

Google
Search

Technical Issues

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Table of Contents

- Introduction
- Current Technology - Keyword Search
 - Spam
 - Google Bombs
- Future Technology - Semantic Search
 - Knowledge Graph
- Conclusion
- References

Introduction

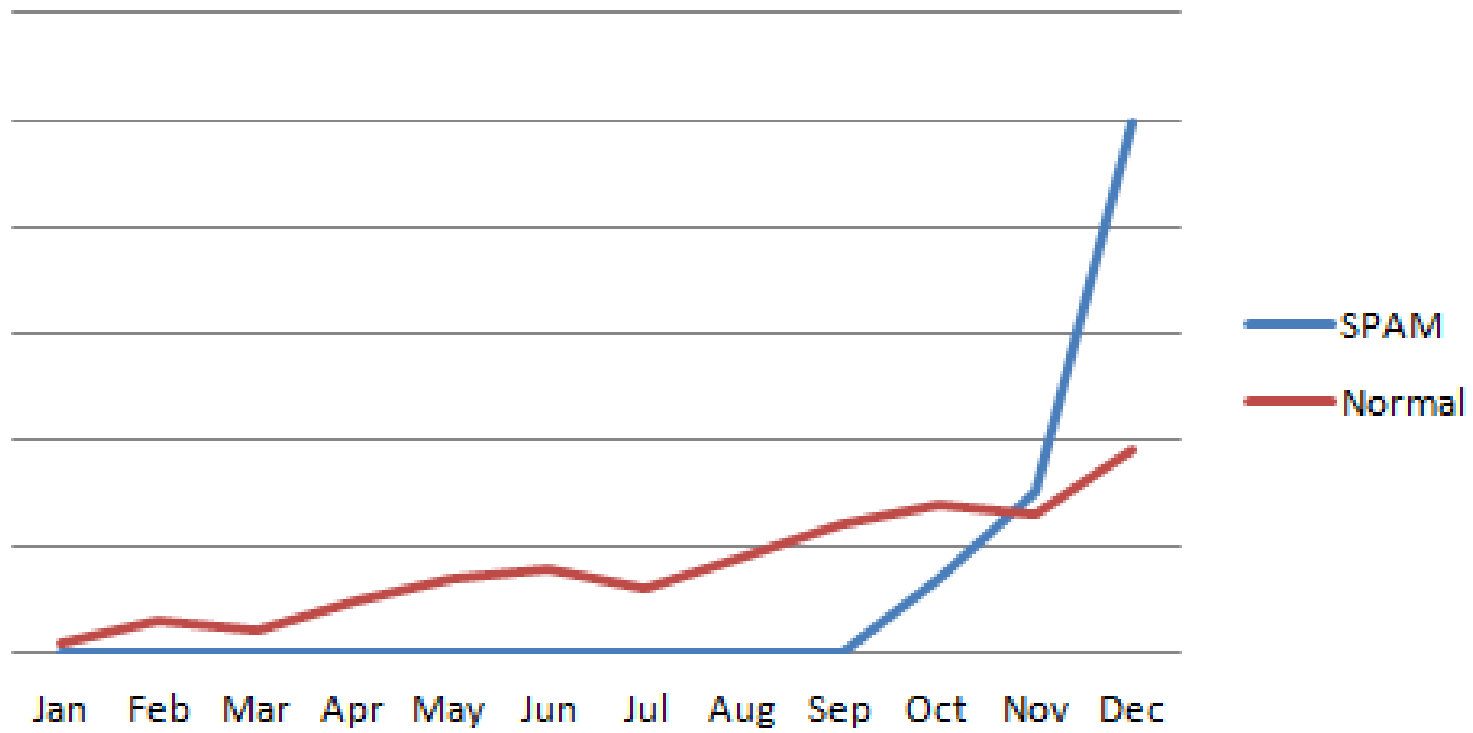
- Traditional Keyword Search
 - in which applications look for instances of query keywords in online documents — rose to prominence because it is efficient and good at simple searches.
 - A simple Google search can yield thousands or millions of results, including many irrelevant to the original query. Words have multiple meanings.
- Semantic Search
 - An effort to improve results by understanding what the words typed mean, and how they relate to other concepts.
 - Google's Knowledge Graph

Spam

- Attempts to modify the web and influence search engine results
 - Different techniques
 - Keyword Stuffing
 - Link farms
 - Link farms of irrelevant reputable sites

Spam - Rank Growth Pattern

SPAM VS NORMAL



Google Bombs

- Spamdexing
 - Increase ranking
 - Categorization Influence
- Google Washing
 - Media manipulation
 - Push Out Competition
- Bowling
 - Study how Google punishes ranking manipulation
 - Provoke Google to lower the ranking of the competitor

Google Bombs



Web [Images](#) [Groups](#) [News](#) [Froogle](#)^{New!} [more »](#)

miserable failure

Search

[Advanced Search](#)
[Preferences](#)

Web

Results 1 - 10 of about 255,000 for [miserable failure](#).

[Biography of President George W. Bush](#)

Home > President > Biography President George W. Bush En Español.

George W. Bush is the 43rd President of the United States. He ...

www.whitehouse.gov/president/gwbbio.html - 29k - [Cached](#) - [Similar pages](#)

[Biography of Jimmy Carter](#)

Home > History & Tours > Past Presidents > Jimmy Carter. Jimmy Carter.

Jimmy Carter aspired to make Government "competent and compassionate ...

www.whitehouse.gov/history/presidents/jc39.html - 35k - [Cached](#) - [Similar pages](#)

[Michael Moore.com](#)

Click Here To Continue To MichaelMoore.Com "The War President". The

War President Photo courtesy of American Leftist, (click here ...

www.michaelmoore.com/ - 5k - [Cached](#) - [Similar pages](#)

[Senator Hillary Rodham Clinton: Online Office Welcome Page](#)

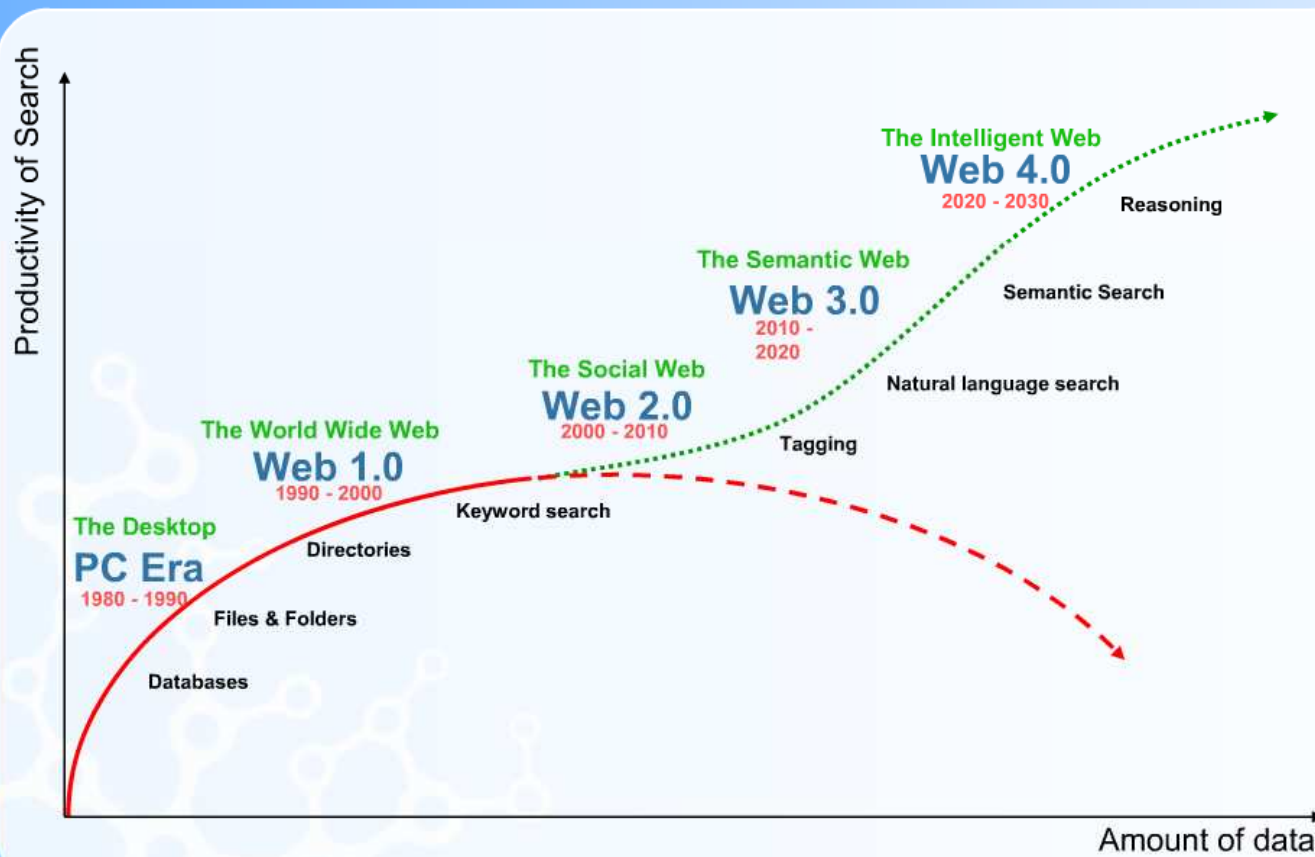
Dear Friend,. Thank you for visiting my on-line office! I appreciate

your interest in the issues before the United States Senate. ...

clinton.senate.gov/ - 9k - Apr 17, 2004 - [Cached](#) - [Similar pages](#)

Semantic Search

Beyond the Limits of Keyword Search



Semantic Search

- The Future: Semantic search
 - Seeks to improve search accuracy by understanding searcher intent and the contextual meaning of terms to generate more relevant results.
- Users would be able to use this information to resolve their query without having to navigate to other sites and assemble the information themselves.
- Google's Knowledge Graph enhances its search results with semantic-search information gathered from a wide variety of sources.

Semantic Search

- Semantic search faces numerous obstacles
 - Up to 100 times the computational overhead of building traditional search indexes and up to 10 times as much hard drive space needed.
 - Adding semantic tags to documents makes more work for website authors.
 - Must cope with the changing semantic landscape, marked by new words, the changing meanings of words, and changing associations among words.
 - Lack of perceived need for the technology by some potential users, user unfamiliarity with the approach.

Conclusion

- Keyword-based approaches let search-optimization techniques artificially make hackers' or other irrelevant pages rise to the top of search results.
 - Spam
 - Google Bombs
 - Server Issues
- Semantic search would solve many of these problems - it lets a search engine more precisely respond to a query by disambiguating the multiple meanings of words in a document and determining how they relate to one another within a sentence.
- There are now several types of semantic search approaches. However, despite the technology's promise, it must clear numerous hurdles before it can be widely adopted.

References

Seymour, Tom, Dean Frantsvog, and Satheesh Kumar. "History Of Search Engines." *International Journal Of Management & Information Systems* 15.4 (2011): 47-58. *Library Literature & Information Science Full Text (H.W. Wilson)*. Web. 7 Feb. 2013.

Saeid, Asadi, and Jamali Hamid R. "Shifts In Search Engine Development: A Review Of Past, Present And Future Trends In Research On Search Engines." *Webology* 2 (2004): 6. *Directory of Open Access Journals*. Web. 7 Feb. 2013. <<http://www.webology.org/2004/v1n2/a6.html>>

Stross, Randall E. *Planet Google : One Company's Audacious Plan To Organize Everything We Know / Randall Stross*. n.p.: New York : Free Press, 2008., 2008. *UCF Libraries Catalog*. Web. 7 Feb. 2013.

Vise, David A., and Mark Malseed. *The Google Story / David A. Vise And Mark Malseed*. n.p.: New York : Delacorte Press, c2005., 2005. *UCF Libraries Catalog*. Web. 7 Feb. 2013.

Langville, Amy N., and C. D. Meyer. *Google's Pagerank And Beyond : The Science Of Search Engine Rankings / Amy N. Langville And Carl D. Meyer*. n.p.: Princeton, N.J. : Princeton University Press, c2006., 2006. *UCF Libraries Catalog*. Web. 7 Feb. 2013.

Blachman, Nancy. "How Google Works." *Google Guide*. N.p., 2 Feb. 2007. Web. 07 Feb. 2013. <http://www.googleguide.com/google_works.html>.

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