

RENATI

Recontextualizing Narratives for Tangible Interfaces

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RENATI is an acronym for recontextualizing narratives for tangible interfaces. It serves as an umbrella term for our artistic experiments within a hybrid environment that uses various forms of narratives, such as oral narratives, diaries, essays, screenplays, and non-generative and immersive art with sensing technologies, to create tangible narratives. The roots of RENATI are in oral storytelling and filmmaking. We have been inspired by the growing interest in oral narratives and their convergence with digital technologies such as the growing use of mobile phones, the significant number of oral narratives housed in public and grassroots community institutions, the use of digital technologies by ministers of mega churches worldwide, and the weaving of spoken words into various forms of digital media by international hip-hop artists. The explosion of documentary films, both commercial and non-commercial, and the use of digital cameras as tools for activism have also inspired us.

RENATI connects one of the oldest forms of communication, the spoken word, with one of the newest forms of communication, tangible interface technologies. It is part of a tradition of placing stories into physical embodiments to explore the sensing and manipulation skills that are a natural part of human interactions. Our artistic motivations grew out of our cultural and political motivations that include using technology to give voice and visibility to marginalized, submerged and suppressed voices. RENATI is designed to have participants engage with stories (and thereby points of view) that they might not consider if presented in more traditional artifacts such as text, broadcast television or long-form cinema.

To create tangible narratives, we interconnect three environments: narratives (personal experience narratives,

creative stories), digital narratives (digitally recorded narratives), physical narratives (installation art). While tangible narratives can be considered a branch of interactive installation, adding the ability to access information specifically through tangible manipulation defines a new category. Generally, this type of work cannot exist if the participant does not “do” something with something, i.e. it is through some form of touching of a physical artifact that participants access or construct information.

The story space

Flying Over Purgatory

Flying Over Purgatory is the name of the first prototype for the RENATI project. The narratives that we constructed are based on an original screenplay by Ayoka Chenzira that is set in South Africa. The screenplay incorporates reworked testimonies from transcripts of people who testified before the Truth and Reconciliation Commission (TRC), as well as oral narratives that Chenzira collected while working in South Africa as a filmmaker and a teacher for emerging film directors and screenwriters. In our version, four characters each share multiple viewpoints of their experiences of living under Apartheid: *Sienna*, an African-American woman working with a community organization that prepares survivors of Apartheid violence to testify before the TRC; *Mrs. Modjadji*, an elderly woman whom Sienna is preparing to testify, who witnessed the murder of her family by a policeman, but refuses to testify. She is mistrustful of the TRC process and fears reprisal; *John Mthetwa*, a former police officer who admits killing members of Mrs. Modjadji’s family, but pleads that he was under orders that could not be refused and therefore should be granted amnesty; *Nombuyiselo*, fourteen year-

old granddaughter of Mrs. Modjadji who questions Sienna's interest in trying to get her grandmother to testify before the TRC.

Several recontextualizations take place in this work: the oral narratives and testimonies are reworked to appear



Figure 1

as dialogue or reference material; both narratives are later dramatized by actors; moving tokens that are part of the installation determine the order of a character's presentation.

Implementation

Our system was created using an eight-foot custom-built stylized female sculpture made of wood that holds two monitors (Figure 1). At the base of the sculpture is a pressure sensitive mat that identifies when a participant is present. The mat is controlled by a simple circuit and a programmed microcontroller board. An acrylic hand, waist high to the torso, rests inside of a wooden pedestal. Strapped into the hidden wrist of the mannequin is a custom built RFID reader.

The software running on the computer is created in Max/MSP with the Jitter video/graphics library. Because the interaction between the user and the installation is moderately complex, we modeled our interactive narration with a state transition diagram and implemented a state machine in Max/MSP.

Crazy quilt sightings: surviving broken levees and Katrina

A crazy quilt is a quilt that is created by connecting random types of fabrics. Here we are extending the idea to the digital domain, by incorporating fabric and other three-dimensional objects with a tabletop fiducial marker-based computer vision tracking system called reacTIVision, developed by researchers at the Music Technology Group at the University of Pompeu Fabra in Barcelona, Spain (Kaltenbrunner & Bencina, 2007).

During the broken levees and hurricane Katrina in New Orleans, Louisiana (2005), nearly two thousand people lost their lives. The aftermath of the levees and the hurricane produced a crazy quilt arrangement throughout neighborhoods: cars were in trees, houses were on top of boats, personal documents and belongings floated down miles of damaged streets. *CrazyQuilt Sightings* is



Figure 2

designed to foreground the stories of Katrina survivors and witnesses within the context of a tangible and multi-touch interface where users can have a tactual dialogue with the installation by building their own crazyquilt as they move items into a position and trigger a connecting video clip that uses oral narratives, and visually interpreted diary entries, poems and essays.

CONCLUSION

We are in the early stages of experimenting with the transformation of various types of narratives into compelling tangible interactive experiences. In the future, we will be extending this work to provide a more deeply engaging experience with the narratives in question through a greater variety of tangible interactions.

For example, with *Flying Over Purgatory*, by using additional boundary objects that have simultaneously existence in the story space and in the viewer's physical space, we believe we can create a closer connection to the story world for viewers. We suggest that our initial process might serve as practical and conceptual support for artists and other researchers interested in further study on tangible narratives.

Kaltenbrunner, Martin., & Bencina, Ross. 2007. "reactIVision: A Computer-Vision Framework for Table-Based Tangible Interaction." In *Proceedings of the first international conference on Tangible and Embedded Interaction (TEI07)*, ACM, New York, pp. 69-74.