AVATAR MEDIATED CINEMA

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ABSTRACT
In this paper, we describe an example of integrating video within a virtual environment, demonstrating a new form of visual storytelling we term spatial cinema. A subset of machinima documentary video footage is discussed for the potential for "cinema veritar." We focus on issues affecting avatar viewing experience: scale, placement and progression through the space; and avatar emotional experience including attention and viewer identity with the avatar. We also discuss cinematic techniques designed to take control of the avatar for special, scripted avatar events. We argue that avatar viewing and, even more importantly, avatar experience will prove central to evolving techniques of storytelling and narrative.

Categories and Subject Descriptors
H.5.1 [**Information Interfaces and Presentation]** Multimedia Information Systems – *Animations, Artificial, augmented, and virtual realities, Audio input/output, Evaluation methodology, Hypertext navigation and maps, Video*

General Terms
Documentation, Performance, Design, Experimentation, Human Factors

Keywords
virtual reality, virtual entertainment, spatial cinema, virtual storytelling, immersive storytelling, documentary machinima, cinema veritar

1. INTRODUCTION
Since the Department of Defense introduced SimNet in the late 1980s, Gee notes that virtual worlds have been utilized to "externalize some of the most fundamental features of how human beings orientate themselves in and to the real world," [1]. As Dede also points out, users ability to apply abstract knowledge can be enhanced when they are situated in an authentic virtual context [2]. Using these ideas as a backdrop, we elected to explore the potential of avatar experience while viewing a virtual "authentic" environment, validated with the insertion of documentary footage and enhanced using cinematic techniques. This paper describes that work using Gone Gitmo – an installation of Guantánamo Prison in the online environment of Second Life (SL).

Our setting, a prison on the island of Cuba under the jurisdiction of the U.S. military, is largely off limits. As filmmakers and artists, the question became how we could best tell the story of Guantánamo Bay Prison and how would we effectively "transport" our viewers there. We elected to build an accessible, albeit virtual, installation on Second Life (SL), integrating documentary video to validate our 3D Computer Graphic Imagery (CGI) environment and to experiment with several techniques designed to acknowledge the unique experience of avatar mediated viewing of cinema.

While Hollywood has long solved the problem of inaccessibility with elaborate sets and visual effects, we found the Virtual Environment (VE) presents new opportunities for immersive storytelling. Restrictions on location are eliminated and avatar experience in a virtual environment can be a deeply emotional and potentially visceral experience. In fact, it seems that we are hardwired to adopt representations of ourselves as real [3,4]. This connection to the virtual body and the virtual scene, rather than the physical body, adds another dimension to how we determine "self." We posit this has the potential to deepen the immersive quality of narrative and entertainment.

2.0 BACKGROUND
This paper describes a project conceived in response to a call for proposals from Bay Area Video Coalition's (BAVC) New Media Producers Workshop in 2007. The MacArthur sponsored initiative specified "existing significant documentary projects" to be translated into digital media. The authors, a documentary filmmaker and digital media artist and researcher, responded with a proposal to adapt de la Peña's film, "UNCONSTITUTIONAL," to the virtual environment.

We were motivated as much by the material as by the formal challenges of the project. De la Peña's film, "UNCONSTITUTIONAL," describes the conditions, both material and legal, of detainees in Guantánamo Bay Prison. It became a true collaboration, but our initial motivations arose from our initial roles: as a journalist, De la Peña was motivated to re-present the content in a manner that would intensify the viewer experience. Weil was motivated by the formal challenges of integrating cinema into the digital landscape. Both were interested in narrative delivered spatially to an avatar audience as informed by research into the viewer's identification with their avatar.

2.1 Our Approach

Our decision to use a virtual environment to portray a U.S. prison camp came about because was felt that the inaccessible nature of the "real" location justified an accessible but virtual installation. While our goals were always to intensify the experience, we chose not to create an exact duplicate of the locale but rather raise awareness and engage the viewer in the issues pertinent to the subject. Sensitive to the limits of virtual representation of physicality but confronted with the issue of conveying "harsh interrogation techniques" and long imprisonment, we chose to create a space to contemplate these practices, rather than replicate them; we elected to build a contemplation chamber, not a torture chamber. We experimented with a number of techniques, including the integration of documentary footage to evoke an empathic experience.

2. 2 Scripted Avatar Events

The *Gone Gitmo* experience begins with a new form of cinematic scripted event: the avatar is offered a HUD (heads up display) allowing the filmmakers to control both her vision and position. The brief segment is a powerful first person experience: the shaky black screen indicates you are hooded, the audio indicates that your C-17 transport plane is landing and you are being dragged, against your will, to some unknown destination. When the full environment reappears, it is a third person view of your avatar kneeling, as if shackled in a cage in Camp X-Ray.

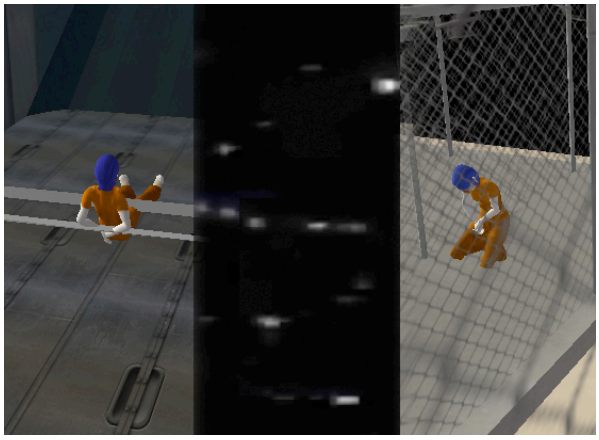

Figure 1. Tryptic, Scripted Avatar Experience: Avatar shackled in C-17 transport plane, Hooded Sequence, Teleport to Camp X-Ray Cage

We approached this segment as conventional filmmakers; the hooded sequence was derived by stretching black cloth over a video camera shot looking down on pavement; the audio was mixed in a conventional sound studio and married to the video in editing.

The experience, however, is anything but conventional. This momentary loss of control, the loss of agency, in concert with the disturbing nature of the material intends to evoke a powerful emotional response in the viewer. This is not to be confused with the "cut scene" in which the action is interrupted by passive viewing to further the game narrative. In contrast, the scripted avatar event, while denying agency to the avatar, is an active experience due to the direct action on the viewer's surrogate body.

The scripted avatar event allows the filmmakers to integrate cinematic techniques within the virtual environment, triggered by location or event and personalized for the individual viewer. The triggering mechanism can be spatially or viewer dependent, putting greater control into the hands of the filmmakers. Scripted cinematic avatar events introduce a new form of edit we term the embodied edit.

2.2.1 Embodied Edits

The ability to teleport in the VE is taken for granted; the embodied edit exploits the teleport, redefining it as a semantic link in a narrative. Embodied edits describe the experience of being abruptly transported, teleported, from one (virtual) location to another under the control of the filmmaker. In the experience described above, the avatar makes the transition from third person, the customary point of view (POV) in Second Life to an enforced first person POV. The first person experience is uncharacteristically (for first person game worlds) passive, requiring the avatar to surrender to the filmmaker's vision for the duration of the clip. Finally, upon return to the third person view, the avatar's body is not only confined in a cage, but shackled in an unnatural, unfamiliar position. However unusual in delivery, this abrupt transition is rooted in the cinematic edit; the filmmakers have advanced the story by forcefully transporting the viewer as avatar from one place to another. It's a cut, and like all cinematic cuts, can prove essential to the art of storytelling in the virtual environment.

2. 3 Integration of cinema into CGI landscape

The unique nature of our subject matter, a restricted military zone with limited visual representation, made us sensitive to the question of accuracy in our portrayal. Our goal was not to replicate the site, but to evoke an experience, in order to engage our viewers in the ongoing situation. Thus, a critical component of the experience is to augment the 3D computer graphics with video. The film clips serve to authenticate our depiction, and as moving images rather than stills, they serve to immerse the viewer in a cinematic experience.

We built a forbidding structure with cement cages ringed with barbed and razor wire but didn't ask the viewer to trust our CGI. Instead, clips of Defense Department film footage of detainees in Camp X-Ray, which had been released shortly after Guantánamo Prison was opened in 2002, were strategically placed throughout the site to validate our environment.

We soon realized that the integration of documentary imagery could do more than confirm our representation of the camp; it was also a powerful tool for us to lead the viewer through multiple narrative experiences. We experimented with placement and progression, investigating the potential of authoring a spatial narrative within this type of environment.

Upon arrival in the cage, the avatar, shackled and kneeling, is told to put on an orange jump suit. Only then is she free to get up and explore her surroundings. Immediately upon opening the door to the cage, the avatar is confronted by a film clip of a gaunt detainee

in similar orange garb being dragged by guards past cages. Once outside of the cellblock, movement and location trigger several other film clips. We experimented with several different orientations: oblique, a horizontal image on the "ground," and a large, looming image. The first, an oblique image positioned in a cellblock in the distance, like the first image, serves to corroborate the general scene. As the avatar walks between the cages, another clip appears on the ground of a detainee walking between cages. This evokes a strangely effective "mirror" effect and is more directly confrontational. By blocking the path, it demands attention and contemplation from the viewer. The imagery exerts a pressure to consider the realities of confinement on the otherwise free avatar.

Figure 2. Avatar viewing horizontal clip in VE

Figure 3. Avatar viewing narrative clip in VE

At the end of the walkway we constructed a large screen to view interviews from de la Peña's film, "Unconstitutional." The enormous projection of detainee Mozaam Begg's father's face broken with emotion as he reads from his son's letters is a compelling example of a new place for cinema: instead of the dark, sequestered theaters of the real world, here is the drive-in of the virtual world: a large "outdoor" place to gather and watch a communal screen. The power of a detainee's father's lament is amplified when this image is scaled relative to the avatar rather than the computer screen. This integration of documented vs. virtual reality and the interplay of scale and avatar has formal and aesthetic implications that have yet to be fully explored.

2.4 Filmmaking in the Virtual Environment

The persistent nature of the virtual environment (it persists day and night, it is "on" or available across time lines and geographic boundaries 24/7) allows for a wholly new type of event with attendees unrestricted by time or place. *Gone Gitmo* has simulcast a conference from *Habeas Commons,* and has planned a Veritar Speaker's Series – a forum for speakers who have been to the actual Guantánamo Prison to visit the virtual installation and share their experience. A veritar is a new term signifying an avatar appearing under her own name; machinima documentation of these events could herald a new form of documentary: *Cinema Veritar*. Machinima capability in the VE presents opportunities for filmmakers to expand their reach to otherwise prohibited or prohibitively expensive, locations.

3.0 AVATAR EXPERIENCE

Two studies recently provided evidence of a connection between the sense of one's physical body to the virtual one. In the first, subjects wearing video display goggles saw a virtual rendering of their body in front of them and they were stroked on the back at the same time as they saw their virtual body being stroked. Subjects reported that the sensation made them feel "as if the virtual body was their own body." The video display was then turned off so it now acted like a blindfold, and subjects who had been moved from their original spot were asked to return to where they had been standing. They invariably moved closer to where they had perceived their virtual selves rather than where they had actually been standing [3].

In the second experiment, subjects saw their own back through stereoscopic video display goggles, making them feel as if they were sitting behind themselves. When their chests were touched with a plastic rod at the same time as the rod "stroked" the area of their virtual chest, subjects felt the sensation as if their bodies were now located at their viewpoint. This was despite the fact that their real body was in plain view. When a researcher brought a hammer down toward the virtual body, subjects registered a threat that was measured both through skin conductance electrodes and self-reports of feeling anxiety [4]. In their minds, they now occupied the space behind their bodies based on their perspective rather than their actual location in space.

These studies underscore the importance of our perception about what is happening to our physical representation. They offer some thoughts on why an avatar becomes relevant so rapidly and why users become invested in the experiences of their particular avatar. Also, as Nowak and Rauh point out, "the virtual body influences social judgment" [5] perhaps helping explain why unexpectedly viewing one's avatar in a "bound" position locked within a cage can make a narrative more compelling.

4.0 RELATED WORK

The formal aspects of spatial narrative, especially as applied to 3D computer environments and games have been discussed broadly by researchers, including Manovich [6,7] and Murray [8]. As

Manovich notes, the use of spatial narrative "played a prominent role in European visual culture for centuries" [7]. Kelliher, Mazalek and Davenport [9] also point out a similar tradition in ancient Chinese landscape paintings and Japanese scrolls. All note the privileging of linear narrative in traditional cinema and the promise and examples of computer games and environments to resurrect the practice of spatial narrative via navigable 3D CGI space.

In Second Life, avatar mediated spatial narrative has taken unique forms. "Salt March to Dandi", a work by artist Joseph DeLappe [10], flowed between the real and virtual worlds. DeLappe spent 22 days and 240 miles on a treadmill to control his Ghandi-like avatar walking across Second Life in a re-enactment of the seminal 1930's protest against the British Salt Act of 1882. DeLappe's avatar self in SL was displayed via video projection next to his physical self on the treadmill at the Eyebeam gallery in New York and he further delineated his responses in blog posts. The video of his journey within the virtual world and the real world is currently being interwoven to make a final film. DeLappe documents his experience in Gitmo, "straining to view what is going on through the sim-provided black hood," and emerging "in a supplicant position inside one of the kennel-like holding areas," calling it a "chilling and sobering experience."

5.0 OUTLOOK

We are encouraged that the current cinematic embeddings at Gone Gitmo have already elicited powerful reaction [11,12,13] and one "re-mix" [10]. Our investigation and work on this project continues beyond the techniques described above; we have recently begun to experiment with spheres and textures to integrate immersive video textures. A video texture, applied to an object and defined as "phantom," allows avatars to pass through unimpeded and actually enter the video. These experiments suggest a new series of structures: personalized, immersive viewing spaces.

The public nature of open Virtual Environments presents opportunities for live events from planned simulcasts and scheduled speakers' series to impomptu encounters. A Veritar event increases the potential for live appearances for both journalism and entertainment. Spontaneous events allow for an improvisational aesthetic including the possibility of re-mix and mash-up environments. Virtual Environments, which lack the financial constraints of traditional CGI productions, offer broad access to a variety of filmmakers and storytellers to further the future of narrative. We argue that avatar viewing and, more importantly, avatar experience will prove central to evolving techniques of storytelling and narrative.

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