Why Are They Excited?
Identifying and Explaining Spikes in Blog Mood Levels

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Blogs and the blogosphere

- **Blogs** are frequently updated web pages, with entries shown in reverse chronological order
- Many blogs function as online diaries
- **Blogosphere**—the totality of blogs—offers unique window into people's thoughts, feelings, and moods
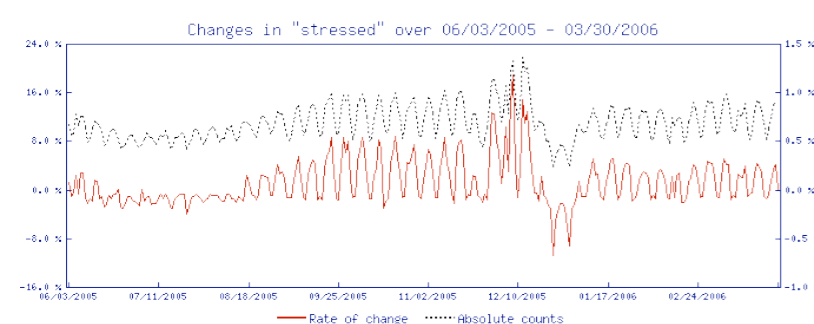
LiveJournal

- One of the most popular blogging platforms
- Allows bloggers to indicate their mood at the time of blogging
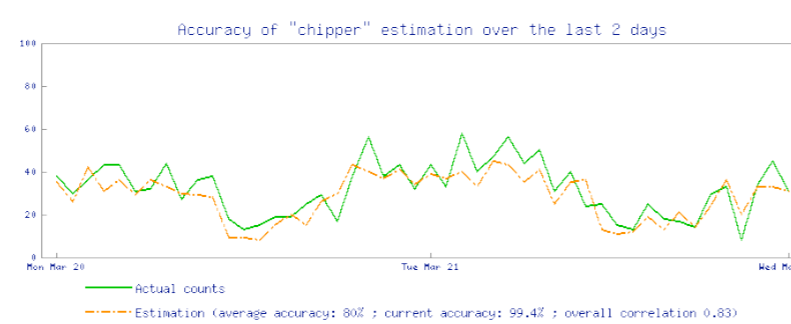- A corpus of time-stamped mood-annotated texts

Tracking moods

- MoodViews tracks the aggregate mood of the blogosphere, from a number of angles

Moodgrapher
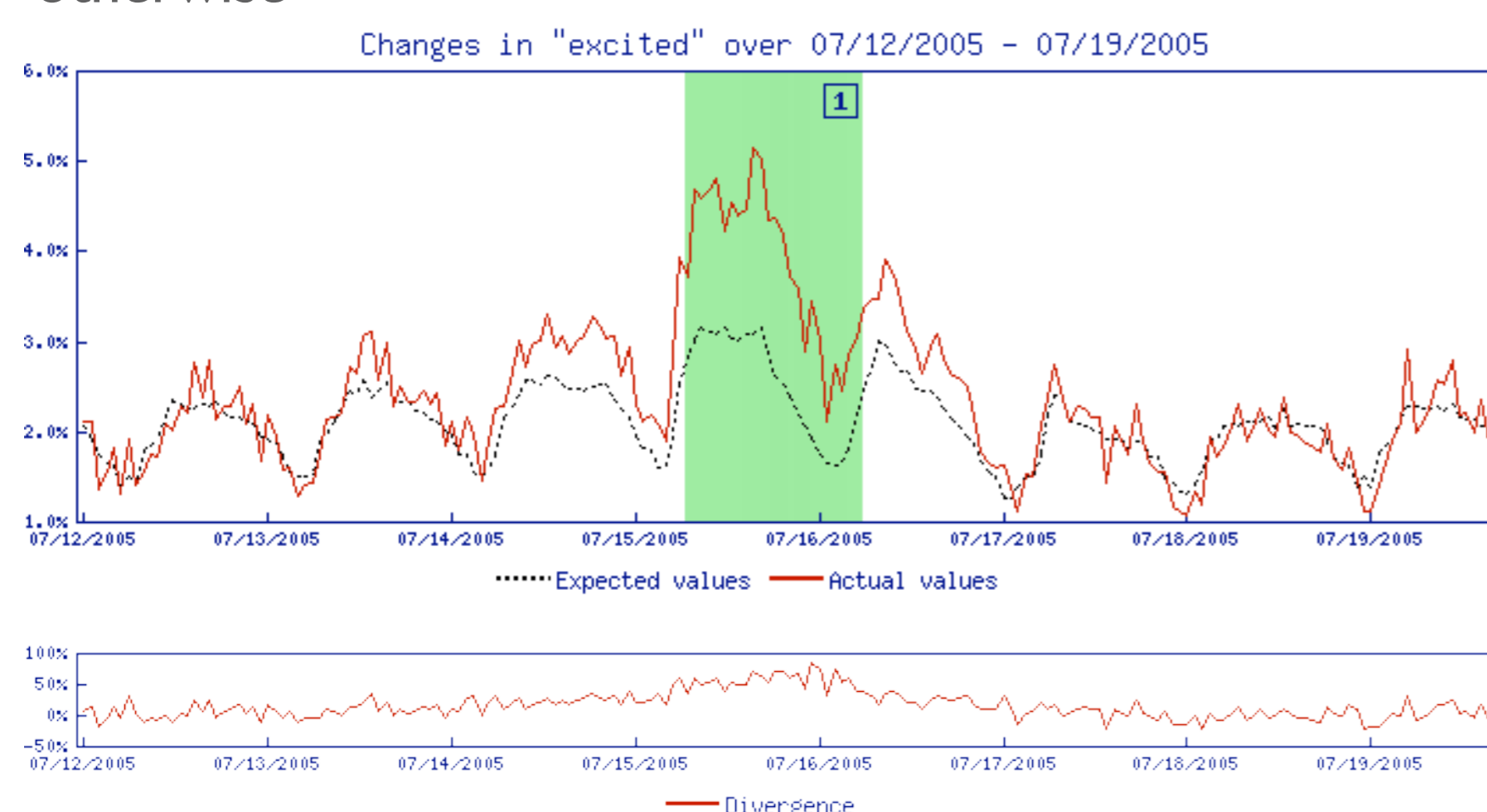
tracks global mood levels

Moodteller

predicts global mood levels

Spikes in moods

- Some moods display cyclic behavior (awake, drunk, …)

- Others impacted by global events, cultural, political or otherwise

Moodsignals

- Detects and explains unusual peaks in global mood levels
- Explanations use language model divergence as well as online news archive

When moods diverge

- Spike detection needs to deal with these cyclic events and aim at finding global changes
- *Divergence* (D) reflects changes in a given mood's level.
- If D exceeds a threshold a spike has occurred:

Divergence = Actual / Expected mood level

where expected mood levels are calculated based on prior observations

Explaining peaks

Overused words

- Identify changes in language usage
- Compare word frequencies across two corpora using log-likelihood test
  1) *standard* corpus – full set of blog posts
  2) *sample* corpus – corpus associated with peaks

Finding explanations

- Form query from given start and end dates of peak and a list of overused words from this period
- Submit query to (headlines of) a news archive

Example

Peak (1) July 15 11:00 – July 16 17:00, 2005

Overused (stemmed) terms during peak period
harri, potter, book, hbp, excit, princ, factori, read, midnight, input, spoiler, charli, valu

Related global events
[2005-07-16] Harry Potter and the Half-Blood Prince released

Online demo

- To try out any of the mood tracking tools, visit
  http://moodviews.com
- Current news archive used is WikiNews

Working? You're not alone!
MoodViews.com