Stitching

- Paste & copy of fragments of other web pages, uniting them into a single page
- → automatic way to create «interesting» content to populate a site (various search engine also use ***global bonuses*** to measure how much ***information*** does a site offer)

Broadening

- Insert not only the keywords we selected, but also opportune synonyms or related keywords/phrases
- This is anyway useful to better cover user queries, but not only:

Broadening (cont.)

- It is also helpful because many search engines also use measures of ***similarity*** among keywords in order to give added ***bonuses***

Example

- If we look for Disney and within a web page there is Winnie the Pooh, the score of our page can have a little bonus

What is missing…?

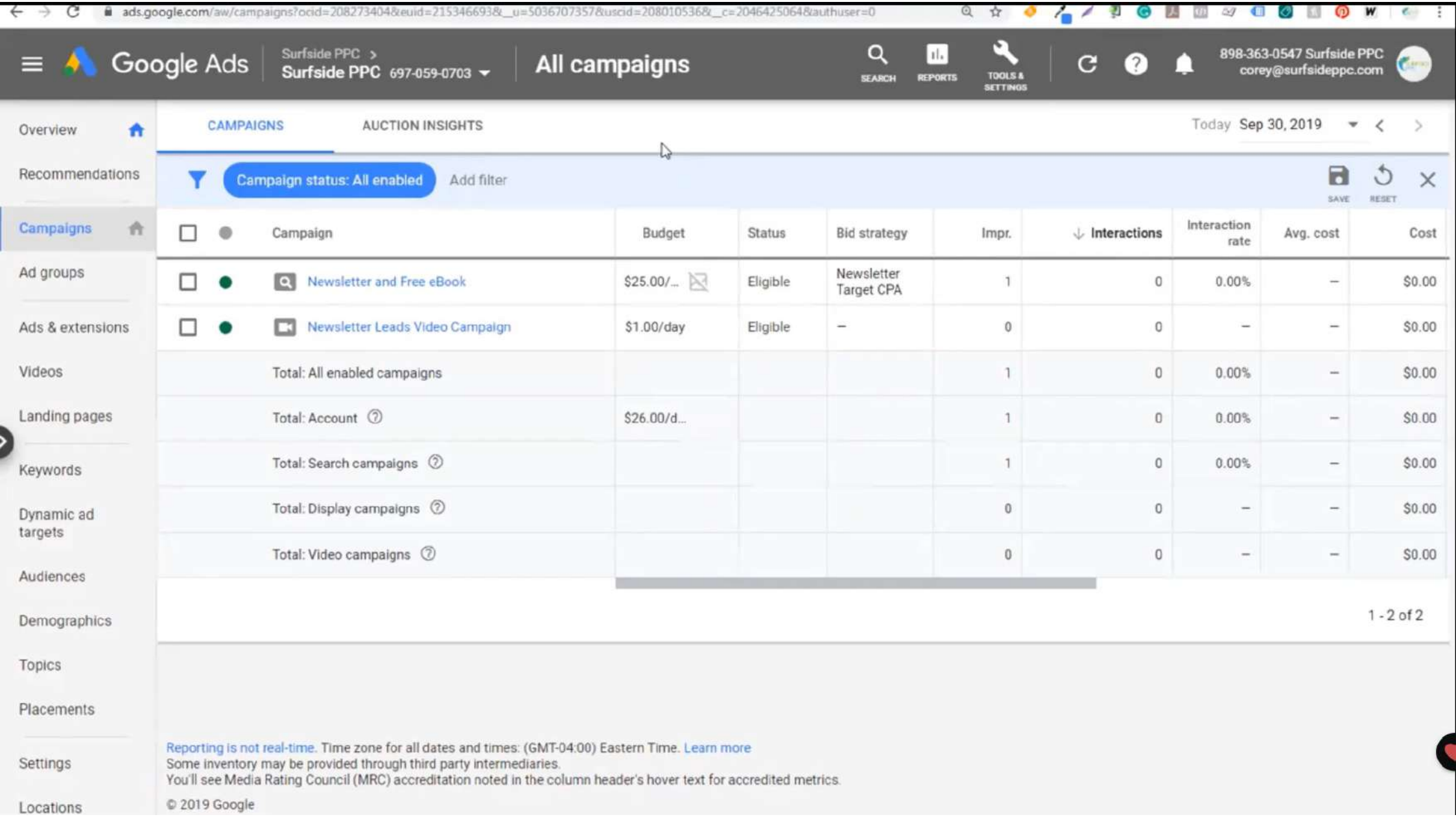
- Beyond the techniques of textual spamdex, there is also another problem even more fundamental:
- ***What keywords*** to choose!

How can we do it?

- We need to know what users want
- But how??
- There are various methods, let's see a couple…

Smart methogs

- Google Ads Keyword Planner
  (a.k.a. Keyword Tool *gk ($$...)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Google Ads
Surfside PPC >
Surfside PPC 697-059-0703
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Overview
Recommendations
Campaigns
Ad groups
Ads & extensions
Videos
Landing pages
Keywords
Dynamic ad targets
Audiences
Demographics
Topics
Placements
Settings
Locations
CAMPAIGNS
AUCTION INSIGHTS
Today Sep 30, 2019
Campaign status: All enabled
Add filter
SAVE
RESET
Campaign
Budget
Status
Bid strategy
Impr.
Interactions
Interaction rate
Avg. cost
Cost
Newsletter and Free eBook
$25.00/...
Eligible
Newsletter Target CPA
1
0
0.00%
–
$0.00
Newsletter Leads Video Campaign
$1.00/day
Eligible
–
0
0
–
–
$0.00
Total: All enabled campaigns
1
0
0.00%
–
$0.00
Total: Account
$26.00/d...
1
0
0.00%
–
$0.00
Total: Search campaigns
1
0
0.00%
–
$0.00
Total: Display campaigns
0
0
–
–
$0.00
Total: Video campaigns
0
0
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$0.00
1 - 2 of 2
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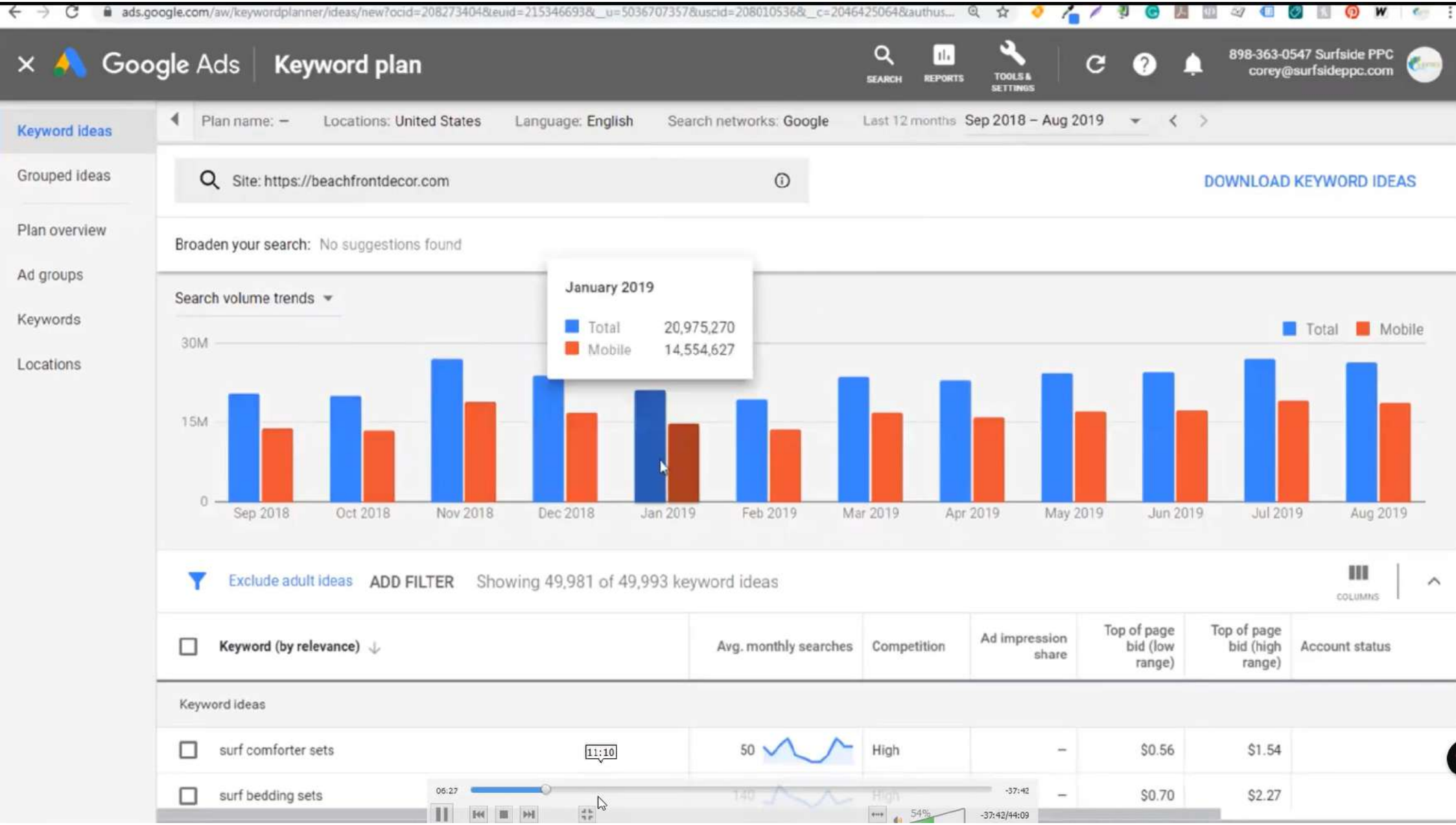
ads.google.com/aw/keywordplanner/ideas/new?ocid=208273404&euid=215346693&__u=5036707357&uscid=208010536&__c=2046425064&authus...
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Keyword plan
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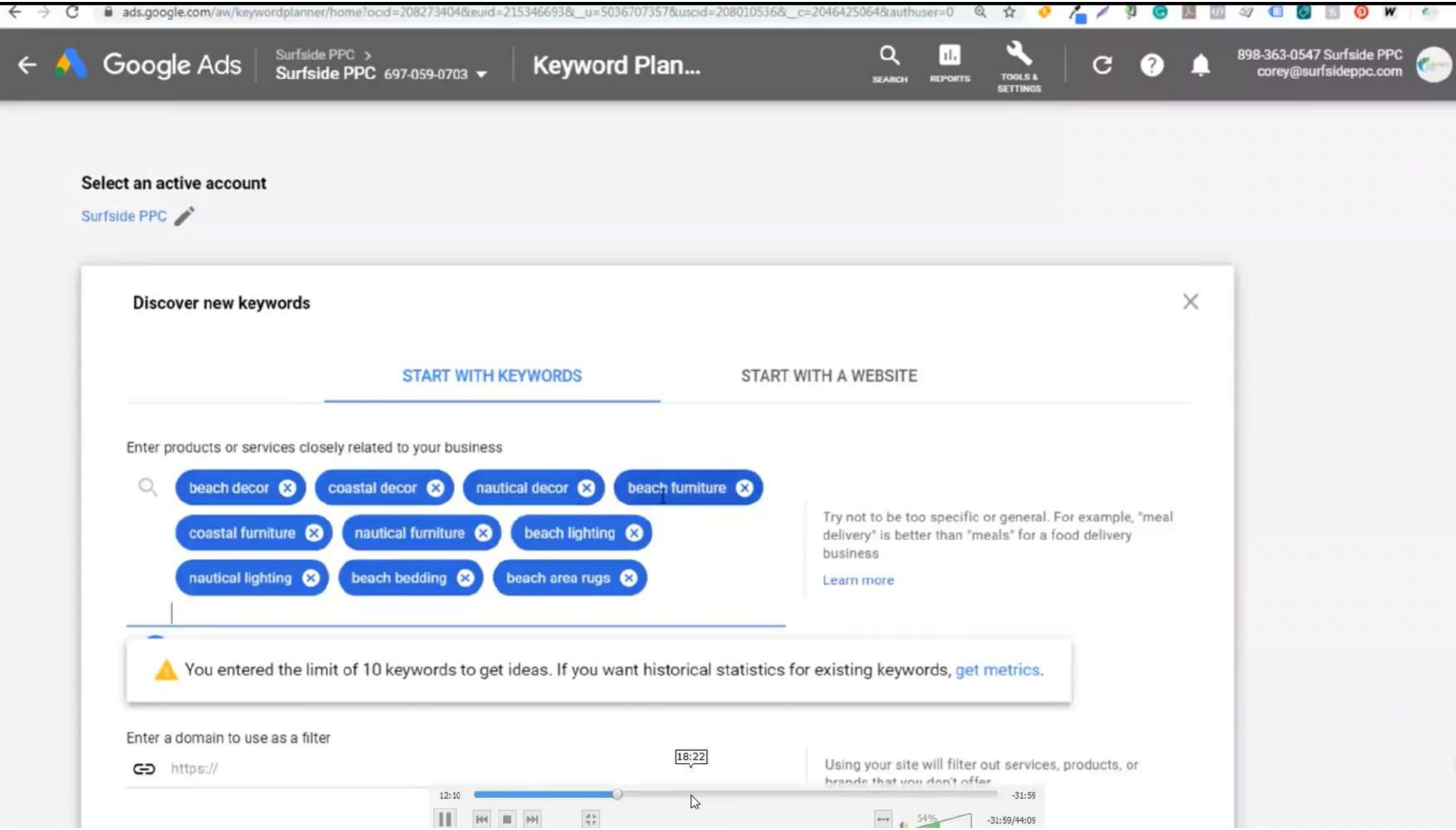
Keyword ideas
Grouped ideas
Plan overview
Ad groups
Keywords
Locations
Plan name: –
Locations: United States
Language: English
Search networks: Google
Last 12 months
Sep 2018 – Aug 2019
Site: https://beachfrontdecor.com
DOWNLOAD KEYWORD IDEAS
Broaden your search: No suggestions found
Search volume trends
January 2019
Total 20,975,270
Mobile 14,554,627
Total
Mobile
30M
15M
0
Sep 2018
Oct 2018
Nov 2018
Dec 2018
Jan 2019
Feb 2019
Mar 2019
Apr 2019
May 2019
Jun 2019
Jul 2019
Aug 2019
Exclude adult ideas
ADD FILTER
Showing 49,981 of 49,993 keyword ideas
COLUMNS
Keyword (by relevance)
Avg. monthly searches
Competition
Ad impression share
Top of page bid (low range)
Top of page bid (high range)
Account status
Keyword ideas
surf comforter sets
11:10
50
High
–
$0.56
$1.54
surf bedding sets
06:27
-37:42
-37:42/44:09
–
$0.70
$2.27


ads.google.com/aw/keywordplanner/home?ocid=208273404&euid=2153466938&__u=5036707357&uscid=2080105368&__c=2046425064&authuser=0
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Select an active account
Surfside PPC
Discover new keywords
START WITH KEYWORDS
START WITH A WEBSITE
Enter products or services closely related to your business
beach decor
coastal decor
nautical decor
beach furniture
coastal furniture
nautical furniture
beach lighting
nautical lighting
beach bedding
beach area rugs
Try not to be too specific or general. For example, "meal delivery" is better than "meals" for a food delivery business
Learn more
You entered the limit of 10 keywords to get ideas. If you want historical statistics for existing keywords, get metrics.
Enter a domain to use as a filter
https://
18:22
Using your site will filter out services, products, or
12:10
-31:59
54%
-31:59/44:09

ads.google.com/aw/keywordplanner/ideas/new?ocid=208273404&euid=215346693&__u=5036707357&uscid=208010536&__c=2046425064&authus...

Google Ads | Keyword plan

SEARCH | REPORTS | TOOLS & SETTINGS

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corey@surfsideppc.com

- Keyword ideas
- Grouped ideas
- Plan overview
- Ad groups
- Keywords
- Locations

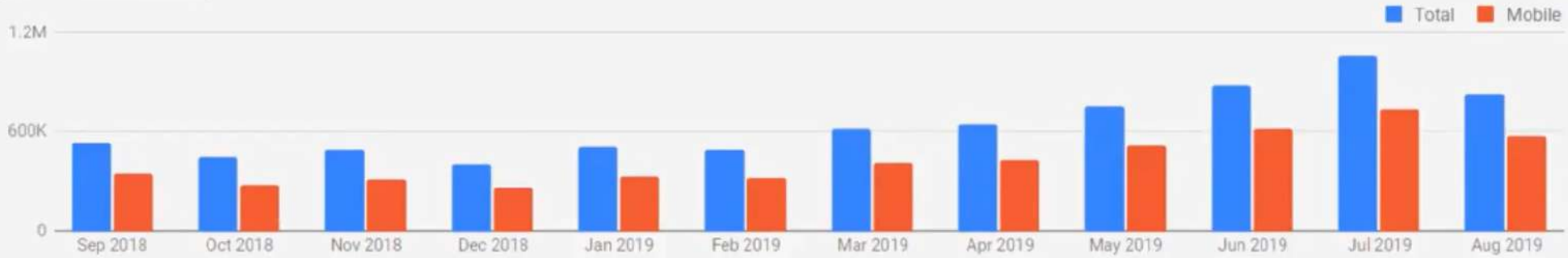
Plan name: – | Locations: United States | Language: English | Search networks: Google | Last 12 months Sep 2018 – Aug 2019

beach decor, coastal decor, nautical decor, beach furniture, coastal furniture, Excluding nautical furniture, beach lighting, nautical lighting, beach bedding, beach area rugs brand names

DOWNLOAD KEYWORD IDEAS

Broaden your search: + rugs | + area rugs | + outdoor furniture | + bedding | + bedroom furniture | + outdoor rugs

Search volume trends



Exclude adult ideas | ADD FILTER | Showing 4,371 of 4,936 keyword ideas

COLUMNS

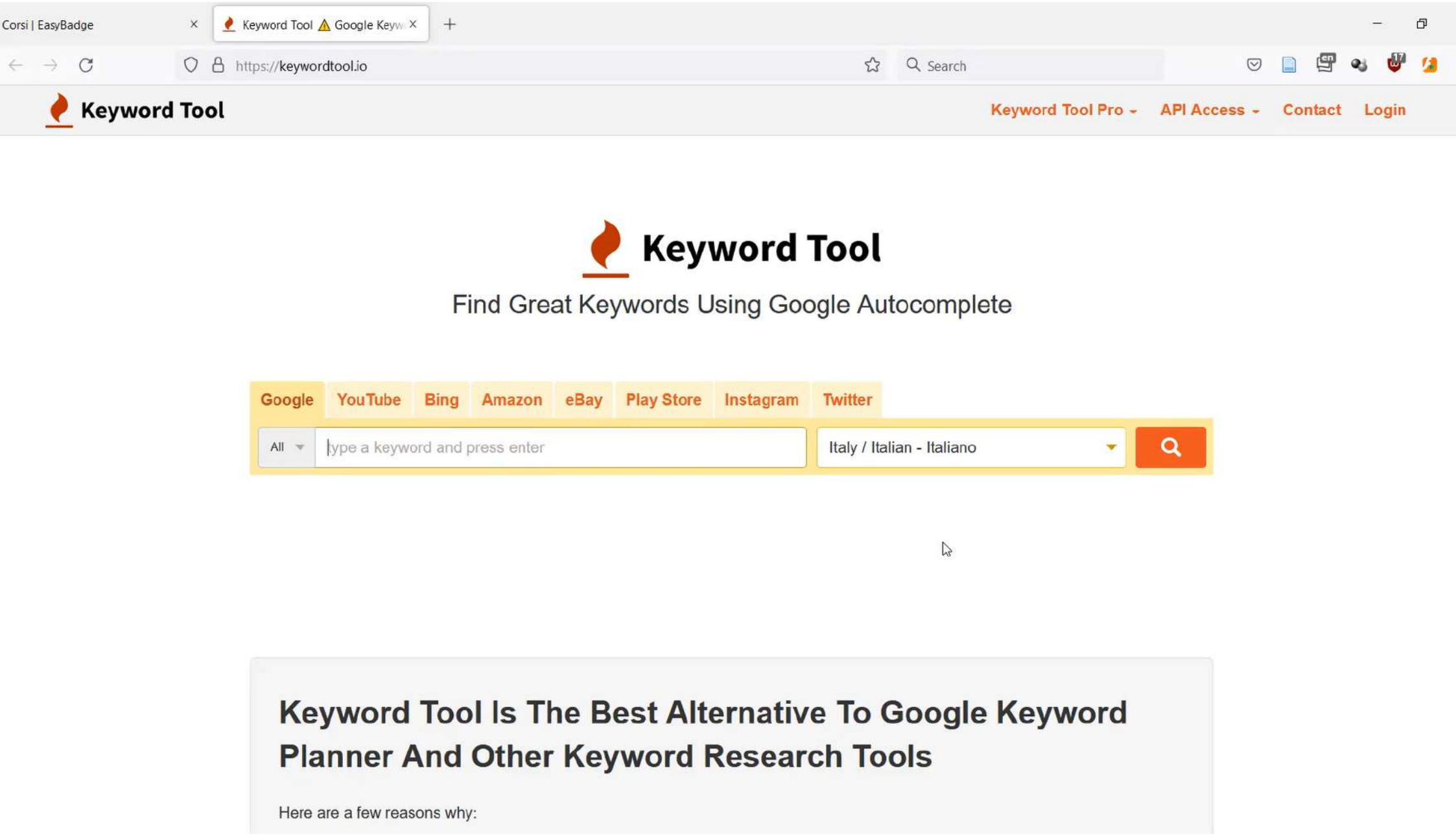
Keyword (by relevance)	Avg. monthly searches	Competition	Ad impression share	Top of page bid (low range)	Top of page bid (high range)	Account status
Keywords you provided						
beach bedding	4,400	High	–	$0.46	$1.70	In Account
beach decor	2,900	High	–	$0.45	$1.27	

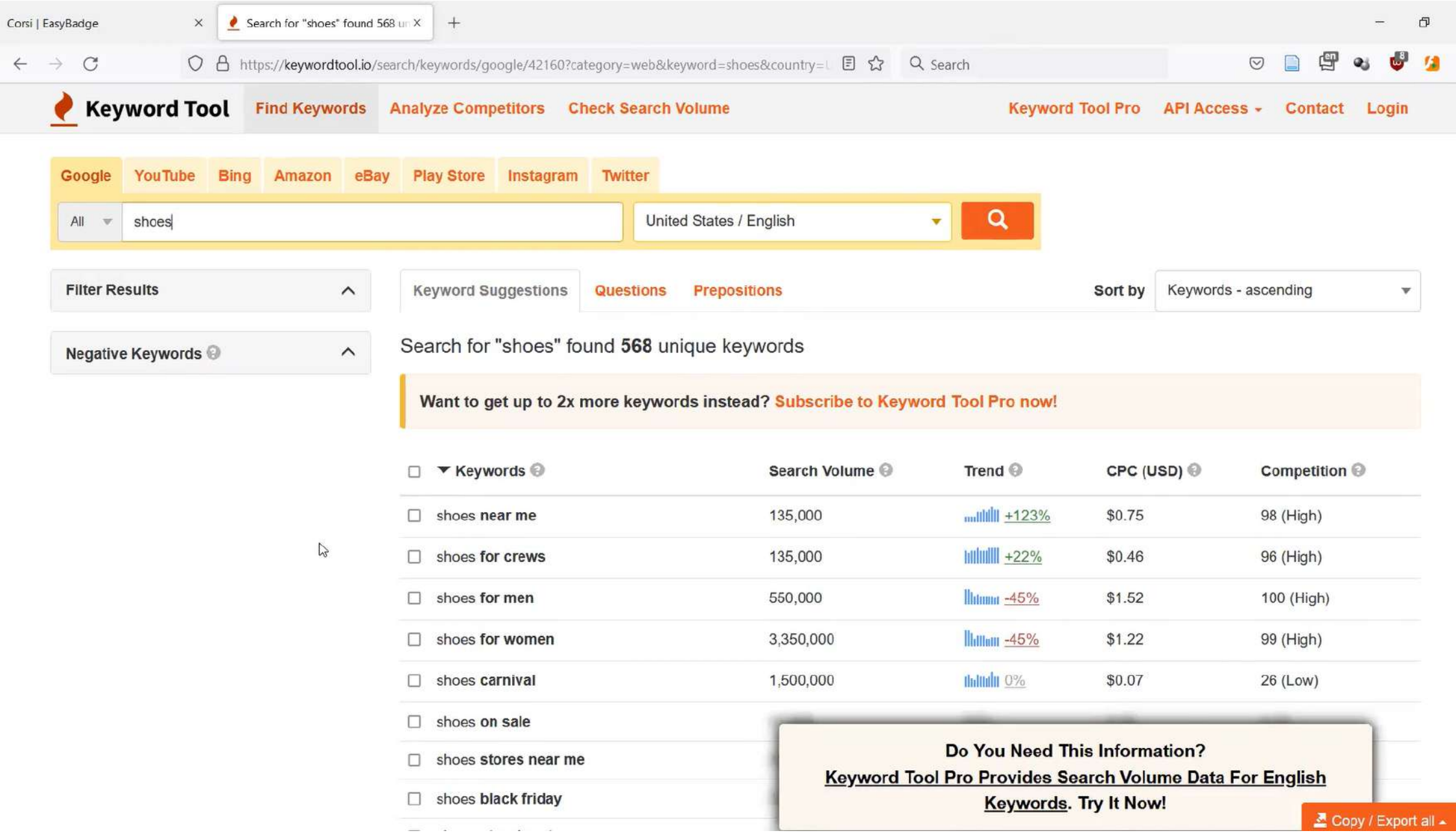
18:22

13:13 -30:56 54% -30:56/44:09

Smart methogs

- Google Ads Keyword Planner (a.k.a. Keyword Tool *gk ($$...)
- (likewise in Bing etc...)
- Or.... alternatives... (!)


Corsi | EasyBadge
Keyword Tool ⚠ Google Keyw
https://keywordtool.io
Search
Keyword Tool
Keyword Tool Pro
API Access
Contact
Login
Keyword Tool
Find Great Keywords Using Google Autocomplete
Google
YouTube
Bing
Amazon
eBay
Play Store
Instagram
Twitter
All
Type a keyword and press enter
Italy / Italian - Italiano
Keyword Tool Is The Best Alternative To Google Keyword Planner And Other Keyword Research Tools
Here are a few reasons why:


Corsi | EasyBadge
Search for "shoes" found 568 u
https://keywordtool.io/search/keywords/google/42160?category=web&keyword=shoes&country=
Search
Keyword Tool
Find Keywords
Analyze Competitors
Check Search Volume
Keyword Tool Pro
API Access
Contact
Login
Google
YouTube
Bing
Amazon
eBay
Play Store
Instagram
Twitter
All
shoes
United States / English
Filter Results
Negative Keywords
Keyword Suggestions
Questions
Prepositions
Sort by
Keywords - ascending
Search for "shoes" found 568 unique keywords
Want to get up to 2x more keywords instead? Subscribe to Keyword Tool Pro now!
Keywords
Search Volume
Trend
CPC (USD)
Competition
shoes near me 135,000 +123% $0.75 98 (High)
shoes for crews 135,000 +22% $0.46 96 (High)
shoes for men 550,000 -45% $1.52 100 (High)
shoes for women 3,350,000 -45% $1.22 99 (High)
shoes carnival 1,500,000 0% $0.07 26 (Low)
shoes on sale
shoes stores near me
shoes black friday
Do You Need This Information?
Keyword Tool Pro Provides Search Volume Data For English Keywords. Try It Now!
Copy / Export all

Smart methogs

- Google Ads Keyword Planner (a.k.a. Keyword Tool *gk ($$...)
- (likewise in Bing etc...)
- Or.... alternatives... (!)
- Together with some related analysis...

Corsi | EasyBadge | Search for "shoes" found 568 u | New Tab | shoes - Explore - Google Trends

https://trends.google.com/trends/explore?q=shoes&geo=US

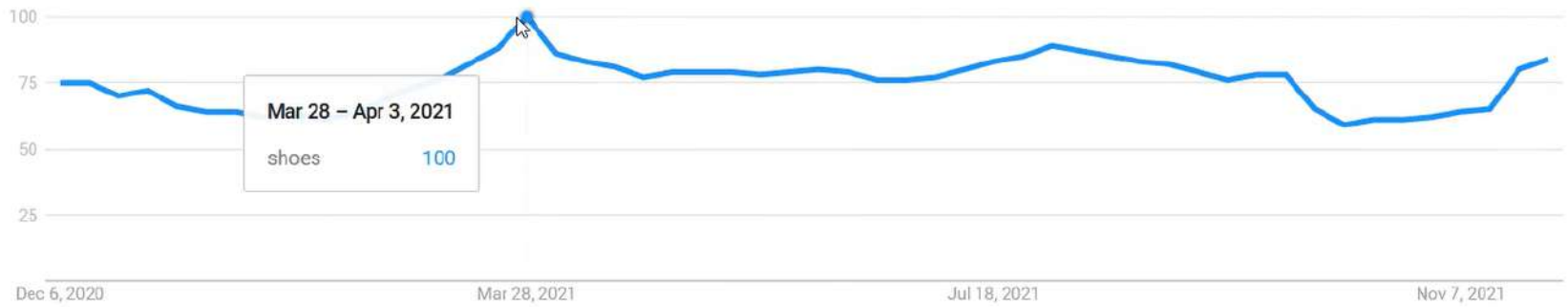
Search

Google Trends | Explore

Sign in

shoes

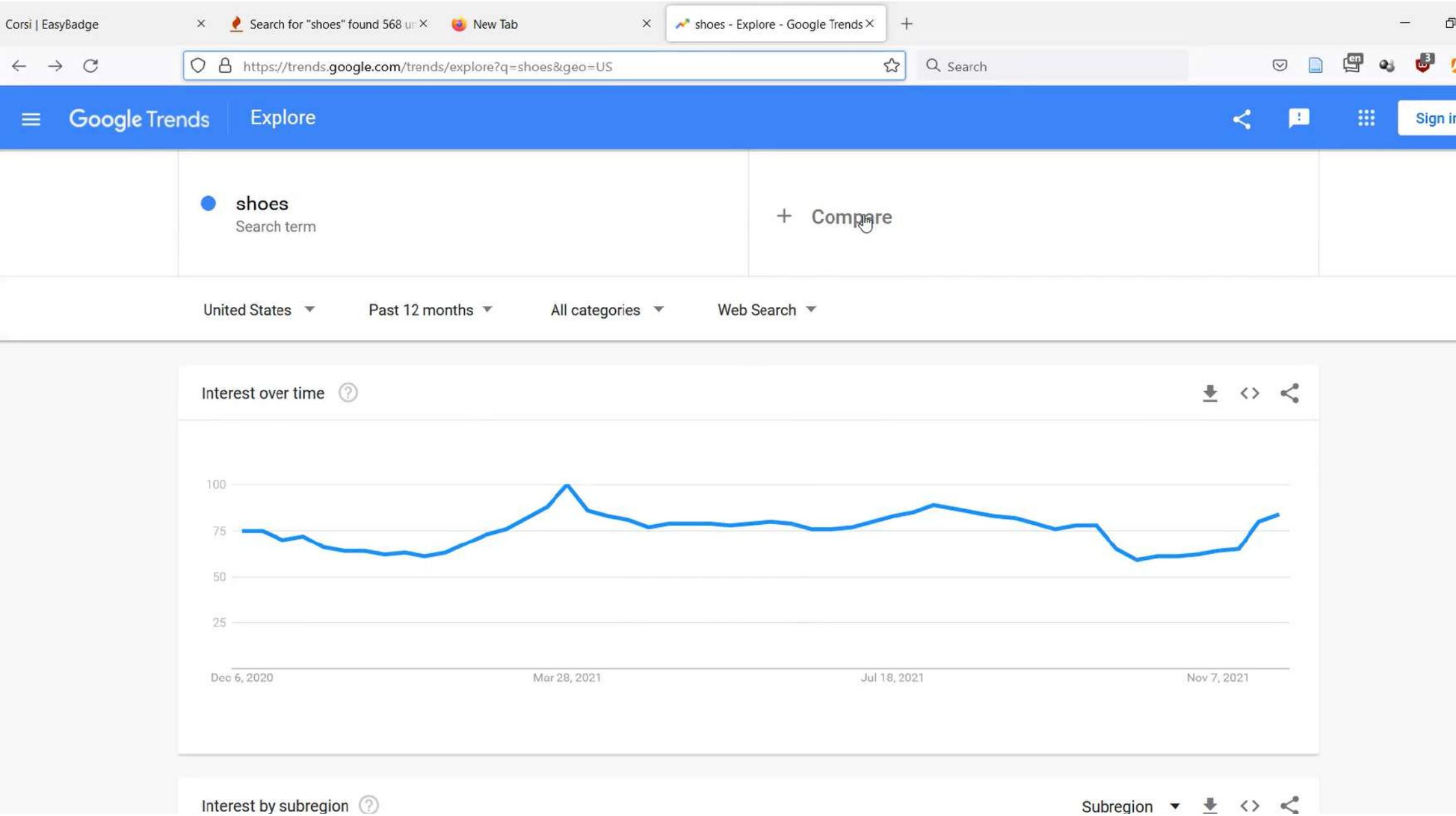
United States, Past 12 months



Interest by subregion

Subregion

1	Mississippi	100
2	Louisiana	98
3	Alabama	97
4	New York	93


Corsi | EasyBadge
Search for "shoes" found 568 ur
New Tab
shoes - Explore - Google Trends
https://trends.google.com/trends/explore?q=shoes&geo=US
Search
Google Trends
Explore
Sign in
shoes
Search term
Compare
United States
Past 12 months
All categories
Web Search
Interest over time
100
75
50
25
Dec 6, 2020
Mar 28, 2021
Jul 18, 2021
Nov 7, 2021
Interest by subregion
Subregion

Problems of term spamming

- We said it at the very beginning when talking about body spam:
- Text spamming generally changes the content of the pages, so users are affected (likely in a bad way!!)

Think…

- We «power up» a page by inserting keywords, piece of other pages etc etc
- The page gets higher in search engines → Users click and land on the modified page → content corrupted or not so relevant → (usability) he gets angry!!

Hiding

- We can use a series of techniques called ***hiding***, which hide the «trash» that we inserted with spamming

Content hiding (examples)

- <body background="white">

  ...

  text to disappear...

  ...
  </body>

Content hiding (examples)

-
  <img src="\webbug.gif">

Redirection…

Redirection

- Also called "302 technique
- Easy way:
- **<meta http-equiv="refresh" content="0;url=pippo.html">**
- Actually not so effective (countermeasures!)

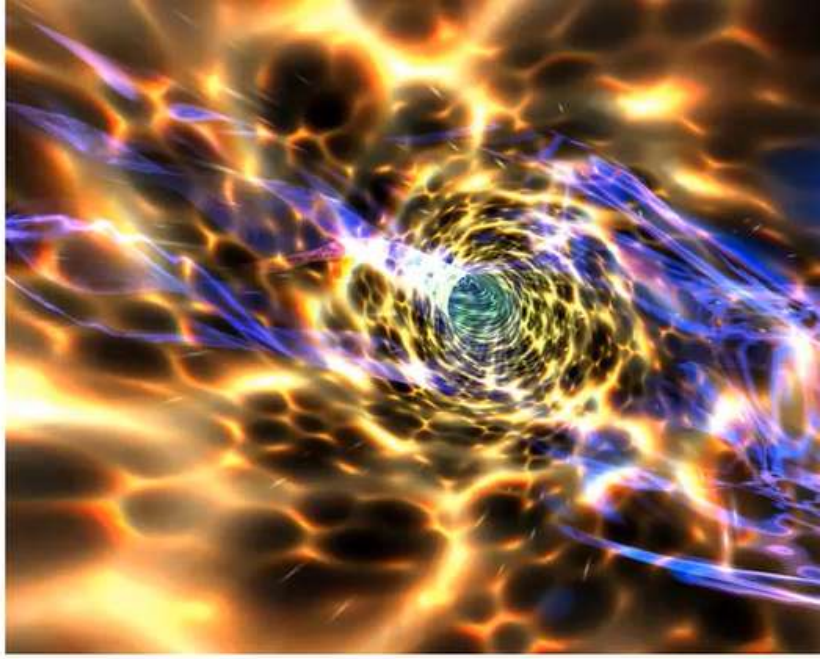
Redirection (cont.)

- More effective: use javascript (!)
- Because search engines have a hard time to understand Javascript (and in many cases they just ignore it!)
- Example:

```
<script language="javascript"> <!- -
location.replace("pippo.html")
- -></script>
```

Cloaking…

Let's pass now…

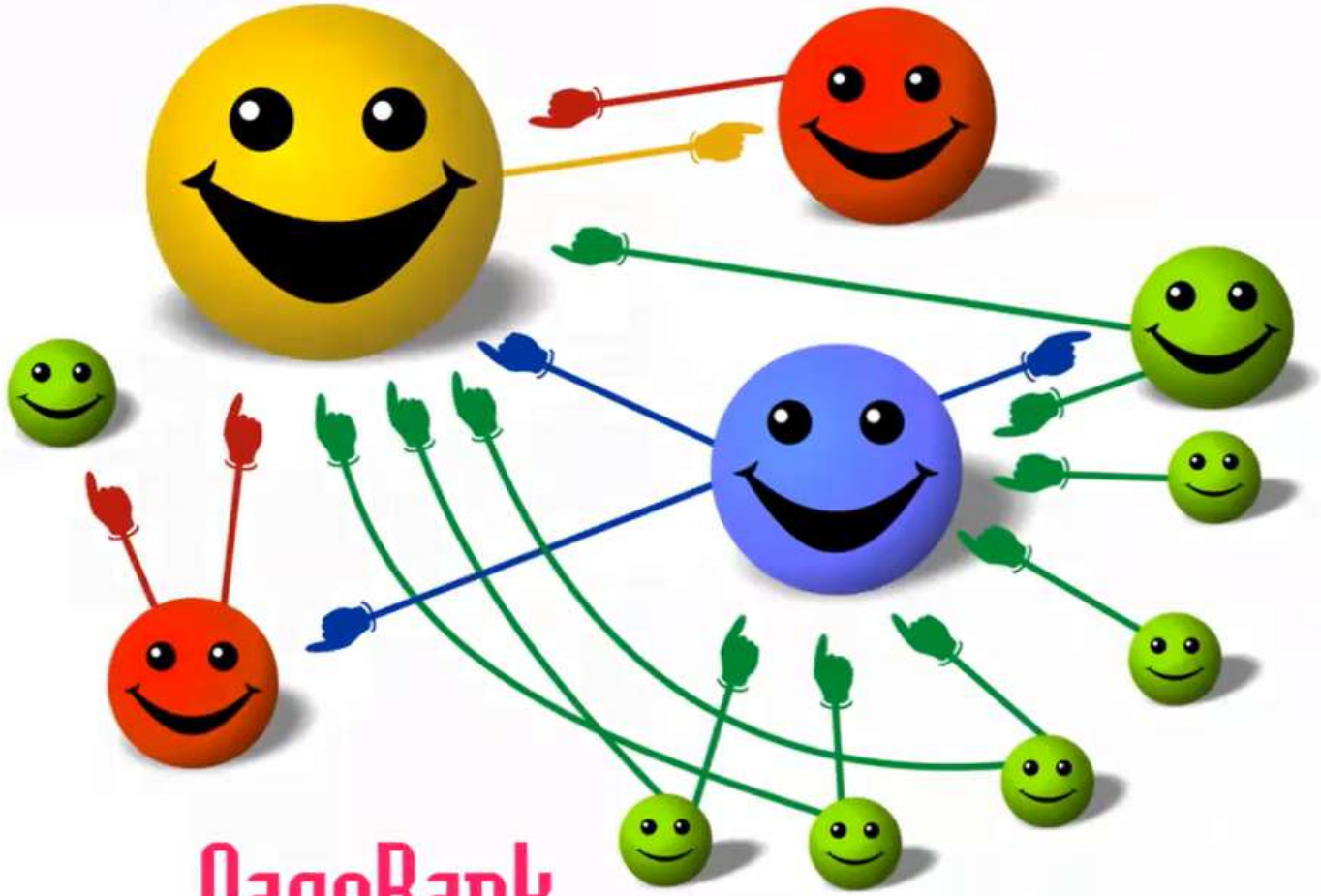


- … to the other component, the ***hypertextual*** one
- Complementary to the textual one, and contributes with a good deal of points derived from the ***network topology***


PageRank
7 0
6 0
5 0
4 0
3 0
2 0
1 0
0

The super-famous Pagerank

- More or less you heard how it works...

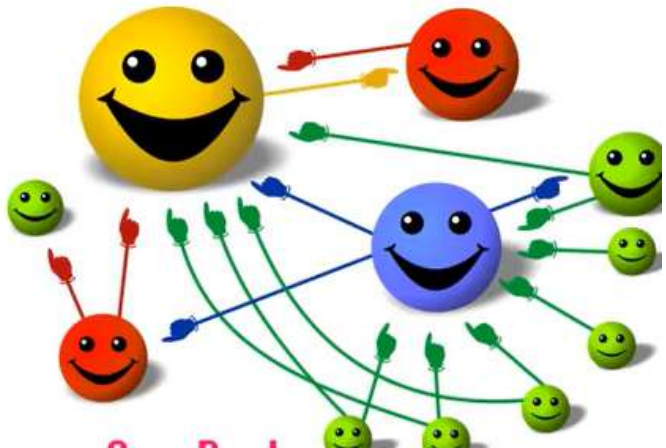


Pagerank in more detail…

- (d_w = number of outgoing links)

$$\pi_v = \sum_{(w,v)\in E} \frac{\pi_w}{d_w}$$

$$\sum_v \pi_v = 1$$



Intuition

- Like water reservoirs…

$$\pi_v = \sum_{(w,v)\in E} \frac{\pi_w}{d_w}$$

$$\sum_v \pi_v = 1$$

How to calculate it?

- For instance, iteratively…

$$\mathrm{PageRank}(p) \leftarrow \sum_{q \in B(p)} (\mathrm{PageRank}(q) / \mathrm{N}(q))$$

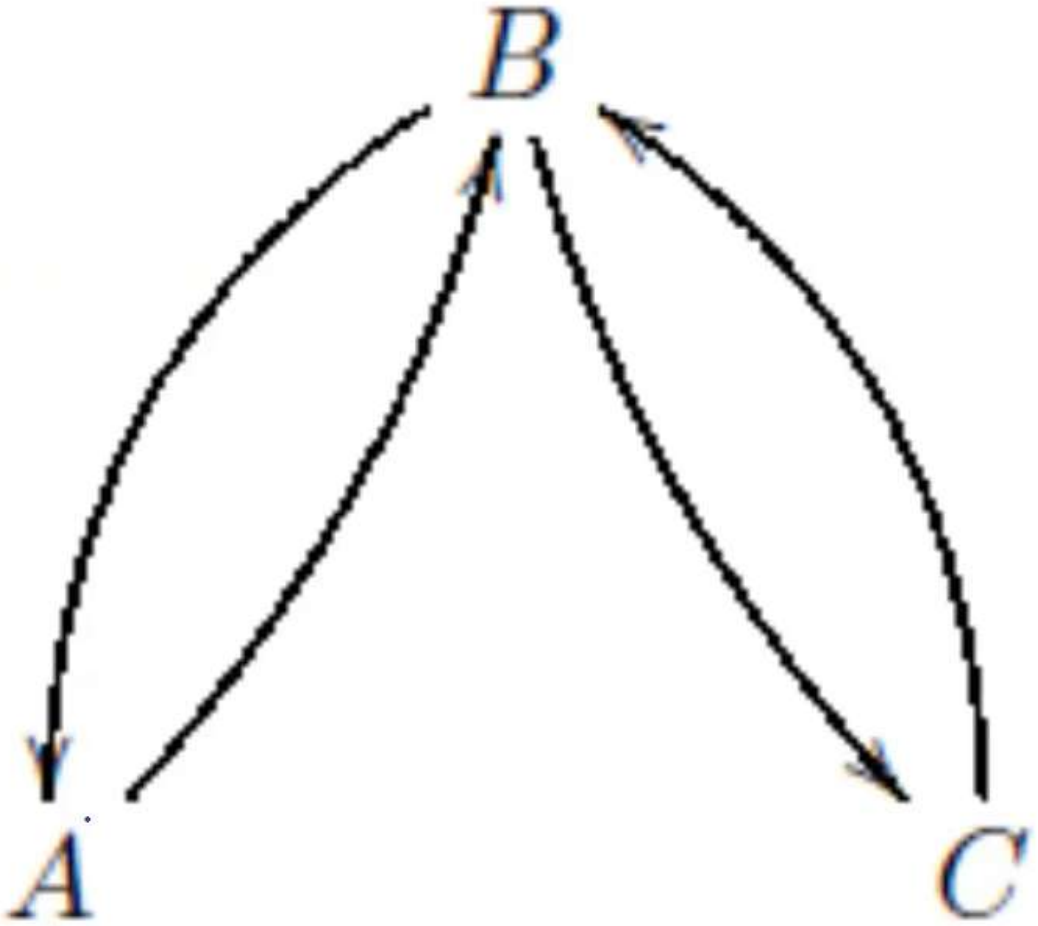
Reformulation…

- ***Markov chains*** and ***random walks*** (the «drunkard's walk»)

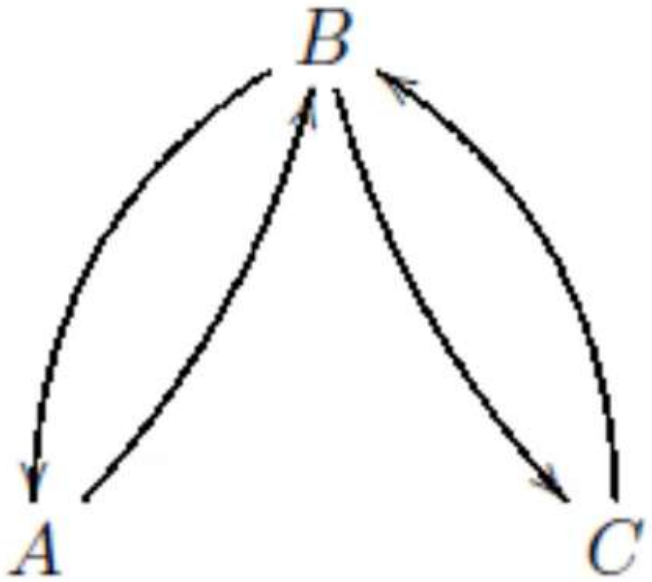
In the web drunkard→ monkey ("random surfer")

Example

- What Pagerank?



Example (cont.)



- Either we calculate, or we reason by symmetry:
- A=C, B has double flow than A and C, so (if the total liquid is 1):
- The pagerank of A and C is ¼, those of B is ½

All easy?

- Let's see some other case…

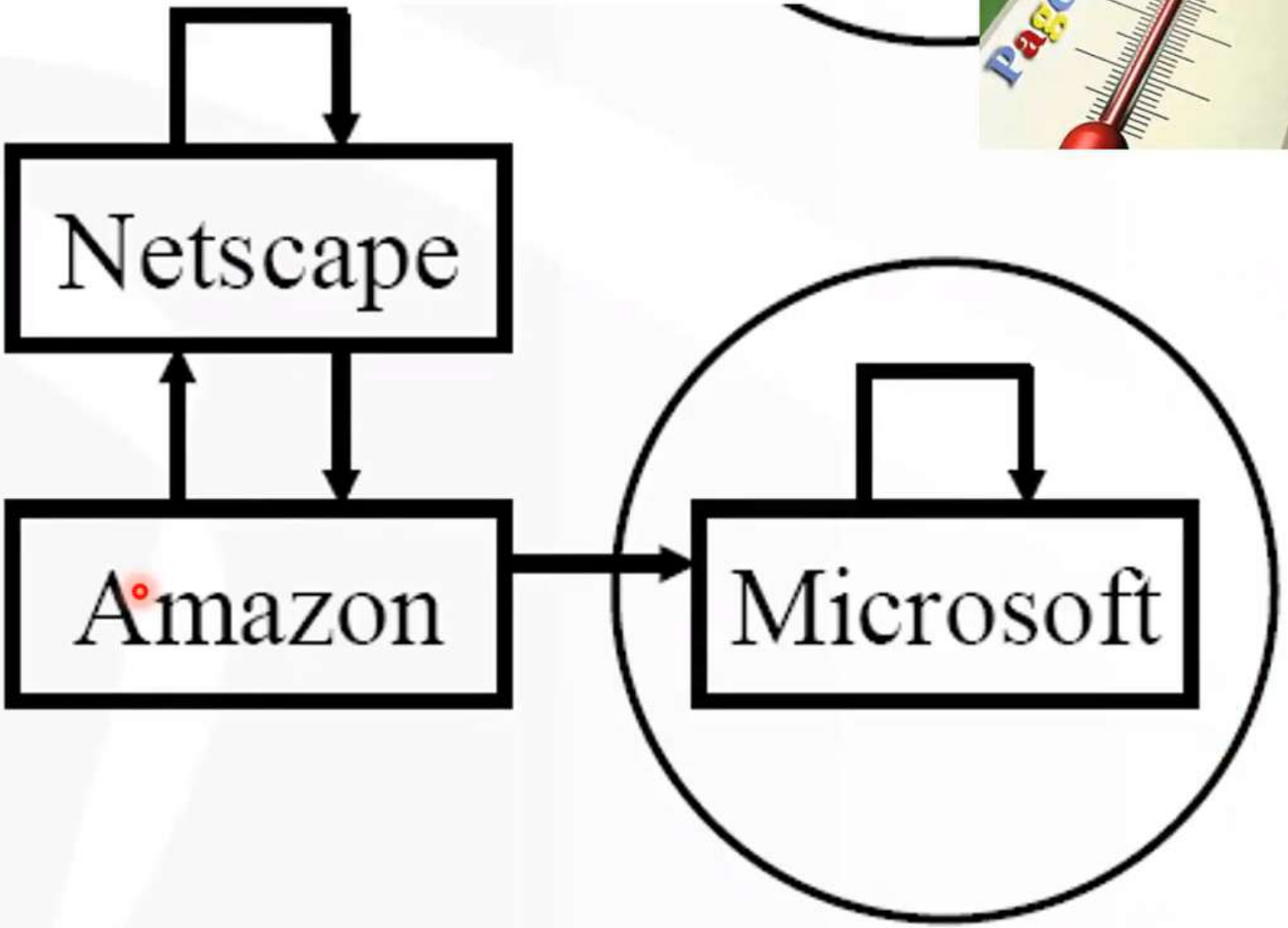
Descent to Hell…

- Instance of a more general problem in the web structure: ***spider traps***
- → when a web spider gets «trapped» into an infinite navigation

Spider traps…

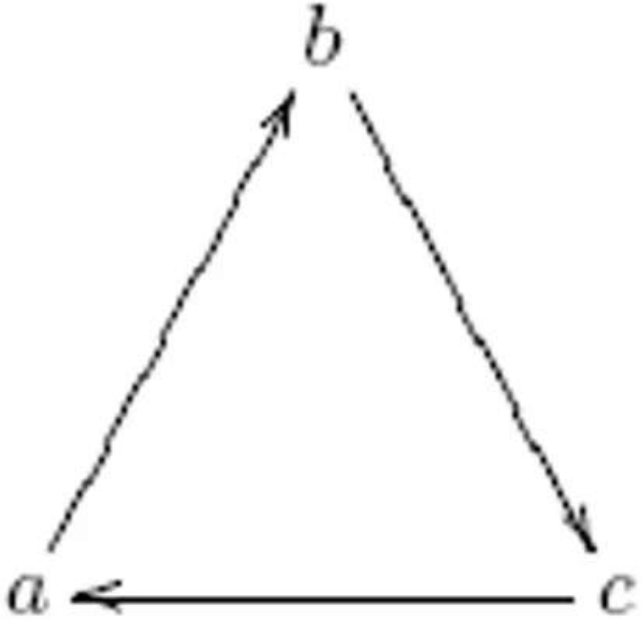
- Unfortunately are very frequent
- For instance just think of an event calendar…

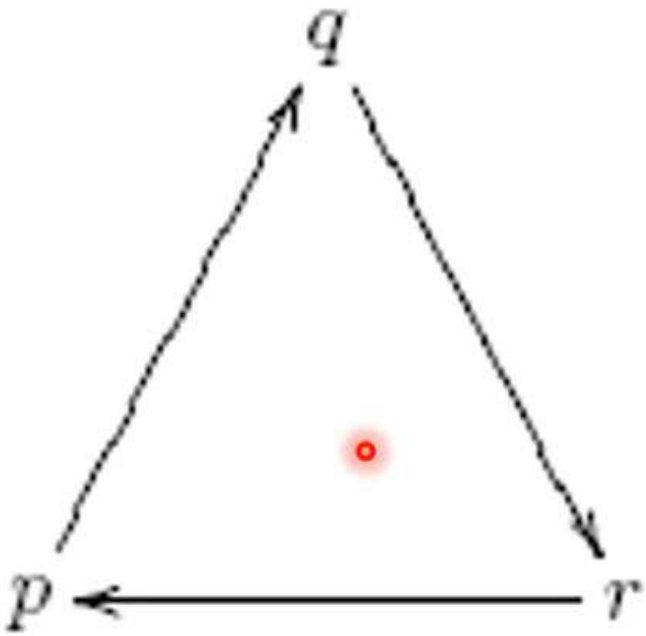
Spider traps… and Pagerank (??!!)



Other scenario: Islands

- What pagerank?





Solutions….??

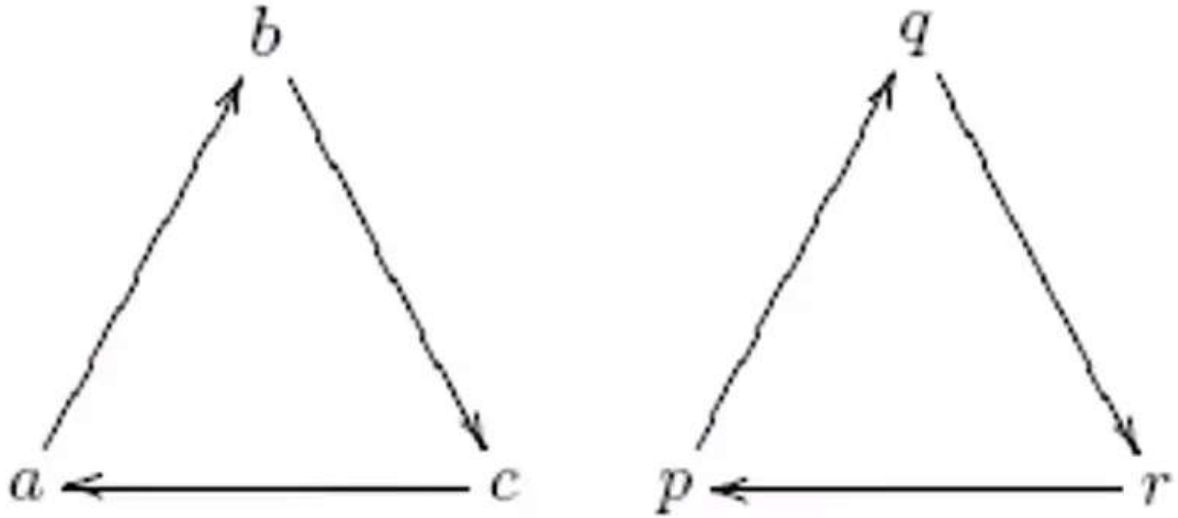
Let's change…!

- The formula has been patched (***teleportation***)!

$$\pi_v = (1-\epsilon)\left(\sum_{(w,v)\in E}\frac{\pi_w}{d_w}\right) + \frac{\epsilon}{N}$$

So…

- After a few steps we get out of a spider trap, and even from an island ☺



Note…

- Range of possible choices:
  teleport 0 = original pagerank,
  teleport 1 = score equal for everybody

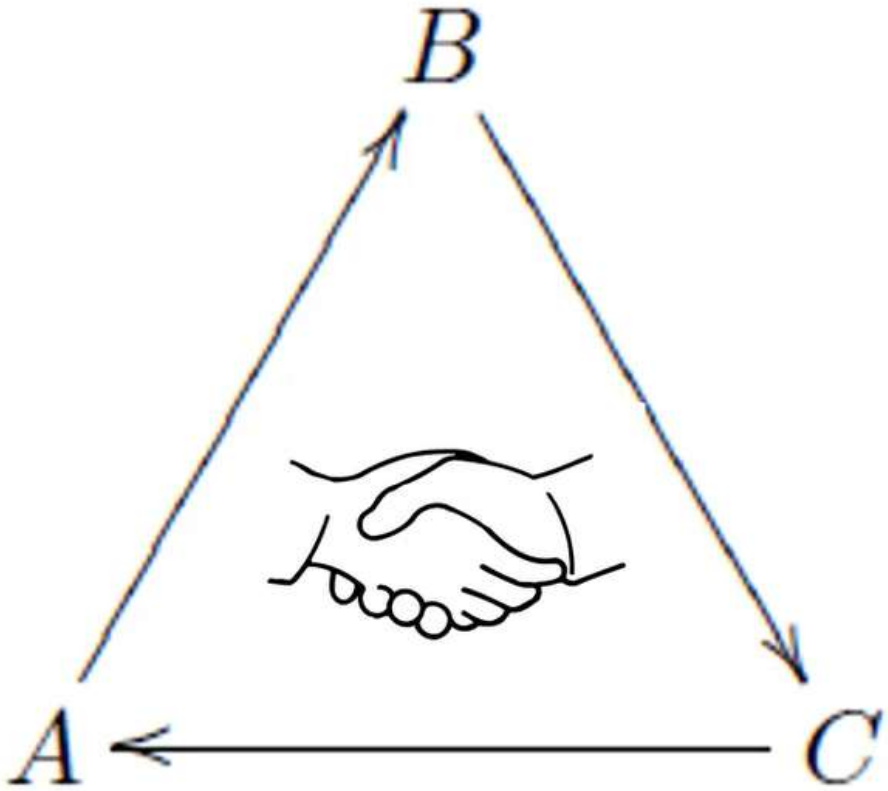
Note on elegance... Totalrank

- Computational cost: almost the same as Pagerank

$$\mathbf{T} = \int_0^1 \mathbf{r}(\alpha) d\alpha$$

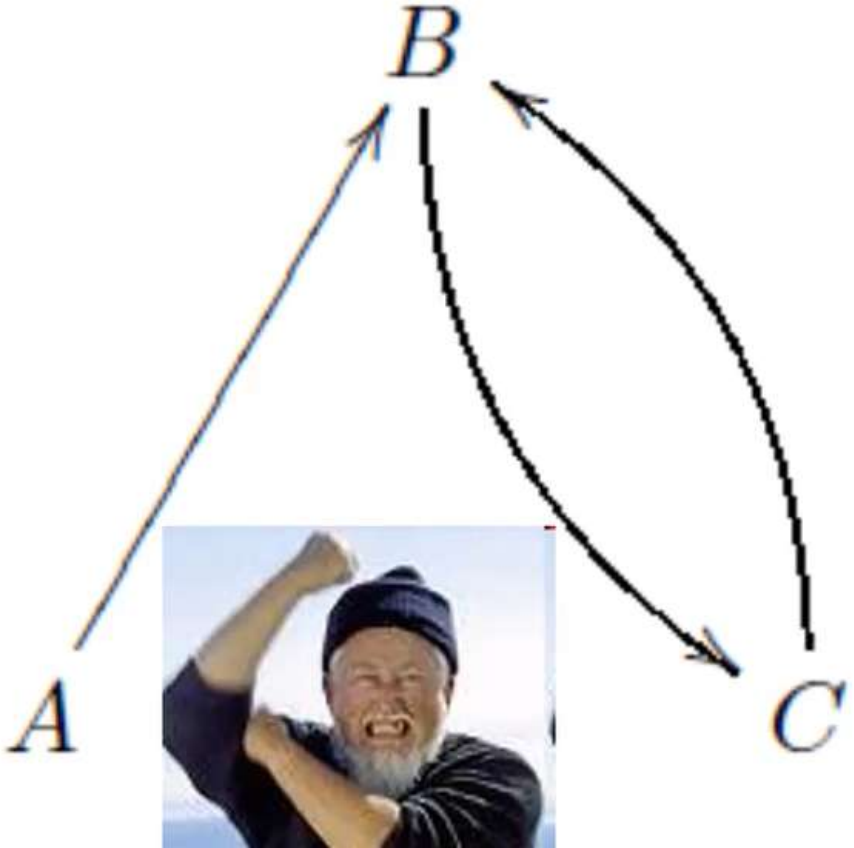
Ok, back to start

- Pagerank in this case?
- Easy: A=B=C have 1/3 ☺



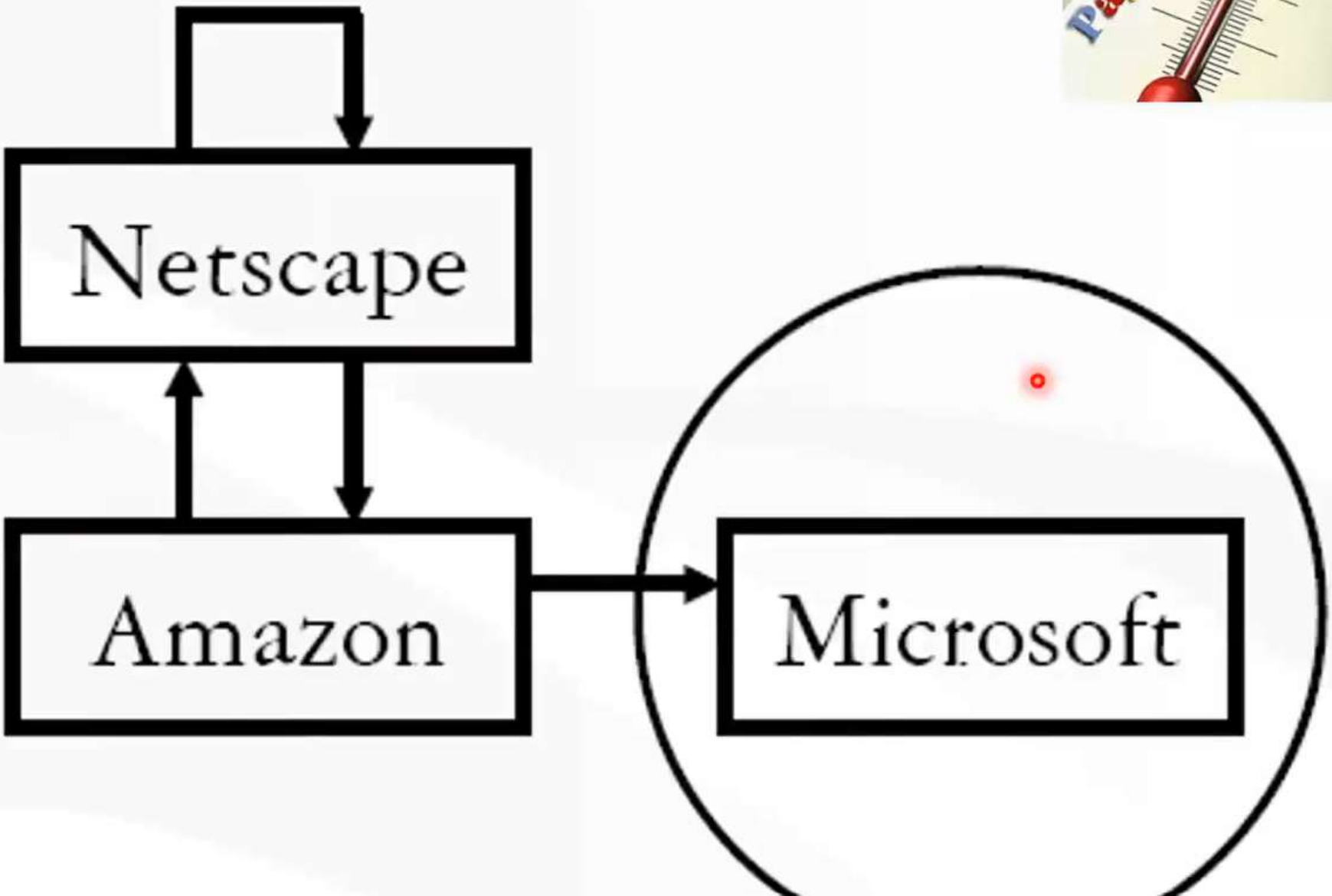
But, wait…!!

- Here comes C, which changes a link!
- Pagerank of B and C = ½, A = 0 (!!!)

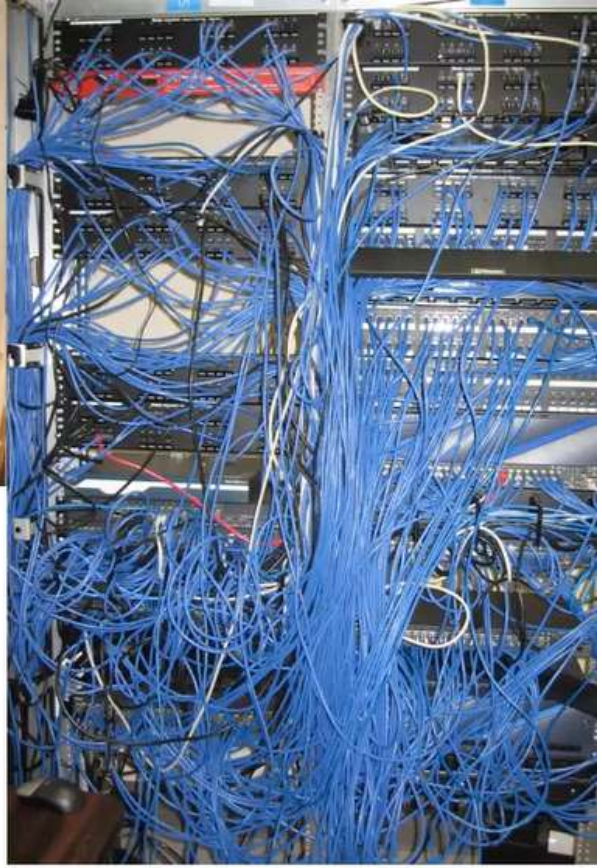


Symptom of a bigger problem…

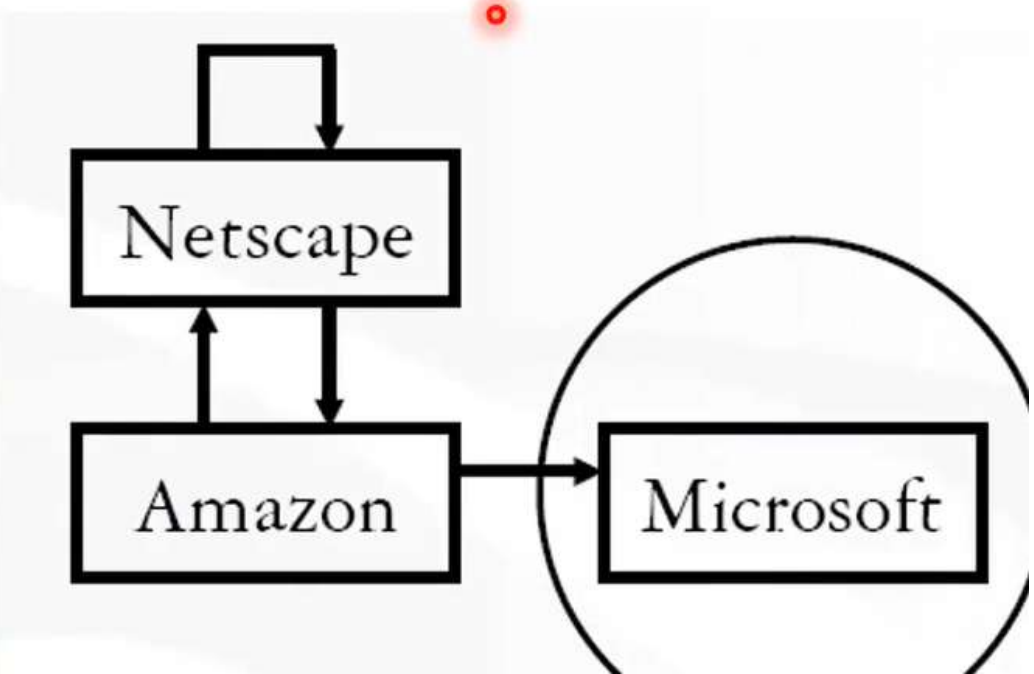
Dead ends... (!)



Soluzione?



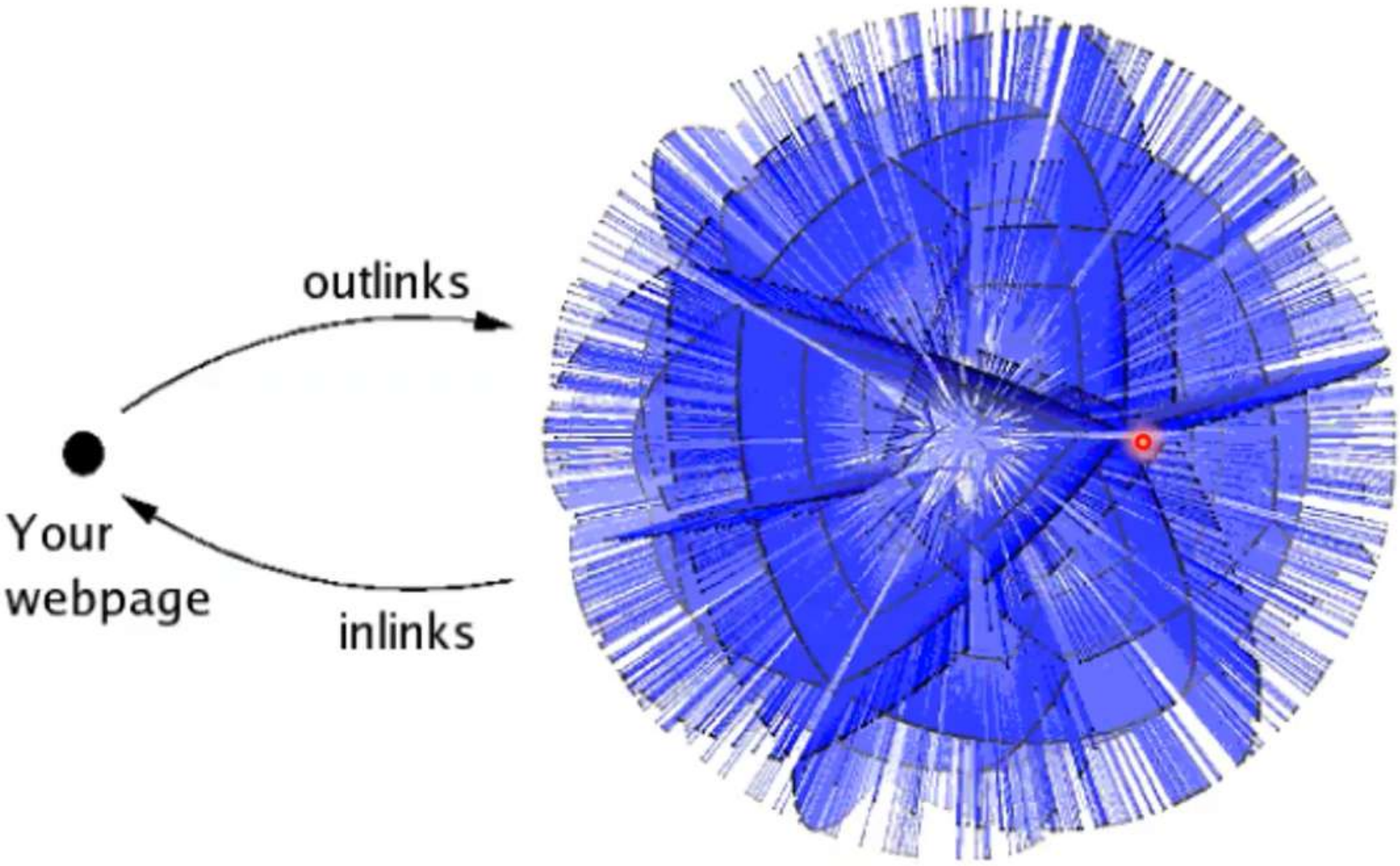
- **A MESS!!**



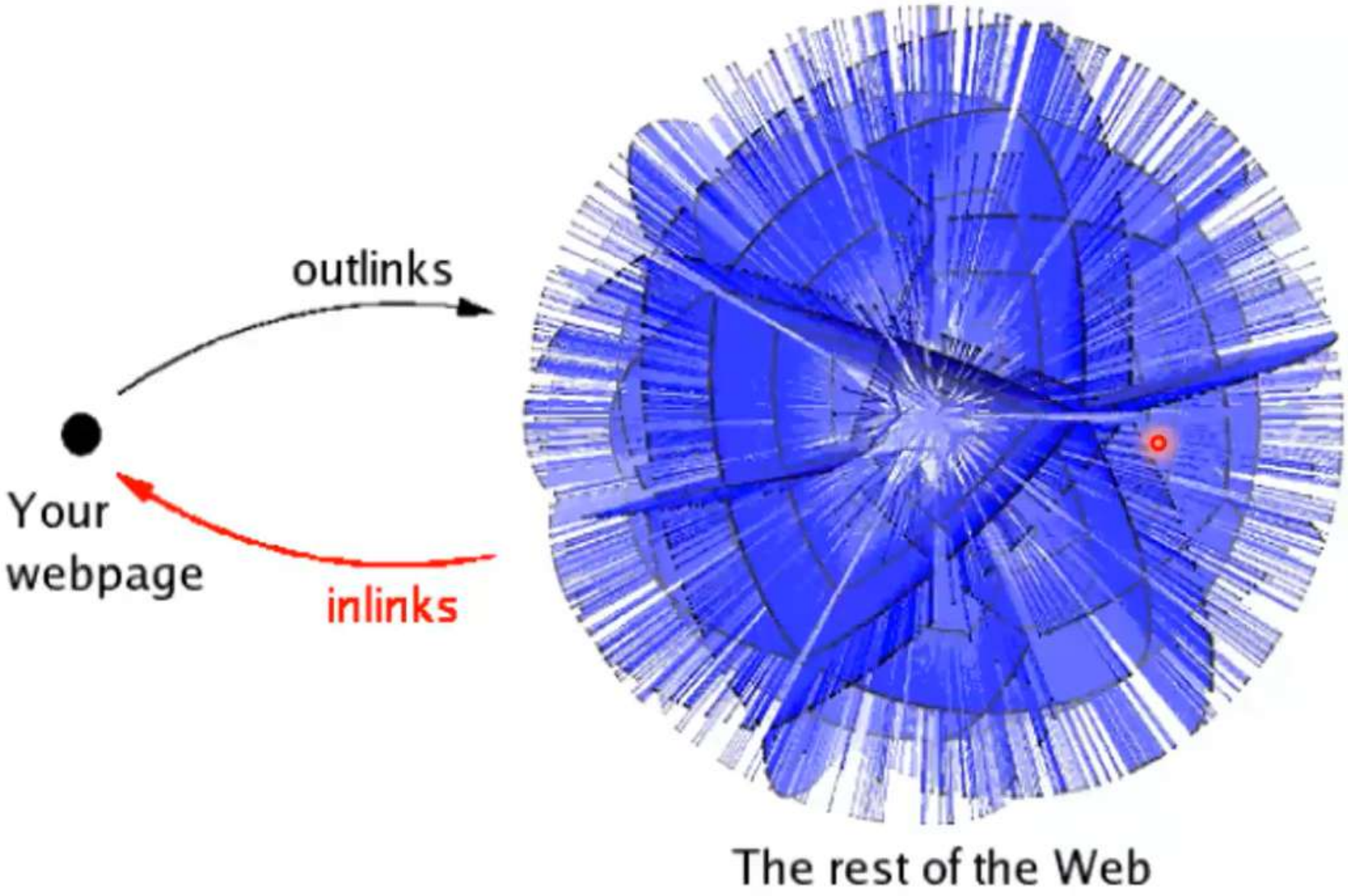
So…

- We have seen how Pagerank workds (…), now we can see how to use it for spamdex…

Two fundamental factors: Inlinks and outlinks



Strategic move: Adding inlinks

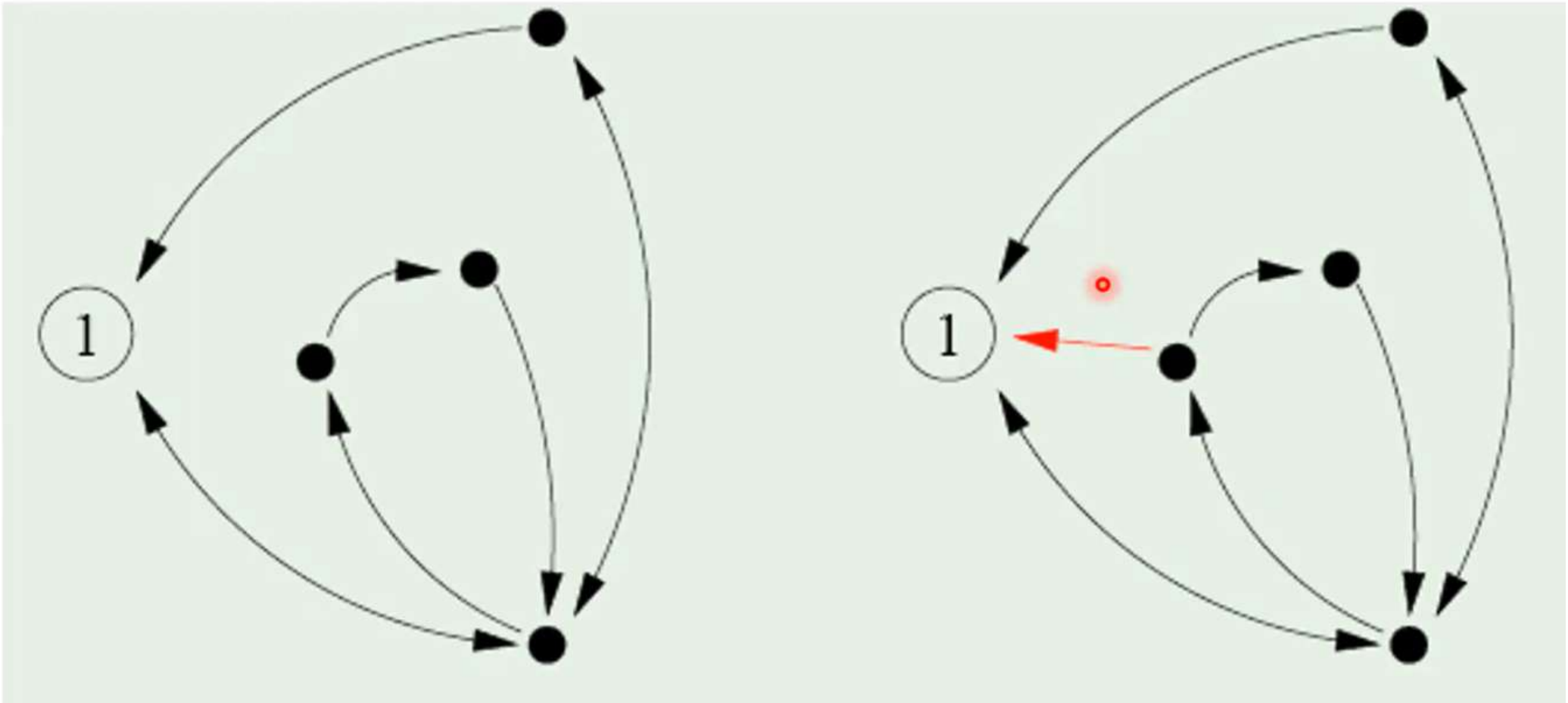


Result

- Pagerank always gets higher

Example

- **0.196** at first, passing to
- **0.245**



Techniques

- Infiltration
- Honey pot
- Link exchange
- Resurrection

Infiltration

- We «infilitrate» in various sites and try to insert links to our site
- For instance inside directories, blogs, wikis, comment sections etc

Honey pot

- Yummy!!

Honey pot (cont.)

- Create "yummy" content, and then naturally receive incoming links
- We can do it by smart paste & copy from content of other sites (!)

Link Exchange

- Let's join forces with someone else (related to another technique we will soon see)

Resurrection

- When a domain «dies»… catch it!!