Search Engine Optimisation

Search Engine Optimisation (SEO), which basically means designing a site to be ranked well by search engines, is one of the primary challenges faced by web designers.

Learning Expectations:

- What is SEO and why is it important?
- Understand how search engines work.
- A brief history of SEO.
- On-site, on-page, and off-page SEO.
- How to measure and manage the impact of SEO.

Note Also: Some slides are also included at the end of this set use examples already covered by the module to point to good SEO practice.

What is SEO?

◆ **SEO** is the process of affecting the visibility of a website or a webpage in a search engine's unpaid results—often referred to as "natural," "organic", or "earned" results.

[source – Wikipedia.org]

Google — computer science courses ireland

All   News   Images   Videos   Maps   More ▼   Search tools

About 69,500,000 results (0.48 seconds)

"paid ads/results"

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Springboard courses for People who are Unemployed. Check your options
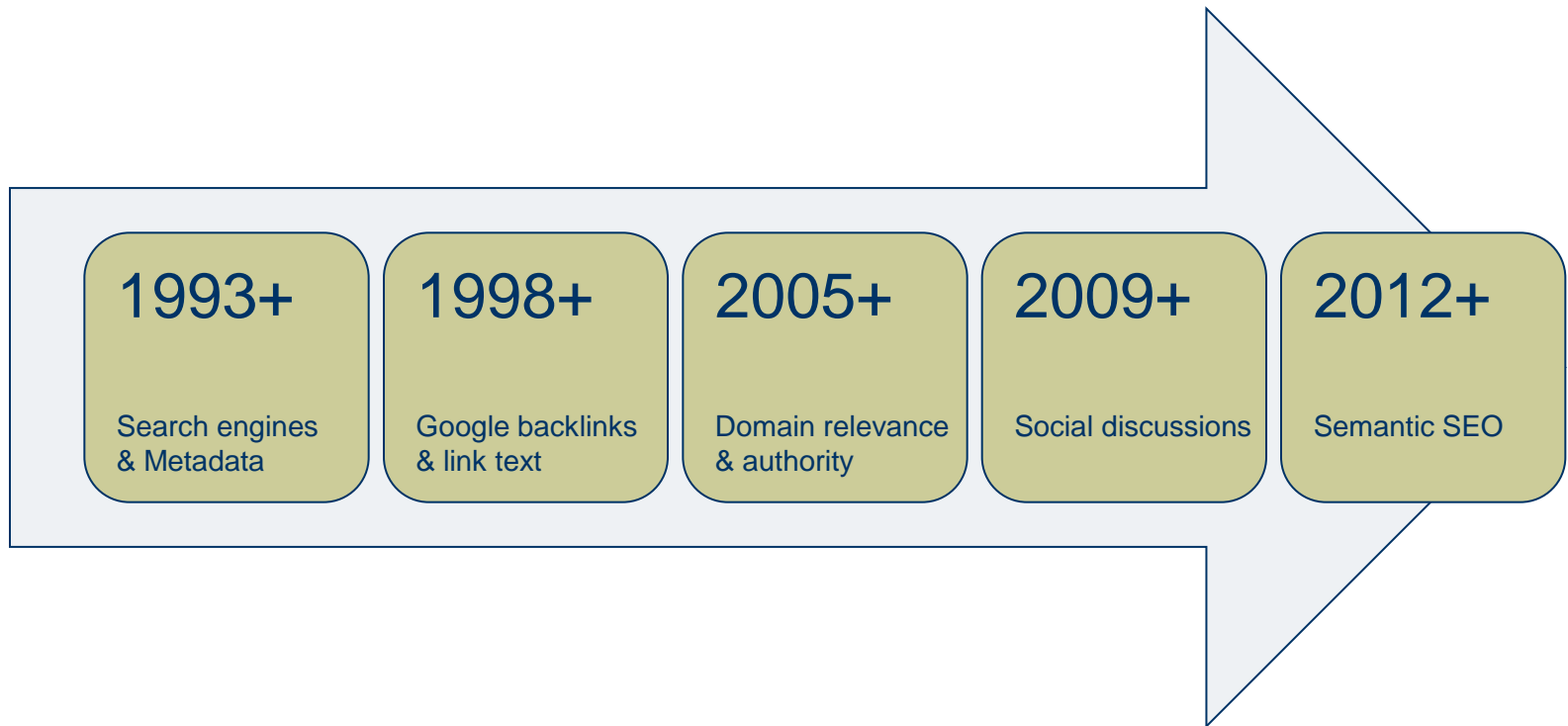Deciding on a course - Funding adult learning

"earned/organic" results

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https://www.maynoothuniversity.ie/computer-science ▼
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List by Course - Computer-Science - myUCD - University ...
www.ucd.ie/myucd/computerscience/ ▼
Leaving Certificate: Passes in six subjects including English, Irish, Mathematics (Min OB3/HD3) ... This is a sample pathway for a degree in Computer Science.

Computer Science in Ireland - Where to go? - boards.ie
www.boards.ie › Topics › Education › Secondary School › Leaving Cert ▼
May 2, 2011 - If you want to suggest any other courses in Ireland, please do! ... The B.A. (Moderatorship) in Computer science degree programme is ...

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https://www.ucc.ie/en/compsci/ ▼
BSc Computer Science CK401 ... Irish Collegiate Programming Contest. ... Western Gateway Building, University College Cork, Western Road, Cork, Ireland.

Computer Science - Trinity College Dublin
https://www.tcd.ie/courses/undergraduate/az/course.php?id=DUICS... ▼
6 days ago - Computer Science at Trinity is a challenging and exciting course with a ...
Trinity is the highest ranked Irish university in Computer Science and ...
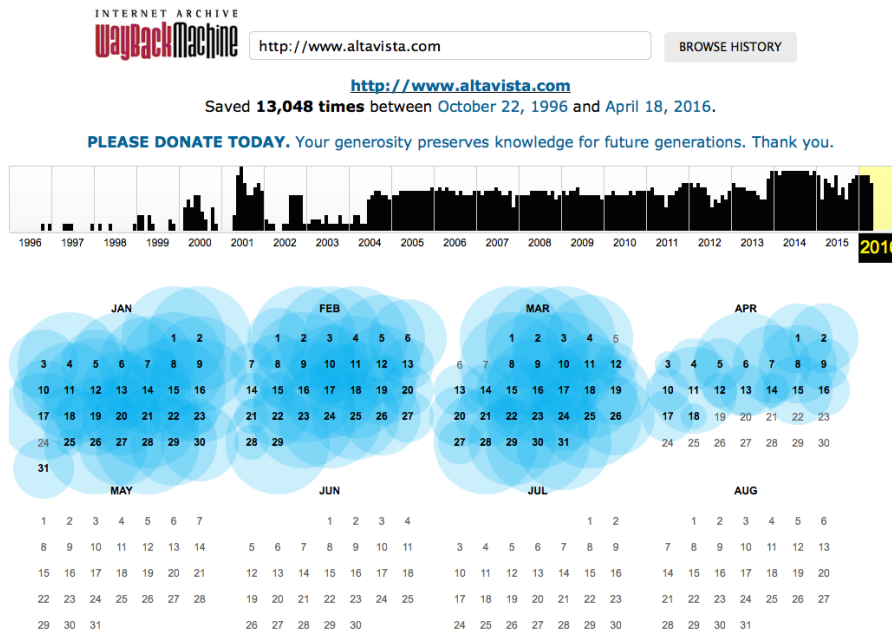
How Search Engines (SE) Work
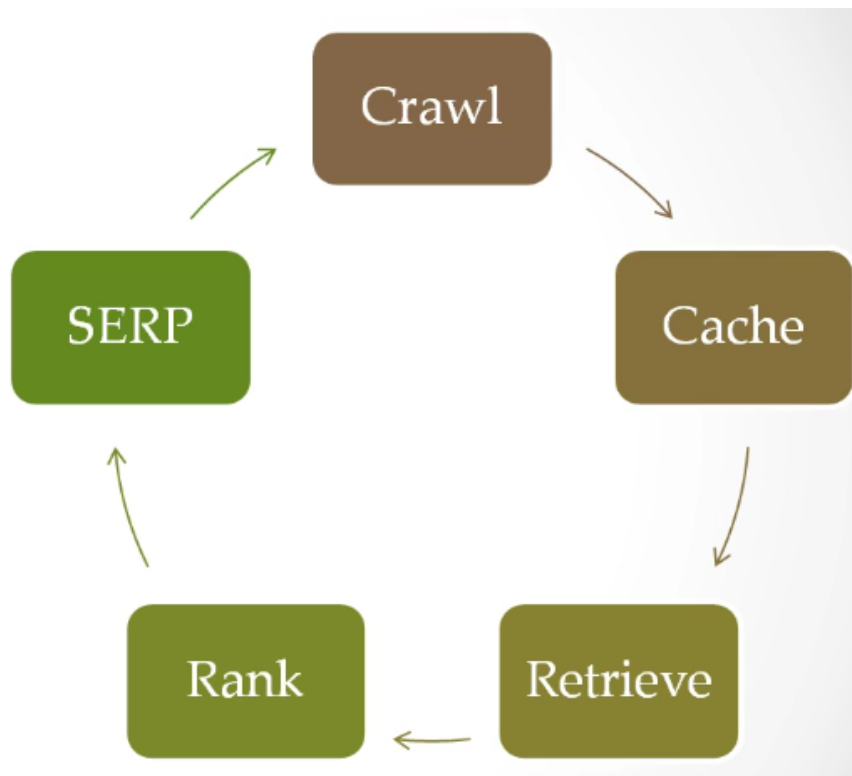
- **Crawl**: when a SE robot crawls through your site markup and decides which pages to record and rank.

- **Cache:** the process of storing copies of your pages on the SE server.

- **Retrieve:** a response by the SE to identify a set of *relevant* results for a search query.

- **Rank:** the process of applying an algorithm to order the listing of webpage results (e.g., Google PageRank algorithm).

- **SERP:** how the SE displays the results to a user on its **S**earch **E**ngine **R**esults **P**age (e.g. this could be different depending on user viewing preferences).

Brief History of SEO

1993+	1998+	2005+	2009+	2012+
Search engines & Metadata	Google backlinks & link text	Domain relevance & authority	Social discussions	Semantic SEO

Brief History of SEO

- **Early SE's had a heavy reliance on metadata.**
  - Problem: Web developers could very easily bias the results.
  - Recommendation: Check out archive.org!
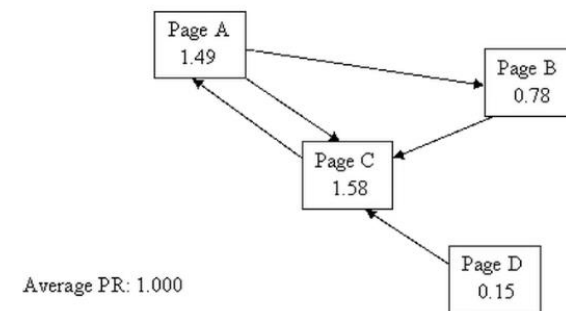
Brief History of SEO

- **The Google Approach…**
  - Score the importance of a page by looking at the link relationships
  - *In-ward* links, *out-ward* links, *reciprocal* links, *back-links*…
  - Many started to manipulate the system through "link-building"…
    - e.g. link-farms to buy link relationships

So the correct PR for the example is:

Page A 1.49

Page B 0.78

Page C 1.58

Page D 0.15

Average PR: 1.000

- **Further Reading Recommendation**
  - Paper published in 1998 by Sergey Brin & Lawrence Page
  - "The Anatomy of a large-scale hypertextual web search engine".
  - Describes the early Google SE & PageRank algorithm.

Brief History of SEO

- **Google quickly became the most influential SE…**

- Commercial sites found manipulating search results were "black-listed" by the Google search engine.

Recent SEO Influences

◆ **Google regularly changes how it's search index works**

- 2010 – complete change!

- Possibly influenced by advances in the area of social web and the need for users to have more immediate access to news.

- Overall *domain authority* was an important consideration to factor in.

  - e.g., identify what sites should have their content re-ranked immediately when new updates (possibly only hours!) are applied.

Our new search index: Caffeine

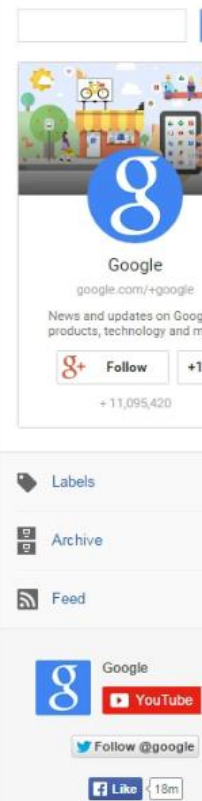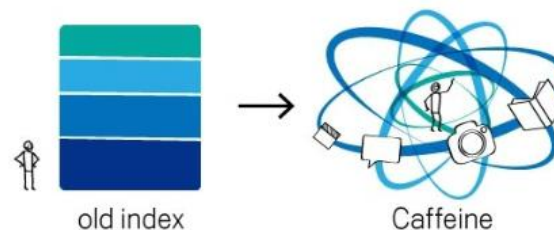Posted: Tuesday, June 08, 2010   g+1 389   Tweet 3,595   f Like 2

(Cross-posted on the Webmaster Central Blog)

Today, we're announcing the completion of a new web indexing system called Caffeine. Caffeine provides 50 percent fresher results for web searches than our last index, and it's the largest collection of web content we've offered. Whether it's a news story, a blog or a forum post, you can now find links to relevant content much sooner after it is published than was possible ever before.

Some background for those of you who don't build search engines for a living like us: when you search Google, you're not searching the live web. Instead you're searching Google's index of the web which, like the list in the back of a book, helps you pinpoint exactly the information you need. (Here's a good explanation of how it all works.)
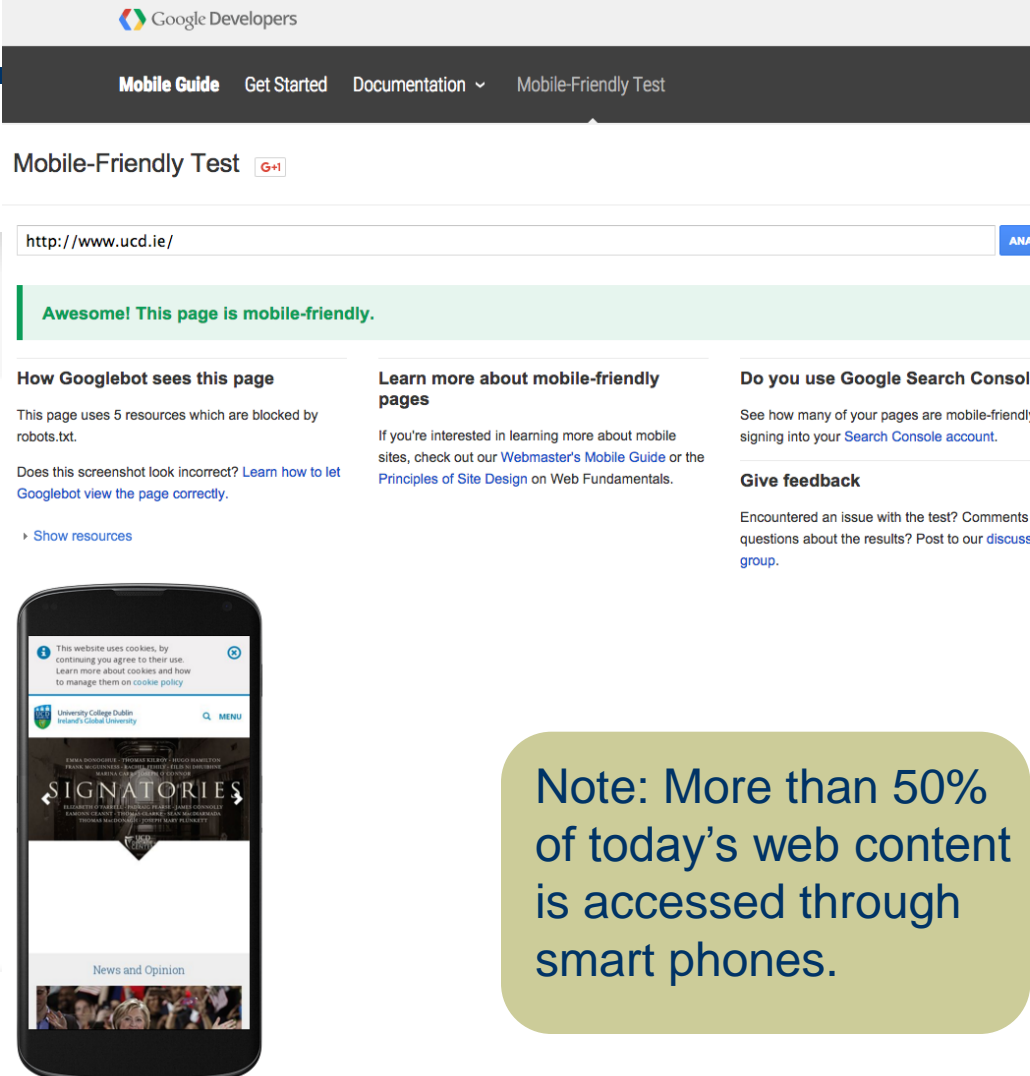
So why did we build a new search indexing system? Content on the web is blossoming. It's growing not just in size and numbers but with the advent of video, images, news and real-time updates, the average webpage is richer and more complex. In addition, people's expectations for search are higher than they used to be. Searchers want to find the latest relevant content and publishers expect to be found the instant they publish.

To keep up with the evolution of the web and to meet rising user expectations, we've built Caffeine. The image below illustrates how our old indexing system worked compared to Caffeine:

old index   →   Caffeine

Google
google.com/+google
News and updates on Goog
products, technology and m

g+ Follow   +1
+11,095,420

🏷 Labels
🗄 Archive
📶 Feed

Google
▶ YouTube
Follow @google
f Like 18m

Recent SEO Influences

- 2012 – new focus on recommending that sites are optimised for smartphones etc.

- Refer to previous lecture to learn about responsive web design features (e.g., incorporating fluid layouts, etc).

- Recommendation:
  - https://www.google.com/webmasters/tools/mobile-friendly/

Note: More than 50% of today's web content is accessed through smart phones.

Recent SEO Influences

◆ **Other Google Updates…**

- Google Panda
  - First release 2011 with a focus on quality content
  - Looks to see if your content is published anywhere else, and if it is well-written, structured, referenced, etc.
  - Objective: lower the rank of "low-quality sites" or "thin sites", & return higher-quality sites near the top of the search result list.

- Google Penguin
  - First released in 2012 with a focus on anti-spam
  - Looks for spam links and also repetition in web text targeted at biasing the search index

Different Categories of SEO

◆There are two main buckets that search engines look at when evaluating your site compared to other sites on the web.

(1) On-Site/On-Page: what is your site (or your page) about?

(2) Off-page: how authoritative is your site? How popular is it?

Put simply, **what you rank for** is largely determined by on-page factors, while **how high you rank** in the search results is largely determined by off-page factors..

On-Site SEO

- ◆ **Consideration 1:**
  - ■ *Website speed* – many free online tools.
  - ■ Try webpagetest.org or Google's *Pagespeed* test
    - – Most important is the *total load time*.
    - – Pay attention to where your users are based, what browser they use.
    - – Consider the recommendations returned to improve your website.

On-Site SEO

◆ **Consideration 2:**

■ How mobile-friendly is your site?

  – Refer back to related slides on responsive web design.

  – Recommendation: Try Google's Mobile Friendly test tool

On-Page SEO

◆ **Key Considerations…**

- Keyword research

- Page title

- Meta description

- Heading tags

- Content writing

- Alt tags & images

- Internal linking

Note: This is all stuff that <u>you</u> have control over and can change on your own website.

This is one of the reasons why it is so important to practically understand the syntax and standards around HTML mark-up.

Some pointed examples that intentionally refer back to some of the technical content covered throughout this module are included at the end of this chapter for revision purposes.

Off-Page SEO

Unlike On-page SEO, off-page SEO refers to activities outside the boundaries of the webpage. Examples are:

> (1) Link Building
> (2) Social Media
> (3) Social bookmarking

- **Key Focus:**

  - to provide a good indication on how the World (other websites & users) perceive the a website.

  - A website that is *useful* is:

    - more likely to have references (links) from other websites

    - more likely to have mentions on social media (Facebook likes, tweets, Pins, +1's etc.), and

    - more likely to be bookmarked & shared among communities of like-minded users.

How to Measure/Analyse SEO

◆ **Focus:** Analysing web traffic coming from "organic search"

◆ **Click Through Rates (CTR)**

- The ratio of users who click on a specific link to the number of total users who view a page, email, or advertisement.

- Recommendation – Check out advancedwebranking.com!

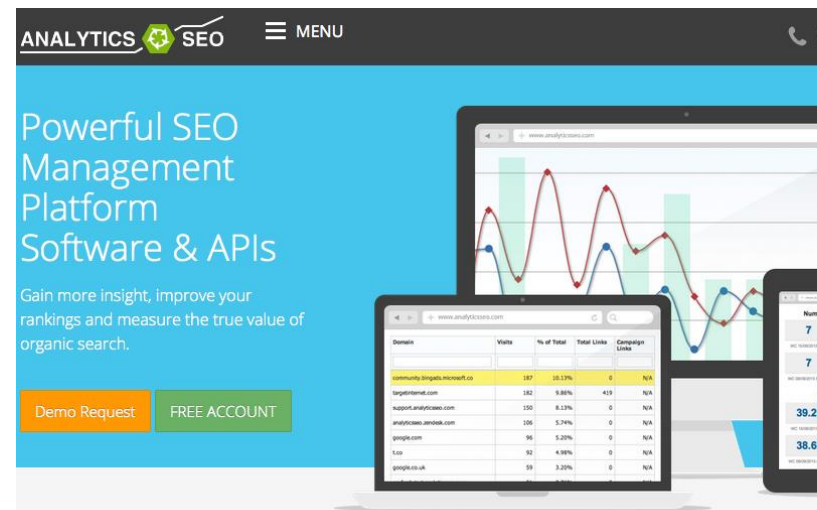- Allows you to look at effect of incorporating ads, multi-word search queries, etc and so much more.

How to Manage Your SEO

◆**Focus:** How can you measure your keyword rankings over time?

◆**Recommendation:** Analytics SEO or other similar tools.

Allows you to:

(1) monitor the rankings of your keyword phrases over time.

(2) Discover the phrases that are driving traffic to your site.

…

Concluding Recommendations

…to read through in your own time

- Have a relevant title on all your pages: site name on home page, different titles on other pages.

- Use relevant alt text on all your pictures.

- Straight-forward HTML links are preferable, not Javascript or Flash links.

- Avoid duplicate content: Google and other search engines take into account the number of links pointing to your page to determine how important your web page is. If you have identical content appearing on two different pages on your website, some sites will link to one page while others will link to the alternate page. The result is that neither of those pages will be regarded as very important in the search engine's index since you have effectively halved the links pointing to your article.

Concluding Recommendations

…to read through in your own time

- Validate your HTML and CSS.

- Take the time to create valuable Meta tags. Your description meta tag is your chance to describe what your website is about. Keep it short, and every page should have a separate description.

- Avoid frames.

- Use real headings with h1 through h6. It's also best to try to have only one h1 tag per page and have it at the top of the page. Use heading tags on the pages of your site - and use site keywords in the headings. Search-engine robots LOVE these.

Concluding Recommendations
…to read through in your own time

◆ Get linked to. Links from other sites to yours can really boost your rankings, so it's worth getting involved in forums and discussion boards and linking back to your site.

◆ Write good, clear content without typos. Content is key! Make sure that the content on your site has your site keywords in it throughout.

◆ Submit your site to Search Engines. Here are the links to the "big 3":
  ■ Google: http://www.google.com/addurl/
  ■ Yahoo: http://search.yahoo.com/info/submit.html
  ■ Bing: http://www.bing.com/webmaster/SubmitSitePage.aspx

◆ Use meaningful names for images. If you have a site on Gucci handbags and with a picture of a handbag, a file name of "gucci_handbag.jpg" will help where as "handbag123.jpg" will do nothing.