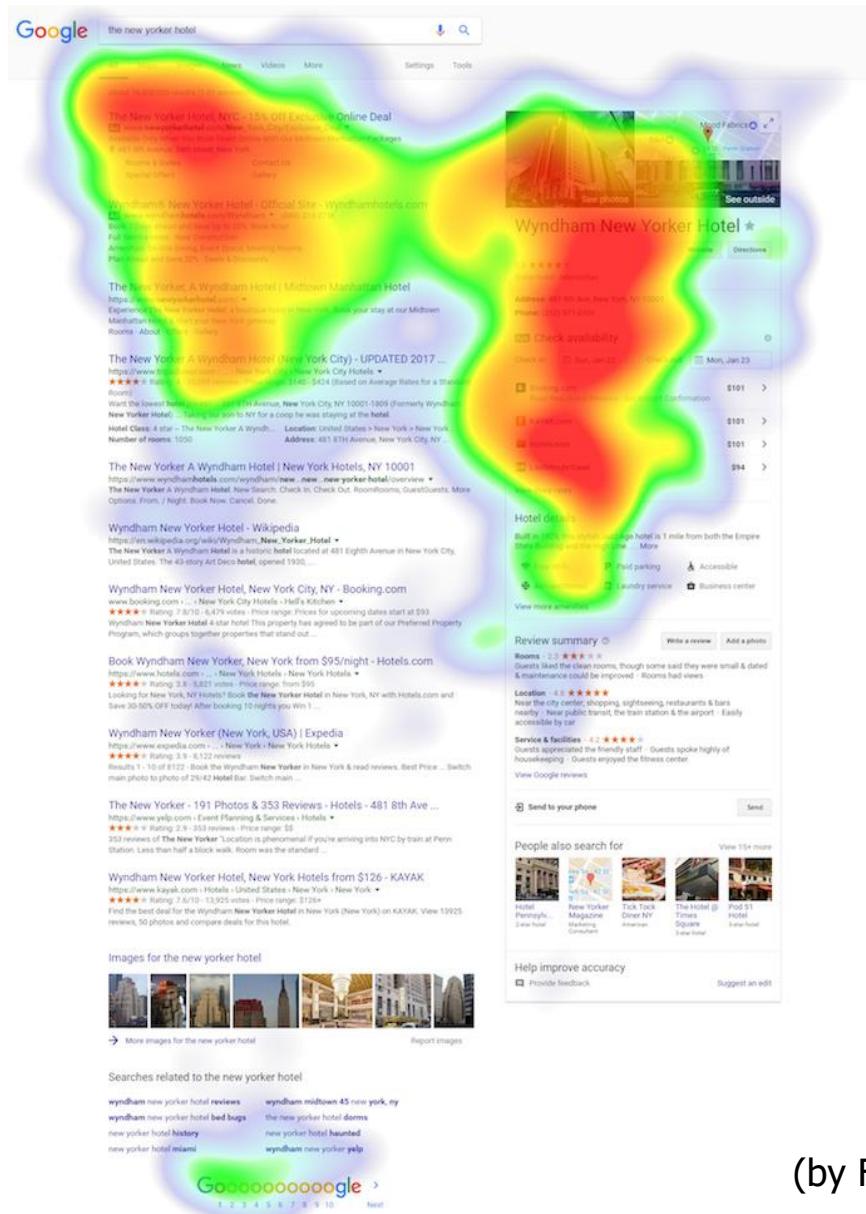


SEARCH ENGINE OPTIMIZATION

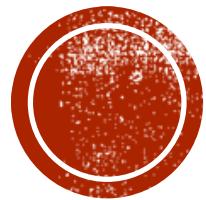
PROF. XINXIN LI



HEAT MAP OF GOOGLE SEARCH RESULTS



(by Fahrenheit Marketing)

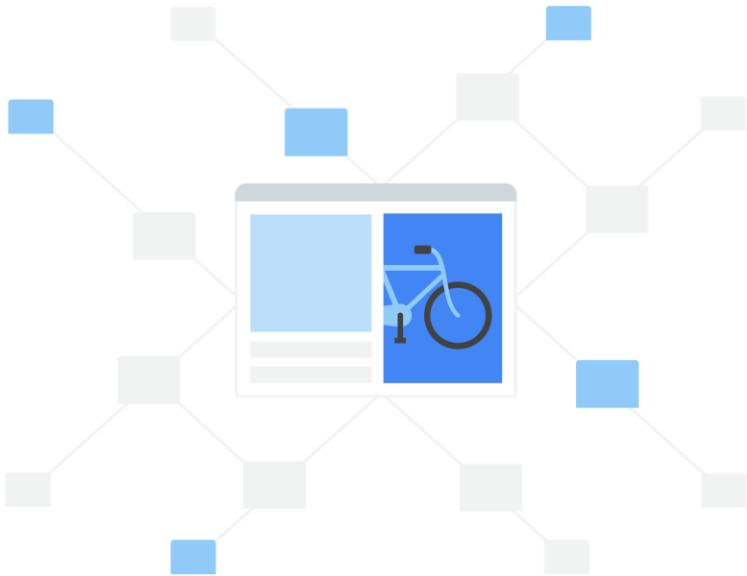


I. HOW DO SEARCH ENGINES KNOW ABOUT YOUR WEBSITE?

HOW SEARCH ENGINES (SE) WORK?

- Use special software (called a **crawler** or **spider** or **bot**) to automatically and regularly visit websites, gather the contents of web pages, and create and supplement their giant Web page repositories
- Analyze and organize the contents of the pages in a way that allows efficient retrieval (**indexing**)
- Take in a query, determine which pages match, and show the results (**ranking** and **display** of results)

HOW DO CRAWLERS FIND WEB PAGES?



- The crawling process begins with a list of web addresses from past crawls and sitemaps provided by website owners.
- As crawlers visit these websites, they use links on those sites to discover other pages.
- The software pays special attention to new sites, changes to existing sites and dead links.
- Website owners can use robot.txt file to provide instructions on the list of links they would like the robot to crawl, request a recrawl or opt out of crawling altogether

HOW TO ENSURE THAT A SE CRAWLS ALL IMPORTANT PAGES IN YOUR WEBSITE?

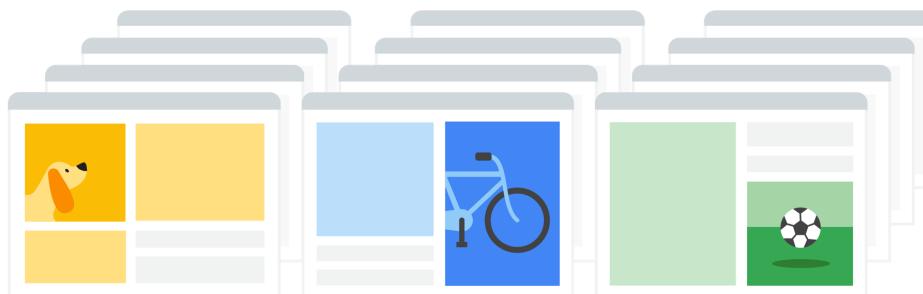
- Google-bots crawl occurs every once in a while (not daily). Typically the higher the importance of your pages, the more frequent the crawls
- Important pages in a website should be linked to each other
- Submit sitemaps through Google Webmaster
- Google still may not index all pages that it crawls
- Can use Google Indexed Page Checker to find which of your pages are indexed

A simple site search on Google with
“site:yourdomain.com”

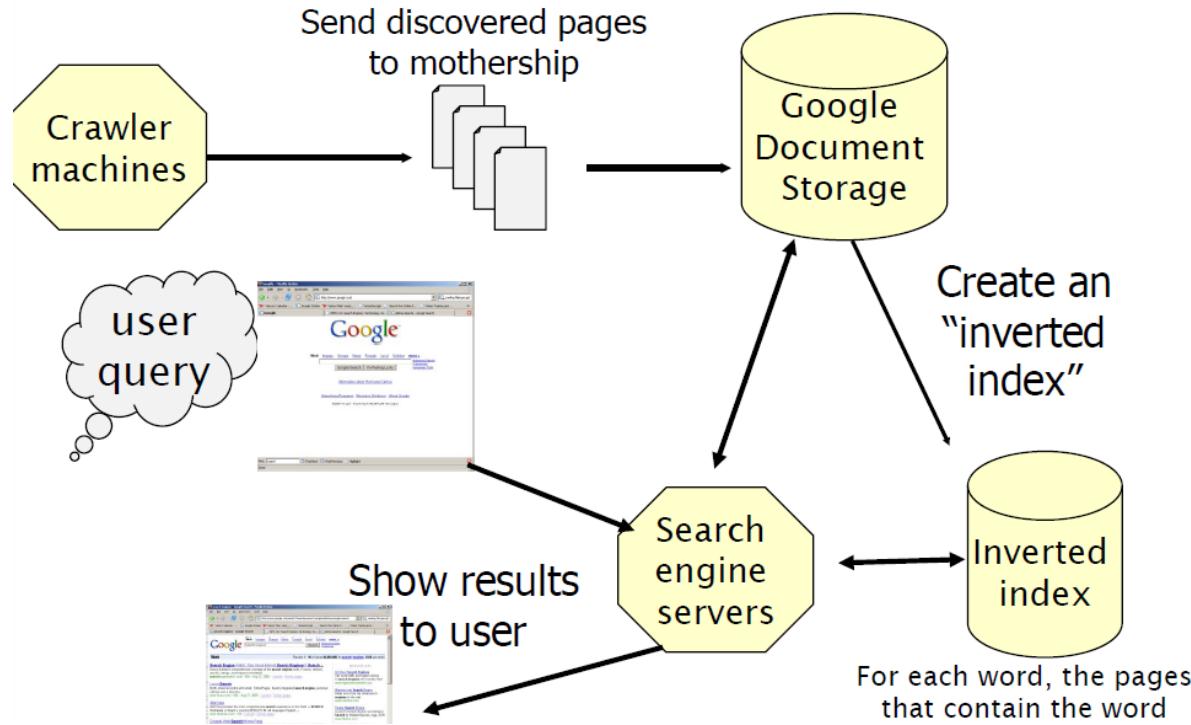
The screenshot shows a Google search results page. At the top, the search bar contains "site:seo.co". Below the search bar, there are several navigation links: All, Images, News, Shopping, Maps, More, Settings, and Tools. The "All" link is underlined. To the right of the search bar, there is a microphone icon and a magnifying glass icon. Below the search bar, the text "About 933 results (0.20 seconds)" is displayed. An orange arrow points from the text "No. of indexed pages in Google search." to the result count. To the right of the result count, there is a small box containing the text "Google promotion". The first search result is for "SEO.co | White Label SEO, Content Marketing & Link Building ...". It includes the URL "https://seo.co" and a brief description: "SEO.co is an SEO agency & link building services company, specializing in search engine optimization for improving rankings and growing traffic.". The second search result is for "SEO & Design: How to Design (or Re-design) Your Website ...". It includes the URL "https://seo.co › design" and a brief description: "Website UX/UI and design are critical for SEO success. Designing your website with SEO in mind requires technical architecture expertise. We can help. Click to ...".

INDEXING – HOW DO SEARCH ENGINES STORE AND RETRIEVE INFORMATION?

- During the first visit, the crawler does not yet know which words your page relates to. So, it records the **word architecture** – List of words in the page, which words are in title, how far they are down the page, etc.
- The crawler guesses the words that make up the theme of the page
- Then, the crawler will create the index associated with the page



PUTTING IT TOGETHER – CRAWL AND INDEX WEBSITES AND DISPLAY SEARCH RESULTS



How Search Works: <http://www.youtube.com/watch?v=BNHR6IQJGZs&feature=related>

THE SECRET OF RANKING GOES BEYOND CONTENT MATCHING

 **Monarch Watch**

Migration & Tagging

[Home](#) [Help](#) [Search](#) [Order](#)

MIGRATION & TAGGING

- [Fall Migration](#)
- [Overwintering Sites](#)
- [Spring Migration](#)
- [Tag Recoveries](#)
- [Urquhart Data](#)

[Home](#) [Help](#) [Search](#) [Order](#)

Site by [JL](#) Updated 23-MAR-04

Fall Migration Map

The Fall Migration (September - November). This figure is an interpretation of the routes taken by Monarchs during the Fall migration. The pathways are based on tag recoveries and observations of Migrating Monarchs. This graphic, together with its Spring counterpart, also appears on our "Fall and Spring Migration Patterns" large format poster.



© 1998 WWW.MONARCHWATCH.ORG

www.MonarchWatch.org
monarch@ukans.edu

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Monarch Watch (888) TAGGING - or - (785) 864-4441
monarch@ku.edu

Monarch Butterfly Migration Patterns



Which page is more relevant for the keyword, “Monarch Butterfly Migration Patterns”?

PAGE RANK (PR)

- Not only content matching (or relevance) but also popularity of page
- Named after Larry Page
- Original algorithm based on backlinks, i.e., on other webpages linking to the site

- Suppose we want to find Page Rank of X
 - Pages A, B and C have one link each to page X
 - A has 5 outbound links, B has only 1 outbound link, and C has 100 outbound links
 - Page rank of X = $(1/5) + (1/1) + (1/100)$
- Can this calculation be improved further?

PAGE RANK (PR)

- Account for relative importance of pages
 - e.g., a link from CNN.com is more important than a link from a local news site
- In the previous example, now

$$\text{Page rank of } X = (\text{PR of } A/5) + (\text{PR of } B/1) + (\text{PR of } C/100)$$

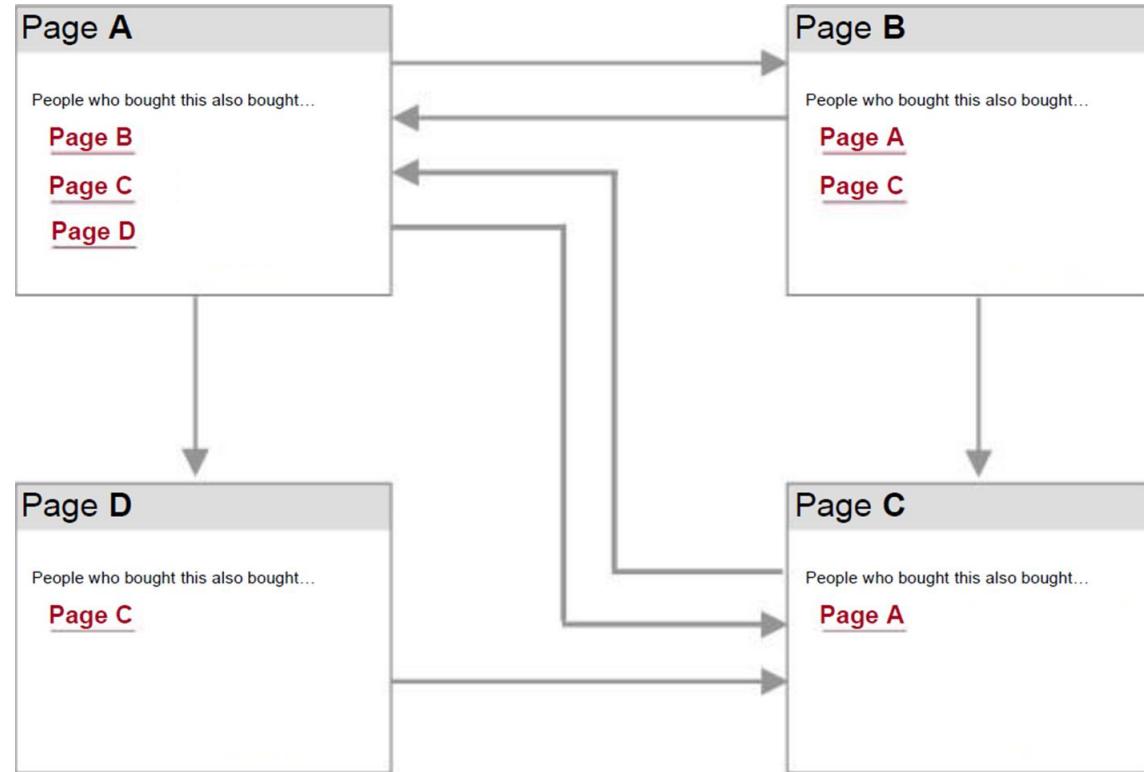
- PR uses iterative algorithm where PR calculations converge
 - Start with a seed value of PR for all pages
 - Do PR calculation iteratively
 - There is not much change in PR values after a large number of iterations
- Computation Formula:

$$PR(A) = 1 - d + d \left(\frac{PR(B)}{L(B)} + \frac{PR(C)}{L(C)} + \frac{PR(D)}{L(D)} + \dots \right).$$

↑
Page rank of B
↑
of outbound links on B

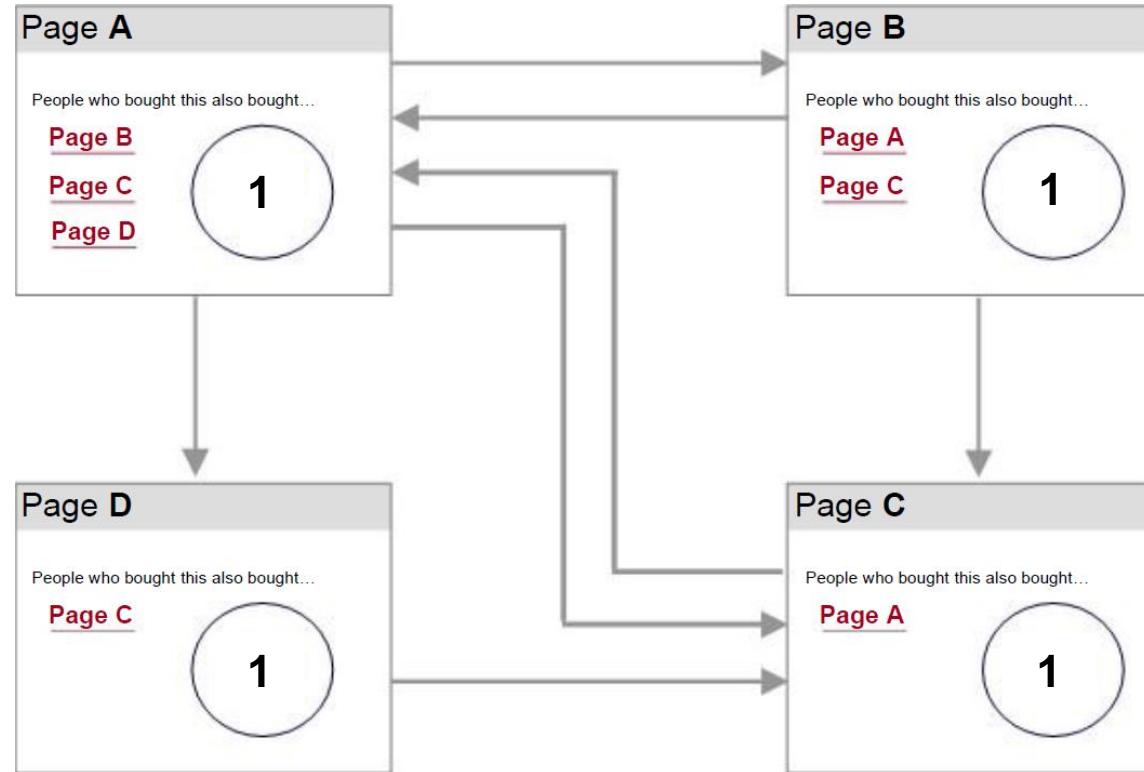
↑
Damping factor (typically set as 0.85)

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



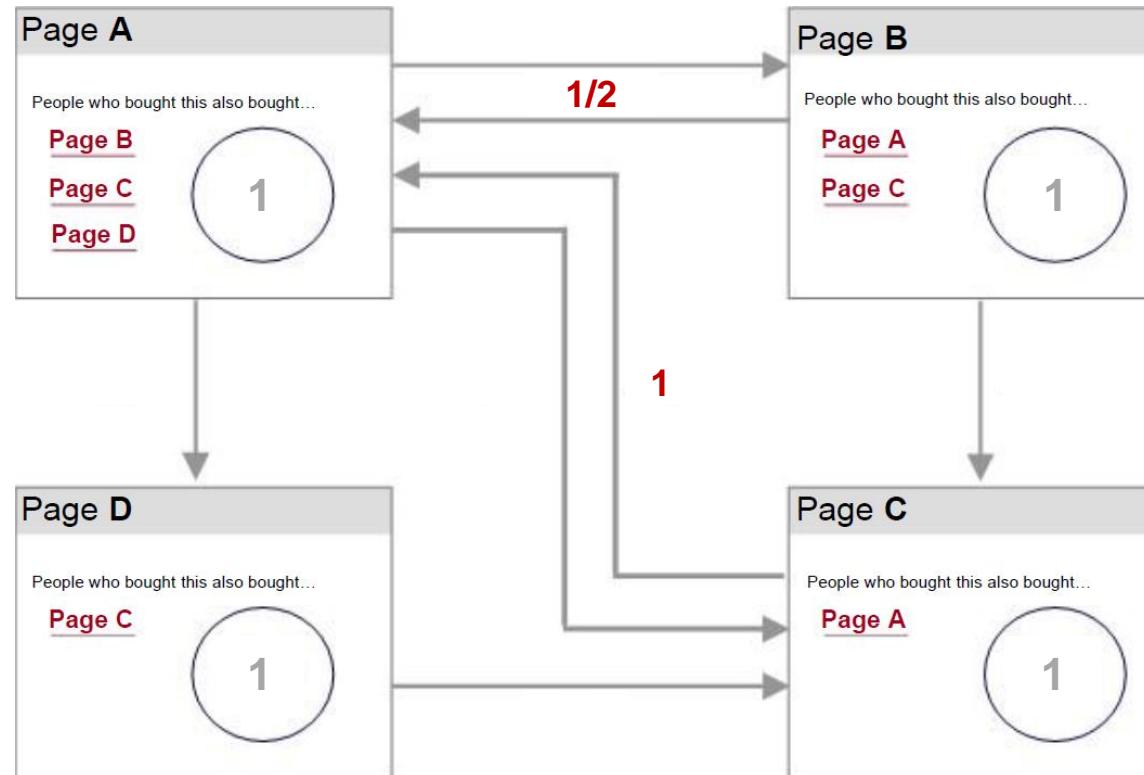
$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{\text{OutDegree}(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



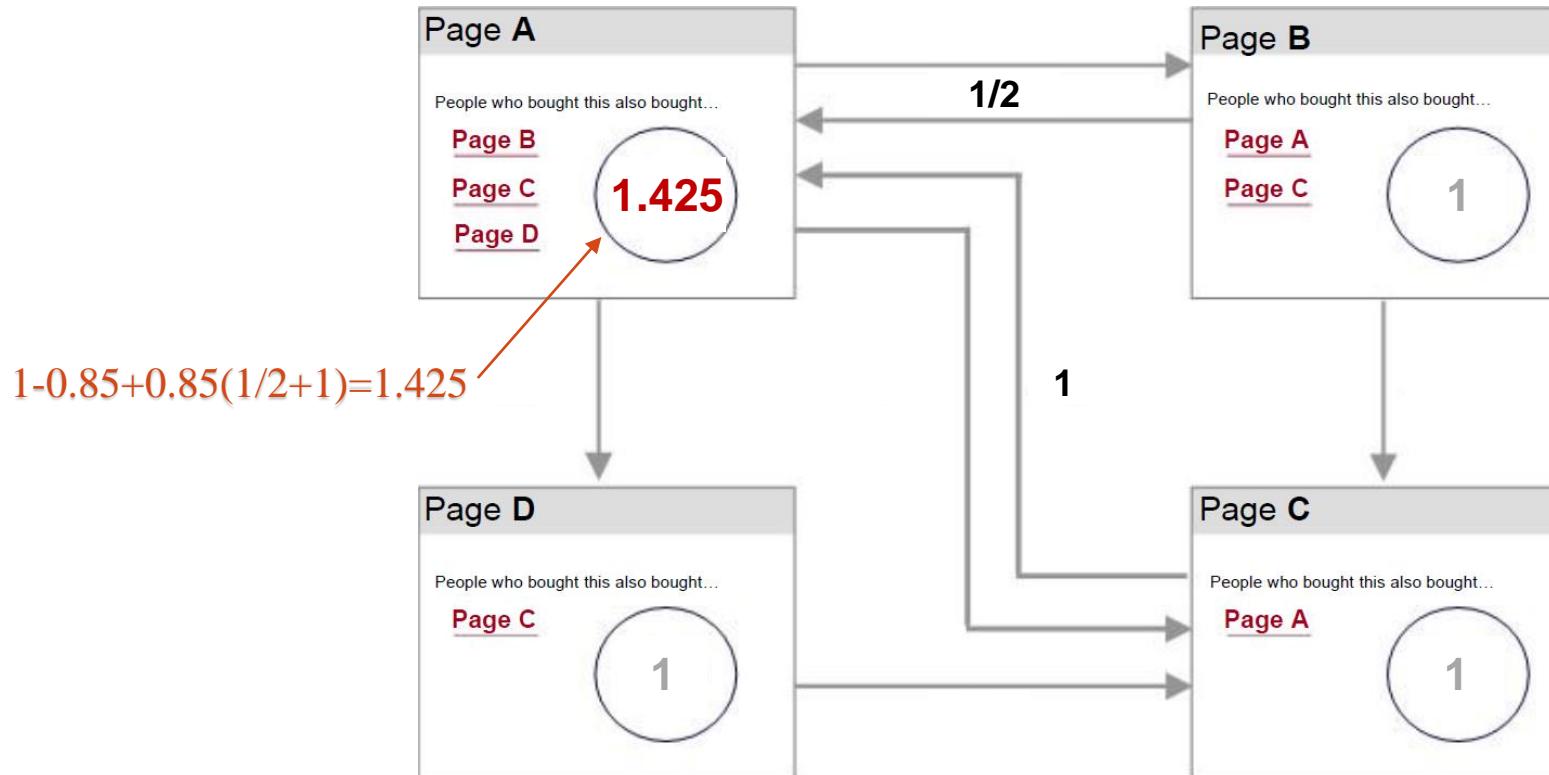
$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{\text{OutDegree}(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



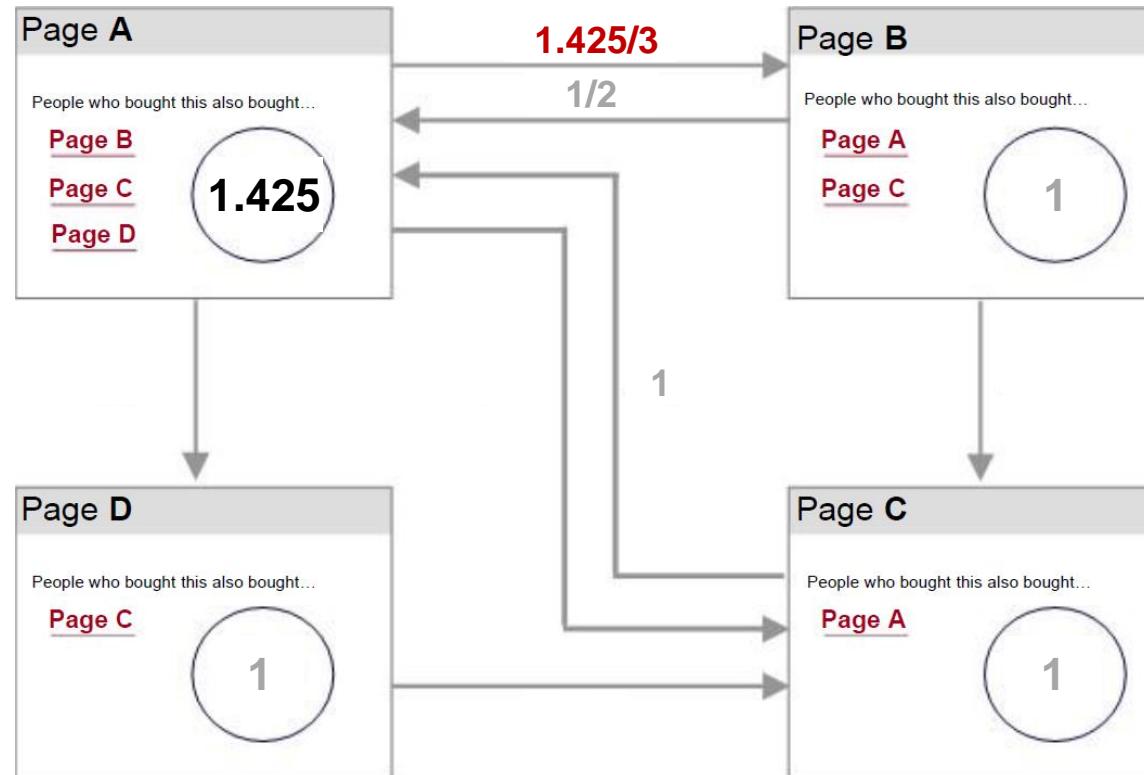
$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{\text{OutDegree}(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



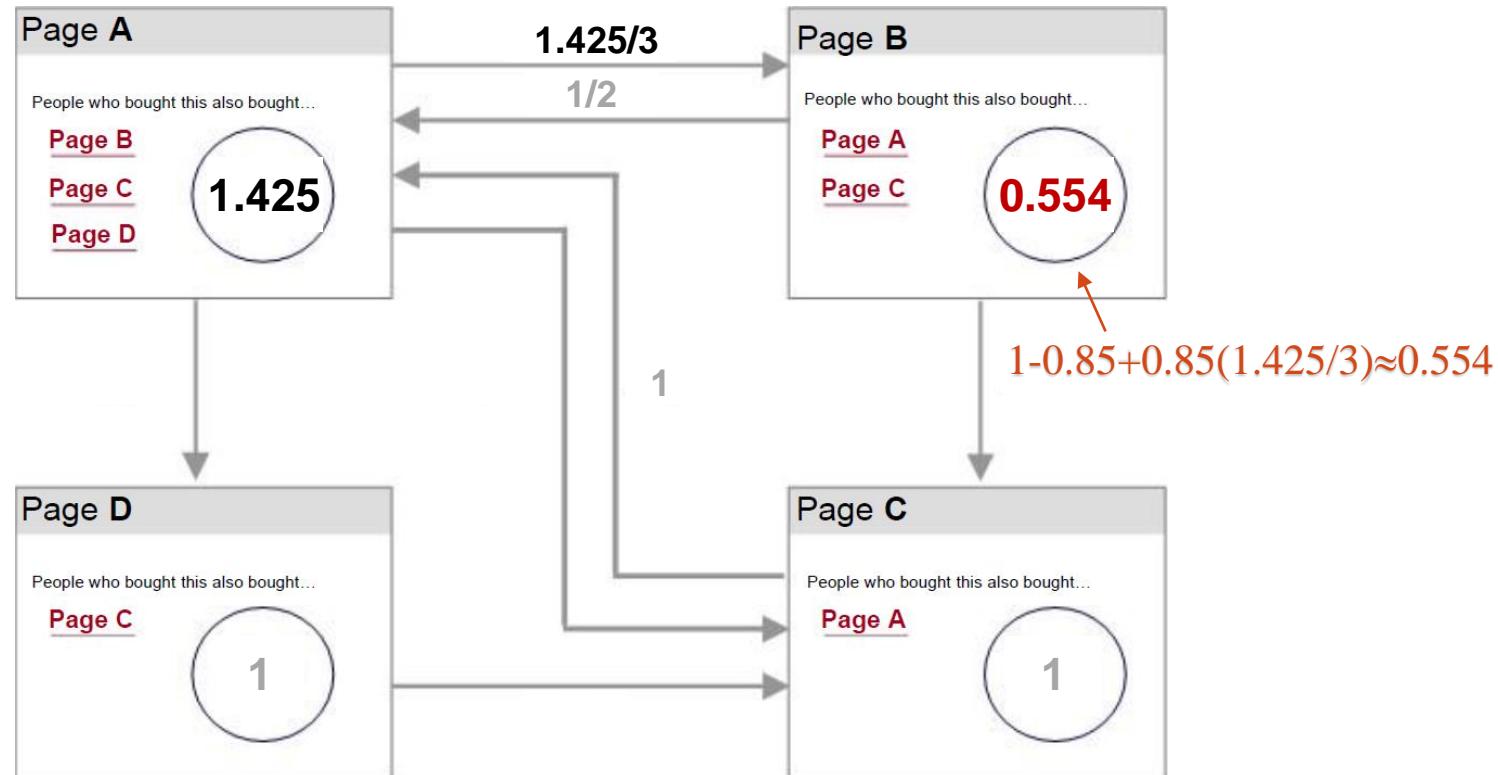
$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{OutDegree(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



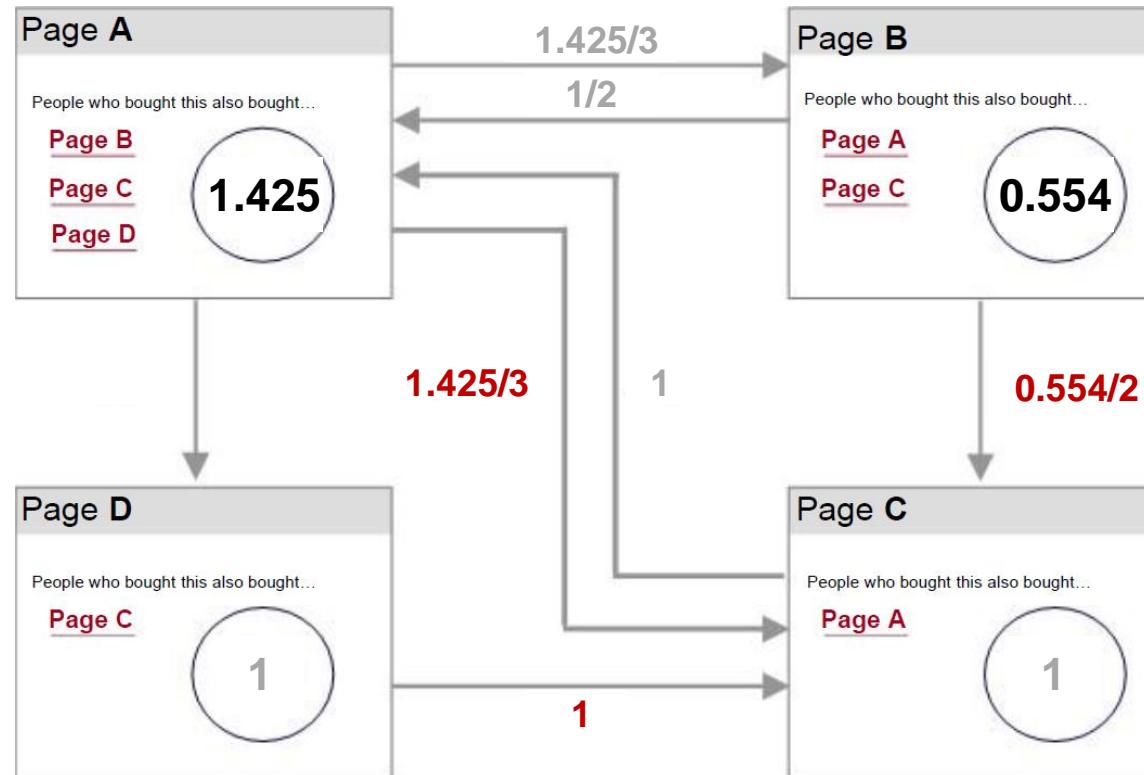
$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{\text{OutDegree}(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



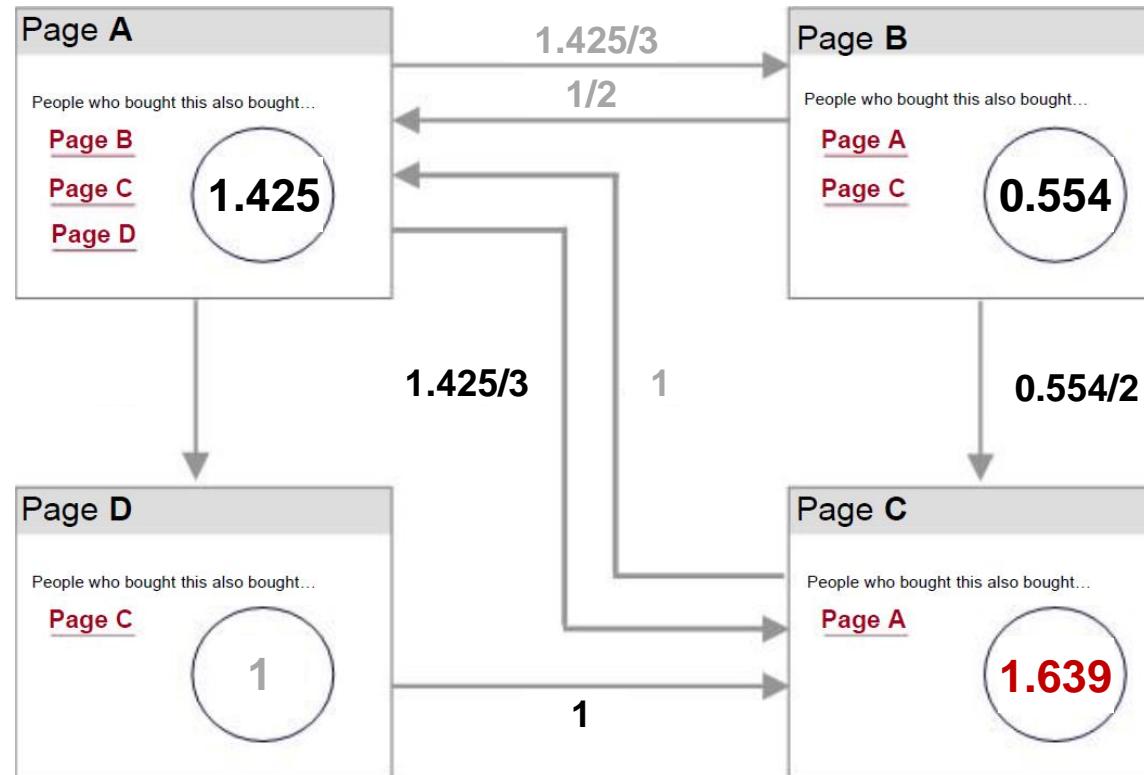
$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{OutDegree(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



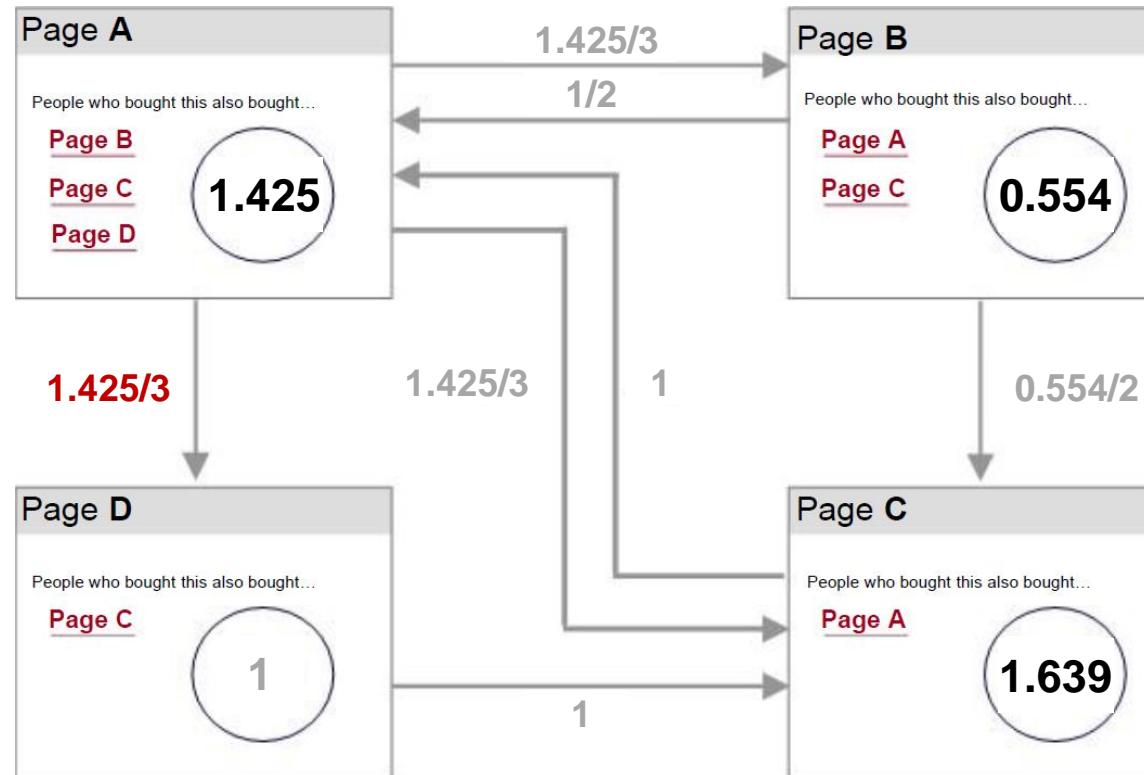
$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{OutDegree(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



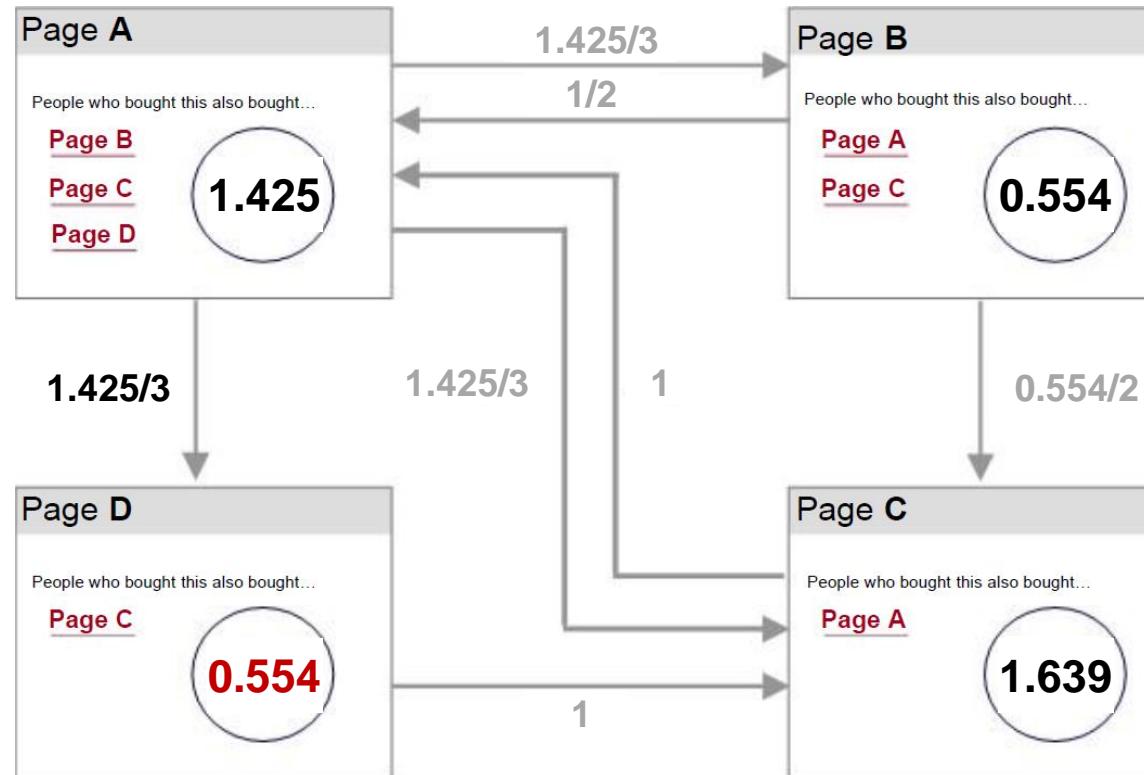
$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{OutDegree(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{OutDegree(j)} \right)$$

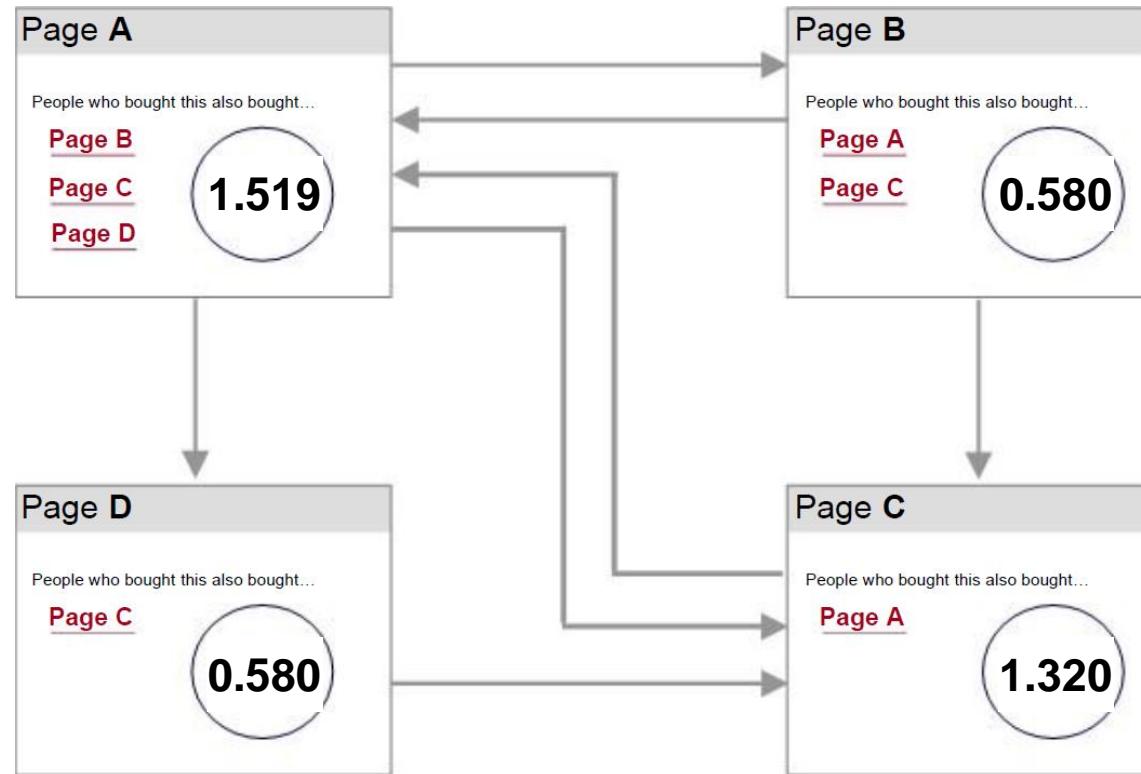
COMPUTING PAGERANK: AN ITERATIVE ALGORITHM



$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{OutDegree(j)} \right)$$

COMPUTING PAGERANK: AN ITERATIVE ALGORITHM

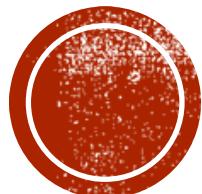
After a number of iterations...



$$PR(i) = 1 - d + d \sum_{j \in G(i)} \left(\frac{PR(j)}{OutDegree(j)} \right)$$

WHAT IS PR OF YOUR SITE PAGES?

- Once your pages are indexed, you want to know how they are ranked
- A page rank checker: <http://www.checkpagerank.net/>
- Google not sharing any information about page-ranks now – so these are just best guesses. Still good for comparisons.
- Still high page rank does not mean high rank for every search query

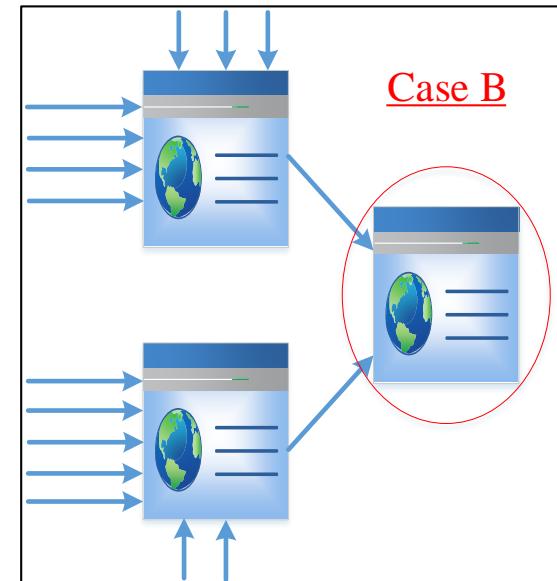
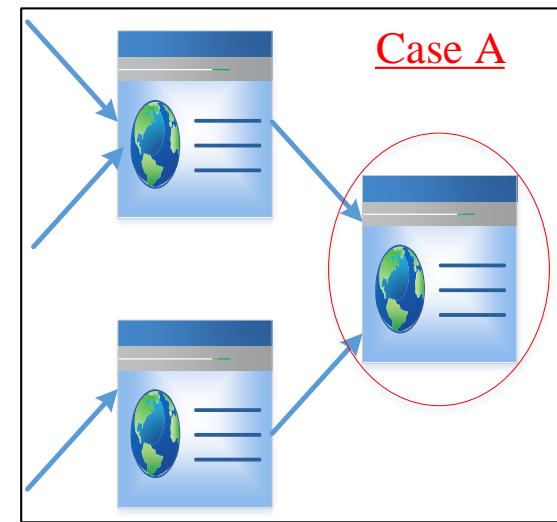


II. REFINEMENTS OF THE PAGE RANK ALGORITHM

MEASURING IMPORTANCE OF LINKING

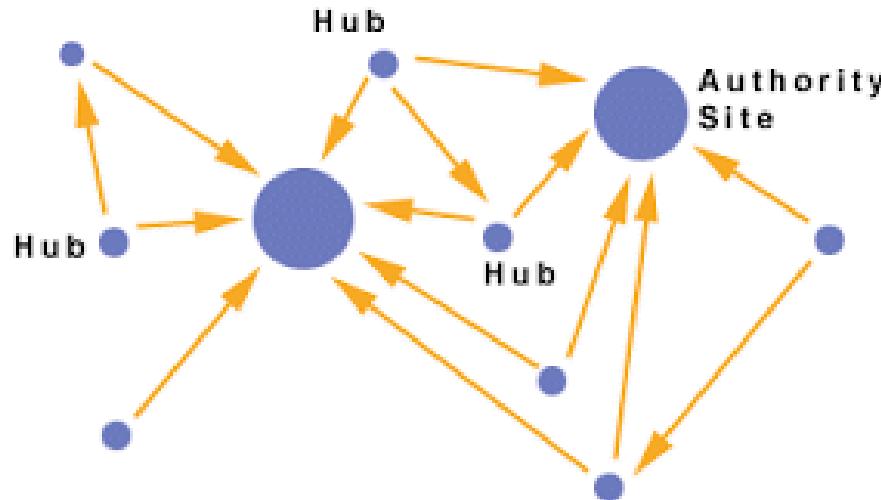
Page rank algorithm

- Idea: important pages are pointed to by other important pages
- Method:
 - Each link from one page to another is counted as “vote” for the destination page
 - The number of incoming links is important! But it is not enough!
 - But each “vote” is different! Page rank places more importance to votes that come from pages with large number of votes
- Compare, for example, the cases for the circled page in cases A and B



WHO LINKS TO YOU IS IMPORTANT

- Link from a website that is trusted – e.g., .edu, .gov, or .org
- Link relevance
 - Links that come from sites with similar topics is more important
- Link from a page on an authority site or a hub site
 - **Authority sites** are those that are linked to by most sites relevant to a particular topic
 - **Hubs** are sites that link to most important, or authority sites
 - To identify authorities, can do backlink analysis: e.g. <https://openlinkprofiler.org/>

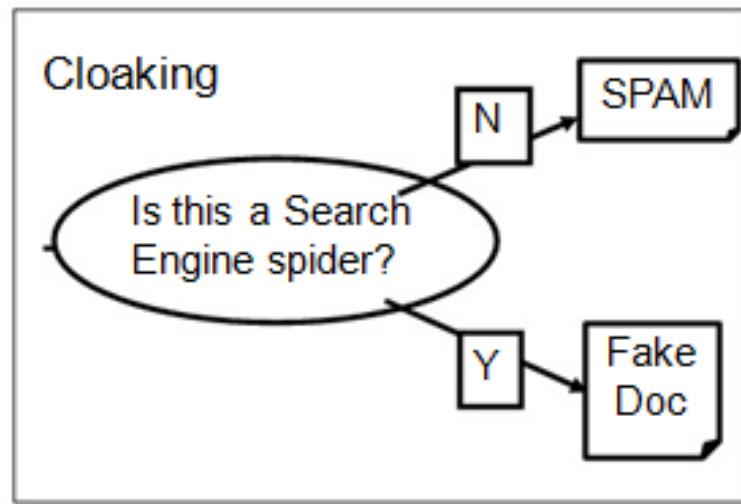


OTHER FACTORS THAT IMPACT LINK VALUE

- What about multiple links from page A to B? Do all of them count?
 - Each incremental link has lower value
 - <https://www.youtube.com/watch?v=yYWlEItizjI>
- Link freshness
- Link diversity
 - e.g., having links from one class of websites (e.g. blogs) is not good
 - Having links from different geographies is great
- When do links not count?
 - Does a display advertisement that links back to a site affect PageRank?
 - Can you think of a situation when links may not be endorsements?
 - E.g., links from blog comments, Wikipedia links, FB links

HOW CAN PAGE RANK BE LOST?

- **Link-Farms** tried to build page rank value by cross linking amongst themselves
- But now if Google sees websites that exist in tight clusters with few outside website linking to websites in the cluster, it ignores all link values flowing through the cluster
- **Cloaking:** Serve fake content to search engine robot



HOW CAN PAGE RANK BE LOST?

- **Keyword Spam:** Misleading meta-keywords, excessive repetition of a term, fake “anchor text”
 - **Anchor text:** the clickable text with an hyperlink

Anchor text usually gives the user relevant descriptive or contextual information about the content of the link's destination. The anchor text may or may not be related to the actual text of the **URL** of the link. For example, a hyperlink to the English-language Wikipedia's homepage might take this form:

```
<a href="http://en.wikipedia.org/wiki/Main_Page">Wikipedia</a>
```

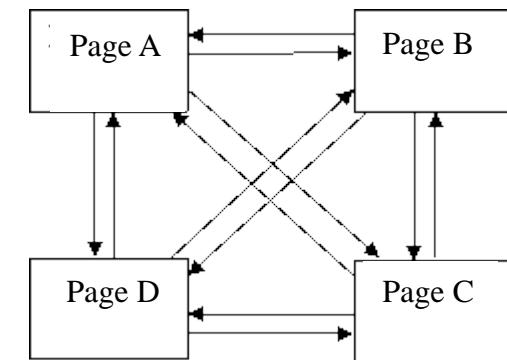
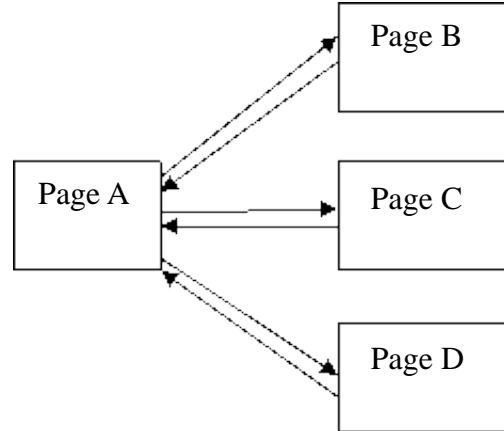
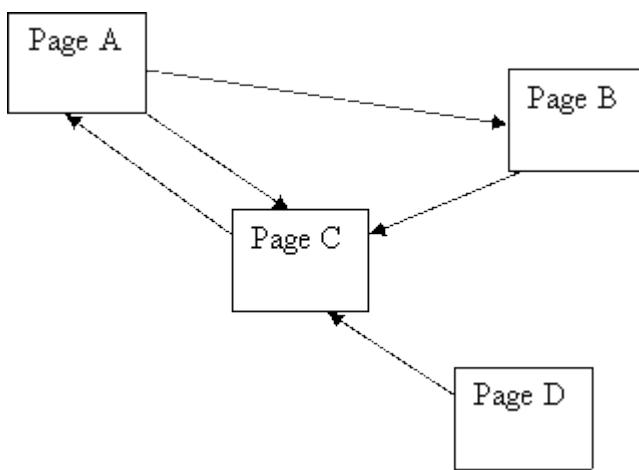
"Wikipedia" is the anchor text in this example. The URL it points to is `http://en.wikipedia.org /wiki/Main_Page`. The entire hyperlink appears on a web page as [Wikipedia](#).

- Used by Search Engine to understand what the linked page is about
- This led to google bombs – search for “miserable failure” and see for yourself
- Since 2012, Google looks for unnatural patterns and puts penalties – means it is useful but do not overdo it – Google should think it is natural

- **Sell links to pass page rank**

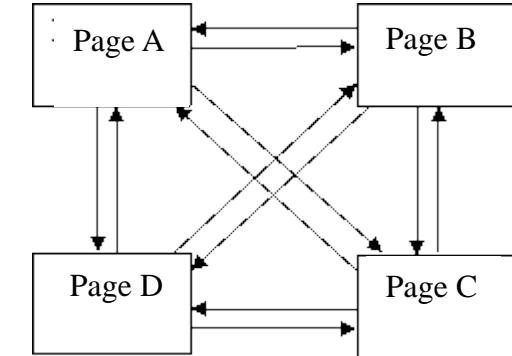
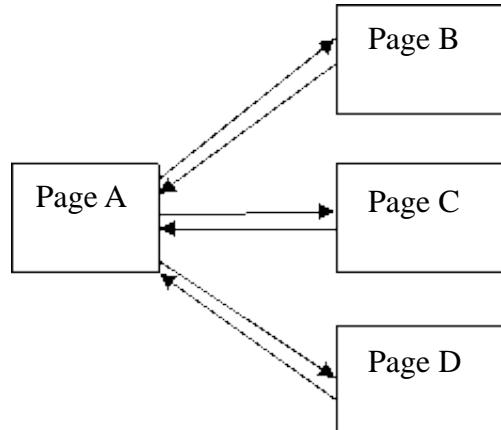
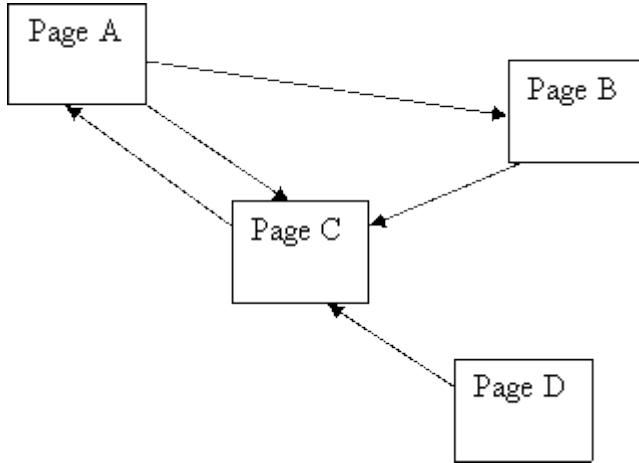
WHAT ABOUT THE INTERNAL LINK STRUCTURE OF A WEBSITE?

- The total link value of your website depends on links it receives from independent third party sites
- The internal link structure of your website then allocates this total link value within different pages
- How will you arrange link structure to give equal PR to all? or give maximum PR to specific page (e.g. page A)?



https://web.archive.org/web/20160129054824/http://www.webworkshop.net/pagerank_calculator.php

WHAT ABOUT THE INTERNAL LINK STRUCTURE OF A WEBSITE?



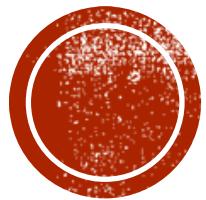
	A	B	C	D	PageRank
A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.4901074
B	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.7832956
C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.5765969
D	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.15

	A	B	C	D	PageRank
A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.9189189
B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.6936937
C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.6936937
D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.6936937

	A	B	C	D	PageRank
A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.0
B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.0
C	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1.0
D	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.0

KEY POINTS

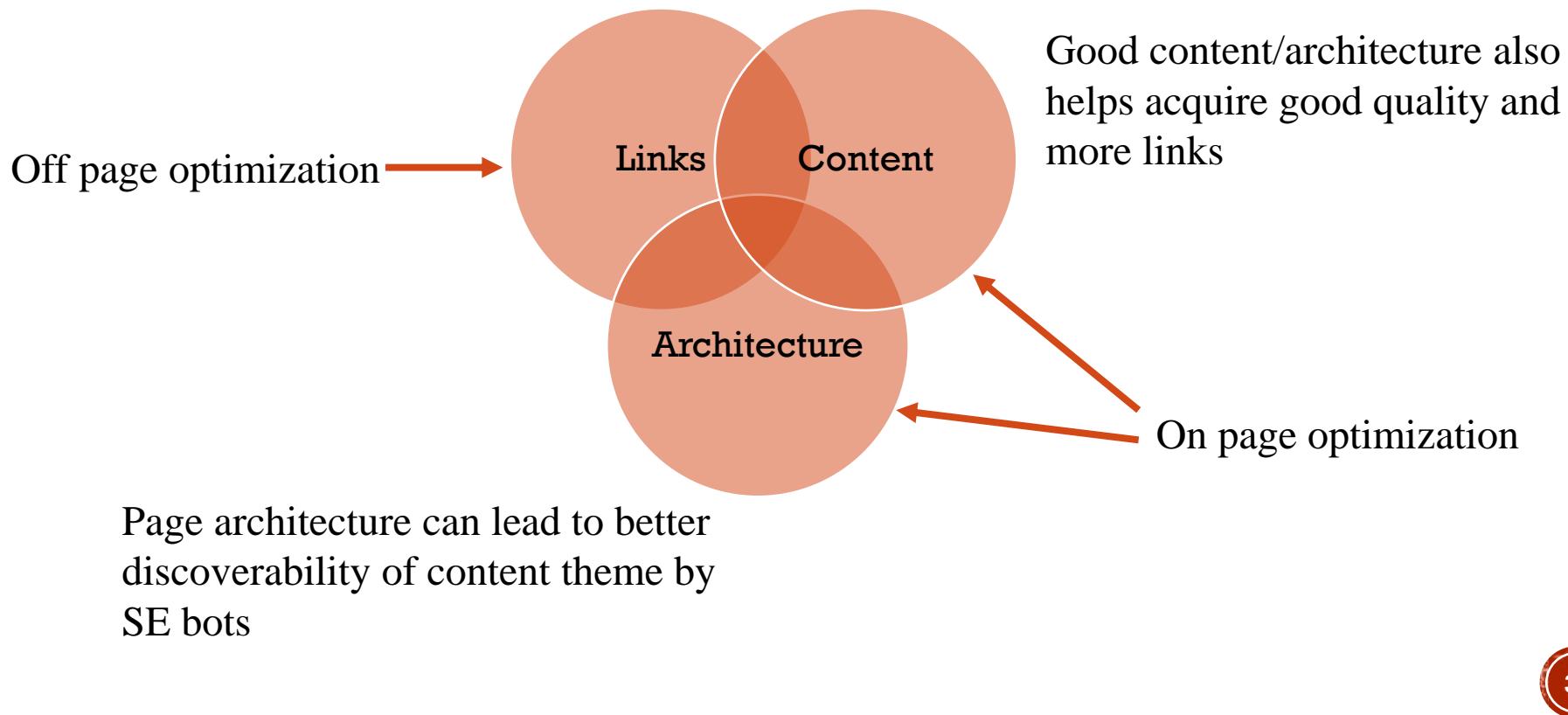
- If you want to concentrate the PR (Page Ranking) into one or a few pages then use hierarchical linking.
- If you want to average out the PR amongst the pages then “fully mesh” those pages (lots of evenly distributed links).
- Getting inbound links to your site is the only way to increase your site's overall PR. But, internal link structure may help manipulate PR of important pages
- Internal linking may be used as a way to ascribe importance to pages other than the home page
 - Internal linking is also important for crawler navigation and user navigation



III. SEARCH ENGINE OPTIMIZATION (SEO)

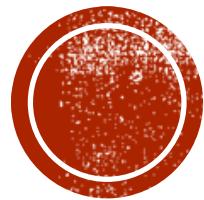
GETTING A HIGH RANK ON SEARCH RESULTS

- This objective relates to getting a high page rank, which can be achieved by
 - Search engines being able to discover and index the quality of your content & high quality websites pointing to your website
- SEO helps achieve both objectives



HOW TO BUILD LINKS TO YOUR WEBSITE?

- Create content to earn links: on page optimization
- Employ strategies to get links fast: off page optimization
- Example: www.net-a-porter.com,
 - A UK-based online multi-brand luxury fashion retailer established itself as a benchmark in the creation of high fashion editorial.
 - Its generation of unique fashion content has more than 500,000 links from other websites and more than 110,000 followers on Facebook.
 - It has gone from a complete unknown to one of the world's leading luxury goods conglomerates.



III.1 CREATE CONTENT TO EARN LINKS

SEO PRINCIPLES FOR CONTENT CREATION

- Get ideas for content creation through
 - Backlink Research
 - Keyword Research
- Uniqueness of content helps a lot, so find gaps in content through your research
- Once you have identified a few niches, have a plan to provide multiple pieces of content and maximize the value of your content by presenting it in different formats

BACKLINK RESEARCH FOR CONTENT IDEAS

- How many links do your main pages have? Where are your current links coming from? What type of content do these websites have?
- Where are your competitors' current links coming from? What kind of content do those websites have?
- From what sites would you want links? What content would you need to achieve your objective?
- Some tools:
 - Backlink analysis: <http://openlinkprofiler.org/>
 - Visibility to SE: <http://www.browseo.net/>
 - Extent of duplicate content: <http://www.siteliner.com/>
 - Technical performance: <https://website.grader.com/>

FINDING RELEVANT KEYWORDS

- Finding keywords that **customers are using** to come to your site
 - Use Google Search Console Report from Google Analytics Account
 - Use Keyword reports from your Google Analytics Account
 - Keywords used in internal site searches are also useful. Use Google Analytics Site Search Report
- Performing **keyword density analysis** of your main site pages
 - <https://www.prepostseo.com/keyword-density-checker>

CONTENT IDEAS BY EXPANDING RELEVANT KEYWORD SET

- Finding Keywords that **you aren't exploiting**. Many of these are likely to be long tail keywords
 - <https://app.wordtracker.com/>
 - Prioritize potential keywords based on search volume and competitiveness (i.e. those for which competition does not rank high)
- Identifying content with high potential keywords that people are using to go to your competitor's site
 - Can be done through site analysis (e.g. tag analysis and keyword density analysis)
 - <https://www.spyfu.com/>
- Add more content ideas by considering keyword ideas
 - From your business team
 - From industry, how media describes your industry, what keywords are used by industry associations

INTENT IN KEYWORDS

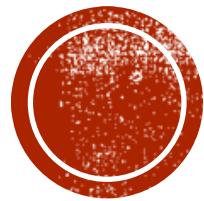
- Google Hummingbird update was made to understand the intent of a search and match it with the theme of a page
 - Exact match of the query with the content of page became less important
- Idea of co-occurrence analysis
 - e.g., if words of “shoe” and “sale” co-occur on page (not necessarily adjacent), SE interprets the theme of the page as of e-commerce. So, this page is a good match if someone is looking for “buy shoes”
- Co-occurrence of two separate search queries is also important
 - e.g. if query “women’s shoes” co-occurs with query “buy shoes online”, then SE will interpret that even “women’s shoes” is likely to have an e-commerce intent and show those kinds of results
 - context of search becomes more important than exact KW

CO-OCCURRING KEYWORDS

- Finding keywords that co-occur with your existing keywords and that you aren't exploiting
 - <https://visuwords.com/>
 - Google Autocomplete
 - www.soovle.com (combines suggestions from several platforms)
 - www.google.com/trends

BEST PRACTICES IN CONTENT DEPLOYMENT

- Prioritize based on comparisons of keyword popularity by regions and cities
- Identify personas for your business based on keywords you have chosen and write for them
- Discover what type of content works best on social media: <http://buzzsumo.com/>
- Use catchy titles
- The efficient use of blogs – “engaging and frequent” is the key
- Avoid content thin pages
- Avoid duplication of content
- Avoid keyword cannibalization – do not create content targeting the same keyword on multiple pages. There should be clear mapping between specific keywords and pages.



III.2 GETTING LINKS QUICKLY

GETTING LINKS FAST

- Linkbait, or Link attraction strategies
 - Checklists, How-tos
 - Personality tests, Quizzes
 - Contests

The screenshot shows a website with a navigation bar at the top: "100+ WAYS TO CONSERVE", "KIDS", "RESOURCES", "JOIN THE CAUSE", and "NEWS & EVENTS". Below the navigation is a section titled "100+ WAYS TO CONSERVE" with a sub-section "When it comes to conserving water, small adjustments can have a big impact. Here you can sort through nearly 200 water-saving tips, download and print tip posters, or share your favorites on social media." There are two main sections of tips:

- #04** IF YOUR DISHWASHER IS NEW, CUT BACK ON RINSING. NEWER MODELS CLEAN MORE...
- #171**
- #105** SIGNS OF OVERWATERING: LEAVES TURN LIGHTER SHADES OF GREEN OR...
- #100** LOOK FOR WATERSENSE® LABELED IRRIGATION CONTROLLERS.
- #21** HAVE A PLUMBER RE-ROUTE YOUR GREYWATER TO TREES AND PLANTS...
- #07** USE THE GARBAGE DISPOSAL SPARINGLY. INSTEAD, COMPOST...
- #118** USE A POOL COVER TO HELP KEEP YOUR POOL CLEAN, REDUCE CHEMICAL...
- #58** AT HOME OR WHILE STAYING IN A HOTEL, REUSE YOUR TOWELS.

The screenshot shows a blue-themed landing page for the "Politics Test". At the top is the OkCupid logo and a "Sign in" button. Below is a section titled "The Politics Test" with a "Take Test" button. To the right, there's a heading "Brand New In 2008". The central part of the page features a collage of political figures and labels: "Capitalist", "Libertarian", "Fascist", "Republican", "Centrist", "Democrat", and "Pretty legit". Below the collage is the text "FIND YOURSELF". The right side of the page contains a block of text about the test's purpose and a quote from mathematicians.

The Politics Test

Take Test

Brand New In 2008

We Americans can be **bullheaded** and judgmental in an election year. We can also be closed-minded and insulting and dinky. All this just because we disagree about policy, when in reality we make great neighbors.

Of course, since you're here to take the Politics Test, we know you're open-minded. It's to you, the self-aware and self-probing, that we dedicate this test.

The Politics Test is impartial, written by mathematicians who run a free dating site ([us](http://www.OkCupid.com)), and it explores your economic

<https://wateruseitwisely.com/100-ways-to-conserve/>

useful info to support a cause

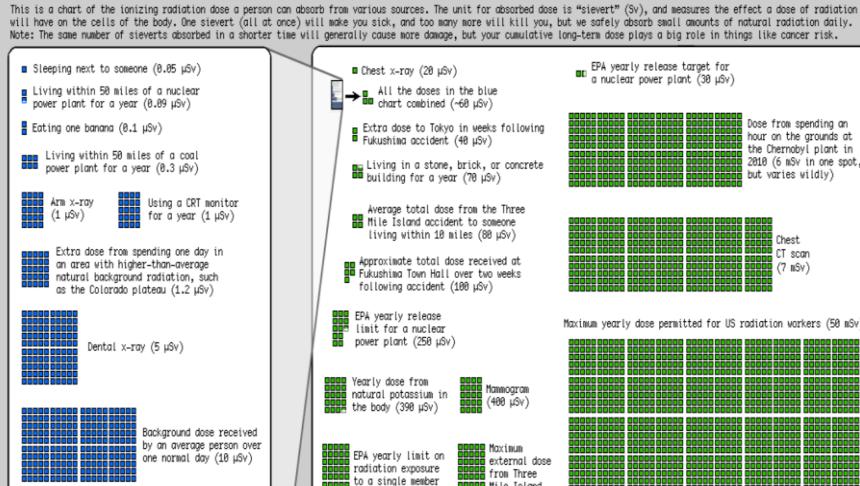
<http://www.okcupid.com>

personalized test

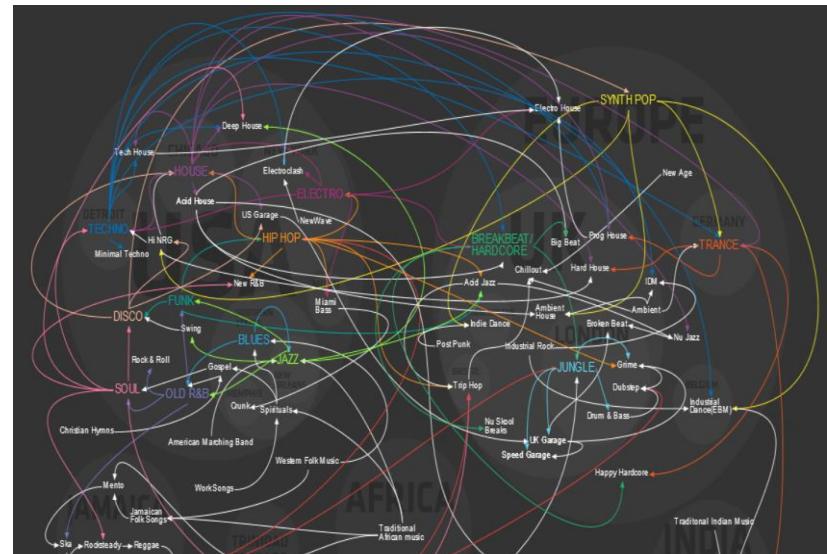
GETTING LINKS FAST

- Linkbait, or Link attraction strategies
 - Clear guidance
 - Quick, actionable information
 - Cool visualization

Radiation Dose Chart



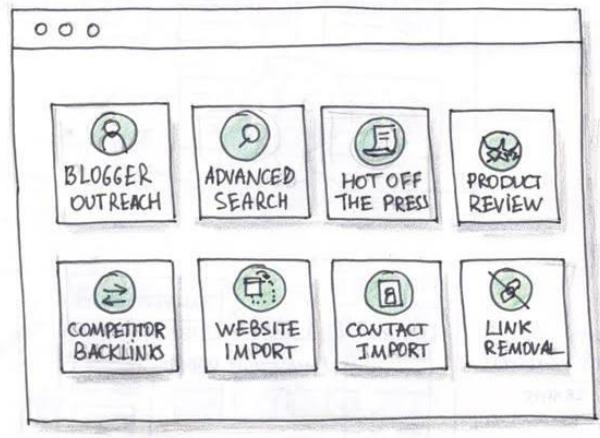
Radiation Dose Chart:
<http://xkcd.com/radiation/>



Thomson's Evolution of Music: how music has traveled over the past 200 years

GETTING LINKS FAST

- Content Syndication
 - Include a link to your original post before third-party sites republish your post
- Leverage user generated content
 - Open up a forum on your website
 - Launch a blog and invite third party contributors with their own blog
- Develop relationships with major influencers
 - Identify and manage major influencers
 - <http://home.kred/>
 - <https://www.grouphigh.com/>
 - <http://pitchbox.com/>
 - Guest post on your site
 - Interviews



GETTING LINKS FAST

- Traditional media links: newspaper, magazines, editorial links
- Press release links
 - Embed links in anchor text
 - Try to put URL of your site in first few lines
- Forum links: replies on Q&A sites, e.g., Quora
- Social media links are typically not counted
 - No direct effects on ranking, but there are strong branding effects
- YouTube videos don't get you direct links, but again have strong branding effects

WHAT DOES NOT WORK IN GETTING LINKS?

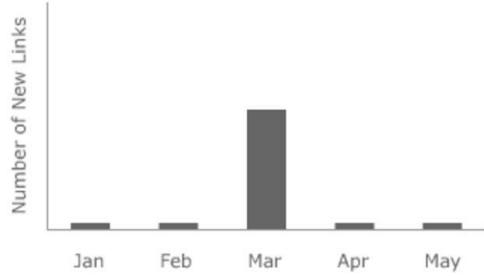
- Purchasing links
 - Ads are fine but must be implemented with *nofollow* links
- Swapping links
 - Some of this is natural, but too much of a good thing is bad
- Low quality links are bad, get rid of them. Beware of Negative SEO
 - Use Google's and Bing's disavow tools e.g.
<https://www.google.com/webmasters/tools/disavow-links-main>

Disavow links

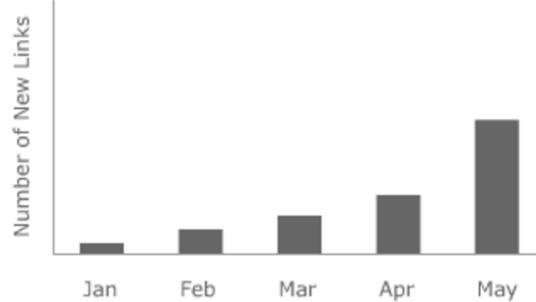
If you believe your site's ranking is being harmed by low-quality links you do not control, you can ask Google not to take them into account when assessing your site. You should still make every effort to clean up unnatural links pointing to your site. Simply disavowing them isn't enough. [More information.](#)

[DISAVOW LINKS](#)

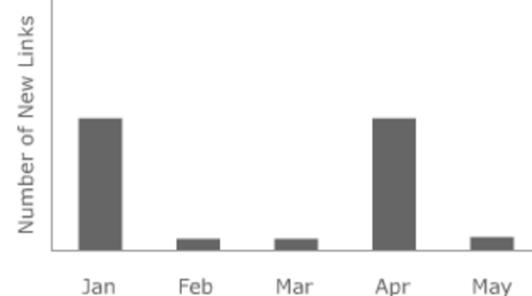
TRACK LINK PATTERNS OVER TIME



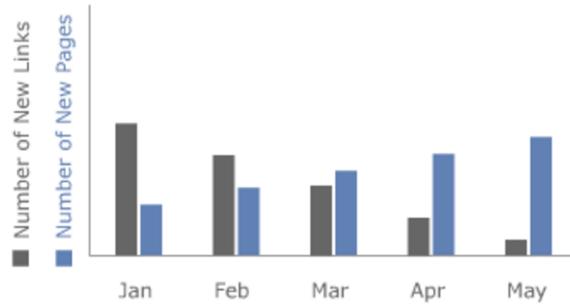
Linkbait? A big news story? A large link purchase? A sensation in the blogosphere?



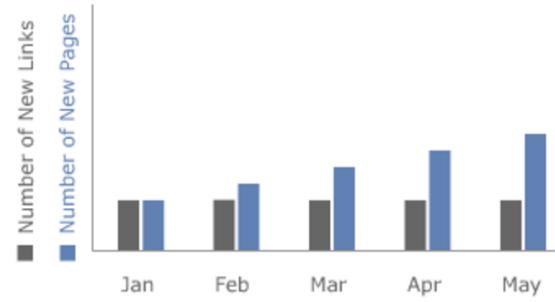
A site that's getting more popular over time & growing in reach?



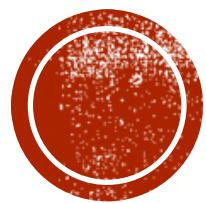
Inconsistent Link Trends? Cyclical relevance?



Despite more content, relevance or appeal may be declining



The new pages aren't increasing link numbers, a potential sign of stagnancy



III.3 MORE CONSIDERATION



WHICH IS MORE IMPORTANT, LINK BUILDING OR CONTENT?

<http://www.youtube.com/watch?v=qXgni6U6qk8>

MORE FACTORS DETERMINING RANKS – GOOGLE PANDA UPDATE

- Penalty for heavy ad footprint
- Content duplicated from other sources on the Internet
- Content freshness and Grammar
- Do people hit “back” button after reaching site from a search results page
- Where do outbound links point to?

MOBILE SEO

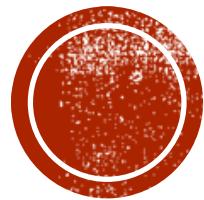
- Do we get different results when we search in mobile phone?
- Yes, sometime you will get different results. Why?
 - Different Bots – Googlebot-Mobile
 - Different algorithms
 - Handsets/Browsers can impact results
- A Mobile Sitemap can be submitted using Google Webmaster Tools, just as in standard case

BOTTOM LINE

- The key of SEO
 - Your Web site is an Authority
 - Your content is relevant to keywords
 - Not quick, be patient
 - Understand target audience
- What SEO is NOT
 - Search Engine Submission only
 - “Submit your website to 5,000 search engines”
 - An overnight process (typically takes 3-4 months to show significant results)
 - A one-time process (in many cases requires a continual, long-term focus for best results)

GETTING UPDATES ON WHAT SEARCH ENGINES ARE DOING

- Google inside search blog
<https://www.google.com/intl/es419/insidesearch/>
- Bing search blog
<https://blogs.bing.com/search>
- Google Webmasters blog
<https://webmasters.googleblog.com/>



IV. INTERPLAY BETWEEN SEO AND SEM

PAID ADS PLACEMENT VS. ORGANIC SEARCH

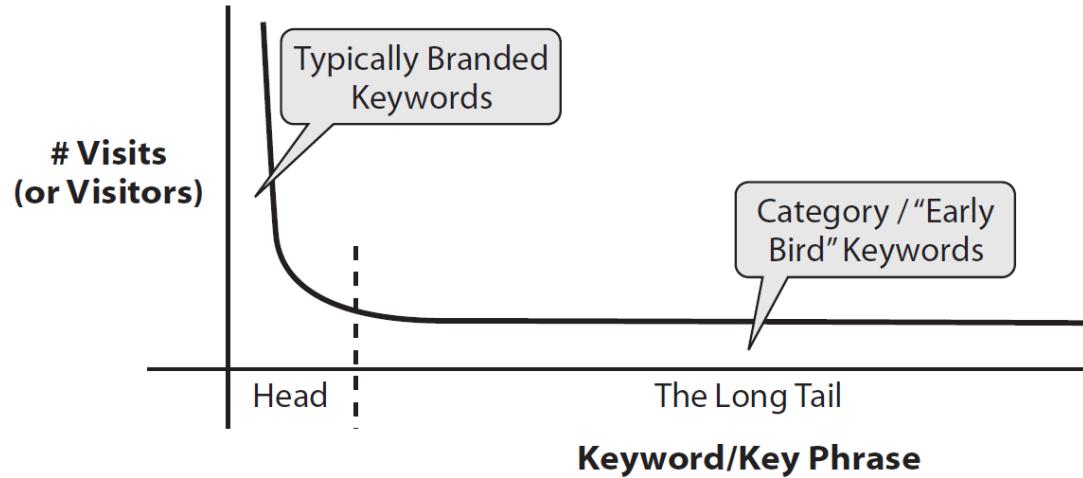
- Paid ads placement on search engines also helps you reach *large audiences*.
- Because paid ads placement offers tight control over the keywords you buy and the exact wording of your listing, you can create *highly targeted* ads that cannot be duplicated in organic search campaigns.
- In organic search, the same page might be found for many different queries and might not be optimized for each kind of searchers, whereas with paid ads placement, each ad can be chosen especially for searchers entering an exact query.

SEM VS. SEO

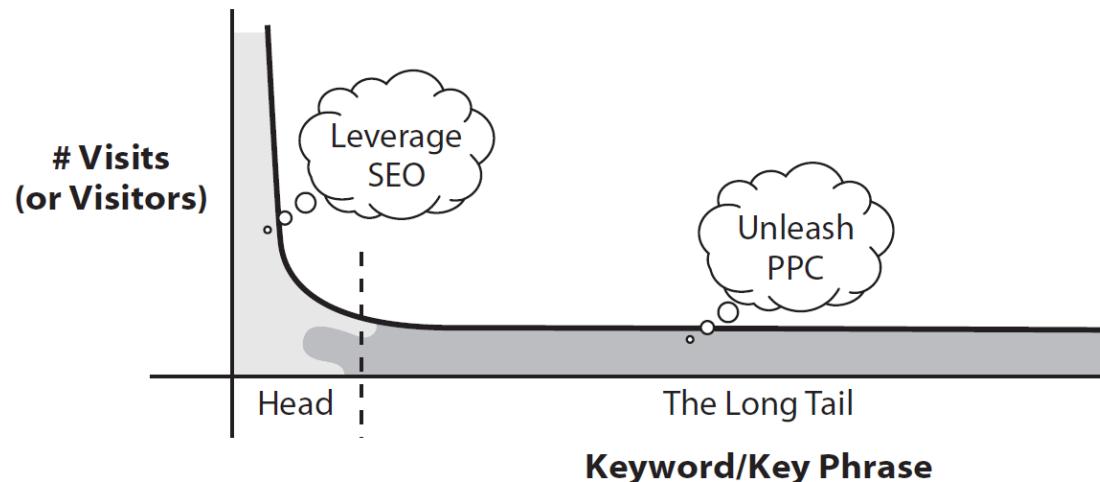
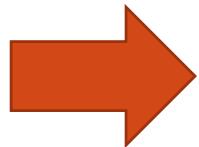
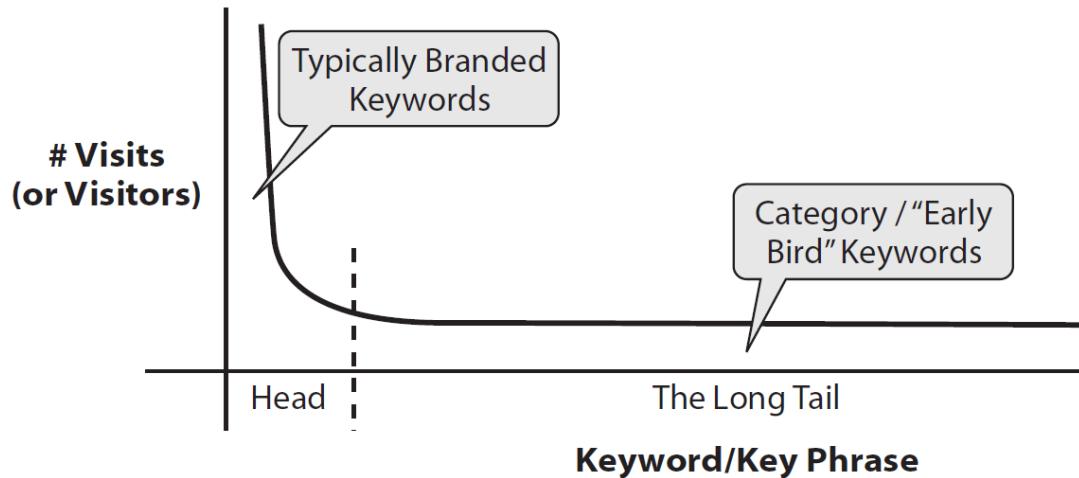
- *When your site is shown in both organic and paid results for a search, searchers click one of your listings more than 90 percent of the time*

SEM	SEO
<ul style="list-style-type: none">• results in 1-2 days• easier for a novice or one without much knowledge of SEO• ability to turn on and off at any moment• generally more costly per visitor and per conversion• fewer impressions and exposure• easy to compete in highly competitive market• can generate exposure on related sites• ability to target local markets• <u>better for short-term and high-margin campaigns</u>	<ul style="list-style-type: none">• results take 2 weeks to 4 months• requires ongoing learning and experience to reap results• very difficult to control flow of traffic• generally more cost-effective• search engine result pages are more popular than sponsored ads• very difficult to compete in highly competitive market space• can generate exposure on related sites• more difficult to target local markets• <u>better for long-term and lower margin campaigns</u>

MONETIZE THE LONG TAIL



MONETIZE THE LONG TAIL



BLEND SEO AND PPC DATA FOR BETTER PERFORMANCE

- Do not bid on keywords just because you have a top organic ranking for those corresponding ads. Is this right?
 - Common thought is that the paid listing will cannibalize the organic listing.
 - Data and research (Ghose and Yang 2009, Yang and Ghose 2010) actually show that the opposite can be true.
 - Complementary effect between paid and organic leads to an increase in expected profits for the firm ranging from **4.1%-6.7%** (Yang and Ghose 2010)
 - Having the paid ad on top of (or adjacent to) your organic listing is giving you an additional piece of real estate on the search engine result pages
 - ***So, your likelihood of getting the click and conversion is strong.***

POSITIVE INTERDEPENDENCE BETWEEN PAID AND ORGANIC

- A top paid listing, in conjunction with a top organic ranking leads to, on average, a significant incremental increase in clicks. (Google Research 2012)
 - The estimate for average incremental increase of the ad clicks is higher when the organic rank is closer to the top.
 - 50% of the ad clicks are incremental when the associated organic search result is ranked #1
 - 82% of the ad clicks are incremental when the associated organic search result is between rank 2 and 4.
 - 96% of the ad clicks are incremental when the advertiser's organic result is ranked top 5.
- Result for individual advertisers will vary
- Recommend advertisers employ **randomized experiments** to quantify the incremental lift in conversion from search and campaigns