

# We Feel Fine and Searching the Emotional Web

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# PLAN

- Actuality and Definition
- Principles in Design and Architecture
- We Feel Fine Interface. On-line.
- Usage observation
- Applications
- Conclusions
- Answering questions

# WHAT IS “WE FEEL FINE”?

2006-2010

Mission: to collect the world’s emotions to help people better understand themselves and other

Crawl social web to:

- Extract sentences with “I feel” and “I am feeling”
- Collect extra info about authors: gender, age, location

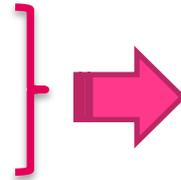
**Result in: an emotional search engine and web-based artwork**

- Database of several million feelings
- A series of playful interfaces
- The feelings can be searched and sorted
  - ➡ Qualitative exploration of emotional data
  - ➡ Class of visualizations: Experiential Data Visualization

# ACTUALITY

## WE FEEL FINE VS. SENTIMENT ANALYSIS

- Growth of the social web
- Rise in available emotional text



Increased interest in  
Sentiment Analysis

### Sentiment analysis:

- Algorithmic analysis for extraction and classification
- Statistical analysis

### Concerning different applications

- Cognitive understanding

### We Feel Fine:

- Easy methods for extraction and categorization

### Understand emotions themselves

- Non-cognitive, but intuitive understanding through qualitative exploration
- Visceral understanding

Markedly different approach

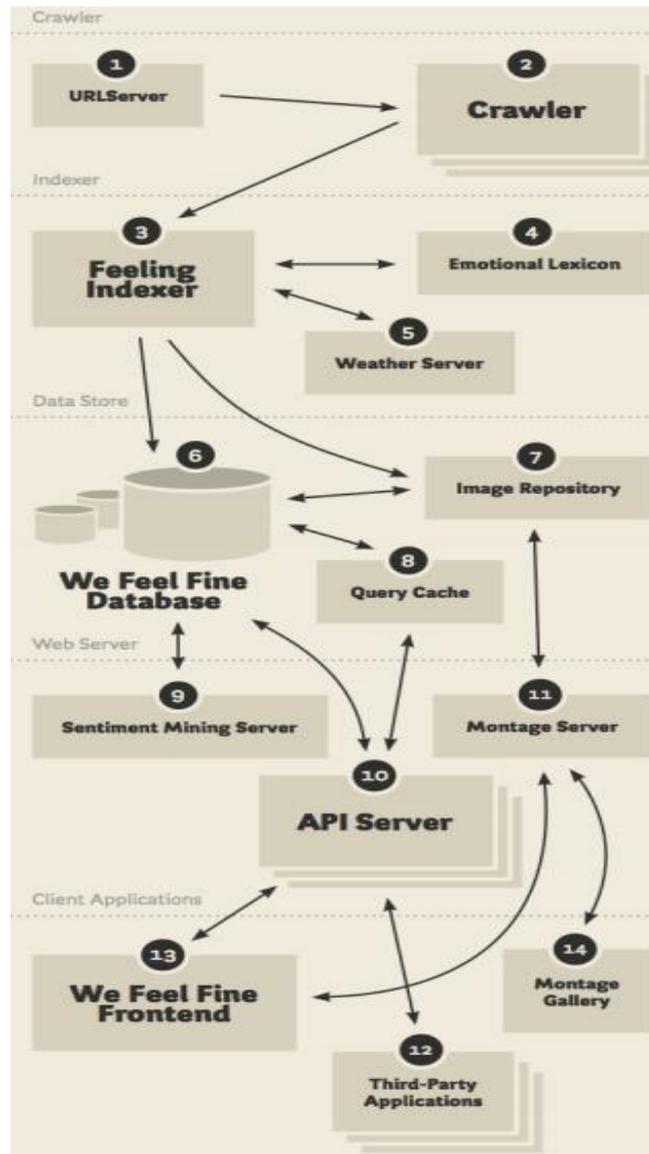
# PRINCIPLES IN DESIGN

- **Sentence-level analysis:** instead of pages return sentences
- **Indexing context:** the time of the emotion, the location, gender and age of the author
- **Sentiment as the primary organizing principle:** faceted search interface, focused on emotions, not a free-form search-box. Analyze wide range of emotions
- **De-emphasizing ranking:** don't introduce the notion of ranking
- **Emphasizing browsing and summarization:** get the gestalt of how a population feels
- **Easily shift from macro-level (summarization) to micro-level (browsing)**
- **Visualizations:** functional, but not cold interface
- **Direct data access:** interface for both artwork and data application

# ARCHITECTURE

**Crawler.** The URLServer sends the list of pages urls with blog posts, social network messages to the Crawler, which sends them to the Indexer.

**Indexer.** It extracts the feeling sentences, the time and date, gender, age and location. Emotional Lexicon finds the “feeling” words in the sentences. Feeling indexer determines the largest image and gets the weather info.



**Data Store.** Indexer sends feeling sentences and metadata to the Database.

**Web Server.** API Server translates URLs into SQL queries and returns the SQL results to the browser as XML. Sentiment Mining Server post-processes the results of an API query, computing statistics. The Montage Server composites image with text.

**Client Application.**

[http://wefeelfine.org/wefeelfine\\_pc.html](http://wefeelfine.org/wefeelfine_pc.html)

# USAGE OBSERVATION

- Lab study (10 males, 10 females, ages 18-61)
  - Users wasn't given any task
  - Spending 15 min exploring the site
  - Talking through the exploration
- Blog comments
  - ➔ The same comments: the sense of connection to the world

Observations:

- ★ Emotional Self-Awareness
  - feeling calm and relaxed after the exploration
- ★ Increase in Empathy
  - project own experience on the given emotions

# APPLICATIONS WITHIN API

- We Feel Fine API and Sentiment Mining Server
  - to support statistical analyses

★ Hedonometer, Dodds and Danforth:

computing a happiness score for any population:

★ Time-series analyses



**Obama's Election Day / Nov. 4, 2008**

There was a dramatic spike in excitement and a swelling sense of pride, which lingered for several days after the election, during the palpable state of national euphoria.

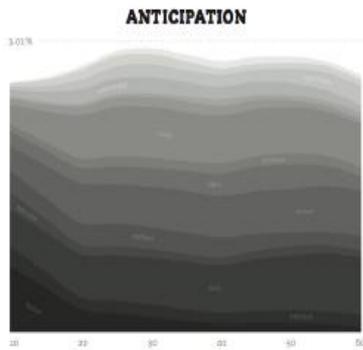


**Valentine's Day / 2006-2008 average**

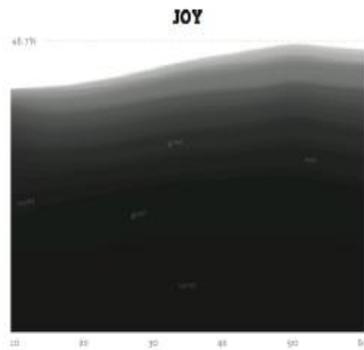
Loneliness sees the biggest rise, starting a few days before Valentine's Day and remaining high for a few days afterwards. Feeling special and loved is also typical of the holiday.

# APPLICATIONS WITHIN API

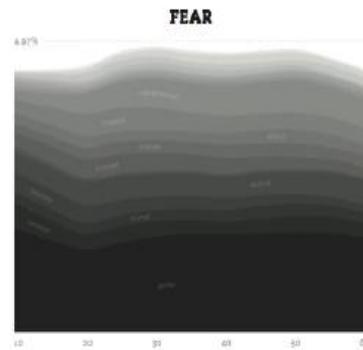
## ★ The Emotions of Aging



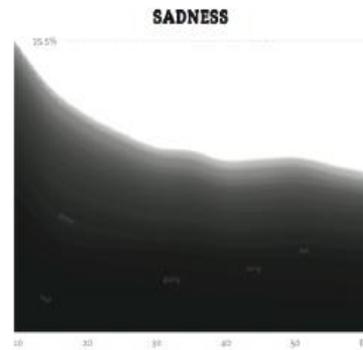
**Anticipation** contains: bored, nervous, sure, worried, excited, certain, calm, anxious, ready, inspired, hopeful, motivated, optimistic, prepared, threatened



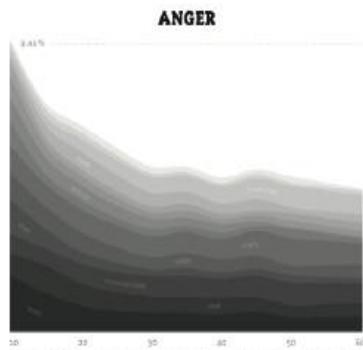
**Joy** contains: better, good, happy, well, special, loved, great, safe, proud, nice, fine, best, excited, complete, warm, super, alive, high, confident, happier, perfect, excited, relaxed, content, beautiful, secure, lucky, blessed, awesome, wonderful, relaxed, liked, inspired, energetic, amazing, loving, glad, giddy, helpful, accepted, satisfied, refreshed, honored, fortunate, fantastic, optimistic, grateful, fulfilled, incredible, peaceful



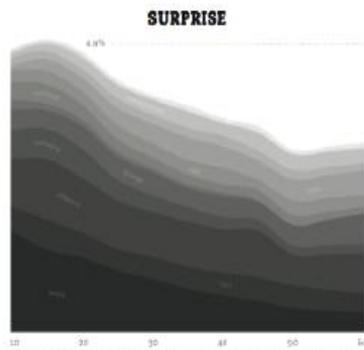
**Fear** contains: guilty, nervous, helpless, scared, behind, worried, stressed, anxious, afraid, inspired, overwhelmed, tense, desperate, unprepared, queasy, uneasy, threatened, unsure



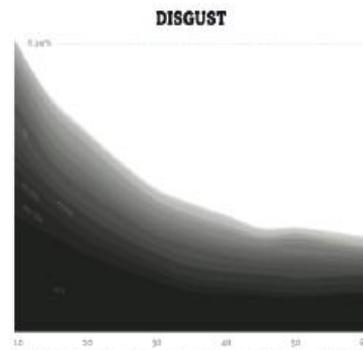
**Sadness** contains: bad, guilty, sorry, sad, horrible, alone, lonely, depressed, terrible, lost, worse, wrong, empty, awful, hurt, dead, crappy, used, uncomfortable, useless, miserable, helpless, broken, shitty, jealous, confused, ashamed, weak, unloved, numb, ignored, drained, worn, hopeless, worthless, stuck, low, disappointed, violated, rejected, crushed, melancholy, incomplete, frustrated, unhappy, busy, homeless, embarrassed, deprived, blue, hollow, abandoned, lacking, isolated, nostalgic, defeated



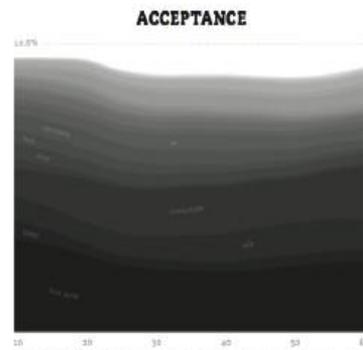
**Anger** contains: risen, used, uncomfortable, mad, upset, angry, jealous, fucked, pissed, annoyed, stuck, frustrated, screwed, bitter



**Surprise** contains: weird, hurt, different, awkward, strange, fucked, confused, odd, lucky, disappointed, overwhelmed, screwed, embarrassed



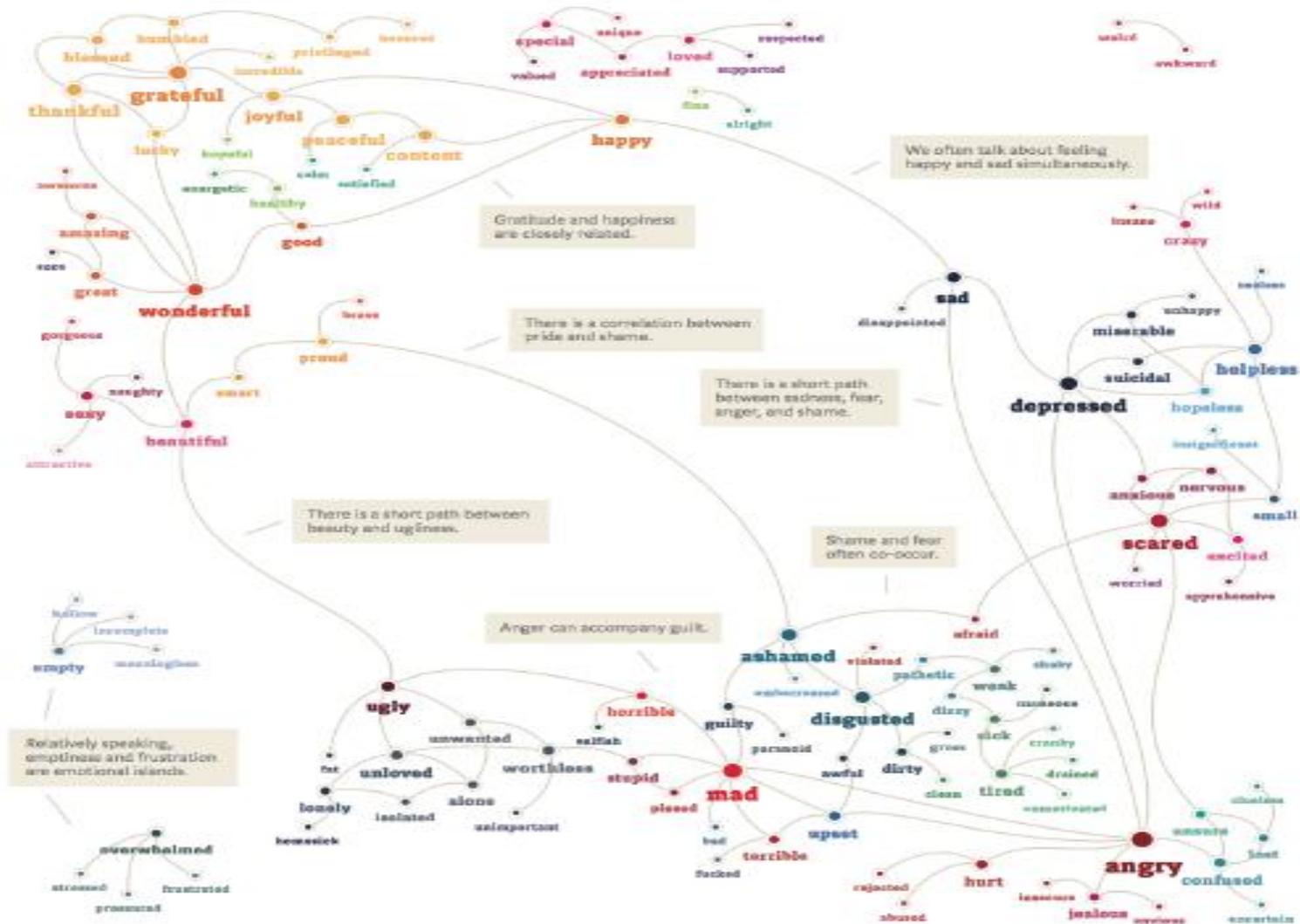
**Disgust** contains: sick, horrible, terrible, wrong, bored, awful, fat, miserable, selfish, ugly, abnormal, pathetic, icky, worthless, gross, evil, disgusting, nauseous, yucky, nauseated, disgusted



**Acceptance** contains: final, serene, loved, safe, comfortable, dead, okay, lazy, complete, ok, relieved, numb, drained, hopeless, slight, content, secure, normal, best, relaxed, loving, satisfied, fulfilled, peaceful, defeated

# APPLICATIONS WITHIN API

## ★ The Emotional Graph



# CONCLUSION: DISCUSSION AND RESULTS

- The main focus: engaging the user at an emotional level
  - Non-cognitive benefits: new areas for data visualization
  - The emotional effect of visualization: involve millions of people in qualitative research on emotion

★ Instead of amplifying cognition:

★ Cultivation of emotional self-awareness and empathy

★ Experiential Data Visualization

★ Crowdsourced Data Mining (4 minutes, 8 million people, 2006-2010)

**Thank you for  
your attention!**