Location-Based Mobile Storytelling

Jennifer Stein, University of Southern California, USA

Scott Ruston, University of Southern California, USA

Scott S. Fisher, University of Southern California, USA

ABSTRACT

This article describes an investigation in location-based mobile storytelling entitled Tracking Agama. Using a combination of SMS messaging, voice calls, and web log entries, Tracking Agama leads its participants on a narrative-based exploration of Los Angeles, in pursuit of a fabled urban researcher, "Agama." Participants use a bit of detective work to discover the keywords allowing access to Agama's voice-activated and phone-accessible audio diary entries; send and receive SMS messages from Agama and his assistant; and receive calls from the virtual characters.

Keywords: Interactive Experience; Location-based; Mobile Media; Storytelling

LOCATION-BASED MOBILE STORYTELLING

Tracking Agama invites players to experience downtown Los Angeles like never before, perhaps even for the first time in their lives. This project was designed with the intention of getting people out into a city that often goes unexplored or overlooked, even though it is full of so many hidden treasures. Players are asked to interact with a narrative and become part of a puzzle that will lead them through both new and familiar places, and to experience them in unexpected ways. Mobile technology offers us a platform to do this. Our ultimate goal is to get people out of their cars, into the downtown area, away from their daily routine, and maybe even ride public transportation. Los Angeles often becomes synonymous with Hollywood, actors, cars and traffic, even though so much of Los Angeles history is rooted in the downtown area. We've focused on a few downtown locations, integrating an intriguing narrative, urban legends and historical information with the hopes of offering a new kind of experience to our players—one in which our players will look upon their city differently, exploring its layers of fiction, myth, history, architecture and topography.

BACKGROUND

Perhaps the best known mobile experiences are the pervasive games designed by Swedish company It's Alive! and the British group Blast Theory. *Botfighters* (It'sAlive), in many ways, is very similar to a video game like *Halo*, but based on live action and played in the real world. Location information, referencing a fictional future world, and game play battles are handled through the mobile phone, and with a periodically updated web-based backstory offers new missions and recontextualizes game world developments. Blast Theory's projects, including *Uncle Roy All Around You* and *I Like Frank* among others, work like cooperative treasure hunts with online and street players having access to different elements and developing cooperation strategies via SMS messaging. These projects are distinctly games, both in terms of their marketing and the structure of the experience they offer their participants. And while they contain story elements to offer a more complete imaginative world, these features are secondary to the gameplay.

With their procedural and participatory environments oriented around spatial exploration, these mobile games fit new media theorist Lev Manovich's contention that, in the new cultural order, database is the primary structuring device, subordinating narrative to a secondary (and competitive) role.[1] Spatial annotation projects, such as *Yellow Arrow*, *[murmur],* and *Urban Tapestries,* also seem to privilege a database structure. These projects allow the participant to author personal diary-like episodes into the database of materials, available to future navigators of the same urban terrain. Again, much like the pervasive games of It's Alive! and Blast Theory, these projects have story elements mixed in their database structure and exploratory method of participation. All of these projects, though, seem distinctly different from the story experience of a novel or film.

We can turn to film theorist Edward Branigan's narrative schema and modes of collecting and understanding data to understand how these pervasive games and spatial annotation projects utilize narrative components. Branigan suggests that a narrative is comprised of a series of episodes put together as a focused chain. An episode contains all that happens to a character in a particular place or time and a focused chain of episodes exhibits a clear continuing center.[2] These mobile experiences, though they might contain some combination of episodes, unfocused chains and focused chains, would fail the Branigan test as a complete or complex narrative structure in a traditional conception of narrative (though the episodes and unfocused chains of events are narrative-like and the back-story would qualify as a simple narrative). *Botfighters* represents an example, similar to many video games, in which a computational structure works in tandem with narrative or narrative-like components to create the complete experience.

As our interest was in mobile storytelling, we looked for other projects that seemed organized around this principle. The GPS-enabled, tablet-PC based mobile project *34N118W* shares the database structure exhibited by these mobile games but introduces specific fictional stories as the primary data element encountered by the participant. Here, the specific focus is on the participant encountering fictional stories related to a small neighborhood, rather than scoring points, shooting "enemies," or listening to widely divergent personal anecdotes. The grid of the downtown area contains the data set—a combination of recorded text and visual correlations. The participant serves as the search engine, walking through this grid of data elements, encountering them in the sequence of his or her own choosing. In this way, *34N118W* shares the characteristics of the digital environment outlined above in terms of the mobile games. The tablet PC executes a regular series of procedural functions to properly depict the participant's location on the map, as well as play the audio elements at the appropriate place. The participatory and spatial elements exist physically in terms of perambulation, metaphorically in terms of searching this database, and interpretively (what creator Jeremy Hight might call "archeologically") in terms of

considering the told and untold stories relating to the place, the point at which narrative exists as a form of expression in this piece. Yet, the stories are individual episodes not structured in a focused chain, leading us to design a new kind of mobile entertainment project.

Can a non-sequential, locative media, database structure be combined with a narrative structure soundly rooted in the principles of cause-and-effect, along with character growth and development, and thus representing a equal hybrid of database and traditional narrative structure? This combination lies at the heart of the student project *Tracking Agama*, an alternative reality fiction[3] in which participants access pieces of the story by mobile phone, through entering codes, exchanging text messages with the host computer, and receiving phone calls. The participant obtains codes by solving puzzles embedded within the story, which successively give access to more and more "story nuggets".

Tracking Agama shares *34N11W*'s dual design structure as both an interface to a multimedia database and a navigation method through spatialized representations. The story nuggets consist of audio (recordings made by Agama called "AgamaNotes" and calls from Shufelt), website text, and text message. The mobile phone serves as the interface for accessing this information and receiving instructions or puzzles about further action to take or information to discover. In pursuing this action or information, the participant travels to six locations in Los Angeles. The AgamaNotes offer insight into the character's state of mind, consideration of particular landmarks, imaginative use of the landmarks as settings for further fictions and subtly suggest to the participant alternative ways of looking at the location. The city becomes represented not only by the text evident on tourist placards, but through layered context delivered to the participant in the space and closely associated with physical exertion of navigating the locale (much like *34N118W*).

Applying Branigan's models, we see the AgamaNotes as collecting Agama's experiences, thoughts and sometimes events (such as when a kidnapping interrupts Agama's recording), in a particular setting--episodes. The calls from Shufelt in combination with the tasks completed by the participant reveal the causal connections between the episodes, and successive episodes depict the growth and change of the characters (such as the revelation that Shufelt, initially positioned as a friend of Agama, is in fact his enemy).

Above and beyond the simple narrative of a series of episodes arranged in a focused chain, *Tracking Agama* exhibits a complex narrative structure with a not-necessarily sequential arrangement of Branigan's component schema, including abstract, orientation, initiating event, goal, complicating action, and climax/resolution. These components comprise a cognitive scheme into which a reader/viewer places data elements to comprehend spatial, temporal and causal connections—in short, a mode of understanding. (In classical narratives, these components are often encountered by the reader/viewer sequentially.) Branigan suggests that our minds process different arrangements of data elements and corresponding categories (the components listed above) until achieving a combination that seems correct (comprehension). In *Tracking Agama*, we employed this theory as a design model by distributing character, plot, and thematic data across spatial and temporal zones. This structure requires the participant to constantly try out different arrangements until arriving at an understanding—a narrative jigsaw puzzle. The narration consists of the participant's accessing of the various story nuggets and piecing together the complex temporal structure that incorporates historical events, recent fictional events (such as the initiating event of Agama's kidnapping heard over the phone as the participant listens to Agama's musings about Union Station), and developing fictional events (such as Shufelt's requests for research and detective assistance).

MECHANICS OF THE EXPERIENCE

Tracking Agama begins with a research weblog published by the story's protagonist, Agama. Agama, as a newcomer to Los Angeles, becomes enthralled with the mysteries and urban legends of the downtown area. As he begins to unearth some information that was well buried (with good reason) he becomes entangled in a web of secrets, elaborate cover-ups and urban legends he believes to be legitimate. The deeper Agama digs, the more haunted he becomes by his own research, leading him into a downward spiral towards insanity or perhaps a catastrophic encounter with the supernatural. But just when it seems Agama has gone off the deep end, a mysterious post (see Figure 1) appears on his weblog, posted by a stranger determined to enlist the help of others to save his friend Agama.

This final post, authored by "Shufelt", a "friend and collaborator", contains a phone number and some key words. This phone number acts as an invitation to become part of the mystery, and it is at this point that we hope our potential players will be intrigued enough to pick up their phones, dial the number and follow prompts to enter the words provided. This phone number serves as an access point to Agama's voice messaging system, which he uses as a voice recorder for his research. The player therefore gains access to many of Agama's research notes and can retrace his steps to help solve the mystery of his disappearance. The first message sends the player off to their first location, and from there they must begin to piece together the story by finding clues and codes embedded in the various locations around downtown Los Angeles.

Figure 1. Final post to Agama's weblog containing a phone number the player is meant to call (actual text located at end of this document).
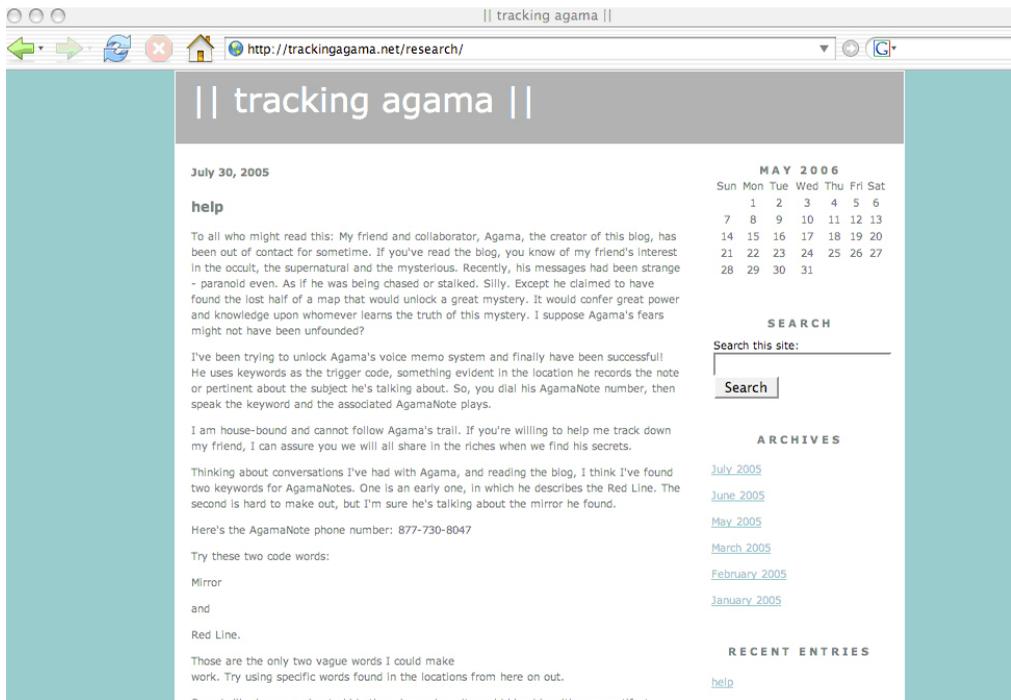
These clues and codes can be entered into the mobile phone as either SMS messages or as codes entered into Agama's voice mail box, accessed via the phone number posted on the weblog. By sending a SMS message or entering a code, the player triggers one of many possible responses, including a response SMS from Shufelt or Agama or a return phone call from a story character, each giving more clues or instructions for finding Agama.

After dialing the phone number posted by Shufelt, speaking the words "red line" and "mirror", and listening to the message, the player is directed to Union Station in search of a piece of public art. When the player arrives to Union Station via the Red Line subway, they emerge from underground and immediately see a large sculptural piece of art as described in the first AgamaNote accessed. From the AgamaNote titled "mirror", the player knows to look for the title of the artwork. After speaking the word "Riverbench"(the title of the artwork) to the AgamaNote phone system, the player first hears another clue, but then hears what sounds like a fearful Agama struggling to escape from someone or something. Since each of Agama's recorded notes is dated, our intent was to keep the player motivated by introducing a clue to the place and date of Agama's disappearance. This also introduces a sense of urgency to continue looking for clues in hopes of finding Agama, or to at least protect the research he was conducting, which the player can identify as the obvious explanation for Agama's disappearance.

At this point the player begins to piece together the clues they have already heard into a cognitive framework for understanding. Simultaneously, they continue their exploration of Union Station by seeking out the clue alluded to in the AgamaNote (just before they hear the Agama struggle with his assailant). The date/time stamp accompanying each AgamaNote serves as a boundary or guide, assisting the player's construction of the story. With each clue uncovered the player learns a bit more about Agama, as well as the history of Los Angeles, quirky urban legends and little

known facts about some of Los Angeles' most stunning architecture.

In approaching this project from the perspective of Mihaly Csikszentmihalyi's theory of Flow, *Tracking Agama* requires a delicate balance between both the components of Flow theory and a less structured format of undefined goals and the element of surprise. For a player to successfully experience *flow*, Csikszentmihalyi[4] outlines eight components that must be successfully met. Amongst these components are: a clear set of rules; concentration and focus; distorted sense of time; direct and immediate feedback; sense of personal control over a situation; a balance between ability level and challenge; and lastly, the activity must be intrinsically rewarding.

Though *Tracking Agama* does rely upon distortion of time in the AgamaNote system, direct feedback via the instantaneous information received by calling in clues and text messages, and a balance between ability level and challenge in the form of progressive difficulty in clues, this game also relies upon elements in direct opposition to some of the components of experiencing Flow. For example, *Tracking Agama* requires the player to learn a set of rules as they go along as part of the puzzle. When the player is first introduced to the phone number that will be their main source of clues throughout the game, they are offered a limited rule set that they learn to build upon after experiencing the first few clues. Furthermore, the player is not expected to feel as if they have control over the situation. In fact, the opposite is intended in that the player should always feel a sense of urgency in which they never know where they might need to go next, but know that someone, though a fictitious character, needs their help in a potentially life-threatening situation. Ultimately, though, it is our intention that the player does feel intrinsically rewarded as they do discover the rhythm of the game and move closer to solving the puzzles, while also learning about Los Angeles in a captivating way. In this way, *Tracking Agama* exists at the intersection of games and narratives: narratives reveal their underlying logic as they progress and as the

reader or viewer successfully constructs the applicable cognitive schema; games articulate their logic from the outset, and the player's challenge is to master their control of that logic. *Tracking Agama* simultaneously exploits both of these traits.

As Csikszentmihalyi points out, not all of his defined components must be met to experience a sense of Flow. As Ambient Intelligent Environments become more ubiquitous in location-specific games and experience, we would assert that flow can still be successfully reached through a balance of components that might be in direct contradiction of each other. *Tracking Agama* strives to create a new kind of experience in which a player must negotiate the use of mobile technology as a delivery mechanism for storytelling while being in the physical locations of that story. To this end, we believe that our players can experience a sense of flow by successfully balancing competing components.

SYSTEM CONFIGURATION

Tracking Agama is designed to be used by the widest possible audience, and therefore utilizes a very simple hardware/software configuration. In addition, any SMS-enabled mobile phone can be used to access *Tracking Agama.* The technical system for tracking agama was created with commercial, off-the-shelf technology and services, along with some VoiceXML (VXML) programming. It relies chiefly on two major components, a java based mail server, and a voice-enabled server application written in VXML.

Text Messaging

The Java Apache Mail Enterprise Server (JAMES), is responsible for the text messaging aspects of the game, receiving incoming SMS messages, and parsing them to look for the specific codes the user is supposed to submit. Based on those codes, the application sends either a text message response back to the player, or, by using an Outbound mail java class handled by a voice application deployment service (*Tracking Agama* was originally developed and tested using a developer account from the provider BeVocal), makes a phone call to the user. When the player answers this call, they are handed over to the VXML system, which plays audio files, or performs text-to-speech synthesis, depending on the code initially input.

Agama Notes

The second component of the system -- the Agama Notes system, which the protagonist uses as a research tool -- also relies on the commercial voice application deployment service and the VXML architecture. To access an AgamaNote, a player dials an 800 number. This call is received by the voice application deployment service, which points the call to a page on the TrackingAgama web server. This web page is written in vxml, and performs a variety of functions, such as prompting the user to enter a code, as well as playing the pre-recorded Agama notes themselves. Since the vxml pages are simple scripts interpreted by a web browser, the system also uses a PHP front-end and a MYSQL back-end to store useful information about each player, such as their phone number, the date and time they started playing, and their current location in the game.[5]

Goals and Theory

One of our primary goals was to address physical space, in this case 6 locations in downtown LA, and attempt to drive a "second look" at these spaces. So often, the cell phone and other mobile communications technology is cited as source of dislocation from our physical environment, so we took it as our challenge to design a project wherein the mobile platform became a conduit for engagement with the surroundings, thus simultaneously rethinking the space and the options for mobile technology. With this emphasis, distinguishing between a 'space' and a 'place' became a useful idea in

conceptualizing Tracking Agama. Space has physical dimension, shape, boundaries, but place a personal, or societal or cultural resonance or context. Our goal was to use narrative delivery via cell phone in the physical *space* to modulate the understanding (via history, urban legend, new fiction, and puzzle elements) of the location as a *place*. For example, how many people consider the supernatural origins of the Bradbury Building while inside and experiencing its unique design, then try and connect to anything else in LA?

Because one of our goals was to offer as much flexibility in terms of engagement to our participant, and we hoped to accommodate both the person who wanted to explore the whole story in one afternoon as well as the person who wanted to read the weblog one night, visit the library on a lunch break, or explore Union Station and Angel's Flight on a weekend morning, we decided upon an episodic narrative structure—even micro-episodic. We used the idea of "story nuggets" in the form of both the AgamaNotes and ShufeltCalls, which were designed to offer tiny chunks of story the participant would access in the space and on the move.

Tracking Agama exhibits an intersection of game and narrative design. The narrative pathways are available to the users to pursue on their terms, but, whereas narratives usually conceal their internal logic to be revealed or discovered as the narrative progresses and games reveal their internal logic and invite participation within those boundaries, *Tracking Agama* does a little of both. First, the player must master the keyword selection pattern used by the character Agama. Then, it is through player action deciphering puzzles by combining the keyword scheme with exploration of the location, that the narrative logic is revealed. Thus, the player produces the narrative by his or her actions, becoming an author in a way, since only certain aspects of the entire narrative will be evident--those that the player has successfully solved.

CONCLUSION

By way of conclusion, we might ask ourselves why so much attention is and recently has been placed on interactivity and narrative. As mentioned at the outset, narrative is a method of arranging information to promote understanding—a discursive patterning, to quote film, culture and new media theorist Marsha Kinder, "of all sensory input and objects of knowledge".[6] Traditionally, we have understood narrative to construct this pattern with a particular logic of causality, temporality and spatiality—a beginning, a middle and an end, cause and effect,. But postmodern culture's heavily mediated state destroys and explodes these traditional patterns. More than simply a technological feature, interactive narrative responds to deeper fissures and negotiations of authorship, authenticity, veracity and the authority to tell stories. Similar features, particularly the desire and capability to have at least some minor influence, motivate, at least in part, the explosion of reality television (think *American Idol*), blogging (think of BBC and CNN dependence on bloggers for tsunami coverage) and are contributing motivators towards interactive narrative. As narrative deals with negotiating these aspects of culture it must change in response to this developing landscape and morph from the more structured and presented notions of a contained and authored narrative offered on the page or cinema/television screen, to one that accommodates a cooperative effort between creator and participant, and thus the experiential element of the narrative structure becomes a crucial and a foregrounded aspect for consideration. We propose that mobile narratives, with their emphasis on an experiential component, direct engagement with new articulations of relationships between space and time and especially the postmodern city, and their naturalized interface device of the phone handset are particularly salient examples of a developing art form negotiating, patterning and understanding our changing experience.

ACKNOWLEDGMENT

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ENDNOTES

[1]   Manovich, Lev (2001). *The Language of New Media*. Cambridge: The MIT Press.

[2]   Branigan, Edward (1992). *Narrative Comprehension and Film.* London and New York: Routledge. pp. 18-20.

[3]   This term is adapted from "alternate reality game", which describes games that blur the line between game events and real world events, such as "The Beast", I Love Bees and the game depicted in the film The Game (David Fincher, 1997), starring Michael Douglas]

[4]   Csikszentmihalyi, Mihaly (1990). Flow: The Psychology of Optimal Experience. New York: Harper and Row.

[5]   trackingagama.net is powered by the weblog software Movable Type 3.1 and MYSQL. The server itself is running Apache 2.0 on Red Hat Linux 9.0.

[6]   Kinder, Marsha (2003). "Honoring the Past and Creating the Future in Cyberspace: New Technologies and Cultural Specificity". *The Contemporary Pacific*, *15*(1), 97.

APPENDIX

Sample from Weblog:

[Final Post]
July 30, 2005

help

To all who might read this: My friend and collaborator, Agama, the creator of this blog, has been out of contact for sometime. If you've read the blog, you know of my friend's interest in the occult, the supernatural and the mysterious. Recently, his messages had been strange - paranoid even. As if he was being chased or stalked. Silly. Except he claimed to have found the lost half of a map that would unlock a great mystery. It would confer great power and knowledge upon whomever learns the truth of this mystery. I suppose Agama's fears might not have been unfounded?

I've been trying to unlock Agama's voice memo system and finally have been successful! He uses keywords as the trigger code, something evident in the location he records the note or pertinent about the subject he's talking about. So, you dial his AgamaNote number, then speak the keyword and the associated AgamaNote plays.

I am house-bound and cannot follow Agama's trail. If you're willing to help me track down my friend, I can assure you we will all share in the riches when we find his secrets.

Thinking about conversations I've had with Agama, and reading the blog, I think I've found two keywords for AgamaNotes. One is an early one, in which he describes the Red Line. The second is hard to make out, but I'm sure he's talking about the mirror he found.

Here's the AgamaNote phone number: 877-730-XXXX

Try these two code words:

Mirror and Red Line.

Those are the only two vague words I could make work. Try using specific words found in the locations from here on out.

Sounds like he was going to hide the mirror where it would blend in with some artifacts, maybe in a piece of art? Did he say it was at Union Station?

If you'd like to help, I can be contacted by text message. Try texting those keywords to me. Example: send the text message 'red line mirror' to me at: agama@mail.trackingagama.net

When you're done with a location, text me the keywords for that location, just like you've just done with "red line mirror". That way I can do some research on these words, remember conversations I've had with Agama, and help guide you a bit.

Posted by shufelt on July 30, 2005 | Comments (13)

Jennifer Stein completed her masters degree in media and communications at Goldsmiths College at the University of London in 2002. Following her time at Goldsmiths, she worked as the program coordinator of the interactive media division of the USC School of Cinematic Arts, while doing graduate coursework in architecture, geography and mobile media design, which resulted in the acclaimed mobile phone-based project, Tracking Agama, an alternate reality experience set in downtown Los Angeles. Stein's MA dissertation, Popular Technoculture, *presented her research on the popularization of information communication technology at the intersection of postmodern culture and the information age. Her background in media design and theory makes Stein uniquely positioned to think critically about the meaning of space and place in the urban landscape, while practically exploring how ubiquitous computing will affect our experience of everyday life in the physical world.*

Scott Ruston, Mellon postdoctoral fellow in digital humanities and media studies, University of California at Los Angeles. Ruston received his PhD in critical studies from the School of Cinematic Arts at the University of Southern California in 2008. Through a combination of theory and practice, his research has explored how the cinematic legacy of the telephone and the unique characteristics of mobile media combine to create immersive and interactive narrative entertainment. In addition to his work on the mobile phone-based project Tracking Agama, Ruston has significant experience with interactive media forms ranging from desktop interactive narratives to fully immersive, full-motion flight simulation devices. He is also the founder of Zuston Mobile Research, a design, development and consulting firm specializing in mobile media entertainment.

Scott S. Fisher, professor & chair, interactive media division, USC School of Cinema-Television. Fisher is a media artist and interaction designer whose work focuses primarily on interactive environments and technologies of presence. Well known for his pioneering work in the field of virtual reality at NASA, Fisher's media industry experience includes Atari, Paramount, and his own companies Telepresence Research and Telepresence Media. A graduate of MIT's Architecture Machine Group (now Media Lab), he has taught at MIT, UCLA, UCSD, and is a project professor at Keio University in Japan. His work has been recognized internationally through numerous invited presentations, professional publications and in the popular media. In addition, he has been an artist in residence at MIT's Center for Advanced Visual Studies and his stereoscopic imagery and artwork has been exhibited in the U.S., Japan and Europe.