WHEN IT COMES TO SERIOUS SAFETY SEARCHES, "GOOGLE IT" DOESN'T CUT IT!

By Dave Weber CSP

PRESENTATION GOALS

- Understand the limitations of Google search
- Learn how to use the "Safety Search Engine" (SSE) to supplement Google search

ANNOUNCEMENTS

- Video recording presentation
- Questions and comments welcomed anytime

SEARCH IN THE GOOD OLD DAYS

- Card catalog & Dewey decimal system
- Huge libraries
- Microfilm & microfiche
- Periodicals, file cabinets, musty old paper
- Could not search from home
- Could only search when library open
- Travel time to library

SEARCH IN THE GOOD OLD DAYS



17107629957_d058ef6bea_k.jpg

https://www.flickr.com/photos/glyno/

TODAY'S "FAST FOOD" INTERNET SEARCH ENGINES

- Popular Internet search engines?
- Paperless
- Fast, easy, convenient
- Like "fast food"
 - Popular
 - Standardized
 - International
 - Fine for superficial needs

HOW OTHERS ARE SEARCHING THESE DAYS

- LinkedIn comments
 - Rarely visit libraries out dated material
 - 99% of my research done online
 - Google (always)
 - Government websites OSHA, NIOSH (when appropriate)
 - ASSE BOK

PROBLEMS WITH GOOGLE SEARCH

- Too much information (safety apps 277,000,000 hits!)
- Google only searches & indexes less then 10% of the entire Internet

WHO DOES MORE RESEARCH THAN A PHD CANDIDATE?

- Dr Kelly Coleman completed his PhD in Toxicology at U of MN
- He used Google search for only 50% of PhD dissertation research



LIKE PHD'S, SAFETY PROFESSIONALS NEED TO DO RESEARCH TOO

- My paper mill came up with new formulation to make "fire resistant" paper. Had never made this type of paper before
- As part of companies' "change management" policy, I had to approve the process before it went online
- Did research, found there could be a potentially serious exposure to ammonia on the back side of the dryers
- Tested ammonia during trial run, found concentration was far above the IDLH level!
- Had I not done the research, employees could have been hurt

TOO MUCH INFORMATION - 277M HITS (OR 18,000,000 SCREENS)

- How many screens deep do you typically go into a Google search?
- How do you know that the best information is not on the 1000th or the 100,000th screen?

HOW DOES GOOGLE PRIORITIZE ITS' SEARCH RESULTS?

- Is it based upon the qualifications of the author?
- No, it's based on "SEO"
- Because it's based on SEO, high quality content is often not prioritized as high as low quality content that has a better SEO score
- I've seen worthless safety articles written by unqualified "professional writers" ranked much higher than wonderful articles written by CSPs / CIHs / PhDs

SEARCH RESULTS ORGANIZED BASED ON SEO, NOT QUALITY OF CONTENT

- SEO is Google's proprietary search ranking algorithm that measures 200 things on every URL
- College SEO classes teach how to use SEO to build "Google Juice" and get ranked higher
- Most webmasters constantly manipulate their website's SEO characteristics to rank artificially high in the search engines by:
 - Stuffing pages with excessive keywords
 - Keywords in title tags, meta tags, and logo
 - Original photos & favicons
 - Links
 - Mobile-friendliness

THE INTERNET IS "INFINITE"

- In 2008 Jesse Alpert & Nissan Hajaj with Google's Web Search Infrastructure Team said – *"We don't know how many unique pages the web contains. We don't have time to look at them all! Strictly speaking, the number of pages out there is infinite."*
- There are several billion new URLs every day

WORLDWIDEWEBSIZE.COM 2015 INTERNET SIZE ESTIMATES

- 47 billion indexed URLs by Google.com
- 10 billion indexed URLs by Bing.com
- Yahoo.com & Ask.com no longer provide data to public
- For even more statistics, "Google" "percentage of internet google indexes"

GOOGLE CRAWLS / INDEXES <10% OF THE INTERNET

- DARPA talks about the "Dark" or "Deep" Internet
- Grey literature (fugitive academic/gov. literature not formally published)
- Fee based websites (newspapers, magazines, peer reviewed professional journals, *Professional Safety* \$45/yr.)
- Private behind firewall (government, private & public companies)
- Webmasters can lock out Google spiders

RECOGNIZING THE LIMITATIONS OF GOOGLE SEARCH, I DEVELOPED SSE



RECOGNIZING THE LIMITATIONS OF GOOGLE SEARCH, I DEVELOPED SSE

Our Top 11 Apple iPhone/iPad iOS Safety Apps!

🕓 April 20, 2015 🔗 Dave Weber

100



- During the last three years we've reviewed hundreds of Apple IOS safety apps. We're often asked "Which of these apps are our all time favorites?" If told that we could only use eleven iOS (iPad / iPhone) safety apps ever again, the below apps (in no particular order) are the ones ...

Safety Awakening – "Blood & Gore Has It's Place"

🕓 April 17, 2015 🎖 Dave Weber



"Blood & Gore Has It's Place" I strongly believe in using "blood and gore" to motivate employees! The two oldest safety meetings that I can remember both involved seeing the gory aftermath of accidents. 41 years ago I saw a safety movie that showed a hospital ward...

Safety Leadership Checklist From Down Under

🕓 April 16, 2015 🎖 Dave Weber



Australia's Queensland government has lots of great free safety resources on their website. One of my favorite's is their "Safety Leadership Checklist". Review it with your top leader to see if there might be some additional things that he/she might do to enhance your company's safety culture



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ELEVEN-STEP SAFETY SEARCH ALGORITHM



If you're just not finding the safety information you need searching on Google.com, or Bing.com try our "Safety Search Engine" (SSE). It will help you to find information that is overlooked or hidden from these popular search engines.

Below is our eleven-step safety search algorithm. Start with #1 and work your way through to #11. You'll be amazed at what you find!

bannerengineering.com

 Keep Your Factory Safe With Our Industrial Machine Safety Systems.

 Health and Safety Plan

 Concealed Carry Guide

 Solr or ATG?

 Workplace Safety

Signals•Get Free Maps Here•Have a safety concern?•Construction Safety•

All-In-One Training -Satellite Map Of My House

Translate This Page
Select Language
Powered by Google Translate

I ORIGINALLY DEVELOPED THE SSE FOR MY IMPORTANT SAFETY SEARCHES

- I inherited TOR & wanted to update it. Couldn't find much on it using search engines, had to look where search engines didn't go
- Started with six steps, grew to 11
- Cousin Kelly Coleman referred me to three of the steps

STEPS 1 – 6 ARE FREE

If you're just not finding the safety information you need searching on Google.com, or Bing.com try our "Safety Search Engine" (SSE). It will help you to find information that is overlooked or hidden from these popular search engines.

Below is our eleven-step safety search algorithm. Start with #1 and work your way through to #11. You'll be amazed at what you find!

1. Enter your subject of interest into our "Google Custom Search" box. It is located on the upper right side of every SafetyAwakenings.com webpage.

Use the site search box at PDF Search Engine to find free PDF files on your subject of interest.

3. For a different perspective, try these other Internet search engines:

- https://www.ixquick.com/
- https://duckduckgo.com/
- http://www.webcrawler.com/
- http://www.gigablast.com/
- http://search.carrot2.org/stable/search
- http://www.dmoz.org/
- ▶ other search engines

 Use the site search box at these twelve International Safety Websites (e.g. OSHA, NIOSH, HSE, CCOHS, IOSH, etc.) to find information on your subject of interest.

5. Use the site search box at each of these sixteen online **Safety Magazines** to find articles on your subject of interest.

6. Search USA's Defense Technical Information Center (DTIC®) for your subject of interest. The DTIC is the largest central resource for government-funded scientific, technical, engineering, and business related information available today.

STEPS 7 – 10 COST MONEY (\$\$\$) GOOGLE SEARCH DOES NOT INDEX PAID WEBPAGES

 Search for you topic of interest in Google Scholar. "Google Scholar provides a way to search for scholarly literature. You can search across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites." (\$\$\$)

 Search Techstreet.com to see if there are any standards or codes on your subject of interest. Techstreet® is one of the world's largest collections of essential standards and codes from around the world. They provide instant access to over 500,000 industry codes and standards (international, national, state, local). (\$\$\$)

 Search the National Technical Information Service (NTIS) for your subject of interest. The NTIS serves as the largest central resource for government-funded scientific, technical, engineering, and business related information available today. They provide businesses, universities, and the public timely access to approximately 3 million publications. (\$\$\$)

 ProQuest Dissertation Publishing has over three million dissertations and theses from graduate schools around the world. Download a thesis for only \$37. Click here to search for a thesis on your topic of interest. (\$\$\$)

11. The following websites offer free downloadable information on thousands of workplace safety and health subjects:

> CAL OSHA Oregon OSHA ESFi North Carolina Washington Texas Nebraska Society CNA MN Safety Resources Oklahoma State NSC HE&W Yale Georgia Tech UWM Arbill CPRW Work Safe BC IAPA Alberta Health & Safety Ontario Risk Factors WSHCouncil SeaBright Risk Alerts Ontario Ministry Institute for Work & Health Occupational Medicine CROET Web Northeastern State University

STEP 11 HAS THOUSANDS OF FREE RESOURCES, BUT IS VERY TIME CONSUMING

 The following websites offer free downloadable information on thousands of workplace safety and health subjects:

> CAL OSHA Oregon OSHA ESFi North Carolina Washington Texas Nebraska Society CNA MN Safety Resources Oklahoma State NSC HE&W Yale Georgia Tech UWM Arbill CPRW Work Safe BC IAPA Alberta Health & Safety Ontario Risk Factors WSHCouncil SeaBright Risk Alerts Ontario Ministry Institute for Work & Health Occupational Medicine CROET Web Northeastern State University Work Safe Manitoba e-Hazard WSH State Compensation Insurance Fund Journal of Occupational Medicine Journal of Injury Prevention KEMI New Zealand SFM Grainger Worksafe Victoria DuraLabel IH News Morton Safety JSHER George Robotham Safety Articles EU-OSHA MEMIC West Bend Safety Performance Solutions AmTrust Virginia Great American Health & Safety International The Safe Workplace Graphic Products US Army eLCOSH Professional Safety Workplace Safety Queensland Midwestern Insurance Alliance SafetyInfo

HAD PLANNED TO DO A "LIVE" SEARCH

- Open up to the audience, let you decide sample topics to search live
- Decided against because of the time it would take & "iffy" Internet connectivity

IN PLACE OF A LIVE SEARCH I PRESELECTED TWO SEARCH SUBJECTS

- One subject was "Safety
 Management" related
- One subject was "Safety Engineering" related
- Completed partial SSE searches on each of these two subjects

SEARCH EXAMPLE #1 – A SAFETY MANAGEMENT SUBJECT

- Asked LinkedIn groups what they recently searched for
- James E Kohl III, Honeywell Safety Products, suggested *"improving* accident investigations"

GOOGLE SEARCH



improving accident investigations



Web News Videos Images Shopping More - Search tools

About 13,800,000 results (0.32 seconds)

Accident investigations improve safety, Part 2

www.ltImagazine.com/.../accident-investigations-improve-safety-part-2 Feb 10, 2015 - In part one of this series, we discussed accident investigations and the critical role they play in safety management and improving safety ...

[PDF] Improving safety through accident investigation: An NTSB ...

www.ntsb.gov/.../Sumwalt_201503...
Vational Transportation Safety Board
Mar 18, 2015 - NTSB is an independent federal agency, charged by Congress to
investigate transportation accidents, determine probable cause, and issue ...

[PDF] Improving the Quality of Accident Investigation - Worceste...

https://www.wpi.edu/Pubs/.../NTSB.pdf Worcester Polytechnic Institute Dec 18, 2009 - Improving the Quality of. Accident Investigation. National Transportation Safety Board. Office of Marine Safety. Submitted to: Project Liaison: ...

Improving Accident Investigations And Data Analysis - Timken timken.com/.../ImprovingAccidentInvestigations.aspx - Timken Company -To improve accident investigations and data analysis throughout Timken, associates from corporate health and safety, medical services and information systems ...

SSE #7 "GOOGLE SCHOLAR"

- "Rating Accident Models & Investigation Methodologies" by L Benner Jr (USC faculty) in *Journal of Safety Researc*h, Autumn 1985 - \$35
- Study funded by OSHA
- Goal to rate and rank the many different types of accident investigation models used by 17 government agencies
- Agencies included: OSHA, Army/Navy/Air Force, NASA, Nuclear Regulatory Commission, National Transportation Safety Board, CPSC, Department of Energy, MSHA, National Highway Traffic Safety Administration

RESULTS OF ACCIDENT INVESTIGATION STUDY

- Found 14 different accident investigation models
- Ranked them from best to worst
- Best was the "Events Process" model (e.g. MORT – Management Oversight and Risk Tree)
- Near bottom was OSHA's "Violations Model" (assumes violation of an OSHA standard is the cause of all accidents)

ACCIDENT INVESTIGATION STUDY'S CONCLUSIONS

- "Incomplete & flawed investigation methods lead to misdirected or delayed remedial action."
- Poor "<u>accident investigations</u>" lead to poor "<u>accident</u> <u>data</u>", which leads to poor accident "<u>statistical</u> <u>analysis</u>", which drives poor "<u>standards development</u>"
- Currently too many models
- Dump the lower rated models
- Replace them with the higher rated models (OSHA apparently still uses "Violations Model")
- Google did not have this excellent resource on their first 50 screens

SSE #10

"PROQUEST DISSERTATION PUBLISHING"

- *"Causal Reasoning In Industrial Safety Specialists"* by K L Woodcock, PhD thesis U of Toronto 1996 – 248 pages - \$37
- "Little is known about industrial accident causefinding practices"
- Studied 16 safety specialists during their investigation of accidents
- Attempted to determine what impact specific internal biases and external pressures have upon an accident <u>investigator</u> vis-a-vie the inspection results

FINDINGS – SAFETY PEOPLE ARE OFTEN INFLUENCED BY SELF-SERVING BIASES WHEN INVESTING ACCIDENTS

- The investigators are conscious of the values of their employer & are biased by them (\$)
- It's easier & more acceptable to blame the worker, machine, environment, PPE, rather then management or the management system
- Safety people will sometimes unwittingly not say things in accident reports that might adversely impact their relationship with upper management or their career
- Being "politically correct" is sometimes more important then finding the true cause of accidents

SEARCH EXAMPLE #2 – SAFETY ENGINEERING SUBJECT

- One consulting client (manufacturer of pressure sensitive roll & sheet products) was very safety conscious. They would not stop at complying with standards
- Engineering designed an automated plant humidification system (spraying atomized water droplets in front of fans)
- Because of their concern that stagnant water could cause Legionnaire's Disease, they installed powerful UV light sources
- Second search, "work related Legionnaire's Disease"

GOOGLE SEARCH

J,

Q

+Dav

Google work related Legionnaires Disease

Web News Images Shopping Videos More - Search tools

About 516,000 results (0.23 seconds)

Legionnaires' disease? - We represent victims nationally

Ad www.legionnairelawyer.com/
Call now for your free consultation

Legionnaire's Disease : OSH Answers

www.ccohs.ca/oshanswers/diseases/legion.html -

Two distinct illnesses, Legionnaires' disease and Pontiac fever, have been associated with the Legionella species. Legionnaires' disease is a severe ...

HSE - Legionella and Legionnaires' disease

www.hse.gov.uk > Guidance > Topics - Health and Safety Executive - Apr 13, 2015 - HSE looks at the symptoms of Legionnaires' disease and how it is treated. ... HSE aims to reduce work-related death, injury and ill health.

HSE - What is Legionnaires' disease?

www.hse.gov.uk > ... > Legionnaires' disease Health and Safety Executive Aug 12, 2014 - The bacterium Legionella pneumophila and related bacteria are ... cold water systems and spa pools used in all sorts of premises (work and ...

Legionellosis (Legionnaires' Disease & Pontiac Fever ...

wwwnc.cdc.gov/... ▼ United States Centers for Disease Control and Preve... ▼ Most cases of legionellosis are caused by Legionella pneumophila. Disease ... Cruise ship-associated Legionnaires' disease, November 2003–May 2004. ... Ricketts KD, Yadav R, Patel S, European Working Group for Legionella Infections.

Section III: Chapter 7: Legionnaires' Disease - Occupational ...

https://www.osha.gov/.../o...
Cccupational Safety and Health Administration
It is important to remember that an outbreak of Legionnaires' disease among workers
may have its origin in the community and may not be related to the work ...

Legionella/Legionnaires' Disease - Healthy Working Lives

www.healthyworkinglives.com/.../workplace.../le...

Healthy Working Lives
Legionnaires' Disease acquired its name in 1976 when an outbreak of ... This includes
protecting employees and the public from risks associated with legionella ...

Legionnaires' disease - NHS Choices

www.nhs.uk/conditions/legionnaires-disease/.../In...

National Health Service

NHS Choices - 2011

SSE #2 "PDF SEARCH ENGINE"

- 78-page publication "Legionnaires Disease In N.J." by Donald Schill MS CIH
- Sources of exposure: cooling towers, coolers, evaporative condensers, humidifiers, portable water tanks, ice machines, janitor sinks, potting soil, emergency showers/eye-washes
- Treatments: regular flushing, biocide dosing, super heating, hyperchlorination, filtration, corrosion control, copper-silver ion treatment, eliminate rubber/plastic/silicone washers
- Regular sampling and laboratory analysis
- Google did not have this excellent and well illustrated resource on their first 50 screens

SSE #6

"DEFENSE TECHNICAL INFORMATION CENTER"

- In Dec 2002 DOD MSMR (Medical Surveillance Monthly Report) the following cases were reviewed:
 - A maintenance employee developed Legionnaire's Disease when he emptied the condensate fluid from a refrigerator. Three days post exposure admitted to hospital intensive care
 - Other exposures identified in: water fountain, water faucets in men's bathroom, and water dripping from ceiling tile into a workers waste basket
 - Google did not have this excellent resource on their first 50 screens

TAKE THE SSE "PEPSI" CHALLENGE

- Next time you have really important research to do
- First, do a Google search
- Then do a SSE search
- You will be surprised at all the great information you find through SSE that Google missed

SSE – FOR YOUR "IMPORTANT SEARCHES"

- SSE will help you to access information that is not available through simple search
- SSE is not a replacement for the popular Internet search engines
- SSE should be viewed as a supplement to the Internet search engines

SSE WORKS GREAT FOR "NON-SAFETY SUBJECTS

- Skip steps 1, 4, 5, 11
- Complete steps 2, 3, 6, 7, 8, 9, 10
- Tell your engineers (and others who regularly search) about SSE

TESTIMONIALS

- "I am a senior safety major at Eastern Kentucky University and struggle constantly using Bing and Google as search engines for my schoolwork. Trust me, safety requires a lot of research. Thanks for the link to your "Safety Search Engine!" Teresa McDonnell
- "I've spent the last three days reviewing journals and looking for current information on a specific subject. Found lots more good studies in the last 30-minutes using your Safety Search Engine!" Cait Casey

QUESTIONS & COMMENTS

LET'S KEEP IN TOUCH!

- Send an email (Dave@SafetyAwakenings.com) if you know of a good resource to add to SSE
- Visit SafetyAwakenings.com regularly
- Join my LinkedIn group "Free Safety Resources"
- Pick up a business card