
Google Grinds Its Search Gears and Delivers Cold Mangos

In mid-June 2011, Google demonstrated that it could run a live fire exercise from its flagship, *HMS Ad Revenue*. The big guns blazed at “Inside Search.” Google announced enhanced image search. The loudest noise for the enterprise was that mobile search was the future. The roar, the smoke, and the spectacle was visible worldwide. It appears that I am one of the few observers asking the question, “What’s the target?” The target, in my opinion, was a focusing attention away from another rework of the Google App Engine, the infrastructure for building enterprise apps “on the same systems that power Google.” <http://code.google.com/appengine/>

Some context. Google’s revenue comes from online advertising, not enterprise products and services. In fact, after more than a decade or trying, Google is, as the much-maligned Steve Ballmer quipped in 2007 to Stanford University’s graduate school of business, “a one-trick pony.” <http://phyne.net/wiki-search-and-the-one-trick-pony-MTQyMzA3.html> Google’s pony may know more tricks, but when it comes to revenue, online advertising is the life blood of the company.

A the special “Inside Search” event in San Francisco featured Larry Page (Google’s chief executive officer), Alan Eustace (Google’s Senior Vice President of Knowledge, formerly Senior Vice President of Search), and Amit Singhal (Google Fellow), among other Googlers. The focus was innovations in search.

The company announced that search was really “knowledge” earlier this year, but the event was billed “Inside Search” which seems to be more in line with Google’s revenue engine. Fortune Magazine was particularly effusive, reporting that “the tech giant unveiled a slew of new search features, including the ability to search by images and input queries by voice on desktop computers.” <http://tech.fortune.cnn.com/2011/06/14/google-search-finds-its-voice/>

Two aspects of Google’s Inside Search announcements struck me as interesting.

First, Google is not innovating in the enterprise and moving those innovations to the Android side of Google’s business. Mobile and tablets are now influencing Google’s definition of search for the enterprise. Google continues to move in directions that are either ahead of where most organizations with which I am familiar are or Google is moving in an orthogonal direction. “Orthogonal” implies that Google is bumping into established information technology practices. As a result, Google’s success in the enterprise has not contributed sufficient revenues to neutralize Mr. Ballmer’s one-trick pony description. Mobile is the driver of Google search.

Second, Google affirmed with Google data that mobile search is growing faster than desktop or traditional search. More significantly, mobile search is bigger than desktop search. Monday through Friday, when those with jobs are working, Google reports high usage for its traditional Web search service. On nights, weekends, and probably over lunch breaks, the mobile search service surges. Mobile is bigger than “regular” search.

Third, Google's enterprise strategy remains a somewhat fuzzy work in progress. In the offices and factories I have visited, talking to a computer may be similar to one of those little known features in Microsoft Word. Few know about the feature. Most Word users create text and apply minimal formatting. Featuritis reminds me of Microsoft's enterprise solutions. Will organizations spend big money on Google enterprise solutions after the Inside Search announcements? It is early days, of course, and Google's approach to search may give Google's enterprise competitors more breathing room. I can hear the one-trick pony snorting now.

The coverage of the Inside Search event was capped with outputs from the top Googler. The San Francisco Chronicle revealed "How Larry Page Thinks about Search" <http://www.sfgate.com/cgi-bin/article.cgi?f=/g/a/2011/06/14/businessinsider-how-larry-page-thinks-about-search-2011-6.DTL>.

Mr. Page reiterated one of the themes from the "search to knowledge" shift which he brought to the chief executive's office along with his laptop. Google wants to deliver answers. A related function is that Google wants to provide a user with relevant results before the user does a search. Google, according to the San Francisco Chronicle, was to provide "better context."

In the world of advertising-supported consumer search, the user is presumably running queries via a smartphone or a tablet. When I search using my smartphone, I find typing difficult even when I am seated at Starbuck's with both elbows on the table. If I am looking for a location when walking, typing is impossible for me. The interface for accessing information from a mobile device, therefore, has to be developed for that gizmo. The big icons, the simplified iPhone keyboard, and the uncluttered presentation of information are light years away from the blinking dot of a DEC 20 or the cluttered interfaces of a typical enterprise software system on a Microsoft Windows 7 desktop computer.

Beneath the interface, the approach to search is quite different. Google has explained what the differences are without explaining the technical shift required for the Inside Search announcements. To be fair, explaining how basic key word search works is difficult. Most people, including information technology professionals, find the inner workings of string matching, frequency counts, and stop word lists soporific.

When the next-generation methods step into the spotlight, the listener often goes into a trance or pleads, "Can you simplify that, please?"

The traditional approach to search has been since the late 1960s based on a user typing two or three words into a search box and mashing the enter key. When the system displays results, the user browses through the results list, opening links or hits which seem particularly useful. After browsing, clicking, scanning, and rerunning queries, the user may or may not have an answer. Maybe the effort returns a partial answer which evokes more of the typing, mashing, browsing, clicking, scanning, and rerunning process. Consultancies like IDC have estimated the amount of time required to find information and generated somewhat spectacular and equally questionable data about the inefficiency of enterprise search. The cost of looking for a document, of course, depends on many factors. Most users of enterprise search systems are dissatisfied with whatever system the organization provides. One common statement from interviews I have conducted is, "We want search to work just like Google." Google has

licensed more than 38,000 of its Google Search Appliances to make enterprise search work just like Google.

Now Google is changing—again.

The plumbing of most search systems is quite similar. There are significant differences. What makes enterprise search procurement difficult is that the procurement teams have difficulty separating the marketing smoke from the technical fire in a system. In my monograph “The New Landscape of Enterprise Search” <http://www.pandia.com/enterprise-search/>, published by Pandia.com in Oslo, Norway, I point out that mainstream search systems are morphing into platforms which perform more than brute force search.

Google’s Inside Search announcements signals a new direction influenced by changes in consumer information access via smartphones and tablets. To implement its new approach, Google is turning to numerical recipes that predict what the user wants or needs. Then when the user clicks an icon, the system delivers what the system pre-determined is what the user wants.

For an employee in a government agency, the next-generation search system would “know” who a user was. Personalization systems from Autonomy to Vivisimo deliver this feature now. The user “sees” only information germane to his or her work. The Google touch is to use that information to pre-fetch information likely to be needed by the user. In short, Google uses available clues and hints to make a guess about what the user requires. An old fashioned key word query is not required with predictive technology.

The value of this for mobile search is clear. If I am driving to the airport, my smartphone “knows” where I am from the geospatial subsystem. My search history makes it easy to predict that I need to know where a free parking space is and if my flight is on time. The Google system uses information in the user’s search log, the user’s profile data if available, and any other information available about users’ behavior in a similar situation or cluster. The Google mobile search makes what I would call an “educated guess.” Google “knows” when a guess is incorrect by looking at user behavior after the pre-fetched information is presented to the user. The idea is that as the Google mobile-centric search system iterates, the system gets smarter by refining thresholds and other values the Google system uses to perform search without the user’s typing in a search box.

The importance of voice becomes clear in this particular mobile search example. If the pre-fetched data are off the mark, the user can speak to the system via the mobile handset. A new query is formulated automatically or the original machine-generated query is refined. The user gets the needed information in what the marketers call an “intuitive , transparent way.”

For an organization with drivers steering lorries around road works, the Google approach makes perfect sense and will return a payoff.

But what happens when this type of search system delivers information to a busy 34-year-old sales manager juggling meetings and an important proposal to a major client. I think that for routine types of information retrieval, the addition of predictive search will work well, probably better than the old key word approach. A manager can speak an instruction to his or

her computer, “Get me the sales report for June 30.” Instead of typing a search and going through the guessing game required to unlock the information treasures, the system just displays or emails the report.

But other types of searches will require the user to slog through brute force processes. Even the bright, visual faceted interfaces fall short when a query requires information about a competitor’s most recent pricing move or an analysis of a technical innovation. The user may not know what words to use to run the query via voice. When banging away with key words or clicking on “search suggestions”, the user is looking for a clue. Even for Google, the results list is going to be on tap. For some queries there is no alternative to the guess-and-hunt approach to finding information.

However, there are firms in the search and content processing sector with new approaches to information retrieval. Google has a stake in one firm which pushes the boundaries of what can be accomplished with predictive analytics. The company is Recorded Future <http://www.recordedfuture.com> , and it has attracted an investment from the US Central Intelligence Agency’s investment arm, In-Q-Tel <http://www.iqt.org> . Digital Reasoning <http://www.digitalreasoning.com> offers an equally advanced system of extracting information and giving users a glimpse of the future based on industrial-strength number crunching. Exalead <http://www.exalead.com> , a unit of Dassault Systemès <http://www.d3.com> offers similar capabilities as part of its CloudView system. I have not scratched the surface of this fast-growing region in the information retrieval ecosystem.

Google’s bet is that its mobile search technology will entice organizations to embrace Google’s cloud-centric enterprise applications. Microsoft and other established vendors of enterprise software see Google’s efforts coming up short—so far.

The big questions are: “Are organizations ready to shift to systems and methods that help users understand how things are related? Will enterprise users embrace concepts and the relationships among them? Will enterprise users understand that each must know better, not find better?”

The challenge for Google and for users is to turn fancy math into benefits that deliver a return on investment for organizations. An anecdote reported in the Seattle Times revealed that Larry Page wanted to know why mangos became warm when in a closed container. A Google search for “warm mangos” flopped. The query, to be fair, also failed on Microsoft’s Bing.com. The answer required a human who figured out that in a closed box, mangos produce carbon dioxide which becomes warm in the sealed container. (For the full anecdote, navigate to http://seattletimes.nwsourc.com/html/microsoftpri0/2015262906_warm_mangos_search_stu_mps_google_ceo_larry_page.html)

In my opinion, the Inside Search event delivered cold mangos, but the public relations activity matched the martial impact of a future weapons display at Camp Atterbury in Indiana. Dramatic but not ready for deployment in an organization trying to navigate in the choppy waters of today’s business world.

Stephen E Arnold, June 20, 2011

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