

Hearts and Minds: The Residue of War

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Abstract

Hearts and Minds: The Interrogations Project is an interactive installation made for the CAVE2TM [1] large-scale 320-degree panoramic virtual reality environment that visualizes stories of violence and the post-traumatic stress experienced by ordinary American soldiers who became torturers in the course of serving their country. During the American-led counterinsurgency and counterterrorism campaigns in Iraq in the years after September 11, 2001, the torture and abuse of detainees was a commonplace tactic. The project is based on interviews of American soldiers and attempts to extend and make accessible difficult narratives based on the actual testimonies involved. By bridging together different stories and environments, the project uses visualization to provide conditions for stories to unfold—stories that connect the homes that soldiers come from and return to, with distant experiences of war. The immersion of the CAVE2TM virtual reality theater allows for a different type of affective experience of the narrative, activated through the visceral immersion in the visual and auditory environment. The project represents a complex contemporary issue and provides a platform for discussion of military interrogation methods and their effects on detainees, soldiers, and society. The project was developed through a unique international collaboration between artists, scientists, and researchers from five different universities.

Keywords

Virtual reality, interactive installation, performance, immersive environments, visualization, art, storytelling, torture, digital humanities

Introduction

This interdisciplinary work interweaves the *New Text* ISEA 2015 theme as it addresses language in an immersive environment. It directly answers the ISEA question "How can text, code, and practices in electronic literature be explored in the frame of disruptive change?" The project attempts to extend and make accessible difficult narratives of war and abusive violence based on actual accounts from soldiers involved. The work offers models for engaging with testimony and oral history. It uses visualization to build new discourse around challenging topics and to bridge concepts that enable storytelling. While many uses of visualization technologies are focused on providing accessible representation of "big data," in this case, the tech

nologies are being used to represent a complex contemporary issue and to provide a platform for discussion and debate of military interrogation methods and their effects on detainees, soldiers, and society.

Hearts and Minds makes use of the CAVE2TM environment for a multisensory artwork addressing a complex contemporary problem: as American soldiers are returning from the wars in Iraq and Afghanistan, it is becoming increasingly apparent that some of them participated in interrogation practices and acts of abusive violence with detainees for which they were not properly trained or psychologically prepared. This has in turn left many soldiers affected with Post-Traumatic Stress Disorder after their return home. More than 1.8 million US troops have served in Iraq and Afghanistan, with 37% having been deployed at least twice [2]. The mental health impact of these wars is still being researched, as many veterans are at risk for developing chronic PTSD. At this point, American soldiers and citizens are left with many unresolved questions about the moral calculus of using torture as an interrogation strategy in American military operations.

Development and Technology

Hearts and Minds bridges art, computer science, and social science research. Artist Roderick Coover and writer Scott Rettberg worked with the research scholars John Tsukayama and Jeffrey Stevenson Murer to distill central themes and stories from the significant and extensive scholarly research project—based on hundreds of hours of original interviews with veterans—carried out by Tsukayama [3]. These interviews include revelations of a highly sensitive nature, including narratives of participation in acts of abusive violence that entailed violations of human rights. The interviewees granted Tsukayama the right to use their stories in his dissertation and in subsequent research outcomes derived from it, provided that their identities remained anonymous. The tapes of recorded interviews were destroyed after transcription, except for short samples to prove their authenticity, and Tsukayama did not retain any personal contact information for the soldiers he interviewed. The text was condensed into an accessible and coherent set of stories that would preserve the accuracy of the testimonies while voice actors would perform the roles of veterans, further assuring their anonymity.

Coover and Rettberg worked with artist Daria Tsoupikova and scientist Arthur Nishimoto at the Electronic Visualization Lab at the University of Illinois at Chicago to transform this controversial and challenging research into an accessible form through visualization and dramatization. The team developed an interactive virtual environment with imagery, 3D models, and panoramic photographic backgrounds to bring story elements together. Working across these environments allowed new kinds of connections to be made between home spaces and battlefields, and between domestic objects and the memories they become attached to. The voice recordings performed by Philadelphia-based actors were integrated with interactive media elements into an interactive 3D environment.

Models, 3D environments, textures, and some animations were developed in Maya (Autodesk Inc., CA). Maya speeds up the production process through its rich selection of tools supporting all stages of modeling, including surface creation and manipulation, texturing, lighting, rigging, and animation. The visual, auditory and narrative elements were brought together in the Unity platform (Unity Technologies Inc., CA), software that is typically used by computer game developers. The getReal3D plugin for Unity developed by Mechdyne Corporation was used to run Unity across the CAVE2™ cluster [4]. User interaction was scripted using the Omicron [5] input abstraction library developed by EVL. Because the project was developed in Unity, however, it is portable to other interactive environments.



Figure 1. *Hearts and Minds* performance in the CAVE2™ panoramic virtual theater.

The CAVE2™ is powered by a computer cluster connected to high-speed networks to enable users to better cope with information-intensive tasks. It is approximately 24 feet in diameter and 8 feet tall and consists of 72 near-seamless passive stereo off-axis-optimized 3D LCD panels, a 36-node high-performance computer cluster, a 20-speaker surround audio system, a 14-camera optical tracking system, and a 100-Gigabit/second connection to the outside world [1].

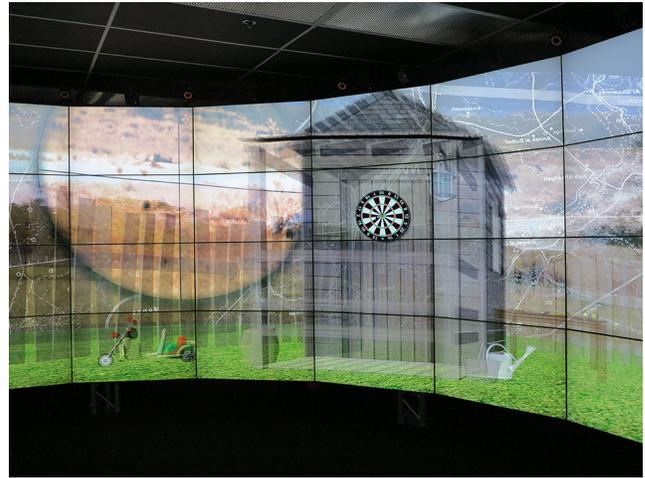


Figure 2. Shed scene from *Hearts and Minds*. Performance in the CAVE2™ panoramic virtual theater. When each trigger object is selected within the 3D visual space, the domestic space falls away and a surreal desert landscape is revealed.

Performance

In its first iteration, *Hearts and Minds* was presented as public performances at the University of Illinois Chicago Electronic Visualization Lab in June and July 2014. Chicago-based performance artist Mark Jeffrey led a performance of the interactive work. As the audience entered the space, they found themselves in a temple environment listening to each of the four soldier character's stories of enlistment—why they originally chose to become soldiers and what motivated their perspectives on the purpose for military service (Figures 1, 2, 3).

Jeffery then led the audience to the boy's room, where activating four individual objects launches stories of first encounters with abusive violence in military experience, such as in hazing rituals during basic training, or after first arriving in Iraq. When each trigger object is selected within the 3D visual space, the domestic space falls away and a surreal desert landscape is revealed. This transition serves as a metaphor for the interior state of the individual soldier, as it is coherent with accounts of soldiers experiencing Post-Traumatic Stress. It is also intended to bring audience members into a "listening state" where they can focus on the individual voices and the issues they raise. Objects in a living room space and a suburban backyard move us further into the field of battle, and there we encounter harrowing stories of interrogation, torture, and moral conflicts confronted differently by each of the characters.

As the actor moves through the rooms, he carries a steel chair—an object that also plays a role in many of the interrogation stories. As he resituates the chair in the space of the CAVE2™, he and the audience are transported from one space to another. The fourth room, the kitchen space, features stories told by soldiers of their return home, and how each of them has dealt with the things they did and saw, and how the choices they made have defined and

haunted them. Each of five rooms represents a difference aspect or stage of the complex narratives of torture and its aftermath that soldiers revealed. As the performance closes, the actor stands in the center of the temple space. The sound of an individual human heartbeat is heard as the lighting in the room reddens to a hue the color of blood, and then to darkness. The audience is left alone with the stories and issues confronted in the piece. The performance is followed by a discussion session [6].



Figure 3. War scene from *Hearts and Minds*. Performance in the CAVE2™ panoramic virtual theater. During these battlefield scenes the audience listens to stories of interrogation, torture, and moral conflicts confronted differently by each of the characters.

An important component of the performances of *Hearts and Minds* is that the experience of the artwork is followed by an audience discussion. The ultimate purpose of this work is to promote dialogue and debate about the contexts and circumstances of the use of torture in battlefield torture in recent history. In this sense the project shares an aim with Augusto Boal's Theatre of the Oppressed, in that attempts to offer audiences "the aesthetic means to analyze their past, in the context of their present, and subsequently to invent their future, without waiting for it." [7] During the first iteration of performances, these discussions were intense and reflective for everyone concerned. Audience participants expressing views ranging from shock and disgust at the acts conveyed, to conservative defense of post-9/11 policies, to veterans' expression of gratitude that these types of stories, known from their own experience, could be shared to promote greater understanding of the impact that war has on those who fight it. During a 2015 presentation of the project at the Oslo Human Rights Film Festival [8], discussion participants included both a veteran police interrogator, who shared his experience that more humane methods of interrogation than torture were universally more effective, and a number of prisoners of conscience who had themselves been subject to abusive violence and felt provoked by the work to share their own experiences as victims of torture. It is hoped that in the future the project will be presented to different groups ranging from high

school students to veterans' groups. The project might be used to help in the processes involved both in changing military interrogation policy and in addressing the true costs of institutionalized torture both on American policy and on individual soldiers left with deep psychological scars.

Accessible Versions and Alternative Platforms

One of the challenges for makers of immersive virtual reality artworks, particularly those developed in CAVEs and other custom-built VR environments is that these artworks tend to be more often read about in the literature of the field than experienced first-hand. The CAVE2™ at the EVL for example is a graduate research lab facility with keycard access at the center of a large brick engineering building on the UIC campus. *Hearts and Minds* has been shown there at several special events and on specially arranged tours, but it is not the ideal situation for an artwork intended to reach a broad audience. While it is not possible to transport the large-scale CAVE2™ environment, because *Hearts and Minds* was developed in Unity, it is possible to port the application to other environments. In order to make the work more accessible for veterans' groups and others particularly concerned with the issues highlighted by the work, the *Hearts and Minds* team is developing three other versions of the project: a Mac OS standalone application suitable for demonstration and performance, a Unity web-player version which will be published on the World Wide Web and will be accessible freely to the public, and a version suitable for iPad and other mobile devices. The computer installation of the project was first exhibited at Art gallery during the VISAP'14 Conference in Paris, in 2014. [9] Application users are able to move through the environments and narratives using Xbox controller. This version has been used for performances in cinema environments in Paris, Bergen, and Oslo. The web-player version was first demonstrated at the HASTAC 2015 conference at Michigan State University. Both the web player version and the iPad version will be made publically available at the ISEA 2015 conference in Vancouver.

Future Research

The *Hearts and Minds* team is interested in investigating further the potential uses of this artwork in other contexts. We are seeking social science collaborators who are working with veterans for example to explore whether the project might be of use as part of PTSD therapy programs. More fundamentally, the artists plan to make the project, along with supporting materials including the *Hearts and Minds* applications, the original text of Tsukayama's dissertation, documentation materials, and interviews with project collaborators available for classroom use in a variety of educational environments to raise social consciousness of the effects and toll of battlefield torture. Most importantly for future work, the artists are excited by the interdisciplinary collaborative model realized by the project and hope to develop further projects that wrestle with and

communicate the intricacies of other complex societal challenges through immersive interactive artworks accessible both in the CAVE2™ and in other platforms.

Acknowledgments

The authors wish to thank Electronic Visualization Lab (EVL) at the University of Illinois at Chicago, the UIC School of Design, Temple University, the Electronic Literature Organization, the Norwegian Research Council, and Arts Council Norway.

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Author Biographies

Daria Tsoupikova is an Associate Professor in the School of Design and the Electronic Visualization Laboratory (EVL) at the University of Illinois at Chicago. Her research and artwork include development of virtual reality (VR) art projects and networked multi-user exhibitions for VR projection systems, such as the Cave Automatic Virtual Environment theatre (CAVE2™), as well as the design of interactive educational multimedia for children. Her VR research, publications and artwork explore the relationship between the aesthetics of virtual environments, traditional arts, and the effect of VR aesthetics on the user's percep-

tions and emotions. Her work lies at the crossroads of artistic and technological innovation, and explores the potential of new media and interactivity in relation to traditional arts. Her current works are applications of computer graphics art to various research domains such as educational multimedia, cultural heritage and virtual rehabilitation for stroke survivors. Her work was exhibited and published at ACM SIGGRAPH, IEEE VR, ISEA and many other venues.

Scott Rettberg is Professor of Digital Culture in the Department of Linguistic, Literary, and Aesthetic studies at the University of Bergen, Norway. Rettberg was the project leader of ELMCIP (Electronic Literature as a Model of Creativity and Innovation in Practice), an EU- and HERA-funded collaborative research project, and a founder of the Electronic Literature Organization. Rettberg is the author or coauthor of novel-length works of electronic literature, combinatory poetry, and films including *The Unknown*, *Kind of Blue*, *Implementation*, *Frequency*, *Three Rails Live*, *Toxi•City* and others. His creative work has been exhibited online and at art venues including the Chemical Heritage Foundation Museum, Palazzo delle Arti Napoli, Beall Center, the Slought Foundation, The Krannert Art Museum, and elsewhere. Rettberg is a native of the Chicago area and was a visiting researcher at UIC while on sabbatical during Spring 2014.

Roderick Coover is Director of the Graduate Program in Film and Media Arts at Temple University (Philadelphia) and Founding Director of the Documentary Arts and Ethnographic Practice Program. He makes films, interactive cinema, installations and webworks. Some of his latest projects include the interactive series Unknown Territories (unknownterritories.org) about exploration in the American West and the edited book, *Switching Codes: Thinking Through Digital Technology In The Humanities And Arts* (Chicago 2011). A pioneer in interactive documentary arts and poetics, his works are distributed through Video Data Bank, DER, Eastgate Systems and elsewhere. His creative work has been exhibited online and at art venues including SIGGRAPH, Documenta Madrid, The American Philosophical Society Museum, Chemical Heritage Foundation Museum among others.

Arthur Nishimoto is a doctoral student in the Department of Computer Science and Research Assistant at the Electronic Visualization Laboratory (EVL) at the University of Illinois at Chicago. His research interests include user interaction on large scalable resolution display environments, virtual reality, and video game design. He has previously developed interactive applications on the EVL Cyber-Commons multi-touch wall including the 20-foot Virtual Canvas and Fleet Commander which has been exhibited at SIGGRAPH and Supercomputing. He is currently working on user interface design for large multi-touch walls as well as designing immersive interactive applications for the CAVE2™ Hybrid-Reality Environment.