GALLERY ONE AT THE CLEVELAND MUSEUM OF ART:
CONNECTING AUDIENCES TO ART THORUGH TECHNOLOGY

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INTRODUCTION

Museums, and all arts institutions, focus on reaching and engaging their audiences. For some it may mean reaching a broader audience while others are looking for a deeper relationship with their current audience. No matter the motivation, art museums face the daunting task of turning these desires into actionable and measurable endeavors. For some organizations, deep investments in technology may be a part of the solution.

This paper will look first at how audiences behave and engage with arts institutions using WolfBrown's "Making Sense of Audience Engagement" framework, specifically the arc of engagement and audience typologies. These frameworks provide a lens to explore the Cleveland Museum of Art's Gallery One initiative and to show how technology is able to reach a wide audience by filling diverse needs of engagement.
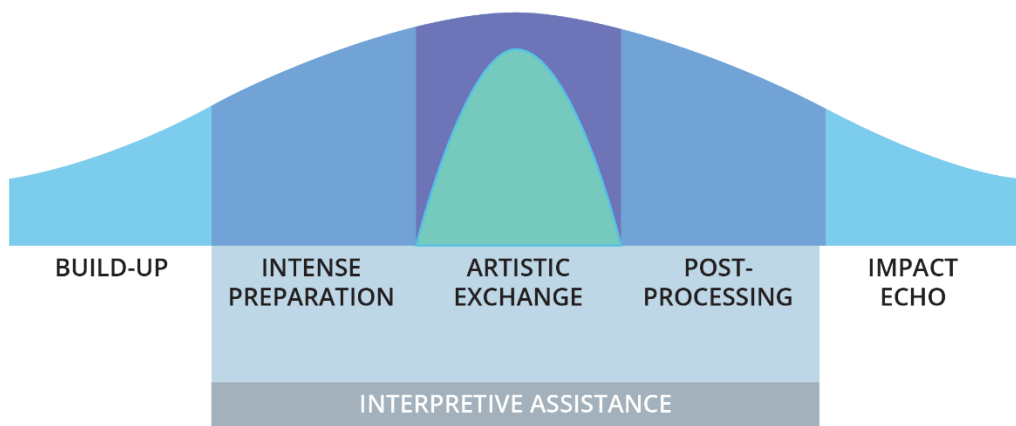
THE ARC OF ENGAGEMENT

Figure 1 Recreation of WolfBrown's Arc of Engagement, a framework to help map the audience experience through an arts event.

WolfBrown describes the Arc of Engagement framework in terms of the performing arts. However, museums can directly apply and adapt it to museums and other arts experiences. Essentially, the Arc of Engagement is a theoretical and visual representation of how audiences move through an art experience – from beginning to end. An individual moving through the Art of Engagement may spend more time in one stage while another may skip a stage completely. Therefore, museum administrators cannot expect every visitor to engage in the same manner.

Figure 2 Recreation of WolfBrown's Arc of Engagement, a framework to help map the audience experience through an arts event.

Build-up

The first point of contact between a museum and an audience member is through a piece of marketing, perhaps about a special exhibition (Brown and Ratzkin 2011). This may be a mailer, email, or social media post. During this build-up, museums are trying to create anticipation and excitement for the museumgoer. According to Culture Track 2014, 50% of visual arts planning happens well in advance and 45% happens a few days in advance (Cohen 2014). This should motivate institutions to provide extra, enriching content outside of the museum walls such as trivia, interviews, and artwork facts. Additionally, using technology makes disseminating these pre-visit interactions affordable and accessible to the masses. It would simply not be feasible to try to engage with such frequency through print materials.

Intense Preparation

As the museumgoer gets ready for the visit, he or she may partake in some form of deeper investigation into the artistic offerings to contextualize what is about to come (Brown and Ratzkin 2011). Some individuals may start this process a few days before the visit, while others will spend only hours or minutes. For example, a few days before the planned visit, one visitor may reference the museum website to research artists and artwork while others may only prepare by grabbing a map directory at the front desk. As may be apparent, *Build-up* and *Intense Preparation* blend. What separates them is the opportunity for deeper engagement during *Intense Preparation* immediately preceding the actual artistic event.

The Artistic Exchange

This is when the audience experiences the artistic work. The engagement aspect here is adding "interpretive assistance" so that visitors can gain a deeper meaning from the art (Brown and Ratzkin 2011). Interpretive assistance acknowledges that the audience needs help finding meaning from the visit beyond the work itself. Therefore, the institution should make some efforts to layer the experience with opportunities to learn and engage. Traditional methods may be catalogues, wall panels, and docent tours, while approaches that are more contemporary include mobile application or hands-on activities in the gallery.

Post Processing
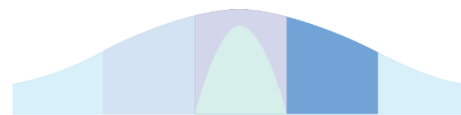
After the museumgoer experiences the art, he or she may engage in some sort of reflection or meaning making about the experience (Brown and Ratzkin 2011). For a museum, this could involve a private reflection or interpersonal discussion after leaving the venue. It is a period of high engagement opportunity because the experience is fresh in the participant's mind, making it necessary to find ways to continue the experience outside of the venue.

Impact Echo
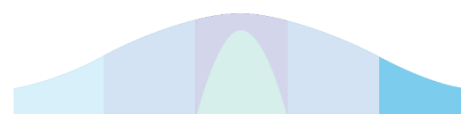
The impact echo describes the moment when the experiences comes back into the visitor's mind (Brown and Ratzkin 2011). Depending on

the impact of the experience, the impact echo may only last days or weeks, while others may reoccur years later. Administrators cannot necessarily control why a person will remember an experience, so they should instead focus on making the artistic exchange as impactful and memorable as possible, while still providing opportunities for recall later. This means staying relevant and providing content well after the museumgoer leaves the museum.

The understanding, acknowledgment, and utilization of all these phases – from *Build Up to Impact Echo* – will open up opportunities for engagement throughout the museum. The Arc of Engagement can act as a tool to map where different, institutional initiatives may engage audiences along their visit.

AUDIENCE TYPOLOGIES

The compliment to the Arc of Engagement is audience typologies. In the most basic terms, a typology is a psychograph to describe the way an individual engages with an art experience. These typologies move past generational, socioeconomic, and racial differences to focus specifically on an individual's natural inclination to engage. After all, it is difficult to program for individuals when focusing on demographics because it results in decisions based on large generalizations and stereotypes. For example, not every Millennial enjoys or uses excessive amounts of technology and social media. So programs for young people that rely heavily on technology could disengage a huge slice of the cohort or lack the contextual relevancy for another cohort. This false specificity, therefore, may actually amplify the physical differences between individuals rather than blur them.

By using typologies, museums can better understand the methods and styles of learning and engagement for patrons and foster

inclusion in programming efforts. The main typologies are *Readers, Critical Reviewers, Casual Talkers, Technology-Based Processors,* and *Insight Seekers.* Each typology focuses on a different form of engagement preference and one individual can identify with multiple typologies. Institutions can use this information to develop interpretive assistance opportunities that fit different engagement styles.

Readers: They skim wall texts and read the program, but do little else to prepare, interact, or debrief with the experience. Most everyone is this typography, but also associate with a secondary typography.

Critical Reviewers: These individuals gauge their interest and experience largely by what experts say about the art.

Casual Talkers*: Prefer to talk and debrief about the experience in a social environment with their partner or friends.

Technology-Based Processors*: Go online to find their information and process the experience afterwards. They are also very active on social media and may share their experiences with others through those platforms.

Insight Seekers: Seek inside information through lectures, articles, or discussion. They like to seek out as much information about the history and creation of a piece of artwork as possible.

Active Learners: Prefer hands-on experiences to learn about the art (Brown and Ratzkin 2011).

As stated earlier, an individual may have multiple typologies. For example, someone who is a *Critical Reviewer* and an *Active Learner* may enjoy active participation in an activity but will ultimately base his or her opinion of the overall experience on what someone else with "superior knowledge" thinks. The main takeaway is that not everyone engages the same way and everyone expects something different from his or her experience.

Museums can combine WolfBrown's Arc of Engagement and Audience Typologies as a descriptive framework to create and evaluate audience engagement in an artistic experience. During the creation process, museums can map an individual's arc and tailor activities throughout that fit several typologies. Conversely, during evaluations, museums can gather user data to determine if museumgoers are participating as they intended and make the appropriate adjustments.

Gallery One, a recently created audience engagement endeavor at the Cleveland Museum of Art, incorporates technology through the museum experience to reach new audiences. The Arc of Engagement and audience typologies map and evaluate the experience to show the benefits of incorporating technologies into a museum's offerings. Using these tools, it becomes clear how Gallery One expands engagement opportunities outside of a traditional experience and reaches new audiences.

INTRODUCTION TO GALLERY ONE

From the beginning, the Cleveland Museum of Art took special care to understand their audience when creating new engagement touch points. To understand how museumgoers moved through the museum, Marianna Adams of Audience Focus Inc. conducted audience research. It focused more closely on behavior than on demographics, which is congruent with findings by John Falk's 2009 study, *Identity and the Museum Experience.* The museum found that visitors were mostly "browsers"; they did not read introductory texts and only focused on art that caught their attention (Alexander, Barton, and Goeser). A browser in this context is the same as WolfBrown's *Reader.* Therefore, visitors were not recognizing the underlying themes presented throughout the galleries. This presented an interesting challenge for the museum because they had to develop interpretive assistance that would drive the audience members through the galleries and foster deeper engagement without drastically changing how individuals moved through a museum.

Parts of Gallery One, in its design, provide that contextualization without drastically changing the way their audience behaves in the main galleries. By doing so, the technology feels more natural and cohesive with the experience. Additionally, the technology is optional – a visitor can experience a very traditional and holistic art experience without ever needing the aid of the Gallery One initiatives. This optional participation ensures that the CMA is not alienating those visitors who do not desire the extra interpretative assistance devices. The museum does this by confining the main, hands-on technological activities within a specified area. This left the traditional galleries seemingly untouched, however museumgoers engage may still with the art through the mobile application *ArtLens.*

According to Caroline Goeser who is the Director of Education and Interpretation at the CMA, the goals of Gallery One and Artlens are as follows:

1. Visitors have fun with art.
2. The interactive games and interpretation provide tools for understanding and spark social experiences with art.
3. Visitors find transformative moments of discovery about continuing creative traditions that make art relevant for them (Goeser 2013).

These goals are just as much about the content as the experience. The CMA wants visitors to engage with art in meaningful and interactive ways, which will lead to some sort of transformational experience or contextual insight (Alexander, Barto, and Goeser). That is, an experience that will stay with the visitors for an extended period. The CMA is essentially saying the transformational aspect of the visit comes from the entirety of the experience – the art, amenities, and engagement activities – transferring the power to audience members. Education is one of the traditional pillars of museums, but in the past the emphasis was more on collecting, preserving, and interpreting as American museums attempted to legitimize themselves against more established Western European institutions. Today, however, museum administrators should make more effort to engage audiences throughout the experience, which is the direction CMA is choosing to take with Gallery One and their other museum-wide initiatives.

THE AUDIENCE EXPERIENCE AT *GALLERY ONE*

ArtLens

The CMA created ArtLens in conjunction with the Gallery One space to create a more user-centered and controlled museum experience. *Insight Seekers* can view the permanent collection from home or at the museum, navigating through several different views. ArtLens is a great tool to engage through every stage of the Arc. Visitors access the the app from their personal iOS and Android device, though full functionality is probably best achieved with an iPad because of the larger screen. If a museum guest does not want to download the particularly data-heavy application, the CMA offers iPads rentals for a nominal $5 fee from the front desk. Since entry to the museum is free and a mobile device is not required to enjoy Gallery One, the added expense does not add an extreme barrier to participate.

The app connects to the dynamic *Collection Wall* using an RFID tag on the back of the mobile device, allowing users to favorite works of art and save them into a custom tour. When using a personal device, the museum offers free use of their RFID to enable full functionality. The application includes an array of offerings to improve the visitor's experience and understanding of the museum. The *Near You* function uses wayfinder technology to show artwork with additional interpretive assistance. *Readers* can quickly skim for interesting works while also providing *Insight Seekers* the additional content they crave. Searching through the virtual galleries is not the only way to access this information. *Active Learners* can also access this content through an image recognition feature. By simply raising the device with the camera on, additional content will seamlessly appear on the screen.

Casual Talkers, *Insight Seekers,* and *Critical Reviewers* follow self, popular, or curatorial-created tours through the museum with their friends. The app expands the normal tour offerings to include tours based on duration, popularity, visitor created, and themes such as *Treasures on Paper, Heroes and Villains, The Art of Ritual,* and *The Process of Making Art* (Artlens)*. Readers* are able to choose their level of engagement, quickly moving through the work digitally until they find something intriguing. *Technology Based Processors,* on the other hand, share favorite works and tours in the museum over Facebook and Twitter, complete with a clever tagline provided by the CMA.

Ultimately, *ArtLens* plays an integral role in Gallery One. It acts as a catalyst for adaptive customization—rare in the art field—through its ability to change and suit the needs of the viewer. Patrons create their own value and easily personalize the visit through the aid of the application. Therefore, it can act as a tool through all parts of the *Arc of Engagement.* The opportunity to access the application at home to find information about artwork and museum offerings lets visitors use it during the *Buildup and Contextualization* and *Intense Preparation* phases. Whereas, the app also aids in the *Artistic Exchange* when used in the galleries to access additional insight into the work. Finally, *ArtLens* is also helpful during *Post Processing* and the *Impact Echo* to revisit favorite works and share the discoveries with others.

Collection Wall

When visitors first enter the collection from the main lobby they are presented with a large, 40ft by 5ft touchscreen interactive display. The *Collection Wall* invites *Insight Seekers* to explore

any of more than 4,000 pieces in CMA's permanent collection through 32 themes like chronology, medium, period, and technique (Cleveland Museum of Art). *Active Learners* can touch, swipe, and pinch specific artwork to gain more information. They can then "heart" artwork and save it to CMA's *ArtLens* mobile app to create a custom tour of the physical gallery spaces (Cleveland Museum of Art). The *Collection Wall* is dynamic and updates every 10-minutes with the most up-to-date object information and user favorites from the galleries (Cleveland Museum of Art). For example, if an artwork leaves the building for loan or conservation, the wall reflects its absence. The number of "hearts" continually updates, showing the most popular works in the galleries. Museums often struggle gathering data from visitors, but the CMA can capture endless amounts of data that to improve the experience in the future.

The wall is largely a community-based endeavor, acting as an entry point into the permanent collection for the visitors. Information from visitors at the wall and in the galleries feeds back into the system and reflects on the wall. Because of this, visitors strongly influence much of the information shown on the Collections Wall. Arriving from the lobby, the *Collection* Wall is the first thing most visitors see before any of the gallery spaces, making it a final touch point for *Intense Preparation* before visitors begin the *Artistic Exchange*. Visitors can use it alone or as a group, adding flexibility and variety. Due to its low barrier for entry and multiple forms of consumption, the *Collection Wall* appeals to all types of visitors. For example, a *Reader* could feel just as comfortable lightly browsing, while an *Insight Seeker* could spend an extensive amount of time discovering the artwork, reading detailed descriptions and exploring all of the features. *Active Learners*, on the other hand, will enjoy the pinching, swiping, and active gestures of moving through the permanent collection, while *Casual Talkers* informally participate with friends.

Insight Seekers and *Critical Reviewers* will get the most utilization of the Collection Wall as a tool for *Intense Preparation. Casual Talkers* and *Active Learners,* on the other hand, will probably engage with it more in the beginning of their *Artistic Exchange*. The wall functions best when paired with the *ArtLens* app to create a personalized tour through the galleries; however, for lighter interactions it does not require any additional integrations.

Interactives

Gallery One houses six interactive "lenses" which let museum visitors explore pieces from the permanent collection in a more active or kinesthetic form. The lenses are large touchscreens with integrated technology and sometimes cameras with motion sensor or face recognition technology. The current lenses are *Sculpture, Lions, Stories, Globalism, 1930's,* and *Painting* (Cleveland Museum of Art). These activities engage museum visitors young and old and offer a deeper insight through play. For example, *Sculpture Lens* uses a camera and X-Box Kinect technology, inviting *Active Learners* to recreate the pose of a sculpture in the museum. The technology then analyzes how close the user was able to recreate the sculpture and rates it. The *Painting Lens*, on the other hand, invites users to paint or recreate a painting by a well-known artist like Picasso that is on display in front of the lens (Cleveland Museum of Art). This clever use of gamification creates a completely new experiential atmosphere within a traditional art institution.

The *lenses* let visitors choose how they interact with pieces from the permanent collection. The Interactives appeal more to *Active Learners, Casual Talkers,* and *Technology-Based Processors. Active Learners* will enjoy the participatory, kinesthetic nature of most of the lenses. *Casual Talkers* will participate with a

group of friends or families. Finally, *Technology-Based Processors* will share their creations with friends on their preferred social media website later. *Critical Reviewers* will not find much with the lenses because none of the activities offers that expert insight they seek.

The *lenses* are most associated with the *Artistic Exchange* on the *Arc of Engagement.* Although some are more social than others are, they do let people think critically about art. For example, *Sculpture* connects actual people to figurative work, bringing in the concept of modeling and the human form. Alternatively, the *Globalism* lens challenges users to guess what country or countries the artwork came from, providing connections to the external world. For the *Technology-Based Processors* who save their creations for later, the lenses could have some opportunity for *Post-Processing,* though the effects will not be as strong.

Studio Play

This area is a more family-oriented section designed for adults and small children to interact and explore together. Young children can play with puppets on a stage or create imagery on small canvases to display the wall. The area also includes a touchscreen that encourages children to draw a line. The software then searches the 7,000 pieces in its database to match the line with a piece of art with a similar line. The program then overlays the artwork so the child and adult can see the connection they made while also gaining access to additional information (Alexander).

Young, *Active Learners* will enjoy *Studio Play* with their parents. They can participate in various hands-on activities – both with technology and without. The *Insight Seekers* will enjoy learning how their drawings connect to

other artworks in the gallery, hopefully creating a sense of curiosity for other objects around them. The use of traditional, tactile activities ensures that young visitors can get hands-on interactions without the use of a digital screen.

Once again, the *Studio Play* engages during the *Intense Preparation* and *Artistic Exchange*

phases of the *Arc of Engagement.* It is a great preparatory area for families to begin engaging with art. It functions to familiarize them in a creative environment or to release energy before entering the main galleries. The space also acts as the main participatory engagement within the museum for the families replacing extended time in the traditional galleries.

CONCLUSIONS ABOUT THE GALLERY ONE EXPERIENCE

The combined effects of Gallery One – *ArtLens, Lenses, Interactives, and Studio Play* – create a fresh, original participatory museum experience. It has the opportunity to engage audiences before they enter the museum, enhance the learning opportunities at the museum, and create an intact impression after. Museumgoers can be active participants throughout the entire arc and there are multiple entry and exit points in the arc. Although most of the offerings require being at the space for the *Artistic Exchange* or *Intense Preparation,* the *ArtLens* provides touch points outside. This engagement opportunity also does not replace the other engagement opportunities such as docent led tours, lectures, concerts, festivals, films, and educational programming. It is just one piece of a very complicated and intricate plan.

Gallery One expands the Cleveland Museum of Art's abilities to reach and accommodate visitors. According to the Museums and the Web 2014, in the first year of the atrium

opening, the museum attendance increased by 39%, groups with children increased by 25%, and during the first half of the fiscal year donations increased by 80% (Alexander 2014). Since Gallery One opened at the same time as other expansion projects, it is difficult to say what percentage Gallery One actually contributed to donations and attendance. However, it does show that the museum's combined effort, reached new audiences.

This is especially important since museums – specifically art museums – have seen a negative turn in attendance between 2008 and 2012. The 2013 NEA report *How a Nation Engages with Art* shows a humbling perspective about how museums are or are not serving the public. The NEA report highlights attendance data from 2008 and 2012, revealing a decrease in almost every measurement. For example, the number of adults surveyed who visited an art museum or gallery at least once in the year of measurement fell from 26.5% in 2002 to 21.0% in 2012 (Iyengar 2013). There is an economic recession to consider with these attendance
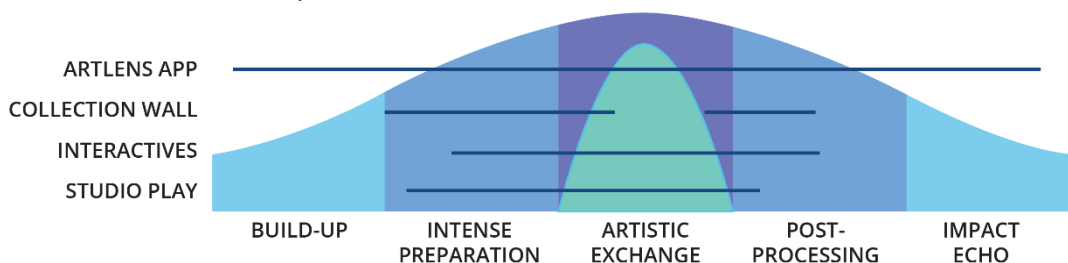

Figure 3 the Gallery One initiatives shown together across the arc

numbers, but as the economy improves, museums need to find new and innovative ways to re-capture their audience's attention and get them in the doors.

Audience trends are showing museumgoers do not enjoy some of the traditional offerings as much as they used to. Specifically, the enjoyment of museum tours has been on a decline since 2008 when IMPACT, a predictive research company, started surveying individuals. According to their findings, more than half of visitors do not find tours fun. Specifically, from 2008 to 2012, the number of 35 years and older who think tours are fun dropped from 57% to 54% and those under 35 dropped from 55% to 48% (Dilenschneider 2015). This still means that about half of visitors *do* still enjoy the traditional activity, probably the *Insight Seekers* and *Critical Reviewers* of the museum world. However, 50% satisfaction is not good enough. Museums need to expand their offerings so that the 50% who do not enjoy a traditional tour are still engaged and participating.

Reasons for this lack of satisfaction could be that visitors cannot personalize; visitors are constrained to the schedules and knowledge of the docents and the pre-determined tour route. To contract, the tours provided on the *ArtLens* app provide a spin on the museum tour experience. Now, *Insight Seekers, Casual Talkers,* and *Critical Reviewers* can completely tailor what art they see, how long they spend, and what information to consume. Ultimately, the CMA found a way to keep a traditional tour format, which approximately 50% of visitors still enjoy, but changed the delivery system to offer numerous customizations that will appeal to a broader population.

Finally, and possibly most importantly, the Cleveland Museum of Art took the initiative to re-invent the museum experience through the aid of technology. Technology use is a trend that is not going to go away and is becoming more difficult for cultural institutions to shy away. According to Pew Research Center, 64%

of adults in the U.S. use a smartphone, up from 35% in 2011 (Smith 2015). This rapid growth shows that people are adapting and using technology in everyday life. Therefore, incorporating technology – and even cellphone use – in a museum can be a natural and positive addition. The CMA's three distinct methods of technology: the Collection Wall, Lenses, and ArtLens App, give the power to the people to explore as they desire.

Gallery One dared to look into the future and create new, dynamic experiences rather than playing catch-up. They created a system to engage audiences while also collecting user data so that the opportunities are continually updated and advanced. For example, the *Collection Wall* collects data about the most "favorited" artworks, telling museum administrators and audiences what people like. On the other hand, the location-based technology built into the application and museum can collect data about how audiences move through the galleries and how long they spend in different locations. This means Gallery One is, in a way, self-sustaining. It is constantly gathering information about the museum experience to analyze and create an ever-evolving, technologically advanced cultural institution.

FINAL TAKE-AWAY LESSONS

0. **Museums and similar cultural institutions should familiarize themselves with WolfBrown's Arc of Engagement and Audience Typologies** It is easy to digest and offers a framework to garner participation that does not focus on demographic differences between individuals. The absence of specific demographic targeting will hopefully lead to programming that provides total and complete inclusion rather than needing to resort to supplementary outreach

endeavors.

1. **Learn how audiences use the institution and find new ways to garner active participation**
In order to better program, an institution should first learn how their audience already interacts with the space and the work. Results may reveal to administrators that they have more *Insight Seekers* than *Readers,* which would charge the staff to develop programming differently. Additionally, acting before learning could lead to creating new programs that do not fit the needs of the audience and result in missed opportunities.

2. **Make technological advances a priority in audience engagement endeavors**
Technology appeals to a wide population, not just young people, and its addition to everyday acts is increasingly common. Additionally, technology provides rapid and vast opportunities to gather audience data so that the museum experience can continually enhanced. Be sure to have a plan to analyze and use that data once it is collected.

3. **Collaborate with the entire institution and external organizations to bring the plan to fruition** It took more than the expertise from current CMA staff to bring Gallery One to life. No institution

should expect they have all the answers and should find those individuals with the specialties to create quality results.

Gallery One is a growing and evolving institutional endeavor that will only get better with time. The experience is not perfect in its current state, but even in its young age, has gone through multiple advances. For example, the iPad app does not have an artwork search function, which turned out to be a major need for museum visitors. The developers therefore incorporated it into their later released iOS and Android applications. This proves that the CMA is continually listening to their audience and collected data to deliver the tools and resources they need to receive the best experience possible.

Technology should not be a topical afterthought to the traditional museum experience. It should complement other educational and engagement opportunities to allow museum administrators to collect, preserve, interpret, and educate *better*. Although this paper focused on Gallery One, it is just one piece to the institution's audience-centered offerings of lectures, concerts, films, parties, parades, festivals, and classes. Gallery One did not replace the traditional docent tour or artist lecture. It simply added another access point for visitors to engage with and experience the cultural treasures inside.

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