

CASE STUDY 2: PERSONALIZATION AND VIRTUALIZATION IN MUSEUMS

The focus of this case study is on the emerging exploitation of digital storage and delivery technologies to produce personalized curated collections available online. Unlike the traditional “brick and mortar” museum with its substantial startup and ongoing costs, these “virtual museums” may be easily launched by anyone and focused on any topic, even those not expected to have substantial viewership

The Personal Virtual Museum

The commoditization of large scale digitization and digital content generation has established a new paradigm of the museum, one in which museums are increasingly personalized, virtual, and no longer bound to the traditional revenue support model. In the traditional world of museums, the topical focus of a museum must align with a sufficiently large demographic that the museum will be able to generate the revenue funds sufficient to sustain its operations. Consideration must be given to the physical location of the facility, the distribution between archival, processing, and display sections of the structure, and whether there is a sufficient fit with the local demographics. The focus of a museum may be forced to change over time to adapt to changing popular interests and a changing economy, such as the recent closing of several Elvis-themed museums.

In the virtual world enabled by the Internet, the term “museum” no longer purely applies to a brick-and-mortar structure inhabited by a dedicated professionally trained staff. Rather, the immense simplicity and affordability of creating and distributing content via the Internet has spawned a brand-new realm of “personal museums”, in which private individuals, often with no formal training, create entire websites dedicated to a particular topic of their interest. Any given celebrity has innumerable “fan websites” that often act similarly to museums, chronicling the celebrity’s entire career with images, movies, sounds, images of artifacts, etc. Websites have been created on every topic imaginable, with a similar wealth of information on their subject, and often organized in a gallery-themed structure very similar to the layout of a professional museum. A perfect example is the Television History website, which presents an overview of the technology of television from its foundation. (*Television History*, online).

Most museums do not permit visitors to touch or directly interact with the artifacts in their collections, forcing visitors to observe the objects through the protective cocoon of a glass display case. In many ways this is little different from only being able to view the artifact through photographic images on a website, especially if those images offer multiple views of the artifact.

The Collaboratively-Populated Museum

Traditional museums operate largely as self-contained collection, curation, and preservation facilities, with an internal staff directing both the acquisition of content and its presentation to the public. A research project in Japan in 2004 (Ueda et al, 2004) offers a unique view into the possibilities afforded by *collaboratively populated* virtual museums, in which the general public works together in distributed fashion to generate the content for a museum. The project, presented at the 24th *International Conference On Distributed Computing Systems*, presented a model by which anyone walking the streets of Toyko, Japan, could use their camera-enabled cellphone to take a photograph of anything of their choosing and then send it to a designated address. The system uses the GPS coordinates saved by the phone to place the image onto a map of Tokyo, making it possible to drill down to see exactly which area of the city it represents.

In a traditional museum setting, a museum wishing to offer a picture of what it is like to live in Tokyo, would search various museums for artifacts, professional imagery, and other sources of content and work to integrate it together for display. Museum staff would either retain someone with experience living or residing in Tokyo to help them select the content that best represents the city. In the model presented in this paper, however, it is ordinary citizens going about their ordinary daily lives, that constitute the primary providers and curators of the collection. It is through the decisions they make throughout the day of what to capture and send on to the project, that the overall collection is built. In essence, the masses work together without formal collaborative knowledge of one another, to build a large museum collection that paints an image of their city. Unlike traditional museum collections, which are overwhelming geographically poor in their presentation and curation of material, images generated by this project have rich geographic identifiers associated with them. Whilst a normal museum might label a photograph “downtown business district, Tokyo”, an image in this collection would be associated with the exact square foot the person stood in when he or she captured that image for the museum. A similar model was used for the virtual 9/11 and Katrina collections where imagery, stories, and other material from witnesses were submitted to a central website and placed onto a Google Maps overlay.

Museums as Distributed Knowledge

It may be argued that with the continuing rapid commoditization of digital imaging technologies and the ever-expanding capacity of digital storage and delivery systems, that the proliferation of digital personal virtual museums will only continue. In particular, the younger generations, born into the digital era, have grown up in a world where it is considered the normative to chronicle their personal lives in minute detail on a public website to share with the world, or post photographs of every major event in their lives. Whereas in the past a few 35mm photos might have been captured at a major birthday celebration, today every night out warrants many tens of photos uploaded to the web and tagged with descriptive captions, highlighting boxes indicating who was present in the photograph, and even links to the biographies and sites of those individuals.

In a way, the *ultimate* museum might indeed be FaceBook, the most popular of image sharing websites. Each day more than 14M new images are uploaded to the site, making it the most popular image sharing website in the world. If individuals are considered like artifacts, than FaceBook truly is the ultimate museum, claiming more than 80% of the United States undergraduate college population among its membership rolls. Each “artifact” in this system contains a profile image and detailed biographical information, similar to the profile entry of an artifact in a traditional museum. Yet one of the unique aspects of the user-driven environment of FaceBook is that users continually update their profiles, uploading enormous volumes of imagery, and establishing connections of various types with related or similar artifacts. Whereas in a traditional museum, the job of updating and connecting artifacts falls to curators who have very limited available resources and must focus on specific subsets of their collections at a time, FaceBook offers *proactive* environment to this traditionally *reactive* methodology, in that the artifacts themselves often devote many hours a week to keeping their profiles completely up-to-date.

Yet the issue of compartmentalization and security in FaceBook presents a novel twist to the traditional museum environment. In most museums a single fee can be paid at the entrance that gains access to all of the museum’s collections. Individual collections may require additional fees beyond the museum’s base charge, but for the appropriate amount of money, anyone can visit all of the collections. Not so in the compartmentalized environs of FaceBook, where each artifact sets its own distinct security access controls on who has the ability to view their information. This is the equivalent of each gallery in a museum having its own gate and guard controlling who may enter. You must wander around to each gallery or search the museum’s guidebook to locate galleries of possible interest and then approach the guard to inquire whether you warrant access at this time and may enter to learn more about that artifact.

Museums serve a dual role as presenter and preservationist, with the goal of preserving the materials they hold for posterity. Virtual museums may or may not serve a similar role, depending on their organization. Many websites created by individuals do serve such a role in some ways, given that they capture physical artifacts in digital form as the originals continue to degrade. Websites like the Internet Archive save the contents of these sites for long-term. Yet, this only applies to public sites: the greatest sites like FaceBook are walled gardens, designed purely for immediate sharing of information, with a purposeful stance *against* long-term preservation. Indeed, it is an expectation that artifacts will often destroy large portions of their entries on FaceBook when they reach certain life-stages, such as applying for a job or internship, where the personal exploits chronicled on these sites can be a detriment. The notion of an implied expectation for self-destruction of content at specific life-stages of an artifact is a unique consideration for such virtual museums and has significant implications on the way in which an artifact is preserved and considered over time.

Finally, there is the unique consideration of *localization* in the presentation of content in a museum. One of the roles of a museum is to *localize* its subject to its specific audience. This may involve interpreting or translating material, or providing selected background

material, to allow an unfamiliar audience to better understand the context in which the artifact existed. An ancient Roman scroll displayed in an American museum might be accompanied by a modern English translation, for example, since most Americans today do not understand Latin. Similarly, that same scroll will rarely be presented in a display case on its own, but instead will usually appear alongside a brief narrative describing how this type of artifact was used in its day. Rationale will often be given for why that particular artifact was selected (perhaps it was the scroll that launched a war or brought peace) to help visitors understand its significance. Virtualized museums, on the other hand, may or may not offer such a degree of rationale and contextual information. On the one hand, this may not be necessary, as instead of hand selecting only a few artifacts for display, virtual museums may leverage their unlimited virtual floorspace and display *all* artifacts in their collections. On the other hand, since many of these collections are assembled by those *in the midst* of the subject being chronicled, it may reflect their own subconscious understanding of their world, which they may not have the training to verbalize for a formal tag. For instance, in the earlier example of the Tokyo imaging project, average citizens capture what they feel are *interesting* or *meaningful* images of their city. In this way, the city becomes *translated* through each of their unique perspectives and offers many simultaneous translations of its existence in parallel. This may not necessarily be the ideal situation, however, for a foreign audience, since it may be that the most interesting aspects of Tokyo to an American viewer might be considered *routine* to a citizen of that city. All of these issues combine to form a unique confluence of considerations around an emerging world of the personalized virtual museum.

Looking to the Future

What will tomorrow's personal virtual museums look like? Improvements in three-dimensional digital scanning technology offers a glimpse of a future in which physical museums may be taken online in virtual form. Already, affordable desk side 3D laser scanners exist that open the door to anyone being able to take the age-old hobby of collecting to a global level by scanning all of the objects in his or her collection and offering a virtual walkthrough of it online. Using three dimensional modeling consumer viewing technology like Google Sketchup and Google Earth, it is possible to share this virtual museum walkthrough with the world. A visitor anywhere in the world can navigate across the virtual world in Google Earth, fly down to the planet's surface at a street address of your choosing, and virtually walk through a virtual museum of your toy car collection, for example. Yet, the power of virtual reality means that a collection need not be assembled and restricted in space, it may be dispersed across the globe transcending the traditional geographic boundaries enforced by museums. In a traditional museum exhibit that involves artifacts from multiple geographic locations, the museum must include signage, imagery, and other contextual cues to help visitors understand the geographic context of each of the objects. In a virtual museum, however, the artifacts can be virtually positioned in their original geographic locations such that one can navigate the globe using Google Earth and fly down to investigate each object while immediately cognizant of its surrounding environment. Similarly, using virtual timelines, artifacts can be positioned in time as well as space, allowing visitors to understand the temporal

overlap of each object. A physical museum, on the other hand, must recreate the notion of temporal separation through signage and physical separation in the museum display environment. Physical museums have only one copy of each artifact to display and so connections between artifacts must be carefully weighed in the final location of each in the display. A virtual museum, on the other hand, allows curators the flexibility of connecting objects in as many dimensions as desired, even allowing visitors to generate adhoc connections through search and visualization tools.

References

Television History – The First 75 Years. Accessed <http://www.tvhistory.tv/>

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