

# Computational Support for Compelling Story Telling

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## Categories and Subject Descriptors

J.5 [Arts and Humanities]: Arts, fine and performing; H.3.3 [Information Search and Retrieval]: Information filtering

## General Terms

Human Factors

## 1. INTRODUCTION

The Internet is a living, breathing reflection of who we are, what we think, and how we feel. The pages that make up the Web form the book of our contemporary life and culture. They are the ongoing and changing buzz of our world. The latest embodiment of this cultural reflection is found in blogs. Not only are blogs widespread, but they are incredibly dynamic, with hundreds updated per minute. The existence of millions of blogs on the web has resulted in more than the mere presence of millions of online journals, but rather, they generate a collective buzz around the events in the world.

## 2. BUZZ

*Buzz* (shown in Figure 1) is a multimedia installation that exposes and explores the collective voice generated by blogs. Using the most popular searches of the moment, it finds the blogs that are reflections of the questions of our time. The most popular searches are displayed on a central screen. The blogger is embodied by virtual actors, displayed on surrounding displays, who externalize these monologues by reading them aloud. It exposes the opinions and experiences of people in the world relating to what we are searching for.

As an example of a *Buzz* performance, Table 1 shows the buzz on the topic of the popular reality television show “Project Runway.” In the performance, the words “Project Runway” appear on the central screen, while the four actors contribute to the performance by reading these discovered stories (found in blogs) aloud, in turn [3]. The actors are attentive to each other by turning to face the actor currently speaking.



**Figure 1: An installation of *Buzz* in the Ford Engineering and Design Center at Northwestern University. The virtual actors are telling stories on the topic of Janis Joplin.**

Story telling and online communication have been externalized in several related installations. Of the more well-known, *Listening Post* [2] exposes content from thousands of chat rooms through an audio and visual display. Similar to *Listening Post*, *Buzz* externalizes online communication, though in a more semantically grounded manner. Like *Buzz*, Mateas’s *Terminal Time* [4] sought to tell stories, though its stories were grounded in a common sense knowledge base as opposed to live real world information.

## 3. TELLING COMPELLING STORIES

Starting with the popular web searches of the day as a context, we enabled *Buzz* to discover stories by searching for blogs that related to these topics. A first pass at building *Buzz* revealed that the content of blogs is incredibly wide ranging, but unfortunately often very dull, including entries about what the author is eating for lunch, or how to install a wireless router, or a list of the author’s 45 favorite ice cream flavors.

We needed to give the system strategies for finding stories that were compelling and engaging to an audience. To do so, we define a simple model for the aesthetic qualities of a compelling story. These qualities include but are not limited to: an interesting topic, emotionally charged, complete and of a length that holds the audience’s attention, at the right level of familiarity, and involving dramatic situations. We designed *Buzz* to find stories with these qualities.

**Table 1: Two stories discovered by *Buzz*, on the topic “Project Runway”, a popular reality television show.**

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I never watched Project Runway in its first season, and only after the goading of a few people did I consent to test out the new season. It’s surprisingly good, and by “good” I mean “honestly quality television,” not “guilty-pleasure-o-rama.” What distinguishes it from other reality shows, to me, is that the contestants are professionals doing what they do best.

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Bravo, why do you show project runway reruns every week before the real project runway is on? I hate you. I hate you. I don’t want to look at Santino’s bad underwear again, I want to see Pretties. UGLY. UGLY. And Daniel 2 had such a great design concept, but the execution was BLAH.

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### 3.1 Filtering Retrieval by Affect

Given that our initial version of *Buzz* was reading blogs that were not compelling, and since such a large volume of blogs exist on the web, we strove to filter the retrieved blog entries by affect, giving us the ability to portray the strongest affective stories. Beyond purely showing the strongest affective stories, we also wanted to be able to juxtapose happy stories on a topic with angry or fearful stories on a topic.

To build such a tool, we sought a large corpus of affectively scored terms, and we found one. The ANEW [1] corpus contains 1,034 unique words with affective valence, arousal, and dominance with scores on a scale of 1–9. Using the ANEW as a base, we expanded the corpus by synonyms. As some synonyms are more closely related to a word than others, we used web co-occurrence to determine how closely related terms are. We created a tool to compile a collective affective score for a group of words based on the presence of keywords from our expanded corpus [5]. Using this tool, we were able to filter the unemotional blogs, leaving us with stories on a heightened emotional state.

### 3.2 Filtering Retrieval by Syntax

In our first pass at retrieving stories from blogs, we noticed that we often found lists or surveys instead of text in paragraph form. For example, one blogger posted an exhaustive list of lip balm flavors while another posted answers to a survey. To solve this problem, we chose to filter the retrieved blog entries by syntax. Blog entries that met any of the following criteria were filtered: too many newline characters (more than six in an entry of four hundred characters), too many commas (more than three in a sentence), and too many numbers (more than one number in a sentence). While the precision of this method of filtering based on syntax was lower, we optimized for recall so that all potential lists and surveys were removed for the corpus.

### 3.3 Dramatic Situations

Through experiencing *Buzz* in the world and watching audiences reactions and responses to stories, we discovered more generalized traits of compelling stories. The most compelling stories to watch were those where someone is laying their feelings on the table, exposing a dream or a nightmare that they had, making a confession or apology to a close friend, or regretting an argument that they had with their mother or spouse.

Codifying these qualities, we added a component to the retrieval that found stories that began with a cue that the writer was about

**Table 2: A story discovered by *Buzz*.**

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My husband and I got into a fight on Saturday night, he was drinking and neglectful, and I was feeling tired and pregnant and needy. It’s easy to understand how that combination could escalate, and it ended with hugs and sorries, but now I’m feeling fragile. Like I need more love than I’m getting, like I want to be hugged tight for a few hours straight and right now, like I want a dozen roses for no reason, like a vulnerable little kid without a safety blanket.

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to describe a dream, nightmare, fights, apology, confession, or any other emotionally fraught situation. Such cues include phrases such as “I had a dream last night,” “I must confess,” “I had a terrible fight,” “I feel awful,” “I’m so happy that,” and “I’m so sorry.”

This realization was an important turning point in our system’s capabilities with regard to retrieving compelling stories. These stories are more interesting as the blogger isn’t talking about a popular product on the market, or ranting about a movie, they are relaying a personal experience from their life, which typically makes them emotionally charged. The experiences they describe are often frightening, funny, touching, or surprising. See Table 2 for an example of a story found by *Buzz* using this search technique.

## 4. CONCLUSIONS

Enabling *Buzz* with the ability to discover compelling stories on a popular topic has produced great results. *Buzz* has changed from an installation that was unbearably dull, exposing the boring nature of many blogs, to a system that engages its viewers. *Buzz* was exhibited last year at the Athenaeum Theater as a part of the 8th Annual Chicago Improv Festival and was displayed in the lobby of Chicago’s Second City theater at 1616 N. Wells St. in Chicago on August 24th, 2005 for a long term installation, currently still running.

## 5. REFERENCES

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