It was a dark and stormy night. A shot rang out. A web surfer was gliding effortlessly through cyberspace when she suddenly stumbled and fell. Holes in the Net are common: "404: File Not Found".

Meanwhile, back at the ranch, another surfer reaches for the same bad link. Mere seconds before the frustrating error can strike its target...

**Spelunk!**

...the ground crumbles out from under him. He falls past animated creatures taunting his every move, sees his neighbor telling light-bulb jokes to a laptop... and, smiling, drops into the dimly-lit caves beneath the World Wide Web...

Welcome to **Spelunk!**, a shared environment of humor, hysteria, and HTML.

1. **Introduction**

Interval Research invited its 1997 University Workshop participants to consider how humor and computer technology might be more closely wedded in the future. The MIT Media Lab team decided to make the bugs, errors and flaws of computer use into something enjoyable, funny, and even useful. **Spelunk!** draws from experiences in MIT's networked community, and from ongoing Media Lab research on social traces and ambient interfaces.

2. **Process**

We began the project by brainstorming about what makes us laugh. From our very first discussion, we realized that humor wasn't something inherent in words, or fundamental to banana peels; it was instead something deeply tied into our social relations. In the
computer world, jokes, games, stories and styles of humor are the product of common references and exchanges between our communities. After gathering extensive examples, anecdotes and opinions from that local community, we decided to study four aspects of humor:

1. Interactivity -- Humor ranges from the laughter of watching slapstick comedy to the more participatory involvement familiar to a game of charades.
2. Communities -- Inside jokes depend on shared experiences within a community. Juxtaposing the familiar and unfamiliar (i.e. knock-knock jokes, Absolut Vodka ads) also depends on a common iconography.
3. Representation -- Different media are evocative in different ways. The qualities of newspaper comics, radio comedies and animated cartoons render them distinct forms of humor, yet each can be equally funny in its own way.
4. Location -- Where you are has a major influence on the types of humor expressed: going to a professional comedy-show can be quite different than realizing you've made a bad pun during ordinary conversation.

We studied a range of fun activities, situations and places in our community at MIT and how it incorporates these characteristics. For example, someone's office door covered with "Poetry Magnets" invited passersby to spend a minute adding to and changing phrases, jokes, and non-sequiturs. Similarly, a kitchen bulletin board in our Lab isn't a resource people decide to check: instead, they'll glance at its comics, announcements and jokes in passing, on their way to somewhere else. In another vein, we found that MTV's interstitial animations attracted attention as entertaining breaks in the regular program schedule- they are visually stimulating, fast-paced, and don't require any.

Inspired by these examples, we developed a project along several conceptual axes: From very active to completely passive involvement, from short (5 seconds) to long (1 minute) durations, use of audio-visual media to plain-text representations, and incorporating references to the individual's context vs. references to a community.
3. Project Description

Spelunk! emerged as a web-space shared by a community of users, populated by various jokes, puzzles and games, and unified by a common graphical style. This shared environment replaces "404: File Not Found" error messages with a series of "activities" chosen from a range of points along the above-mentioned axes. The goal of the project is to subvert frustration with humor: to fill the annoying, empty gap of error-messages with an opportunity for short, silly and shared play. Each community of Spelunk! participants use our HTTP proxy-server to filter all web-browsing requests. When the server finds a "404" error, the Spelunk! system quickly generates a "play list" for the new episode based on lists of available media, the state of the space as it was left by previous visitors, and particulars about the new user.

Below are descriptions of some of the content in our system, in various styles and with different emphases along the above axes:

**Poetry Magnets**
This Java applet lets users play with words and phrases in the style of the popular fridge magnet toy. The system stores state across asynchronous and arbitrary use, combining the evolving compositions of previous visitors with text taken from the broken page that sent the user to Spelunk! Users are invited to play, leaving messages and non-sequiturs "on the fridge" for one another, and building on and modifying each other's work in a whimsical and unexpected context.

**Chatbots**
In the style of Wiesenbaum's Eliza, chatbots engage the user in a text-based conversation with a computer character. Reading the text of previous conversations can be as funny as your own compositions. Accordingly, we use the last few lines of the most recent exchange as in an introduction to the new conversation. The user can thus be seen as continuing, collaborating and altering an ongoing conversation between the computer and
one polymorphous human. We have created several characters for users to interact with, including "The Brat," a 6-year old the user has to baby-sit, and "AllOfMe," a role-reversal character who sets out to prove the user is just a computer-generated script.

**Interstitials**

In order to provide distinctive and immediate feedback upon entry into Spelunk!, we have created several fast-loading, slapstick-style animation/sound clips. They are unified by a common aesthetic (reminiscent of simple cave line drawings), and serve as a readily identifiable signifier of Spelunk!

**Big Phun**

People in our lab, like many communities of friends and co-workers, pass along jokes, comics and urban myths to one another via email or photocopies on bulletin boards. "Big Phun" is a place for users to submit their favorite content in this vein, to be presented during Spelunk! episodes. This Java applet also allows readers to vote on favorites by throwing digital rotten tomatoes at will. The vote is preserved, updated, and used as a mechanism to continuously select more popular content.

**4. Conclusions**

Spelunk! is a place that emerged from our experience with MIT's savvy computer culture. It changes the common, short gaps that users regularly face with a fun, fast-paced and scalable community center. Based on observations of similar spaces in the physical world, we have constructed an evolving environment designed to make people smile or laugh, and connecting them in unexpected ways with their peers and colleagues. This space can be grown to fit a community's custom needs and culture, while simultaneously providing an enjoyable alternative to an everyday glitch.