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網站安全攻防實務

Google Hacking

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大綱

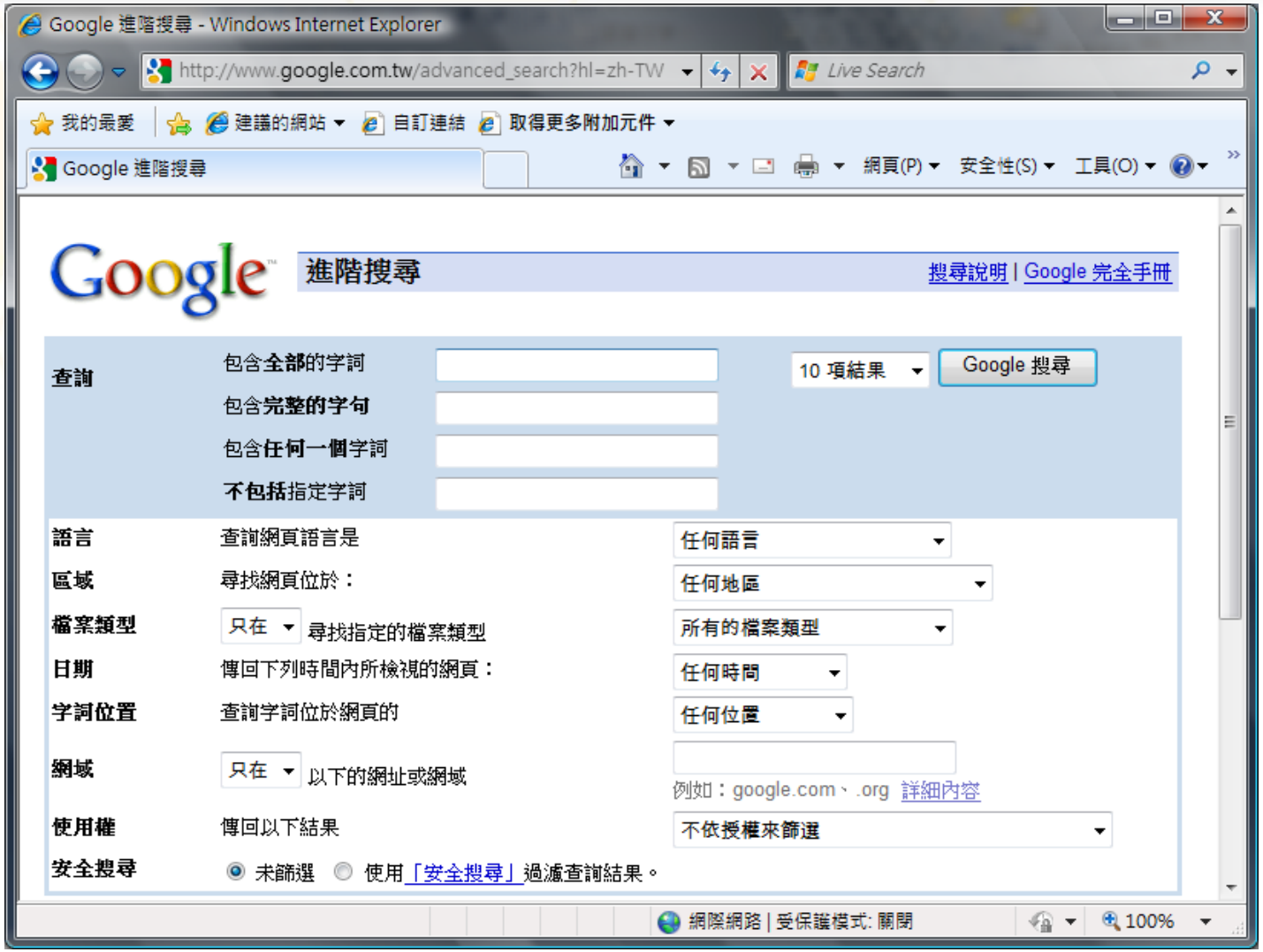
- What is Google
- What is Google Hacking
- How to use the GHDB
- Google Hacking Tools
- Chose your keyword
- Demo and lab

What is Google

- Google was co-founded by Larry Page and Sergey Brin while they were students at Stanford University and the company was first incorporated as a privately held company on September 4, 1998.
- The powerful search engine.
- Using simple search interface.
- The shortest URL：**g.cn**

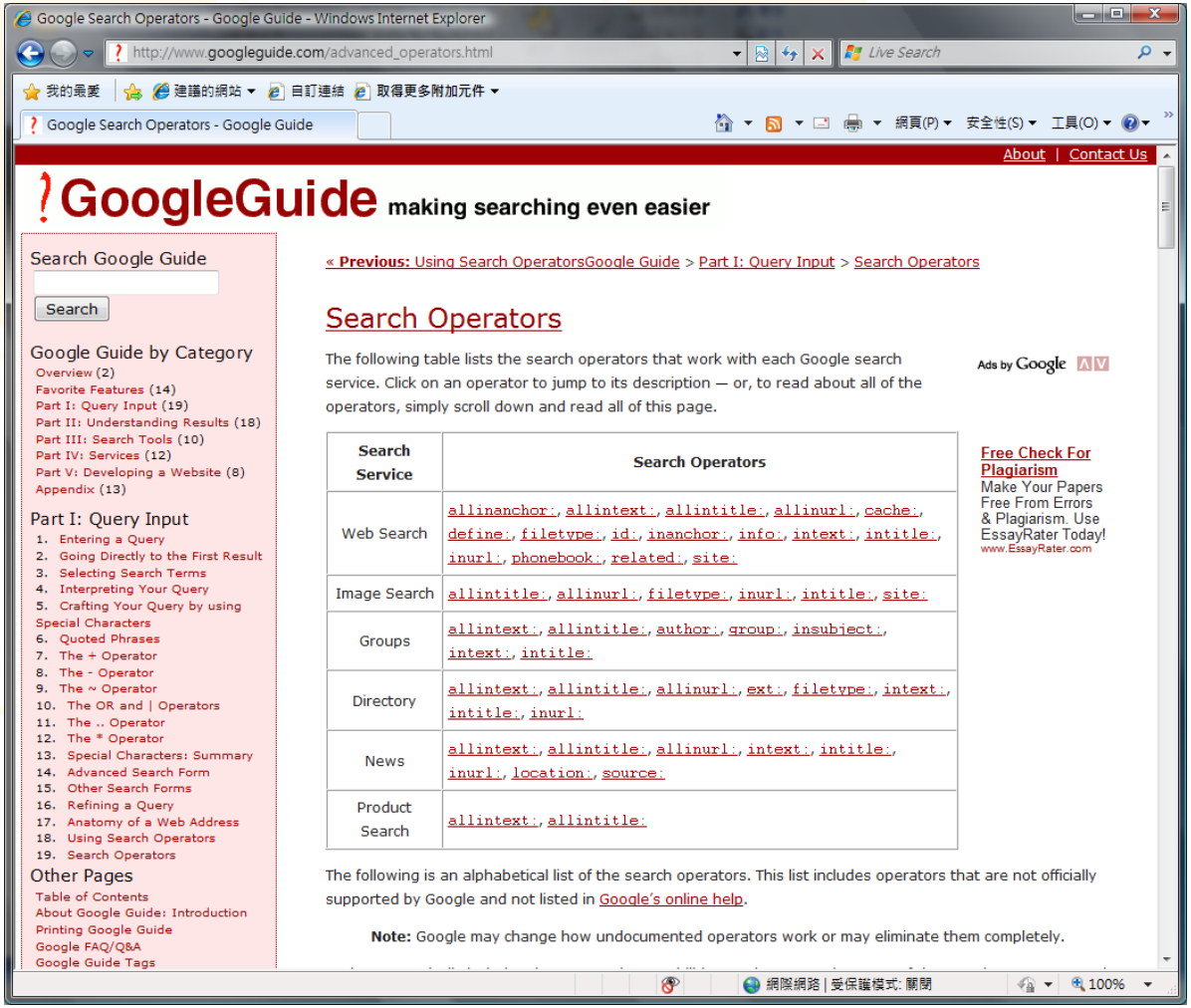
Google Search

Google Advance Search



Making searching even easier

- iGoogleGuide
  - http://www.googleguide.com/



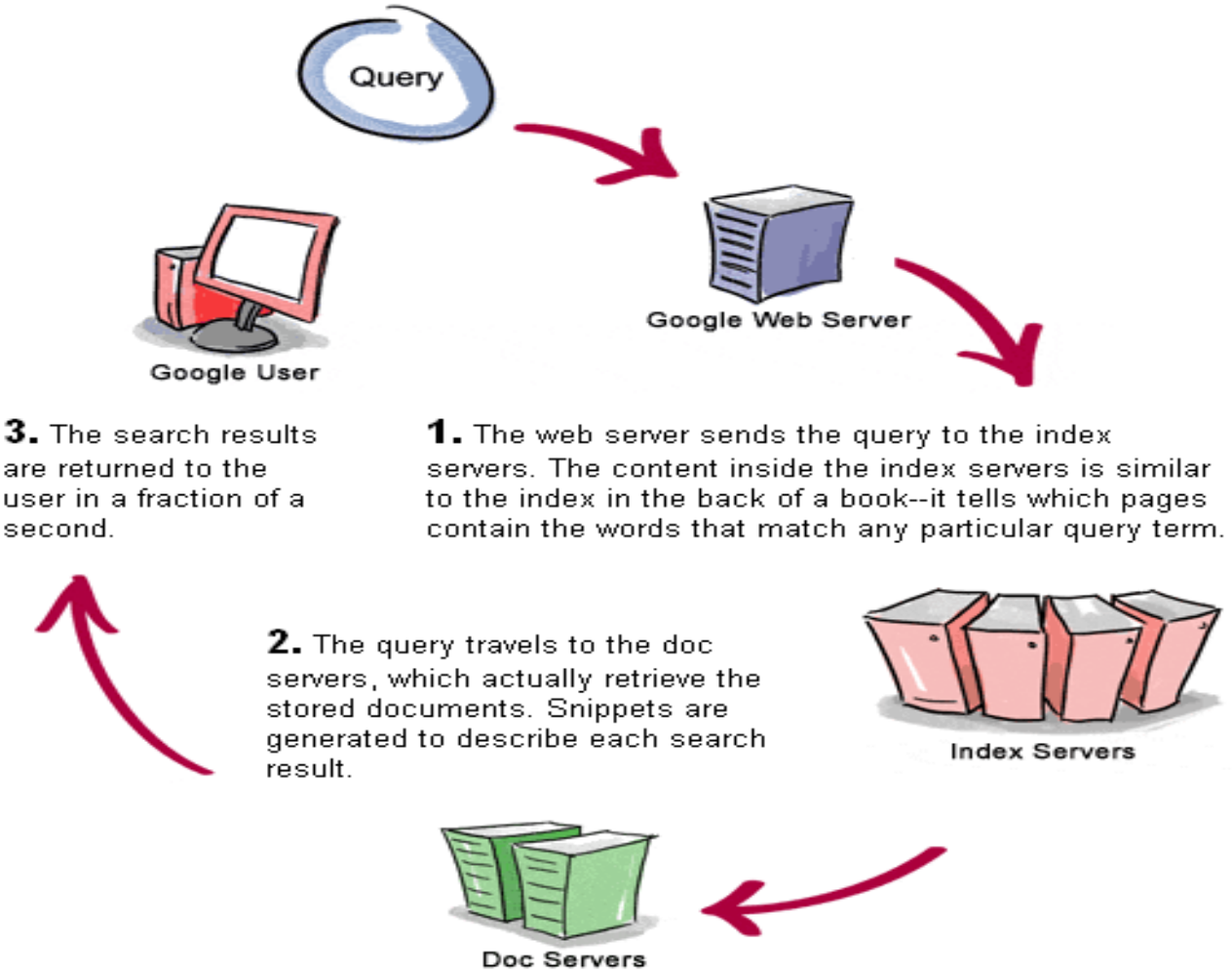
Google's Boolean Modifiers

- AND is always implied
- OR: Escobar (Narcotics OR Cocaine)
- "-" = NOT: Escobar -Pablo
- "+" = MUST: Escobar +Roberto
- Use quotes for exact phrase matching
- Wildcards
  - Google supports word wildcards but NOT stemming
  - Find different?
    - 蔡一郎、蔡一*、蔡*郎、*一郎
    - airline、air*、*line

Basic Google Operator

- Exclude terms using the NOT operator **(minus sign)**
- For example, searching NCHC -NARL will give you everything that has NCHC but not NARL
- Include common words using the AND operator **(plus sign)**
- For example, searching NCHC +NARL will give you everything with the words NCHC and NARL
- Searching for exact phrases must be surrounded by double quotes
- For example, "NCHC and NARL" will return all results that have NCHC and NARL as a phrase
- Wildcards are represented by an asterisk
- Searching for NCHC * "NARL" will return all entries with NCHC any word NARL
- Google searching is not case sensitive so NCHC, nchc and NcHc are all the same

How Google Works



How Do I Get Results

- Pick your keywords carefully & be specific
- Do NOT exceed 10 keywords
- Use Boolean modifiers
- Use advanced operators
- Google ignores some words
  - a, about, an, and, are, as, at, be, by, from, how, i, in, is, it, of, on, or, that, the, this, to, we, what, when, where, which, with

(From: Google 201, Advanced Googology - Patrick Crispen, CSU)

Some of the Advanced Google Search Techniques

- site
  - restricts a search to a particular site or domain
- intitle
  - finds strings in the title of a page
- inurl
  - finds strings in the url of a page
- filetype
  - finds specific types of files based on file extension
- link
  - searches for links to a site or url
- inanchor
  - finds text in the descriptive text of links

About filetype

- Everything listed at http://filext.com/

Advanced Google Search

- site: (.edu, .gov, honeynet.org.tw)
- filetype: (txt, xls, mdb, pdf, .log)
- Daterange: (julian date format)
- Intitle / allintitle
- Inurl / allinurl

Directory Listings

- Show server version information
  - Useful for an attacker
    - intitle:index.of server.at
    - intitle:index.of server.at site:nchc.org.tw
    - intitle:index.of "parent directory"

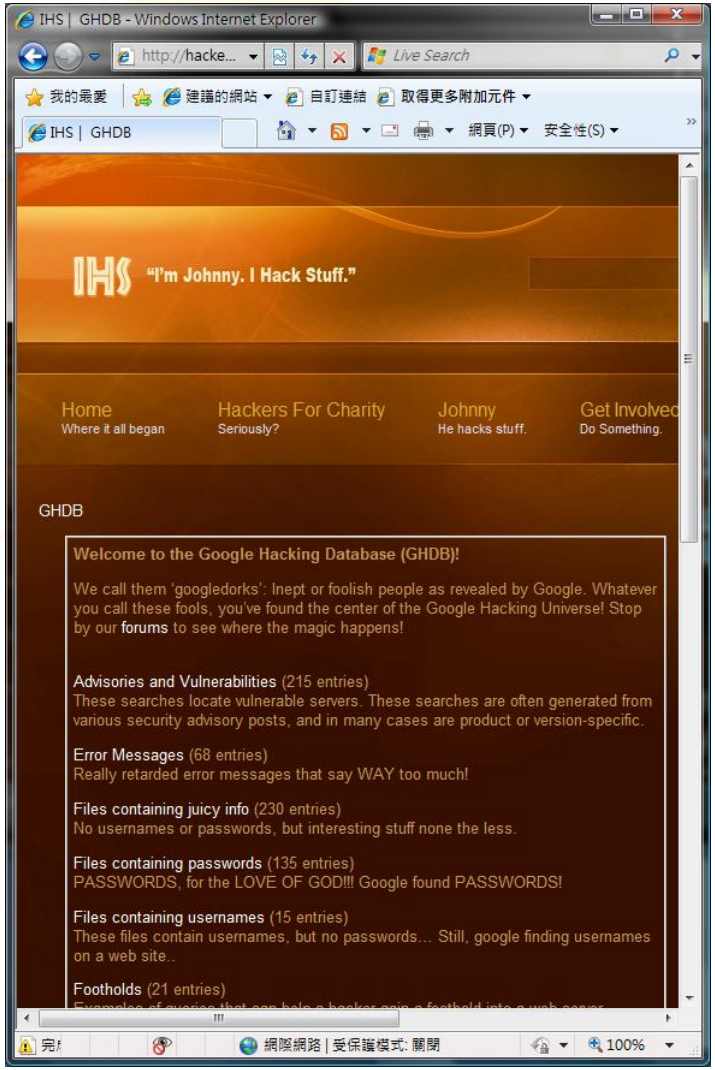
What is Google Hacking

- Johnny Long is the “grandfather” of Google hacking.
  - http://hackersforcharity.org/
- Google is much more than just a simple search interface and engine.
  - http://www.google.com/
- Google crawls public websites for information **every 6-8 weeks** using an automated search and record program called Googlebot.
- It is not hacking into Google.

How to use the GHDB

- GHDB=Google Hacking Database
  - http://hackersforcharity.org/ghdb/

- Cartage
  - Advisories and Vulnerabilities
  - Error Messages
  - Files containing juicy info
  - Files containing passwords
  - Files containing usernames
  - Footholds
  - Pages containing login portals
  - Pages containing network or vulnerability data
  - sensitive Directories
  - sensitive Online Shopping Info
  - Various Online Devices
  - Vulnerable Files
  - Vulnerable Servers
  - Web Server Detection



Find and Click.....

Google Hacking Tools

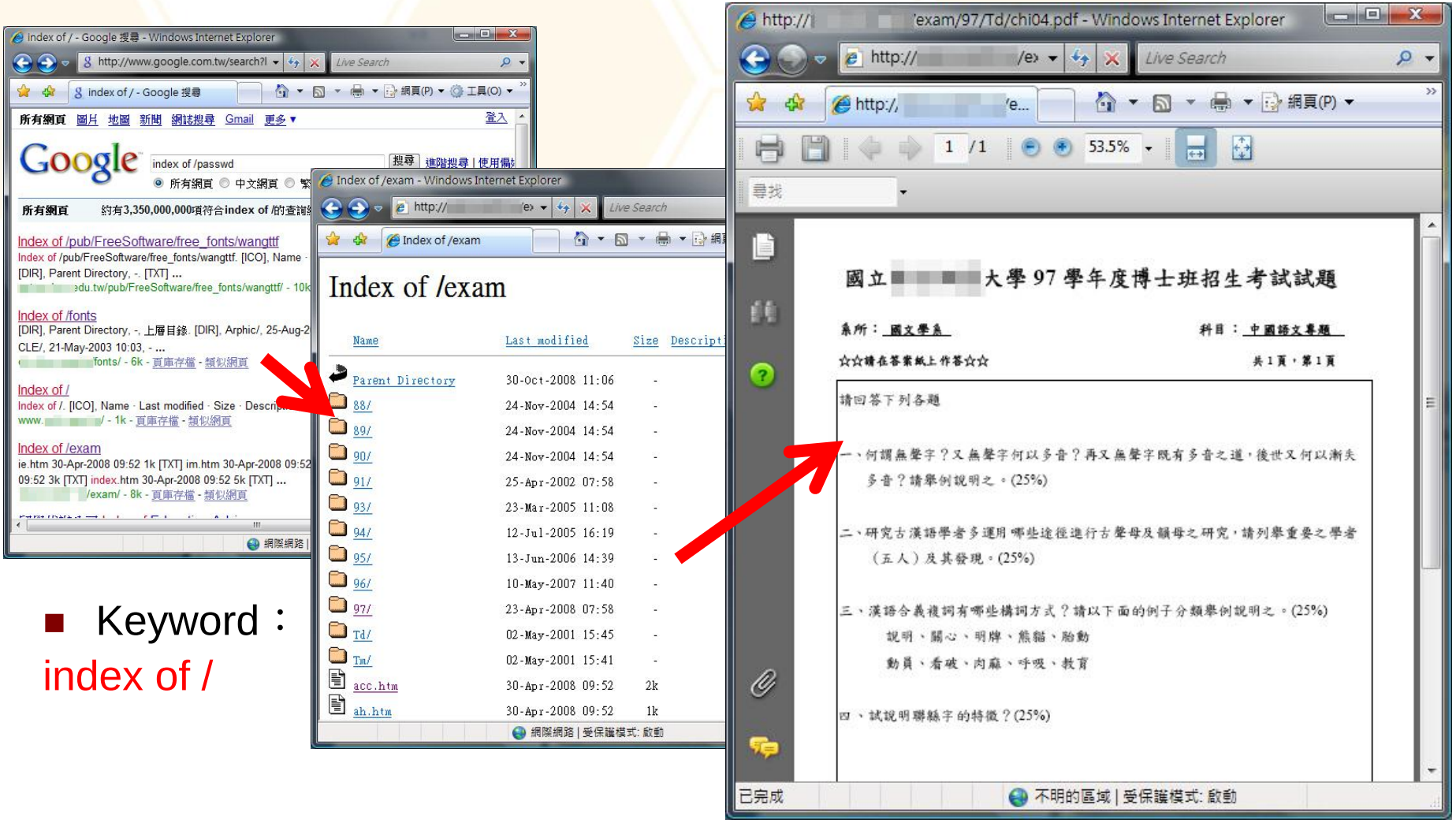
- Gooscan – Johnny Long's free command line UNIX tool. It violates the Google TOS. Gooscan automates queries designed to find potential vulnerabilities on web pages against Google.
  - http://johnny.ihackstuff.com/ (not found)
- SiteDigger – A Windows tool that searches Google's cache to look for vulnerabilities, errors, configuration issues and proprietary information on websites. Must have Google API license key.
  - http://www.foundstone.com/us/resources/proddesc/sitedigger.htm
- Wikto – Wikto is a Windows based web server assessment tool that uses the Google hacking database (GHDB). This tool requires a Google developer license.
  - http://www.sensepost.com/research/wikto
- Advanced Dork – AdvancedDork is a Firefox extension designed to quickly search for specific text inside Google's Advanced Operators.
  - https://addons.mozilla.org/firefox/2144

Google Hacking-search XSS

- Keyword：

gov.tw OR
com.tw
9i5t.cn/a.js

Google Hacking-Search



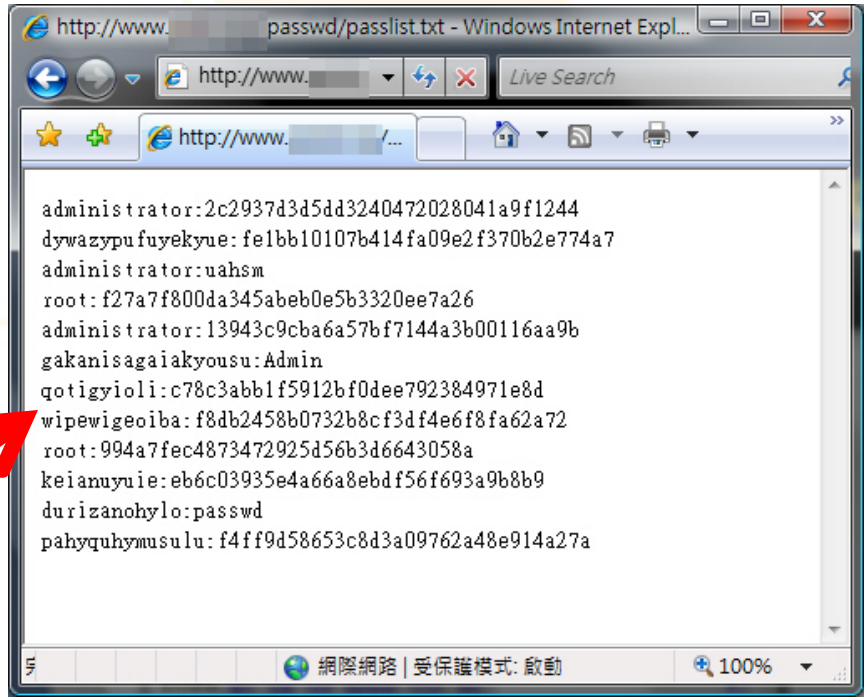
- Keyword：

index of /

Google Hacking-Search

- Keyword：

index of /passwd



Google Hacking-Search

- Keyword：

"index of /" 范逸臣 mp3
site:edu.tw

How to secure

- Anti-robot
  - configure “robot.txt” in the web root directory
  - Robots Exclusion Protocol or robots.txt protocol
  - It is a convention to prevent cooperating web spiders and other web robots from accessing all or part of a website.

robot.txt example

- allows all robots to visit all files because the wildcard "*" specifies all robots

```
User-agent: *
Disallow:
```

- keeps all robots out

```
User-agent: *
Disallow: /
```

robot.txt example (cont.)

- all crawlers not to enter four directories of a website

```
User-agent: *
Disallow: /cgi-bin/
Disallow: /images/
Disallow: /tmp/
Disallow: /private/
```

- a specific crawler not to enter one specific directory

```
User-agent: BadBot # replace the 'BadBot' with the actual user-agent of the bot
Disallow: /private/
```

robot.txt example (cont.)

- all crawlers not to enter one specific file

```
User-agent: *
Disallow: /directory/file.html
```

- Sitemap

```
Sitemap: http://www.gstatic.com/s2/sitemaps/profiles-sitemap.xml
Sitemap: http://www.google.com/hostednews/sitemap_index.xml
```

About Googlebot

- Googlebot
  - crawl pages from our web index and our news index
- Googlebot-Mobile
  - crawls pages for our mobile index
- Googlebot-Image
  - crawls pages for our image index
- Mediapartners-Google
  - crawls pages to determine AdSense content. We only use this bot to crawl your site if AdSense ads are displayed on your site.
- Adsbot-Google
  - crawls pages to measure AdWords landing page quality. We only use this bot if you use Google AdWords to advertise your site.

How do I block Googlebot

- Blocking Googlebot
  - Google uses several user-agents. You can block access to any of them by including the bot name on the User-agent line of an entry. Blocking Googlebot blocks all bots that begin with "Googlebot".

```
User-agent: Googlebot
Disallow: /
```

How do I allow Googlebot

- Allowing Googlebot

```
User-agent: *
Disallow: /
```

Allow all robot

```
User-agent: Googlebot
Disallow:
```

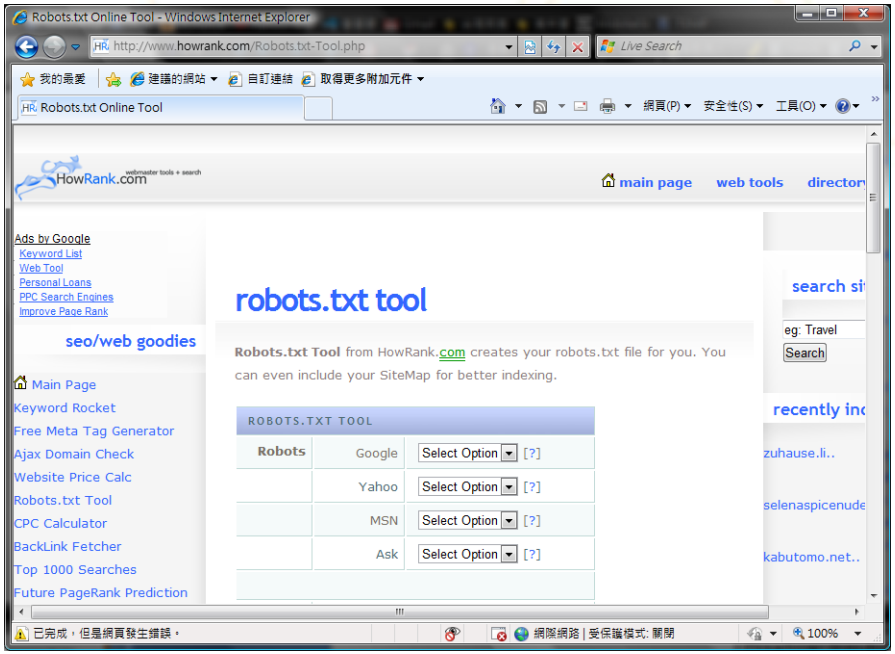
Allow single robot

```
User-agent: Googlebot
Disallow: /folder1/
Allow: /folder1/myfile.html
```

```
User-agent: Googlebot
Disallow: /
```

The other chose

- robot.txt tool
  - http://www.howrank.com/Robots.txt-Tool.php



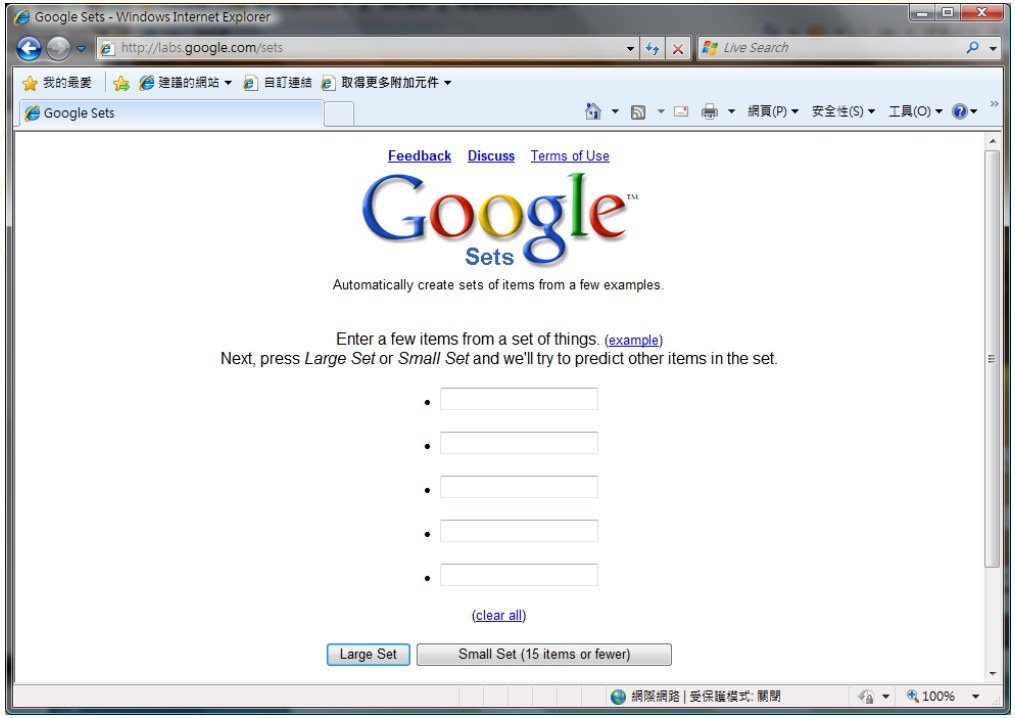

```
# robots.txt tool from
www.howrank.com
User-agent: *
Disallow:
User-agent: Slurp
Disallow: /
User-agent: MSNBot
Disallow: /
User-agent: Teoma
Disallow: /
Disallow: /cgi-bin/
```

Example robots.txt

- User-agent: *
- Disallow: /images/
- Disallow: /stats/
- Disallow: /logs/
- Disallow: /admin/
- Disallow: /comment/
- User-agent: Googlebot
- Allow:
- User-agent: BecomeBot
- Disallow:
- Disallow: /
- Disallow: *
- User-agent: MSNBot
- Disallow:
- Disallow: /
- Disallow: *

Sets from Google Labs

- Automatically create sets of items from a few examples.
- When you're tired of relating keywords yourself, let Google do it for you
  - http://labs.google.com/sets



Lab-search

- filetype:htpasswd htpasswd
- intitle:"Index of” “.htpasswd” -intitle:"dist” -apache -htpasswd.c
- index.of.private (algo privado)
- intitle:index.of master.passwd
- inurl:passlist.txt (para encontrar listas de passwords)
- intitle:"Index of..etc” passwd
- intitle:admin intitle:login
- “Incorrect syntax near” (SQL script error)
- intitle:"the page cannot be found” inetmgr (debilidad en IIS4)
- intitle:index.of ws_ftp.ini

Lab-search (cont.)

- “Supplied arguments is not a valid PostgreSQL result” (possible debilidad SQL)
- _vti_pvt password intitle:index.of (Frontpage)
- inurl:backup intitle:index.of inurl:admin
- “Index of /backup”
- index.of.password
- index.of.winnt
- inurl:"auth_user_file.txt”
- “Index of /admin”
- “Index of /password”
- “Index of /mail”
- “Index of /” +passwd
- Index of /” +.htaccess
- Index of ftp +.mdb allinurl:/cgi-bin/ +mailto

Lab-search (cont.)

- allintitle: “index of/admin”
- allintitle: “index of/root”
- allintitle: sensitive filetype:doc
- allintitle: restricted filetype :mail
- allintitle: restricted filetype:doc site:gov
- administrator.pwd.index
- authors.pwd.index
- service.pwd.index
- filetype:config web
- gobal.asax index
- inurl:passwd filetype:txt
- inurl:admin filetype:db
- inurl:iisadmin
- inurl:"auth_user_file.txt”

Lab-search (cont.)

- inurl:"wwwroot/*.”
- allinurl: winnt/system32/ (get cmd.exe)
- allinurl:/bash_history
- intitle:"Index of” .sh_history
- intitle:"Index of” .bash_history
- intitle:"Index of” passwd
- intitle:"Index of” people.1st
- intitle:"Index of” pwd.db
- intitle:"Index of” etc/shadow
- intitle:"Index of” spwd
- intitle:"Index of” master.passwd
- intitle:"Index of” htpasswd
- intitle:"Index of” members OR accounts
- intitle:"Index of” user_carts OR user _cart

try… then tell me what happen

- "# -FrontPage-" inurl:service.pwd
- site:tw inurl:login.asp
- intitle:"Index of" passwords modified
- allinurl:auth_user_file.txt
- "Index of /backup"
- "parent directory" **MP3** -xxx -html -htm -php -shtml -opendivx -md5 -md5sums

try… then tell me what happen

- "parent directory" **DVDRip** -xxx -html -htm -php -shtml -opendivx -md5 -md5sums
- "parent directory" **album** -xxx -html -htm -php -shtml -opendivx -md5 -md5sums
- "Windows Vista" 94FBR
- "index of" intext:fckeditor inurl:fckeditor
- allinurl: winnt/system32/
- intitle:Remote.Desktop.Web.Connection inurl:tsweb
- "VNC Desktop" inurl:5800

Q & A

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