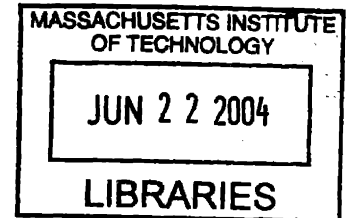# Moving Fiction: Novelists, Technology Designers, and the Art of the Exchange

by

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B.A. Science, Technology, and Society
Vassar College, 1993

SUBMITTED TO THE PROGRAM IN COMPARATIVE MEDIA STUDIES IN
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and the Art of the Exchange

by
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Master of Science in Comparative Media Studies

Abstract

How can concepts from literature and technology design combine to create new forms of storytelling on mobile devices? This paper examines the theory and practice of bringing literary techniques into mobile technology design. First I present a model of media technology evolution which is not progressive, but atemporal—grounded in the ongoing expressive challenges of the humanities. This theory forms the basis for what I call the *exchange*: temporary collaborations between creative writers and interaction designers which lead to new forms of fiction and communications technology. I promote close readings of literature as a starting point for the exchange, examining specific passages for mobile storytelling inspiration and innovative means of modeling users. I then look at nascent efforts in storytelling over mobile devices, focusing on museum tours, grassroots organizations, artist collectives, research groups, and, lastly, my own work. In the end, I advocate a hybrid form of "Moving Fiction," combining mobile media characters with live actors, music, and sensory input from the surrounding environment.

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Biography

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Michael Epstein is a Flash designer and educator with nine years of teaching experience. He has designed and implemented community technology and digital storytelling projects in <u>San Francisco</u>, <u>Israel</u>, St. Louis, Morocco and now Boston. Michael has written classroom guides to digital animation for Macromedia and the Center of Creative Arts (COCA) in St. Louis. He has also reported on human issues in technology for National Public Radio (<u>www.npr.org</u>.)   Michael is fluent in English, Spanish, and French. He speaks conversational Italian, Hebrew and Arabic. He is currently the co-director of History Unwired (<u>web.mit.edu/frontiers</u>), a consulting group which works with universities, mobile phone carriers, and tourist organizations to build educational applications for mobile technology. He will begin work a year-long project, "Venice Frontiers," with the University Institute of Architecture (UIAV) in Venice, Italy in the fall of 2004.

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Thought is essentially infinite. What confines it is the spoken word.
Then why does man try to express himself?
I'll tell you why: the spoken word's function is to humanize thought.

Rebbe Wolfe of Zhitomir as paraphrased in Elie Wiesel's, Souls on Fire (87)

Introduction

This thesis explores how concepts from literature and technology design can combine to create new forms of storytelling on mobile devices. Why bring these two media forms together? I admit I have some skepticism about any technological proposals to improve, expand, augment, or enhance the craft of writing. My wariness finds some solace, however, in the challenges the written word encountered three millennia ago as a new communications technology. In Phaedrus, Plato bemoans the alphabet's displacement of the crafts of speech and listening: "I cannot help feeling, Phaedrus, that writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence...if they are maltreated or abused, they have no parent to protect them; and they cannot protect or defend themselves." (Phaedrus, line 275e.) The idea of a book orphaning rather than housing words may seem ridiculous now. In our time, the book seems to be the word's best friend. The quote exemplifies, then, the immense challenge, even for the sharpest minds, of modeling what happens to communication as its technologies evolve.

Professors Grusin and Bolter of Georgia Tech University look at the modern media landscape and see a similar threat being posed to text by the power of the moving image. They claim "that television, film, and now computer graphics threaten to remediate [in this context, "displace"] verbal text both in print and on the computer screen—indeed, to remediate them so aggressively that they may lose much of their historical significance." (Remediation, p. 23).

Such language of displacement, struggle, and loss runs strongly through certain discussions of media evolution.[1] Walter Benjamin set the tone for this argument with his concept of aura loss in "The

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[1] I would define "media evolution theories" as those which model the scientific, historical, artistic, and socioeconomic forces that generate new means of producing, receiving, and, in turn, modeling media. Media can

Work of Art in the Age of Mechanical Reproduction", 1936.[2] In this essay, Benjamin argues that unlike the plastic arts, film brings viewers closer to the reality represented and thus loses artistic aura, or natural distance between viewer and object. Such loss of distance is not necessarily a bad thing— such immediacy might appeal more to the masses. The essay begins an ongoing conversation about how media technology impacts culture. Media guru Marshall McLuhan continues this conversation under the banner of "The medium is the message." In what has been termed a "formalist" view (Remediation, 77), McLuhan characterizes specific media as determining corresponding social reactions. For instance, television inspires inward thinking, "orientalizing" Western culture (Letters of McLuhan, 189). Today a similar determinism lurks in the proclamations that networked computers will foster "deterritorialized" thinking (Levy, 2000). Bolter and Grusin temper this technological determinism, however, by spreading out the cause and effects of media technology in a decentralized ecology of material and social forces: "the agency for cultural change is located in the interaction of formal, material, and economic logics that slip into and out of the grasp of individuals and social groups" (Remediation, 78). As influential as they may be, though, these arguments for, against, and around technological determinism seem to have overlooked an essential element of media: the craft of storytelling, that which propels individual media from the inside.

More than saying powerful stories make certain media types popular, I will show how story can *support, challenge, and reconfigure technical evolution.* "Moving Fiction" thus explores the potential and actual roles creative writing (specifically, the novel) plays in the development of media technology (focusing on handheld technology). I emphasize less the productive and receptive differences of various media, but rather more the unity of message, an ongoing expressive conversation, across the ages, in the field called, conveniently, "the humanities."

Discussions of specific works of art within new media frameworks, tend to describe media makers' creative impulse as a type of dark matter that lives within a progressive media evolution universe[3]. I see this model differently—not linear or circular, but as atemporal and multi-linear. I

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be taken to mean, in its broadest sense, all forms of interpersonal communication. In Moving Fiction the work of words and language are brought to the forefront in media evolution theories. I also tend to focus on the material aspects of media, that is, as a medium--a substance through which sensory impression are transmitted.

[2] See the slew of digital age derivatives: Jenkins, "The Work of Theory in the Age of Digital Production," or "The Work of Art in the Age of Digital Reproduction" by Douglas Davis, or perform a search on the Internet for pages containing "in the age of digital production" or "work+art+age+reproduction".

[3] Bolter and Grusin claim, "Computer photorealism is trying to achieve precisely what digital photography is trying to prevent: the overcoming and replacement of the earlier technology of photography" (Remediation, 105). And Benjamin claims, "Dadism attempted to create by pictorial—and literary—means the effects which the public today seeks in the film." ("The Work of Art", 237). In personal correspondence Brenda Laurel talks of the "Holy Grail" of mobile storytelling, that is, the equivalent of cinema or television on mobile devices.

approach the subject of media technology evolution through a creative impulse for timelessness. I will attempt to deride such temporal, spatially fluid terms as "replacement," "ecology," and "evolution." Rather we should think of "disruptions," "jumps," and "subversions." Creative singularities—be they from individuals or groups—can alter the mediascape through the power of their message. The general idea of this thesis is, then, that the message can overpower the medium. The following graphical representations show a temporal, "medium-based" model followed by an atemporal, "message-based" model. These models will serve as a reference point for the increasing specificity of this thesis.

Medium-Based Model: Art as "Dark Matter"

Creative Work ("a" for Art) permeates but doesn't affect media evolution. It's there but we're not sure what it does or how to measure its impact on the advancing forms of media technology. Newer envelops (remediates) older forms. Thus digital media contains all other media forms and on down the line.
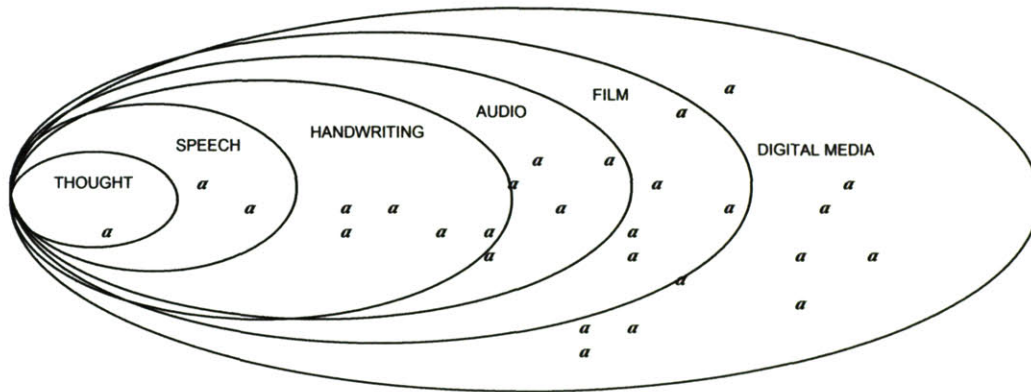
Message-Based Model: Art as Collision Point, Combining Artists and Technologists

Art aggressively acting upon media evolution and understanding. Creates multiple directions for media evolution. Current media absorbed in past and future media. Old and new media form an ongoing dialogue and disturbance. Media delineations are faded and of less importance; the cumulative message gains ascendancy.

Digital media can be found in older media forms. A filmmaker gets production techniques from Dickens, for example

What's new is what's old. In the process of creation, media sources combine and aren't confined to their technologies.
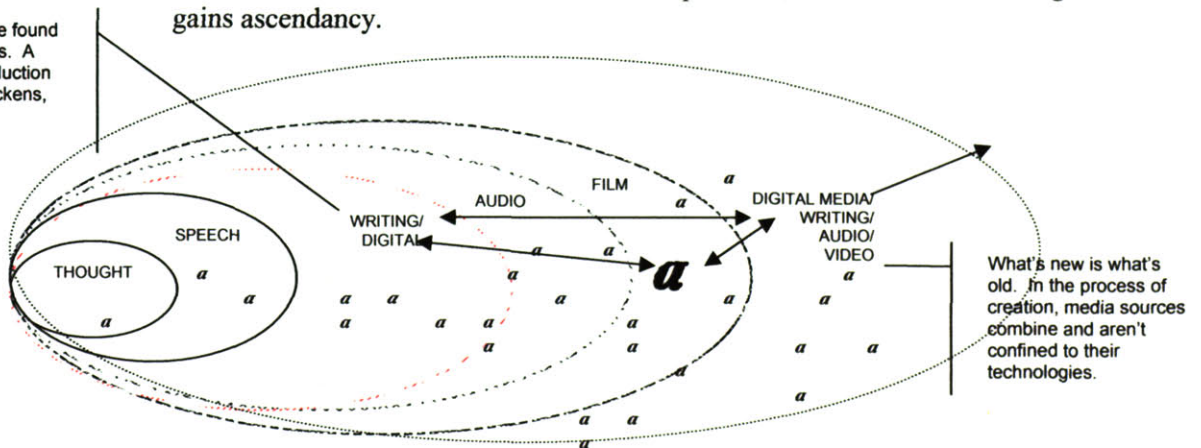
Methods

In this thesis, I will explore means to *measure* and *augment* the impact of writing on media technology. My argument is that orchestrated collisions of writers and technologists can shine new light on what individual, fluctuating creative power courses through the veins of this growing beast of communications technology. My strategy is to zoom into particular works of fiction to reveal techniques, inspiration, and gunpowder for new media storytelling.   I am especially interested in literature because its crafting of language, I believe, can open up radical new strategies for technology designers to understand human behavior. Likewise I feel that the novel as a flexible genre, might test its outer limits by experimenting with mobile technology as a container for its craft.

I will then examine how these literary concepts can gain a foothold in the current environment of mobile technology storytelling. I will look at the use of mobile technology in museums, grassroots organizations, artist initiatives, research groups, and my own work in historic Boston and at MIT. Throughout these examples I will try to express media development from a production-level view, focused on the challenges of specific messages and how these messages can inspire the development of media.

Media theoretical models, such as *remediation* and *aura,* will serve as containers to be punctured and reshaped through the agon of these creative projects. I hope to promote a type of media technology development which is inevitably coupled to the hostilities of art.   As noted in the "Message-Based Model" above, this active role of artists implies a media advance model full of jumps, skips, and reversions.

In this chapter, I will give some background information on my chosen technological and artistic fields: interaction design and literature (specifically the novel). I will then discuss the attributes of mobile technology, exemplified by the Smartphone, as a convergence point for production work involving these two fields. Finally, this chapter ends with a discussion of the spirit of this artist-designer collaboration: *The Exchange.*

Models Of Media Use: Interaction Designers and "Narrative"

Traditionally, the entry point of writers into technology development has been post hoc interpretation or pre hoc speculation through science fiction. However, a new aspect of technology development, interaction design, might provide an ad hoc space for creative writers to intervene in the technology development process.

Interaction design (ID, also called Human-Computer Interaction[4]) is defined by the Interaction Design Institute in Ivrea, Italy as arising out of the need to use computers effectively in many aspects of our everyday lives:

> While traditional industrial design concentrates on the product's functionality and its appearance as an object, interaction design requires a different emphasis because a computer-based device must not only work and look well in itself: it must also be designed so that our interaction with it, the way we exchange information with it and tell it our wishes, is clear and efficient. Only then can it be an experience that improves the quality of our everyday life. (Ivrea Website)

In other words, the more we deal with screens and devices, the better we should design those devices to deal with us. This means not only better design of a cellphone keypad, but also socially beneficial concepts such as digital Braille. The space between human and computers is expanding and becoming more complex as digital machines enter more facets of our lives and as users increase expectations of how sensitive these machines should be to humans' particular needs. In his presentation of the history of interaction design, educator and designer Marc Rettig, draws the following evolutionary timeline:

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[4] Computer Human Interaction is another variant.

dynamically enable

connect

experience:
live, learn, work, play

accomplish a task

use the software

operate the machine

time ---→
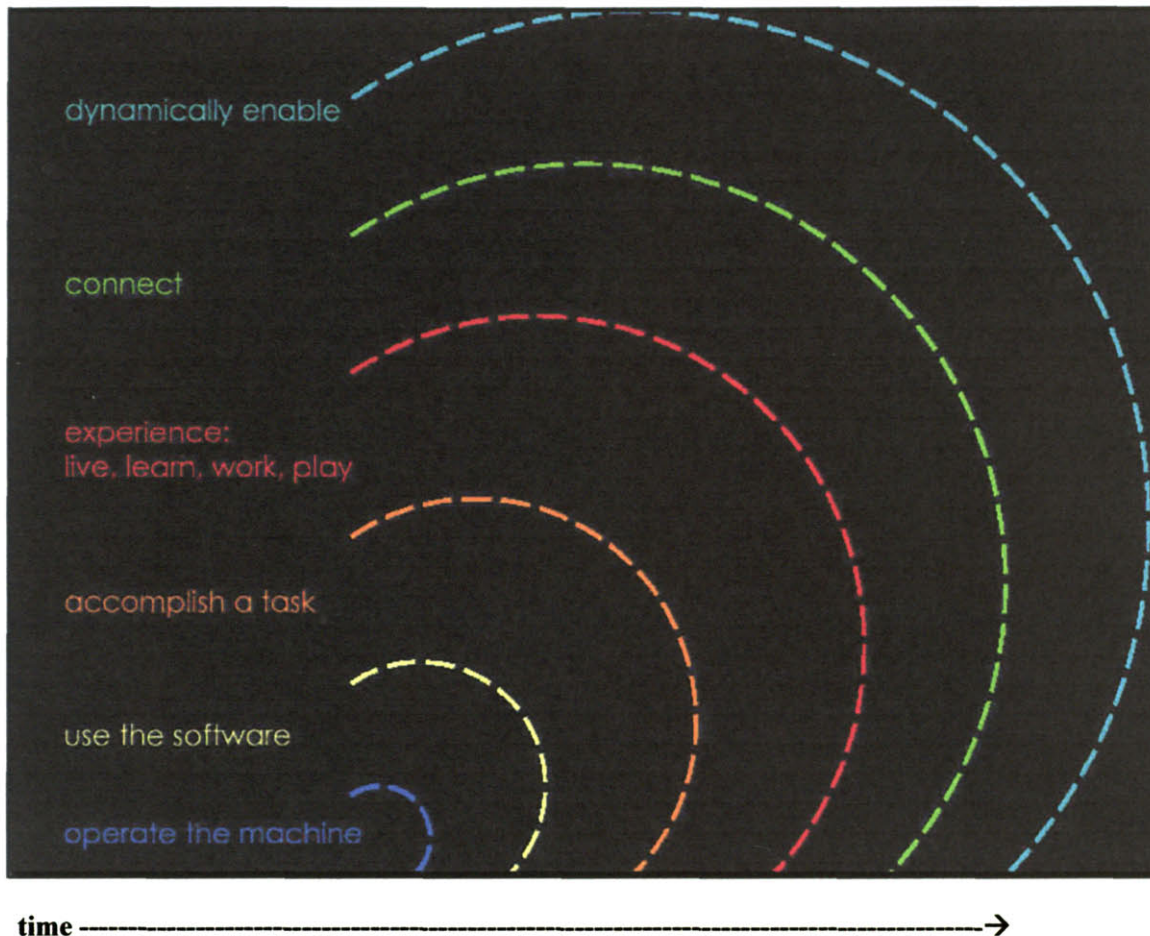
Figure I.1. The history of interaction design. *(Image from www.marcrettig.com.)*

Thus the Cro-Magnon version of interaction designed involved the creation of switches, lights, and other pieces of machinery to make computers work (think 1960's reel-to-reel computers). Then interaction design went into software, creating simple programs that interface with computer hardware. Next software moved into a phase of specialty tasks, such as the word processor I'm using right now. Beyond single-task software, interaction design moves towards experience. Experience design considers how the product weaves itself into various aspects of our lives, not only by expanding its functionality (enterprise-wide software), but by giving us immersive, personal experiences (video games, Friendster). With the Internet and other networking technologies, interaction design now considers the user as part of a social or professional network. Enhancing these connections has become a major consideration in well-designed digital products. We are no longer isolated users. Finally, Rettig projects a "dynamic" phase in which computers are even more conscious of who we are, adapting to our personalities, habits, and spontaneous needs. This level of interaction design looks

not only at what people do, but also at what they would like to be doing, incorporating fantasy and artistic statements into the realm of interaction design.

Ivrea likens this level of interaction design to conversation: "Interaction design seeks to

establish a dialogue between products, people and physical, cultural and historical contexts" (Ivrea website). In pursuit of properly understanding these cultural and historical contexts, interaction design opens itself to ideas from a wide range of disciplines: anthropology (as seen in the rise of what is labeled "ethnographic" work in user studies), graphic
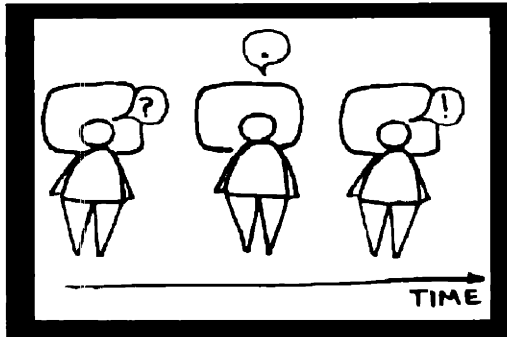
Figure I.2. Diagram emphasizes the unfolding of a conversation between a person and a computer interface. Although the conversation isn't necessarily engaging, it does have a sense of dramatic arc.   (From www.marcrettig.com.)

design, architecture, sociology, and "narrative." For our proposed literature-interaction design collaboration, "narrative" is a key term.

There appear to be two main applications for "narrative" in interaction design. The first is in the development of consumer products. Interaction designers are interested in the story of who potential users are and what they do. It is common to develop user scenarios that try to paint the user in full: what does Bill do when he gets up? who are the people he talks to most? what are his favorite foods? what are his cultural tastes and personal ambitions?

This use of backstory is taken to the next level in the use of *personas*. First described by designer Alan Cooper in The Inmates Are Running the Asylum (1999), personas are invented characters based on user observations, interviews, and market data. Microsoft researchers Jonathan Grudin and John Pruitt describe personas as "fictional people. They have names, likenesses, clothes, occupations, families, friends, pets, possessions, and so forth. They have age, gender, ethnicity, educational achievement, and socioeconomic status. They have life stories, goals and tasks" ("Personas, Participatory Design", 3). After inventing 5 or 6 personas who represent a range of target users for their products, Grudin and Pruitt went so far as to plaster the office with posters featuring these personas' pictures, household activities, goals, fears, and computer abilities. They made squeeze toys emblazoned with personas' images and sent weekly e-mails purportedly from a persona (personas actually got their own e-mail addresses.)   Grudin and Pruitt claim that personas were useful in Microsoft product design in that they gave diverse groups such as engineering, marketing, and design common reference points (i.e., "Patrick cannot use the search tool on your web page.") Overall, personas seem most effective as a pneumonic device, making boring market data engaging. Grudin

and Pruitt proclaim to the peers, "Personas utilize the power of narrative and storytelling to enhance attention, memory, and organization of detailed user data. How many of your team members actually read through market research and usability reports? How much of it do they remember?" ("Personas, Participatory Design", 5).

While Grudin and Pruitt show deference to dramatic techniques such as method acting, they don't make specific reference to character development techniques used in writing novels. They do, however, seem open to using any techniques that could build *personas* and allow technology developers to understand what makes users tick. All these uses of narrative in designing products is aimed at making products fit better into our lives and help avoid what Jaron Lanier refers to as the "anti-Pinocchio" (Lanier, 2003) syndrome; that is, our machines becoming more human-like as we grown more mechanical in an effort to communicate with them.

"Narrative" is also a key term in the development of all types of storytelling software. From computer games to hypertext novels, narrative is a term that keeps popping up. In her book, Computers as Theatre, Laurel sets forth ways in which the dramatic arts can help create engaging, interactive digital media. She delves into the history of dramatic arts, relying heavily on the framework proposed by Aristotle in *Poetics*. She then gives specific examples of narrative elements in software, ranging from the use of digital agents (characters like Clippy, who pop up on screen to assist in tasks), to virtual realities in video games, which she claims are using dramatic techniques to pull users into a story and guide their use. She proposes that both drama and digital media are similar abstractions of real situations and real tools.

Laurel derives this concept from Brecht's understanding of the dramatic arts: "In Brecht's hypothesis, the representation lives between imagination and reality, serving as a conductor, amplifier, clarifier, and motivator. It seems to me that computer-based representations work in fundamentally the same way: a person participates in a representation that is not the same as real life but which has real-world effects or consequences." (Computers as Theatre, 33.)

In her writing Laurel generates useful parallels between the challenges of creating effective drama and the challenge of designing digital media[5], but in striving to make digital tools effective, she avoids a discussion of poetic and dramatic art. She claims that in her structuralist[6] approach to drama (emphasizing form over content) "Artistry transcends and saturates the process....But artistry is

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[5] Especially her discussion of how drama begins by presenting a problem with many possible outcomes. Story development often narrows these outcomes so that the end is not only satisfying but necessary due to the closing of other possible endings.

[6] Not derivative of Saussure and other "structural" linguists.

deployed within the constraints of the medium, the tools, and the formal and structural characteristics of the kind of thing that the artist is trying to create." (Computers as Theatre, 98.) I would amend this to say that artistry is employed "in dialogue with" the constraints of the medium, often taking meta- and subversive stances against its medium. Indeed, literary critic M. M. Bakhtin claims that the novel is an art form defined by an ongoing restructuring: "And the growth of literature is not merely development and change within the fixed boundaries of any given definition; the boundaries themselves are constantly changing. ...The novel may thus serve as a document for gauging the lofty and still distant destinies of literature's future unfolding" (Dialogic Imagination, 33.)

Along these lines of creative power, I would like to recast Laurel's depiction of medium-containing-art to ask: *How is art modifying that container? Might the artistic intentions of writers drive the development of innovative uses and design techniques for new media?*

Writerly Concerns

Why choose novelists for a technology collaboration? Aren't they as far from interaction design as art can get? What about some good graphic artists, or architects, or film producers? They're more into this technology stuff, right? Literature is appealing for many reasons: its range of stories, techniques and time periods is vast; its refined craft of language uniquely illuminates our culture, values, and challenges; and, as we shall expand on in this thesis, literature can greatly expand the design sense of "use." By use, I refer to the literal sense of how novels are used as practical guides to understanding the world, but also in the sense of being "used," appropriated as products by capitalist market forces, and even the sense of "used" as found, second-hand, passed on, a bargain.

The novelist Jonathan Franzen expresses this counter-capitalist appreciation of used objects in his essay "Scavenging." Franzen proclaims an strong admiration of Rilke, a paragon of counterproductivity, for his exchange of the formulaic alienation of worker/consumer for a more fitting type of alienation as an anti-customer, dwelling in the cultural underbelly of gainful employment. Franzen reflects,

> "Only recently have I recognized how peculiarly American this model of mine is. In a country [USA] dedicated to the exploitation of a raw continent's resources, the surge of economic development creates an immensely powerful backwash, pulverizing and reassembling dreams on a vast industrial scale, sloughing off and churning under all manner of human and material detritus." (Dictaphone, 5.)

The depiction of this national mill, feeding on and regurgitating all manner of pulp, illuminates a strong compassion for that which is not new, not of the moment. Used objects gain beauty in their

defiance of the new. Franzen illuminates the ethos of a craft that requires no more than pen and paper to be practiced--a desire to populate the periphery of a culture of new products, progress, and expertly milled detritus. Such a stance might seem irreconcilable with the modern technology and corporate applications of interaction designers. In our exploration for collaboration we must appeal to an overarching concern for users, I mean, readers, I mean, individuals.

Novelists and, to an increasing degree, interaction designers are both interested in people as individuals: not merely as cravers of experience, connection, and machine dynamics, but as people also facing huge challenges as moral creatures.

The poet/tour guide Speed Levitch cackles out his version of this challenge while cruising over the Brooklyn Bridge in the movie Waking Life: "This entire thing we're involved with called the world is an opportunity to exhibit how exciting alienation can be....The world is an exam to see if we can rise into direct experience. Our eyesight is here as a test to see if we can see beyond it. Matter is here as a test for our curiosity. Doubt is here as an exam for our vitality." (Waking Life, dir. Linklater) Levitch's challenge is playful, yet serious. Seize the day. Yet is his species of narrative at all comparable to an interaction design use of narrative? As we mentioned above, interaction design narratives often focus on *personas,* more detailed, specific user profiles. Literature, in a sense, challenges personas to rise into human levels of depths. In follwing persona think of openings for Levitch's exciting alienation. Consider this stay-at-home mom rising into direct experience--possibly through her sound system, possibly with new features built into it, possibly by singing to her kids through it.

Kathleen is 33yrs old and lives in Seattle. She's a stay-at-home mom with two children: Katie, 7, and Andrew, 4. She drives the kids to school (usually carpooling with 2-3 other kids) in her Volvo wagon. Kathleen is thinking about buying the Sony rear-seat entertainment system she saw last weekend at Best Buy to keep the children occupied on the upcoming trip to see family in Canada.

She doesn't want to be distracted by the noise from the videos or games so wants to make sure she can set the sound to be heard only in the back seat. Kathleen also wants to make sure her kids are watching appropriate programs; therefore she wants some channel controls close at hand, but she thinks Katie should be able to control the system most of the time so she won't be distracted.

Figure I.3. Faux image of the persona describe to the right. (Brechin. "Reconciling Market Segments and Personas.")

The "forward march" attitude of interaction design meets an interesting challenge in the ideals of use and behavior modeled by authors such as Speed Levitch. Doubt, distraction, foolery, irony, and elation are all human behaviors which become difficult for "efficient" products to work with. But they must if they are to work with the user, painted in full. In human emotions, irrationalities and singularities, we see the individual surge forth, and in this hinterland of individualism we see the world of literature opening up to interaction design.

Novelist Askold Melnyczuk further illuminates this hinterland, in his essay "Dreadful Excitements: Pensees and Proverbs for the Converted." He says, "English class merely tried teaching values and a vocabulary for understanding the shadowier regions of the psyche. It occurs to me that these values might even be summarized in a few words: Man is more than the sum of his parts." (Dictaphone, 217). These shades of gray are beginning to find resonance in interaction design techniques that paint both the nightmarish and the ideal scenarios for new products and let potential users consider what middle ground of appeal the product concept produces (Bodker, 2000.) These appeals to more nuanced understandings of users and product capabilities can be seen as a gesture towards the deep explorations of the psyche found in certain literature. On the other hand, we might find authors interested in the way modern readers operate reaching out to interaction designers for a better understanding of modern media habits, aesthetics, and tools. So, by collapsing their different areas of expertise in on a technological artifact, authors can learn about the workings of new media and provide interaction designers with innovative ideas for both user modeling and content.

Specifics: Smartphones[7] and Storytelling Events

What will we be doing with our phones of the future? This is a pressing question in the minds of researchers, artists, schoolteachers, and consumers. Smartphones ride on the back of enormous worldwide increases in cell phone usage and capabilities in the last five years.[8] These phones have small multimedia screens and speakers and are capable of taking and viewing photos and video, recording and playing audio, accessing the Internet, and displaying animation. The only thing lacking from these phones so far is their own brand of media. As you might expect for an object that can do anything, designers aren't sure what people really want to do with them.

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[7] For an update of models available at the time of writing see the online catalogue I developed: http://web.mit.edu/m_e/www/catalogue.htm/ .

[8] In 2003 sales of Internet-ready cell phones, surpassed Internet-ready computers. (source: presentation, *Developing Applications for Cellular Wireless*, Jim Trudeau, South by Southwest Conference, 2004.)

Smartphone users are often lost in a sea of functionality or find the transfer of other media such as television shows and newspaper articles to this device unsatisfying. But, as will be explained in the following section, I am modeling temporary collaborations in which novelists can enter this space of development, not creating a definitive product, but generating some early ideas, as runway does for the fashion industry.

In some ways, the expressive potential of these devices is staggering. Smartphones allow us to speak around the world; they run with us and know where we are when we get there. They can parrot any sound back to us. They are windows to and captors of the outside world. They are maps and legends, newspapers and telegrams, card games and calendars, jukeboxes and junk mail deposits; these devices are the epitome of our expanse and lack of control. Yet can they purvey beauty?

Chapter III will present more details on how different groups are tackling this question, but for now, I will present several powerful aspects of Smartphones to keep in mind:

1. SPACE: Possibly the principal beauty of Smartphones lives not in the machine, but in its ability to direct and pull our attention from and to our surroundings. This multimedia appendage worn by more and more of us invites a type of storytelling that dialogues with our surroundings. Imagine a "situated fiction" which reveals itself in tandem with our discovery of and reflection upon specific architectural and geological details of our environment. Such storytelling is interesting from an interaction design perspective in that it calls for device media that draw your attention away from the device. It's interesting from a literary perspective, because it demands a new type of descriptive writing, painting a picture with words, yet leaving gaps to be filled in by readers' observations. Specifically we could be talking about something as simple as a fiction-based audio tour, or clever positioning of text within a space, to be downloaded upon movement.

2. HYBRIDS/ORALITY: The ubiquity and networking capabilities of these devices hold an interesting promise to anyone working with live storytelling. That is, folklorists, tour guides, actors, and educators might be able to take advantage of the audio, video, text, and imaging capabilities of the devices more and more of their audience members carry. We might soon be entering theaters that ask us to please leave our cell phones "on." This could mean a powerful return of orality—actors whose tales are complemented by portable multimedia. Or we can even imagine a hybridity with books: books with bar codes pasted into the margins, to

be swiped by cell phones, calling up background information, writer's notes, and other meaningful additions. Or we could see a new serialization of novels through phones.

3. UNLIKELY ART/IRONY: I love the way that phones now are so banal. They rudely interrupt conversations, performances, and naps. They often reinforce our declining respect for shared space. They are the least likely place you would look for literature; that is why literary applications are alluring and naturally funny in this space. How can language, especially literary language be used on this device? Could a literary respect for individualism translate to cell phone design?

There are various groups that would create this type of new media. Often artists work on such cutting edge technologies (especially in spaces such as MIT's Media Lab and Ars Electronica.) However, such projects are of limited use to interaction designers trying to work on consumer projects. In addition, such artistic work often falls short of literary expectations, rarely employing language in a way novelists would approve of.[9] What seems more promising are collaborations between designers, visual or performance artists, and writers.

In some fields, such combinations are part of the business. Architecture, for instance, has a long tradition of weighing "consumer" and artistic needs. Film production can bring together disparate concerns for art, technology, marketing, and innovation. These fields are related to what I'm proposing, but are not quite satisfying. I don't think writers should permanently deviate from their craft, and I don't think interaction designers want to build only art. I am more interested in a temporary commingling, a retreat, if you will. Changes are bound to arise, but through writer-interaction designer *exchange*.

The Exchange

Both novelists and interaction designers are trying to get into other people's heads. Foreign exchange programs provide a useful analogy in this respect because they both pull us in close to internalize the other and put us in orbit, to observe our own culture from afar.

Cradles of interaction design—firms such as Ideo and Design Continuum—have such a spirit of exchange built into their mission. Ideo's website overflows with references to multiple viewpoints, depth, and innovation, describing its employees as "T-shaped: broad and deep. Broad in their skills

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[9] For an example of a project that makes great use of technology and space, yet falls flat on the literary front, see the collection of mobile devices poems built by "Invisible Ideas": www.invisibleideas.org. For an example of a satirical work of interaction design, see Crispin Jones' "Social Mobiles": http://www.ideo.com/portfolio/re.asp?x=50172.

and interests and able to work with a wide range of people. Deep in their knowledge or experience of one or more disciplines." (Ideo Website, "About Us: Culture"). Such an invitation to depth and new perspectives embodies some of the spirit of my proposed collaboration, but doesn't quite get at the tension and friction we are looking for in the exchange.

Writers tend to be a little more picky with their qualification for exchange. In his essay, "Either/Or" poet and art curator Thomas Frick discusses both the difficulties and potential throughlines between modern technology and writers. He first points out the ease with which painting incorporates televised (and other modern) media into its expressive arsenal: "The current vitality of the visual arts, while theory-driven, comes from their refusal to capitulate, from their playful, violent, obsessive attempts to absorb the commodified televisual onslaught." (Dictaphone, 213.) Frick then proposes that writers' fear of such engagement might be their strength: "Literature, on the other hand, has simply retreated from its brave

Watching designers "bodystorm"

Figure I.4. (Image from www.ideo.com: About Us: Teams: Human Factors.)

modernist beachheads. Perhaps in that retreat we'll eventually find a new direction; perhaps a new source of strength—and not simply febrility—will emerge." (Dictaphone, 213-4) Frick has put his finger on an intriguing invitation, to figure out why writers have retreated from this technological onslaught and how they can learn to play with this new medium. His use of the word "retreat," while a little tame, comes closer to the type of "Exchange" I envision.

Approaching the specific process I'm advocating, let's take apart word "exchange." The "Ex-"reminds us that we are going out: indeed this is a call for a temporary exodus from our warm, disciplinary environs. Interaction design is expressly made for interdisciplinary touring; and many novelists do serious study of other disciplines in their background research on themes and characters. The going out isn't the hard part, though; the "change" part is. One thing we hope to do is to enable social novelists to actually shape technology rather than follow it. Such implications of product development might turn off certain novelists. Again the word "exchange" illuminates this process in its monetary implications. We must find a way to assure novelists that they will have some say in the story developed in the process of exchange and some degree of control over its distribution. Possibly in presenting the exchange as a form of patronage or education, the novelist might feel more comfortable approaching the exchange. Overall, I believe that most of the value of the exchange will be calculated upon the return.

As many veterans of exchange programs recall, the benefit of foreign exchange often becomes apparent after you return to your home country. In this respect, the insights and language of the foreign experience become valuable. Such exchanges are referred to as *transdisciplinary* activity by architect/Media Lab Director William J. Mitchell. While hybrids can arise, they are not the rule of such exchanges because "without a disciplinary frame, the richness of disciplinary practices, methodologies, and concepts can become lost, leaving an oversimplified cross-disciplinary knowledge domain" (Beyond Productivity , chapter 4).

Thus, I'm proposing a series of agitating activities, possibly leading to some sort of permanent industry, maybe some consulting groups, but more likely celebrations, a series of festivities that combine people pushing the boundaries of their narrative skills.

The Exchange: Model of Potential Novelist-Interaction Designer Collaboration
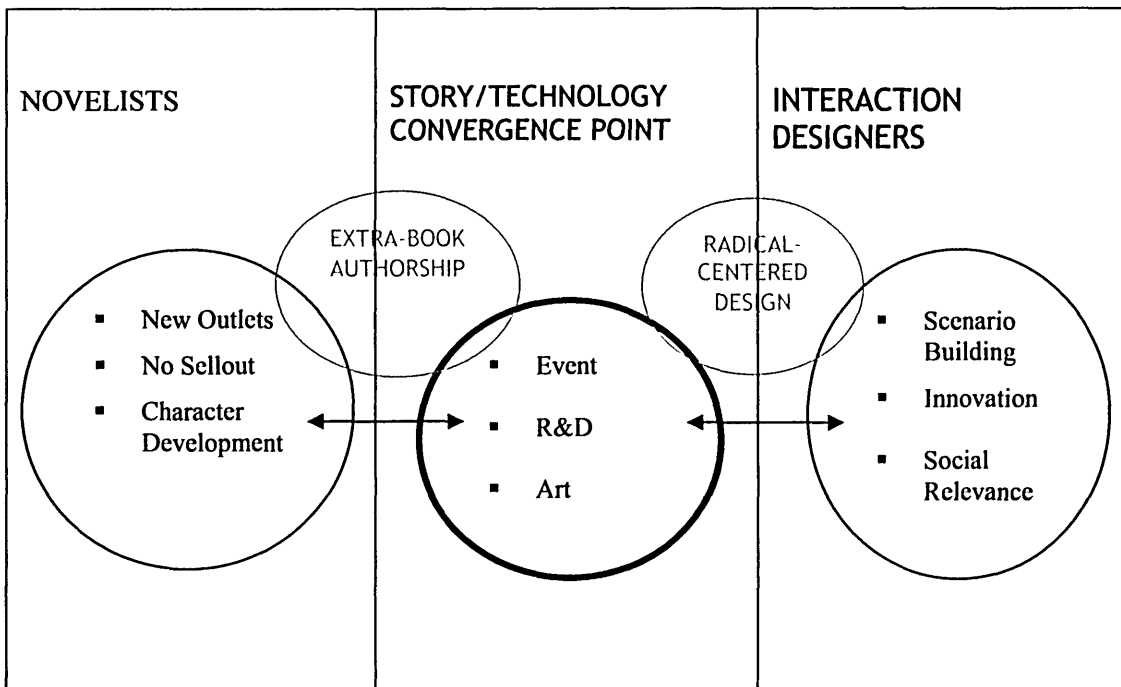
Looking at the diagram above we notice that the double-sided arrows indicate a temporary convergence. The key is that after the exchange, both parties go "home." In the center we see two potential landing spots for the exchange: technologies and stories. The latter might be a story an author is working on that could make use of new media. Or it could be a commissioned work for a festival or historic area. Technologies could also serve as a convergence point. That is, companies

might want to create an *exchange* to help the design of new products and services that require expansive, innovative views of users needs or require powerful digital representations.[10]

Within the convergence point we see that events become important opportunities for exchange. Large cultural celebrations, say the 400th birthday of Cervantes' Don Quixote (2005), often welcome innovative narrative projects. Other possibilities include the Olympics, World's Fairs, and Trade Shows. We should keep in mind that the products of exchange are often art, helpful for research and development, but probably not ready for mass marketing.

In their turn, authors might find new outlets for their fiction. They might find the collaboration process rich in new vocabularies, rhythms, and personalities. The *exchange* should nuance authors' understanding of Smartphone use, going beyond monolithic consumptive habits. Through exposure to market data and detailed personas, novelists might discover surprising nuances of mobile device usage. What innovative news services are available over phones? What language games are played through instant messages? More entrepreneurial novelists could discover new channels to enter the commercial world with their craft. Finally, they might just take a needed break from traditional writing.

Interaction designers can glean from writers new techniques of observation and character development. Beyond mere appreciation of a good story, the *exchange* should make narrative a nuanced concept. Beyond structures that make narrative exist or "effective," study of complex, great novels should alert interaction designers to the intricacies of language and social history wrapped up in powerful fiction. They should glimpse the glory of various styles, how they came to be and how they have the power to actually reshape the world. Hopefully, innovative strategies for product design and user modeling will also emerge, but under the umbrella of a giant arc of narrative history and development.

The light circles, "Radical-Centered Design" and "Extra-Book Authorship," indicate that both groups are putting on new identities. They are stepping out of their normal roles, while still applying their expertise. *Exchange* respects the distinct identities of the artist and technological cultures. But the convergence should allow the participants to step back and see their cultures honestly, somewhat refracted, and strangely new.

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[10] This could be well-developed digital characters, storyline for a video game, language for a cell phone interface, or new forms of drama for all types of mobile devices.

Finally, we should agree that exchange is not a safe space. It is one for active criticism, dialogue, retreat, and learning. In this thesis we will try and dispense with exchange platitudes. For instance, the Beaver College Center for Education Abroad advises Americans traveling to foreign countries: "It is helpful to have a good grasp of the American perspective and how it shapes you. Being aware of your own cultural biases and presumptions will enable you to understand your reactions to ambiguous events that occur while you are abroad." (Center for Education Abroad Website.) The exchange space between literature and media technology will not tolerate ambiguity. Amateur exchange participants are well-advised to withhold judgment, but at this level of exchange artistry we find power in the gaps and misreadings of cultures. These miscommunications become fruitful areas for innovation and self-parody. Indeed, one of the most important aspects of exchange is that we can revel in our own ignorance. All those involved in exchange should not forget to wink and nod. Exchange artists like to cultivate inside jokes that remind us of the difficulty and humor of mixing high art and consumer interests.

As foreign exchange should be, our exchange is a language festivity. Key terms will present a problem and opportunity for meaningful interdisciplinary communication. Words such as "modern," "audience," "user," "progress," and "interaction" stand on the boundaries of interaction design and literature, but vary greatly in meaning. In the next chapter, we will look at specific works of literature as orientation for the exchange. We will see how specific books and passages can open up useful discussions of difficult terms and their respective disciplinary meanings for novelists and interaction designers. Most of all, we hope to clean up the word "narrative" a bit. What does this word mean as an art form? What does this word mean as social act? What does this word mean in technology design?

2   Novels As Design Documents

Is there anything quite as old, as little changed, as modern literature?

Gore Vidal, as quoted in Tolstoy's Dictaphone, 225.

So when authors and interaction designers converge on a Smartphone project, where do they start? How do interaction designers frame their work and interest in narrative in way that can work with authors? How do authors garner a fruitful understanding of modern technology and its use? What stories do we want to tell?

This chapter presents a new reading of the novel—as a means of creating dialogue between authors and interaction designers. In the spirit of the *exchange*, I will refer to these readings as *orientation*. Orientation uses powerful fiction to generate concepts for discussion and development of Moving Fiction. These readings should generate common, evocative reference points: interaction designers might refer to Don Quixote's penance for Dulcinea to get at some of the anachronistic behaviors of cell phone users, or authors might point to the sparse sentences of Hemingway to highlight tacit communications of loss. These close readings are designed to create intimacy by celebrating the beauty and complexity of language. The orientation is potentially biased towards an author's field of expertise. This bias is based on interaction designers' reach toward narrative in their use of personas and intricate scenarios in design research. But the use of such passages should also set the tone that the meeting is about celebrating the art of language and how this celebration can transfer to the creation of instruments that carry language.

What Constitutes an Appropriate Orientation Text?

We want to use texts which express tension with their own boundaries—social conventions, genre, and even medium. Such novels inquire into the nature of life disregarding and pounding on the

walls of their containers. These texts have legs and can move and jump, not just into other media forms through adaptation, but speaking directly to the challenges of human understanding faced by all of us, including interaction designers.

We should be clear though: the exchange is not a process of adaptation. We are more interested in concepts in the modern novel which can inspire the building of mobile technology. In the following discussion of specific works of literature will try to illuminate the play between artful language and good design. Each work will be viewed as representing a particular aspect of language arts that appeals to both authors and interaction designers. Specifically, I choose to discuss "clarity," "connection," and "irony," although there are many other words which would be evocative to both these parties, such as "audience," "progress," "effectiveness." and "freedom."

Clarity: Melville and the Modern User

Interaction designers prize clarity in the way users approach machines. The uber-goal of interaction design is often called "invisibility or "direct engagement", as cognitive scientist Donald Norman refers to it (Norman, 1988). Such "invisible" tools don't require steep learning curves, but often become invisible in use (as I am now not thinking so much about keyboard—it's an invisible instrument in my task of writing.)

Authors also put a high premium on clarity in diction, description, and author intent. A good novel paints a world in full and presents its story with a strong, consistent voice. Yet the novel, as Bakhtin points out in essay "Epic and Novel," "The novel comes into contact with the spontaneity of the inconclusive present; this is what keeps the genre from congealing." (Dialogic, 25.) Thus, the novel--without any established form, forged in the uncertainty of the current age--often bucks literary rules, including the obligation to be clear. Herman Melville's 1857 novel, The Confidence Man (CM), plays with such lack of clarity in what could be called an aggressive manner. His writing puts the reader to work, violating expectations, interrupting conversations, and overturning most conventions of clarity.

Melville was experimenting with new ways of thinking about fiction. From staunchly defending of the veracity of his texts (see "Preface" to Typee) and offering involved scientific explanations (i.e., Moby Dick), he moves to writing a work of prose which is hardly believable. Set on the Mississippi riverboat Fidele, The Confidence Man's 46 short chapters follow a thread of dialogues usually involving at least one con artist, although the reader is never sure who is playing whom. Towards the end of the book, Melville interrupts a character's rambling story of a gentleman-madman

and tries to defend his project in a two-page chapter titled "Which May Pass for whatever it May Prove to be Worth." In defense of the implausibility of his characters, he cries, "Who, for any cause, finds real life dull, should yet demand of him who is to divert his attention from it, that he should be true to that dullness." (CM, 218) This playful dressing down of the reader is a brilliant strategic move to pull the very act of reading into the parade of cons played out on the *Fidele*. This modern, meta- moment in the text goes on to reflect on the trick of novel as literary genre: "And as, in real life, the **properties** [of writing] will not allow people to act out themselves with that unreserve permitted to the stage; so, in books of fiction, they look not only for more entertainment, but, at bottom, even for more reality, than **real life** itself can show. Thus, though they want novelty, they want nature, too." (CM, 219, emphasis added.)

Melville's reference to the facile artifice allowed in stage performance alerts us to the difficult line fiction walks between escape and verisimilitude. He is pleading to his reader, "What do you want from me!! I can't play and be real at the same time!" Or can he? Isn't this another con game being played? Is he being real in his plea, or just playing up on the fact that nothing can be **real** in a text?

This idea of emphasizing medium limits in conflict with reader expectations might be a rich concept for interaction design, in the sense that it allows exploration of the demands users make on modern tools: that they constantly increase in efficiency, intelligence, and functionality. Alan Kay, the eminent computer designer of XEROX PARC fame, claims the computer "is not a tool, although it can act like many tools. It is the first metamedium, and as such it has degrees of freedom for representation and expression never before encountered and as yet barely investigated." (Kay, 1989.) Kay's claim glorifies the multiple expressive pathways of digital technologies (as outlined in our previous description of the Smartphone.) But also, we know that this "metamedium's" ability to work with so many media makes it hard for users to figure out what they really want to do with it. This complexity problematizes the interaction designer's job of creating clear, concise applications for the device. Through the *exchange*, we can look more deeply into the power of opacity. Instead of pushing the imagination towards what a computer can do, try to imagine what it can't do. Herein might lie the seeds of a new aesthetic for interaction design.

The Confidence Man achieves a certain beauty in the driving doubleness of characters who look wealthy and can't pay for a shave, who touch God with appeals to "confidence" and keep a constant eye on your purse. Most of all, its aesthetic can be found in the voice of a pleading author who is fighting to tell a true story and at the same time entertain. Melville's interruption to say that he can't do both, ironically, is both entertaining and true. Such clever recognition of the task at hand might generate a healthy counterintuitive exercise for interaction designers. Can we build objects that

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are appealing in their **difficulty** of use? To what degree do Smartphones connect to actuality and at the same time exaggerate it? A "To Do" list, for instance, might be presented as both a representation and a distortion of reality. Isn't e-mail a way of connecting and establishing absence? How might these instruments be used to tell a story and how might their own developers speak to defend their project as Melville does? How can we develop applications, that, for a moment, allow people a sense of meta-use—that is, insight into the struggles and limitations of design?

Connection and Alienation: Murakami and Narratives of Loss

Another rich design concept contained in literature is that of connection. As Mark Rettig of Carnegie Mellon University pointed out in the last chapter, the networking capabilities of media technology have moved user models from what happens between people and machines to "what happens to people *through* machines." ("Interaction Design History," 51.)   Optimizing a user's connection to the Internet, to co-workers, to friends, and databases is now a major consideration for design of digital products. Being able to see where your friends are through your cell phone and having a means of filtering social groups on Friendster (a social networking website, see www.friendster.com) are examples of such networking design considerations. The design of networked systems might interest novelists in that these technologies are creating new writing spaces (hypertext novels, collaborative poetry, etc.), a new type of socialization (chat rooms, online dating, etc.), and more nuanced understanding of the scale and direction of digital communication (the wireless revolution, wearable technology, etc.)

Novelists have also developed an expertise in designing connections: that is, connections between author and reader, between characters within a novel, between reality and fantasy, and between medium[11] and mind. A successful novel pulls you into the story, builds a world and allows

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[11] There is a great confusion over this question of how a medium creates distance. Marshall McLuhan, for instance, defined hot and cool media as those that require more or less processing in the recipient's mind, respectively (Playboy Interview, 1969). Books are cool media because we do a lot of work in our minds to make them active, whereas film and, I would imagine, virtual reality are hot media requiring little brain activity to be brought to life.   Scanning McLuhan's writings on "The medium is the message" and Bolter and Grusin's *Remediation,* you find inconclusive evidence and definitions of what makes a viewer active, reflective, and self-aware. McLuhan tries to show that medium content is irrelevant by referring to one study carried out by General Electric's public opinion research group in 1970 that showed viewers' EEG responses to be constant through different television programming. The programs, however, were various commercials of limited emotional scope. McLuhan appeals in a poetic way to a "metamorphosis" and "discarnate man" made possible through electronic media, but never quite illuminates a believable roll for content in how close or distant we feel from various media.

you to inhabit it. But as noted with CM, novels do not obey rules, and have a way of pulling in readers by pushing them away. Such counterintuitives might be rich for interaction design in that they nuance people's need to connect. How do mediated conversations create distance? How can we be alone in a networked society? Such questions lurk in the stories and styles of many great novelists. Haruki Murakami is one such author who achieves an amazing sense of intimacy by keeping his characters at a distance.

In his novel The Wind-Up Bird Chronicle, Murakami gives us a parade of characters who are simultaneously connected to and absent from the reader and each other. This psycho-drama detective story takes place in a surreal Tokyo suburb where Toru Okada's wife has left him. The novel keeps all overt explanations of cause and effect in a mist of strange coincidences and symbolic acts. The wind-up bird itself is a perplexing symbol. The bird frequents Toru's neighborhood, making a distinctive sound of a spring winding and unwinding, but is never seen. In his quest to find his wife, Toru befriends a psychic who takes him into her practice because of his new-found mind-reading skills. While working in her office Toru discovers the "The Wind-Up Bird Chronicle," a document which mysteriously appears on the office computer and grants him access to his employer's past and potential contact with his estranged wife.

Set in the mid-1980's, the novel's technology timeframe makes a computer chat session an extremely cutting edge act. While the chat line is being established, Toru reflects, "A far longer time goes by than I had anticipated, but finally the message appears that the other party has accepted the charges. Beyond this screen, at the far end of the cable that creeps through Tokyo's underground darkness, may be Kumiko [his wife]." (Chronicle, 485.) The distance, uncertainty, and nefarious underground implications of the medium are brought to bear on this key interaction in the novel. Yet a more subtle concept is also being evoked in this communication: time. In this chapter, Murakami introduces the present tense (having only used first-person past tense and journalistic past tense to this point.) The author thus places us in the present moment in order to accentuate the time lag of this modern medium. This feeling of losing time reinforces major themes in the novel such as a buried history catching up with us[12] and the subtleties of decay in human relationships.

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[12] A consistent, yet multi-faceted theme in the book is Japan's campaign into Manchuria in the 1930's and the eventual evacuation of all Japanese forces from Chine during WWII. The violence and family ruptures created by this military action are both the ghouls and the inspiration for the clairvoyance some characters demonstrate in the novel.

Toru thus becomes a new brand of humanist, fighting through a lagging, circuitous medium to try to figure out what went wrong in his marital relationship. His wife tells him that he is not to blame, that she just went bad. Toru won't accept this. He feels that no matter what the wound, he could provide the salve. He insists that there must be something more, and then waits.

> A long pause follows. I begin to worry that Kumiko has disappeared somewhere. But then her letters begin to line up on the screen.
>
> >You may be right, but there is more to it than that.
>
> Another deep silence follows. She is choosing her words carefully, pulling them out of a drawer....
>
> >"Going bad" is something that happens over a longer period of time. It was something decided in advance, without me, in a pitch-dark room somewhere, by someone else's hand." (Chronicle, 488)

In the tradition of Melville, Murakami is also trying to break through masks[13] to understand the illusion of connection, be it the collective wink and nod of Japanese society or the timeless difficulty of understanding your spouse. This truth lies in dark spaces, underground, in a time frame that moves in hiccups. Although current communication technology is in some ways more efficient than a clunky chat mechanism, we can see how all screen-to-screen connections pull our communications underground, outside of physical space. This artistic sensitivity to the physical path of communication is a somewhat theoretical, but possibly essential notion in modeling mobile technology use. In what sense are cell phones creating gaps in our lives, in our conversations, and in our thinking? How might these gaps be exploited in storytelling through these devices?

Another important production concept to pull from Murakami is that in a fictional world, technology can become an effective prop. This might be strange "second fiddle" concept for designers and companies that focus on "center stage" applications for mobile technology. Murakami alerts us to the fact that even the defects of early technology can set the right mood and say a lot for a story, especially a story exploring the gaps in communication. Using technology in a retro, mood-setting sense might alert audiences to deeper problems buried in a character's relationship or alter storytelling pace and timeframe in interesting ways. Too often designers work to smooth out a technology rather

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[13] See: Renker, Elizabeth. "'A -----------!'": Unreadability in The Confidence Man," in The Cambridge Companion to Herman Melville, ed. Robert S. Levine. (Cambridge University Press, 1998: Cambridge.)

than embrace its rough edges and sharp angles which can create a nice honesty and meditation on our objects of communication.

Satire of Space: Don Quixote's Irony

CONSIDER:

Don Quixote is confused. He is not who he thinks he is. He is haunted by images of popular fiction. He is wandering. He is living two realities. He is entering the subway station, halted, anxiously trying to finish his phone conversation before he loses reception. He is typing on his laptop, eyes on screen hearing you, but dividing his reality. He is here and he is away. He is a modern user.

Don Quixote is sick. He has caught an early print media virus: books of chivalry. He finds lodging at a cheap inn and "since everything our adventurer thought, saw, or imagined seemed to happen according to what he read, as soon as he saw the inn it appeared to him to be a castle complete with four towers and spires of gleaming silver, not to mention a drawbridge and deep moat." And the whores waiting at the door become "two gracious ladies taking their ease at the entrance to the castle." (Don Quixote, 26.) Windmills become giants and a barber's washbasin becomes a golden helmet. Magic and mistakes abound, but within this world of illusions, Quixote recasts his instrument of imagination.

Imagination is a key word for both technology and fiction creators. As designer Bonnie McDaniel Johnson notes in "The Paradox of Design Research", in order to understand users in full, "Design researchers must go beyond what they can find: to see more than is visible, and to learn more than can be heard" (Design Research, 39.) She advocates dramatic presentations of user behavior to get into consumers' minds. She warns that this creative process needs to be grounded in empirical evidence: "The power of informance [dramatization of consumer behavior] lies in embracing the paradox: using a sound empirical basis as springboard for the skill of the researchers and designers to create characters" (Design Research, 40.) Thus, interaction designers are recognizing and enhancing the imaginative work that goes into modeling consumer behavior.

For fiction writers this grounding of the imaginary in the empirical is not as paradoxical as Johnson portrays it. In fact, most fictional characters arise out of careful empirical study. For our *orientation,* rather, we should reverse the equation and ask what of our empirical evidence is based on the imagined?

In the age of mobile technology we have developed a new Quixote-esque confusion regarding what the obvious really is: coffeeshops become offices, personal stories become public proclamations,

and cell phone interruption becomes a new element of dialogue. Sociologist Rich Ling notes that "forced eavesdropping caused by mobile telephone use…is, in a sense imposing behavior that is appropriate for intimates on non-intimates…the potentially reflexive nature of the situation can, in extreme cases, threaten the reflexive project we call our identities." ("Social Juxtaposition", pp.17-18.) So if our selves are constructed through an iterative process with our surroundings, the invasion of others' cell phone conversations on our space is, as with Don Quixote, messing with our ability to know who or where we really are. What is Cervantes saying about this condition? Is Don Quixote sick or are his illusions actually liberating?

Irony is very effective--or maybe I should say necessary--in answering such questions. When reality gives us paradoxical situations—for instance, Don Quixote's honor is only gained through delusions—the world must become ironic. As Cervantes warns in the introduction to the Second book of Don Quixote, a madman who used to drop stones on dogs ceases and desists when he misperceives all dogs as precious hounds: "Perhaps something similar may happen to this storyteller, who will not dare ever again to set his great talent loose among books, which, when they are bad are harder than boulders." (Don Quixote, 457) Cervantes is alluding to the sea of hackneyed writing that proliferated after the advent of the printing press in the late 16th century. He is specifically addressing the "false Quixote" released a year earlier, which made him tentative and excited "to set his great talent loose" by writing the final version of Quixote's exploits.

Interaction designers are developing their own brand of irony. In Crispin Jones' commissioned work for the design firm Ideo, he designs several concept cell phones to fight annoying uses of cell phones in public spaces. "Social Mobiles" involved the design of five modified phones, not as consumer products; "rather their function is to provoke discussion about the social impact of mobile phones." ("Social Mobiles" website.) These phones shock you if you speak too loud; they have
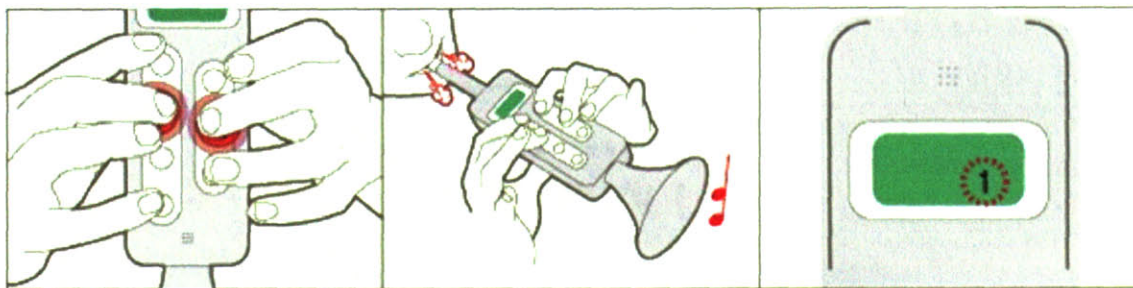

Image II.1. Users must play tunes on the trumpet phone to dial, so they only make calls when socially appropriate. (Illustration from "Social Mobiles" website: http://www.ideo.com/case_studies/social_mobiles/index.html.)

buttons to respond silently, a trumpet that turns dialing into a performance, a phone you knock on to indicate urgency of the call, and a tiny button that catapults reprimands into others' cell phone conversations. These kinds of non-commercial designs are the goal of the *exchange*. Design irony (let's call it *designrony*) seems to have its own brand of playfulness—the user delights in using products to exact revenge on misuses of those very products. But how might *designrony* mature through examination of the way irony works in literature?

In <u>Don Quixote</u>, names and rephrasing do a lot of the work of irony. Sancho Panza, Quixote's trusty squire, is named after his big belly (*panza*.) Rocinante, his trusty steed, translates to "nag-like". And the woman whom Quixote loves, Aldonza Lorenzo, becomes Dulcinea of Toboso (Sweet one of Toboso, a crappy little town in La Mancha). Cervantes emphasizes that for Quixote Dulcinea's name "was musical and beautiful and filled with significance, as were all the others he had given to himself and everything pertaining to him." (<u>Don Quixote</u>, 24). To fill names and descriptions with such personal "significance" might translate well into the *exchange*.

Smartphone naming and slogans provide a ripe area for satire. My new Nokia cell phone comes in a box commanding me to "Get More from Life." Everyone on this box is dancing on green hills, yet we all know that the wireless revolution is not about embracing surroundings, but retreating from them. There is not one feature on my phone that thrusts me out towards my surroundings; they all pull me into the device, into a separate world.

In the wonderful bouts between Don Quixote and Sancho Panza, the question of getting more from life through denial is held up in all its silliness. For instance, having reached the desolate Sierra Morena, Don Quixote decides that it is time to perform a glorious penance for the love of his lady Dulcinea. He runs through all of the murderous, ascetic, self-destructive acts that knights performed for the love of their ladies. Sancho points out to his master that "the knights who did these things were provoked and had a reason to do senseless things and penances; but...what lady has scorned you, and what signs have you found to tell you that my lady Dulcinea of Toboso, has done anything foolish with Moor or Christian?" (<u>Don Quixote</u>, 194). Sancho is warning Don Quixote that he's operating with a false narrative (excuse the oxymoron) and might corrupt the meaning of gallantry with his madness. Don Quixote retorts that this action is well within the confines of gallantry:

> Therein lies the virtue...and the excellence of my enterprise, for a knight errant deserves neither glory nor thanks if he goes mad for a reason. The great achievement is to lose one's reason for no reason, and to let my lady know that if I can do this without cause, what should I not do if there were cause?" (same source).

One can't help thinking of a wealth of potentially effective cell phone uses which get turned inside out, like Don Quixote's penance. An "always-on" persona is often disconnected from the conversations, traffic, messages, and immediate information in the surrounding environment. Being presented with a wealth of media makes people good skimmers, but poor communicators. And how often do timesavers create time crunches? These paradoxes are inherent in the medium and we can do more to exploit them.

In essence, Don Quixote allows us to reflect on the replacements technology affords. Don Quixote feels that only through the replacements can we see the world for what it truly is (right before stripping and doing summersaults to a revolted Sancho):

> Knights errant appear to be chimerical, foolish, senseless, and turned inside out. And not because the really are, but because hordes of enchanters always walk among us and alter and change everything and turn things into whatever they please, according to whether they wish to favor us or destroy us. (Don Quixote, 195)

Could these "hordes of enchanters" be the very interpreters of user needs? Interaction designers might feel this is a "chicken or the egg" tack: do designers satisfy established consumer needs or create them? Brenda Laurel feels that new methods in design research may push products towards the former, "enabling the product to speak for itself, freeing the branding and marketing to move toward honest communication and away from persuasion and the creation of desire" (Design Research, 17). Yet as Laurel herself points out, users don't always know what they want, and she doesn't fully reveal to what degree design research will support or dispel consumer illusions (or designer illusions, for that matter). What's rich for us to consider here is how some products are designed for and by the Don Quixotes of the world. Moving fiction might parody the belief that technology is built to make our lives easier. It might also parody the very quest for being "in touch," "connected," "roaming," "free," and "personal."

All in all, we should marvel at the reflexivity irony achieves in *Don Quixote*. Cervantes recognizes (especially in his critique of the false Quixote) that even books deceive men while they unwittingly elevate them. He helps us recognize how irony might work on a Smartphone to delineate the banal and the sublime features of phones. *Designrony* might lead to applications that explore both the silly and very real sides of usability. In the next chapter we will dig deeper into these ironic openings. We will look at case studies of "moving fiction" and how these concepts from literature might inform current movements in design.

3 Case Studies of "Moving Fiction"

This chapter will look at selected examples of storytelling for mobile devices[14]. The cases presented here were chosen to put some of the ideas generated from the *orientation* into action. In these sample projects, we will consider the production choices and audience effects, paying special attention to the work of language. Throughout this section we are trying to ground and expand the place of storytelling in mobile technology development. We start this process by examining theories of technology development that provide a space for content, story, and, potentially, literature.

SCOT Theory and Media Evolution

In modeling media change, professors Pinch and Bijker formulated the theory of Social Construction of Technology or SCOT. SCOT models an ecology of media evolution which is potentially multi-directional. In this model, neophyte media technology, like Smartphones, presents many potential, often-conflicting paths of development. Pinch and Bijker also point out that new technology is developed within a tense web of relevant social groups, problems, and solutions. These conditions "bring out clearly all kinds of conflicts: conflicting technical requirements by different social groups...conflicting solutions to the same problem...and moral conflicts...Within this scheme various solutions to these conflicts and problems are possible—not only technological ones, but also judicial or even moral ones." ("The Social Construction of Facts and Artifacts", p. 43) Such a model is important to the *exchange* in that it situates these temporary collaborations between writers and technologists as both solutions and generators of new problems.

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[14] While most of these devices are not Smartphones per se, the media built on them is now or will soon be presentable on Smartphones. To see what features are on Smartphones and how they tie into the general concept of "handheld device" see the online catalog I created. I call this a catalogue to reflect the seasonal changes and reinventing of the technology currently known as Smartphone: http://web.mit.edu/m_e/www/catalogue.htm.

Within this system of ongoing conflicts and tensions, media technology does evolve, according to Pinch and Bijker, through a process called "closure." This closure comes when "the relevant social groups *see* the problem as being solved." ("Social Construction", 44) Relevant social groups are those concerned with an emerging technology (both pro and con voices) and organized in some continuous fashion. The example they give is the development of the bicycle. While various groups were vying for safety (reduced wheel height), morality (dress-friendly designs), and speed, a demonstration of the speed of a pneumatic-tired bicycle on a race track was so convincing that the current design of the bicycle was born. While any technology goes through various revisions, it is important to note how standardization can happen so rapidly through one overwhelming demonstration.

In the cases of mobile device storytelling to follow, we will see how the Smartphone also sits in a tense ecology of moral, educational, artistic, and corporate forces. The Smartphone is pliable now in both its uses (phone, Internet, games, office apps) and its media delivery (text, camera, audio, and video.) Different groups then are vying to develop the "standard" that will guide future development. What I hope to show is that "closure" is often the result of a convincing technical performance (as in the pneumatic bicycle tire race and, in a more modern sense, MIT Media Lab's motto "Demo or Die"). The *exchange* might lead to a convincing Smartphone performance which defines its future direction. The following diagram outlines the groups, projects, and relevant concerns surrounding Smartphone development which will be presented in this chapter.

ECOLOGY OF MOBILE TECHNOLOGY STORYTELLING
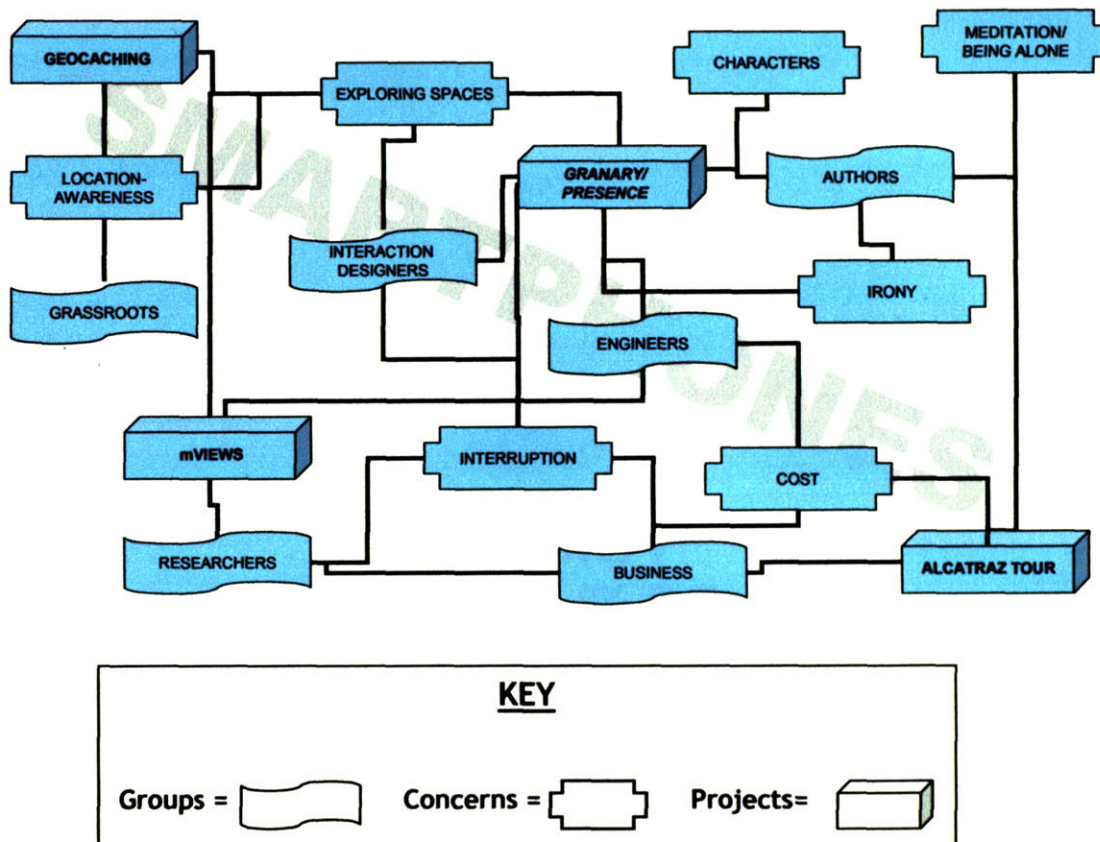
Figure III.1. An ecology of mobile storytelling. Squares are solutions/technologies, hexagons are relevant groups, and circles are problems.

From the above model one can see that bringing various groups together for a single design project can lead to conflicts. For instance, authors and interaction designers might not be able to agree on methods of reception. Whereas grassroots groups see location-awareness as essential, engineers may see it as a technical nightmare. Some types of museum goers might really want to hear educational stories, while businesses may only see retail opportunities in museum mobiles. Some are looking to advertise while others are looking to present messages that undercut consumption.

The *exchange* is an atmosphere in which these conflicts generate art, which, if convincing for the right groups, may direct Smartphones towards a line of "closure." In the following examples I will

try to emphasize the current and potential role language and literary concepts can play in this process of closure. That is, given a web-like environment of conflicting technology design interests, how might the novelty, individualism, and inspiration of an expressive project influence the direction of technology evolution?

To support this inquiry, I look at various mobile fiction projects, starting with museums and the evolution of audio tours. I then look at the work of artists and fan communities as expanding the technical boundaries of this mobile storytelling practice. Next I zoom in on the work of R&D groups to integrate the creative/artistic aspects of mobile storytelling with business models. These examples should paint a fairly clear picture of the tensions that currently exist around the future of mobile devices as storytellers. I then move into my own work and its perspective on how "closure" might be reached through the *exchange*. Throughout this discussion, I try to show how, at the level of production, digital media is not replacing older media forms but working beyond evolutionary concepts, honing in on messages and the power of expression. That is, I hope to demonstrate the atemporal aspect of production. For most of this chapter I will sideline the interaction designer-novelist dialogue we outlined in chapter II. These concepts will resurface in my own work presented at the end of the chapter. However, the need for *exchange* should become apparent as I describe the ecology of museum, grassroots, artist, and research efforts into building moving fiction.

Museums

Museums are places where cultures of awe, learning, and impossibility meet. Art museums, in particular, are designed to generate wonder, uncertainty, and rapture at inspired representations of life. Curiously, these are places where a very logical, expository form of mobile device storytelling has thrived: the audio tour. Audio tours have evolved from clunky reel-to-reel tape players in the 1950's, to cassettes in the 60's, to radio devices, and now digital handhelds capable of audio and other forms of multimedia.

The content of these tours has progressed also, led by the international firm Antenna Audio. This company was formed through the merger of Antenna Audio—which had its own roots in avant garde San Francisco audio theater—and the British company, ACT. Two audio Antenna tours are of particular interest to the question of storytelling on Smartphones: the Alcatraz tour

(original version produced in 1987) and the Tate Modern tour (2002, still under development).

Figure III.2. Alcatraz cell blocks. (Image from www.antennaaudio.com.)

The Alcatraz tour is played out on a fairly simple audio device hanging from tourists' necks like a necklace. There is only a play button—no pause or rewind. This format locks you into a linear, precisely-paced narrative. The 45-minute tour winds through the cells, commissary, and visiting rooms of the Alcatraz prison. The force of the audio comes from the first-person accounts of prisoners and guards from the days when Alcatraz was functioning (officially closed in 1963.)

For instance, as you walk into the dark solitary confinement cell you hear the following audio backed by ambient sounds of guard footsteps and creaky cell doors:

ANNOUNCER: This is "the hole": cells number 9-14…

GUARD: It wasn't supposed to be like this, but we kept the lights off when they were in there.

PRISONER: Well, when I'd go in the hole what I'd used do is I'd tear a button off my coveralls and flip it up in the air and I'd turn around in circles, and I'd get down on my hands and knees and I'd hunt for that button and when I'd find that button I'd stand up and do it again.   (from www.antennaaudio.com: Audio Tours: Culture & History: Alcatraz.)

Standing in the space where this form of torture was carried out becomes a powerfully meditative experience of both sympathy and confusion over the nature of justice. The audio cuts you off from other people on the tour and directs attention to the environment, generating a personal, meditative experience of our punitive history. Although the tour is not mobile fiction per se, it clues us into some ways that mobile devices, audio, and space can combine to give cathartic experiences along the lines of strong novels.

The other Antenna tour of relevance to this project is the PocketPC (PPC) tour of Tate Modern Museum. This tour is sponsored by Hewlett-Packard and Bloomburg and features some of the latest mobile technology. Users are given networked PPCs that display a map of the gallery in which 18 (out of approximately 60 works of art) are commented on by the device.   Besides audio commentary (culled from curators of the gallery), the tour features interactive games (i.e., dragging colors onto a canvas à la Rothko), surveys (is Marcel Duchamp's urinal a form of art?), video and audio of artist interviews, music the artists played while working (Pollock's tribal, shaman sounds), opportunities to e-mail information to yourself, text messaging other people on the tour, and important museum announcements (closing time in 10 minutes).

The only parts of the tour that you could really classify as fictional are some reenactments of artist interviews. These interviews try to dramatize the artists' motivations and social milieu. This section was kind of campy for me, and, as Gillian Wilson, manager of the pilot test for Tate, comments, some of the older museum-goers found these reenactments "patronizing" (personal conversation, 10 Feb. 2004).

The ultimate vision of the tour is to create possibilities for deep, thoughtful experiences of modern art for those who would not normally spend too much time or mental energy in the gallery. Thus these tools are made to democratize art appreciation, giving younger and less-trained patrons a chance to experience the intellectual depths of the collection. This is an interesting notion for literary circles who might be wondering how to reach digital, MTV audiences.

In the context of the Smartphone as storyteller, this established mode of device-as-storyteller reveals the device to be simply a prop. That is, Smartphones act more as pointers and the surrounding spaces or artwork do most of the storytelling. So Smartphones seem to be successful storytellers in the way binoculars reveal ornithology to the bird watcher. They help us notice details and background

information we might not otherwise see in art, architecture, or the natural world around us. This subordinate voice does not carry the fire of a strong literary voice, but nonetheless, it gives us a working starting point for developing moving fiction.

Artists

Marshall McLuhan, commented in 1969 "The new media are not bridges between man and nature; they are nature." (Essential, 272) This statement resounds in one of the most technologically advanced mobile technology art projects titled "Invisible Ideas"—a tour of Boston Common built by the Nature and Inquiry group for the 2003 CyberArts Festival. This project successfully integrated a GPS satellite navigation system into a PocketPC. The device knew where you were standing in the Common. Thus your footsteps became your means of navigating the content--a series of abstract poems loosely tied to the different locations around the park.

Pacing is a major challenge of this form of storytelling. Films, oral tales, and novels all have a fairly precise element of pacing (the measure with which a story unfolds), yet with users' footsteps controlling the flow of information, it can be difficult to space the hotspots so that there isn't too much lag between items of information as users move through the story space.

In the "Invisible Ideas" project there were some instances in which one poem would cut off another (hotspots too close) or a poem might loop if you didn't make it to the next hotspot fast enough (too far apart). In general, though, the poems popped up at a fairly consistent walking pace. The project's biggest challenge was the use of surrounding space. The headphones completely shut off the audio of the park and passersby, isolating the poems from the space they were supposed to immerse us in. Instead of being a meditative experience of seclusion, "Invisible Ideas" deprived users of sensory information we are naturally hungry for on a perfect spring day, listening to poetry which celebrates nature.

This is one of the central tensions in the web of possible evolution routes surrounding the Smartphone. How do we deal with environments? For current cell phones, little features like silent ringing and head sets acknowledge that mobile phone functionality needs to adapt to different environments. What the industry calls "location-based services" are just beginning to scrutinize how we behave in public and how we might sensitively integrate mobile technology into various activities. Thus the question of whether we want audio poems or bird calls, interpersonal connection or personal meditation when we tour the Common, become key concepts in the evolution of mobile technology. As we will see in the discussion of my work, utilizing elements of our surrounding space, especially

human elements is a powerful, and underdeveloped aspect of location-based storytelling. As mentioned in the last chapter, the various media—audio, video, text, animation, images—make it difficult to hone an expressive channel for Smartphones.

In finding an appropriate "language" for Smartphones to approach "closure" with, it is helpful to work with particular audiences and custom narratives. Such work has already started within groups of early adopters of mobile technology.

Fan Communities

The largest community of mobile technology "storytellers" are geocachers. At this very moment people around the world are using GPS-enabled devices to find various types of hidden caches, including story chapters. For instance, "Dance of the Dead" is a six-chapter murder mystery parsed and hidden in small "tins" camouflaged and tied to tree branches in villages around London. Clues in the tins or "caches" can help you get to the next site and give you evidence of who

Figure III.3. Sample GPS device. (Image from www.geocaching.com.)

might have committed the murder. The author, SimonG, presents the story online as follows:

> There's been a murder! Dommy Padger, gypsy fiddler and amateur sleuth, is on the case... but he needs your help!
>
> The published coordinates will take you to Great Bardfield Town Hall. Here you will find a microcache containing chapter one of Dommy's adventure. Each copy is individually wrapped in plastic. Take one and replace the cache.
>
> Unwrap the sheet and read the beginning of the mystery.[15]

Figure III.4. (Image from www.geocaching.com.)

One geocacher who played the "Dance of the Dead" had this to report:

> "The fascinating thing about this one, is that you feel you're in the story because as you walk from location to location, the characters do too, sort of real time...Another thing you feel as

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[15] Website: http://www.geocaching.com/seek/cache_details.aspx?ID=54486. As of writing this report, there were 76,000 caches hidden in 190 countries. Freaky.

you sit on benches in churchyards and teashops, reading each chapter, is that everyone around you knows what you're doing. They don't, but each seems they COULD be a character in the plot."[16]

This game could be played with a compass and coordinates on paper, but the website start and ending points plus the use of GPS devices make it especially appealing to a digitally-enamored group of users. The power of the story isn't so much its content—we find a simple "who-done-it" story—but the arrangement of story within an established practiced of a fan community. The question then becomes, is this audience ready for more nuanced forms of storytelling? And from the other perspective, how willing would fans of fiction be to experience this new form of "moving fiction?"

R&D Groups

More advanced uses of technology, and, to some degree, storytelling are happening in academic research spaces such as MIT's Media Lab. The Interactive Cinema group in particular has been trying to figure out ways in which mobile technology can be used for multi-threaded storytelling. Their m-Views project is still in pilot phase, but already features several interactive stories.

This group of artists, designers, and engineers tackles digital storytelling from a perspective that "reflects the longing of cinema to become something new; something more complex and personal, as if in conversation with an audience" (Davenport, et al, 1.) They have built software and hardware that incorporate such technologies as distributed networks (distant audiences can collaborate on storytelling) and artificial intelligence (characters and stories react to audience input.) In the mobile device arena, they are currently developing storytelling software for networked PDA's which feed video clips based on a user's location.

In a recent m-Views story, users move around an office space, and video clips of different characters pop up based on previously viewed clips and one's location within a wireless network. These characters reveal different pieces of information about a robbery which has occurred in the building. The effect is one of clue-laden dialogue à la Sherlock Holmes, blending in some Matrix Kung Fu, strung together with a hypertext jumpiness.

The story itself seems to be a derivative of its medium technology. As the Interactive Cinema m-views documentation points out, "a 'who-dun-it' structure...could assign the viewer the role of the investigator." (Pan, et al, 2) Thus, given a storytelling system that feeds out narrative chunks in

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[16] Same Source.

different locations, mystery would qualify as a literary form that delivers its story in separate chunks, that is, clues. While the story itself isn't necessarily innovative, its reception is. However, one should wonder if this process might be reversed. Could innovative stories drive the development of media technology? As the *orientation* points out, powerful texts such as <u>Don Quixote</u> and <u>The Confidence Man</u> are endowed with the ability to question and reconfigure their medium. How might this tradition be carried over into R&D spaces?

If interaction is an assumption of this medium, how might storytelling play on this concept? Isn't it unhelpful to interrupt a storyteller too often? When are disruptions useful?

All of these questions appear in the ecology of Smartphone development and were going through my mind as I began my fledgling efforts in "moving fiction." I was always enamored of the values and aesthetics of novelists and approached Smartphone fiction with an emphasis on voice, meditative interactivity, and a sense of larger historical arc. It is this larger history, "the ongoing wow!", as Speed Levitch calls it, that I was most intent on listening to. I envisioned a type of new media development that dialogues with a larger humanist conversation in its conception of technical improvements. It is from this standpoint of story first, that my "moving fiction" project started, and the concept of *exchange* evolved.

Preliminaries: GPS Walking Tour

My first work in mobile technology was a walking tour of historic Beacon Hill, called "From Harvard to Hell," completed and tested in Spring, 2003. The story was an adaptation of a PBS special about the trial and conviction of a Harvard professor on charges of murder in 1848. The technology involved in the project was developed by Environmental Detectives, an MIT initiative to use mobile technology for educational activities. In my adaptation of this technology I was primarily concerned with using the video, GPS, and mapping capabilities of the mobile device to tell the story of a famous Boston murder.

This historic murder became the OJ Simpson trial of colonial New England. Newspapers from as far away as France and England covered the trial of a Harvard professor, John Webster, accused of killing George Parkman, one of the wealthiest money lenders in Boston. Also involved in the case was the janitor of the medical school, Ephraim Littlefield, who somehow found the dismembered body of Parkman buried 30 ft. below the medical college. Behind the trial lurked subtle issues of class conflict at a time in which upper-class Americans were enjoying unprecedented levels of comfort through the labors of a burgeoning immigrant class. And throughout the case there were hints of dirt: grave robbers hired to bring cadavers to the medical school, Parkman's stern management of poor tenement houses, and Webster being presumed guilty. The idea of uncovering dirt in a pristine environment seemed to be best told through a series of ghosts you meet along the streets of Beacon Hill: a rope-walker (maker), a grave robber, a Parkman tenement resident, etc.

Figure III.5. (Author Image.)

These ghosts "revealed themselves" on the PDA's in the form of video clips and short text boxes which popped up when you walked to designated hotspots in Beacon Hill. The map below indicates the hotspots (dark dots) and the current location marker (the polka dot circle). Users could follow any path to the various hotspots, although their travel time was limited to 45 minutes. The GPS dot (location dot) would follow them around and when it aligned with points on the map, one of the ghosts would pop up on the

PDA and tell his/her story. The stories included fairly fact-based narratives with some pointers to the historical indicators in their immediate surroundings (such as boot scrapers attached to front steps) along with a video piece culled from a PBS special on the murder[17] and dubbed over with ghostly-sounding voices. Each ghost story was supposed to present a different angle on approaching guilt in the case.[18]

Figure III.6. (Author editing of map from McIntyre, 26.)

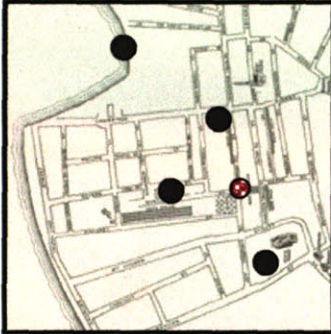To test the effectiveness of the tour I administered pre- and post surveys along with some video documentation. One of my principal findings was that users really enjoyed moments in which mobile media made you engage with the space. This was partly due to the historical value of the space, but also to the fact that it was an amazing spring day. While I was hoping that the mobile media could provide an historic/fictional lens with which to view the environment, I was only partly successful. I found many moments in which participants were walking with their heads buried in the device and other moments when they were just walking, having completely forgotten the story which they were supposedly unfolding with every footstep.

It became clear to me that the system needed some improvement to tell effective stories. One of the biggest redesign challenges was to find a compelling way to tell a story in this small-screen, non-linear, gapped format. In a way, narrative rules of cohesive plot structure, character development, and rich storytelling were thrown out the window. I began to think of ways that the technical configuration of the device might create a new aesthetic, doing away with controlled character development and linear plot. But there was something very technologically deterministic about this approach. Again, story was falling within technical structures, a post-hoc reaction to products developed in labs. I began to imagine means to use the devices in ways that emphasized natural skills, voice, and creativity.

One potential solution was to develop stories that further utilized surrounding space. Thinking about the surrounding space, I realized that human beings were an environmental factor I had

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[17] "Murder at Harvard", Eric Stange, director. Spy Pond Productions, 2003. http://www.spypondproductions.com/ourproductions.html.

[18] Technical Note: In my tests, the GPS was often triggered in the wrong spot, so site-specific information was sometimes lost. The sound quality was poor and the headphones helped a little but not much. The walkers had trouble establishing a good route through the simulation because of lack of confidence in the GPS and the need to turn back once in a while.

so far ignored. I had been thinking about mobile technology storytelling as focused on the device. What if the device became more of a companion to human storytellers? Integrating oral storytellers into mobile device narratives became very interesting to me as I realized humans could do a great job of filling in the gaps between hotspots, work around technical problems or blackout areas, and generally keep the pace and power of the story going. I began to think of who these human storytellers would be and what storytelling practices still go on in public. I thought of tour guides.

"Ghosts in the Granary" Project[19]

This project, completed in fall 2003, was targeted at generating continuous, compelling narrative using handhelds and human storytellers. I designed the project from the perspective that Smartphones might not currently work well as "stand-alone" storytellers, but as part of a *hybrid* human/mobile technology storytelling project. How can the devices embody characters in a human performance, turn us into participant characters, or generate dramatic tension?

With these questions in mind, I worked with actors from the Freedom Trail Foundation to develop a story to play out in the Old Granary Burying Ground in Boston (a small graveyard in the center of the city where Paul Revere, Samuel Adams, John Hancock, and "Mother Goose" are buried.) The basic premise of the story was that the actors would perform throughout the graveyard accompanied by a character(s) embedded in the mobile device. I saw the actors as essential to keeping the device storytelling rhythm going, but by the end of the project it was clear that the device was more a complement to their captivating performance.

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[19] See video and animations up at http://web.mit.edu/m_e/www/ghosts.html.

Figure III.7. (Author image.)

"Ghosts in the Granary" then expresses another key tension in this ecology of the Smartphone: how independent should the device be? For the stories to be "scalable" in the business sense, you often want to make applications that don't rely on a human presenter, or specific spaces to be properly viewed. In many historic cities, however, talented tour guides are searching for means of enlivening their performances and attracting new customers.

In the "Granary" project, the tour guides performed partly as standard guides and partly as spirits of historical figures from throughout the graveyard. The device offered video, audio, games, and animations which solved certain problems or impasses the live characters ran into during the performance. For instance, one device animation presents a virtual tour of a sepulcher and another makes a game out of the plight of the lesser known patriot on the Midnight Ride. In other instances, the digital content served as a personal foil—a Greek chorus—to the historical re-enactments. And in some ways, the digital content was a satire of itself, a modern device in an old graveyard (acting in some moments like a safety card on an airplane, outlining the graveyards "emergency exits", and other times, comparing Paul Revere's status as foreigner/patriot with the gubernatorial aspirations of Arnold Schwarzenegger).

Distraction: "As You Enter the Theater, Please Turn Your Cell Phones 'On'!"

Among the various moments of interplay between live actors and portable devices, none was so interesting for me and audience members (65% of users gave this section top marks) as the use of device distraction in telling the story of the Salem witch trials. During the performance, Judge Samuel Sewell pops up from behind his grave (male actor) and begs the audience for forgiveness. "Sanctuary! Sanctuary! Can anyone guide me to a place of rest?" He pleads to the audience to exculpate him by looking into their "electronic lanterns of the soul." (Script, p. 6). The audience then views an overly-slick presentation of the case of Sarah Good, one of the executed

Figure III.8. Sarah Good, played by actor Claire Shinkman, gathers anger to deal with Judge Samuel Sewell. (Author image from videotaping by Tracy Daniels.)

"witches" of Salem. The animation asks the audience to choose from a list of guilt options, similar to the Moviephone ("Press 1 for showtimes!") format. The last option warns users that Sarah Good is sneaking up behind them at that moment "with a noose around her neck." Both the distraction and the humor of the handheld device make the timed entrance of the live actress playing Sarah Good that much more dramatic and startling. She sneaks up behind the device-engrossed audience and in a shrill voice cries, "Sewell. Sewell. Do you know me, Sewell?" (Appendix I, p. 70.)

Such rich interplay between digital content, live actors, and space inspired audience reactions, such as, ""The mobile content broke up the talk in a very effective way. It added comic relief and interesting interactive content to a traditionally passive experience." ("Granary" website) The audience, especially younger members, enjoyed the device "interruptions." This jog between a strong, linear narrative, and intervals of interactive, personal media seem to make the story more engaging.

Yet from a literary perspective the "Granary" project was fairly flimsy. The prose was campy and more like a series of Vaudeville sketches than a serious story. For my next and latest project, "Presence", the writing process was much more intense and literary. Many of the concepts of the *exchange* were put to practice in this project.

"Presence:" Moving Media[20]

"Presence," is a comic story of a woman pitching the next generation of educational software to potential funders. She teams up with the PocketPC to reveal personal anxieties and various ironies associated with her profession. The 30-minute monologue was performed in the surreal Stella Meeting Room in MIT's School of Architecture. The room features a giant oval table in the center and bulging

walls painted by minimalist artist Frank Stella[21]. The performance also featured live music by the violin and guitar duet of Sereena Suno and Hara Garacci. This accretion of analog media forms (music, drama, and mural) emphasizes the humanistic premise of this PDA performance. I really wanted to push the concept of hybrid storytelling in the direction of non-digital storytellers.

Figure III.9. Stella mural, Loohooloo (1994), in background. Based on a Melville tale of night fishing. (Author image from videotaping by Cristobal Garcia.)

I also wanted the story's hybridity to carry over to production techniques. Thus, I tried to bring actress, musicians, author (myself), and designers all into the scripting process. Whereas "Harvard to Hell" had been minimally collaborative (I used some pre-shot footage from PBS producer Eric Stange), the "Granary Project" involved more collaboration in the script writing and in the development of digital content. Still the two were fairly divided: most of the script was written in isolation by actor Sam Jones and all of the digital content was my own creation. For "Presence" I really tried to instill a co-production process between actors, writers, and designers.

First of all, in writing the script I worked closely with the actress Claire Shinkman to generate the protagonist's voice. After writing a rough script for her monologue and the device pieces, Claire and I pulled a page from the *exchange* and did a close reading of Shakespeare's As You Like It. Rosalind, the comic protagonist of the play, expresses a certain wisdom and unmistakable fancy for love that we thought would be helpful to consider in the development of our protagonist. As Orlando courts Rosiland, she marvels at his excruciating need for her: "Love is merely a madness and, I tell you, deserves as well a dark house and a whip as madmen do; and the reason why they are not so punished and cured is that the lunacy is so ordinary that the whippers are in love too" (As You Like It, III.2, lines 382-87). Such a pervasive and comic perception of love helps temper some of the anxiety

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[20] For video and device animations for "Presence," see: http://web.mit.edu/m_e/www/presence.html.
[21] For a VR tour of the room, see: http://web.mit.edu/vrtour/n2_stella_vr.html.

that was running a little high in the female heroine of "Presence". For instance, I used a Rosalind demeanor to end what had been a lusty call by the protagonist to spread mobile technology throughout schools. She reflects:

> Our beautiful mistakes, our touching mistakes, our replacements for touch... McLuhan again:
>
> > "All media are extensions of some human faculty- psychic or physical
> >
> > The wheel is an extension of the foot
> > the book is an extension of the eye
> > clothing, an extension of the skin,
> > electric circuitry, an extension of the central nervous system" (McLuhan, "Classrooms Without Walls").
>
> We are trying to extend, erect, extending, grasping this erect extension... We were able to love without erection, without extension. (Appendix II, pp. 81-82.)

At the end of the speech the protagonist stares at the device in her hand and then hastily puts on her sweater, as if feeling overly exposed. The phallic implication of her speech seemed to reverberate with the audience, though not in its full implications about love in the digital age. The repetition of extension both in her monologue and in McLuhan's quote allude to the way that electronic communication can appear to bring distant love closer, but, in the end, empty of its human content. The love she desires "without erection"--without the device--happens in real space and not over e-mail or chat sessions.

While the Shakespeare reading was helpful in generating such word play and forceful statements about love, it did not lead to the collaboration I expected. Working with the text sparked some great ideas between Claire and myself, but to make them productive, I had to write them up alone. That's not to say that the collaboration was a failure, but that successful exchange has to respect the alone time demanded by good writing and design.

A more literal use of the exchange was brought through a collaboration with designer Vineet Gupta. Although he was working with a team in India and I was working in Cambridge, our collaboration via instant messenger sessions provided some sparks of the author-
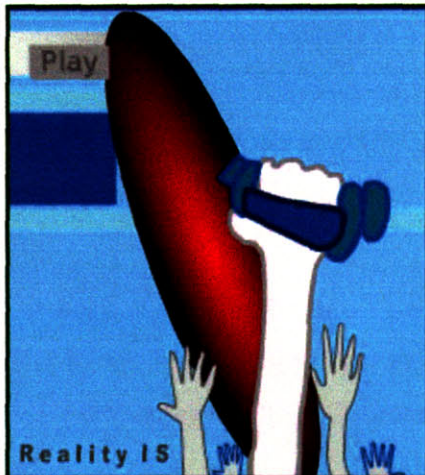

Figure III.10. The fireball is the red oblong shape going through a classically-boring tween (shape-shift). Also note the ubiquitous fist in the air and the use of geometric backgrounds... this is *designrony*. (Author image from design by Vineet Gupta.)

designer conversation I outline in chapters I and II. I gave Vineet an outline of the script and challenged him to work with the concept of *designrony*. I asked Vineet to "make fun of stupid designs or corporate speak as you see appropriate. React to whatever annoys you in design" (e-mail, April 28, 2004). At first, these instructions were difficult for Vineet to follow. He understood how the actress was expressing frustration and irony in her corporate/educational rants, but he didn't know how to design ironically. He did not want to be known for bad design, even in an experimental sense. Overcoming this barrier was difficult, but Vineet really started enjoying the process once he and his team found some early Flash™ animation techniques that they abhorred. For the first device narrative, I gave Vineet an overly-slick audio file presenting the protagonist's educational product, "Reality IS...(Reality Informational Software)" (See Appendix II, p. 79.) Vineet and his team created animations featuring a bouncing fireball (see image above,) an early and over-used Flash animation technique. Vineet also riffed off the "Do It Yourself" community technology logos that often feature a hand-drawn camera, microphone, or newspaper gripped by a defiant fist in the air.

Audience reaction to the piece was fairly cool. Most appreciated its positioning in the script, giving an overview of the product and some humor at the beginning of the show--but the irony was lost because the audience was not experienced enough in web design history to see parody in a fireball. Part of the problem is that people don't find slow, meaningless animations like the fireball insipid, especially on a mobile device. Such design is still somewhat entertaining and pleasing to the average eye. Thus, the medium might be a little young to mock amateur efforts. More clues from the live character and in the design might have alerted the audience to the fact that much of the amateur, overdone feel of the animation was intentional. What was most revealing about the process is that all types of irony, including *designrony*, demand a control of the craft by the creator (and to some degree the audience) to properly frame the ironic as intentional.

Figure III.11. The protagonist drinking water was a signal to the audience that they should open the next segment on the device. Their movement from leaning back to forward was dramatic in its own right. (Author image from design by Vineet Gupta.)

As with the Granary project, device-actor interruption provided significant dramatic force. Portable device interruptions are one form of parody that audiences quickly comprehend and seem to relish. The ubiquitous grasp for a ringing phone, a dinging calendar on a PDA, or the chime of an inbox is a wonderful gesture of representing our mobile-enabled freedom and imprisonment. In "Presence" this gesture because an elegant dance of audience members leaning forward when content appeared on the device, then lazing back as the

acting and music resumed. I discovered that a significant implication of "Moving Fiction" is the movement between a hunched-over interest in the device and a reclined soaking-in of one's surroundings. The fourth wall is tapped away by the device pointer, then quickly rebuilt by the performance.

Figure III.12. Dragging the cards in the "Solitaire" segment made a freezer-magnet-type audio poem play on the device. Audiences wove this narrative into the actor's droning description of educational technology in Harlem. (Author image from video by Cristobal Garcia.)

The leaning forward and backward dance was brought to a head in a reportedly popular segment of the performance called "Solitaire." The premise was that the protagonist is giving the audience a fairly long, boring lecture on the benefits of educational technology. Before she starts, she tells the audience that they are welcome to follow along on their own screens and then sips a glass of water (audience cue to start the device). Instead of stopping the show while the device plays, the actress continues with her diatribe as the audience begins a poetic solitaire game. The playing cards are emblazoned with various pictures of the protagonists'

lover and dragging cards pops up fragmentary audio of salutations: "Regards," "See you," "Getting back to you," "In touch." The game is meant to insinuate a lurking loneliness of the "solitary" protagonist. Dragging the cards quickly creates an audio poem of the disembodied niceties of electronic communication. For instance, once familiar with the card sounds, audience members constructed poems like:

Seeing you

Getting away

In touch

End Game

Game on

Time out

In touch

Time out

Getting back to you

End game.

The protagonist's live speech is meant to provide background or foreground to this card-dragging poetry.   I observed that some groups played the solitaire game throughout the five-minute speech (and beyond), while others spent a third of the time with the game and the rest of the time focusing on the speech [especially tittering at the protagonist's pseudo-Spanish pronunciation of "Juan" who his a high school student in "Harlem" (see Appendix II, p. 7).]

This power to recast our implements of interruption as tools for reflection and inner connection was established in "Solitaire," but reached an apotheosis in the final scene of "Presence." The last device interaction presents each audience member with a fragment of a larger message, a puzzle piece, if you will.   The protagonist slinks across the meeting table glancing at all of the message fragments on the audience's devices and entreats them to bring the devices together in the center of the table.   The lean forward/back dance orchestrated throughout the performance culminates in all audience members stretching towards the center of the table to figure out what it all means.   The

Figure III.13. Aligning the puzzle pieces got a big lean forward from all the audience members. (Author image from videotape by Cristobal Garcia.)

resulting message—"Touch is Never Distant"—backed by a faded photo of the protagonist's lover leaves the audience with a solution and a conundrum.   Some audience members took it as an anti-technology statement, while others felt it to be a reminder of overpowering significance of human contact despite technological expansion.   In the end, this puzzle project both inspired and encouraged audience interaction.   New types of leaning— more lateral towards one neighbor—were observed towards the end of the performance.   People were so activated that they wanted to share ideas with neighbors and even interrupt the actress as she pondered what it is to be "present."   The largest "Presence" in the performance turned out to be the audience.

Figure III.14. Audience members showed lateral leanings, too. (Author image from videotape by Cristobal Garcia.)

Despite the success in activating the audience, the message of the play was still somewhat garbled. Audience member and cast interviews revealed that the device character and, to a lesser degree, the protagonist were never properly developed. The main character's conflicts—love and

success, technology and humanism—were constantly flip-flopping without a feeling of specific conflict and resolution. While the device was supposed to explain some of those tensions, as a Greek chorus does in classic tragedy, it never found its own voice. While some audience members thought the device represented the protagonist's inner thoughts, others thought it was an obnoxious, rebellious side kick. I purposely used male voices on the device to play up its role as phallus, and alter ego to the protagonist. But its range from silly, to somber, to sage never congealed into an understandable, consistent character. While the protagonist was also inconsistent, her multiple-personalities seemed a little more connected to the audience.

One possible fix for future performances would be to change the device voice to an altered version of the protagonists' voice, establishing the handheld as her other self. Another option would be to keep the device as a separate character, but develop an introductory animation in which the device introduces itself as a machine sensitive to its own limits. It's worried because despite its ability to produce many different media forms and connect to so many other machines around the world, it can't seem to make its owner happy. The subsequent animations and games are small gestures, hastily thrown together from the device's deep memory banks, to try and heal the protagonist's heart. Such a clear role from the start would help the audience better identify with the somewhat disjointed device segments.

Figure III.15. Shinkman contemplates the device as phallus. (Author image from videotape by Cristobal Garcia.)

Despite its lack of character establishment, I noticed that the device itself immediately achieves a great deal of audience sympathy. It rests in your hand and responds to your touch. People liked tapping the device, even when the animations weren't interactive. In the future, I believe that we can play more with this trust in the device, both undercutting it through negative feedback to interaction and exploiting this handheld confidante to drive alliances and sympathies through a performance.

Overall, the immersion of the device in an traditional media performance proved successful. It pushed an instrument designed to be "personal" to a role of "extrapersonal" expression. Digital content sparked interest in the protagonist and in other audience member's opinions. I believe that these outward pointing applications for Smartphones could be further developed in the future, especially through collaboration with humanities experts. Although a performance like "Presence" and other projects might not "prove" that the message can make the medium, it does outline a more active

role for storytelling in technology development. In the next and final chapter I will expand on how the role of humanities can grow in the field of mobile technology development.

4   Concluding and Borrowing

Our differences will become beauty instead of war as long as we are united by the
common shared thrill of being alive.

Timothy "Speed" Levitch, Speedology, 119

Considering "Use"

Throughout this discussion we have availed ourselves of the word "use." We considered use from the perspective of user studies, focusing on narrative techniques to design products that work in the larger contexts of customers' lives. We have seen how use or utility of cell phones is expanding with Smartphones, capable of multimedia, rich networking services, and global location awareness. We have considered use as in used or not new, aligning the term with an artistic interest in anti-consumption expressions. We might also think of used in the sense of an item borrowed. In this final section I would like to expand on the concept of borrowing to define future mobile storytelling efforts.

As our discussion of the SCOT model described, the development of Smartphone technology depends on "closure," that is, a resolution of technical, economic, and social tensions surrounding the technological artifact. By focusing on humanist considerations, I find closure will come through openings, or exchange between disciplines. This is a significant step away from mobile device storytelling grounded in the "networked individual." Current applications and games being pumped out by R&D labs and the tourism industry assume the mobility and networking of phones to be the crucial starting point for developing storytelling applications. I advocate a larger sense of borrowing in finding "character" for Smartphones. I hope to outline a type of borrowing that looks at story first and then moves onto the technical possibilities for telling that story. Overall, I imagine "Moving Fiction" to be grounded in reaching out, from discipline to discipline, from device to performers, and from audience members to audience members—a new form of Smartphone *environmental* consciousness, if you will.

Designing the Device Outward

As we have discussed, *personas* and scenarios are bringing a more nuanced understanding of narrative to the field of interaction design. Brenda Laurel reports using dramatic techniques in modeling user behavior, and Pruitt and Grudin use analogies to the television show "ER" in their development of rich scenarios. Literature has not yet found its place in interaction design, yet a few rich uses of literary figures (i.e., Don Quixote, the roaming cell phone junkie) and research into some of the more complex narratives (Dostoyevsky, Melville, Joyce, etc.) may add depth and style to the budding craft of scenario development. With some coaching by novelists, academics, and screenwriters, more progressive design firms such as Ideo or Design Continuum might begin using literary techniques in their user studies. I believe the technique would be most useful for projects demanding intimate descriptions of customer behaviors and motivations.

The other use of story we outlined for interaction design applies to the development of actual stories on mobile devices. Again, a close collaboration with humanities experts might move concepts of successful story away from story structure and mechanics and towards the craft of language. The demands of authorship are not met by appeals to Aristotle's Poetics (Laurel, 1991), mViews story webs (Davenport, et al 2003), and various community digital storytelling projects (Center for Digital Storytelling, Berkeley and the Community Memory Project.) Such structural approaches translate well into digital code, but build stories in which, in McLuhanist jargon, "the machine is the message." For the message to make the medium, we should focus on the linguistic devices and the love of character in developing stories. As our orientation readings showed in Chapter 2, great stories naturally push structures and even media technology in groundbreaking directions. Thus, developing a Smartphone brand of design language—be it through the *designrony* I have pushed for, orchestrating audience "leanings," or spoofs of human-computer interaction—would bring a humanist flair to the evolution of Smartphones. This design language would be the starting point for a new generation of mobile technology authorship. Questioning the very systems interaction designers develop is the essence of such authorship. Subverting rules of clarity, "personal" design, and "networking" is a healthy start along the lines of such daring. Interaction designers should retain a relationship to their roots in consumer product design, but also expand and undercut those requirements in the telling of powerful stories. Such expansive, socially-based thinking will push interaction design in new directions and lead to truly "Moving Fiction."

Storytelling Spaces

As pointed out in the "Ghosts" and "Presence" projects, finding the right spaces for mobile storytelling is fundamental. The spaces should not only be considered for their aesthetic appeal, but for the storytelling practices they already house. Thus, the Old Granary Burying Ground in Boston and its live storytellers from the Freedom Trail Foundation already offered a dramatically rich story to complement with mobile devices.

In some cases, spaces offer themselves up as venues for mobile storytelling: events such as cultural anniversaries (Cervantes Celebration in Spain) and art festivals (Burning Man in Black Rock City, NV) offer situations and evocative topics for storytelling. Other times, authors have stories to tell about specific spaces (Winesburg, Ohio, Ulysses, or Vonnegut's constant references to Troy, NY, aka Illium.) While most novelists don't write stories to be told in the spaces they describe, a brand of poetic, satirical "tour guides" are cropping up on the American literary scene which might serve as seminal material for "Moving Fiction." Speed Levitch, for instance, is a poet/tour guide who has been quoted throughout this thesis and whose prose is particularly apropos for activating spaces and exploring fictional expression through Smartphones. For instance, in a documentary about his soul-searching tour guide work on Grayline double-decker bus tours of Manhattan, Speed explains to the passengers that a mere century ago Madison Avenue housed servant quarters for the mansions on 5th Avenue. Levitch then erupts into a soliloquy on the marvels of growth this street has witnessed in the last 100 years:

> You are sitting in the middle of midtown Manhattan, a city that grew up at an explosion, an experiment, a system of test tubes gurgling, boiling out of control...Civilization has never looked like this before. This is ludicrousness and this cannot last.

Then, taking a moment to focus on the passing scenery he points out, "The new Ann Taylor store on the right." (The Cruise, 1998, dir. Bennett Miller). Levitch's sarcastic lyricism and sensitivity to the poetry of spaces constitute an appropriate authorial stance for "Moving Fiction." A potential exchange artist himself, Levitch invites us to a new vocabulary of "cruising" (his term for the power of travel), creating prose which blends romanticism, farce, and social history.[22] Several other authors show promise of expanding the language of "Moving Fiction." Sarah Vowell, for instance, writes of strange, dark sites in American history (especially in The Partly Cloudy Patriot), bringing together a together a nice combination of human discourse and rock n' roll vernacular. Italian author Italo Calvino offers a more fictional account of historical spaces, such as his Invisible Cities, which presents

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[22] There have been two films made about Levitch's tours: "Live from Shiva's Dance Floor" (Linklater, 2002) and "The Cruise" (Miller, 1998). Also, his book, Speedology (Context Books, 2002) outlines many of his spatial poetics.

brief portraits of imaginary cities all based on Venice, Italy. Working closely with one of these authors in a specific story of a space could further test my linguistic premise for "Moving Fiction." And once the language of "Moving Fiction" is established, the next question becomes form.

Media Types and Borrowing

As I pointed out in my previous projects, finding the right media and voice for the device was daunting. Smartphones support a wide variety of media forms: audio files, film, text, drama, music, games, instant messaging, office applications, and orienteering. How then do we work from strong texts to an appropriate mobile media character?

Something is bound to get lost (and created) in moving from page to device. Animatronics designer David Kelly provides some inspiration for this process in his work creating remote controlled Muppets. (I know this sounds weird, but stay with me!) Kelly describes the work of a team of designers and performers to build a modern, mechanical puppet as follows:

> We'll start with this idea for a character... and come upon a drawing, a painting that has a certain amount of soul, a certain amount of life—that sort of somehow in that drawing embodies that character and we think "Yes, that's it!"...

In our case, the script or even a live performance in a specific space is the "drawing" that outlines the soul of our device character. Kelly continues:

> And in building a puppet for that character the next step is to sculpt it. And what you don't want is sculpture; you don't want to create fine art from that drawing. You have to sculpt the character in a way that sort of robs it from its soul by making it symmetrical—by creating a sort of evenness where there was asymmetry and life in the drawing. You have to create something based on that drawing that will allow you to put the motors, and servos, and mechanisms inside of it. And inherently in that process you're losing part of what the character is about—you have to.

In creating a character for the device there is also a certain need to constrain movement, not necessarily in mechanical terms, but along the lines of technical requirements and current capabilities. In this phase of production, interaction designers become an important link between the expressive intentions of the author and the technical possibilities of Smartphones. The character is constrained at this point and, yes, the "machine makes the message," but, as Kelly points out, a final step is needed to bring the character's soul into the device:

> And once that character is built and it's sort of a symmetrical thing that doesn't have the life and soul of the drawing....Once it's built, it's up to the performer then to put his hand in it and work the remote controls or the servos to imbue that symmetrical thing with the asymmetry, with the soul—that thing that's been lost inherently in the mechanical process. It's that love of the character that the performer is

> transferring into that little bit of metal foam and plastic that brings the character and the story through
> again...and it's through the love of the character that you convey the story. (David Kelly, personal
> communication, March 4, 2004.)

This final germination of character within a device is not necessarily the responsibility of authors, but that of designers and audiences. Interaction designers create applications that in some ways choreograph the story—the forward, back, and side leanings of the audience. It is in this orchestration of movement, of involvement with story, that the art of technology design merges with serious fiction.

Only through a disciplinary opening—the exchange—does eloquent, effective storytelling translate to eloquent, effective use of multimedia, space, movement, and networking. Such a collaborative, transdisciplinary approach to Smartphone literature brings us back to the original quandary of this thesis: how to move beyond a language of loss and replacement in understanding communications technology development. While I have outlined ways of imbuing Smartphones with more thoughtful forms of narrative, there still lingers a sense that new literature will replace the old— that all new technologies, even those stretching across various media forms, impinge upon older media forms. Bolter and Grusin sum up this media tension: "all currently active media (old and new, analog and digital) honor, acknowledge, appropriate and implicitly or explicitly attack one another. Various media adopt various strategies, which are tried out by designers and creators in each medium (and sometimes in each genre within a medium) and then sanctioned or discouraged by larger economic and cultural forces" (Remediation, 88). In these remarks we find a certain truth to the complex way media relate to each other in a broad, historical swath. Yet from the production viewpoint I have presented in "Moving Fiction," terms such as "currently active media," "analog," and "digital" become difficult to consider in isolation. They all work as part of an expressive whole. Bolter and Grusin are right that there is an honoring of and some competition between various media forms, but such battles are not the front line of the work. The front line can be found in the challenge to build characters and production teams to powerfully convey a message. What might be lost in new media work, then, are traditional lines of genre distinction. But in great fiction these losses become generative—themes and characters in and of themselves. The truncating of letters and salutations inspired the "Solitaire" poetry. The loss of realism in chivalric novels inspired Don Quixote to ride out on Rocinante. And the general loss of direct experience through the allure of imagination is a theme which has inspired authors from Melville to Murakami. No, we cannot consider "Moving Fiction" without some language of loss. Creative acts reach a certain maturity in their sensitivity to that which is lost, displaced, and forgotten through the act of creation.

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Appendix I: "Ghosts in the Granary" Script

PROPS: Noose, blood, and Colonial Costumes

SETTING: Entrance to the Old Granary Burying Ground. Gate is open, bewitching twilight is gathering. Michael is organizing group and setting up devices. Ghosts enter from up the street at 2pm or on cell phone call.

Female Spirit (FS): 'Tis now the very witching time of night, when churchyards yawn, and hell itself breathes out contagion to this world. Now could I drink hot blood, and do such bitter business as the day would quake to look on.

Male Spirit (MS): Here lie Boston's Bones! Come hear the stories they have to tell! *(Moves towards the Tomb of the Innocents and changes voice a bit.)* In the unlikely event that the dead should rise from the grave and hunger for the flesh of man, there are two portals for your fleeing needs.

DEVICE #1: **plane.html** (Characters fleeing graveyard.)

FS: *(gesturing to exits).* We appreciate you making a sincere effort not to trip over any of the headstones in your state of mortal panic and if perchance you become

zombified, kindly rent your garments and walk with hands extended in front of you to

indicate so. Other spirits should shortly arise to join you in your quest to rid the

earth of humanity.

MS: Trouble not, for we are benevolent spirits of long ago, come to guide you as we

tiptoe through the tombstones and dig up a few old friends.

FS: (*regains official tone*) Yes, please, enter the Granary Burying Ground, the resting

place of the sons of liberty! Below this earth lay the remains of three signers of the

Declaration of Independence. (*insert other facts of relevance.*)

MS: We two are the spirits of the burial ground. When hollow's eve draws nigh, and

the full moon is high, we rise and walk about a bit, the shades of things past.

FS: We give voice to the restless spirits of our fellow dead. Consider the electronic

lanterns you hold as the bullhorns, ay, the skylights of those lying beneath you. As

we pass by the remains of a fiery soul, perhaps their spirit will join with ours, and

give you a look into the eyes of Boston's patriots of years gone by!

MS: Ah, and perchance the most memorable aspect of this place is the sepulcher of those so often forgotten.

FS: Oh, you didn't want to mention...I don't know if they should know about this one. *(nervous glance, trying to resume guide voice)* In this burial ground you will find three types of graves. Headstones, such as these here. Often they have footstones, also. Looking at the edge of the burial ground, you can see vault graves, or graves carved into the wall. They have markers on them. *(add any other appropriate grave details)*

MS: And don't forget the table-top graves. These are large vaults underground marked by a large slab of stone. They were for the very rich, or for...uh,

FS: Or for the children. You should tell them.

MS: Regretfully, this here is the grave of the Innocents. Here are buried the bodies of 300 infants that never made it past their first year. It was common, that children would die in infancy, and thus the practice of not naming your child until after the first year. *SHAKESPEARE QUOTE.*

DEVICE #2: **crypt.html** (Device gives an insider view of the Tomb of the

Innocents.)

FS: (*From the Neal Grave, on cue*) Remove your eyes from those electric spectacles

and cast your eyes upon a true bearer of lost offspring!

MS: (*Walking towards the Neal grave*) Who dares...Mrs. Neal?

FS: The very same. Lead those poor souls but my way awhile, and I will tell them of

real truth.

MS: (*Brining crowd to FS*) Truth, madam? I resent your implication, I traffic not in

falsehood...

FS: Not lies, surely, but even more insidious...weak trughts, half-truths, *men's*

truths. So glib you are, speaking of the Tomb of the Innocents with your flowery

poetry and talking lanterns. Allow me to recite a poem of my own, though one that

wouldn't interest *you*. "Elizabeth Neal, aged three days, Elizabeth Neal, aged two

weeks, Andrew Neal, aged 18 months, and alos the body of Hannah Neal is here

interr'd." The names of my poor lost children, God save their souls. In a time whe

most families would only count one one or two our to every theee children even

surviving to their first birthday, most women would not dre name their child until the

first yer had passed safel. Not I, sir. I named eery one, and stood helpless by as one

by one they were torn from me.

MS: Mrs. Neal, we are sorry for your grief, but yours is just one story among the many famous men lying in this burial ground...

FS: One story! Sir, my story is *every* woman's story. You noted the two Elizabeths on the stone? We used the self-same name over and over and over again until one of our precious babes actually survived. And in fact, the greatest cause of death for we women was childbirth. But you would know nothing of those dangers, playing your soldier games far from home while we ran the businesses, the farms, the families!

MS: Soldier games? Madam, I have no time for this foolishness...(begins to lead group off toward Revere)

FS: *(blocking their path)* Indeed sir, I apologize. My grief should lie buried as my children, Lord knows it has been long enough, and these people deserve happier tales. Step this way, and I shall tell you of both the luckiest and unluckiest woman that ever lived.

MS: *(reluctantly)* No more wailing, now?

FS: Cross my heart and hope to die?

MS: Cheap.

FS: Wit comes at a high price, sir, and thank God this woman had an overabundance to spend. Her name was Elizabeth Foster Goose, and as the second wife of Isaac

Goose she inherited ten children from his first marriage and proceeded to add *ten*

more of her own. To entertain the clamoring brood, she made up stories and rhymes

to tell them.

MS: Was not one of her children named Mary Goose?

FS: Aye.

MS: If I recall, Mary had a little lamb! We would remark on how like a little dog it

was, following her all about the town...

(DEVICE #3: Oranges and Lemons)

FS: A dear, sweet, accommodating creature. A perfect companion to a little girl in

life, and a perfect companion to mashed potatoes in death.

MS: Hardly tasteful, madam!

FS: On the contrary, it was very...

MS: (*hastily interrupting*) Right, let us continue towards the tomb of a great

American patriot...*onto Paul Revere*!

FS: Right, let us continue towards the tomb of a great American patriot whose father

came to this country as Apollos Rivois. (They walk towards Revere's grave). Ah,

but I cannot pass by this spot without stopping to observe this stained tomb. This is

the tomb of Justice Samuel Sewell, one of the judges who presided over the infamous

Salem Witch Trials, whose bloody memory lives on to this day. Judge Sewell is

notable for having recanted his judgments later in life. Who can say if his confession

has eased his damned and blackened soul?

MS: Sanctuary! Sanctuary! Can anyone guide me to a place of rest? Mine is a

tormented soul. When my young son grew ill, and my grandson perished, I felt the

hand of God awaken me to my own sins. I wrote this confession, which my minister

Samuel Willard read aloud in the church; "Samuel Sewell, being sensible of the

reiterated stroke of God upon himself and upon the opening of the late commission of

Oyer an Terminer at Salem…desires to take the Blame and Shame of it asking

pardons of men." I should have read it aloud myself, and asked for the pardon of God

and not men, but I was a coward. I observed annually a day of humiliation and prayer

for the rest of my life, but it has availed me not, for in death I am hounded by my sins

through endless night. The wind howls at me, and I am stalked by accusing shadows.

DEVICE #4: **witches.html** (vote for guilty or not).

FS: Sewell. Sewell. Do you know me, Sewell?

MS: Preserve my soul. You are Sarah Good. You are the one who cursed Reverend

Noyes from the gallows. He asked for your repentance, and you…

FS: I said to him, "I am no more a witch than you are a wizard. If you take my life

away, God will give you blood to drink." And what became of the Reverend, Sewell?

MS: He died two years later of a hemorrhage, coughing and drowning in his own

blood.

FS: My name was on the lips of men that day, I can tell you. But I was no witch,

Sewell. The forgiveness you seek is not from your fellow men, but from the women

you hanged!

MS: then forgive me, Sarah Good! Please, please forgive!

FS: (*turns to the audience*) And you, look not so removed from this accursed

process! Spinning my fate with your oh so clean metallic needles and touch screens.

(*glances at Michael's screen as if reading the vote*) Ah, so you think me not to be a

witch? Shows how much you know! (But seriously folks), I was not a witch in life,

but you made me one in death. I will be a witch to you, Samuel Sewell. Your

suffering brings comfort to my soul. I will show you no mercy, may God keep you in

Hell!

MS: Please, no! Please...

FS: Come way from this damned soul. This is a fate of his own making. Let us turn

to happier things, from the infamous to the famous. This is the final resting place of

Paul Revere, whose father came to this country and changed his name to Paul Revere

to aid his failing silver smithy business. And the name change did polish his smithy

business quite well.

MS: My how times have changed!

DEVICE #5: Arnold Screen.

FS: As I was saying, Paul Junior, buried here, is of course the famous midnight rider

who rallied the minutemen across the countryside to fight in the first battles of the

Revolution, Lexington and Concord. On April 18th, 1775, Paul had his friend Robert

Newman hang two lanterns in the Old North Church as Signal to the people of

Chalestown that the British were advancing by boat.(*give the explanation here*) Then

he caught a boat across the Charles River, and met his good friend Deacon Larkin,

who had a horse ready for Paul's ride to Lexington. The first part of Paul's mission

was to warn Samuel Adams and John Hancock, hidden in Lexington, that the British

were on their way. After alarming the minutemen of the area along the way and

escaping a British patrol on horseback, Revere arrived at the country parish of

Reverend Jonas Clarke, where Adams and Hancock were staying. One of the

servants came to the door and said, "Sir, all of the ladies and gentlemen of the house

have gone to bed and request that there be no noise about." To which Paul replied...

MS: Noise! You'll have noise soon enough! The regulars are coming out!

FS: Then came a voice a the high window: Hancock's. "Come on up Revere, we're

not afraid of you." A little later another rider showed up. It was William Dawes,

who had ridden overland with the same mission as Revere. The two were joined by

Samuel Prescott, a member of the Sons of Liberty movement...

MS: And the three patriots rode victorious to Concord!

FS: Well, not quite. You see, as they were riding, a British patrol pulled across the

trail and called for their surrender. At that point, Dawes spurred his horse back down

the trail towards Lexington. Later he fell off his horse and lost his watch. But most

of the reason we have never heard of Dawes was due to the geography of the time.

(goes on to explain while map pops up on devices, Guides people in how to hear

those voices that rode and rowed for freedom.)

DEVICE #6: **ride.html**

MS: Oh darn. But at any rate the two patriots then rode victorious to Concord.

FS: Ah no, for you see at this point, Paul Revere was captured, relieved of his horse and forced to walk back to Lexington.

MS; Paul Revere was captured?!? Well gosh darn it, didn't anyone ride victorious to Concord?

FS: Yes one: Dr. Samuel Prescott, who jumped his horse over a low stone wall and escaped to alarm the minutemen of Concord. So Prescott deserves as much credit, for the midnight ride, some would say, as Revere himself. Why is he not famous, you may ask? Because within a year he was dead in a British prison of war in Halifax, Nova Scotia, captured while acting as a battle surgeon for the Continental Army. Whereas Paul here lived well into his 80's and fathered sixteen children! Both literally and figuratively, on of the fathers of our country. Paul Revere.

MS: Many of you no doubt had to memorize the Midnight Ride of Paul Revere in

school. Highly inaccurate, that one. In it, Paul rides alone, doesn't get arrested,

makes it to Concord, and cries out "the British are Coming!" Which he never did.

FS: Indeed, until the Declaration f Independence was published over a year later, we

all still considered ourselves to be English! It would be like running around today

yelling "The Americans are coming!! The Americans are coming!!"

MS: Yes, Paul was turning in his grave when that poem came out, I can tell you. He

was always very truthful about the events of the midnight ride. He didn't need to

promote himself, his deeds speak for themselves.

FS: Now we turn to this very tall sepulcher. Such a proud and erect monument!

Very appropriate for the peacock known in Bostontown as John Hancock. One of the

richest men in Boston, he used to flaunt his wealth, wearing crushed velvet suits as he

rode about town in his gilded carriage.

MS: A leader of the Revolution, Hancock's crowning glory came when as the

president of the Second Continental Congress, he became the first man to sign the

Declaration of Independence.

FS: This was a feat of no small courage. If the war had gone badly, all the signers

would have been arrested as traitors and hung. But did this bother John Hancock?

No. He signed a great signature, with a bold flourish at the end, after which he

proclaimed....

MS: There! Now fat George can read it in London without his glasses!

DEVICE#7: declaration game or something with signatures

FS: Hancock later became the first elected governor of Boston. Hancock's

adventures wouldn't end with his death, however. During a restoration of this burial

ground, the opened grave of Hancock was vandalized, and it is rumored that parts of

his body may be missing.

MS: Scandalous! A spirit's curse on these horrid grave robbers! I can only hope that

he still rests in peace.

FS: But it's equally likely that he rests in pieces.

MS: Was that really necessary?

FS: Nothing about some black comedy. But if you look closely before we leave this area you will find traces of Black tragedy. Notice this humble stone. It reads only "Frank, servant to John Hancock. The absence of a last name tends to suggest that this man was a slave. Yes! Have no illusions about your founding fathers. Though they may have written "all men are created equal", many of them, even here in the north, were participants in the so-called peculiar institution". The fact that he is buried here so close to his master tends to suggest that Frank was a beloved slave, but a slave nonetheless.

MS: We spirits are baffled at this concept of slavery, this idea of human ownership. You cannot own a man's body! You cannot possess a man's soul with whips and chains.

FS: You must marry him first!

MS: And then come the whips and the chains!

DEVICE #8: **credits.html** (LIST OF CREDITS AND CONTACT INFO??)

Appendix II: "Presence" Script

SETTING: A board room with a long table where the audience sits. A guitar and violin duet stand formally off to the side. The protagonist, Susan, greets people at the door. She welcomes them as if she knows them from before. Musicians stand at attention, politely nodding to arriving attendants. Susan then seats herself at the head of the table.

SUSAN: *(center lights on her, mumbling, increasing volume MUSIC ACCOMPANIES, FOLLOWS HER RHYTHM)* Whaddo I wanna say to you? Whattayou wanna hear? Whaddo I wanna say to you? Whattayou wanna hear? Whaddo I wanna say to you? Whattayou wanna hear wha' I wanna say to you? Do I wanna say to you what you wanna hear? Whattayou wanna hear? *Continues on in Gibberish.*

DEVICE #1: SYSTEM TOUR: (Voice Over with animated logo on devices. Susan mouths the words of the device.) Reality IS, Information Software connects classrooms to lives and brings life to classrooms. Reality IS, is a software product and development team that make learning come alive. It utilizes the latest video, animation, audio and Internet skills in fun and easy to use classroom activities. Reality IS, offers every classroom the opportunity to teach real skills, reflect on real lives, and fulfill real teaching requirements in a way that really connects to and through students. Reality IS, rides on the coattails of 20th century technical progress, which marketeers believe is improving our quality of life. Reality IS, assumes that quality of living has to do with group participation, job security, and efficient completion of tasks. Reality IS discounts the impossibilities in life because they don't drive systems very well. Reality IS, is systems thinking for a fragmented species. Reality IS, perpetuates a handicap I embody.

SUSAN: *(lights come up, music sparse at first, parenthetical words are mumbled, as if spoken subliminally).*

Are we here? Is everyone present? (stumbling) That was the, uh, presentation, sort of, but I don't know who that was. (confidence) Reality IS, is…is what he says it is. Reality IS is here, now waiting for your input. Reality IS is not the device itself, it's this stuff here in this room, now what we live,

captured and rendered educational between here and now. (emotion, emotion, EMOTION) Let me tell you a story that I think has meaning here. You all were invited here because of your interest in ideas, big ideas. (sell now, finance later) We have a big one here: at this moment it's..saturating... over 30% of Americans, 40% of the Japanese, and to 50% of the French—and it's broken. This stuff is school. And schools are losing their clients: students. (narrowing) We see in Chicago, for instance, how (narrowing more) there is a new home schooling district, which receives more per pupil than regular schools. I mean the toilets in these schools don't work and these Oprah-as-textbook, teacher-in-Muumuu shops are getting...(honing too much). (Restructuring) It's about the kids (aghh!) No it's about our kids (getting there...) It's about our kids going to a place they feel knows them. It's about kids that are so smart (getting there), it's about kids that are brilliant and are being stymied by teachers that can't handle it (getting much better.) It's about a school in West Memphis where kids (got it), where kids are writing three paragraph meaningless papers in school and SMSing amazing rhymes through their phones. It's about spaces where kids can watch a three-hour film (teacher napping) on environmental degradation shot around the world and not have anything to say and then spend three hours filming the creek behind school and have a semester's worth of science broken down into video clips. (turtles, frogs, crawdads!) It's about media being everywhere with the kids and us telling them to leave it at home, afraid that we just don't understand how educational it can be...(hold it, hold it) It's about lessons learned.

It's about me finally connecting into this giant blotch on the globe called America. Finally, I just want to stop moving. You were right, maybe I was running. Maybe we Americans move too many mountains and not enough Mohammeds. It's about me stopping. It's about me breathing and not being with you in Morocco or wherever that hotel wants to send you now and you refusing to go. It's about size not mattering. It's about loss and not loss. It's about us always wanting and demanding more and building things that make us bigger. It's about holding these things (*picks one up*) these appendages? to make us feel more powerful. It's about this lusty other, this lusty absence, this with me-alone. (failure)

(*remains pensive, drinks water, lights down*)

DEVICE #2: THE OPERATING SYSTEM "OPERATION GAME"

Welcome to the new game of operation on the divided human. Your wireless, infrared, bluetoothed, networked challenge here is to bring the body together. Get that heart up in the mind, and get that mind out of your head by dragging them with your stylus...careful, careful.

MUSIC INTRO

SUSAN: (*Susan snaps out of it, rapidly twists hair back up again and begins presentation as if nothing has happened. Feels more flirtatious and fondles her device).*

Your appendage, your prosthetic, your phantom limb...I don't really like opening statements or pitches or intros or overviews. They're usually pretty boring and they tell you amazingly little about what people are really thinking. So I'm going to start with the end. In the end, there's this new touch. It's a touch between school and life, between media and reality, between technology and learning and it's so delicate. We're not grasping, grocking, or drilling--Drill and kill, Drill and kill—we're massaging. The great erotic media poet, Marshall McLuhan said "whatever pleases, teaches more effectively." And he was creating the wiring diagram for the new school. Let's take pleasure in the touch of new media. Let's drape our classrooms with a lacy network of media. We'll teach from the book of elegant and delicate interplay between us students as aroused nodes in a web of learning. Let's encourage kids to kiss the camera, to stroke a keyboard, to find shortcuts, to run wireless through the streets, sampling and digitally reassembling their lives--to do quiltwork, needlepoint and other finery with these tools. To be the powerful amateur—the new producer of the ages--

Ya know, when reality television started its global takeover, I hated it. I watch this no-handed coconut breaking contest featuring squatting camouflage bikini women trying not to look fat and I said "Oh,no." But I've always been fascinated by the professional amateur. I mean I love mistakes in a performance. I love it when the audience begins to get uncomfortable, to become the characters. I love the empathy a good mistake can generate. Kids make mistakes and we enjoy them. Grown-ups avoid mistakes too often. I see great learning potential in the celebration of mistakes. And I think our secondary education system is too geared towards answers rather than a celebration of our mistakes. Our beautiful mistakes, our touching mistakes, our replacements for touch...

McLuhan again:

"All media are extensions of some human faculty- psychic or physical"
The wheel is an extension of the foot
the book is an extension of the eye
clothing, an extension of the skin,
electric circuitry, an extension of the central nervous system"*

We are trying to extend, erect, extending, grasping this erect extension...We were able to love without erection, without extension.

MUSICAL BREAK

SUSAN: *(talking to herself)*

I'm the seller, they're the buyer, I'm the seller, they're the buyer,

I'm the seller, they're the buyer,

Isn't education a sale? If they're buying, we're providing. It's not that simple when you're learning just by being. Learning by being. Learning to be? You all move around so quickly it's like you've lost something and you're trying to find it. Well you're looking in the wrong place.

(moves under the table, MUSIC is kind of Arabic, mysterious)

It's like that story he told me of the famous Moroccan fool who lost his keys. He down on his hands and knees looking under the streetlight and the elder comes by and asks him what he lost? He says, My keys. Where did you lose them? By that bush over there, he responds. Then why are you looking here? Because the light is here!

(guides audience out from under to the table to their seats).

SUSAN: So welcome! I trust you all slept well and are ready for a big day. You know, I just showed that little demo to Mayor Blumberg in New York because for a long time he's been trying to get low-

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* Marshall McLuhan, excerpt from "Classroom Without Walls," *Explorations in Communication*
(Boston: Beacon Press, 1960)

cost, single solution technologies into their huge school system and so I came in and gave him the 2-minute version, as he prefers. First thing he does: laughs really loud. I wasn't sure how to react until his press guy who was there explains that they've been trying to fight this teacher-led initiative to encourage kids to daydream more in school. They have some study that shows that daydreamers actually achieve more in the long run, so they're trying to create what are called dreamspaces in the classroom—beanbag chairs, pillows for your desk, and even a massage table—so kids can take a daydream timeout. He says that if the initiative passes in the school board, he's gonna need some sort of reality training to wake the kids up!

Oh, I'm so in with these guys. I'm in bed with them. They're naked. They're rolling over. Yes, let me scratch your belly. Good boy. Good boy. Now beg…

MUSICAL BREAK: Moving towards boredom

SUSAN: (*talking to her papers, light turned low, no music*)

For this part you can follow along on your electronic handouts. (*takes a drink*)

DEVICE #4: SOLITAIRE

I'm thinking that throughout this long monologue, users get a solitaire game on their devices. And the cards may move and look promising, but they speak of Susan's loneliness when you move them. The game also alludes to technology's tendency to make us feel alone.

SUSAN: (*still reading from papers*) Reality IS cross references various highly effective digital media ecologies. We'll be using the word ecology here to emphasize the organic, natural, interconnected and exciting media tools schools now have access to. As noted in numerous accounts of the Clinton/Gore classroom connectivity initiative, access has transmogrified into action. Access to action. I repeat, access to action. The fiber optics and nodal arrangements the learning and innovation neighborhoods schools strive to be haven't reached their full potential. I foresee our product becoming a very, very powerful way for teachers to turn the aimless surf of current digital classroom technologies into

something formative and fun. Kind of like the fun we are sharing right now. It is in this sense, that early settlers, my forefathers and hopefully yours, brought rudimentary textbooks to the early prairie; the primers were often rough and inaccurate, but divinely engaging and now coveted by people like me and other tag sale addicts. Primers overflowed with inaccuracies--conflicting versions of martyrdom, what a good boy does, and how best to praise God. It wasn't until a small company in Boston run by a schoolteacher named Rand, R-A-N-D, decided to write schoolbooks under the tutelage of historians and scientists, rather than ministers, that the modern textbook was born.

As I've said, Reality IS is extremely exciting. As 73% of early adopter market surveys show, we will soon bring educational engagement to a whole new level. Backed by total capital shares of this burgeoning early-stage endeavor, we are poised to hit and estimated 56% of progressive primary education markets, with 65% buy-in from technical colleges which in FY 2006 will receive 76% of the Federal outlays for post-secondary education. This is almost as exciting as the 3 billion the Gates foundation has committed to, and I quote, "technical programs providing coherence between community, school, and family environments." The caste has been set and we're feeling rather Michelangelo in this first round of funding (titters.) Of course, we can't forget that this product is principally about children. So I'll share a personal story here, that drives home the point of all these outlays.

Juan is a 10th grader in Harlem. His teachers know that he is capable of doing good schoolwork when he shows up to school and when he isn't sleeping. In a three-month pilot of Reality IS...Juan got involved with a project filming the renovation of the Windsor Condos on his street in inner Harlem. He came into contact with workmen, owners, inspection officers, and interior designers he might never have met. He described the drama and even his own input into creating these luxury homes. The video software pulled Juan into the design process and, by logical extension the American dream. His eyes, we could say, are now on the prize.

Juan's attendance at school went from 37% ave. 85%, of which the time he spent away from school, approximately 78% was spent on-task. Juan demonstrated his video to various academic and community constituents and forged, what sociologists term, upward-trending bonds. He is now moving from at-risk learner classification, to out-of-risk-regeneration mode. He originally was

opposed to a luxury housing project that he thought would water-down the Hispanic feel of his neighborhood, but he now loves to go to school.

What makes Reality IS… different from other technical education packages is its acknowledgment that most learning occurs outside the school confines. It helps students critically record and assess their experiences in the real world and apply them to school requirements. We are helping to produce the reality TV shows that boost SAT scores, create marketable skills, and get students take control of their own education process.

For teachers, Reality IS…helps them move into a medium they know can reinforce the state requirements they'd love to do away with. One teacher said, "Oh, we finally have a text that we are all excited to read…and watch!"

Reality IS…employs expert video producers and Master teachers to train all educators in the system in an intense summer workshop. They will spend the entire summer exploring our technical training software and have a toll-free line to the Reality IS…professional assistance team.

(Lights are turned on, she changes demeanor.)

We are now moving into a funding cycle for the next month. We are looking for seed money to get the project started and if you would like to try the software and video package we would be happy to make a personal appointment to show you what we are talking about.

DEVICE #5: e-MAIL EXPLOSION

The operating system takes you into an inbox explosion. Live music synchs with a display of random inbox correspondences. Words flying full of "great" and "cheers," and "discuss" and "interface" and "attached" and "proceed". All of these orchestrations being orchestrated.

SUSAN: *(kicks shoes off, crawls onto table, lies down and stares up at ceiling)*

Oh, Sidi mio, you're right, I'm too much for my own good. But not enough for you. I always hated it when you said that. It was like you were holding me back. But there was one thing I remember you saying that stayed with me, it kind of haunts me. "You can love to work, but I don't know how to work for love." And you know, I never thought I'd say this, but I miss the emptiness I felt with you. There were so many hours in those days. So what is my work, my chore, my doing in this life? Where do I go from here, oh wise one of the Tangerian oracle? You made me fell so relaxed. I'd lay with you and joke about how your ability to turn things off, turned me on. I'm not sure if you ever got that joke.

(Susan stops, sits upright, looks around table at the audience. It's the first time that she notices all the devices everyone has.)

You've been saying something, haven't you? You're behind all of this. Before I wake up, before this rabbit hole sees daylight, what were you trying to say? *(takes a sip of water and guides the devices to the center of the table, helping the audience solve the final puzzle of the performance).*

DEVICE #6: LOVER PUZZLE

Each device shows a piece of a giant puzzle with the following possible phrases (different for each performance): "Reality Is... love from afar." "Integrate". "Turn Off" "Tune In, Turn Off" "Reality Is..Love." "Sever the tools." "Integrate and Open" "Touch is Never Distant" "Growing is Off."

END.