



From Structured Data to the Knowledge Graph

Jason Douglas, Group Product Manager
Dan Brickley, Developer Advocate



Agenda

- The end of search as we know it
- Knowledge Graph
- Schema.org and markup
- Developer tools
- What the future holds



“Search is dramatically changing right before our eyes”

Amit Singhal
Google, Inc.



Answer



Converse

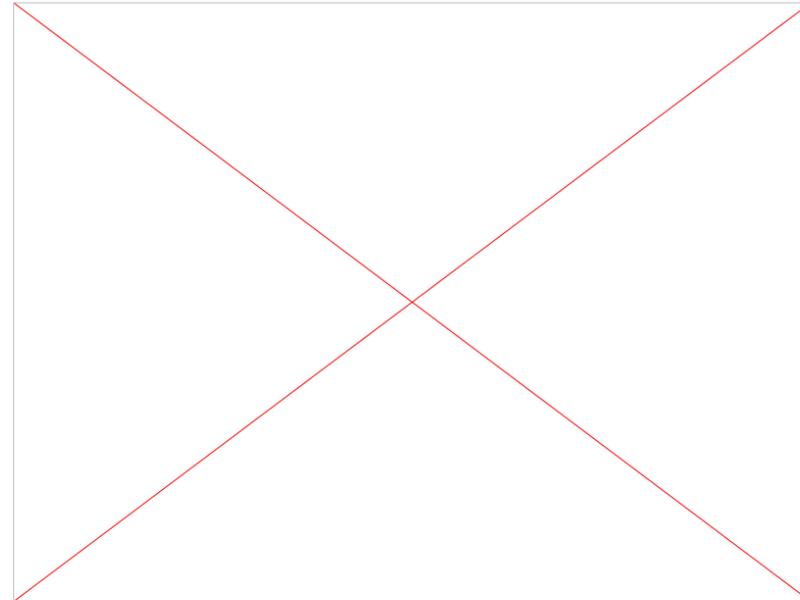


Anticipate





Understanding the world



A Snoop by any other name...

Calvin Cordozar Broadus, Jr.

Snoop Scorsese

Big Snoop

Uncle Snoop

Snoop Doogy Dog

Snoopy

Big Snoop

Snoop Dogg

Snoop Lion

Big Snoop Dog

DJ Snoopadelic

Snoop Dog

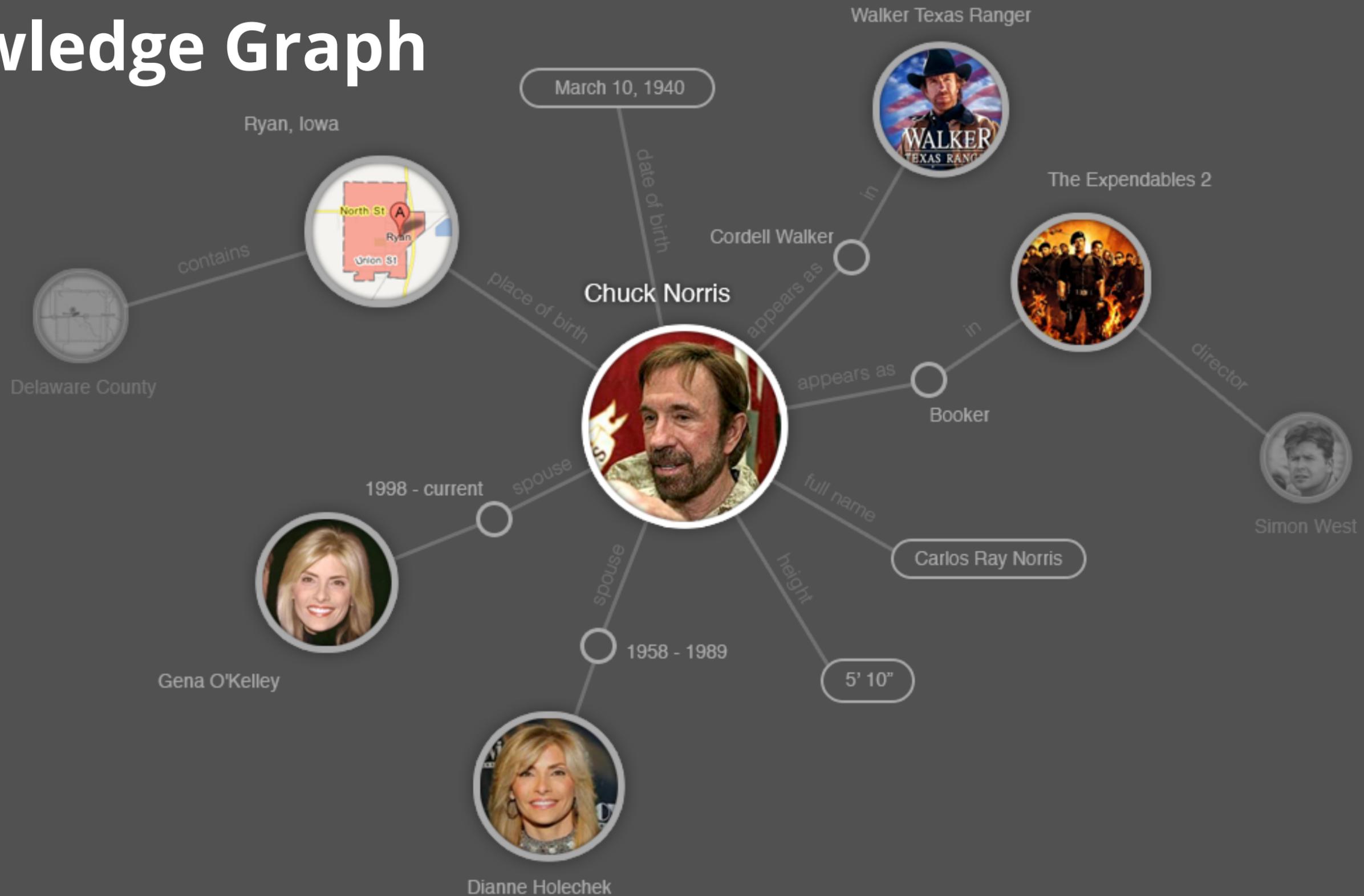
Snoop Doggy Dog



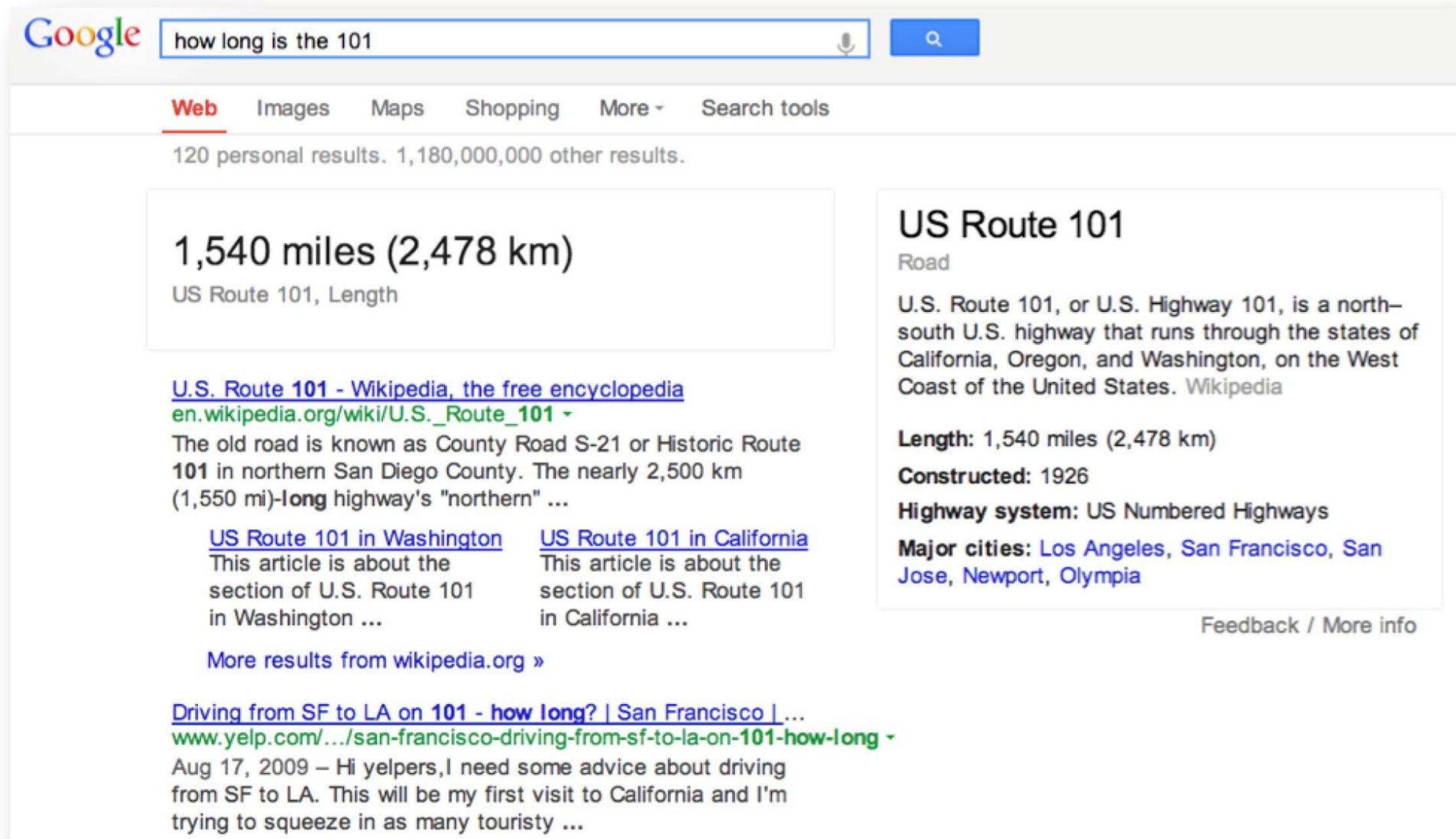
スヌープ・ドギー・ドッグ



Knowledge Graph



Knowledge Graph helps answer user's queries



Google

Web Images Maps Shopping More ▾ Search tools

120 personal results. 1,180,000,000 other results.

1,540 miles (2,478 km)
US Route 101, Length

US Route 101
Road

U.S. Route 101, or U.S. Highway 101, is a north-south U.S. highway that runs through the states of California, Oregon, and Washington, on the West Coast of the United States. Wikipedia

Length: 1,540 miles (2,478 km)
Constructed: 1926
Highway system: US Numbered Highways
Major cities: Los Angeles, San Francisco, San Jose, Newport, Olympia

[U.S. Route 101 - Wikipedia, the free encyclopedia](#)
en.wikipedia.org/wiki/U.S._Route_101 ▾

The old road is known as County Road S-21 or Historic Route 101 in northern San Diego County. The nearly 2,500 km (1,550 mi)-long highway's "northern" ...

[US Route 101 in Washington](#) This article is about the section of U.S. Route 101 in Washington ...

[US Route 101 in California](#) This article is about the section of U.S. Route 101 in California ...

[More results from wikipedia.org »](#)

[Driving from SF to LA on 101 - how long? | San Francisco | ...](#)
www.yelp.com/.../san-francisco-driving-from-sf-to-la-on-101-how-long ▾

Aug 17, 2009 – Hi yelpers, I need some advice about driving from SF to LA. This will be my first visit to California and I'm trying to squeeze in as many touristy ...

[Feedback / More info](#)



... and know what things exist...

The image shows a Google search interface with the search term "giants". The search results are categorized into several sections:

- Web**:
 - Giants.com | The official website of the New York Giants**
www.giants.com/ - Official team site with audio and video clips, team news, depth charts, transactions, statistics, and player profiles. Also available in Spanish and Chinese.
Season Schedule - New York Giants Apparel - Roster - New York Giants Fan Forum
 - The Official Site of The San Francisco Giants | SFGiants.com ...**
sanfrancisco.giants.mlb.com/ - Headlines, statistics, photograph galleries and general team information.
 - Giant (mythology) - Wikipedia, the free encyclopedia**
[en.wikipedia.org/wiki/Giant_\(mythology\)](http://en.wikipedia.org/wiki/Giant_(mythology)) - The mythology and legends of many different cultures include monsters of human appearance but prodigious size and strength. "Giant" is the English word ...
Religious literature and beliefs - Names and tribal origins of giants - See also - Notes
 - News for giants**
 - Eli Manning hopes Victor Cruz will come to Giants' OTAs**
NFL News - 3 hours ago
Victor Cruz's contract squabble with the New York Giants is starting to become a drawn-out situation. Eli Manning is the latest member of the ...
 - Cell phone giants unite on anti-texting ads**
Houston Chronicle - 2 hours ago
 - Fast start, big finish? Giants again look sharp**
MLB.com - 1 hour ago
- See results about**
 - New York Giants**
American football team
The New York Giants are a professional American football team based in East Rutherford, New Jersey, ...
 - San Francisco Giants**
Baseball Team
The San Francisco Giants are a Major League Baseball team based in San Francisco, California, ...
 - Giant**
Mythology
The mythology and legends of many different cultures include monsters of human appearance but ...
 - Huddersfield Giants**
Professional Sports Team
Huddersfield Giants are an English professional rugby league club from Huddersfield, West Yorkshire ...



... summarize relevant facts about those things ...

Google

[Web](#) [Images](#) [Maps](#) [Shopping](#) [News](#) [More](#) [Search tools](#)

70 personal results. 41,800,000 other results.

Ad related to **sf giants**

2013 SF Giants™ Tickets - Official Site of the San Francisco Giants™. Get your Tickets Today!

San Francisco Giants has 1,089,724 followers on Google+

[Giants™ Ticket Info](#) [2013 Schedule](#)
[Giants™ Six Packs](#) [Promotions & Giveaways](#)

San Francisco Giants

23-15, 1st in NL Western Division

Rogers Centre, Toronto, Ontario
Today, 4:07 PM (PT)

 **San Francisco Giants** (23-15) @ **Toronto Blue Jays** (15-24) 

[Preview - Tickets](#)

Sun, May 12 vs.  **Braves** **W 1 - 5** Final

[The Official Site of The San Francisco Giants | SFGiants.com ...](#)
[sanfrancisco.giants.mlb.com](#)

Headlines, statistics, photograph galleries and general team information.

[Schedule](#)
Schedule. In this section. Regular Season Schedule · Promotions ...

[Scoreboard](#)
Scoreboard. Current day's games are shown starting at 11am ET ...

[Tickets](#)
Get tickets to the best games of the season in a handy six pack ...

[MLB News](#)
The Giants rewarded Brett Pill for his torrid hitting by recalling the ...

[More results from mlb.com »](#)

[News for sf giants](#)

 [Giants demote one, promote one](#)
[San Francisco Chronicle \(blog\)](#) - 1 day ago
The **Giants** have optioned outfielder Francisco Peguero to Triple-A Fresno and recalled first baseman Brett Pill, who has wielded a hot bat ...

[Will the SF Giants players confront Melky Cabrera on Tuesday night?](#)
[San Francisco Chronicle \(blog\)](#) - 7 hours ago

[Lincecum leads SFGiants past Atlanta](#)
[San Francisco Chronicle](#) - 1 day ago



San Francisco Giants

1,089,714 followers on Google+ [Follow](#)

The San Francisco Giants are a Major League Baseball team based in San Francisco, California, playing in the National League West Division. Originally known as the New York Giants, the team moved to San Francisco in 1958. [Wikipedia](#)

Manager: [Bruce Bochy](#)
Location: [San Francisco](#)
League: National League
Stadiums: [AT&T Park](#), [Seals Stadium](#), [Candlestick Park](#), [More](#)
World Series championships: 1905, 1921, 1922, 1933, 1954, 2010, 2012
Mascots: Lou Seal, Crazy Crab

Recent posts

 Lincecum fans 7, allows only 2 hits over 7 shutout innings in 5-1 win over Braves.
RECAP: <http://atmlb.com/163uJ4O>
May 12, 2013

Roster

Player	Num	Position
Buster Posey	28	Catcher
Tim Lincecum	55	Pitcher
Pablo Sandoval	48	Infielder
Matt Cain	18	Pitcher
Barry Zito	75	Pitcher



... discover **related** things of **interest**

The image shows a Google search interface for 'At&t park'. The search bar at the top contains the text 'At&t park' and a search button. Below the search bar, there are navigation tabs for 'Web', 'Images', 'Maps', 'Shopping', 'News', 'More', and 'Search tools'. The search results section shows 'About 99,500,000 results (0.64 seconds)'. The first result is 'AT&T Park | SFGiants.com: Ballpark' with a link to 'sanfrancisco.giants.mlb.com/sf/ballpark/index.jsp'. Below this, there is a snippet of text: 'AT&T Park, with its breathtaking views and classic design, was chosen as the 2008 Sports Facility of the Year by Sports Business Journal and Sports Business ...'. There is also a score of '26 / 30' and '323 Google reviews'. A location pin indicates '24 Willie Mays Plaza San Francisco, CA 94107 (415) 972-2000'. Below this, there are links for 'Ballpark Seating Chart - Events at AT&T Park' and 'Events at AT&T Park | SFGiants.com: ballpark'. The second result is 'Getting to AT&T Park - Official San Francisco Giants - Major League...' with a link to 'sanfrancisco.giants.mlb.com/sf/ballpark/directions/index.jsp'. The third result is 'AT&T Park Seating Chart - Official San Francisco Giants - Major ...' with a link to 'sanfrancisco.giants.mlb.com/sf/ballpark/seating_pricing.jsp'. The fourth result is 'AT&T Park - Wikipedia, the free encyclopedia' with a link to 'en.wikipedia.org/wiki/AT%26T_Park'. The fifth result is 'AT&T Park - San Francisco - Reviews of AT&T Park - TripAdvisor' with a link to 'www.tripadvisor.com'. The sixth result is 'AT&T Park - SoMa - San Francisco, CA - Yelp' with a link to 'www.yelp.com'. The seventh result is 'AT&T Park Tickets - AT&T Park Schedule at StubHub!' with a link to 'www.stubhub.com/att-park-events-tickets/'. The knowledge panel on the right side of the page features a header 'AT&T Park' and 'Baseball Stadium'. It includes a 'Directions' button, a description: 'AT&T Park is a ballpark used for Major League Baseball. It is located in the South of Market neighborhood of San Francisco, California, at 24 Willie Mays Plaza, at the corner of Third and King Streets. Wikipedia', and several key facts: 'Capacity: 41,503', 'Opened: March 31, 2000', 'Address: 24 Willie Mays Plaza, San Francisco, CA 94107', 'Phone: (415) 972-2000', 'Team: San Francisco Giants', and 'Architecture firm: Populous'. Below this, there is a section for 'Upcoming events' with a list of games: 'Mon, May 20 San Francisco Giants vs. Washington Nationals', 'Tue, May 21 San Francisco Giants vs. Washington Nationals', 'Wed, May 22 San Francisco Giants vs. Washington Nationals', and 'Fri, May 24 San Francisco Giants vs. Colorado Rockies'. At the bottom of the panel, there is a 'SCORE' section showing 'OVERALL 26' and '323 Google reviews'. The 'People also search for' section includes five image thumbnails with labels: 'Candestick Park', 'San Francisco Ferry Buil...', 'Fisherma... Wharf', 'Union Square', and 'San Francisc... Bay Bridge'. A 'Feedback / More info' link is located at the bottom right of the panel.





40 million entities

1 billion facts

freebase.com
developers.google.com/freebase



Freebase in your apps

suggestion:

Select an item from the list:

Pink	Musical Artist
Pink Floyd	Musical Artist
Frijid Pink	Musical Artist
Pink Fairies	Musical Artist
The Legendary Pink Dots	Musical Artist
Ariel Pink	Musical Artist
Bonnie Pink	Musical Artist
tobias.	Musical Artist
Pink Mountaintops	Musical Artist
Pink Lady	Musical Artist

[view more](#)

Full weekly data dump in RDF Turtle

Reconciliation APIs for matching your data

Filtered entity autocomplete in any HTML form

Topic API for getting all facts for an entity





Structured Data from the Web

Reviews in Knowledge Panels

skyfall

Web Images Maps Shopping News More Search tools

20 personal results. 53,300,000 other results.

[Skyfall - Official Movie Site](#)
www.skyfall-movie.com/ -
Daniel Craig returns as James Bond 007 in **SKYFALL**, the 23rd installment of the Bond series on screen. UK CINEMAS October 26 & US THEATERS November ...

[Skyfall \(2012\) - IMDb](#)
www.imdb.com/title/tt1074638/ -
★★★★★ Rating: 7.8/10 - 294590 votes
Directed by Sam Mendes. With Daniel Craig, Judi Dench, Javier Bardem, Naomie Harris. Bond's loyalty to M is tested when her past comes back to haunt her.
[Full cast and crew - Daniel Craig - Photos from Skyfall - IMDb](#)
[- Judi Dench](#)

[Skyfall - Wikipedia, the free encyclopedia](#)
en.wikipedia.org/wiki/Skyfall -
Skyfall is the twenty-third James Bond film produced by Eon Productions. It was distributed by MGM and Sony Pictures Entertainment in 2012. It features Daniel ...
[Javier Bardem - Bérénice Marlohe - Naomie Harris - Miss Money Penny](#)

[Adele - Skyfall \(Lyric Video\) - YouTube](#)
www.youtube.com/watch?v=DeumyOzKqgl -
Oct 18, 2012 - Uploaded by AdeleVEVO
Buy **Skyfall** now:
<http://smarturl.it/AdeleSkyfall>. Written by ADELE and Paul Epworth. **Skyfall** is the official ...

[More videos for skyfall »](#)

[Skyfall - Rotten Tomatoes](#)
www.rottentomatoes.com/m/skyfall/ -
★★★★★ Rating: 92% - 291 reviews
Review: Sam Mendes brings Bond surging back with a smart, sexy, riveting action thriller that qualifies as one of the best 007 films to date.

[The Official James Bond 007 Website | Skyfall](#)
www.007.com/skyfall/ -
Mar 28, 2013 – Editors from media outlets around the world flew in to Monaco yesterday for the launch of the new 007 fragrance, Ocean Royale. The event ...

[ADELE LYRICS - Skyfall - A-Z Lyrics](#)
www.azlyrics.com/lyrics/adele/skyfall.html -
Lyrics to "**Skyfall**" song by ADELE: This is the end Hold your breath and count to ten Feel the earth move and then Hear my heart burst a...



Skyfall

2012 Film

★★★★★ 7.8/10 - IMDb
★★★★★ 92% - Rotten Tomatoes

Skyfall is the twenty-third James Bond film produced by Eon Productions. It was distributed by MGM and Sony Pictures Entertainment in 2012.
Wikipedia

Release date: November 9, 2012 (USA)
Director: [Sam Mendes](#)
Initial DVD release: February 12, 2013 (USA)
MPAA rating: PG-13
Featured songs: Skyfall, Skyfall

Cast

 Daniel Craig James Bond	 Javier Bardem Silva	 Bérénice Marlohe Sévérine	 Judi Dench M	 Naomie Harris Eve
--	--	--	---	--

People also search for

 Casino Royale 2006	 Quant... of Solace 2008	 Argo 2012	 The Dark Knight Rises 2012	 Django Uncha... 2012
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[Feedback / More info](#)



Events in Knowledge Panels

mumford and sons

Web Images Maps Shopping News More Search tools

About 53,100,000 results (0.47 seconds)

Ad related to mumford and sons

Mumford And Sons - Official Tickets Source Online
greek.theatreberkeley.com/
Mumford & Sons Concert Berkeley, CA
Mumford & Sons - Fun. & Tegan And Sara - The Postal Service

Mumford & Sons - Home
www.mumfordandsons.com/
Mumford & Sons announce new album 'Babel' to be released on September 24th 2012.
Tour - Store - Biography - Discography

Mumford & Sons - Wikipedia, the free encyclopedia
en.wikipedia.org/wiki/Mumford_%26_Sons
Mumford & Sons are an English folk rock band. The band consists of Marcus Mumford (lead vocals, guitar, drums, mandolin), Ben Lovett (vocals, keyboards, ...
Discography - Marcus Mumford - Babel - Sigh No More

Mumford & Sons - YouTube
www.youtube.com/artist/mumford-sons
Inspired by folk, rock, country, and bluegrass, the London-based Mumford & Sons feature singer/guitarist/drummer Marcus Mumford, vocalist and banjo/Dobro ...

Mumford & Sons - I Will Wait - YouTube
www.youtube.com/watch?v=rGKfqqWcv0
Sep 9, 2012 - Uploaded by MumfordAndSonsVEVO
The single 'I Will Wait' is now available from iTunes :
<http://tinyurl.com/8fdxmm9> Order the new album 'Babel ...
2,521 people +1'd this

Mumford & Sons | Free Music, Tour Dates, Photos, Videos - MySpace
www.myspace.com/mumfordandsons
Mumford & Sons's official profile including the latest music, albums, songs, music videos and more updates.

Mumford & Sons - Free listening, concerts, stats, & pictures at Last.fm
www.last.fm/music/Mumford+%26+Sons
Watch videos & listen free to Mumford & Sons: I Will Wait, Little Lion Man & more, plus 111 pictures. Mumford & Sons are an indie folk/bluegrass group formed in ...
▶ 0:30 I Will Wait Babel



Mumford & Sons
Band

Mumford & Sons are an English folk rock band. The band consists of Marcus Mumford, Ben Lovett, Winston Marshall, and Ted Dwane.
Wikipedia

Origin: London

Albums: [Sigh No More](#), [Babel](#), [The Road to Red Rocks](#), [More](#)

Members: [Marcus Mumford](#), [Ben Lovett](#), [Country Winston](#), [Ted Dwayne](#)

Awards: Grammy Award for Album of the Year, [More](#)

Record labels: [Island Records](#), [Universal Music Group](#), [Glassnote Records](#)

Upcoming events

May 29 Wed	Mumford & Sons Berkeley, CA (near you)
May 30 Thu	Mumford & Sons Berkeley, CA (near you)
May 31 Fri	Mumford & Sons Berkeley, CA (near you)

Songs

I Will Wait	2012	Babel
Little Lion Man	2009	Now, Vol. 74



Statistics Knowledge Panels

france gdp

Web Images Maps Shopping More Search tools

About 55,700,000 results (0.75 seconds)

2.773 trillion USD (2011)

France, Gross domestic product

Country	GDP (2011)
Germany	3.601 trillion USD
France	2.773 trillion USD
United Kingdom	2.445 trillion USD

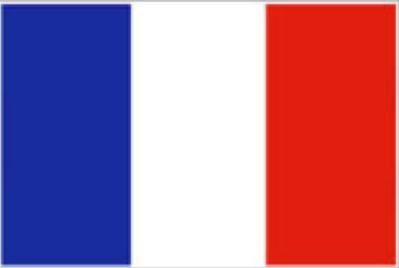
Explore more

Sources include: World Bank

[FRANCE GDP | LATEST DATA | FORECAST | NEWS](#)
www.tradingeconomics.com/france/gdp
The **Gross Domestic Product (GDP)** in **France** was worth 2773.03 billion US dollars in 2011. The **GDP** value of **France** represents 4.47 percent of the world ...

[FRANCE GDP GROWTH RATE | LATEST DATA | FORECAST | NEWS](#)
www.tradingeconomics.com/france/gdp-growth
Mar 27, 2013 – The **Gross Domestic Product (GDP)** in **France** contracted 0.30 percent in the fourth quarter of 2012 over the previous quarter. **GDP Growth Rate** ...

[Economy of France - Wikipedia, the free encyclopedia](#)
en.wikipedia.org/wiki/Economy_of_France
Between January and March 2011, **France's GDP** growth had been stronger than expected at 0.9%, one of the best figures in Europe but shrunk between April ...
[France's world leading ...](#) - [Rise and decline of dirigisme](#) - [Government finance](#)



France

Country

France, officially the French Republic, is a unitary semi-presidential republic located mostly in Western Europe, with several overseas regions and territories. [Wikipedia](#)

Related statistics

Population	65.44 million (2011)
Government debt	86.0% (2011)

Gross domestic product elsewhere

Italy	2.194 trillion USD (2011)
United States of America	14.99 trillion USD (2011)
Spain	1.477 trillion USD (2011)

Sources include: World Bank, Eurostat

[Feedback / More info](#)



Structured Markup

Google bladerunner

Web Images Maps Shopping More Search tools

About 2,520,000 results (0.60 seconds)

BLADE RUNNER - 30th Anniversary
bladerunnerthemovie.warnerbros.com/
BLADE RUNNER, a film by Ridley Scott, starring Harrison Ford, Rutger Hauer, Daryl Hannah, Sean Young, Edward James Olmos, M. Emmet Walsh, William ...

Blade Runner (1982) - IMDb
www.imdb.com/title/tt0083658/
★ ★ ★ ★ ★ Rating: 8.3/10 - 299139 votes
Directed by Ridley Scott. With Harrison Ford, Rutger Hauer, Sean Young, Edward James Olmos. Deckard, a blade runner, has to track down and terminate 4 ...
Full cast and crew - Trivia - Quotes - Sean Young
You visited this page on 5/9/13.

Blade Runner - Wikipedia, the free encyclopedia
en.wikipedia.org/wiki/Blade_Runner
Blade Runner is a 1982 American dystopian science fiction action film directed by Ridley Scott and starring Harrison Ford, Rutger Hauer, and Sean Young.
Versions - Sean Young - Characters - Rutger Hauer

Blade Runner - Rotten Tomatoes
www.rottentomatoes.com/m/blade_runner/
★ ★ ★ ★ ★ Rating: 92% - 104 reviews
Review: Misunderstood when it first hit theaters, the influence of Ridley Scott's mysterious, neo-noir Blade Runner has deepened with time. A visually...

Amazon.com: Blade Runner (The Director's Cut): Harrison Ford ...
www.amazon.com > Movies & TV > Movies
When Ridley Scott's cut of Blade Runner was finally released in 1993, one had to wonder why the studio hadn't done it right the first time--11 years earlier.

Amazon.com: Blade Runner (Five-Disc Complete Collector's Edition ...
www.amazon.com > Movies & TV > Movies
In celebration of Blade Runner's 25th anniversary, director Ridley Scott has gone back into post production to create the long-awaited definitive new version.

2019: Off-World (Blade Runner Page) - Scribble.com
scribble.com/uw/br/
For people looking for extensive, organized Blade Runner sites, I recommend BRmovie.com and BladeZone. They are two of my favorites and are full of ...

Blade-Runner - Trailer - Cast - Showtimes - NYTimes.com
movies.nytimes.com/movie/5994/Blade-Runner/overview
An overview of Blade Runner, including cast and credit details, a review summary, and more.



Blade Runner

1982 Film

★ ★ ★ ★ ★ 8.3/10 - IMDb
★ ★ ★ ★ ★ 92% - Rotten Tomatoes

Blade Runner is a 1982 American dystopian science fiction action film directed by Ridley Scott and starring Harrison Ford, Rutger Hauer, and Sean Young. Wikipedia

Release date: June 25, 1982 (USA)
Director: Ridley Scott
Running time: 120 minutes
Story by: Philip K. Dick
Screenplay: Hampton Fancher, David Peoples

Cast

 Harrison Ford Rick Deckard	 Rutger Hauer Roy Batty	 Sean Young Rachael	 Daryl Hannah Pris	 Edward James Olmos Gaff
--	--	--	---	---

People also search for

 Alien 1979	 Prometh... 2012	 2001: A Space Odyssey	 The Matrix 1999	 Minority Report 2002
--	---	---	---	--

IMDb Find Movies, TV shows, Celebrities and more... All

Movies TV News Showtimes Community IMDbPro



Blade Runner (1982)

R 117 min - Drama | Sci-Fi | Thriller - 25 June 1982 (USA)

Your rating: ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ -/10
8.3 Ratings: 8.3/10 from 299,319 users Metascore: 88/100
Reviews: 1,043 user | 233 critic | 10 from Metacritic.com

Deckard, a blade runner, has to track down and terminate 4 replicants who hijacked a ship in space and have returned to Earth seeking their maker.

Director: Ridley Scott
Writers: Hampton Fancher (screenplay), David Webb Peoples (screenplay), 1 more credit »
Stars: Harrison Ford, Rutger Hauer, Sean Young | See full cast and crew



Blade Runner (1982)

TOMATOMETER All Critics | Top Critics
CERTIFIED FRESH 92%
Average Rating: 8.5/10
Reviews Counted: 104
Fresh: 96 | Rotten: 8

AUDIENCE
89% liked it
Average Rating: 4/5
User Ratings: 288,583

Misunderstood when it first hit theaters, the influence of Ridley Scott's mysterious, neo-noir Blade Runner has deepened with time. A visually remarkable, achingly human sci-fi masterpiece.

Pin it +1 59



What is Schema.org?

This site provides a collection of schemas, i.e., html tags, that webmasters can use to markup their pages in ways recognized by major search providers. Search engines including Bing, Google, Yahoo! and Yandex rely on this markup to improve the display of search results, making it easier for people to find the right web pages.

Many sites are generated from structured data, which is often stored in databases. When this data is formatted into HTML, it becomes very difficult to recover the original structured data. Many applications, especially search engines, can benefit greatly from direct access to this structured data. On-page markup enables search engines to understand the information on web pages and provide richer search results in order to make it easier for users to find relevant information on the web. Markup can also enable new tools and applications that make use of the structure.

A shared markup vocabulary makes it easier for webmasters to decide on a markup schema and get the maximum benefit for their efforts. So, in the spirit of sitemaps.org, search engines have come together to provide a shared collection of schemas that webmasters can use.

We invite you to [get started!](#)

View our blog at blog.schema.org.

Schema.org partners

Google™

 Microsoft

YAHOO!

Yandex



Schema.org - the wider community

So far, we've seen many tremendous enhancements to schema.org come from:

- IPTC rNews group for News publishing
- GoodRelations for products and e-commerce
- W3C Government Linked Data Working Group for dataset description
- LRMI for educational resources, co-led by the Association of Educational Publishers and the Creative Commons
- Many others, both individuals and organizations

see schema.org site for links to the W3C Web Schemas group, vocab proposals and more



Schema.org markup in practice

- **Thing**

- CreativeWork
 - Article
 - ScholarlyArticle
 - MedicalScholarlyArticle
 - Blog
 - Book
 - ExercisePlan
- Event
 - ChildrensEvent
 - Festival
 - UserInteraction
 - UserBlocks
 - UserComments
 - UsersDownloads
- Organization

- **Thing**

- Person
- Place
 - CivicStructure
 - Airport
 - EventVenue
 - GovernmentBuilding
 - CittyHall
 - Embassy
 - LocalBusiness
 - FinanicalService
 - BankOrCreditUnion
- Product
 - IndividualProduct
 - ProductModel
 - SomeProducts
- Property





Markup examples

Describing a Movie with schema.org

```
<div itemscope itemtype="http://schema.org/Movie">
```

```
<h1 itemprop="name">
```

```
Pirates of the Carribean: On Stranger Tides
```

```
</h1>
```

```
<span itemprop="description">
```

```
Jack Sparrow and Barbossa embark on a quest to find the elusive fountain of youth, only to discover that Blackbeard and his daughter are after it too.
```

```
</span>
```

```
</div>
```



Adding an Actor

```
<div itemscope itemtype="http://schema.org/Movie">  
<h1 itemprop="name">  
Pirates of the Carribean: On Stranger Tides  
</h1>  
...  
<div itemprop="actor" itemscope itemtype="http://schema.org/Person">  
Starring: <span itemprop="name">Johnny Depp</span>, ...  
</div>  
</div>
```



Actor as a typed link

```
<div itemscope itemtype="http://schema.org/Movie">  
<h1 itemprop="name">  
Pirates of the Caribbean: On Stranger Tides  
</h1>  
...  
Starring:  
<a href="/people/johnny_depp" itemprop="actor">Johnny Depp</a>,  
...  
</div>
```



Schema.org in a nutshell

These three patterns are at the core of schema.org markup:

- attribute-value pairs where the value is...
 - something simple like the string "Johnny Depp"
 - a thing, but described inline within the same page
 - a thing, described in more detail on a linked page

Schema.org makes it possible to do useful things with the simplest of markup, but also provides mechanisms that allow descriptions from multiple pages to be composed into larger and larger linked graphs of structured data.



Introducing sameAs

```
<div itemscope itemtype="http://schema.org/Actor">  
<span itemprop="name">Tom Hanks</span>  
...  
<a itemprop="sameAs"  
  href="http://en.wikipedia.org/wiki/Tom_Hanks">  
on Wikipedia  
</a>  
...  
</div>
```



Invisible sameAs

```
<div itemscope itemtype="http://schema.org/Actor">  
<span itemprop="name">Tom Hanks</span>  
...  
<link itemprop="sameAs"  
  href="http://www.freebase.com/m/0bxtg">  
on Wikipedia  
</a>  
...  
</div>
```



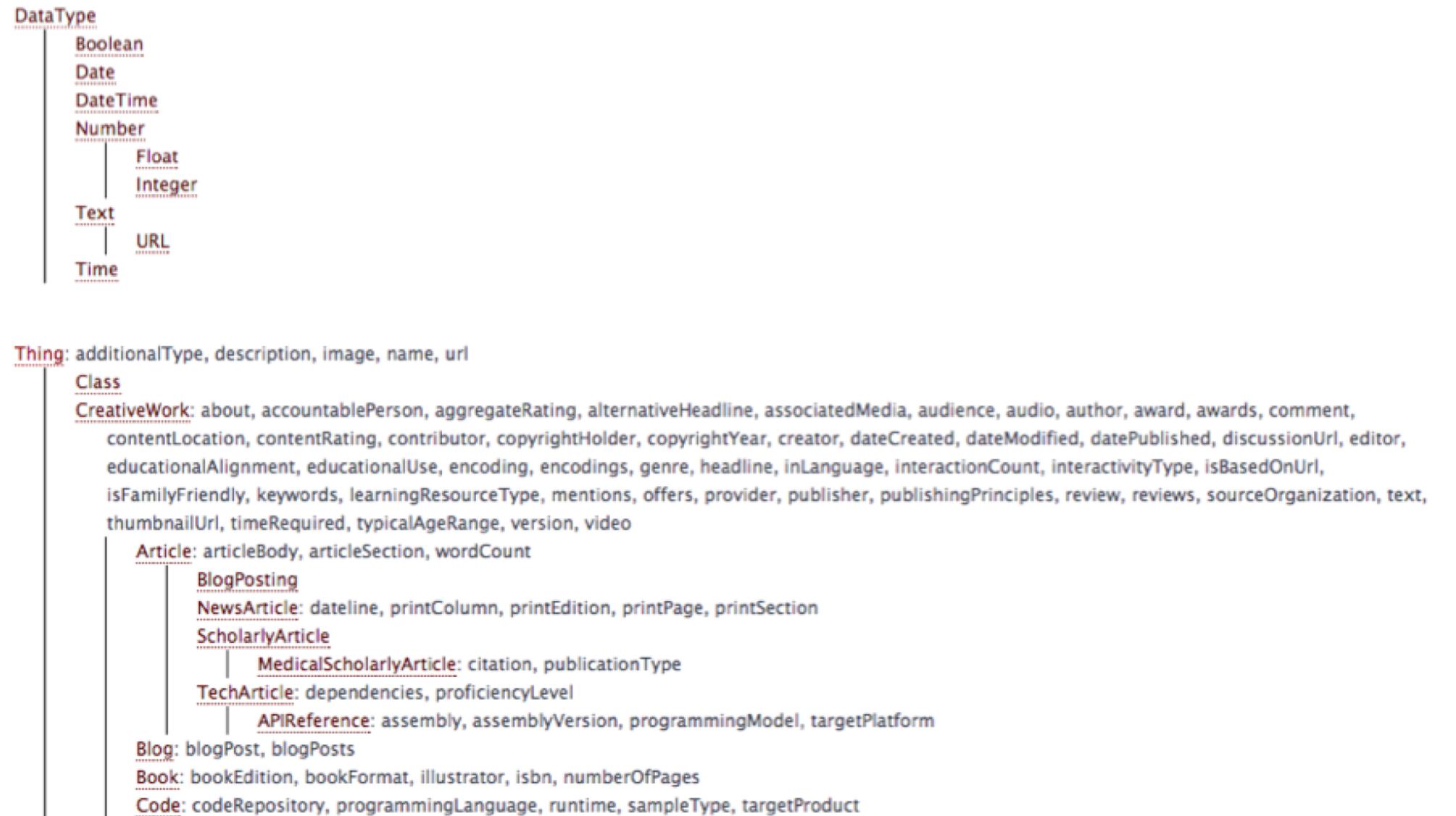


Webmaster (Developer) Tools

Schema.org

The Type Hierarchy

Here is the entire hierarchy in a single file.
Types that have multiple parents are expanded out only once and have an asterisk



Markup Helper

Google Structured Data Markup Helper

Enter Page Tag Data View HTML

Help

Site Search ...

Computer History Museum

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Events

- Upcoming Events
- Past Events

Upcoming Events

May 15, 2013 6:00 PM Speaker Series

CHM Presents: Revolutionaries
Chroniclers of Technology: An Evening with Steven Levy & John Markoff

Kirkpatrick, Levy and Markoff will take the floor, to tell their personal versions of how they spent decades covering one of the most riveting technologies in the world.

KQED
Public Radio

May 22, 2013 8:30 AM Speaker Series

Ethernet Innovation Summit Day Conference
Inspired by 40 Years of Ethernet Innovation

May 22nd 1973 was the day the Ethernet was born. A memo from the young Bob Metcalfe at Xerox's Palo Alto Research Center (PARC) and, forty years on, this key moment in human communications is being celebrated at the Ethernet Innovation Summit looking at past and future innovations in networking. Tickets: \$375 |

Ethernet innovation summit

May 22, 2013 8:30 AM Speaker Series

Ethernet 40th Birthday Party Celebrations
Ethernet Innovation Summit Evening

Back to tagging

Download

```
<div id="intro">
  <h1>Upcoming Events</h1>

  <!-- // EVENT class=event starts here -->
  <div id="chroniclers-technology-an-evening-with" rel="123" class="event even pb-30 pt-30">
    <div itemscope itemtype="http://schema.org/Event" class="evencontainer">
      <div class="header expand mb-10 pb-10">
        <div class="info">
          <div class="date">
            <span itemprop="startDate" content="2013-05-15T18:00:00.000">May 15, 2013
              6:00 PM</span> <br/>
          </div>
          <div class="category">Speaker Series</div>
          <div class="ical">
            <a class="ical" href="CHM-123/" alt="Add to Your Calendar" title="Add to Your
              Calendar"> </a>
            <a class="bookmark hidden" rel="sidebar" href="/events/#chroniclers-
              technology-an-evening-with" alt="Bookmark CHM 'Chroniclers of Technology: An Evening with David Kirkpatrick,
              Steven Levy & John Markoff' Event" title="Bookmark CHM 'Chroniclers of Technology: An Evening with David
              Kirkpatrick, Steven Levy & John Markoff' Event">
              </a>
            </div>
          </div>
          <div class="text">
            <div class="eventheader">CHM Presents: Revolutionaries</div>
            <div class="title" alt="Expand for More Details" title="Expand for More Details">
              <span itemprop="name" class="show">Chroniclers of Technology: An Evening
                with David Kirkpatrick, Steven Levy & John Markoff</span>
              <!-- <a class="show" href="/events/event/chroniclers-technology-an-evening-
                with" target="_new">Chroniclers of Technology: An Evening with David Kirkpatrick, Steven Levy & John Markoff</a>
              -->
            </div>
          </div>
          <hr class="clearboth"/>
        </div>
      </div>
    </div>
  </div>
</div>
```



Testing Tool

Webmaster Tools

Home

Structured Data Testing Tool

Structured Data Testing Tool

URL HTML

PREVIEW Examples ▾

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Preview

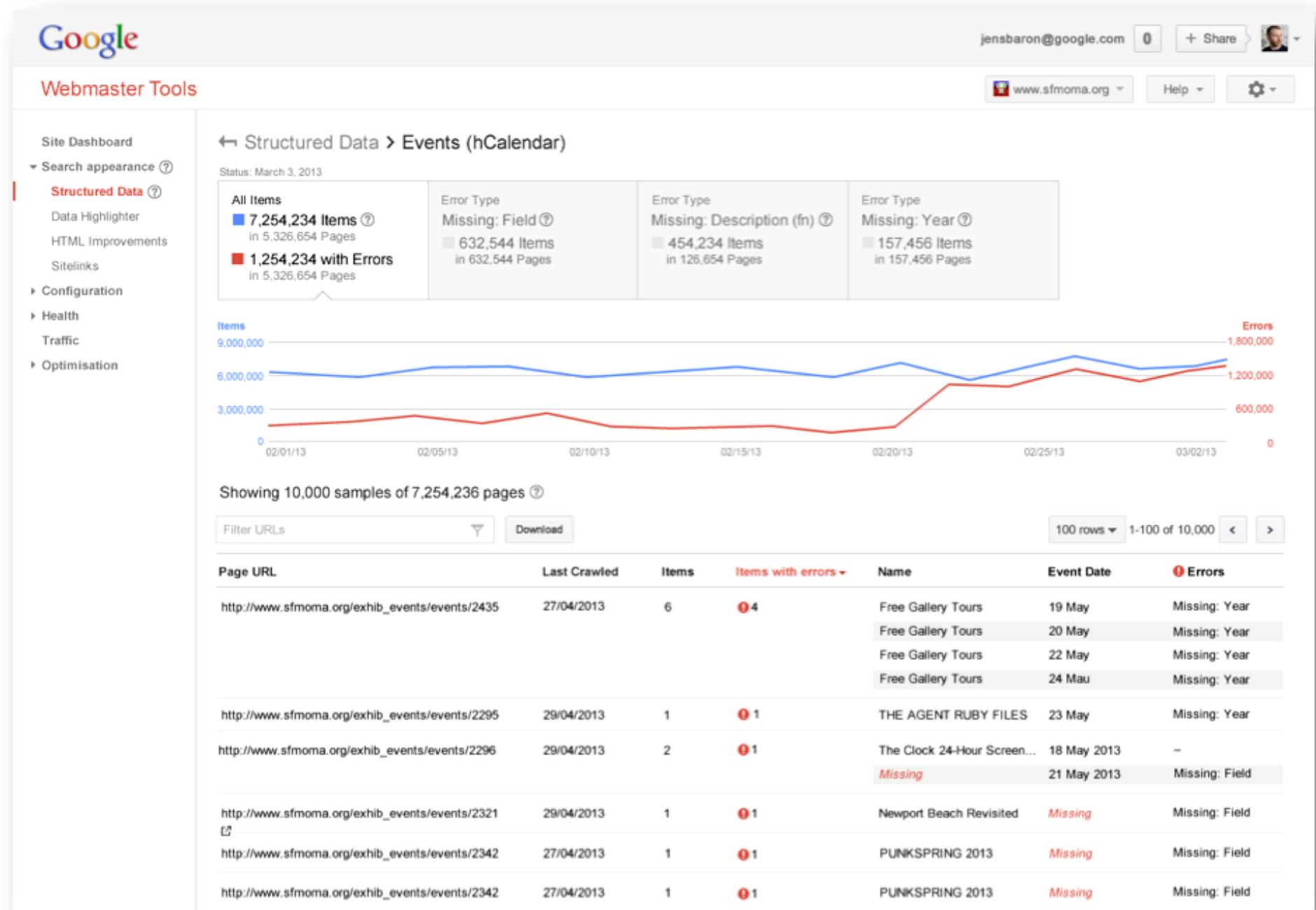
[Of Monsters And Men : Rhapsody](#)
www.rhapsody.com/artist/of-monsters-and-men

The excerpt from the page will show up here. The reason we can't show text from your webpage is because the text depends on the query the user types.

Track	Duration	Album
Little Talks	♪ 4:26	My Head Is An Animal
Mountain Sound	♪ 3:31	My Head Is An Animal
Dirty Paws	♪ 4:38	My Head Is An Animal
King And Lionheart	♪ 4:33	My Head Is An Animal



Data Dashboard



Data Highlighter

Data Highlighter - Art Institute of Chicago

PUBLISH Unpublish Settings

ART INSTITUTE CHICAGO

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COLLECTIONS LEARN JOIN AND GIVE

Exhibitions > Picasso and Chicago

Picasso and Chicago

Name



Current

Upcoming

Past

Facebook

6 HO The Chic Tiny skat turki Tho! Roo care the l a Pe fami cele all th 175(http:

1 DA The Chic The Chic ever

1 DA The Chic "[No Gall their

Wednesday, February 20, 2013–Sunday, May 12, 2013

Regenstein Hall

Member Preview: February 16–19

A century ago, in 1913, the Art Institute of Chicago became the first art museum in the country to present the work of a young Spaniard who would become the preeminent artist of the 20th century, Pablo Picasso. This February the museum celebrates the special 100-year relationship between Picasso and Chicago by bringing together over 250 of the finest examples of the artist's paintings, sculpture, prints, drawings, and ceramics from private collections in the city, as well as from the museum's collection, for

My Data Items (1)

Event

Name: Picasso and Chicago X

Date: February 20, 2013–Sunday, May 12, 2013

Location

Venue: Regenstein Hall

Address: required

Image:



Official URL: <http://www.artic.edu/exhibition/picasso-and-chicago>

Category: Art

Performer:

Description:

Ticket

Type:

Price:





What's Next?



Email

- COMPOSE
- Inbox (5)
- Important
- Sent Mail
- Drafts (28)
- Circles
- Notes
- More

It's time to check in!



Oceanic Airlines Flight 22
 On Time SFO to ZRH · Departs tomorrow · Flight info updated now

Departs San Francisco	Terminal	Gate	Arrives Zurich
1:40pm	I	12	10:40pm

Check-In

Oceanic Air Lines OceanicAirLines@e.oceanic.com 2:15pm

to me

Your flight #22 is available for check-in.

Oceanic.com | My Itinerary | Add to Address Book



Shalini A. OceanMiles #5555545555

Your flight on Thursday, May 16 is available for check-in.

Oceanic Air Lines

Add to circles

Show details

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- Porcelanosa Tile**
 Unique - Beautiful - Contemporary
 We Design and Provide Installation
www.ArtisticKitchen.com





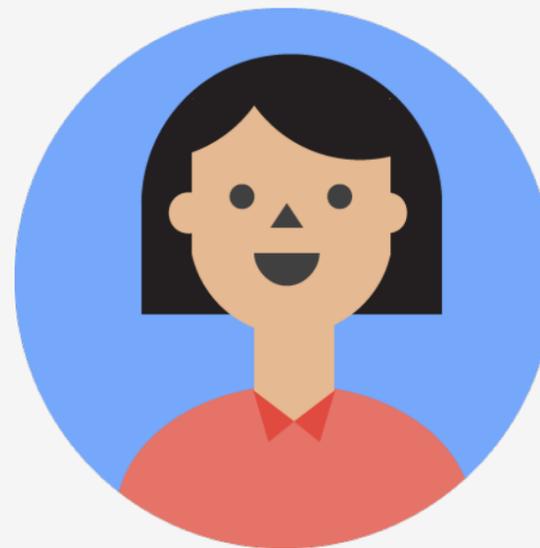
Answers about *your* world

WHEN IS MY NEXT MEETING

IS THERE AN EMAIL FROM MAUREEN

WHEN IS MY FLIGHT LEAVING?

WHEN IS THE BIRTHDAY PARTY ON SUNDAY



From your Gmail
Only you can see these results

Client lunch

Table for 2

Date and time
May 17, 2013
Thursday, 12:30 PM

Location
7313 Beverly Blvd
Los Angeles
CA 90036

[Get directions](#)

[View in Gmail](#)

From your Gmail
Only you can see these results

Maureen Heymans +1 Jan 26
Hello
Ok, I just spoke to Nikhil and we should meet at the lodg...

Maureen Heymans +1 Dec 22
Dansk Butter Warmer
I'll see if I can find one at home and bring it tomorrow. I k...

Maureen Heymans (SMS) Dec 19
SMS from Maureen Heymans [(650) 321-4567]
Hey Aparna, we've just got on the train at Fremont. So w...

Maureen Heymans Nov 19
TYPO San Francisco Registration Open -- Save
Type Conference 2013. In case you guys were interested...

Maureen +1 Nov 16
Hello
Hey Aparna, we'r headed to the mexican place. I know it...

[View in Gmail](#)

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From jal.com

Japan Airlines Flight 001

Trip starts in 14 days

SFO ✈️ **HND**

Departs San Francisco, May 28th

Time	Terminal	Gate
7:05 PM	1	-

Arrives New York, tomorrow

Time	Terminal	Gate
6:30 AM	1	-

Passenger information

Name	Confirmation #	Seat
Aparna Chennapragada	NQCLAJ	-

[Check in on jal.com](#)

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Eshwar's Birthday

Eventbrite event

Date and time
May 19, 2013
Sunday, 3:00 PM

Location
Cuesta park
615 Cuesta Dr
Mountain View CA 94040

[View email for this event](#)

[Hide this event](#)





Actions

Airlines Flight 22

JFK · Departs Oct 12 · Flight info updated now

San Francisco Terminal Gate Arrives New York
1 12  10:40pm

Check-In 

Drinks with Catelyn

via Google Calendar

🕒 May 2 6:30pm – 7:30pm

📍 Local Edition, 2370 S. Market St, San Francisco, CA

👤 3 people going

Yes

Maybe

No



Questions?

Thank You!

Sandbox Q&A: 11am - 1pm

Jason Douglas: <jasondouglas@google.com>

Dan Brickley: <danbri@google.com>

