The Google Papers:

Paper 1:

Theories of Human Meta-location in Search

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Metaphysical location (meta-location) is a term coined here in for the purpose of describing a human's state of mind, emotion or physical being at any given time and location.

The lifelong ambition of Google has been to create an easily accessible archive of the world's knowledge and information. To ensure top quality user experience is continually the focal point of their ventures, members of the Google search team work day in and day out to continually enhance the algorithm(s) that help us to find the information we desire. Google will take into account a number of metrics (and undergo a great deal of manual testing) in order to ensure that returned results are as close as possible to the information desired by the searcher as possible. These metrics could include: PageRank, Authority of the Website, Websites Keyword Content, (and another number of factors that we will delve into deeper in other papers). But, what of the human experience do these metrics take into account?

Google has access to some of the most extensive statistical information on the planet, and now with Google+, Google has the added metric of human verified data about the person. Rather than base the search solely on the metrics of a website, more metrics about the person need to come into play. While other search-engines look to go "Social" Google should seek to go "Meta-Personal" and create user-centric results.

Of course, one may ask – how can Google possibly hope to create user-centric results if it can't "experience" the user in method of input via the computer? The answer is simple – we can make highly influenced guesses about the user's state based on strings of data that indicate commonalities in the user's experience.

Over the past 4 years I have collected a series of data from volunteers, basic website, and surveys in order to examine social media from a number of angles. The series of data examined today is primarily from Google, circa 2011. Using this data I hope to show you how one could create a Metaphysical User-Centric Oriented Search. The data is done in small samplings and results are recorded to see only information that Google would theoretically have access to.

Case 1: The Hamburger Huntdown

It's a cool and rainy September Thursday night/(Friday Morning), 2:33AM, in Waterloo, Ontario, Canada in 2011 – Data Series 27: Sample User #16 has typed in a search for *"Hamurgr".*

The Results Return as follows:

Showing results for ***Hamburger***
Search instead for Hamurgr

Search Results

1. **Hamburger** - Wikipedia, the free encyclopedia
   en.wikipedia.org/wiki/Hamburger
   A **hamburger** (also known as simply a burger) is a sandwich consisting of a cooked patty of ground meat (usually beef, but occasionally pork or a combination of **...**
   Etymology - Invention - Hamburgers today - Variations
   ▶

2. **Hamburger** Recipes - The Definitive **Hamburger** Recipe Source
   www.hamburger-recipes.com/
   Hamburger Recipes.com - all the information you will ever need for making**hamburgers** plus some very unique **hamburger** recipes.
   Basic Hamburger - Making Hamburgers - Recipes Index - Better Beef Burger

3. Images for **Hamburger**
    - Report images

4. **Hamburger** Recipes - Allrecipes.com
   allrecipes.com › Recipes › Meat and Poultry › Beef
   Looking for **hamburger** recipes? Allrecipes has more than 180 trusted **hamburger**recipes complete with ratings, reviews and cooking tips.

5. History of **Hamburgers**, Hamburg Steak, What is a true **hamburger ...**
   whatscookingamerica.net/History/HamburgerHistory.htm
   The origin of the **hamburger** is not very clear, but the prevailing version is that at the end of 1800' s, European emigrants reached America on the ships of the **...**

6. **Hamburger** Recipes and Cooking Tips - Recipes for Burgers
   southernfood.about.com/cs/burgerrecipes/a/hamburgers.htm
   Hamburger recipes, including several grilled burger recipes, stuffed **hamburgers**, indoor burgers, skillet **hamburgers**, veal patties, and many more. Recipes for **...**

7. **Hamburger** Mary's Diner Restaurant @ Vancouver, Canada
   www.hamburgermarys.ca/

The user reports in my post-search poll that he did not receive the results he was looking for and clicked no links during the search.

<u>Why?</u>

This is by far one of my favorite case studies because many people are able to figure out the answer just based on common sense, but we can use the data collected from this group of sample users to further examine the scenario.

Let's look at what we know, point number one, the user made a spelling mistake – something that I had been monitoring carefully during this Data Series and the previous one and had already created a chart of averages on the matter:
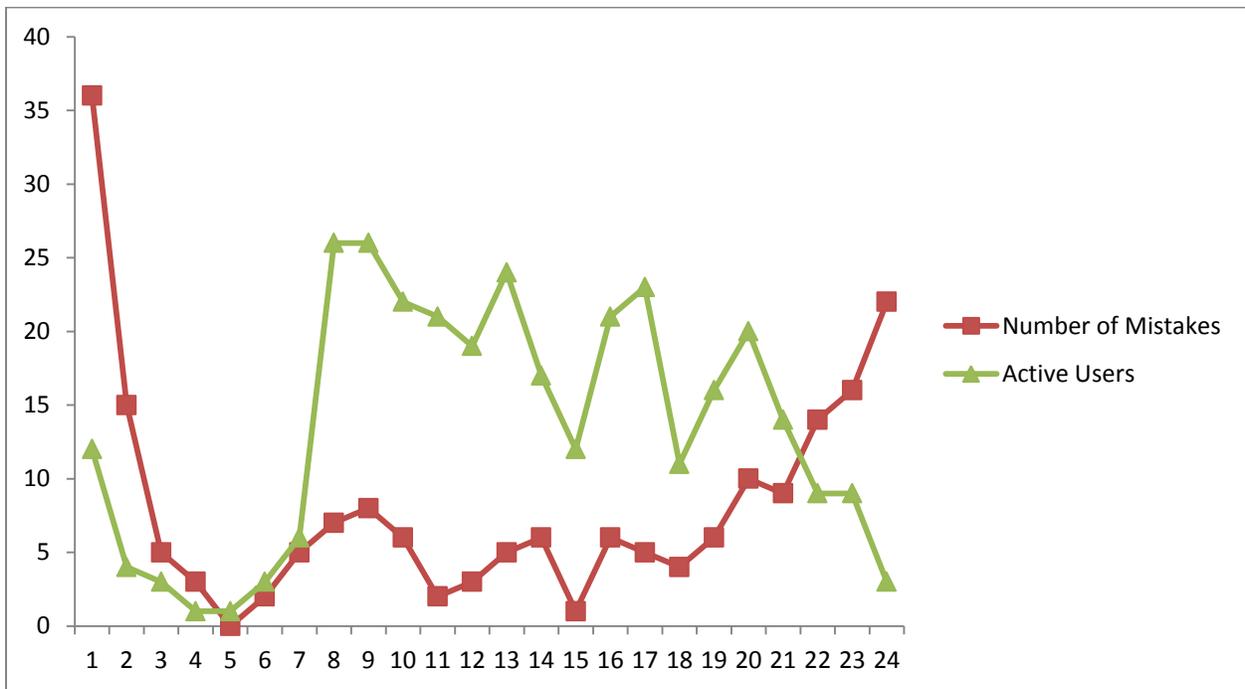
Figure 1 - Number of Spelling Mistakes v Active users in 24 hour time

It seems that the times when there is a higher ratio of spelling mistakes to users active is between the hours of 24:00 – 3:00. Now perhaps we have to correlate this with some factors that may lead to spelling mistakes at that time:

- User is tired
- User is in a dark room
- User is under the influence of alcohol
- User is under the influence of narcotics

If we take into account the information on – Data Series 27: Sample User #16's Google+ we find out that he is a 23 year old male, University of Wilfred Laurier student who has a high level of profile activity Thursday – Saturday at 24:00 – 3:00 and during this time makes frequent spelling mistakes. Based on this data and his search for a "*Hamurgr*" we can probably assume that this user is drunk.

Now, the question becomes if this user is drunk and is searching "*Hamurgr*" what type of search results could they be seeking. The likelihood is they aren't searching for the Wikipedia article on the history of hamburgers, and being from Waterloo. Ontario (which is pulled from Google+) they probably aren't looking for result #7 "Mary's Diner" which is way out in Vancouver, the user is probably looking for Hamburger places in their local area that are open.

The best thing they could see returned at this time would be a cross-reference of Google Places identified as Hamburger restaurants in Waterloo, Ontario that have their hours posted and list as open.

Case 2: The Educational Case of David Hume

It's a Sunday night, 9:15pm, Data Series 28 – Subject #3 has placed a search for "Hume". Google+ reports she is a 22 year old female student at Wilfred Laurier University. Her field of study is listed as Philosophy.

The results the subject received were as follows:

1. David **Hume** - Wikipedia, the free encyclopedia
   en.wikipedia.org/wiki/David_**Hume**
   David **Hume** (7 May [O.S. 26 April] 1711 – 25 August 1776) was a Scottish philosopher, historian, economist, and essayist, known especially for his **...**
   Life - Science of man - As historian of England - Works
   ▶
2. **Hume** - Wikipedia, the free encyclopedia
   en.wikipedia.org/wiki/**Hume**
   From Wikipedia, the free encyclopedia. Jump to: navigation, search. Look up **...**
3. Iain **Hume** - Wikipedia, the free encyclopedia
   en.wikipedia.org/wiki/Iain_**Hume**
   Iain Edward **Hume** (born 30 October 1983) is a Scottish-born Canadian **...**
   Show more results from wikipedia.org
4. David **Hume** (Stanford Encyclopedia of Philosophy)
   plato.stanford.edu/entries/**hume**/
   26 Feb 2001 – Katherine Falconer **Hume** realized that young David was "uncommonly wake-minded" — precocious, in her lowland dialect — so when his **...**
5. **Hume** Travel - Flights | Cars | Hotels | Last Minute Specials **...**

www.**hume**-travel.com/

Hume Travel, no booking fees, Canada Travel Guides,Canada Travel Agents,Canada Travel Agencies, Canada Travel Agent, Canada Travel Advice,Canada **...**

6. **Hume** Hotel - Nelson Hotel, Accommodation in Nelson BC

www.**hume**hotel.com/

The **Hume** Hotel: famous boutique hotel in Nelson BC. Top rated accommodation in Nelson. Formerly the Heritage Inn.

7. **Hume** Studies -- ISSN 0319-7336

humestudies.org/

Subscription-based interdisciplinary scholarly journal dedicated to the thought of David**Hume**. Also includes a list of articles and authors.

8. **HUME** | Free Music, Tour Dates, Photos, Videos

www.myspace.com/**hume**songs

HUME's official profile including the latest music, albums, songs, music videos and more updates.

9. David **Hume** Index

socserv.mcmaster.ca/econ/ugcm/3ll3/**hume**/index.html

David **Hume**. May 7, 1711 — August 25, 1776. Published Works · Of Commerce · Of the Refinement in the Arts · On Money · On the Balance of Trade · On Interest **...**

10. Christopher **Hume** - Columnist Page

www.thestar.com/comment/columnists/94609

Christopher **Hume**. chume@thestar.ca | RSS. Columnist Finder. Category. Select Category, News, Business, Sports, Science and Tech, Entertainment, Travel **...**

In a post search poll the user indicated that the results she received were "Partially Correct" but were in need of further refinement.

Why?

Being a student of philosophy myself I may have an inherit bias to this case but it would seem to me that on a Sunday night a philosophy student was most likely seeking further information on David Hume. Not Hume Travel or Ian Hume. But, how can we tell this from the data?

One of the most useful bits of data in solving this case was an education poll I did of 100 students asking them to monitor themselves for two weeks and tally the times they worked on homework that required them to do a Google search, and then record the most frequent day on the survey:
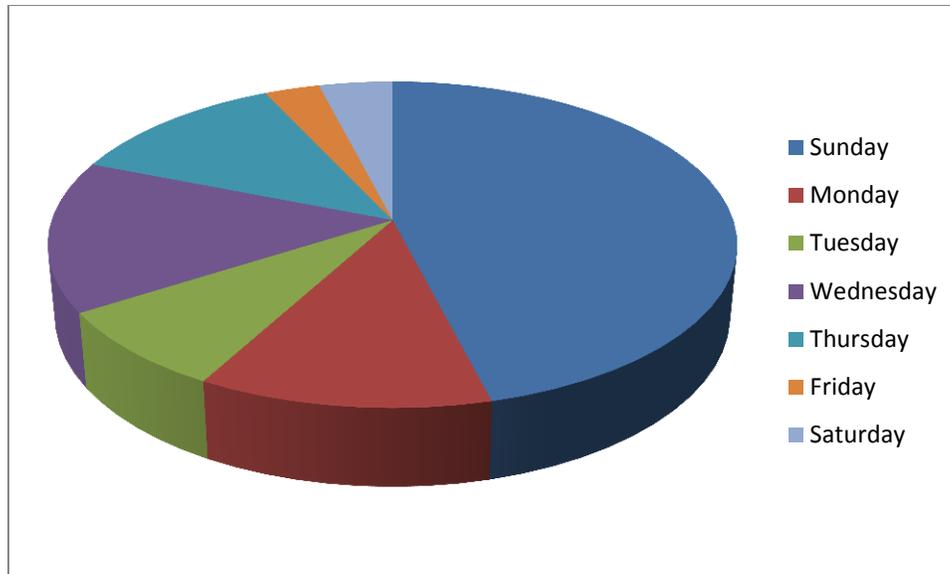
Figure 2 - Day of the Week Google is most used for homework

In a rather landslide victory we can see that Sunday won out over the other days of the week. Yet, we must still answer how Google can come to this logical conclusion on its own accord.

When Google returns its results for Hume it receives David Hume, Hume Travel, Ian Hume as the main results. So Hume is clearly a title/name and falls into the categories "Philosophy, Travel, and Football (Soccer)"

If Google identifies the days of the week (and times etc) to give preferred balance to a certain topic it can return customized results in a seamlessly quick manner and still be able to cross check them to further customize the result for the user. Let's examine its possible returns based on logic code, assuming that after searching for a word Google will return the top three categories of a search and order them on a +/- system to further examine those results.

Pre-fetched Data of general user
If day = Sunday *then* Academic Subjects +1
If season = Summer *then* Travel +1
If time = evening *then* Academic Subjects +1

Pre-fetched Data if user is logged into Google+
If user = Student *then* Academic Subjects +3

Search Oriented Data
Search "Hume" returns categories Philosophy (Academic Subject +5), Travel +1, Football 0.
Begins cross reference with Google + check for highest rank relations "Philosophy" first, user is a Student with a Major in Philosophy – Philosophy +1
User is an individual interested in Football – Football +1
Users previous searches in General time frame are "Kant", "Artistotle" topic Philosophy – Philosophy +1

Return user results with preference to Academic works and histories of Hume in Topic Philosophy – David Hume

Important Note 1: The Advertiser User Relation Advantage
An interesting side point of using both search mined data and user entered data to further guess information about the user is that it will create a scenario where both advertisers and users can benefit.

Advertisers will benefit from additional metrics, interest, common searches, state of user's being (i.e. drunk, tired, working, studying) allowing them to more closely target their market and gauge responsiveness of certain demographics.

For the user it means Ads more catered towards their interest, focused ad search results relevant to their current state and better access to paid services

<u>Conclusion</u>
While these are only two case, and my data is from a small, primarily student offset, group it should shed some light on the ability of statistical data and the cross reference of Google+ profiles to help create a user centric search.

*This paper is free of charge on http://brandspiel.com/research/ and available for digital purchase in the Amazon Kindle store. If you have enjoyed this research please share it with friends and feel free to voice your opinions and ideas.