

UNIT - 9 : An Evolving Art Form: The Future of SEO

Vimal Ghorecha

Assistant Professor

Department of MCA

ATMIYA Institute of Technology and Science

❖ The Ongoing Evolution of Search

- SEO IS ABOUT OBTAINING NEW CUSTOMERS.
- Therefore, the role of the SEO professional is to bring more targeted traffic to an organization's website.
- Looking a bit more into the future, one can also expect that mobile search will drive an increasing demand for linguistic user interfaces, including voice-recognition-based search.
- When these things will arrive is not easy to predict, but a lot of people are investing in the development of such technologies.
- Search has come a long way, and will continue to progress at a faster and faster pace.
- Keeping up with these changes, the competitive environment, and the impact of new technology provides a challenge and an opportunity.

➤ The Growth of Search Complexity (1)

- Search has been evolving rapidly over the past decade.
- Google Fellow Jeff Dean provided some interesting metrics that tell part of the story:
 - Google search volume had grown 1,000 times since 1999.
 - Google has more than 1,000 times the machines it had in 1999.
 - Latency dropped from less than 1,000 ms to less than 200 ms.
 - Index update latency improved by about 10,000 times. Whereas updates took Google months in 1999, in 2009 Google was detecting and indexing changes on web pages in just a few minutes.
- By 1999 Google launched, and the next generation of search was born. Google was the search engine that most effectively implemented the concept of citation analysis (or link analysis) as part of a popular search engine.

➤ The Growth of Search Complexity (2)

- Link analysis counted links to a website as a vote for its value. More votes represent more value, with some votes being worth more than others (pages with greater overall link juice have more juice to vote).
- This created a situation that initially made the job of the spammer more difficult, but the spammers began to catch up with this advance by purchasing links.
- With millions of websites out there, many of them with little or no revenue, it was relatively easy for the spammer to approach a site and offer it a nominal amount of money to get a link.
- Additionally, spammers could implement bots that surfed the Web, finding guestbooks, blogs, and forums, and leaving behind comments with links in them back to the bot owner's site.

➤ The Growth of Search Complexity (3)

- But the effort to improve search quality as well as fight spammers continued. Historical search result performance, such as how many clicks a particular listing got and whether the user was apparently satisfied with the result she clicked on, are metrics that many believe have already made their way into search algorithms.
- In May 2007, Google made a big splash with the announcement of Universal Search. This was the beginning of the integration of all types of web-based data into a single set of search results.
- Ask also made an interesting contribution with its Ask 3D effort, which it launched in June 2007. This approach provided many different types of results data on search results pages, much like Google's Universal Search, but these elements were not mixed in with the web results, and instead appeared on either the left or right rail of the results page. Google, Yahoo!, and Bing have all borrowed some ideas from Ask 3D.

➤ The Growth of Search Complexity (4)

- Search engines continue to look for more ways to improve search quality. Google has launched efforts toward personalization, where it can look at a user's search history to get a better idea of what results will best satisfy a particular user.
- In 2008, Danny Sullivan summarized this entire evolution into four phases.
 - Search 1.0: keywords and text
 - Search 2.0: link analysis
 - Search 3.0: integration of vertical results
 - Search 4.0: personalization
- Following these advances, what will be next? Other areas that people are working on are artificial intelligence (AI) and linguistic user interfaces (LUIs). LUIs are voice-driven interfaces, whose arrival would completely transform the human–computer interface and how people search, work, and play.

➤ The Growth of Search Complexity (5)

- It will be far easier to talk to your computer and tell it what to do than trying to type those instructions in on a keyboard.
- When these types of technologies will arrive is not something anyone can predict with certainty. Recent history has been littered with new technological advances that were supposedly on the verge of happening, but took much, much longer than predicted.

➤ Google's Dominance (1)

- Many believe that the key to Google's success, and more importantly, a key component in its corporate culture, is its willingness and desire to get search users going to the destination site as quickly as possible.
- Some also believe that Google's biggest barrier to entry in the search engine market is its advertising platform, which is the world's largest.
- By expanding its search, it is able to create a more inviting advertising platform through AdWords, AdSense, and its embeddable Google Search box.

➤ Google's Dominance (2)

- In late 2008, tests were performed in which users were asked which search engine's results they preferred for a wide variety of queries—long tail searches, top-of-mind searches, topics about which their emotions ranged from great passion to total non-belief.
- They were shown two sets of search results and were asked which they prefer.
- Google was picked as the best “search engine” without regard for the results themselves .
- Fundamentally, testers find (again and again) that the brand preference for Google outweighs the logical consideration of the search results quality.

➤ Google's Dominance (3)

- Also consider the official Google mission statement: “Google’s mission is to organize the world’s information and make it universally accessible and useful.” It is already moving beyond that mission.
- For example, Google and NASA are working on new networking protocols that can work with the long latency times and low bandwidth in space.
- Another potential future involves Google becoming a more general-purpose pattern-matching and searching engine. The concept of performing pattern matching on text (e.g., the current Google on the current Web) is only the first stage of an evolving process.
- Imagine the impact if Google turns its attention to the human genome and creates a pattern-matching engine that revolutionizes the way in which new medicines are developed.



local zoos

Search

Advanced Search
Preferences

Web | Images | Video | Local | Shopping | Maps

local zoos

Search

Options

Linking

Web Show options...

Find Local Zoos

[YellowPages.AOL.com](#) - Access A Directory Of Zoos Quickly From AOL's Yellow Pages!

Privacy Statement - Association of Zoos and Aquariums

Association of Zoos & Aquariums Back to Home - About AZA - Press Room - Jobs - A-Z Site Index - Find a Zoo or Aquarium - Print this page Email this page to a ...

[www.aza.org/FINDZOOAQUARIUM](#) - [Cached](#) - [Similar](#)

USA Zoos, Zoos in the United States

The OfficialUSA.com directory of Zoos, Aquariums, Safari, Wildlife sanctuaries and preserves. ... International Association of Zoo Educators, Bronx ...

[New York](#) - [Illinois](#) - [Zoos in California](#) - [Florida](#)

[www.officialusa.com/stateguides/zoos/](#) - [Cached](#) - [Similar](#)

4 local zoos

Apr 1, 2008 ... 4 local zoos, There's a lot more to do at today's zoos than gawk at animals cages.

[www.spcentral.com/ent/.../20080401/ent0401zoos.html](#) - [Cached](#) - [Similar](#)

Also try: [local zoos aquariums](#), [local zoos wildlife](#), [More](#)

Mini Local Zoo

Local zoos. Fascinating attractions & exhibits.
[lakotazoo.net](#)

American Zoo and Aquarium Association

Find a Zoo or Aquarium. Print this page Email this page to ... Careers in Zoos and Aquariums. Visitor and Public Research. Annual Conference. Mid-Year Meeting ...

[www.aza.org/FindZooAquarium](#) - [Cached](#)

American Zoo and Aquarium Association (AZA)

This service has been designed to provide information about the many zoos and aquariums of the AZA throughout North America, and their many conservation programs.

[www.aza.org](#) - [Cached](#)

Don Square ... Become a Member. Site Map (c) 2008 Saginaw Zoo. All rights reserved. [Email Us](#) [Two Great ...](#)

I do not care what
the results are,
I like Google better!



❖ More Searchable Content and Content Types

- Providing the crawlers with textual content semantically marked up using HTML is essential.
- However, the less accessible document types—such as multimedia, content behind forms, and scanned historical documents—are being integrated into the search engine results pages (SERPs) more and more, as search algorithms evolve in the ways that the data is collected, parsed, and interpreted.
- Greater demand, availability, and usage also fuel the trend.

➤ Engines Will Make Crawling Improvements

- The search engines are breaking down some of the traditional limitations on crawling.
- Content types that search engines could not previously crawl or interpret are being addressed.
- In June 2008, Google announced that it was crawling and indexing **Flash content**. Perhaps the bigger problem is the fact that Flash is not inherently textual.
- It is essentially like any other video where there is little incentive within the medium to use lots of text, and that limits what the search engine can interpret.
- Another major historical limitation of search engines is dealing with forms.
- Search engines could potentially try to fill out such forms.

➤ Engines Are Getting New Content Sources

- Similarly, content owners retain lots of other proprietary information that is not generally available to the public.
- Some of this information is locked up behind logins for subscription based content. To provide such content owners an incentive to make that content searchable.
- Google came up with its First Click Free concept which is a program to allows Google to crawl subscription-based content.
- However, a lot of other content out there is not on the Web at all, and this is information that the search engines want to index.
- To access it, they can approach the content owners and work on proprietary content deals, and this is also an activity that the search engines all pursue.

➤Multimedia Is Becoming Indexable-1

- Content in images, audio, and video is currently not indexable by the search engines, but all the major engines are working on solutions to this problem.
- In the case of images, optical character recognition (OCR) technology has been around for decades.
- The main challenge in applying it in the area of search has been that it is a relatively compute-intensive process. As computing technology continues to get cheaper and cheaper, this becomes a less difficult problem.
- In the meantime, creative solutions are being found. Google is already getting users to annotate images under the guise of a game, with Google Image Labeler In this game, users agree to record labels for what is in an image.

➤ Multimedia Is Becoming Indexable-2

- Or consider *<http://recaptcha.net>*. This site is helping to complete the digitization of books from the Internet Archive and old editions of the *New York Times*.
- These have been partially digitized using scanning and OCR software. OCR is not a perfect technology and there are many cases where the software cannot determine a word with 100% confidence.
- However, Recaptcha.net is assisting by using humans to figure out what these words are and feeding them back into the database of digitized documents.
- First, Recaptcha.net takes the unresolved words and puts them into a database. These words are then fed to blogs that use the site's CAPTCHA solution for security purposes. These are the boxes you see on blogs and account sign-up screens where you need to enter the characters you see.

➤ Multimedia Is Becoming Indexable-3

- Similarly, speech-to-text solutions can be applied to audio and video files to extract more data from them.
- This is also a relatively compute-intensive technology, so it has not yet been applied in search.
- But it is a solvable problem as well, and we should see search engines using it within the next decade.
- Interactive content is also growing on the Web, with technologies such as Flash and AJAX leading the way. In spite of the indexing challenges these technologies bring to search engines, the use of these technologies is continuing because of the experience they offer for users who have broadband connectivity.
- The search engines are hard at work on solutions to better understand the content wrapped up in these technologies as well.

❖ Search Becoming More Personalized and User-Influenced

- Personalization efforts have been underway at the search engines for some time.
- The most basic form of personalization is to perform a reverse IP lookup to determine where the searcher is located, and tweak the results based on the searcher's location.
- It is not yet clear whether personalization has given the engines that have invested in it heavily better results overall or greater user satisfaction, but their continued use of the technology suggests that, at the least, their internal user satisfaction tests have been positive.

➤ Determining User Intent (1)

- The success of Internet search has always relied (and will continue to rely) on search engines' abilities to identify searcher intent.
- Microsoft has branded Bing.com, its latest search project, not as a search engine but as a “decision” engine.
- It chose this label because of what it found in its research and analysis of search sessions.

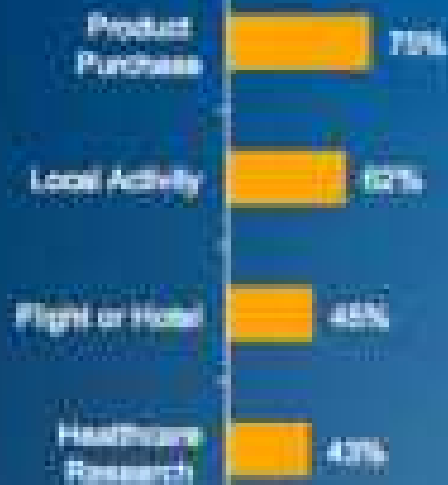
Sessions are Decision Oriented

Users Relying More on Search

Q. In the past six months have you used a search engine to help inform your decisions for the following tasks?

66%

of people are using search more frequently to make decisions



Decision Sessions are Lengthy

Length of Sessions by Type



Users need help with tasks and making decisions

Complex task and decision sessions could be easier

➤ Determining User Intent (2)

- Google personalization and Universal Search are trying to tap into that intent as well, based on previous search history as well as by serving up a mix of content types, including maps, blog posts, videos, and traditional textual results.
- Danny Sullivan, editor-in-chief of ***Search Engine Land***, added to the discussion on the importance of relevancy in how the information is presented, such as providing maps for appropriate location searches or the ability to list blog results based on recency as well as relevancy.
- It is not just about presenting the results, but about presenting them in the format that matches the searcher's intent.

➤ User Interactions

- One area that will see great exploration will be in how users interact with search engines.
- As RSS adoption continues to grow and the sheer amount of information in its many formats expands, users will continue to look to search engines to be not just a search destination, but also a source of information aggregation;
- The search engine as portal, pulling and updating news and other content based on the user's preferences.

➤ New Search Patterns

- This is all part of downgrading those things that have been synonymous with SEO, such as rankings, keywords, and optimization, to a much greater focus on the users, tying into their intent and interests at the time of search.
- Personalization will make site stickiness ever more important. Securing a position in users' history, becoming an authoritative go-to source for information, will be more critical than ever.
- Winning in the SERPs will require much more than just position.
- Over time, smart marketers will recognize that the attention of a potential customer is a scarce and limited quantity.
- As the quantity of information available to us grows, the amount of time we have available for each piece of information declines, creating an attention deficit.
- How people search, and how advertisers interact with them, may change dramatically as a result.

➤ User-Driven Search Results (1)

- In November 2008 Google announced SearchWiki. This was a move by Google to allow individual end users to tweak their search results.
- You can see the controls on the search results screen shown in Figure.
- Users must be logged in to use SearchWiki, but if they are, they can move results up, move them back down again, or erase them from the results altogether.
- SearchWiki will remember their stated preferences in later sessions. There are many other features as well, such as the ability for users to comment on specific search results.
- Although Google stated initially that it was not using SearchWiki to drive rankings, it has since clarified that it plans to use that data in the future.

[Advanced](#)
[Preference](#)

Web  [Show options...](#)

[Google **SearchWiki** Launches, Lets You Build Your Own **Search** Results ...](#)

Google will announce today (Update: official announcement) the launch of **SearchWiki**, a major addition to its user interface that allows ...

[searchengineland.com/google-searchwiki-launches-15561](#) - [Cached](#) - [Similar](#) -   

[Google **SearchWiki** To Get Off Button, Might Get Used As Ranking Signal](#)

TechCrunch has coverage of Google's Marissa Mayer talk at Le Web conference in Paris, France. In that talk, Mayer said **SearchWiki** will gain ...

[searchengineland.com/google-may-use-searchwiki-for-ranking-purposes-15777](#) -

[Cached](#) - [Similar](#) -   

[More results from searchengineland.com >](#)

[Features : **SearchWiki** - Web **Search** Help](#)

SearchWiki lets you customize your Google Web **Search** results by ranking, removing, ... A listing of your changes is visible on your '**SearchWiki** notes' page, ...

[www.google.com/support/websearch/bin/answer.py?hl...](#) - [Cached](#) - [Similar](#) -   

➤ User-Driven Search Results (2)

- SearchWiki will potentially provide Google with a wealth of data directly from end users on what they like and do not like.
- Google extended this basic concept in January 2009 with the notion of Preferred Sites.
- The Google Operating System blog broke the news, and users who were included in the test program by Google are able to specify sites that they consider authoritative.
- Those sites are then given greater weight in the results for those users.
- This, of course, could be yet another powerful ranking signal for the search engines. The initial SearchWiki announcement was about how users could tailor the results for specific queries.
- Voting a site up on one query would not affect its results on other search queries.

➤ Growing Reliance on the Cloud (1)

- Cloud computing is transforming how the Internet-connected population use computers.
- Oracle founder Larry Ellison's vision of thin-client computing may yet come to pass, but in the form of a pervasive Google OS "operating system" and its associated, extensive suite of applications.
- Widespread adoption by users of cloud-based (rather than desktop) software and seemingly limitless data storage, all supplied for free by Google, will usher in a new era of personalized advertising within these apps.
- Google is actively advancing the mass migration of desktop computing to the cloud, with initiatives such as Google Docs & Spreadsheets, Gmail, Google Calendar, Google Reader, and the much anticipated Google Wave and Google Web Drive/Gdrive.

➤ Growing Reliance on the Cloud (2)

- Google benefits by having a repository of user data available for analysis—which is very helpful in Google’s quest to deliver ever more relevant ads and search results.
- It also provides multiple additional platforms within which to serve advertising.
- Furthermore, regular users of a service such as Google Docs are more likely to be logged in a greater percentage of the time when they are on their computers, which is important because Google serves personalized results only when users are logged in.
- The inevitable advance of cloud computing will offer more and more services with unrivaled convenience and cost benefits, compelling users to turn to the cloud for their data and their apps.
- Data portability from and to these services will become a critical issue. OpenID and OpenSocial are two of the early data portability solutions leading the charge.

❖ Increasing Importance of Local, Mobile, and Voice Recognition Search

- New forms of vertical search are becoming increasingly important.
- Areas that the search engines have already embraced include local search and mobile search. In addition, voice recognition-based search is an area in which all the major engines are actively investing.

➤ Local Search (1)

- Local search was an active business before the advent of the Internet, when Yellow Pages as supplied by your phone company were the tool of choice.
- As the World Wide Web first became prominent in our lives, the first way that this unfolded on the Web was in the form of Yellow Pages migrating online.
- These types of sites have themselves evolved to leverage more of the unique nature of the Web.
- As the major search engines evolved, they integrated sophisticated mapping technology into their systems, and then began to map in local business data as well.
- You can find these local search engines at *<http://maps.google.com/>*, *<http://local.yahoo.com>*, and *<http://www.bing.com/maps>*.

➤ Local Search (2)

- The next major advent in the realm of local search was initiated when Google announced Universal Search in May 2008.
- As a result of this announcement, you could get local search results without having to go to *http://local.google.com*, and these results began to appear prominently in the basic web search results.
- As is common with these types of queries, the local results show up at the top, under the ads, and before the regular web search results. This is prime positioning, and this increased the intensity with which publishers began to focus on local SEO.
- By comScore that suggested that 35% to 40% of search queries had some sort of local search intent.
- One of the big challenges facing the local search engines is *map spam*, the proliferation of spam results in local search.

➤ Local Search (3)

- Resolving these issues is obviously critical for the search engines and is a major area of investment for them.
- With a very large number of searches having local intent, this is potentially a major frontier for developments in search.
- Consumers are becoming increasingly reliant on local search and its auxiliary services—street maps, directions, satellite views, street views, 3D visualizations (Google Earth), enhanced listings, user reviews, and ratings.
- So, in a way, the search engines are in the logistics business, building the connection between online and offline.

➤ Mobile Search (1)

- Mobile search has been a hot topic in the industry for a few years now, with frequent predictions that “this year will be the year of mobile search”.
- Although this has not happened in quite the way people have expected, mobile Internet usage and mobile search have seen steady growth.
- The increased use of smartphones has proven to be a driving factor in this growth.
- Even in the United States, the convenience of being able to get the information you need while on the go is just way too compelling.
- Why be tied to a desk if you do not have to be?

➤ Mobile Search (2)

- Further, in many countries, freedom from a desktop is a requirement because the space that people have for their personal lives is quite different from what people experience in the United States.
- The small keyboard/typing surface is currently a severe limitation, but the search engines are working on voice-based solutions to circumvent this.
- The advent of the LUI will certainly revolutionize mobile search, and when this happens a whole new set of skills will be required of the SEO practitioner.

➤ Voice Recognition Search (1)

- When users are mobile they must deal with the limitations of their mobile device, specifically the small screen and small keyboard. These make web surfing and mobile searching more challenging than they are in the PC environment.
- Voice search could be a great way to improve the mobile search experience. It eliminates the need for the keyboard, and provides users with a simple and elegant interface.
- Speech recognition technology has been around for a long time, and the main challenge has always been that it requires a lot of computing power.

➤ Voice Recognition Search (2)

- Two examples already exist:
- *GOOG-411*
 - This is a free service from Google that you call at (800) GOOG-411. The system is voice activated, and you can use it to find businesses you are looking for and get maps sent to your phone.
- *Google Mobile App for iPhone*
 - Included in this application is voice searching capability. You can speak your query into the application and the results are displayed on-screen.

➤ Voice Recognition Search (3)

- Processing power continues to increase, even on mobile devices, and the feasibility of this type of technology is growing.
- This should be another major area of change in the mobile search landscape.
- In addition, it is reasonable to expect that voice recognition technology will be applied to the actual recorded content of audio and video files, to determine content and aid in ranking these media types within search results.
- Something that will likely lead to video “script” optimization as an added component of video SEO.

❖ Increased Market Saturation and Competition (1)

- One thing you can count on with the Web is continued growth.
- With this growth has come an increasing awareness of what needs to be done to obtain traffic.
- The search engines are the dominant suppliers of traffic for many publishers, and will continue to be for some time to come.
- For that reason, awareness of SEO will continue to increase over time.
- Here are some reasons why this growth has continued:

❖ Increased Market Saturation and Competition (2)

- *The Web outperforms other sales channels*
 - When organizations look at the paths leading to sales and income, the Web almost always comes out with one of two assessments.
 - Either it is a leading sales channel or it is deemed to be an area with the greatest opportunity for growth.
- *It is the right time to retool*
 - Established companies frequently use down cycles as a chance to focus attention inward and analyze themselves.
- *Paid search drives interest in SEO*
 - Paid search spending is still reaching all-time highs, and when companies evaluate the cost and value.
 - “70%+ of the clicks do not even happen in the ads; use SEO.”

❖ Increased Market Saturation and Competition (3)

- *SEO is losing its stigma (shame)*
 - Google is releasing SEO guides, Microsoft and Yahoo! have in-house SEO departments, and crowd have lost a little of their swagger (belief) and a lot of their arguments.
- *Marketing departments are in a brainstorming cycle*
 - A high percentage of companies are asking the big questions: “how do we get new customers?” and “what avenues still offer opportunity?”
 - Whenever that happens, SEO is bound to show up near the top of the “to be investigated” pile.
- *Search traffic will be relatively unscathed by the market*
 - Sales might drop, conversion rates might falter a bit, but raw search traffic isn’t going anywhere. A recession doesn’t mean people stop searching the Web.

❖ Increased Market Saturation and Competition (4)

- *Web budgets are being reassessed*
 - Display advertising falling considerably; that can happen only when managers meet to discuss how to address budget concerns.
 - Get 10 Internet marketing managers into rooms with their teams and at least four or five are bound to discuss SEO and how they can grab that “free” traffic.
- *Someone finally looked at the web analytics*
 - Check the web analytics to see where revenue is still coming in.

❖ SEO As an Enduring Art Form (1)

- Today, SEO can be fairly easily categorized as having four major objectives:
 - Make pages accessible to search engine crawlers.
 - Find the keywords that searchers employ (understand your target audience) and make your site speak their language.
 - Build content that users will find useful, valuable, and worthy of sharing. Ensure that they'll have a good experience on your site to improve the likelihood that you'll earn links and references.
 - Earn editorial links from good sources by building inviting, link-worthy content and applying classic marketing techniques to the online world.

❖ SEO As an Enduring Art Form (2)

- Note, though, that the tactics an SEO practitioner might use to get links from editorial sources have been subject to rapid evolution, and will continue to be.
- In addition, mastery of social media environments is also likely to be an expertise that most SEO professionals will be required to have.
- One thing that you can be sure about in the world of search is change, as forces from all over the Web are impacting search in a dramatic way.
- To be an artist, the SEO practitioner needs to see the landscape of possibilities for her website, and pick the best possible path to success.
- This currently includes social media optimization expertise, local search expertise, video optimization expertise, an understanding of what is coming in mobile, and more.

❖ SEO As an Enduring Art Form (3)

- No one can predict what the future will bring and what will be needed to successfully market businesses and other organizations on the Web in two years, let alone 5 or 10.
- However, you can be certain that websites are here to stay for a long time, and that websites are never finished and need continuous optimization just like any other direct marketing channel.
- SEO expertise will be needed for a long time—and no existing person is better suited to map the changing environment and lead companies to success in this new, ever-evolving landscape than today's SEO practitioner.

Review Question

- Describe Growth of Search Complexity also prove Dominance of Google
- Explain Enhancement of Crawling process
- How we are getting Search More Personalized and User-Influenced
- Describe importance of new trends search (Local, Mobile and Voice Recognition)
- How Search Engine Optimizer can survive under Increased Market Saturation and Competition?