5 Authoring and Evaluation

Imagine two men holding a captured puma on a rope. If they want to approach each other, the puma will attack, because the rope will slacken; only if they both pull simultaneously on the rope is the puma equidistant from the two men. That is why it is so hard for him who reads and him who writes to reach each other: between them lies a mutual thought captured on ropes that they pull in opposite directions. If we were to ask that puma – in other words, that thought – how it perceived these two men, it might answer that at the ends of the rope those to be eaten are holding someone they cannot eat...

- From Milorad Pavic, DICTIONARY OF THE KHAZARS, 1988

5.1 The Authoring Process with Agent Stories

5.1.1 Case Studies Overview

Six writers were chosen to work with Agent Stories over a two or three session period. Each writer worked two to four hours per session. The writers where chosen based on their interest in creating metalinear narrative. Some of the writers who tested Agent Stories were personal acquaintances of mine – they were writers whom I asked for assistance. I choose those individuals based on my knowledge of their work, and their exhibited interest. Other writers came to the project through a request I posted to an electronic mailing list. In that posting, I briefly explained the research and software to be tested. Respondents to that post were then sent a more detailed description of the tool and my research interests. They were also encouraged to read my web pages and the papers about my research which are posted there.[24] Only after a respondent contacted me a second time did we arrange an appointment for testing. Respondents, therefore, were informed and predisposed to the metalinear writing form of Agent Stories. Acquaintances who agreed to test were further exposed to the project and the metalinear writing form through my previous conversations with them.

The first session for each writer included a demonstration of the software. They were asked not to bring any material they were already working on, but instead to start a new project, so they would not write with a heavy bias toward linear narrative. I stayed nearby throughout the first session, watching them use the various environments and answering their questions. As the testing process proceeded, I withdrew more from the writers as they worked.

The qualitative evaluation process involved my talking to the writers at the end of each of their sessions. I asked each of them about their typical writing process and how that process was altered with Agent Stories. I tried to gain an understanding of their thinking process for narrative, before, during, and after the sessions. What follows are the answers to my questions, other comments from the writers, and a short synopsis of the characters and stories they wrote. The text of their stories is included in chapter 6.

[24] See: http://www.media.mit.edu/~brooks

5.1.2 The Cases

Glorianna:

A professor and filmmaker, Glorianna spent only one session with Agent Stories. In that time she wrote a story which consisted of a series of scenes about her family. In this story, she and her sisters help her mother move out of her house. Most of the action took place in her mother's kitchen. Her mother was making tea, while the daughters, all adults, prepared for the trip and tried to "take care" of their mother. The story was situated in the present, with flashback memories to daughters' childhood and mother's youth.

To write the story, Glorianna first created a series of scenes – linked dramatizations of the events from what was at first a general or omniscient POV. She commented that in order for her to write for Agent Stories, she would always have to write a spine of a linear story, then branch outward with the main character POV clips of the different sisters.

Glorianna's approach to Agent Stories may be related to her experience as filmmaker and the linear nature of filmmaking. Agent Stories may be tool which filmmakers use to break out of linear thinking and into metalinear thought.

Raelinda:

Raelinda, a writer and oral storyteller, recently switched from writing with pen and paper. When she started using a Macintosh and the ClarisWorks word processor, her relationship to writing changed. Raelinda, who describes herself as a visual thinker, said she loved the word processor because for the first time she could write as fast as her mind worked – she could "write at the speed of think." She was comfortable with her writing tool – she could play with it, and therefore, play with her writing. She carried this approach into her work with Agent Stories.

In Agent Stories, Raelinda wrote a story with three main characters: A ghost, an angel and a coffee house bum feeding crumbs to the pigeons. The bum wants to be the angel, the angel wants to be the ghost, the ghost wants to be the bum. The ghost and angel are invisible to the bum, but they are in his imagination. The ghost and angel are both amazed at how accurate the bum's knowledge of them is, all from his imagination.

The most striking thing about Raelinda's story is her characters' relationship to time. In her story, the ghost is afraid of time ending, which is why she hangs around the coffee house watching people. She knows that if she were to *go into the light*, time would end and she does not want that. The Bum is afraid of entering time. He knows that if he hangs around the coffee house, he will be able to keep time still by never turning the pages of the book he is reading. In his book, he can keep time at the same moment, the same page, for as long as he wants. The angel is simply confused by time and not knowing how to deal with its passing. It is interesting that after my introduction to Agent Stories, Raelinda started writing a story in which time is a central issue – reminiscent of the stories Jorge Borges.

When I asked Raelinda about the playing with the Structural Environment and story structure, her response was, "Well, I only have one structure." Given the diversity that I know her oral stories to have, it is interesting that she always uses the same structure and is comfortable with it – which is quite appropriate. She was not able to clearly articulate what that structure was, at least not in Agent Stories terms, but she knows that each of her stories written outside of Agent Stories has the same structure, and so was less interested in using the story structure in her Agent Stories writing.

John:

John, a "closet" writer, wrote two stories with Agent stories. His first story was very linear and time based. Even after repeated explanations of how the agents would rearrange his clips, John, while never expressing dislike or confusion about agents, still kept his heavy *causal precedes* link story. While working with the Representational Environment on his first story, John realized how his representation was somewhat rigid and started writing a second story. John's second story (see Figure 8, in chapter 4) also had a lot of precedes links, as well as many more other relationships between multiple streams of characters and action.

Teresa:

Teresa is a poet. Her entire approach to Agent Stories was as a performance poet. She did a lot of work to map the narrative structures of Agent Stories to her expressive medium, which posed a number of challenges. Teresa's involvement in the project was valuable, however, because as a poet she has an innate awareness of her poetic granularity. Poets make conscious decisions about poetic granules such as stanzas, paragraphs, words, letters, and sounds. Their use of these granules, breaking larger ones into smaller ones, combining smaller ones into larger ones, patterns of different sizes, etc., have relevance for writing in Agent Stories. Poets, perhaps more than fiction writers, are aware of their granularity because every choice has meaning on the page.

Teresa struggled to understand all of the features of the software so that she could use it more effectively. She wanted the features broken down into separate lists of the system's imperatives versus what *could* be done with it. Teresa was concerned not only with the words and phrases of her work, and the images they evoked, but also how they sound in the reader's and the performance audience's head. One of the things Teresa struggled with was *conflict*. The concept of conflict did not fit in Teresa's poetry, so she did not know what to do with the conflict narrative primitive. She was able to map the narrative concept of conflict to the poetic concept of tension, however. Poems can have a sense of tension that ebbs and flows.

Teresa's writing in Agent Stories centered around the human body. She wrote a series of poems and poem fragments from the point of views of various body parts.

Ian:

A substitute teacher in the Boston Public School system, Ian came to Agent Stories with a strong interest in writing for radio. His belief was that radio required every bit of the same creative effort as cinema, but with the added bonus of an infinite special effects budget. Also, given an audio-only payout, the final product would not be perceived as granular as in a cinematic payout. While the screen would be blank, the potential layering of audio pieces could provide a seamless presentation of the story.

Ian got the technology of the system fairly quickly, perhaps because he read my papers and web page before arriving. His time with Agent Stories was spent mostly in analysis rather than writing. It turned out, however, that Ian had the hardest time adapting his style of writing to Agent Stories.

5.2 Evaluation of the Process

5.2.1 Author Evaluation

Raelinda:

Raelinda stated that she felt less encumbered than usual when she was writing with Agent Stories. She did not have to pay as close attention to time and performance as she has to in linear writing. Her writing already tended toward a free form temporal structure, and so with a metalinear writing tool, she was able to take advantage of that. Her story exemplifies a fun experience. As she worked, she was able to focus in on the writing. Her technique was to create all of her story clips first, then link them together. She had a sense of how they would be linked as she wrote, but did not *commit* herself to links until after she was sure of what her characters wanted to say. Unfortunately, the one part of Agent Stories that was not working properly during Raelinda's writing sessions was the story engine. So most of her experiences and feedback have to do with the Representational Environment and not the Writer Feedback Environment. She never felt the need to create a framework in the Structural Environment – perhaps because it did not seem as if she had to in order to simply write her story. If the story engine was working for her, she would have been forced to create at least a simple framework, as the agents require one.

Raelinda made a number of insightful comments about Agent Stories and her experience using it. She suggested that often the hardest part of writing is getting started, and thought that perhaps a writing exercise button somewhere in the tool would help a writer get started with the system. It would get writers involved in the process of creating with the tool by giving them a play space right off the bat. She suggested that the name of the link *causal precede* be changed to *cause and effect*. She felt that more writers would understand cause and effect. She was also confused about the name factual precede, but did not have a suggestion for a new name for that link.

John:

In John's writing, he wanted to be able to link objects before naming them. He wanted to see the structure of the story clips first, keeping the details in his head, before committing the details to the database. This is reminiscent of why I placed the Structural Environment first in the order of environments. While it does not matter which environment is completed first, Structural or Representational, using the structure first is appealing to some writers. It is like writing an outline for a story before writing the story details.

John was very concerned about maintaining a temporal flow through his stories. Most of the links that he used were precedes links, and thus created more of a multilinear rather than a metalinear story. After he made many links between clips, his concern was how to sync up time. He wanted a way of creating multiple linear stories separately, and bring them together in multiple ways. Yet, John was interested in making sure that certain things happened in a certain order, in an entirely predictable way.

Like with Raelinda, much of John's time with Agent Stories was spent with the Representational Environment because the Writer Feedback Environment was not fully operational. During his last session with the system, the story engine was operational and so John got to see how the story agents made choices for him that he would not have predicted. It became suddenly clear to John that writing multiple versions of the same piece of story, from multiple points of view or from the same character point of view, is a valuable feature of metalinear narrative. Even before John tried running the story agents in the Writer Feedback Environment, he stated that Agent Stories made him think much more about his writing and about the worldviews one creates in stories. Writing first-person narratives in a highly structured manner helped John see the world through other peoples' eyes, which would hopefully be effect his writing in a positive way if he continued creating with the tool.

John made the comment that a valuable thing Agent Stories provides is that a writer could look at the writing of another writer and immediately see their structure. The visual representation of the system allowed him to learn to *sight read* his own work and also the work of other writers. The Representational Environment became a system of narrative notation for John, giving him another level to approach his own writing.

John made some good suggestions for future development of Agent Stories, mostly in the area of user interface. He suggested that there should be a function which allows the writer to change a clip from one clip type (main, minor, dramatization, or sound) to another. This would allow one to change their mind and more freely move the story pieces and the characters around, and even have an agent construct a story with a certain character as a minor character, then again as a major character. Such flexibility could be important for future development.

Naming clips was difficult for John. He was accustomed to writing and not having to name what he writes, but just place it where it belongs. Naming each clip felt unnatural to him.

Teresa:

Teresa stated that Agent Stories provided for *poem moments*. A poem moment is defined as a time of realization of how a poem could be used in different ways through rearranging granules or by resequencing. In her preparation for performances, Teresa must consider different poem sequences to best fit the audience and her own sensibilities. Agent Stories allowed her to see a lot of different possible sequences, even as she just entered her text in the Representational Environment. As with the other writers, the structured approach to writing with this tool provided Teresa with a new perspective into her writing. The longer she worked with the tool, the more I found her (and other writers) asking the same questions repeatedly. Teresa especially struggled with certain Agent Stories concepts like link and clip type definitions. Eventually, there came a moment of epiphany – a time when if all was not immediately clear, it was certainly different. Once the concept of metalinear narrative hits a writer, the notion of how to write suddenly shifts and the writing becomes more exciting. I witnessed this in Teresa's sessions, as well as in John's and Ian's.

Teresa suggested that there could be an agent that samples various clips, pulling out only fragments, and sequences the those fragments. This, Teresa saw, as a possible poetic extension to Agent Stories. This sampling story agent would weave through the clips, pulling pieces of text from different clips, choosing the fragments based on consonants and vowels in words. The agent sequence the text according to a rhythmic structure and style.

In forcing an identity of character and title when creating the clips in the Representational Environment, Agent Stories informed Teresa about her work. The Representational Environment allowed Teresa to reinforce her poetic style and thinking. She could hear her own voice and rhythm clearly in her writing, in part because of the structure provided.

Some of the user interface suggestions Teresa made were extremely practical and insightful. She suggested adding the primitive type color associations to the Representational Environment icons, so that a writer would be able to know how they have tagged a clip without having to open it. This feature was immediately implemented and can be seen in Figure 8 of chapter 4.

Teresa reminded the team of us working on Agent Stories that writers are a special group of people who, once they get used to certain tools, require those tools from then on. Teresa would have wanted Agent Stories to include a spell checker, a dictionary and an online thesaurus. By not providing these type of tools which writers are accustomed to having at their disposal, their normal creative flow can be easily blocked. Cut and paste, for instance, was a good thing to maintain in Agent Stories. Teresa was relieved that it was possible to write at home between sessions, then bring her writing in on a disk for pasting into Agent Stories.

Ian:

As stated above, Ian's time was spent more in system analysis rather than in writing metalinear stories. Ian's comments, therefore, are more of a list of user interface suggestions than writing experience impressions. After his introduction, Ian realized that what he was doing was thinking about his writing as a set of objects – a constellation – with the understanding that the agents would simply see his constellation differently than how he saw it. He saw the links as inspiring a skeletal structure. Ian perceives his writing as something which grows like a plant, spouting, enlarging and blossoming. With Agent Stories, Ian saw his writing as something which grows like a building, with a thoughtful construction processes. He saw the Representational Environment links and Structural Environment framework as a type of structural steel, first laying down the foundation and the support for the flesh of the building to be added later. Narrative elements, like irony for instance, would normally happen or be written intuitively. With Agent Stories, the writer needs to be more thoughtful and planned. This made writing more like engineering to Ian – not a way he was accustomed to thinking about writing. Yet, he also saw Agent Stories as adding a strong visual element as well. Ian found the visual aspect of writing with Agent Stories helpful.

Ian's user interface suggestions were centered around the same sort of issues important for Teresa. Once writers (and perhaps any type of artist) gets used to certain tools, they need those tools in order to feel empowered to work. Ian missed all the word processor features he was accustomed to, like a floating tool bar with lots for tool buttons for style, etc., Ian suggested keyboard commands for the tool bar buttons and reminded me that having multiple ways of accomplishing something is helpful. He also wanted a way of making links between clip objects through keyboard commands.

A particularly useful suggestion Ian made was that he wanted to ability to open multiple clips at the same time, allowing him to cut and paste between clips. This is a simple and obvious suggestion which I never thought of, but which should be implemented if Agent Stories research continues. The Representational Environment is a multidimensional writers' playpen. It is important for writers to be able to scan and navigate through a lot of story material on a surface level, and also dive deep into the guts of their story, building and rebuilding to achieve the best final result – a multi-faceted, multiple point-of-view metalinear story.

5.2.2 Evaluation of the Work

It is not my intent to comment on the quality of the writing which the writers completed. It is, however, important that the writers' process be addressed. The process of writing with Agent Stories is validated by a constructionist framework. *Constructionism* grew out of the concept of *constructivism* introduced by psychologist Jean Piaget.(Piaget, 1954) *Constructivism* means that children can learn by making sense out of their experiences. *Constructionism* was introduced by computer scientist and professor Seymour Papert at the MIT Media Lab.(Papert, 1993) Constructionism is where the experience through which children make sense and learn is an experience involved in building something personally meaningful to the child.

Writing is something which is extremely meaningful and personal to the writer. The process of writing, however, usually involves conceptual tools – narrative structures and grammatical rules drilled into the writer from grade school. The Structural and Representational Environments of Agent Stories, however, provide writers with tools which are not simply conceptual, but tangible. Agent Stories is a constructionist writing tool in that it allows writers to do three key things:

1) Build a story with the tools provided
2) Build new ideas through building their stories
3) Build for a purpose

The stories the writers created are detailed in chapter 6. They include work in fantasy, poetry, and drama.

The writers' process was one of creation mostly within the Representational Environment. In general, the Representational Environment provides particularly a good space for constructing new ideas. The writers were challenged by their own writing when faced with having to map it to Agent Stories' unique set of structural restrictions. The result is that they created stories that were personally meaningful to them. This tool helped them work through new ideas with story (like consistent first person POV and narrative linking) because the tool is designed to help them engage with those ideas.

It is not a casual statement to say that the writers *played* with Agent Stories. I watched each writer struggle a little at first with the concepts. Then, as they became more familiar with the tool and asked me questions, there would always be an *Ah-ha!* moment – a moment when suddenly everything in the mind shifted and a lot all at once became clear about the tool and how they can write with it. After that moment, I watched all of the writers sit staring at the screen, absolutely still, except for two parts of their body, 1) their fingers, flying over the keyboard typing their story, and 2) their faces, with a big smile. The writers would sometimes sit for as much as an hour just staring at the screen and typing as fast as they could. They were completely engaged in the process of writing, and if the Agent Stories tool was in a more robust state, it would have been much more difficult to remove them from the system.[25]

There is some indication that the writers liked playing with the first-person writing. First person is not a form many of the writers used on their own. It forced these writers to see the world through other people's eyes in order to write. Agent Stories served as a tool which allowed them to do something which was valuable to them – which facilitated their engagement. Also, due to the first person POV, there was something personal or res-

[25] This point was underscored when, upon ending their sessions, a couple of the writers thanked me before I could thank them. I was not sure who was providing the service.

onant in the writers. Kids engaged in building projects in microworlds could put themselves into the project because the tool allowed them to express their identity, which also encouraged them to stretch intellectually. Agent Stories, while not specifically a kids' tool, encouraged these adult writers to stretch intellectually by placing themselves (their identity) into the mind of another.

5.2.3 Designer Evaluation

There were a number of things learned through the Agent Stories experience. First, that the creation/creative process is a powerful thing. Even with the Writer Feedback Environment not fully functional, the writers' creative process functioned fine with the level of feedback they were already getting through the overall structure of the system and the user interface. By providing a clear structure and direction in which to write, no matter how unusual, writers blossom.

It was also learned that the creative process is a sensitive thing. Writers like to have what they are used to or else their creativity in hampered. It is not enough to provide new and interesting tools. The new and interesting have to be accompanied with a certain level of familiarity and comfort. Requesting a spell checker and thesaurus are perfect examples of amenities that are no longer extraordinary, but necessary.

It was surprising how naming a story clip held so much meaning for the various writers. More than one of them commented to me that naming the clip was either difficult or challenging in an unexpected way. The naming process helped cause the writers to see their work differently – they were more thoughtful about what they were writing, and from whose perspective the writing was from.

The client-server architecture which Agent Stories uses is not a trivial configuration to maintain. Agent Stories was never meant to be a multi-user system, yet in the end was used by three people at the same time. This unexpected usage ended up bogging down the system and making it at time difficult for some of the writers to work effectively. As this software continues to be developed, a more robust client-server model will need to be addressed.