improve the experience of museum visitors by delivering dynamic content in an engaging way. Using augmented reality, Art++ will offer viewers an immersive and interactive learning experience by overlaying content directly on the objects through the viewfinder of a smartphone or tablet device. This research-based project furthers the academic pursuits of students across multiple disciplines, including systems, technology, society, history, and electrical engineering. Drawing on the Cantor collection, the team of students and Cantor staff will create an application that guides visitors through the museum, offering added information for each artwork on the unconventional tour.

Visitors can choose from different themed “playlists” that are geared toward new audiences and those who are less comfortable with the experience of being in an art museum. For example, the Technologists Tour might highlight innovations depicted or utilized throughout the museum, from the printing press to photography and beyond.

Still in research and development, this project will launch in September 2015 at the Cantor, but will be designed so that other museums can use the technology we are pioneering as well. The project is a collaboration between the Image, Video, and Multimedia Systems group in Electrical Engineering and the Cantor Arts Center at Stanford University.

The project asks: What is the museum experience of the future? How can we harness the convenience of ubiquitous devices to offer visitors a way to look more closely at the artwork? Art++ pushes the technology of augmented reality and image recognition forward through a creative, practical, opportunity in the museum context. The application is uniquely prepared to reveal the hidden histories of artworks in an engaging way. The team is generating a new way for museum visitors to connect with works of art. Ultimately, with enough time and support, the technology could be scaled and customized to work at different museums worldwide.

Building the Art++ application has far-reaching, positive ramifications for museums and their visitor experience moving forward. The team includes a diverse group of people with myriad perspectives: Jean-Baptiste Boin, PhD candidate in electrical engineering (programmer, technical development); Colleen Stockmann, Assistant Curator for Special Projects at the Cantor Arts Center (content developer, project manager); Maricarmen Barrios, co-term master’s candidate in history (content developer, team lead); Jackie Lin, systems, technology, and society major (content developer); Asia Chiao: art history major (content developer); Connie Wolf: Director, Cantor Arts Center (advisor); Bernd Girod: professor of electrical engineering (advisor).
The goal of Art Tracks is to visually represent the provenance of the artwork in Carnegie Museum of Art's (CMOA) collection, through tracking the location, ownership, and custody of an artwork throughout its life. CMOA will accomplish this through the development of a provenance standard for collection objects, and a metadata framework for the museum’s collection. This metadata will be published online in an open format, and other provenance tools produced for the project will be made available through open source licensing.

We hope to structure this information so that we can use it to answer “impossible questions” about our collection, for example: How many artists represented in our collection also owned an artwork that is in our collection? Or, how many artworks in the collection were in Paris at some point between 1900 and 1914? The ability to run queries like these against the collection represents a valuable resource for researchers, and the possibility of expanding it to multiple museums in the future would create a massive pool of knowledge from which to draw.

Structuring this data is a challenge. Artworks interact with various parties—people and legal bodies—throughout their lives: the museums, galleries, private collectors, artists, and other entities who own or have custody of the artwork at some point in time. These parties exist in both time and space—they have beginnings, some of them have endings, they can move, and they are located within the context of larger geopolitical circumstances. Knowing where a particular party existed during a certain period, as well as being able to map critical events, from the births and deaths of individuals, to tracking the creation and destruction of related work, is all essential information in tracking the location and ownership of the artwork.

We will also track the events that happen when location, ownership, and custody change. These can be sales, exhibitions, the artwork’s proprietor moving, or any other event that modifies one of these key properties of provenance. Depending on the party who owns the artwork, it can be shown in various contexts—as part of a collection, show, or exhibition. While tracking these internal state changes is not specifically within the domain of the provenance of the artwork, it will provide additional insight into the history and connections between various artworks. We will also capture relevant bibliography for artworks, linking both works and the relevant events to documents, photos, sources, and other related works.
The Langlais Art Trail is devoted to mapping the spirited art of Bernard Langlais (1921-1977) across his native state of Maine. The website was made possible through partnerships with the Colby College Museum of Art, the Kohler Foundation, Inc., and the many Maine communities and institutions housing the prolific artist’s work. The Langlais Art Trail website offers basic information about museums, libraries, parks, and schools, from Portland to Presque Isle and from Rockland to Skowhegan, where Langlais’s artworks can be visited and enjoyed.

In 2010, Colby College received a bequest from Bernard Langlais’s widow, Helen Friend Langlais, of thousands of her husband’s artworks, as well as the couple’s 90-acre property in Cushing, Maine. Kohler Foundation, Inc. of Wisconsin purchased the property from Colby, who in turn gifted the Foundation over 2,900 artworks by Langlais. Kohler, a private foundation that funds preservation initiatives centered on art, environments, and collections, undertook the monumental task of conserving Langlais’ works and placing them in non-profit institutions throughout Maine and beyond. Over fifty institutions in more than forty Maine communities now hold artworks by Langlais. The site also provides information on the Langlais Preserve, projected to open to the public in fall 2015.

The Langlais Art Trail website was fabricated to effectively map all of the institutions that participated in the Langlais Art Trail and to have a central location devoted to the legacy of Bernard Langlais. In 2014, the Colby Museum presented the exhibition, *Bernard Langlais*, the first scholarly retrospective on the artist. This website is an extension of that project. It is our hope that the website will continue to serve
as a resource for those familiar with Bernard Langlais’ work and will also serve as an introduction for younger audiences who are just discovering this Maine artist for the first time.

Cooper Hewitt, Smithsonian Design Museum  ■  New York, NY

Transforming the museum visit with new digital infrastructure

The pen in use.

Image courtesy of Cooper Hewitt, Smithsonian Design Museum.

Re-opened after a three-year renovation, the new Cooper Hewitt was recently described by The Atlantic as “the museum of the future”. The new museum features a thoughtful suite of integrated interactive experiences aimed at transforming and expanding the museum’s visitor base as well as expanding its interpretive, curatorial and exhibition capacities. Seen as a whole, the interactive experiences in the 16,000 square foot renovation give visitors the ability to “save” objects, “create” their own designs, and explore design through a wealth of different but coherent interfaces throughout the museum.

Designed and built as “digital infrastructure” these experiences have been built to persist and evolve as exhibitions change around them.

Deployed over all four floors of Cooper Hewitt, the technological interventions work together to provide a new interpretative framework for the museum, allowing it to emphasize the process of design, reveal the breadth of the collection, and importantly orient visitors to the new way of “being” inside the museum itself.
Built on an in-house web API, the core interactive, web-connected, experiences include:

a) the collection browser with making tools – deployed to three different sizes of multi-touch tables (32/55/84”), this provides access to all objects on display and those in storage with an interface designed to invite exploration by up to six simultaneous users. Users can also switch to a 3D modelling mode allowing them to design 3D objects including a chair, vase, lamp or skyscraper. A related experience also allows visitors to explore the collection through the lens of its donors.

b) the Immersion room – a room-sized projection space allowing visitors to explore the museum’s unique collection of wall coverings and project them from floor-to-ceiling. This enables a never-before-possible sense of how a room would have felt when surrounded by these works. The Immersion room activates a previously difficult-to-exhibit collection, a feat made possible by recent digitization. Visitors can also make their own wall coverings in the Immersion room by drawing their own designs, which are repeated and projected in real-time.

c) other new interactive experiences include a historical house virtual tour; a gestural navigator aimed at bringing users into an awareness of their bodies for the Beautiful Users exhibition; and a design-it-better digital suggestion box deployed in the new Process Lab.

These experiences are brought together by The Pen – a device given to visitors that allows them to save and collect anything they see (via NFC-enabled wall labels) and make on the interactive tables. Connected via our API to visitors' tickets, The Pen creates a persistent diary of each visit and the collection becomes an open resource for future exploration and inspiration.
etc.) in the GlassApp, and encourages visitors to connect and join the conversations. iPads mounted on gallery benches and a multi-touch table provide visitors access to the BYOD program content in a larger format, and encourage users to continue the experience on their own devices.

Visitors navigate GlassApp content and up-to-the-minute program offerings and amenities by browsing or searching the content using any terms available on the label. GlassApp covers every object on view in the new Contemporary galleries, and will eventually integrate location awareness as well, once this technology is deemed mature enough for BYOD applications.

Once a visitor selects an object, s/he accesses a one to two minute video conversation between a friendly interviewer and one of over two-dozen museum staff. Conversations focus on accessible insights and stories from a wide range of perspectives, including photographers, glass artists, curators, and security officers. Visitors can use the app to favorite and share any of these resources.

In addition, each object includes an artist profile, glossary terms, access to other images and rich media, related products, and museum programs. GlassApp’s To Do section provides an overview of the museum’s various live programs, hands-on activities, dining menus, and more. Finally, GlassApp highlights campus-wide recharge locations for visitors who need a break and devices that need a boost.

Content for the GlassApp and other digital resources are internally managed through Drupal open source content management, which has been integrated with core systems, including collection management, digital asset management, and digital signage management.

Integrating Conversations in Contemporary Glass in the Contemporary galleries is the test-bed phase of a museum-wide interpretive plan to re-imagine the museum’s collections and programs based on an integrated, visitor-centered approach. CMoG will evaluate and improve the content, tools, and techniques used within this initial phase as they expand the program to address the entire collection over the next five years.
The museum used a holistic approach to create a multi-faceted digital experience for the *State of the Art* exhibition, delivering interpretation at the right time, in the right manner, and to a diverse audience. The State of the Art Digital Experience encompassed 6 platforms: website, mobile app, digital labels, touch kiosks, YouTube, and iTunes U.

The museum’s digital media team spent four months visiting 30% of the exhibition artists to film them working in their studios and discussing their work. These videos became the content backbone of many of the component experiences, and were published through numerous museum channels: mobile app, website, and blog, as well as third-party channels, including YouTube and iTunes U.

The website became the gathering place for all State of the Art information. The content included a rich offering of material about the artists and the objects, blog posts, public programs, and news stories. The design highlighted the visual style and branding of the exhibition. The website continues as an archive of information about the exhibition and related programming.
The mobile app provided an all-encompassing, in-your-pocket experience that could both enhance the onsite experience and act as a surrogate offsite experience. It included information on the artists and artworks, extended labels, and the multimedia tour. Users could “Favorite” content to create a customized tour. A “View On Map” option helped in finding artworks in the gallery, and a calendar of exhibition-related events aided in planning visits. Social media was integrated as well, allowing users to share the new artists they discovered, while “Media Extras” allowed access to public program recordings related to the exhibition, completing the on-the-go experience. The free app was made available on handheld and tablet devices for Apple and Android platforms, and remains as a complete mobile archive of the exhibition.

Touch kiosks were located outside the galleries. The goal was to use this platform to communicate the journey the curators took to create the exhibition, to communicate the journey the art underwent to arrive at the museum, and to share information about the artists’ locations and processes. Care was taken during design to ensure touch command options were accessible for all types of users, including small children or patrons in wheelchairs. The kiosks also featured a “Find Art” option, where visitors could email themselves a list of contemporary art venues based on zip code, thus encouraging them to take their own journey to discover American art as the curators had done.

Fifteen iPads in kiosk mode were installed next to individual artworks as digital labels. The content was specific to the artwork in order to deepen the experience. An intro screen invited visitors to “Touch to Begin,” and after doing so, they were presented with five hotspots on the artwork to explore. After choosing an option, visitors saw a zoomed-in image along with text (from a curator or artist) explaining the importance of that area of the work. Another option allowed guests to answer a poll question, provoking examination by asking them to look closely and choose an answer. Guests enjoyed the interaction and comparing answers.
The Dallas Museum of Art (DMA) began work in 2012 to redesign the basic premise of engagement in the museum. Having conducted significant research into the engagement of audiences with art from 2005-2009, and publishing those results in *Ignite the Power of Art: Advancing Visitor Engagement in Museums*, the DMA has been a significant contributor to studies of visitor engagement in museums for quite some time.

While the practice of audience engagement in museums has become increasingly sophisticated, the heart of any successful engagement is the individual human connection that can happen in the museum. In large museums this individual attention can be difficult, therefore this project sets its focus on building an institutional infrastructure that can support many kinds of participation without getting in the way of a great museum experience. Seeking to enhance the breadth and diversity of its impact on local audiences, beginning in January of 2013, the DMA moved to a model of free general admission and free membership.

Pursuing the goal of having a vibrant community of engaged participants as the key to sustaining the relevance of the museum to its audience, the DMA has taken the first steps toward creating the knowledge, cross-department collaboration, and technical tools needed to form a replicable model for encouraging participation in art museums. Dubbed DMA Friends, this program enables every visitor to the museum to now become a member for free. Visitors join the program using an innovative web-based platform via iPad kiosks located along the museum’s main concourse. After signing up as a Friend, visitors are presented with a series of possible activities designed by the DMA’s education team, in
collaboration with experience design consultants, and the well-respected team at LearningTimes, LLC. These activities provide new and fun ways to connect with the museum’s programs and collections and, upon completion, earn the visitor badges. Friends can “check in” to different activities using personalized membership cards at the iPad kiosks, or by texting from their mobile phones. As badges are earned, visitors can claim a variety of rewards created by the DMA to say “thank you” for participating. These rewards include traditional membership benefits, such as free parking and special exhibition tickets, as well as special and boutique rewards like behind-the-scenes access to staff and to areas of the museum not generally seen by the public.

One of the underlying goals of the program is to create long-term relationships with visitors, while offering them value and benefits tailored to their experience and engagement with the museum. This long-term connection and repeat participation is seen as key to establishing the hoped-for relevance of the museum in the lives of visitors.

The Dayton Art Institute ▶ Dayton, OH
What is a Masterpiece?

What do a trick of the eye, a secret identity, and American art have in common? Find the answer when De Scott Evans’ painting *Free Sample, Take One* is posted on What is a Masterpiece? Thirteen more works of art will soon be added to The Dayton Art Institute’s (DAI) interactive program that provides electronic access to information about the collection using smart phones and iPads (available for rent at the Guest Services Desk) in the galleries.

QR codes link to a mobile website that was developed specifically for this project. Because What Is a Masterpiece? is web based, it may also be accessed through a standard web browser on any desktop or laptop computer by going to www.daytonartinstitute.org/masterpiece. Each featured Masterpiece has a unique landing page that offers a variety of options, such as detailed historical information, audio commentaries, and video content.

What Is a Masterpiece? is designed to create a participatory experience. It allows users to choose what kind of information they want to explore—from how a work of art was created and what choices an artist made in his or her lifetime, to examples of music from the time period of the work.
The Fine Arts Museums of San Francisco (de Young and Legion of Honor), together with Siriusware, Salesforce, and Cloud for Good, are building the next-generation service platform for the cultural sector.

Still in its final design phase, when fully-implemented later in 2015, this system will allow the Museums to focus on strengthening and cultivating relationships with our patrons by integrating ticketing, constituent relationship management (CRM), fundraising, and marketing functions. This new platform will enable the entire organization to better engage with and provide service to our diverse audiences.

To ensure the investment will be "future proof," over 40 stakeholders from throughout the Museums are working in collaboration with best-in-class vendors in CRM, ticketing, marketing, events, retail, and consulting to build a platform that is grounded in state-of-the-art technology.

There were four key criteria used in designing the platform and selecting vendor partners:

**Requirements:** Working in teams, Museum stakeholders identified nine key areas of improvement: technology support; data warehousing and analytics; customer service; marketing automation; email; mobile and web; ticketing; fundraising; financial tracking and reporting; and integration consultancy. Working within these identified lots, stakeholders then developed a Request for Proposal consisting of some 1,200 requirements.

**Adoption:** Our selected partners provided user-friendly and intuitive interfaces. These systems are designed to foster user confidence, and to simplify museum-wide adoption.

**Future-proofing:** The integrated system uses sets of technologies that enable them to interact with each other. This allows for easy modification or amplification of functionality in the future by bringing in other apps and enhancements. This new platform, with its extensive functionalities, is yet unproven. Once in place, tested, and refined, it will have remarkable fluidity and will ensure that the Museums can evolve and adapt to varying organizational needs, emerging trends in technology, and changes in constituent behaviors.

**Partnerships and Sharing Lessons:** The Museums and partners are creating a new model that could be adopted and adapted by other museums and cultural institutions. The new system is on a shared platform, thereby pioneering an approach that could revolutionize the industry by yielding a better service environment for staff and constituents.
Realms of Earth and Sky: a Mobile Application Developed for iPhone, iPad, and iPod Touch

In 2014 The Fralin Museum of Art at the University of Virginia developed its first mobile application to accompany a traveling exhibition titled Realms of Earth and Sky: Indian Painting from the 15th to the 19th Century. The exhibition, curated by a renowned specialist in Asian art, Daniel J. Ehnbom, showcases masterpieces from the museum’s collection of Indian painting that represent different painting traditions from over five centuries.

With the app, users can explore themes of stylistic relationships between Mughal and Rajput painting, the function of book illustration, and the role of preparatory drawings, portraiture, and religious and literary texts. The app features 45 images of miniature paintings from the exhibition. Professor Ehnbom provides formal descriptions and analysis of each work’s historical significance. Information is conveyed in video and text format to increase accessibility for all users. QR codes, used as interactive elements of identification featured in the exhibition, help connect users to video and audio recordings, text, maps, and chronological information related to the works.

Because many of the exceptional works in The Fralin’s collection remain unpublished, the app represents an important contribution to current study of Indian painting. It also provides basic way-finding information, a “Plan Your Visit” section for the Fralin Museum, and supplemental information about related programming and events (such as lectures, special tours and receptions).

The Fralin Museum of Art at the University of Virginia (UVA) worked with Performant Software Solutions and Birch Studio to create this mobile app for the iOS platform. The app is intended to introduce users to the art featured in this fascinating exhibition, as well as to the social, cultural, religious, and historical context under which the manuscripts were made and collected. The majority of the works are drawn from The Fralin's collection; therefore the app not only provides information about the traveling exhibition but...
also serves as an ongoing resource for students, researchers, and others who wish to learn more about the Fralin collection.

Many of these works from the Fralin collection have also been recently restored, and the app presents their brilliant colors and complex compositions in the most accurate manner. The app allows the curators’ research to extend beyond the geographic and temporal limits of the exhibition itself, and to contribute greatly to the field of Indian art in particular and art history in general. It also contributes to the offsite museum engagement, and promotes interactivity of students and teachers with the works and scholarship represented in the exhibition.

Download the app here.
ages 7-9 and air on NPT between 4-6 p.m., around the popular children’s programs Arthur, WordGirl, Wild Kratts, and Martha Speaks.

An important extension of the project is fristkids.org, which presents all the episodes with accompanying web resources for parents and teachers, educator lesson plans with curriculum connections, and step-by-step art activities for kids to do at home with readily available materials. In addition, selected episodes are shown on site in the Frist Center’s Martin ArtQuest Gallery.

Samuel P. Harn Museum of Art, University of Florida
Gainesville, FL

Much Ado About Student Art – Virtual Student Art Show

Student work from Much Ado About Student Art – Virtual Student Art Show at the Samuel P. Harn Museum of Art, University of Florida.

The Harn Museum of Art at the University of Florida pursues a range of digital initiatives. The Much Ado About Student Art – Virtual Student Art Show was designed to engage in-gallery and online audiences without creating a resource-intensive footprint. Along with more ambitious undertakings, it is crucial to develop small-scale technology projects that are effective, and which are reproducible at a range of institutions.

Much Ado About Student Art offered a virtual display of more than 75 portraits created by public and private high school art students. Participating Florida counties included Alachua, Palm Beach, Leon, Pinellas, and Citrus. Reproductions of student art were submitted to the museum electronically as digital scans or photographs, and presented on a digital monitor in the main gallery in conjunction with a large
portraiture exhibition titled “Much Ado About Portraits.” Visitors voted for their favorite student portrait at the museum or on the Harn’s Facebook page. Winning art works received prizes of merchandise from the museum store and were recognized in the museum.

J. Paul Getty Museum ▪ Los Angeles, CA
Open Content Initiative

Getty Open Content in Use: An image of Rembrandt’s Old Man in Military Costume hangs above the fireplace on the set of Korean television drama You From Another Star.

Cultural and educational institutions around the globe are increasingly seeing it as part of their core mission to facilitate the widest possible access to research and educational materials of all kinds—text, images, and the many variations of “mixed” and “interactive” media. Coupled with the great advances being made in the methods and speed of digitization that has increased the quantity of images and other data available, it is now possible to share vastly greater quantities of material with anyone who has Internet access. In the interest of universal access, proprietary control of this knowledge and its textual and visual manifestation is being rolled back.

In August 2013, the Getty stepped to the forefront of providing universal access by introducing an Open Content policy that allows for the open and unrestricted use of images of works in our collections that are in the public domain, or to which the museum holds the copyright. This resulted in the immediate availability of some 5,000 images of works from the museum’s collections. Today, that number has more than tripled to 17,400 images that are available for free download.
This new policy is a major step forward in building a larger audience and providing broader access to the Getty's collections. Previously, images were made available upon request, for a fee, and granted specific use permissions with terms and conditions. Today, while we request general information about the intended use of an image, we do not restrict its usage and no longer charge a fee.

While a number of institutions have recently made news for offering free, downloadable images of their collections, there are two areas where the Getty has distinguished itself from its peers and, indeed, established a new standard for open access. First, the files offered by the Getty are all high-resolution and of reproduction quality. This allows for the broadest range of public usage. Additionally, all downloaded image files include embedded metadata about the work of art and a reference to the Getty as the owner of the object, ensuring that accurate information about the work travels with the image.

By the end of 2014, more than 280,000 images had been downloaded from the Getty’s website, mostly by private individuals for personal use. Nearly 40 percent were objects from the museum's paintings collection. Manuscripts (20 percent), photographs (15 percent), and drawings (15 percent) comprised the next most popular categories. Sculpture and decorative arts, and antiquities, accounted for six percent and five percent of the images downloaded, respectively.

A significant number of the image downloads have been used to support scholarly work in lectures, publications, and research papers. Others have used Getty objects to illustrate their personal blogs. These kind of uses were expected. But, there have been many less likely pairings. The museum’s Landscape with Lake and Boatman (1839) by Jean-Baptiste-Camille Corot serves as the cover image of a book of sheet music for Chopin's Rondo in C Major, Opus 73, published by Alfred Music. Fans of the popular Korean television drama You From Another Star will recognize the Getty’s An Old Man in Military Costume by Rembrandt hanging above the fireplace in the library of one of the characters, which may confuse film buffs who will recall seeing the same painting in the popular 2013 film American Hustle. Both of these placements were the result of set designers accessing images through the Getty’s Open Content program.

Recently, the Getty Museum launched its new online collections page, which offers deeper information on the objects in our collection and an improved search functionality. Because of this new enhancement in how we share our collection online, the number of Open Content images available for download increased three-fold (to more than 15,000 images).
The Metropolitan Museum of Art (Met) has a history of presenting blended educator programs that combine online instruction with in-person teaching. This year, the museum is piloting a “flipped” approach to blended educator programming inspired by the ways teachers are using video recordings of lectures, now widely available through websites such as Khan Academy, in their practice. A flipped approach moves lectures and demonstrations online (where they can be accessed from the privacy of home), bringing homework (or application) into the classroom.

There are two key benefits of this approach: (1) lectures and/or demonstrations can be viewed as many times as needed to grasp or reinforce learning; (2) students have access to feedback and support from peers and teachers at the time they need it most—when they are applying concepts for the first time.

The flipped approach presents a new and exciting opportunity to leverage the unique strengths of each learning environment by shifting the passive listening of lectures and demonstrations online, freeing up time onsite for active learning.

As Salman Khan notes in his TED Talk, technology is humanizing learning in the classroom by providing more quality time for interaction between students and teachers. In spring 2015, the Met will pilot this innovative approach as a framework for a flipped educator program series. The series, Ask Big Questions, will explore how essential questions can activate students’ curiosity, increase relevancy, and promote deep and more lasting learning.

The first session, an hour-long Google+ Hangout on Air (an online video chat that can be broadcast to
an unlimited number of people and recorded free of charge), will engage thought leaders from across the country, and across a range of disciplines, in conversation. Speakers include Jay McTighe (author of Essential Questions Opening Doors to Student Understanding), Dennis Inhulsen (President, National Art Education Association) and Susan Griffin (Executive Director, National Council for Social Studies).

The second session, a program onsite at the museum, will provide time for teachers to put theory into practice during a full day experiential learning lab; all participants will be sent a link to a video recording of the first Hangout in advance to help maximize time at the museum for application, experimentation, and reflection. During the last session of the series, a second Google+ Hangout on Air, participants will learn ways classroom teachers, teaching artists, and museum educators are utilizing essential questions as a framework for learning in their practice. To learn more about the Ask Big Questions program series, visit http://www.metmuseum.org/educatorprograms.

We look forward to applying the lessons learned through this series in other Met educator programs such as Astor Educators, a three-year grant-funded professional learning program comprised of classroom teachers working in New York City public Title 1 schools. The program brings teachers together onsite and online to investigate how students learn key skills such as evidence-based reasoning. By moving lectures online, we will have more time for application, coaching, and reflection on teaching practices onsite. Astor Educators is made possible by the Brooke Astor Fund for New York City Education in The New York Community Trust.

Minneapolis Institute of Arts ■ Minneapolis, MN

The Digital Experience Project (TDX)

The Digital Experience Project (TDX) at the Minneapolis Institute of Arts (MIA) uses digital technologies to deliver interesting and accessible content that engages the museum’s varied audiences. TDX implements interpretive media and technology projects designed to inspire and delight. It is a cross-departmental, collaborative effort that includes staff from a variety of functional areas working together to accomplish shared goals. With an encyclopedic collection spanning over 5,000 years of human creativity across all cultures, the museum can sometimes be perceived as intimidating, complex, and/or intended only for those with previous knowledge of the arts. TDX is one of the key museum initiatives to invite audiences to engage with the collection through friendly and accessible story telling.

As of November 2014, the TDX project has delivered:

ArtStories: To enable museum staff to craft and share engaging “ArtStories” with audiences both onsite and online, the museum developed software called Griot (an African term for a wise storyteller). Eighteen detailed ArtStories are currently in production (focused on the African art collection). Approximately 60 additional ArtStories will be available in January 2015, spanning the breadth of the museum’s collection.

The Interactive Map: The Interactive Map is a large-scale, multi-touch screen that enables groups to engage in social interactions and shared learning experiences. Using geography as the basis for
Illustrating connections between cultures over time, audiences can delve more deeply into larger themes, such as world religions and the importance of trade.

**Digital image tools:** Digital image tools enable annotated, high-resolution images to be added to TDX interactive components. Audiences can explore the most minute details in each work.

**Video and audio:** Dozens of short-form digital media assets, from 30 seconds up to five minutes long, provide engaging, multi-sensory experiences across all TDX deliverables.

**Open source, mobile-ready software:** TDX software is open source, and shared across the sector free of charge. In addition, it follows responsive design best practices, and can be used on any size/resolution screen, including personal smart phones, tablets, laptops, and home computers.

The overall goals of the TDX project include:

- Enabling audiences to quickly and easily navigate the interfaces
- Presenting engaging stories about art and human creativity
- Enabling individual and group social learning, including some displays large enough to be seen by groups led by guides or teachers
- Creating content that has a greater impact on audiences than the technology
- Ensuring that devices are accessible to people of all ages, socio-economic standing, cultural backgrounds and educational levels
- Experience objectives include that the audiences will:
  - Feel inspired by and engaged with the collection, and feel that they better understand art
  - Engage and/or re-engage with art objects nearby when in the museum
  - Share stories and cultural context via lively social interaction
  - Appreciate the richness and variety of human creativity, the arts, and the cultures that made the objects in the museum’s collection
  - Understand the overall connectedness between human cultures throughout history
  - Express an increased interest in art, and report that their notions of art have been expanded
art are thus shown from different perspectives, enabling us to approach the world in all its complexity.

EducArt is a collaborative, evolving project. In addition to the multidisciplinary content presented by the museum, each subject is associated with a project co-created with a school and disseminated online. Through its out-of-the-box approach, operating in various scholastic disciplines, the museum invites educators to appropriate the works of the collection by incorporating them into the school curriculum, in diverse subject areas from art to science.

What points of view have the students in a biology class developed on the topic of the heart through works of art? How are rural and urban landscapes interpreted by students studying the relations between the land and identity? The results of this collaboration will form a body of living projects created jointly by the schools and the MMFA, each stage of which is documented and posted online for use by teachers and their students.

EducArt is accessible from the museum’s main website. It presents an engaging interactive world for the target audience of students, aged 12 to 17, with a variety of options and resources for their teachers. Constructed in the form of a constellation, EducArt makes it possible to relate works to topics, actors from various backgrounds to school classes, and the museum to the school. The 3D deployment of the site mirrors the multiple viewpoints and aspects presented by the museum through the works of its collection—EducArt is multidisciplinary, multifunctional and multidimensional. More than just an online educational resource, EducArt is an experience in which the museum and the school meet and share ideas.

Museum of Contemporary Art San Diego  ■  San Diego, CA  
Digital Condition Reports  
Collections Management

In 2014, the Museum of Contemporary Art San Diego (MCASD) instituted digital condition reports as part of its standard registration practice. Using iPads and basic off-the-shelf software, our registrars are now able to electronically record condition issues directly onto the digital image of an artwork, while standing in the gallery or storage facility. Essentially, this system has created a mobile registration unit. It allows our registrars to access past condition reports and installation instructions on and offsite, away from their desks. The digital condition reports have greatly improved the efficiency of the department and the level of information we are able to share internally and externally with curators and lenders.

The system itself is surprisingly simple and extremely cost effective. The basic components include an iPad, the file-sharing app Dropbox, and the editing software PDF Expert. Images of the artwork are uploaded from the museum’s server onto the web using Dropbox and downloaded onto the iPad, where the registrar is able to mark the image and make notes using PDF Expert. The completed condition report is then uploaded to Dropbox and downloaded again to MCASD’s collection management system for future reference.

While MCASD is an early adopter of digital condition reporting, we did not originate the concept. Encouraged by reports of the programs at other institutions (most notably the Dallas Museum of Art and the Los Angeles County Museum of Art), MCASD decided to experiment with the system. Before adopting the iPads, our registrars would mark a printed image of the artwork to note condition issues.
The movement to direct digital input was a natural transition. Since instituting our own digital condition reporting system— and with gratitude to the institutions we learned from— MCASD regularly shares information about its program with other institutions. We will also be using the system for the upcoming national tour of the exhibition, *Jack Whitten: Five Decades of Painting*.

The Documents Project is a multiyear initiative dedicated to the recovery and publication of primary-source materials related to Latin American and Latino art. It addresses the endemic lag in the field of Latin American/Latino art history, research, and teaching, by providing access to writings from artistic movements and by artists, critics, and curators from Mexico, Central and South America, the Caribbean, and the United States. The project has two main components: a digital archive and a parallel publications series.

Through the digital archive we provide free access to primary sources and critical documents tracing the development of twentieth-century art in Latin America and among Latino populations in the United States. A thirteen-volume anthology series titled *Critical Documents of 20th-century Latin American and Latino Art* complements the digital archive. These books provide access to essential resources related to 20th-century Latin American and Latino art and culture. The published documents have been culled...
from the ICAA Digital Archive and include manifestos, essays, lectures, correspondences, manuscripts, interviews, testimonies, and other textual materials written or dictated by authoritative sources. These sources include artists, critics, and, in some recent cases, curators, from Latin America and the United States who have played a fundamental role in the development of modern and contemporary art in their countries or communities.

The translation of these resources into English from Spanish, Portuguese, and in some cases, French, enables U.S. scholars and students to consult materials that are exceedingly difficult to access in archives and repositories in Latin America and the United States.


---

Frenchsculpture.org is a French sculpture census that offers an online portal to a collection of French sculptures found in the United States. In December 2014, the website, which showcases 7,000 plus artworks, was made public. We continue to gather and record artworks across the U.S., and the website is expected to include approximately 15,000 records once the census is complete.

The project requires collaborating with various staff at approximately 280 museums nationwide, and working with rights holders to bring together a group of French sculptures. The focus of the census is French sculptures produced between 1500 and 1960 that are found in American public collections, museums, historic homes, and public spaces. It is the first time such an ensemble of foreign works
in American collections has been put together in a single digital resource. The census aims to be comprehensive, including objects both in galleries and in storage, as well as de-accessioned objects. This effort sheds light on international relations by detailing the trajectory of art objects, and even illustrates how cultural tastes have evolved historically.

Much of the content on the site is provided by data from various museums’ collection management systems and/or institutional websites. Detailed curatorial scholarship is given when it has been provided by the museum (for ex. provenance, bibliography, list of exhibitions). For works in public spaces, Wikimedia Commons has proven to be a useful resource. As a result, a unique data set has been compiled.

The website appeals to a bilingual audience, both French and English, providing them the ability to browse the census by artist, sculpture, or location within each category, and offering attributes to guide their exploration. For example, a visitor can search by an artist’s gender or by sculpture type. Discovering sculpture by location offers visitors the ability to plot the sculptures on a U.S. map. Academically, the site provides deep insights, such as specialized bibliographies and lists of exhibitions, a glossary of sculpture terms, descriptions of sculpture techniques (modeling, carving, casting), references to legal texts defining original works, and reproductions in the case of editions. Frenchsculpture.org is a hub for learning and discovery.

National Museum of Women in the Arts ▪ Washington, DC

Women in the Arts Wikipedia Edit-a-thon

2014 Women in the Arts Edit-a-thon at the National Museum of Women in the Arts.

This event is part of the larger Art+Feminism global initiative to help improve Wikipedia’s gender imbalance. A 2010 Wikimedia survey found that less than 13% of its contributors were women. The lack of female participation has contributed to the absence of notable women on Wikipedia.
In August of 2010, The Nelson-Atkins Museum of Art debuted the Mobile Guide program, a mobile-optimized website capable of presenting content—audio, text and video entries—to enhance gallery experiences. The Mobile Guide was initially developed for the internal purpose of eliminating audio equipment rentals, while maintaining existing content, which at the time included over 200 entries for objects throughout the museum’s collections.

At the time, this program was a “next practice” in its web-based design—it was planned to be flexible and evolve with technology while responding to new approaches to visitor engagement. This program responded to the emerging “bring your own device” trend by enabling visitors to access the Mobile Guide on their smart phones and tablets, or on an iPod Touch or iPad Mini borrowed from the museum. In 2011, an IMLS Museums for America grant funded research and development to create the “next generation” of the Mobile Guide. In addition to researching digital trends in the cultural sector, Nelson-Atkins staff partnered with Audience Insights to perform front-end and formative evaluations and guide decision-making in the development process. IMA Labs at the Indianapolis Museum of Art was contracted to create the new information architecture and interactive elements of the Mobile Guide. Re-launched in June 2014, the Mobile Guide now presents experiences for both adult and family visitors. This enhanced platform includes interactive “Family Fun” tours, games, and links to social media, in addition to audio and visual content.
The New Orleans Museum of Art (NOMA) has partnered with CultureConnect to develop a series of unique interactive experiences in the galleries. Drawing from the practice of object-based learning, Artifact Apps will be installed on tablet devices located near key works of art throughout the museum, allowing visitors to explore multiple layers of rich interpretive content.

Artifact Apps place visitors in control of a wealth of interpretive content, enabling them to customize their experience according to their individual interests. Navigating is clear and easy, and provides visitors with several options to select. “Hotspots” placed over a digital image of the work of art enable visitors to investigate specific details. “Learn More” prompts empower visitors to delve more deeply into contextual information about the work, such as artist, time period, or style. Multimedia content such as video and audio can be included. Additionally, a “Share Your Thoughts” screen creates opportunities for visitors to dialog with the museum through social media connections and assessment tools.

This virtual learning environment is powered by CultureConnect’s proprietary technology platform. The Artifact App can be installed in gallery kiosks, accessed by visitors at home, or even extended for use in the classroom.
When the Oakland Museum of California (OMCA) re-opened the Gallery of California Art in 2010 after a major renovation, we introduced a new “next practice” in a digital interactive in the gallery. The You Are Here interactive grew out of the museum’s goal of having visitors “see” themselves in the gallery, thereby increasing their awareness of the creative process.

After extensive prototyping, the museum developed a station with a mirror on top and a drawing surface below it. Visitors can draw themselves on the screen using their fingers, and then see their drawings on two framed digital screens that are part of the salon-style hanging on the California Portrait Wall, which includes famous portraits by artists ranging from Ansel Adams to Carrie Mae Weems. Visitors can also save their drawings to the museum computer or send the drawings to themselves via e-mail.

OMCA has found that this experience is one of the most popular in the gallery, with individuals and families waiting their turn to draw on busy days, and gaining a new appreciation of the skill and creativity required to draw a self-portrait.
Turner’s Apothecary Mood-o-Meter is a responsively designed interactive web app created for a summer 2014 exhibition of over 110 works by British painter J.M.W. Turner titled *Turner and the Sea*. The paintings filled five galleries. One gallery, called “Imagining the Sea,” featured watercolors, drawings, and prints, 37 of which became the app’s focus.

Many of these paintings were unfinished works, experimental sketches that he used as studies for larger paintings. They are atmospheric and moody, dealing with light, air, weather, and water, and capture a certain moment in time. The paintings have a great sense of emotion—fear, exhilaration, happiness, and awe. We wanted people to look closely at these paintings, to think about Turner’s power to communicate emotion, and to think about how the paintings made them feel.

We chose to use a quiz form that would diagnose people’s “mood” and then “prescribe” them a Turner painting to suit their mood, encouraging them to explore these works on a deeper level. Moods were derived from the four temperaments (which were being used during Turner’s lifetime to describe moods): sanguine, choleric, phlegmatic, and melancholic. We also added sublime and joyful.

The interactive experience is fun, whimsical, and thematic, designed to evoke a 19th-century apothecary and the design aesthetic of Turner’s working lifetime. There are five brief questions that a user answers before receiving their “prescription.”

We also designed physical badges (buttons), representing the six mood words that could be prescribed, and gave them out at the museum’s admissions desk during the run of the exhibition. The Mood-o-Meter app was designed not only as an in-gallery experience—we had it on 2 pairs of iPads situated next to benches in the gallery—but also as a mobile experience to be used online during and after the exhibition closed.

More information about the Mood-o-Meter and our process in creating it can be found here:

http://connected.pem.org/dissecting-our-mood
http://connected.pem.org/yes-but-how-does-it-make-you-feel-2
http://connected.pem.org/turning-back
Launching in July 2013, The Phillips Collection engages virtual visitors in an inquiry-based Twitter chat entitled “#BreakForArt.” Using the hashtag #BreakForArt, Education staff lead Twitter followers in a virtual discussion about one work of art in the permanent collection. The chats are held the first Monday of each month at 1pm EST. Each discussion follows a similar format to the museum’s onsite, 15-minute drop-in tours, which are held Tuesday through Friday. Phillips educators focus on inquiry-based teaching techniques and close looking with content and supplemental information to encourage conversation.

The program uses the expertise of both the education and communications departments, as both departments collaborate on the development and implementation of the project. Education staff chooses the works of art to discuss, undertake research, write the chat scripts, and lead the Twitter chat. The Phillips communications team provides support for social media best practices, training educators to tweet with the institution’s voice, while also monitoring each chat’s reach and impact.
Over the course of its run, the Instagram project #captureParklandia empowered museum visitors and local Portland residents alike to interact with the Portland Art Museum (PAM) and the special exhibition *The Art of the Louvre’s Tuileries Gardens* in a personalized fashion, through digital photography. Doing so expanded the museum’s audience by forging new relationships with area special interest groups, and helped to identify the museum as a platform for discussing civic issues.

The project’s entry points blended in and out of museum experiences. Users could take a photograph on their personal mobile device with the Instagram application and tag it with the project’s hashtag, #captureParklandia. All photographs tagged with this hashtag were then instantly aggregated by the free web application Snapwidget and plotted on an up-to-date, geo-located map of Portland, which was hosted on PAM’s webpage dedicated to the Tuileries. A scrolling banner of the most recently captured photographs accompanied this map on the webpage. #captureParklandia had an interpretive space anchored to the Tuileries exhibition.

Here, 90 of the most captivating, hashtagged photographs were rotated for display on a large flat screen monitor with the free web application Slidely. This application was regularly curated by both project managers as new photographs were hashtagged. Flanking the Slidely display were 12 numbered collectible “Portland Park” trading cards. Each numbered trading card featured a specially selected Instagram photograph of a Portland park (taken by a Portland resident), the project’s hashtag, several key facts about the park, and visitor amenity icons promoting personal exploration of the selected parks. Visitors could collect these trading cards in the interpretive space, or at one of 120 citywide, in-park events held by the Portland Parks Foundation.

An oversized wall map of the Portland park system, mounted opposite the trading cards, allowed visitors to match the parks represented on the trading cards with their numbered locations in the Portland area. The map also contained an icon orienting visitors to the location of the museum in reference to the parks.
The RISD Museum’s audio program, Channel, is a significant compilation of the voices of more than 100 artists, scholars, designers, and students telling vibrant, surprising, stories about objects in the museum’s collection. These unscripted, two to four minute audio segments are hosted on Soundcloud for in-gallery mobile listening or for tuning in at home via the desktop. Each segment provides a wealth of information and insight about an object’s history and making, all shared from candid, personal points of view.

The short, accessible audio segments found on Channel are created through a thoughtful process of pairing artists, scholars, designers, students and curators with objects in the collection. The result of these pairings is truly unique, personal and powerful conversations that happen around the object directly, not a reproduction. Makers share their insights about the artistic materials and processes that have gone into the objects production, and scholars share context and background. Almost every object highlighted features two different voices and two very different perspectives on the work, providing multiple access points into one work of art.

In addition, Channel is a dynamic platform for artists’ projects and responses to works and exhibitions, including exhibition-related music playlists and object-inspired artist projects. The multimedia platform of Channel allows the museum to engage with experimental practices and creative ways of working that are otherwise challenging to sustainably host within the RISD Museum’s walls.
This function of Channel has inspired exciting ongoing artistic research and, in fact, two artists have created new bodies of creative work as a result of their engagement with Channel and the museum collection. In sum, Channel is a significant resource, which offers multidimensional and rigorous layers of interpretive information and inspiration for visitors, scholars, and artists alike. Channel provides innovative and exciting objects to RISD Museum objects and creative ways of thinking.

Royal Ontario Museum ■ Toronto, ON

#atROM Experience

Designed to engage audiences during a visit, this program begins a conversation with our visitors and then reflects the diversity of experiences people enjoy at the Royal Ontario Museum (ROM). Our community is already very active on social media, often photographing their visits to share with their friends and family. We saw an opportunity to build on these existing activities, without changing contemporary visitor behavior.

Using a tool called Crowdriff, the museum is able to take the photographs our visitors share and transform this simple action into a program that provides a deeper, personalized, interaction with the museum. Crowdriff aggregates pictures shared with the ROM on social networks. The collection of images can then be added to a photo gallery, customized for display online or onsite within the museum's walls. They offer a simple moderation tool that allows staff to review content quickly and easily before adding to the public gallery.

As photos are added to the gallery, a pre-written, individual response is sent from an official ROM account to our visitors. The response may comment on their photo, tell a deeper story about the collection, or direct them to another gallery experience. Crowdriff accommodates a selection of preset responses that are personalized using select variables (such as user name and URL). Responses are scheduled at regular intervals with limits to the number of interactions with a unique account. This allows us to manage the experience while providing some basic automation.

Crowdriff also allows us to collect personalized information about our visitors. To view the gallery we can set a required or optional login. By registering, visitors can like images, while the museum gains access to information about the visitor (what are their interests? where do they live? etc.) and the opportunity to grow our relationship even further, based on this knowledge.

This program has enabled us to meet the larger museum objectives by expanding the learning opportunities within our galleries, offering exceptional visitor experiences, and growing relationships with our audiences beyond our gallery walls. In addition, the content helps promote the museum experience widely through a public platform, collecting real-time personal testimonials from actual visitors.
The San Diego Museum of Art ■ San Diego, CA

Tactile Reproduction for Blind and Low Vision Individuals

The San Diego Museum of Art’s Tactile Reproduction for Blind and Low Vision Individuals is an exhibition that reinterprets the museum’s painting *Still Life with Quince, Cabbage, Melon and Cucumber*, 1602 by Juan Sanchez Cotán, as a multisensory experience. The exhibition invites museum visitors to “Please Touch” a true-to-life bas-relief version of fruits and vegetables in Cotán’s masterpiece, one of the museum’s most important works of art. As visitors explore the sculpted surface with their hands, they hear spoken descriptions, context-appropriate period music, recordings, and other forms of explanation that awaken the senses of touch, taste, smell, and hearing.

One purpose of the exhibition is to draw a group of often-ignored visitors into the museum: those whose difficulty seeing prevents them from appreciating visual art. By adding touch-triggered descriptions, this interactive exhibition demonstrates a new kind of aesthetic experience, one that connects us to the artist’s world in multiple, simultaneous ways. The San Diego Museum of Art rides the cutting edge in universal design with this new installation. Training of staff and docents is provided in dual parts: learning to effectively use the technology, as well as the most effective ways of touring blind and low vision individuals. While special care was taken to ensure full accessibility for those with disabilities, the exhibition is also a fun way for children to get excited about art by allowing them to do what comes naturally to them: engaging with the world through direct, physical touching.

The Tactile Reproduction of *Still Life with Quince, Cabbage, Melon and Cucumber* is the first in a series...
of innovative projects for blind and low vision individuals that the museum plans to carry out as part of the museum’s Access Programs. Currently, books of tactile representations of important works of art from the museum’s permanent collection are being produced and will be followed by touch-responsive sculptures to create a full tactile tour experience.

The Spencer Museum of Art Mobile App project is a collaborative effort between the Spencer Museum of Art (SMA) and the University of Kansas IT Department (KU IT). We are currently developing a mobile application (compatible with iOS 7 and Android 4.0 and higher) to enhance onsite visitors’ experiences and to provide audiences with an option to explore the collections while outside the walls of the museum.

The app encourages deeper engagement with the Spencer’s collections by offering additional images, text, and video, and enriching social engagement in the museum space with meaningful interaction among visitors. The app consolidates existing platforms for collections engagement developed during the last five years—including audio cell-phone tours and video tours of select objects—into one seamless interface. The app also offers a simplified platform for interacting with the Spencer’s social media sites and online, searchable database of more than 40,000 objects.
Two approaches to Spencer’s mobile app development are relatively novel in the museum app world. The first relates to the app’s content management system. Instead of developing a completely new CMS specific to the app, the museum synchronized the data directly with its existing collections database, MuseumPlus, which houses collection records and all content for exhibitions, events, publications, conservation, and archives. This integration saves invaluable time by eliminating redundant data entry and greatly reducing the chance for human error in the data presented in the app.

The second approach is the use of iBeacon technology. By using small trigger devices placed strategically throughout the museum, the app will alert visitors that they are approaching items of interest with a simple pop-up message (if the app is open). The iBeacons will be managed through a separate tiny CMS to tailor the content that we want to push out to the visitors, or may eventually also be managed through our MuseumPlus database.

Future phases of application development include our keyword project. We have been systematically adding keyword information to all of our collection object records in MuseumPlus. Once completed, a visitor will be able to enter a keyword and get a personalized tour of objects currently on display related to the chosen topic. Within the tour, a pop-up map will guide the visitor to the location of each object.
A s part of an extensive collaboration with the Palace Museum in Beijing, the Virginia Museum of Fine Arts (VMFA) presented an exhibition of artwork from the ‘Forbidden City’ of Beijing, in fall 2014. This exhibition was the impetus for creating VMFA's first hands-on interactive exhibition and companion mobile website and app, Beyond the Walls. This project was designed to make Chinese art and culture accessible to the public, and to highlight objects in our East Asian collection. The technology developed for this project will serve as a template to build new content for the museum’s encyclopedic collection.

Located in the museum’s MeadWestvaco Art Education Center, Beyond the Walls is an interactive exhibition where visitors can explore daily life in imperial China. The gallery is designed to encourage visitors to make discoveries, through activities that include practicing Chinese calligraphy on touch screens, designing personal, virtual seals that can be shared on a public monitor, and playing traditional Chinese musical instruments and games.

The mobile website/app was designed not only to complement the hands-on exhibition but also to feature artworks in VMFA's East Asian art collection. More than fifty objects from our collection are highlighted, with over half serving as inspiration for the calligraphy activity characters and the designs created for the seal interactive. The mobile website/app was developed to make learning about Chinese art and culture more accessible by communicating information in new ways and creating a participatory, interactive experience. Four separate activities were developed for the website/app. Within each activity, users can choose how they wish to explore content: by reading or listening, watching video, or by interacting and creating.

Through reviewing visitor comments from the Beyond the Walls exhibition, and also by tracking our website using Google Analytics, we have determined that the activity sections are the most popular with users.

This list provides a brief description of each of these activities:

**Write it! Learn Chinese Calligraphy**: Practice writing Chinese characters by following the brushstrokes of a skilled calligrapher. And, learn more about symbols of good fortune that can be found in VMFA's collection of Chinese art. Users can practice calligraphy on a mobile device with their fingers or brush stylus, or from their desktop computer with a mouse.

**Design It! Create your own Chinese seal**: In this activity, users can design seals and learn more about works of art in VMFA's collection. Users can choose from a selection of icons inspired by VMFA's collection of Chinese art, add their initials or monogram, and then save it to their device or share it on Facebook.

**Unroll It! Explore Chinese paintings**: Virtually unroll and view works of art that are too fragile to handle in-person. Users can explore these paintings at their own pace and view “hot spots” for even more detail.

**Play it! Make your own music**: Users can make their own music in the style of ancient Chinese musicians by touching images of bronze bells in the center and on the side to hear two different sounds.
The Walters Art Museum’s application programming interface (API), allows for web developers, programmers, and technology-minded art enthusiasts to access machine-readable information about works of art from the museum’s collection. This online repository contains more than 15,000 detailed digital records and images of art and artifacts. The data and images are made available under public domain and Creative Commons licensing that encourages non-commercial and commercial use and re-use.

A prototype of the API was developed at the first Art Bytes Hackathon (July 2012) and proved to be of value to many of the programming teams. This led to the decision to develop a more fully functional API. The museum built the API so developers and programmers can more easily create their own applications that feature the museum’s data and images. Internally, the Walters’ uses the API to develop digital projects that further audience engagement and public access, such as an iPhone game, a responsive-mobile site, a gallery kiosk, and data and image exchanges with the Google Cultural Institute.

The API played a pivotal role in facilitating the projects developed at Art Bytes II, the Walters Art Museum’s second annual Hackathon (January 2014). The Art Bytes hackathons brought the technology and creative communities together for a weekend-long exploration of ways in which technology can help make a museum visit a richer experience for everyone.

Technologists, innovators, educators, scholars, artists, and others simply with an interest in museums, coalesced into teams to design and develop working prototypes of computer programs, applications, and other technology-enabled solutions that bring art and people together for enjoyment, discovery and learning. Projects were inspired by art, but also addressed specific challenges faced by both museums and virtual and actual museum visitors. Art Bytes participants were able to visit the museum’s galleries for inspiration throughout the weekend, while museum staff was on-hand to provide support for the projects. Leaders of the technology and innovation communities judged which prototypes were most successful.
Art & Environment is an interdisciplinary course, originally conceived by Wexner Education Director Shelly Casto ten years ago, which explores contemporary artists’ involvement in environmental issues. After a decade of avid participation from area high school students, Casto created two separate courses, one for youth and the other for teachers, both involving extensive use of technology tools. Both courses seek to introduce participants to a wide range of topics in environmentalism and acquaint them with a range of artists who are involved in exploration, production, activism, and education surrounding these issues.

Art & Environment/Youth is a semester-long course for high school students who meet in person once each week for three hours (during the school day) at the Wexner Center and other Central Ohio and Ohio State University venues with artists, educators, scientists and activists. These youth spend significant (50%) course time using an extensive digital learning resource created by the Wexner Center that includes video and text-based reading assignments, written and visual art assignments, quizzes, and discussion boards.

The group also participates in online studio critiques of their artwork through Google Hangouts. Because the students come from different area schools, the online forum allows increased communication between students and instructors, customized learning pathways for them to follow, and greater involvement of their sponsoring teachers and parents. They also create a final exhibition of their own...
artwork that is exhibited in a prominent location at the Wexner Center, and is open to the public.

Art & Environment /Teacher is an online-only course available to K-12 teachers during the summer. Similar to the digital learning resources developed for the youth program, teachers have extensive reading, video, written, and visual art assignments. They create curriculum content in Eco Art that can be used during the school year for their respective student age groups. Google Hangouts are used for intensive interviews with contemporary artists and for discussions with each other.

In Summer 2014, teachers from New York, Michigan, New Mexico, Oregon, Ohio and India came together to explore these issues. As with the youth program, the artists engaged to work with these teachers are often participants in the Wexner Center’s artistic program in various ways—whether in the galleries, on stage, or on screen. The ability to connect Central Ohio teachers who typically participate in other Wexner Center educational offerings with teachers from outside the region provides a rich opportunity for cultural exchange.

Worcester Art Museum ■ Worcester, MA
[remastered] Gallery Alternative Labels

In-Gallery Technology  Interpretation

iPad captures visitor-written labels in Worcester Art Museum's [remastered] gallery.
Photo: Worcester Art Museum

With the reinstallation of the museum’s Baroque galleries, iPad technology replaced traditional wall labels. This afforded us the opportunity to expand our intellectual offerings on objects, including
curatorial files, high-resolution images to zoom in on, “alternative” labels from community members, and write-your-own labels.

By naming the galleries [remastered], we wanted to show that the Worcester Art Museum was rethinking everything about the objects on view. The goal was: to help audiences more deeply engage with the objects, and to look at them for more prolonged periods; to allow visitors to seek out information as desired from medallion-style hangings, which allow the viewer to make personal connections with and between the works; and, from there, to encourage conversation.

The technology, therefore, was a way to give information as well as receive it. The iPads contain curatorial information about the works, but we wanted the gallery to be a space that encouraged dialogue. Alternative labels were written by peers to the visitors instead of just curators, including college students, religious leaders, and educators. It was our hope that these non-academic entries would encourage visitors to write their own reflections on the works. These visitor labels are on view for other visitors to read at all times.

Yale Center for British Art ■ New Haven, CT

Linked Open Data at the Yale Center for British Art

In 2011, the Yale Center for British Art made its collections available online for the first time, allowing seamless searching across its paintings, sculpture, prints, drawings, rare books, and manuscripts. We also implemented a pioneering, University-wide Open Access policy, allowing users to have access to data and to high-resolution digital images of works of art in the public domain free of charge, and without any restrictions on use, commercial or non-commercial. Since then, the center has been implementing Linked Open Data to make its collections ever more accessible.

We are working towards a future that breaks down siloes of cultural heritage data on the web and finds ways to map heterogeneous data sources from different museums. To this end, the center has adopted the CIDOC-Conceptual Reference Model (CIDOC-CRM), the most robust and dependable ontology to accomplish this task. The center is the first museum in the United States to map its collections to the CIDOC-CRM and is now an advisor to other museums and cultural heritage institutions adopting this critical ontology.

We are currently making basic collection descriptions (‘tombstone information’) available as Linked Open Data via a SPARQL endpoint. We believe this will transform not only the world of collections data management, but also scholarship and teaching especially in the digital humanities, and dramatically democratize global access to information on cultural heritage objects.
AAMD would like to thank Education and Community Issues Chair Lori Fogarty; editor Abby Margulies; and the 41 AAMD members who submitted their digital programs to this project.
Index by Program Type

**3D Printing**
The Art Institute of Chicago

**Access Program**
The Art Institute of Chicago
The San Diego Museum of Art

**App**
The Barnes Foundation
Brooklyn Museum
Crystal Bridges Museum of American Art
The Fralin Museum of Art | University of Virginia Art Museum
New Orleans Museum of Art
Spencer Museum of Art, University of Kansas

**Collections Management**
Museum of Contemporary Art San Diego

**Education**
Frist Center for the Visual Arts
The Metropolitan Museum of Art
Montreal Museum of Fine Arts
Wexner Center for the Arts

**In-Gallery Technology**
The Andy Warhol Museum
Brooklyn Museum
Cantor Arts Center, Stanford University
Cooper Hewitt, Smithsonian Design Museum
Corning Museum of Glass
Crystal Bridges Museum of American Art
The Dayton Art Institute
Samuel P. Harn Museum of Art, University of Florida
Minneapolis Institute of Arts
The Nelson-Atkins Museum of Art
Oakland Museum of California
Peabody Essex Museum
Worcester Art Museum

**Interpretation**
Cantor Arts Center, Stanford University
Colby College Museum of Art
Corning Museum of Glass
The Dayton Art Institute
The Nelson-Atkins Museum of Art
Virginia Museum of Fine Arts
Worcester Art Museum
Membership
Dallas Museum of Art

Multimedia
Crystal Bridges Museum of American Art
Minneapolis Institute of Arts
RISD Museum

Open Data
Carnegie Museum of Art
J. Paul Getty Museum
The Walters Art Museum
Yale Center for British Art

Publications
Canadian Centre for Architecture

Research
Museum of Fine Arts, Houston
Nasher Sculpture Center
National Museum of Women in the Arts

Social Media
Albright-Knox Art Gallery
The Phillips Collection
Portland Art Museum
Royal Ontario Museum

Visitor Services
Fine Arts Museums of San Francisco (de Young; Legion of Honor)
### Index by Location

#### New England
- Colby College Museum of Art
- Peabody Essex Museum
- RISD Museum
- Worcester Art Museum
- Yale Center for British Art

#### Mid-Atlantic
- Albright-Knox Art Gallery
- The Andy Warhol Museum
- The Barnes Foundation
- Brooklyn Museum
- Carnegie Museum of Art
- Cooper Hewitt, Smithsonian Design Museum
- Corning Museum of Glass
- The Metropolitan Museum of Art
- National Museum of Women in the Arts
- The Phillips Collection
- The Walters Art Museum

#### Midwest
- The Art Institute of Chicago
- The Dayton Art Institute
- Minneapolis Institute of Arts
- The Nelson-Atkins Museum of Art
- Wexner Center for the Arts

#### Mountain Plains
- Dallas Museum of Art
- Museum of Fine Arts, Houston
- Nasher Sculpture Center
- Spencer Museum of Art, University of Kansas

#### Western
- Cantor Arts Center, Stanford University
- Fine Arts Museums of San Francisco (de Young; Legion of Honor)
- J. Paul Getty Museum
- Museum of Contemporary Art San Diego
- Oakland Museum of California
- Portland Art Museum
- The San Diego Museum of Art

#### Southeast
- Crystal Bridges Museum of American Art
- The Fralin Museum of Art | University of Virginia Art Museum
- Frist Center for the Visual Arts
- Samuel P. Harn Museum of Art, University of Florida
- New Orleans Museum of Art
- Virginia Museum of Fine Arts

#### Canada
- Canadian Centre for Architecture
- Montreal Museum of Fine Arts
- Royal Ontario Museum