Museum Games and the Third Space

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Abstract

This paper proposes the application of third space theory to museum games in order to create a model that will fulfill museum mission statements and engage the players in rich learning zones. In order to explain the integration of the model into the museum game it is necessary to review the history of the museum, museum education and third space theory. An example of third space theory to a Facebook game application prototype, myMuseum, will be reviewed. The objectives of myMuseum are to raise cultural competencies so that visitors can engage more fully with museum artifacts, and change the player's behavior from passive consumption to active creation of artifact meaning.

Keywords: third space, hybridity, museum, cultural institutions, museum outreach, museum education, museum games, Facebook application

Introduction

> *By thinking of their missions as contact work – decentered and traversed by cultural and political negotiations that are out of any imagined community's control – museums may begin to grapple with the real difficulties of dialogue, alliance, inequality, and translation.*
>
> — Clifford, 1997

Museums are empowering institutions that can incorporate individuals into a shared cultural experience (Lilla, 1985). Dedicated to the education of the public since the late 18th century, many museums have public service listed within their founding charters (e.g. *The Metropolitan Museum of Art, New York*, 1870). The majority of Americans, however, do not visit museums. As an example, The National Endowment for the Arts 2008 (*Survey of Public Participation in the Arts*, 2009) report showed that only 22.7 percent of adults had visited art museums or galleries within the past year. A 2010 American Association of Museums reported that traditional museum visitor is college educated and Caucasian, which happens to be a rapidly diminishing demographic within the United States (Farrell & Medvedeva, 2010). Thus museums are actively searching for methods to reach out to nontraditional audiences and have turned to technology en masse to create web sites, social media and games. Considerable effort has been made to bring fun into the museum experience (McGonigal, 2008) in order to reinvent the museum and reach broader audiences. But museums have the potential to be more than entertainment; they can be transformative places that reshape the way in which visitors perceive the world. Games are sites of potential for critical thought and learning that could help communities renegotiate the role of the museum. How exactly might a game bring the collection out of the museum and into the community? The incorporation of the museum into a social

network game holds great potential for creating a bridge between these two worlds. In order to address this issue, a team at the Rochester Institute of Technology made up of an interdisciplinary group of faculty and students from programs in Interactive Games and Media, Museum Studies, Illustration and Animation created the Facebook game prototype, myMuseum. The prototype, currently in the first play test stage of development, creates an intersection of material culture, socially networked games and museums to form a third space in which social change and learning can occur.

The Changing Role of the Museum

Museums used to be considered repositories that would benefit and educate visitors by the authenticity of the objects and the authority of its experts. However, our understanding of material culture has changed and museums have begun to incorporate new methods into their mission and exhibition strategies:

Historically museums considered that the mere act of opening their doors to the public constituted a sound educational effort. Now museums must take a much more active role in engaging and involving their visitors and communities. Using learner-centric approaches, museums can value the diverse backgrounds and experiences of their visitors. They can see the educational experience not as a mandate to act as cognoscenti handing down information to passive, grateful visitors, but as an open-ended interaction that connects in meaningful ways with the visitors' own ideas, opinions and interpretations.

—Crow & Din, 2009

Museums still contain the material remains of the past, but we see them now as clues to be interpreted, not facts to be stated by a single authority. History is fundamentally about making meaning within our own cultural context; it is the raw data that is constantly reinterpreted to

support the needs of the community. Any single object may be interpreted in countless ways depending on the cultural orientation of the interpreter. These interpretations can exist simultaneously, often with conflicting meanings, but museum exhibit narratives tend to privilege only a single point of view. The museum field is currently struggling with methods of expressing multiple interpretations as a means of acknowledging diversity and at engaging with larger communities towards collaborative relationships but they can go farther still to help visitors understand all the cultural issues that go into creating meaning.

When asked, most people would say that the stuff museums house is important. The Association of Museums attempted to gain some insight from the public by asking the question, "What is the single most important function of museums? ("What is the single most important function of museums? « Digital Heritage," n.d.)" The answers varied but a common element was the concept of the "real thing." Museums possess authentic objects from the past that are considered to be truthful and accurate representations of history and culture. And, while it is true that museums do contain authentic artifacts, it is not true that an artifact tells a single story. Rather, artifacts are a place to start. Meaning is situated within a historic-cultural understanding and we interpret material culture through the lens of our own cultural bias. Objects within a museum are complex and can be understood from any number of viewpoints but the material record as evidenced by the museum collection is often viewed as a static truth, handed down by the unassailable voice of the scholars and academics who interpret their meaning for everyone else.

Today, museums wish to pull back the curtain and reveal that the collections are for the community to use for their own cultural needs but are thwarted by the enormous cultural gulf dividing them from the community at large. Artifacts don't talk. Instead the burden lies with the

museum visitor to engage with the object in order to have a successful museum experience. Commonly known as cultural competencies, these cognitive skills must be learned and built on previous experiences (Kesner, 2006). Since the vast majority of the population does not attend museums often, if at all, how do museums go about both raising cultural competencies and overcoming threshold barriers (Mason & McCarthy, 2006) to museum attendance?

Games, particularly games played over the internet and involving social media hold great promise for museum outreach. The types of games created for museums to date have not addressed the main issues that museums would most like to solve; raising the level of cultural competencies of nontraditional audiences and the reinvention of the museum. One potential explanation for this is that much of the design is still focusing on translating text or multimedia experiences onto the internet rather than developing strategies that are truly interactive. Museum outreach will be better served by consciously designing interactive media that address the educational goals of the organization by applying concepts of translation and meaning renegotiation such as defined by third space theory. Hybridity, as proposed by the third space, allows museums to understand game spaces as intermediaries that form bridges between the community and the museum thus allowing learning and renegotiation of meaning to take place.

Museum Games

Most cultural institutions have an online presence and a few have games. However, the vast majority use their internet site as a virtual brochure where they explain the museum's mission, collections, directions, opening hours and list exhibitions. The current trend is to incorporate Web 2.0 interactivity but only a few create video clips and interactive games to support the collections and exhibits. Walsh (1997) described the ideal ways in which museums

should incorporate the internet as a means of transforming the idea of the museum with new technology. He lists four key points (Walsh, 1997):

1. Orient the museum web sites towards projects that can only be done on the internet and not on paper.
2. Use the internet to overcome the many limitations to learning imposed by the physical art museum.
3. Use the interactive potentials of the internet to change the one-way flow of information from art museum to visitor to a two-way flow which also moves from visitor to museum.
4. Bring the concept of constant change into the art museum so that the internet helps the art museum to reinvent itself.

The literature within the museum field has embraced the virtually transformed space in theory (Crow & Din, 2009; Witcomb, 2002) but putting the idea into practice has proved problematic. One of the key points that Walsh made was that the internet had the potential of breaking down the idea of the museum as an "unassailable voice" and icon of the status quo. He envisioned the constant updating of collection information as a way of educating the viewer that the knowledge of the past is in constant flux, ever changing and re-interpreted. However, the logistics of constantly updating and changing content, or creating blog entries and videos are daunting. The common template that most museums default to is what we have termed the "virtual encyclopedia format" which preserves, rather than breaks down, the unassailable voice. This type of site incorporates an image with text, hyperlinks to higher resolution image and perhaps more specific information such as related or thematic essays and publications.

Games and interactive media have been used fairly extensively for sites aimed at children. One recent example from the Metropolitan Museum of Art is that of Romare Bearden: Let's Walk the Block ("Romare Bearden: Let's Walk the Block | Explore & Learn | The Metropolitan Museum of Art," n.d.). Interestingly, this is set up in a familiar pedagogical format of lecture and reading material followed by activities. First, there is the lecture (called the guided tour) in which a narrator explains the work of art. Next, reading material is available on the life of the artist and music clips that inspired him. We eventually reach the interactive portion of the exhibit consisting of an interactive image to allow for close up inspection, casual and art games for kids and classroom activities for both older and younger children.

A survey of museum related interactive media revealed that museum games were almost exclusively for younger children (Goins, 2010). With the exception of some stand alone games like Wolfquest (Schaller, Goldman, Spickelmier, & Koepfler, 2009) and Revolution ("Liquid Learning: Digital gaming: Revolution – Colonial Williamsburg online," n.d.), successful museum games have been aimed at younger children such as Waltee's Quest ,which won a number of awards in 2009 ("Waltee's Quest: The Case of the Lost Art | conference.archimuse.com," n.d.). Waltee's Quest is a Flash game in which players ride a steam punk inspired elevator to find art treasures that were "lost" during a wild storm. Players then pan around themed rooms to click on, and find, the artifacts. There are casual games in each room and an encyclopedia to tell the player about each item.

The treasure or scavenger hunt game, such as Waltee's Quest, is very common within museum games. The educational component often consists of answering questions after reading or watching a video clip ("BBC - CBBC - Relic: Guardians of the Museum," n.d., "Time explorer › The British Museum," n.d.). The games typically incorporate basic action gameplay or

casual games that have no connection to the educational component. Other games are really not games at all but flash interactive web pages ("Unmask the chessmen," n.d.). History is taught, in these games, through text as either dialogue boxes that pop up, such as those that appear while waiting to face off with an enemy battleship ("Trafalgar Origins - The game," n.d.), or through audio clips of character dialogue while exploring a virtual recreation ("Interactive Journey - Geffrye Museum," n.d.).

While many of these games are visually interesting and some are fun, there has been almost no assessment of what, if anything, kids are learning from museum games. In addition, many follow the familiar path of "quiz-in-disguise" and they all tend to be limited to a one-way transmission of the accepted narrative by text (spoken or written) followed by quizzes. The creation of a single narrative is a known formula which is relatively straight forward to develop. Creating open-ended interaction on a large, institutional scale, however, is unchartered territory and is thus difficult to develop. What should this interaction look like? What should it accomplish? In addition, curators and museum educators don't necessarily have the support or infrastructure to create games or create a new virtual museum space with constantly changing content.

Towards a New Museum

The museum literature acknowledge that artifacts do not have fixed meanings and that it is possible, in fact, to assign endless meanings to objects and encourage visitors to find their own ways to appreciate the artifacts but there is some inertia within the field:

> *Museums have by tradition upheld an information-driven way of knowing that is accredited by established standards of proof and reliability. To allow for and even to encourage alternative ways of interpreting and experiencing collections represents a*

> *challenge not only to museums' power and authority over the object and its display, but also to the very basis and credibility of the knowledge that museums presume to possess.*
>
> —Roberts, 1997

One might argue that the real reason we learn history is to learn about ourselves and our relationship to others, about the dynamics of our society. The past can be used to highlight our own participation in the creation of culture, good or bad. This is of course a far harder lesson to teach than the facts of the material culture record. In order to engage the public in this type of learning the museum must begin engaging the public in a renegotiation of cultural meaning and its creation.

In Re-Configuring the Museum (Welsh, 2005), museums are understood as being able to evolve into institutions that engage the public in developing cultural awareness by creating a conceptual model of the museum practice (past-present and future). The model orients museum practice into a grid with temporal space represented by circuits of past, present and future (see Table 1) which are subdivided by areas of concern (materiality, engagement and representation).

In this model, museums are seen as moving toward situating learning within the social context of interpretive communities by incorporating constructivist approaches to pedagogy ; the first steps towards greater public engagement. Museums today are indeed beginning to focus on learning as a product of discourse within communities. At present, some museum exhibits are changing the relationship between the visitor and the institution by representing their artifacts in more of a collaborative manner by taking on the role of civic leaders to foster community dialogues on topical issues, such as rapidly changing racial demographics("Levine Museum of the New South | About Us," n.d.). The trouble with this type of approach is that it lacks the

tension of a dialectical method that demands an exploration of alternatives and a negotiation of conflicting concepts. Conversations about objects are an excellent start but in order for deep learning to happen there should be some element of conflict so that visitors struggle to reconcile different viewpoints. In order to fully engage the public with topics that matter, museums need to go beyond discussion (dialogic) towards the revelation of how (and who) makes meaning and our own complicity in this process.

As interpreted by Welsh's model, inviting community input is a step in the right direction by focusing on the collaborative conception of the community. But collaboration is an intermediary step to what museums should or could become. Collaboration involves the sharing of power but it still implies that there is a single truth, to be arrived at together. Reflexivity, on the other hand, acknowledges that there are many versions of the truth all influenced by the collaborator's personal stake in the outcome. Reflexivity attempts to show the visitor the relationship between the museum and the artifact. In order to emphasize the relationship between the visitor and the artifacts, museums need to develop exhibits that focus on the complicity of the visitor in creating meaning. If museums can create a space allowing visitors to acknowledge the way in which they engage with their experience then a different learning environment is created. Complicity forces reflection which implicates visitors in the creation of meaning and not as passive recipients of museum-made meaning.

The idea that museums could become complicitous resonates with suggestions that museums have the potential to accentuate their position as 'contact zones', where the relations among various subjects and agents are enacted and explored …. Complicity in the museum context means seeing visitors as having agency of a different kind than we associate with

learners or students. It assumes museum visitors wield power to construct, and re-construct, new subjectivity from the objects on display.

—Welsh, 2005

Welsh (2005) envisions museums as moving towards complicitous modes of engagement and reflexive representation. These terms focus on power relationships between the museum and its subject (reflexivity) and the visitors and the subject (complicitousness). This type of engagement allows visitors to see the way in which they engage with their experience of history and culture. This term implies that visitors are involved in creating the subjects and not simply passive recipients and suggests that they are in a power relationship with their subject because making meaning is both an act of will and power.

Configurations			
Circuits	Domains		
	Materiality	Engagement	Representation
Have been	Repositories	Educational	Celebratory
Are becoming	Stewards	Learning centers	Collaborative
Could become	Conceptual	Complicitous	Reflexive

Table 1: Model of museum evolution (Welsh, 2005)

As an example Welsh describes the National Museum of American History's exhibit, Field to Factory which tells the story of the Great migration of hundreds of thousands of African Americans from the south to the North (1915-1940). The exhibit features the recreation of an entrance to the segregated Ashland railroad station through which everyone must pass. Above the two doors are signs reading 'White' and 'Colored', forcing visitors to choose which door to go through. Instead of allowing visitors to distance themselves from the impact, this exhibit forced them to consider their own complicity with contemporary racism in America.

The Third Space

The model of hybridity or the third space is intriguing to consider as applied to the construction of museum-based games, social and interactive media. The basic notion is that when two conflicting cultures come into contact, cycles of learning occur at the boundary where the two meet. The intersection is a hybrid space where something new is created that contains elements from each original culture. Originating from post colonial studies (Bhabha, 2004) during the 1990s, the idea described the negotiation of power structures between dominant and non-dominant cultures:

The importance of the hybrid moment….here the transformational value of change lies in the rearticulation, or translation, of elements that are ***neither the One…nor the Other…but something else besides****, which contests the terms and territories of both.*

—Bhabha, 2004

Hybridity theory says that individuals within a community draw on multiple resources to make sense of the world and, in the case of education, to make sense of oral and written texts (Moje et al., 2004). Third spaces are hybrid spaces that contain some or all of the constructs of hybridity such as in-betweeness, and the integration of competing Discourses[1] Although Bhabha's work focuses on the discourse of postcolonial politics, the privileged position of academic discourses in many texts parallels that of a colonizers' viewpoint. These academic texts can limit learning as students struggle to reconcile different ways of knowing, doing, reading, writing and talking with those that are privileged by the (learning) institution (Moje et al., 2004). In this way, school texts determine what knowledge is valid creating a social situation that parallels that of the colonizer/colonized.

[1] Capital D discourses which include language and social practices within a given group (Gee, 2008)

Third space theory was applied to language research to better model the learning cycles of culturally non-dominant students within US school systems (Benson, 2010; Elsden-Clifton, 2006)(Gutierrez & Baquedano-Lopez, 1997; Gutierrez, Baquedano-Lopez, Alvarez, & Chiu, 1999); Gutiérrez, 2008); Moje et al., 2004). Situated within a social understanding of learning, third space theory seeks to create interstitial spaces in which dominant cultural ideas can be compared with those of the minority or non-dominant culture forming rich zones of learning. Through Discourse a culture of collaboration may be fostered (Gutierrez et al., 1999) in what is considered a socio-cultural understanding of (language) learning. Particularly interesting is the shift in focus from the individual to collective learning activities. In an effort to create a new space for learning, Gutierrez (1997) moves away from the two extremes of teacher centered and student centered instruction towards a radical middle and third space:

The third space in learning environments refers to a place where two scripts or two normative patterns of interaction intersect, creating the potential for authentic interaction and learning to occur.

—Gutierrez & Baquedano-Lopez, 1997

They go on to say that in order to create a third space, a new pedagogical orientation must develop in which "learning takes precedence over teaching; instruction is consciously local, contingent, situated, and strategic (Gutierrez & Baquedano-Lopez, 1997)." The third space allows the confrontation of alternative and competing Discourses so that conflict and differences may be transformed into rich zones of collaboration and learning (Gutierrez, Baquedano-Lopes, & Tejeda, 2003). Moje et al. (2004) apply the model to science curriculum and define the third space as the "…integration of knowledges and Discourses drawn from different spaces ….that merges the "first space" of people's home, community, and peer networks with the "second

space" of the Discourses they encounter in more formalized institutions such as work, school, or church (Moje et al., 2004).”

In the third space, what appear to be oppositional constructs can actually work together, through conflict, to create new knowledge, Discourses and literacies. The third space is a space of translation that necessarily involves the creation of something else. In education, this may be thought of as a social environment of development where students can re-conceive who they are and to reframe educational and everyday literacies into those oriented toward critical social thought:

Of consequence, the use of hybrid language practices link the past to the present and future (particularly in reported speech about home and community) to build community and extend the means by which students can engage and make meaning. … thus situating their own lived experiences in new historicized understandings.

—Gutiérrez, 2008

Museum Games, the Third Space and Social Networks

Networked games may be considered public spaces of translation which are international, transbordered and fluid (Flanagan, 2009). It is exactly this type of porous interface that can bring about a different type of relationship between museums and communities. The ultimate public spaces of this type are the social networks such as Facebook. Social networks offer great potential for the creation of the new museum as modeled by Welsh (2005). By creating a contact zone that is permeable to both spaces, museums can incorporate their collections into social networks to foster audience diversification, social change and the promotion of critical thinking.

Social media, such as Facebook, have been reviewed by some educators but much of the focus has been on the role of social media as a method of communication and the need for

reinforcing boundaries and proper behavior between students and teachers (Charlton, Devlin, & Drummond, 2009; Ishizuka, 2009; Schwartz, 2009). Skerrett (2010) incorporated pre-service teachers' in-school and out-of-school literacy practices to form a third space by creating a Facebook profile for the character, Lolita. The study noted that Facebook, as an out-of-school literacy tool, had its own particular affordances and constraints for making meaning which forced students to examine and redesign the literary meaning. For example, the creation of a user (or character) profile in Facebook is predicated on a number of dominant discourses such as directing its users to present themselves according to hegemonic patterns such as gender, age and relationship status for the construction of identity (Skerrett, 2010).

Third spaces should contain sites of possibilities and contradiction that reflect the possible cycles of learning that may lead to deep learning and introduce to alternative social, political and cultural Discourses and ways of thinking about the world. For the pre-service teacher's course, the Facebook built in affordances created this zone. But the museum-community derived third space would require a different configuration of confrontation in order to address the educational objectives.

The central concept behind creating a museum based Facebook application is that the virtual space of Facebook serves as a community place that is familiar to the player, one in which they are comfortable. Moje et al (2004) noted that students were reluctant to bring their own knowledge funds into the classroom setting. They hypothesized that this was because students recognized the binary nature of in class and out of class literacies. This is also a problematic issue for the museum. The commonly accepted notion of these collections, particularly art, is that there is a correct interpretation of what is good and important that has been determined by an authority. For those that are not privy to this learning, the process is intimidating and one in

which students attempt to assimilate the "correct" interpretation. However, the museum world can be linked to the local community of the player by decontextualizing collection objects from the museum and placing them into a mutable virtual world controlled by the game rules and the player and their social network. This allows the object to be demystified and approachable.

A difficulty of constructing learning zones in the third space for the museum field is that the first space of the community is made up of many different social groups. How can a single third space be constructed when each of these community groups have their own set of social issues, language practices and texts? Moje et al. (2004) argued that the curriculum needs to understand the funds of knowledge and Discourse for each community group. This approach is not practical for a museum that must reach out to entire, even global, communities. Instead, social networks and virtual worlds may serve as hybrid global spaces with their own common Discourses that free the participant from real world social hierarchies and practice.

myMuseum

Overview

The myMuseum prototype (see Figure 1) was developed at RIT in conjunction with the Luce Center at the Smithsonian American Art Museum to assess the ability of such a game to reach nontraditional audiences and address the hegemonic presentation of history by creating a third space in which the Discourses of the museum and the outside world are brought into contact to create new meanings. In order to develop a game with a solid integration of educational and design goals, it was necessary to be very clear on the objectives from the start and to develop game rules and play which would support the educational components (Flanagan, 2009). The heterogeneity of the museum communities necessitates that design for different types of play styles are incorporated by building in both traditional type competitive components (such

as leader boards) and noncompetitive aspects (gallery arrangement). As renegotiation of power relationships and traditional concepts is critical to the educational goals, the idea of game subversion by the players was considered important to encourage both by methods external to the game such as discussions (on the blogs and wikis) and within the game by allowing players to vote on their favorite collections, thus subverting the museum voice.

The biggest challenge to the design of the game was the incorporation of the educational goals into a Facebook application format. The final design was modeled on existing applications such as Café World and Pet Society with the game objectives based on growing a museum with selections of digitized art from a real museum collection. The main educational goals of myMuseum were to improve cultural literacy, change the attitudes of players towards museums, develop a new concept of the museum and change the relationship between museums and communities. The platform and design attempt to create a game that will form a third space to foster sociocritical learning and achieve the educational goals by bringing together the binaries of museum and player made meaning. Players should be able to draw from their funds of everyday knowledge and taste to think critically about the nature of collecting and interpreting by confronting established values of what constitutes a "good" collection.

Creating a Third Space

myMuseum (see Figure 1) is designed to create a third space in which different communities can explore the conditions under which they create their own meaning of historical objects. An environment is created that allows players and their social network, working within their own virtual space to intersect the formal Discourse of the museum voice thus allowing outside literacies into the museum world. The dominant Discourse of the museum viewpoint

should create tension and discord with that of the outside world of the player so that there are sites of possibilities and contradiction. Rather than depending on the affordances and Discourses built into Facebook a game application allows the creation of the Museum Discourse, or rather, import the unassailable voice of the museum into Facebook.

Figure 1: myMuseum prototype

The diagram below (see Figure 2) shows the intersection of the museum world and the players' world at myMuseum. But what is it that happens here? Just because there is a museum game does not mean that a third space is created. In the educational studies discussed earlier, the teacher and activities represented the academic voice but there is no one to directly speak for the museum. In order to introduce the dominant Discourse of the museum, the gameplay must bring

those knowledge funds into the game somehow. Because the learning environment is informal, the learning must be self directed and result naturally as an integral part of the gameplay.

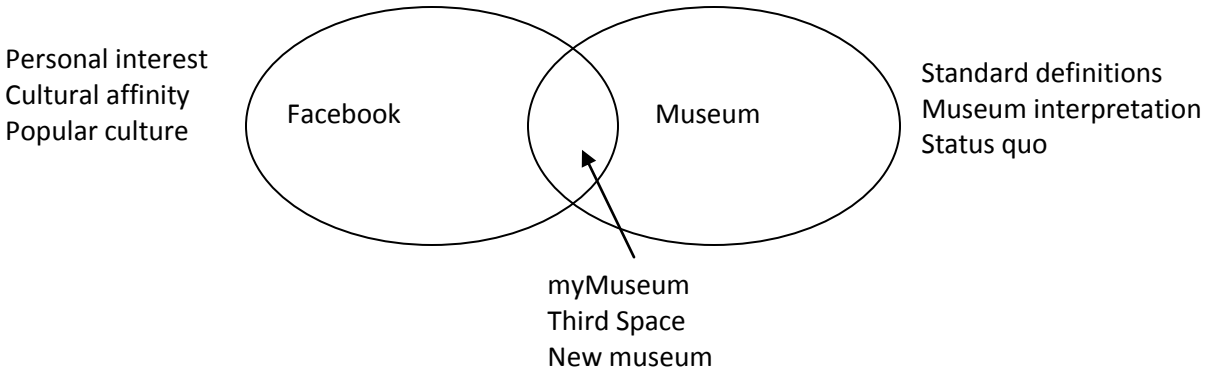

Figure 2: Hybrid space between two opposing Discourses of Facebook and the Museum

The solution in myMuseum was to use an underlying network of ranked tags associated with each object. Each object is tagged with terms and concepts that reflect the different disciplines used to interpret material culture: art, history and science. The terms are ranked according to the level of knowledge required to access the term or concept. For example, novices can score points without knowing anything about the objects by grouping according to subject matter (e.g. an exhibition of sailboat paintings). In order to score more points, the player must make more challenging groups of objects for their exhibitions. Table 2 shows an example of one of the paintings and some associated tags and levels. For example, players can score points by making collections of images of females (level 1) but would score more points if they could create a Baroque exhibition (level 3) and would score even more points if they created an exhibit of artifacts that were copies (level 4).

image		Level 1	Level 2	Level 3	Level 4
	Portrait of Ruben's Wife, ca. 17th c.	female	European	Baroque	Copy

Table 2: myMuseum tags and levels: Each level represents additional points and concept difficulty. Level 1 is based on the subject matter and requires little specialist knowledge. In order to gain more points, specialist terminology and concepts must be understood.

In order to play the game competitively, each player will need to understand the established vocabulary and create exhibits that have the highest level of match possible. These terms are not explained within the context of the game but may be learned from a supporting web site. The web site teaches terms by visual matching which mimics the actions of the game (see Figure 3). As the visitor enters the web site, a number of random images appear. The visitor clicks on any one of the images and a new page is displayed (see Figure 4).

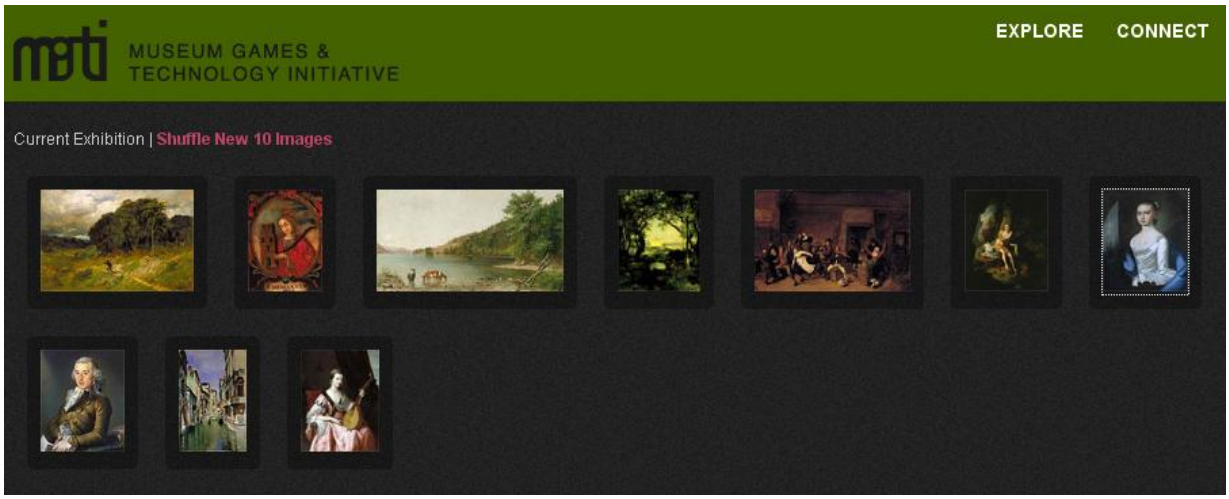

Figure 3: myMuseum interactive web page of random game images. Player clicks on any of the images to sort the images according to tag matching.

The new page highlights the selected image and gives more information as well as a link to the museum web site. The rest of the images are sorted hierarchically according to match levels. Tag information is displayed as the user moves the cursor over each image, displaying the strength of the match and some of the tags.

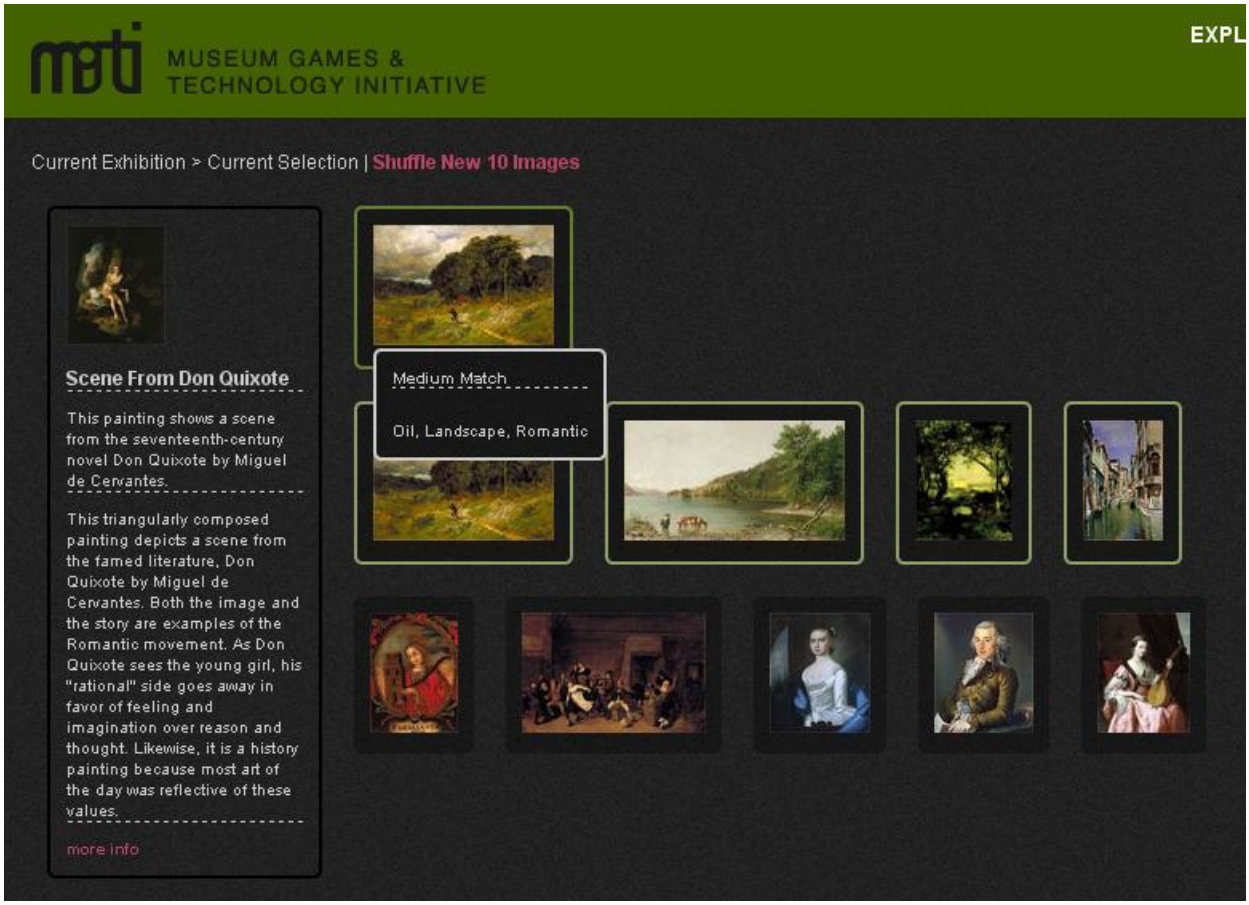

Figure 4: myMuseum interactive web page showing images arranged according to tag relationships with selected image. The highest match is shown at the top level: A level three match, on the tag "Romantic."

We envision that the game will be played randomly at first as players familiarize themselves with the terms and vocabulary of the object tags. However, as the players become more knowledgeable, conflict should arise between what they consider a relevant collection and the museum's idea of a good collection. Furniture and other customizable assets are not included in scoring but players' will have ideas as to whether furniture and art should match, or as to what constitutes matching. Game play will support and encourage these alternative interpretations by allowing players to vote on collections for additional game points. The educational goals have been incorporated into the design and are supported by the game elements.

Improving cultural literacy

Making sense of museum objects requires some basic terminology and classification skills. myMuseum allows players to learn these by self directed research on the game and museum web sites. The third space created in the game allows players to scaffold new terms and incorporate them into their existing knowledge funds. Players will begin with things they understand and like, starting with subject matter and collecting items that appeal visually. Awards and other incentives will give players recognition for completing collection types (e.g. Congratulations! You have collected five Impressionist paintings).

Changing player attitudes and the visitor-museum relationship

The first step towards making the museum community-relevant and less intimidating to non-traditional audiences is to foster some type of discussion or interaction between the two groups, allowing for information to flow from both directions. It is here that the third space may be used to its fullest potential of taking elements from both the first and second spaces to produce something new.

Player attitudes may be changed by the growth in familiarity with the objects and the specialist museum Discourses. The collection is brought to the player so that they have agency and can renegotiate meaning within the space. Players can challenge the game museum–made meaning by creating their own themes and narratives and, as the list of available objects grows, players can make choices about their collection so underscoring their complicity within the meaning making process which may be in accord with or contrary to that of the museum.

Museums can have a more direct game presence by creating individual museum game accounts. This would allow players to friend the museum. The effect of the real museum's

gallery within the game will shift the perceived role of the museum from authority to friend thus further breaking down hierarchical barriers. The museum created collections can model new strategies and interpretations for non-museum players and allow for a type of discussion through example to occur. Players are not the only learners here as museums will be able to view and assess player collections thus allowing for information to flow to and from the museum. Finally, the game space is another exhibition space for the museum that is much less restricted by real world complications like cost and production. Exhibitions can be made instantly and museums will be able to experiment with educational goals and audience outreach.

Conclusion

> *The fate of humanity hangs in the balance over whether we're going to get crowds to do anything useful or not. Are they going to put all of their cognitive bandwidth into virtual worlds, or are they going to contribute? ... We have all this pent-up knowledge in museums, all this pent-up expertise, and all these collections designed to inspire and bring people together. I think the museum community has a kind of ethical responsibility to unleash it.*
>
> —Jane McGonigal ("Interactive Games Make Museums A Place To Play : NPR," 2009)

Meaning making is commonly understood as the product of the individual but it is also reflective of the cultural and environmental conditions that produced that individual. Much of what we are has been shaped by the particular historical moment of a specific environment and the Discourses that we claim as our own are in fact shaped by broader contexts that we interact with. What we express as our perspective has been taken up from a variety of available social, cultural and historic contexts that surround us.

myMuseum helps players to understand the complicitous and reflexive relationships between themselves, museums and the artifacts by highlighting the cultural arbitrariness of creating a collection of things. A single word has a number of meanings. The correct use of the word depends on the context, that is, the rest of the words and cultural situation with which it is used. The same is true of an object. A single object can mean any number of things from the science behind its chemical composition to the formal understanding of its aesthetic characteristics. Objects are never used alone to mean something. We create meaning by merging an object with concepts and ideas we already have or by grouping them together to create a narrative. The potential of both the tangible and intangible funds of knowledge inside the museum field is as yet untapped. Many researchers see games as the way to bring museum knowledge to people, to use the collections to inspire and educate in ways that can't be done in formal learning situations. However, these games need to be designed in a way that truly harnesses the power of history and material culture. The types of games that have been made in the past for museums fall short of this by focusing on goals limited to teaching a single narrative, that is, the facts of history.

In order to address the bigger issues of sociocritical learning, museum games need to be founded on a deep understanding of history and material culture beyond the facts, as well as the community role that the museum occupies. The third space is one way of modeling the types of activities needed to incorporate the negotiation of contradictory and antagonistic instances that open up hybrid sites and objectives of struggle (Bhabha, 2004). Museums need to engage with their communities so that collaboration and new meanings can be created for interpreting history.

> *The enunciation of cultural difference problematizes the binary division of past and present, tradition and modernity, at the level of cultural representation and its*

> *authoritative address. It is the problem of how, in signifying the present, something comes to be repeated, relocated and translated in the name of tradition, in the guise of a pastness that is not necessarily a faithful sign of historical memory but a strategy of representing authority in terms of the artifice of the archaic.*
>
> —Bhabha, 2004

By creating games that can help players learn the malleability of historical understanding, the third space allows museums to reinvent themselves. The new museum just may help change the world by showing players how they make meaning from within the web of their own cultural connections and how authority can use or misuse the past to privilege a single point of view.

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