The Grimm Tale

The Evolution of a Multimedia Performance

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The author examines the implications of traversing artistic media through a discussion of her process in working with The Grimm Tale (or the Story of the Youth Who Went Forth to Learn What Fear Was). This work began as a Web site and was subsequently developed into a live multimedia performance geared towards both an in-house audience and a live Internet audience. Both technical and conceptual issues are examined in depth.

My original medium was printmaking. While working as a printmaker, I was fascinated with the process of building plates, making changes, and pulling varieties of prints from a single image. I found that the variations from one plate could be limitless, depending on color choices, ink viscosity, variations in the density and hardness of rollers, variations in paper, and so on. As a result, when I moved into the realm of digital graphics 10 years ago, I found that a large portion of my work entailed taking a theme or story and giving it life in a variety of media. Taking a piece and creating a work as a performance, a CD-ROM, or a Web site presents fascinating progressions and developments. Each of these media has individual advantages, limitations, opportunities, and constraints, all of which have to be taken into account to make the piece a new and unique work in its new form. Here I want to examine some of the implications of traversing media in this way, with reference to my process in working with The Grimm Tale (or the Story of the Youth Who Went Forth to Learn What Fear Was), which started out as a Web site (Fig. 1) and evolved into a live multimedia performance.

Having witnessed firsthand as a child the disruption caused by mental illness within my family, I am fascinated by conventions of normality. I attempt to comprehend the multiple perceptions of any reality: the definitions, distinctions, and gray areas of altered states, as well as the general fear in our society of being perceived as "crazy" or "not normal." Upon completing my last project, The Mutant Gene & Tainted Kool-Aid Sideshow CD-ROM in 1995 [1], I decided that I wanted to work with a narrative. In the process of my research, I discovered "The Story of the Youth Who Went Forth to Learn What Fear Was," a parable by the Brothers Grimm. It tells of a youth who does not understand the concept of "shuddering in fear." Consequently, he goes out into the world to learn its meaning. In his journey, he keeps meeting

Fig. 1. Screen capture from the author's Web site entitled The Grimm Tale (or the Story of the Youth Who Went Forth to Learn What Fear Was).

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LEONARDO, Vol. 10, No. 5, pp. 149-154, 1997 349
Building the Grimm Tale Web site

I began by building small clay puppets representing each of the characters in the tale. These puppets were then transported to the Experimental Television Center in Owego, New York, and there, using the center’s synthesizing system, we taped hours of footage. The characters were keyed to beds of analog video patches, which we were using to synthesize abstract video shapes and patterns as part of the imagery of the piece. The “key” system allowed us to take one video source (for example, footage of the puppets) and insert it into portions of another video source (the synthesized video generated on site at Owego). We assembled approximately 12 hours of footage depicting the various scenes and characters this way.

The second step involved breaking down the story into Web pages. What I immediately discovered was that while the story is driven by a remarkable text, I did not want the pages themselves to be text-heavy. I often find, when exploring the Web, that pages with too

Fig. 3. Screen capture from one area of the Grimm Tale Web site showing posted responses from the first “Grimm Thought” question: What is your first memory of fear, your first real fright? (Programming by John Neilson)
much text become difficult to read. My inclination is often to go to a new location. If I am truly interested in the reading material, I will save the text from those pages to read in my word processor or to print out.

I decided that the story would have to be broken down into small increments. Each page would be wholly visible in the Web browser window, so that there would be no need to use the scrollbars, and pages would consist only of a single event, action, or piece of dialogue. As well, I wanted to mimic a children's book format, so text would be large. When this process was finished, the story was approximately 150 Web pages long. A table of contents was developed so that the user could always return to a specific chapter at a later date.

The next issue to grapple with was bandwidth. I wanted the site to be optimized for a 28.8 baud modem. Therefore, I had to be extremely efficient with my use of imagery and animation. I took the video sources and, once they were digitized, began to create hundreds of small, loopable GIF animations. These animations ranged in size from 4 to 31 kilobytes. Then I began the process of going through the story, adding elements incrementally. I wanted to be sure that the pacing was secure. If a page had what seemed like a long download time, it would have to be preceded by pages with virtually no download time. I had to be efficient with tiled backgrounds, and I designed all the pages with the browser's cache in mind. For example, if I introduced a new, larger visual element, I made sure that all other elements on the same page had been introduced first on previous pages, which meant that they were already resident in the user's cache and available for faster loading into the browser window.

At the same time, I began work with programmer John Neilson. John was hired for development of the CGI and JAVA programming elements of the site. It immediately turned into a great collaboration as a result of his wonderful insights into the story and his endless pool of Web tricks. The first element we implemented was a series of sections entitled "Grimm Thoughts" (Figs. 2,3). These are areas in which the user, at key points in the story, is asked significant questions about the tale; for example: What is your first recollection of shuddering in fear? Did you ever do something really really bad, for a really good reason? What is the worst thing you were ever paid to do? The user can read the responses of other individuals and post his or her own response back to the site. Thus, the questions and answers are carried out as threaded discussions.

Secondly, we decided to create a "build the ghoul" section. At this point, the user is presented with a series of heads, torsos, and limbs belonging to different ghouls. They can mix and match the pieces to create their own horrifying animated creature.
When the issue of sound arose, it was decided that the best way to implement it on the Web would be through MIDI, a method of synthesizing sound through the computer. The MIDI files would be small and so would not add much at all to the download time. In addition, if the MIDI files were embedded in an invisible browser frame, the audio could be continuous across multiple pages. Since the tale has 14 chapters, I created 14 MIDI files altogether. And the piece took on a continual soundtrack, which we discovered also alleviates any impatience with download time.

After months of work, the site went online in July 1996 [2].

**The Grimm Show**

The Grimm Show (or The Story of the Youth Who Went Forth to Learn What Fear Was) is a 60-minute multimedia interpretation of the parable. It is geared to two simultaneous audiences: the live audience present in the space and—in a version still under development as of this writing—a simultaneous live Internet broadcast audience. The performance itself incorporates prerecorded video, live camera feeds, animation, text, and sound. Both the prerecorded and live video, as well as the animation, are mixed live. Video and animation events are triggered by a continual MIDI/music soundtrack, which is both presequenced and performed live (through the use of MIDI keyboards, drum pads, and wind instruments). MIDI is also used to trigger a variety of sound samples and to create abstract audio beds, which are small loopable sound files that will eventually be available for download over the Internet. The video (both individual sources as well as the live mix) appears through multiple banks of monitors and through video projection.

In performance, the characters of The Grimm Tale are represented both through the video feeds and live on-stage (Figs. 4,5). The original small, handmade clay puppets and their respective hours of footage generated at the Owego Experimental Television Center are used as the prerecorded video. In addition, life-size mask replicas of these puppets have been created to be worn by the performers during the performance. These, together with assorted materials (reflective plastics, liquids, and so on), are used to generate the live video footage.

While the basic story is told primarily through the monitors and projections, the live performers serve as orchestrators or narrators to push the tale forward. At times, the story seems to step off the video screen, bringing the tale into the performance space—and then, through the live cameras, it returns to the video screen.

In the planned version combining the Internet with the on-stage performance, the Internet audience will participate in the event through a series of group or threaded discussion forums on the Web site. Internet audience members will be asked questions that are pivotal to the action of The Grimm Show (similar to the questions, previously mentioned, on the Web site). Their responses will remain at the Web site as documentation of the event.

In addition, selected video outputs will be broadcast live over the Internet as streamable video using Real Video technology and will afterwards remain at the Web site as a finished piece. These clips will include prerecorded video, video taken during the perfor-
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**analog video patch synthesizing system**—a waveform-generating system that works similarly to audio synthesizers. With either system, changing the voltage changes the pattern of the waveforms that are generated. In audio systems, those forms are output as sound, while in a video system, they are output as abstract video images.

**browser cache**—Files retrieved by a browser from a Web site are kept on the user's hard disk in a temporary storage area called a cache. Since a browser can load a file faster from the local cache than by going back to the Web site on the Internet, this means that repeated elements (i.e., those already in the cache) load faster than new elements in Web browsers.

**CGI**—Common Gateway Interface, a specification that allows Web servers to pass program data back and forth to browsers. CGI programming is commonly used, for example, to run Web search engines.

**GIF animation**—The Graphics Interchange Format, one of the two main inline image formats on the Web, also supports simple animations. GIF animations can be set to play once on a Web page or to loop either continuously or a set number of times.

**keying**—Keying video involves taking one video source and inserting it in portions of a second video source. There are two major types of keying: chroma key and luminance key. Chroma key allows one to place a video signal within a specified color in another video; this is the standard “blue screen” method used for Hollywood special effects. Luminance key allows one to place video within areas of specific lightness or darkness.

**MIDI**—An acronym for Musical Instruments Digital Interface, MIDI is a standard protocol established for digital musical instruments in 1983. General MIDI Specs is an industrywide standard adopted in 1991 that includes a 128-sound tone map, a minimum polyphony of 24 notes, 16-part multi-timbral sound, and a standardized drum and percussion instrument mapping. This standard allows for universal compatibility between General MIDI instruments.

**JAVA**—a programming language originally developed by Sun Microsystems that is being increasingly used to add functionality to Web sites. A scripting version of the language, known as Javascript, can be interpreted by most of the newer Web browsers.

**streamable (or streaming) video**—video that has been ported to the computer and saved in a compressed format that allows the video to be viewed over the Internet in real time. Over low-bandwidth connections, streamable video may still show some jerkiness or frame dropout. At the time of this writing, Real Video software was one of the best implementations of this technology.

**tiled background**—a background that is created by having a GIF image automatically repeated (tiled) across a Web page as many times as necessary to create a pattern that completely fills the browser window. All other Web page elements will appear to be in front of the tiled background.

Acknowledgments

The author would like to thank John Neilsen, a musician and programmer, for his work on the Grimm Tale Web site; Jeremy X. Halpern, the musical director of the multimedia comedy ensemble Verge, for his work on the Grimm Tale performances; New Radio & Performing Arts for commissioning the work through Ether-One’s Turbulence project; the Jerome Foundation for funding and the Experimental Television Center