

# Twitter Search

Lehrstuhl für Informationswissenschaft  
**FAKULTÄT FÜR SPRACH-, LITERATUR- UND  
KULTURWISSENSCHAFTEN**



Universität Regensburg

# Twitter

Einführung, Funktionen und Suchfunktionen

# Twitter

- Mikroblogging-Dienst
- Gegründet 2006
- Aktuell ca. 241 Millionen Mitglieder  
(facebook: 1,23 Milliarden)
- Erster Tweet von Twitter-Gründer Jack Dorsey



<a href="#"><u>Katy Perry</u></a>	50,4 Mio.
<a href="#"><u>Justin Bieber</u></a>	49,5 Mio.
<a href="#"><u>Barack Obama</u></a>	41,4 Mio.
<a href="#"><u>Lady Gaga</u></a>	41,0 Mio.
<a href="#"><u>Taylor Swift</u></a>	38,9 Mio.

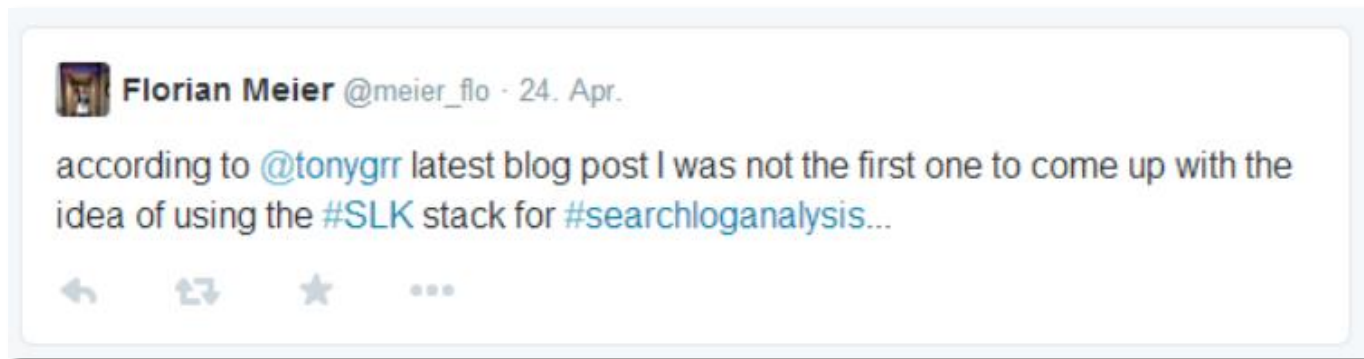
# Tweets

- engl. „Tweet“ = „zwitschern“
- Beschränkt auf 140 Zeichen
- Können Text, Links (URL's), #Hashtags, @verlinkungen, Bilder und Standorte enthalten

# #Hashtags

- Kennzeichnen ein Wort im Tweet als Tag
- Darf Buchstaben und Zahlen beinhalten
- Satz- und Leerzeichen dürfen nicht vorkommen
- Werden im Gegensatz zu anderen Tag-Konzepten direkt im Text benutzt und als Tags interpretiert
- Dienen dazu, Tweets anhand ihrer Tags zu finden bzw. Tweets zu einem bestimmten [#thema](#) zu finden

## Weitere Funktionen



- „Folgen“ („follow“): Man kann anderen Nutzern Folgen um deren Tweets zu sehen
- „Retweeten“: Man kann die Tweets anderer Benutzer „retweeten“
- „Favoriten“: Man kann einen Tweet favorisieren
- „Antworten“: Auf Tweets von anderen mit einem eigenen Tweet antworten

Mehr zur funktionsweise hier: [www.momthisishowtwitterworks.com](http://www.momthisishowtwitterworks.com)

# Twitter Search

<https://twitter.com/search-home>

The screenshot shows the Twitter search interface. At the top is a navigation bar with links for 'Startseite', 'Mitteilungen', 'Entdecken', and 'Account', followed by the Twitter bird logo and a search bar labeled 'Suchen'. Below the navigation bar is a large white box with the heading 'Anzeigen, was **jetzt gerade** passiert.' and a search input field. A tip below the input field reads: 'Tipp: nutze Operatoren für eine erweiterte Suchanfrage.' To the right of the input field is a blue 'Suchen' button. Below this is a 'Trends' section displaying a list of trending topics: #rp14, #Tatort, #HSVFCB, Zimmer, Werbung, Zeichen, #nerdserien, #sketchnotes, and Yes Men. At the bottom of the page is a footer with copyright information and various links: '© 2014 Twitter', 'Über uns', 'Hilfe', 'Bedingungen', 'Privatsphäre', 'Cookies', 'Werbung Info', 'Marke', 'Blog', 'Status', 'Apps', 'Jobs', 'Werben', 'Unternehmen', 'Medien', and 'Entwickler'.

Startseite Mitteilungen # Entdecken Account Suchen

Anzeigen, was **jetzt gerade** passiert.

Tipp: nutze Operatoren für eine erweiterte Suchanfrage. Suchen

Trends

#rp14 #Tatort #HSVFCB Zimmer Werbung Zeichen #nerdserien #sketchnotes Yes Men

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# Twitter Search

Um die Suche einzugrenzen  
gibt es die Möglichkeit  
sog. Search-Operators  
zu verwenden.

[advanced-twitter-search](#)

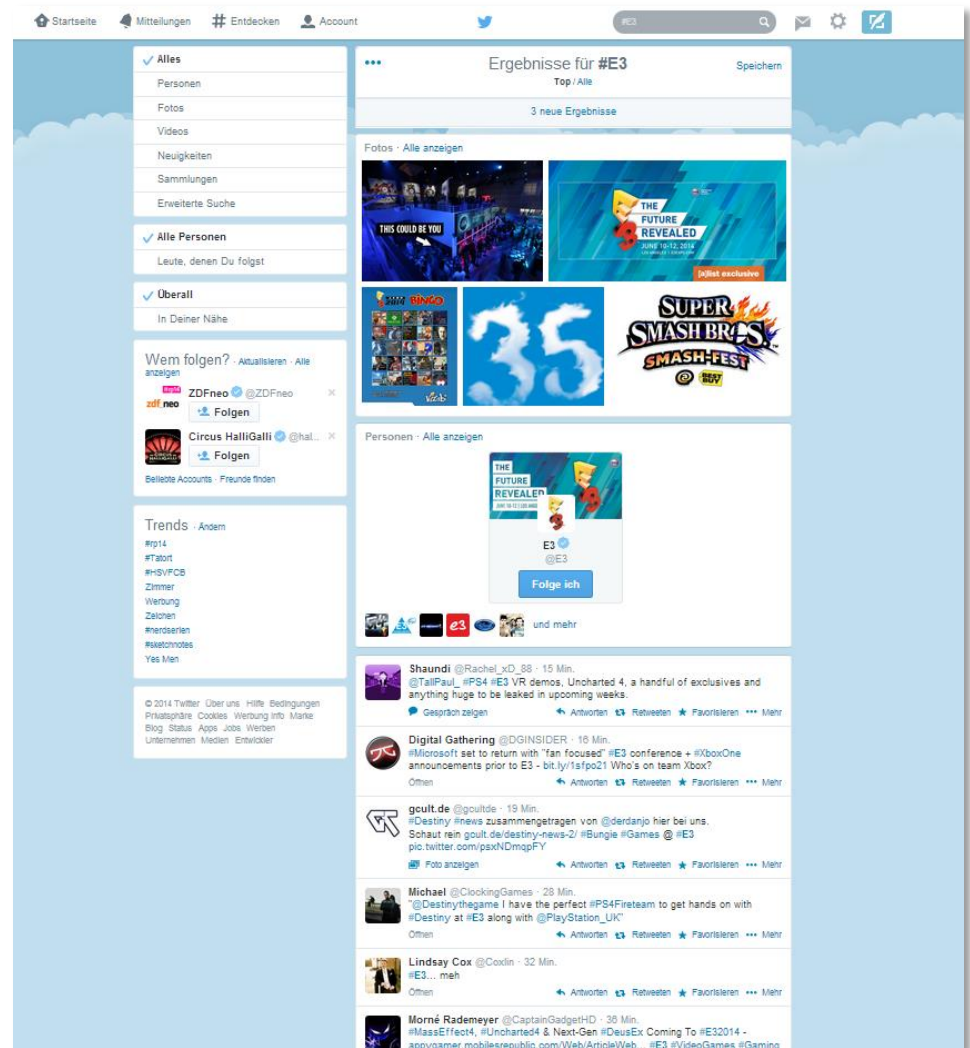
Operator	Finds tweets...
twitter search	containing both "twitter" and "search". This is the default operator.
"happy hour"	containing the exact phrase "happy hour".
love OR hate	containing either "love" or "hate" (or both).
beer -root	containing "beer" but not "root".
#haiku	containing the hashtag "haiku".
from:alexiskold	sent from person "alexiskold".
to:techcrunch	sent to person "techcrunch".
@mashable	referencing person "mashable".
"happy hour" near:"san francisco"	containing the exact phrase "happy hour" and sent near "san francisco".
near:NYC within:15mi	sent within 15 miles of "NYC".
superhero since:2010-12-27	containing "superhero" and sent since date "2010-12-27" (year-month-day).
ftw until:2010-12-27	containing "ftw" and sent up to date "2010-12-27".
movie -scary :)	containing "movie", but not "scary", and with a positive attitude.
flight :(	containing "flight" and with a negative attitude.
traffic ?	containing "traffic" and asking a question.
hilarious filter:links	containing "hilarious" and linking to URLs.
news source:twitterfeed	containing "news" and entered via TwitterFeed



# Twitter Search

## Ranking:

1. Fotos
2. Personen
3. Tweets (aktuellste zuerst)



# Information Retrieval in der Blogsphäre

- Andere Informationen
- Neue Art der Informationsaufnahme
- Information wird auf andere Weise erzeugt
- Es wird zunehmend leichter Informationen zu veröffentlichen durch Blogs und Microblogging
- Blogs sind „interaktiv“
- „Echtzeit“

# Information Retrieval in der Blogsphäre

## Informationsbedürfnis

### Bisher:

- *Informational* (Information zu einem bestimmten Thema)
- *Navigational* (Eine spezielle Webseite finden)
- *Transactional*

# Information Retrieval in der Blogsphäre

## User Tasks und Informationsbedürfnisse:

- In der Regel werden Informationen zu aktuellen Themen oder Ereignissen gesucht. (Nachrichten)
- Eine Meinung zum Thema ist meistens gewünscht (Was denken andere über dieses Thema?)
- Man sucht Information die im Vorfeld von anderen Usern als hilfreich empfunden wurde im Bezug auf die eigene Query

# Queries

## Context Queries

Werden benutzt um den Kontext zu einem bestimmten Thema zu „erforschen“  
z.B. Personen, Firmen, Marken, Events, etc...

*„Was sagen andere Leute zu diesem Thema?“*

## Concept Queries

Werden benutzt um Blogs, Posts zu finden, welche generell interessant sind  
auf ein bestimmtes Thema bezogen. z.B. Musik, Sport, Politik, etc...

# Queries

**Context Queries → Blog Posts**

**Concept Queries → Blogs**

## Blogsearch vs. Websearch

Blogsearch	Websearch
social content	basic facts
celebrities, people	navigational content
events	
information related to people	

Die Sprache der Ergebnisse ist beim Blogsearch eine ganz andere als bei der herkömmlichen Websuche.

**Table 1. Characteristics of the text of Twitter queries as compared with Web queries and queries common across both corpora. All differences are significant ( $p < .01$ ).**

	Twitter	Web	Common
Query length (chars)	12.00	18.80	11.69
Query length (words)	1.64	3.08	1.93
Is a celebrity name	15.22%	3.11%	38.20%
Mentions a celebrity	6.51%	14.86%	7.75%
Contains @	3.40%	0.14%	0.60%
Is username w/out @	2.37%	0.01%	3.25%
Contains #	21.28%	0.08%	0.2%
Is hashtag w/out #	4.35%	2.99%	5.88%



# Summary

## **Blog und Websearch unterscheiden sich in:**

- Inhalt
- Sprache
- Themen
- Informationsbedürfnis und UserTask
- Zeitbezug

# Datengrundlage

Twitter Search API und Twitter4J



Twitter4J is an unofficial Java library for the Twitter API.  
With Twitter4J, you can easily integrate your Java application  
with the Twitter service. Twitter4J is an unofficial library.

[Twitter4J](#)

# Firehose vs. Streaming

# Streaming

- Near real-time tweets
- „frei“ zugänglich
- Nähere Eingrenzungen der tweets möglich
- 1 – 40 % des gesamten traffics

# Firehose

- Near real-time tweets
- “the Twitter Firehose guarantees delivery of 100% of the tweets that match your criteria”
- Zugang nur für “Twitterpartner”

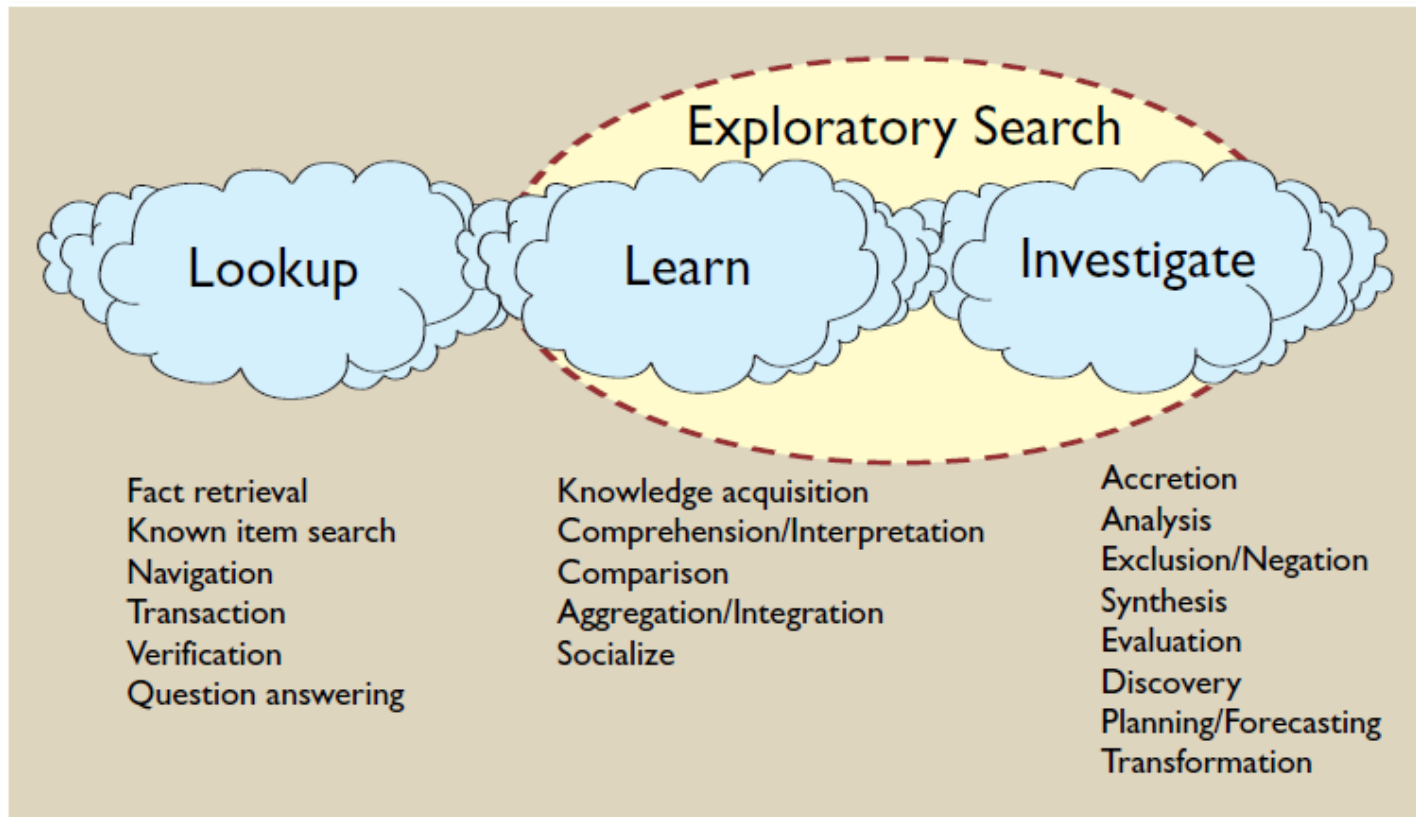
# Streaming vs Powerhose

- Streaming für Privatanutzer und social media Trend Entwicklungen
- Firehose auch für Polizei / Sicherheitsfirmen geeignet

# Exploratory Tweet Search Engine



# Exploratory Search



## Beispiel:

Meet George, a U.S. citizen planning a vacation to the south of France. He has never been to Europe and wishes to experience French culture as an important aspect of his journey. To this end, he wants to rent a villa in a remote village. First, George uses a Web search engine to find out whether this is possible. He encounters a website that offers villa rental in Provence. After investigating Provence and deciding that he likes the region, he looks up villa rental prices and decides that he needs to adjust his goals.

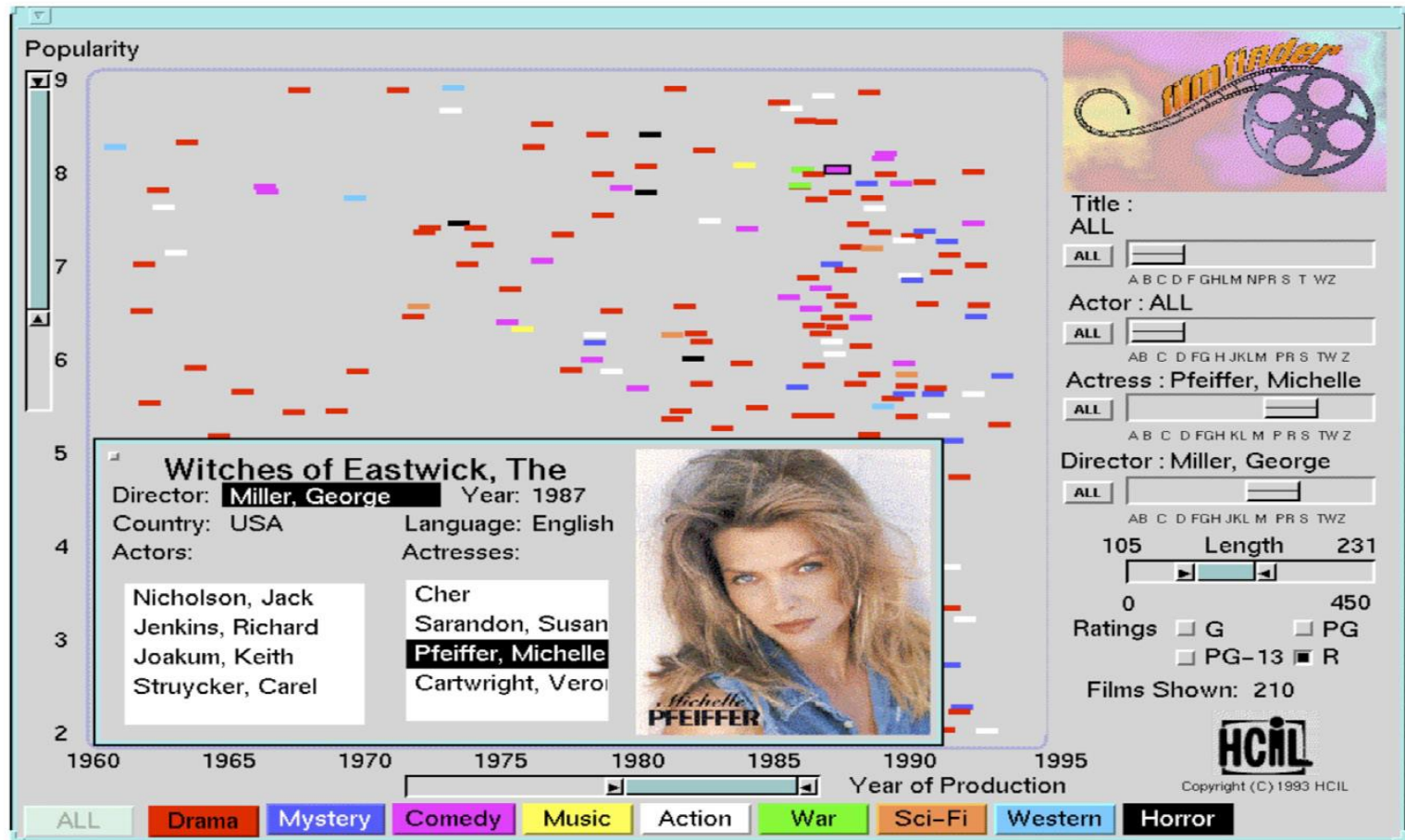
The only available villa rentals during his desired travel window are prohibitively expensive, so George decides to book a hotel in Marseille instead. He searches for accommodation with a minimum rating of three stars, studies the websites of a few hotels, decides on a hotel that meets his needs, and proceeds to make a reservation.

Following

the booking, he needs to investigate transportation options, learn more about French customs and cuisine, and identify sightseeing destinations. He has much to learn and investigate before his trip even begins.

# Exploratory Search Engine Features

Support querying and rapid query refinement: Systems must help users formulate queries and adjust queries and views on search results in real time.



Offer facets and metadata-based result filtering: Systems must allow users to explore and filter results through the selection of facets and document metadata.

## Flamenco

Refine your search further within these categories:

**Media** (group results)  
costume (3), drawing (2), lithograph (1), woodcut (6), woven object (2)

**Location:** all > Asia  
Afghanistan (1), China (4), China or Tibet? (3), India (2), Japan (13), Russia (1), Turkey (3), Turkmenistan (1)


**Date** (group results)  
17th century (3), 18th century (3), 19th century (10), 20th century (3), date ranges spanning multiple centuries (7), date unknown (2)


**Themes** (group results)  
music, writing, and sport (5), nautical (1), religion (2)


**Objects** (group results)  
clothing (5), food (1), furnishings (4), timepieces (1)

**Nature** (group results)  
bodies of water (3), fish (1), flowers (2), geological formations (1), heavens (3), invertebrates and arthropods (1), mammals (2), plant material (3), trees (1)

**Places and Spaces** (group results)  
bridges (1), buildings (1), dwellings (1)

These terms define your current search. Click the  to remove a term.

**Location:** Asia 


**Shapes, Colors, and Materials:** fabrics 

[start a new search](#)

☒ all items ☐ within current results


**28 items** (grouped by location) [view ungrouped items](#)

**Afghanistan** 1




Girl's Ceremonia...  
no artist  
20th century


**China** 4




4 boats on lake,...  
Anonymous  
post World War II



Embroidery  
no artist  
19th century

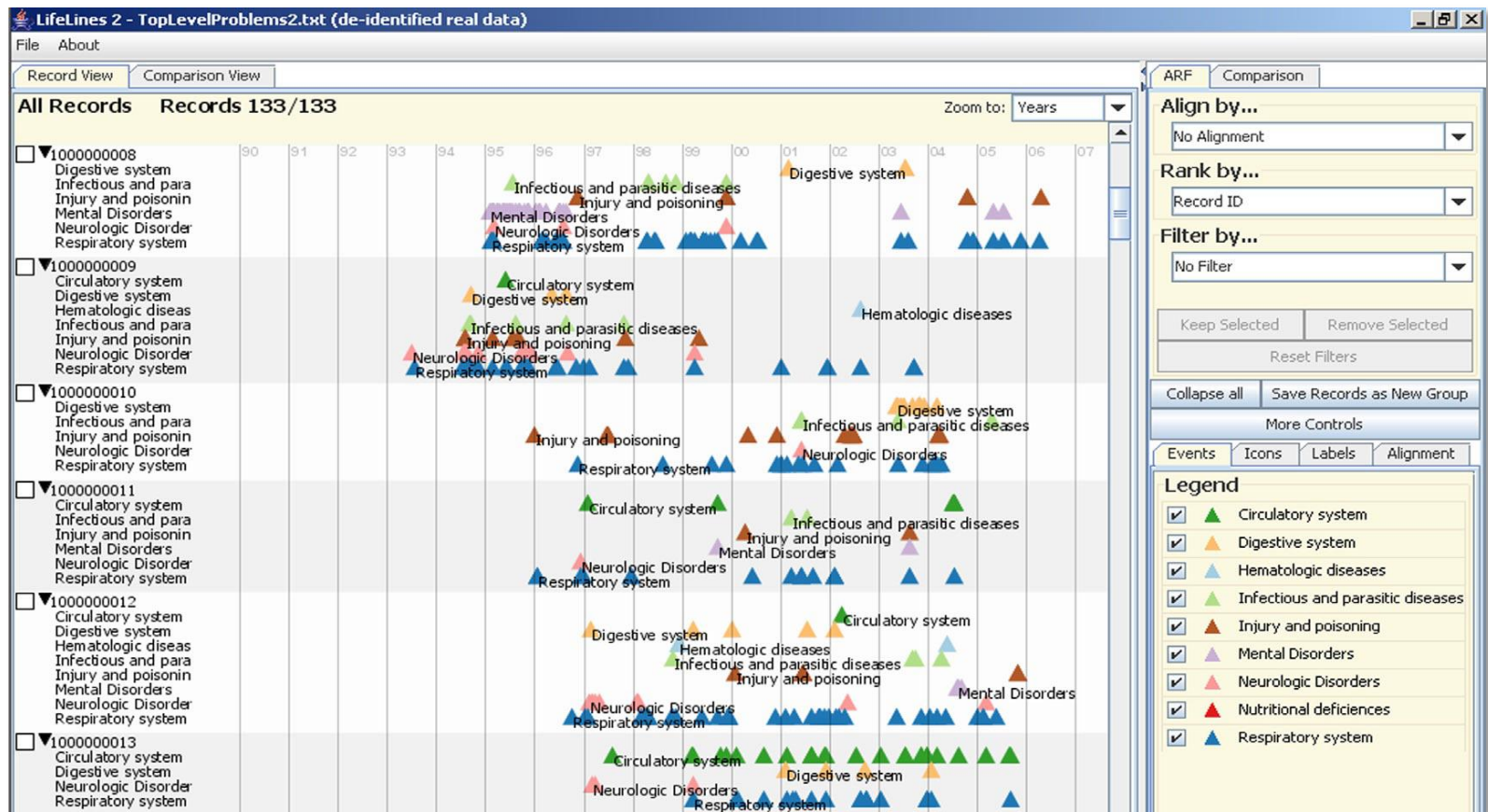


Embroidery  
no artist  
19th century



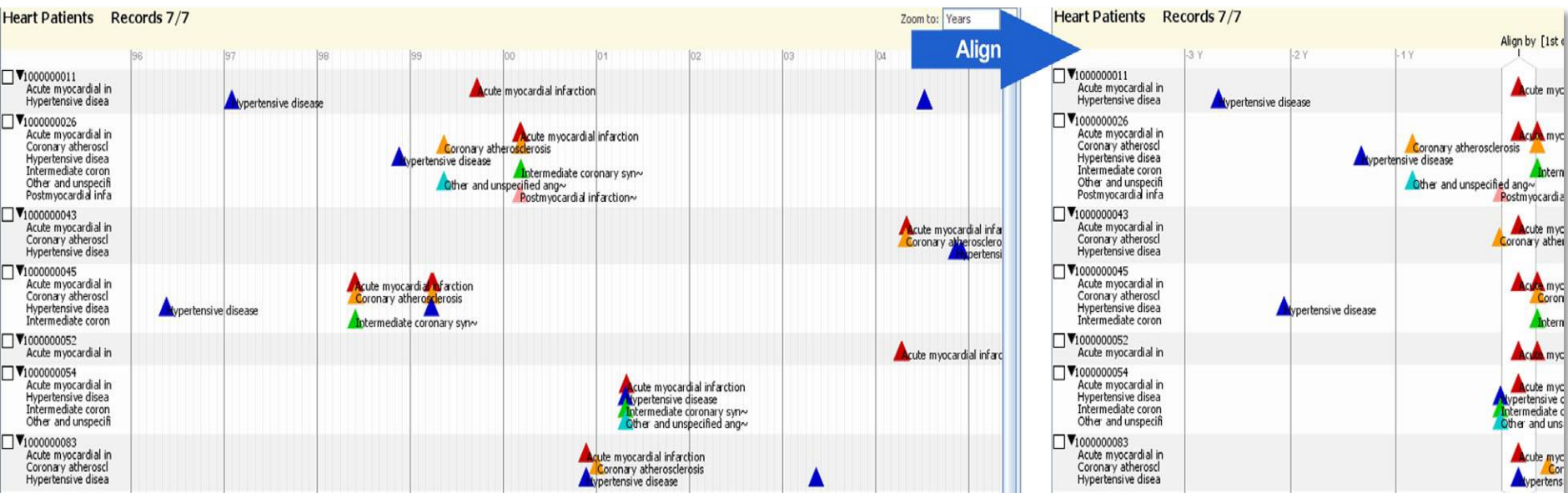
Embroidery ;  
no artist  
19th century

Offer visualizations to support insight and decision making: Systems must present customizable visual representations of the collection being explored to support hypothesis generation and trend spotting.

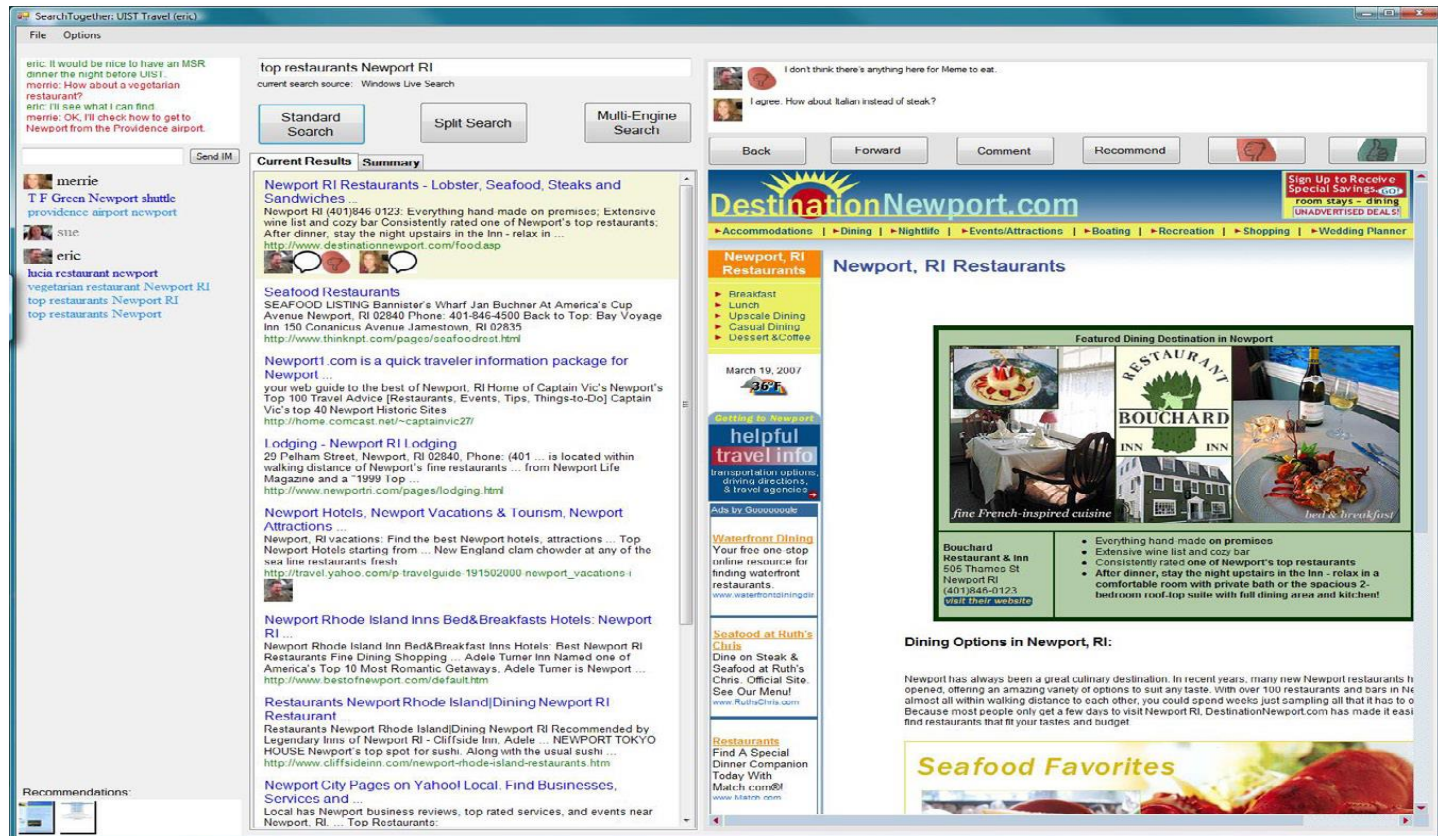




Support learning and understanding: Systems must help users acquire both knowledge and skills by presenting information in ways amenable to learning given the user's current knowledge/skill level.



Facilitate collaboration: Systems must facilitate synchronous and asynchronous collaboration between users in support of task division and knowledge sharing.



The screenshot shows a web browser window with a search engine interface. The search query is "top restaurants Newport RI". The results page displays a list of search results, including "Newport RI Restaurants - Lobster, Seafood, Steaks and Sandwiches" and "Seafood Restaurants". The main content area shows a detailed view of the "DestinationNewport.com" website, which features a navigation menu, a list of restaurants, and a section for "Dining Options in Newport, RI". The website highlights "Bouchard Restaurant & Inn" as a featured dining destination, describing it as a "fine French-inspired cuisine" and "bed & breakfast". The page also includes a section for "Seafood Favorites" and a "Dining Options in Newport, RI" section.

**Search Together: UST Travel (eric)**

eric: it would be nice to have an MSR dinner the night before (US).  
merrie: How about a vegetarian restaurant?  
eric: I'll see what I can find.  
merrie: OK, I'll check how to get to Newport from the Providence airport.

Send IM

**top restaurants Newport RI**  
current search source: Windows Live Search

Standard Search Split Search Multi-Engine Search

**Current Results Summary**

**Newport RI Restaurants - Lobster, Seafood, Steaks and Sandwiches**  
Newport RI (401)846 0123: Everything hand made on premises; Extensive wine list and cozy bar. Consistently rated one of Newport's top restaurants. After dinner, stay the night upstairs in the Inn - relax in ...  
<http://www.destinationnewport.com/food.asp>

**Seafood Restaurants**  
SEAFOOD LISTING Bannister's Wharf Jan Buchner At America's Cup Avenue Newport, RI 02840 Phone: 401-846-4500 Back to Top: Bay Village Inn 150 Conanicus Avenue Jamestown, RI 02835  
<http://www.thinknpt.com/pages/seafoodrest.htm>

**Newport.com is a quick traveler information package for Newport ...**  
your web guide to the best of Newport, RI Home of Captain Vic's Newport's Top 100 Travel Advice (Restaurants, Events, Tips, Things-to-Do) Captain Vic's top 40 Newport Historic Sites  
<http://home.comcast.net/~captainvic27/>

**Lodging - Newport RI Lodging**  
29 Pelham Street, Newport, RI 02840, Phone: (401) ... is located within walking distance of Newport's fine restaurants ... from Newport Life Magazine and a "1999 Top ..."  
<http://www.newportri.com/pages/lodging.html>

**Newport Hotels, Newport Vacations & Tourism, Newport Attractions ...**  
Newport, RI vacations: Find the best Newport hotels, attractions ... Top Newport Hotels starting from ... New England clam chowder at any of the sea line restaurants fresh  
[http://travel.yahoo.com/p/travelguide/191502000/newport\\_vacations-i](http://travel.yahoo.com/p/travelguide/191502000/newport_vacations-i)

**Newport Rhode Island Inns Bed&Breakfasts Hotels: Newport RI**  
Newport Rhode Island Inn Bed&Breakfast Inns Hotels: Best Newport RI Restaurants Fine Dining Shopping ... Adele Turner Inn Named one of America's Top 10 Most Romantic Getaways. Adele Turner is Newport ...  
<http://www.bestofnewport.com/default.htm>

**Restaurants Newport Rhode Island Dining Newport RI Restaurant**  
Restaurants Newport Rhode Island Dining Newport RI Recommended by Legendary Inns of Newport RI - Cliffside Inn, Adele ... NEWPORT TOKYO HOUSE Newport's top spot for sushi. Along with the usual sushi ...  
<http://www.cliffsideinn.com/newport-rhode-island-restaurants.htm>

**Newport City Pages on Yahoo! Local. Find Businesses, Services and ...**  
Local has Newport business reviews, top rated services, and events near Newport, RI ... Top Restaurants.

**DestinationNewport.com**  
Accommodations | Dining | Nightlife | Events/Attractions | Boating | Recreation | Shopping | Wedding Planner

**Newport, RI Restaurants**

March 19, 2007

**helpful travel info**  
transportation options, dining directions, & travel agencies

**Waterfront Dining**  
Your free one stop online resource for finding waterfront restaurants.  
[www.waterfrontdining.org](http://www.waterfrontdining.org)

**Seafood at Ruth's Chris**  
Dine on Steak & Seafood at Ruth's Chris Official Site. See Our Menu!  
[www.RuthsChris.com](http://www.RuthsChris.com)

**Restaurants**  
Find A Special Dinner Companion Today With Match.com®!  
[www.match.com](http://www.match.com)

**Featured Dining Destination in Newport**

**BOUCHARD RESTAURANT & INN**  
fine French-inspired cuisine  
bed & breakfast

- Everything hand made on premises
- Extensive wine list and cozy bar
- Consistently rated one of Newport's top restaurants
- After dinner, stay the night upstairs in the Inn - relax in a comfortable room with private bath or the spacious 2-bedroom roof-top suite with full dining area and kitchen!

**Dining Options in Newport, RI:**

Newport has always been a great culinary destination. In recent years, many new Newport restaurants have opened, offering an amazing variety of options to suit any taste. With over 100 restaurants and bars in Newport, almost all within walking distance to each other, you could spend weeks just sampling all that it has to offer. Because most people only get a few days to visit Newport, RI, DestinationNewport.com has made it easy to find restaurants that fit your tastes and budget.

**Seafood Favorites**



Support task management: Systems must allow users to store, retrieve, and share search tasks in support of multisession and multiuser exploratory search scenarios.

## Projektidee



## Kurze Info

E3 = Electronic Entertainment Expo

Art „Verkaufsmesse“ für Computer- und Videospiele (und alles, was dazu gehört), nicht für die breite Masse zugänglich

Wird von der Entertainment Software Association (ESA) veranstaltet

Findet statt vom 10. – 12. Juni 2014 im Los Angeles Convention Center

## Ursprüngliche Vorschläge

- **E3 Electronic Entertainment Expo** 10.6 - 12.6.  
Queries: E3, Expo, Computer Expo, Exposition, Video games ...
- **Tomorrowland** 18.7. - 27.7. oder im September  
Queries: Tomorrowland, Belgium, Open Air, Festival, Electronic Music...
- **Burning Man Festival** 25.8. – 1.9.  
Queries: Burning Man, Black Rock Desert, Festival, Music...
- Neuer **Film** in den Kinos, z.B. **X-Men**: Zukunft ist Vergangenheit  
Queries: XMen, Zukunft, Vergangenheit, Film...

## Worüber wird vermutlich getweeted?

- Was gibt's neues auf der E3?
- Wer geht hin?
- Welche Vorträge finden gerade statt?
- Wo laufen Promis rum?
- Wie lange steht man beim Probezocken an?
- Welcher Vortrag war gut/schlecht?
- Wie kommt man hin?
- ...

<http://www.weknowwhatyouredoing.com/>

## Auf welche Fragen wir evtl. Antworten haben möchten:

- Who tweeted the most?
- What are the dominant keywords/hashtags?
- When is the time people are tweeting the most?
- And, most importantly: Is there a correlation between the time and the amount of tweets mentioning coffee or beer?

(Florian Hopf, <http://blog.florian-hopf.de/2013/09/simple-event-analytics-with.html>, Elastic search)

# Ausblick



<http://michaelheipel.wordpress.com/2011/12/07/tools-to-present-a-twitter-stream-at-your-event/>