Can Mobile Technology Fulfill Your Museum's Mission?
Case Study of the Children's Creativity Museum's Use of Mobile Technology

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Mobile technology is becoming apart of daily life. Across all sectors and fields, companies and organizations are figuring out how they can adapt and engage their customers through mobile technology. With visitor-centric missions, museums are not only looking for ways to engage their audiences through mobile technology but also finding ways in which mobile technology can serve the museum's mission. Funders are also looking for organizations to engage visitors in new ways. Do new innovative forms of engagement lie within the visitors' cell phones in their purses and pockets? Before implementing new mobile technology, museums must ensure that the investment into technology is aligned with their mission and goals of engagement.

Holly Herndon, Exhibit Development and Curatorial Manager at the Children's Creativity Museum (CCM) in San Francisco provided insight into the struggles of developing mobile technology to fit the needs of the visitors and the museum at 2012 CAM Annual Conference Session titled "Museum-Wide Mobile." Being a museum that promotes innovation, CCM is at the forefront of experimenting with new mobile technology. Herndon provided several examples of how CCM is integrating mobile technology into the museum, many of which are successful.

One example is the Turnstar kiosk. Its goal was to create a system to communicate a wait list for a popular exhibit space with limited seating. First used in restaurants, visitors enter their cell phone number in the Turnstar kiosk at the exhibit's entrance to receive a text when it is their turn to enter. It was easy to train staff in the technology and it worked well on busy days. However, on not extremely busy days, staff found it easier to use an analogue list. Visitors hesitated in providing their phone numbers in fear it would be saved and some phone plans charge for receiving text messages, creating an extra expense to those visitors.

Herndon's report on a QR Code Treasure Hunt is most telling of the challenges facing the implementation of mobile technology in museums. When considering mobile technology, museums must ask themselves: is this technology for technology sake or is this technology truly fulfilling the mission of the museum?

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In an attempt to utilize new mobile technology into the engaged museum experience, CCM designed a prototype for a treasure hunt using QR code technology. QR codes (abbreviated from quick response codes) are barcodes consisting of black squares arranged in a square on a white background. Originally invented for and used by the automotive industry in the mid-1990s, smartphones have popularized the recent use of QR codes in advertising. QR codes can be scanned by easily downloaded applications to a smartphone, allowing an easy and fast transfer of information. QR codes can be created to present any kind of data such as text or a link to a video or website. To access the data in the QR code, one simply holds their smartphone over the QR code to scan it and the data will appear on the screen of the phone. It is now not unusual to see QR codes on museum walls or visitor materials to connect visitors to more information.

CCM implemented a prototype QR Code Treasure Hunt designed by Creativity Fellow Lucelia Tinembart, which was continued through a second treasure hunt with 22 QR codes by Tinembart's successor Mathilde Wilhelmina de Kruiff. The goal of the QR Code Treasure Hunt was to create connections between the spaces within the museum while allowing visitors to create their own narratives. In attempt to engage visitors with typically unused areas of the museum, the QR codes were placed strategically to engage visitors with these un-used spaces. The QR codes were generally placed on walls but also on objects within the museum such as a table or clay character. After scanning a code, the participant would be given a clue to find the next QR code or be challenged to create something or perform an action. Participants who completed the treasure hunt were prized with a free ride on the museum's pony carrousel. The treasure hunt offered a way to maximize the museum's building and experiment with interaction through a new mobile technology.

There were many lessons learned through the original prototype activity. Contrary to the museum's assumption, many visitors did not have access to QR code technology. Although smartphones are highly popular, there is still a great deal of the public, and of CCM's audience, that do not have phones with functions necessary to scan QR codes. This raised the problem of access and equity as CCM realized that the activity was not made for all of their visitors. Herndon stresses that as museums face future struggles of keeping up with costly technology, museums must learn how to harness the computational power of the smartphones and devices visitors are bringing with them to without alienating the visitors without such devices.

Another challenge was that not all of the visitors with smartphones were familiar with QR code technology and had not had a reason to download a QR code scanning application before coming to the museum. Thus, in order to engage in the treasure hunt, visitors first had to download a new application to their phone if they had not done so before arriving. Like in many museums, the phone service and Wi-Fi connection is not strong in CCM, which resulted in long application downloading times. Herndon reported that it was typical to see visitors wandering around with their phone in hand, searching for a hot spot with enough service to complete the download. In considering the time visitors spend in the museum, it is questionable whether the time spent learning about and downloading new technology is outweighed by the results of the treasure hunt. The hope for the treasure hunt was to engage visitors through technology they were already bringing into the museum; however, the treasure hunt instead introduced new technology to the museum's visitors. Overall, CCM found that only a small amount of visitors that were able to engage with QR Code Treasure Hunt.

CCM identified a number of ways they would improve the QR code activity. In terms of the treasure hunt itself, the prototype implemented at that CCM had a single beginning and single end. After overcoming any obstacles in the way of participating in the treasure hunt, visitors were only offered a one-time experience. The second treasure hunt was modified to include a "choose you own adventure" aspect so that if visitors truly enjoyed the QR code treasure hunt, they would be welcomed to continue the engagement through a new experience.

In order to make the experience more accessible, Herndon noted the need for training staff to be better equipped to aid visitors in participating in the activity as well as clear signage. Not only should staff be informed and involved in helping visitors participate in the treasure hunt, but also should be well versed in the program and technology to assist visitors unfamiliar with QR codes. From a curatorial standpoint there should be signage with a formal introduction to the program with clear guidelines as to what will happen, how long the activity will take, and detailed instructions as to how to download and use the mobile technology. In addition, there should be formal signage at each QR code point with concise instructions.

The need for staff training and signage present an issue of resources. Although QR code technology is easily produced and placed within the museum, CCM found that the treasure hunt called for further resources not foreseen in the inception of the project. A stronger Wi-Fi

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connection in the museum would resolve the long time required for downloading QR code scanner application. However, if a museum's exhibitions are not solely engaged by mobile technology, it is a question of return of investment. Is a stronger Wi-Fi connection necessary to enhance the visitor's museum experience? Finally, CCM found that a treasure hunt may be a great solution to activate un-used areas of the museum, but perhaps using mobile technology to accomplish that is not the only answer. Perhaps a similar activity to the treasure hunt such as a coloring book that activates space in new ways with clues to lead visitors to difference spaces. Clues could be mounted on the wall in vinyl. There are a multitude of options in achieving the kind of interaction sought through the QR Code Treasure Hunt without the integration of the mobile technology.

The QR Code Treasure Hunt provided thoughtful thinking around the implementation of mobile technology into the visitor experience at CCM. Although it made use of untapped areas of the museum, the use of QR codes left the museum with questions regarding the necessity and authenticity of the program. Ultimately, its challenges offered questions to consider when using technology as a starting point of a new project. For example, are the resources needed to execute the project justified by its successful outcomes? Perhaps mobile technology could be used by museums to target specific audiences. CCM's treasure hunt engaged older children of a family; however, did it take away from opportunities for the family to engage together? There may be mobile technology alternatives that do not interrupt family engagement while also enhancing experiences for specific family members. For example, employing more widely used mobile applications and social sharing networks such as foursquare or Instagram may have potential to create that success. Surveying what mobile technology visitors already use may help curve the ability to engage specific and general audiences. Herndon advises museums to think beyond QR codes when entering into mobile museum experiences as CCM has found success with other forms of mobile programming.

One example of such programming Herndon shared at the CAM conference was the Innovation Lab at CCM. The Innovation Lab is a space that provides visitors with the first opportunity to engage with mobile games and applications before they are available to the public, and give feedback to the developers. Unlike the QR Code Treasure Hunt, the Innovation Lab engages visitors with technology that is exclusive to the experience at the museum. CCM has become a hub for new technology among families and developers for youth through the unique opportunity for interaction between makers and users of technology. The Innovation Lab requires CCM to

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find the right balance in partnerships with the developers so that they may be mutually beneficial and make sure that the applications or technology is not being sold to the families that interact with it. Nonetheless, within that right balance, CCM's Innovation Lab is a paragon of space that can be created by a museum to engage the institution, audience and technology together for productive and meaningful visitor experiences.

About the Author/CAM Fellow

Kaileena Monet Flores-Emnace is expected to graduate with her M.A. in Arts Management from Claremont Graduate University in 2013. After earning her B.A. in Art Education and B.A. in Urban Studies from Loyola Marymount University, Kai discovered her passion for providing quality art education to her urban society, Los Angeles. Currently Kai works as an educator at various museums, including MOCA and LACMA. She also serves on the Board of MESC and on the State Superintendent's Blueprint for Creative Schools Task Force as a youth voice. Kai's art-making practice is fueled by the act of gift giving and is inspired by attending live music events.