

# RENATI:

## Recontextualizing Narratives for Tangible Interfaces

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### ABSTRACT

RENATI is an acronym for recontextualizing narratives for tangible interfaces. It serves as an umbrella term for our art/research experiments within a hybrid environment that uses oral narratives, and non-generative and immersive art with sensing technologies to create tangible narratives. In this paper we introduce our first prototype, which uses a custom-built mannequin to allow viewers to engage with a multi-viewpoint story titled *Flying Over Purgatory*.

### Author Keywords

Tangible interaction, tangible interface, interactive environments, interactive video installation, interactive storytelling, narrative, physical interaction, multimedia storytelling, multiple point-of-view, character, design.

### ACM Classification Keywords

H.5.2 [Information Interfaces and Presentation]: User Interfaces, input devices and strategies, interaction styles; J.5 [Arts and Humanities]: Fine arts, Performing arts, Literature.

### INTRODUCTION

RENATI (recontextualizing narratives for tangible interfaces) has its roots in oral storytelling. We have been inspired by the growing interest in oral narratives and their convergence with digital technologies. Some of the most vibrant examples of this convergence include the growing use of mobile phones, the significant number of oral narratives housed in institutions such as the Center for Digital Storytelling [1], the Center for Popular Memory [2], cross media oral narratives such as Ashok Mathur's *A Little Distillery in Nowgong: a novel across media* [4], the use of digital technologies by mega-churches worldwide, and the weaving of spoken words into various forms of digital media by hip-hop spoken word and musical artists such as DJ Spookey. In addition, there is groundbreaking work in

the area of computational narratives such as *Façade* [3], which uses natural language to affect the course of an unfolding story.

### RENATI

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. We have been inspired and encouraged by the seminal and contemporary works developed at the MIT Media Lab, such as *genieBottles* [5]. In the development of our project, we consider narrative as story, as in the telling of a sequence of events, and narrative as experience and expression (oral, physical, computational, interactive and tangible).

To create tangible narratives, we interconnect three environments: oral narratives (personal experience narratives), digital narratives (digitally recorded oral narratives), and physical narratives (installation art). While tangible narratives can be considered a branch of interactive installation, the addition of 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” through some form of touching of a physical artifact to access or construct information.

### Flying Over Purgatory

Our prototype is entitled *Flying Over Purgatory*. We are recontextualizing excerpts from the screenplay of the same name written by Ayoka Chenzira. We use four characters who present multiple viewpoints of their experiences living under Apartheid in South Africa.

### Implementation

Our system was created using an eight-foot custom-built wooden female mannequin that holds two monitors (see Figure 1, left side). At the foot 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 Wiring I/O board [6]. An acrylic hand, waist high to the torso, rests inside of a wooden pedestal (see Figure 1, right

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TEI 2008, February 18–20, 2008, Bonn, Germany.

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side). Strapped onto the hidden wrist of the mannequin is a custom-built RFID reader.

Figure 2 shows a diagram of the installation setup. If the participant places a RFID tagged object in the hand when prompted, the system plays a corresponding video segment. Embedded in the hand is a tri-colored LED that connects to a wiring board and is programmed to pulse when it is time for the participant to add an object to the hand. When the system recognizes that a participant is present, the first video sets up the overall story. At the end of the video one of the LEDs in the hand blinks, signaling the participant to place the same colored RFID tagged object into the hand. When this is done the corresponding short video plays. The action is repeated as items are placed into and removed from the hand. If an object is placed into the hand that does not match the color of the blinking LED, a montage of the characters arguing about who should tell their story first and who is to be believed is presented. When the participant leaves the mat, the system returns to its non-engaged state.



Figure 1. Custom-built mannequin (left) and acrylic hand with RFID tag reader (right).

#### Host Software

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.

#### CONCLUSION AND FUTURE WORK

We are in the early stages of experimenting with the transformation of various types of narratives into compelling tangible interactive experiences. Our prototype was presented in the spring of 2007 for Demo Day at the Georgia Institute of Technology where users of the system were students, faculty and industry professionals. We walked participants through how to use the system and then

let them engage with it on their own. We found that participants were generally drawn to the stories and the experience provided, but we felt they could have been more deeply engaged in the narrative through a greater variety of tangible interactions. For example, 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 of tangible narratives.

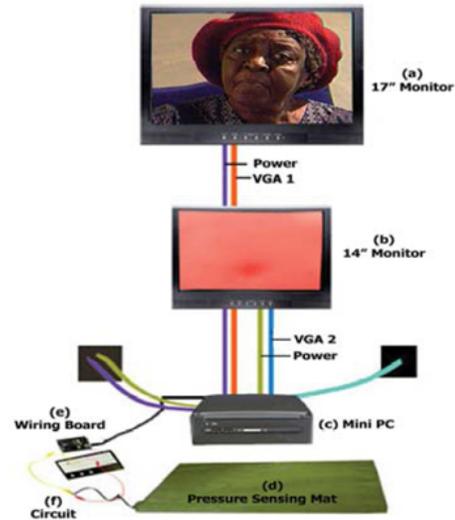


Figure 2. System diagram of the installation piece.

#### ACKNOWLEDGMENTS

We would like to thank the members of the Synaesthetic Media Lab at Georgia Tech for their input, particularly Hyun Jean Lee for her assistance with the early stages of coding, and Paul Thomason at Spelman College for his construction of our mannequin.

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