

Ceremony and Digital Place Making: Culturally Sensitive Design for the Mediated Talking Circle

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ABSTRACT

Today, many of the world's citizens increasingly practice digital culture. Cell phones, iPods, and MySpace are a few examples through which this culture is practiced and disseminated. As an aspect of this process, the market facilitates cultural ideas through these digital nodes to promote globalization. At the same time we have also witnessed the flexibility and increasing accessibility of this network to provide communities with powerful opportunities to decolonize media, to shape this culture according to cultural perspective; people often develop their own digital tools to support each other in ways that are relevant to their unique cultural geography. It is possible to evoke cultural knowledge to innovate media vocabularies that are relevant to the culture they resemble and from which they derive. We believe this represents an opportunity for people across the globe to advance and preserve their cultures in today's world. Our perspective builds from our recent field research in a public high school. Here we have forged a model for collaboration with teachers where we have witnessed the homogenized culture of schooling for populations that are culturally and ethnically diverse. For this reason we engage in a collaborative process with teachers to appropriate media for learning practices that can help students of diverse backgrounds overcome their struggles in the classroom.

In recent years, a growing number of indigenous artists are using technologies to express tribal life, cultural preservation, environmental sustainability and the affects of colonialism [1][2][3]. These examples are emerging from a select community of technologically literate artists as well as indigenous youth who have grown up with access to technology. While this demonstrates the power of digital technology in the hands of indigenous artists, these artists also demonstrate that it is possible for the community as a whole to benefit from the expression of culturally relevant practices through computation. In order to do so, these artists express the need for the development of "indigenous media" through new tools and frameworks for collaborative and culturally sensible technology design and practices [2][3]. To achieve this, these innovations must be directed by community members themselves. Through this type of framework, the appropriation of technology can be made more accessible to those who wish to compute in ways that make cultural sense.

To help facilitate this process, our goal is to work in a cross-cultural collaboration with Native American communities to promote the appropriation of media by indigenous cultures. We are working with local Native American community leaders with different tribal affiliations, as well as the Phoenix Indian Center, to design and implement experiential media places and scenarios.

Our collaborative objective is to apply the appropriation of media to create mediated places where community services can be administered through social interaction. The need to extend tools for appropriation by indigenous community members is what makes a mixed-reality system called *SMALLab* (the Situated Multimedia Arts Learning Lab) a viable resource for this activity due to its authoring tools for rapid proto-typing. *SMALLab* provides an environment that affords face-to-face interaction by co-located participants within a mediated space. It also serves as an extensible platform for mixed-reality learning in a semi-immersive setting, meaning that the mediated space is physically open, on all four sides, to the larger environment. *SMALLab* supports situated and embodied learning by empowering the physical body to function as an expressive interface. Within *SMALLab*, participants use a set of "glowballs" (and other "smart object" peripherals) to interact in real time with each other and with dynamic visual, textual, physical, and sonic media through full-body 3-D movements and gestures. As such, it establishes a porous relationship between a physical learning context and digitally mediated components.

Physically, *SMALLab*, is a 15'W x 15'W x 12'H freestanding, interactive space. A rectangular trussing structure frames its open architecture and supports the following sensing and feedback equipment: a six-element camera array for interface tracking, a top-mounted video projector providing real time visual feedback, four audio speakers for surround sound feedback, and several handheld objects that are tracked (e.g., the glowball). A networked computing cluster with custom software drives the interactive system. In the case of a talking circle scenario for drug and alcohol prevention and rehabilitation, we use surround sound and visual display in an ambient and carefully designed fashion to allow people to use media in ways that do not distract them from focusing on each other's presence. In this regard the scenario promotes a peer-to-peer focus.

Through collaboration with indigenous community leaders, we are responding to the needs of our indigenous communities through the development of an interactive media scenario called *Mediated Talking Circle*. This interaction is an example of a culturally relevant social space that represents the appropriation of media and technology by indigenous people. The design of this media space is developed through a cross-cultural partnership and iterative negotiation between the Arts, Media and Engineering Program (AME), and Native American community leaders. This experiential media place fuses the culturally relevant practice of the Native American talking circle ceremony with media interactivity. We are partnering with the Phoenix Indian Center to adapt our current interactive digital place for ceremony with the

goal to provide a safe place from which aspects of drug and alcohol prevention and rehabilitation programs can be effectively administered to Native American high school students. Our scenario is designed to help facilitate prevention and rehabilitation processes by providing a relevant venue through which cultural knowledge by professional and elder members of the Native American community can be administered for healing.

Parallel with this, we have built mixed-reality learning scenarios for a high school science curriculum using our Situated Multimedia Arts Learning Lab [*SMALLab*] at Coronado High School, located in the metro Phoenix area in Arizona. To create these scenarios we worked collaboratively on a regular basis with high school science teachers, as they also appropriated technology and media to iterate through a design spiral. Through this process we worked sensitively to consider the culture of the classroom and the needs of the students and teachers. We conducted this approach to education because we wanted to understand student learning within a mixed-reality context. To do this we administered pre- and post-concept tests designed to evaluate student content learning. We also used a teacher observation protocol to understand the impact that *SMALLab* has on teacher practice. To do this we conducted performance observations of the teachers in the traditional classroom setting as well as during a classroom setting while using the *SMALLab*. We also collected student performance data, which, upon analysis, yielded results that demonstrated significant student gains in their understanding of the underlying content and spatial reasoning abilities. We are drawing from the successes of our extensive experience with this process to collaborate with indigenous peoples who draw upon cultural knowledge to achieve the goals that are identified by leaders as priorities in their communities. Through our collaborative relationship we have developed the *Mediated Talking Circle* as a solution to aid in the drug and alcohol prevention and rehabilitation process.

Mediated Talking Circle is an experiential media environment that provides a ritualistic approach to community discourse. It is a concept that is inspired by socially relevant practices associated to the American Indian talking stick. Through this association and the culturally sensible design process from which it is built upon, our *Mediated Talking Circle* is a place in *SMALLab* that is privileged to embody and symbolize the values of indigenous cultures. Its goal is to provide a safe environment that encourages and challenges participants to focus on issues that are relevant to a given context. More specifically, the concept is designed to allow students to safely express their thoughts about special topics. Through this ceremony, students are encouraged to build trust and community amongst each other. With this trust they are able to identify different issues of concern, as well as meaningful perspectives that are relevant to the lives of fellow peers.

The *Mediated Talking Circle* also works as an aid to teachers, enabling them to work with social groups to identify issues within topics that students lack an understanding of. This provides teachers with a tool they can use to challenge participants to bridge gaps in knowledge. *Mediated Talking Circle* does this by providing an interface that allows its participants to explore narratives that may lead them to identify interrelationships that

exist between different issues surrounding a given topic. It is envisioned to achieve its goals through a carefully designed protocol designed by a member of our local indigenous community to encompass three rounds of talks facilitated through a talking stick that can be tracked in our *SMALLab*. The premise for *Mediated Talking Circle* is based on the philosophy that change must come through self-reflection, patience, listening, compassion, and the empowerment to express oneself through oration.

Prior to a talking circle gathering, participants are able to upload media that is relevant to their individual perspectives that pertain to a given context or topic of discussion. During all three rounds of talks, ceremonial protocol is used to dictate when a given participant is permitted to speak as well as when he or she is expected to listen. In the case of the first round of talks, a given participant is permitted to speak through turn-taking. When it is a particular participant's turn to speak, he or she is allowed to hold the talking stick. With the stick this person is able to interface with a digital ceremonial ground to trigger a media event that randomly calls and displays a single image of his or her uploaded media. This random function is to encourage the speaker to orate through improvised as opposed to premeditated thought. This is to support protocols that require genuine expressions that are about self-awareness and that of fellow participants during that particular place and moment of ritual. The first round of talks is an exercise designed to enable all of the members of the talking circle to build trust amongst each other as a community. It also provides participants with a place to develop agency to speak as individuals, and it provides the social group with insight into the diversity of issues relevant to the group as an assembly of community members.

The second round of talks follows a similar protocol to the first round, but requires media to be triggered and manipulated through symbolic and functional gestures. Through these physical actions participants are able to work with each other's ideas and media to highlight and build collages in a ritualistic manner. The media used are those images that were called during the first round of talks. Participants may highlight particular images by dragging them into sacred areas of the circle as they connect images and share stories with each other. A stick holder may also highlight images in place that slowly fade after selection, requiring a person to continue to highlight the image to keep it salient. Ceremonial protocols require participants to explore stories comprised of each other's media in an effort to begin peaceful and empathetic discourse with one another. This is to achieve common ground and understanding, and is used by ceremonial leaders to help each participant draw out the underlying ties exemplified by the media provided by different participants.

The third round of talks unfolds from the events and actions of the participants that took place during the second round of talks. An algorithm is used throughout the course of the second round to keep track of the number of times that different images are used for storytelling through collages produced within a physically delineated area that is sacred to the circle. As a result an image map is produced to provide the participants with a provocation that allows them the opportunity to have open conversation with each other to reflect upon the course and outcomes of their

ceremony. A ceremonial leader is able to guide and challenge the participants to think about why some issues are more salient than others. By using this round to encourage participants to explore those issues that were not used as often to collage and tell stories, the ceremonial leader is able to symbolically acknowledge that all of the topics exemplified through the media provided are to be equally respected and reflected upon. This gives the teacher an opportunity to help members of the circle deal with fears or the lack of knowledge regarding a given issue.

Preliminary tests of the *Mediated Talking Circle* have been run through play testing as well as a pilot. The goal of our pilot was to see if the scenario could sustain the ceremonial experience. During this system test, a talking circle ceremony was lead by Randy Kemp (*Choctaw-Euchee-Creek*). To prepare for the ceremony, the media space and seven participants were properly instructed and rehearsed for ceremony by Kemp. This preparation included blessings as well as instructions and meditations regarding the ceremonial protocol. This protocol is comprised of behavioral expectations, the handling of the talking stick, as well as procedures regarding entering and exiting the space. The ceremonial space supported eight participants including the indigenous ceremonial leader. The pilot lasted over three hours and consisted of a gathering of internationally diverse AME students who used the scenario to raise social justice issues resulting from their respective places and cultures of origin. The scenario design allowed for the reflection and agency promoted by the ceremony. Participants were able to successfully follow the ceremonial protocol as well as manipulate media to bring a diverse breadth of social justice awareness issues into focus. The success evidenced by participant feedback regarding the quality of their experience has lead to further critique and reflection by AME and members of the Native American community. Through our pilot it was acknowledged by participants that the tool was effective when raising awareness as well as providing a ceremonial ground capable of sustaining the ceremonial experience. More testing must be done to support this conclusion. We are currently developing a professional learning community with indigenous drug and alcohol prevention counselors of a program called *Project Infinity*. This project is a drug and alcohol prevention program that is funded and directed by the Phoenix Indian Center. Through the PLC we are working to determine the final design iterations of the *Mediated Talking Circle*, as well as the design for assessment. In our future work we hope to obtain results that help us understand the effectiveness of ceremony within the context of mixed reality for drug and alcohol prevention and rehabilitation. Our pilot has provided us with some early indicators about our system's ability to facilitate a ceremonial experience, but much work must be done to further substantiate that our place for ceremony has the ability to fulfill many of the expectations stated. However, a goal that we have clearly achieved thus far is a continued interest in *Mediated*

Talking Circle by all members of the cross-cultural collaboration that has made our progress thus far possible. We at AME have made progress by collaboratively realizing the potential benefits of "indigenous media" through an evolving partnership with leading members of the Native American community. We believe that this relationship will continue through respect for each other as people, as well as through cultural awareness, and ceremonial responsibility when using cultural practices as a framework for experiential media place making.

The values and rights of our collaborators remain respected by us as our primary concern. It is important to conclude that when designing within a cross-cultural negotiation space, great care must be taken on our part through listening, patience, understanding, and agreement. These are principles that come from the methodologies we currently use when developing learning scenarios for the classroom. We believe that our user research within the domains of ceremony and the classroom help inspire more effective experiential media construction methodologies that result in meaningful educational and problem solving experiences for our communities.

It is important to conclude that it is not the intent of AME and its indigenous partners to replace or even enhance the talking circle ceremony. Through this research there is a common agreement that our experiential media places for ceremony are an investment into our communities to create useful tools for problem solving. We intend to carry out appropriate forms of research to better understand the effectiveness of our systems in this context. At this stage there is an agreement between all members of our cross-cultural collaboration that our *Mediated Talking Circle* demonstrates people appropriating technology in a way that makes cultural sense. By doing this, we are able to express ceremonial protocol as a meta-language to carry out forms of computation to support social interaction. This provides local indigenous communities with agency to discuss the role digital technologies will play within the framework of their cultures and lives. It also provides an example that allows people to determine appropriate uses for the appropriation of technology.

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