

# Lord of the Bing

# Taking Back Search Engine Hacking From Google and Bing16 FEB 2011 – HackCon 2011 – Oslo, Norway



**Presented by:** Francis Brown & Rob Ragan Stach & Liu, LLC www.stachliu.com







## Agenda OVERVIEW

- Introduction/Background
- Advanced Attacks
  Google/Bing Hacking
- Advanced Defenses
  - Google/Bing Hacking Alerts
- Other OSINT Attack Techniques
- Future Directions





## Goals DROPKNOWLEDGE ON YOU

- To improve Google Hacking
  - Attacks and defenses
  - Advanced tools and techniques
- *To think differently* about exposures in publicly available sources
- To blow your mind!









# Introduction/ Background GETTING UP TO SPEED





## **Open Source Intelligence** SEARCHING PUBLIC SOURCES

OSINT – is a form of intelligence collection management that involves finding, selecting, and acquiring information from *publicly available* sources and analyzing it to *produce actionable intelligence*.





# Google/Bing Hacking SEARCH ENGINE ATTACKS

| Soogle 3                | ×                            |  |              |                                     |
|-------------------------|------------------------------|--|--------------|-------------------------------------|
| < → C f ☆               | http://www.google.com/       |  |              | ► 🗗 🔑                               |
| Web Images Videos M     | aps News Shopping Gmail more | •                                      |              | iGoogle   Search settings   Sign in |
|                         | G                            | ogl                                    | e            | Advanced Search                     |
|                         | Google Searc                 | h I'm Feeling Luck                     | y            | Aqvanced search<br>Language Tools   |
|                         | Advertising Programs         | Business Solutions<br>© 2010 - Privacy | About Google |                                     |
| Change background image | •                            |  |              |                                     |





Google/Bing Hacking SEARCH ENGINE ATTACKS

Bing's source leaked!

```
class Bing {
   public static string Search(string
   query)
   {
     return Google.Search(query);
   }
}
```



## Attack Targets GOOGLE HACKING DATABASE

- Advisories and Vulnerabilities (215)
- Error Messages (58)
- Files containing juicy info (230)
- Files containing passwords (135)
- Files containing usernames (15)
- Footholds (21)
- Pages containing login portals (232)

- Pages containing network or vulnerability data (59)
- Sensitive Directories (61)
- Sensitive Online Shopping Info (9)
- Various Online Devices (201)
- Vulnerable Files (57)
- Vulnerable Servers (48)
- Web Server Detection (72)



## Attack Targets GOOGLE HACKING DATABASE

## Old School Examples

- Error Messages
  - filetype:asp + "[ODBC SQL"
  - "Warning: mysql\_query()" "invalid query"
- Files containing passwords
  - inurl:passlist.txt



## Quick History GOOGLE HACKING RECAP

| Dates                 | Event                                     |
|-----------------------|---|
| 2004                  | Google Hacking Database (GHDB) begins     |
| May 2004              | Foundstone SiteDigger v1 released         |
| 2005                  | Google Hacking v1 released by Johnny Long |
| Jan. 2005             | Foundstone SiteDigger v2 released         |
| Feb. 13 <i>,</i> 2005 | Google Hack Honeypot first release        |
| Jan. 10, 2005         | MSNPawn v1.0 released                     |
| Dec. 5, 2006          | Google stops issuing Google SOAP API keys |
|                       |   |



## Quick History GOOGLE HACKING RECAP

| Dates         | Event                                      |
|---------------|--|
| Mar. 2007     | Bing disables inurl: link: and linkdomain: |
| Nov. 2, 2007  | Google Hacking v2 released                 |
| Mar. 2008     | cDc Goolag - gui tool released             |
| Sept. 7, 2009 | Google shuts down SOAP Search API          |
| Nov. 2009     | Binging tool released                      |
| Dec. 1, 2009  | FoundStone SiteDigger v 3.0 released       |
| 2010          | Googlag.org disappears                     |





# Advanced Attacks

## WHAT YOU SHOULD KNOW





14

# Google Diggity

New Toolkit

Uses Google AJAX API

STACH & LIU TOOLS

- Not blocked by Google bot detection
- Does not violate Terms of Service
- Can leverage Google custom search

## Bing Diggity

- Uses Bing 2.0 SOAP API
- Company/Webapp Profiling
  - Enumerate: URLs, IP-to-virtual hosts, etc.
- 🧠 Bing Hacking Database (BHDB)
  - Vulnerability search queries in Bing format











# New Toolkit

 $\bigcirc$ 

### GOOGLEDIGGITY

| 🔉 Search Diggity  |   |                          |                                  |  |
|---|---|--------------------------|----------------------------------|--|
| File Options Help   |   |                          |                                  |  |
| GoogleDiggity BingDiggity   |   |                          |                                  |  |
| Advanced Simple   | SCAN Cancel   |                          | Sites/Domains                    | Add  |
| Query Appender  |   |                          | stach                            | iu.com [Remove]                            |
| -   | Google Custom Search ID: Creat  | ie                       | Import                           |  |
| Queries   |   |                          | Clear                            |  |
| FSDB  | Category Subcategory  | Search String Page       | Title URL                        | Cache URL                                  |
| A GHDB  | Custom Custom   | site:stachliu.c/ Stach & | amp; Li http://www.stachliu.com  | n/ http://www.google.com/search?           |
| Advisories and Vi   | Custom Custom   | site:stachliu.ci Lord of | the Bing http://www.stachliu.com | n/slides/le_http://www.google.com/search?c |
| Error Messages  | Custom Custom   | site:stachliu.cr APPLicA | Tion So http://www.stachliu.com  | n/brochu= http://www.google.com/search?c   |
| Files containing juice  | Custom Custom   | site:stachliu.cc Lord of | the Bing http://www.stachliu.com | n/slides/t_http://www.google.com/search?c  |
| Files containing p  | Custom Custom   | site:stachliu.c/ News «  | Stach 8 http://www.stachliu.cor  | n/index.p http://www.google.com/search?c   |
| Files containing u     Footholds  | Custom Custom   | site:stachliu.c/ Secure  | Web AP http://www.stachliu.com   | n/brochu http://www.google.com/search?c 🗸  |
| Misc  | 4   |                          |                                  | •  |
| Pages containing     Pages containing   | Output Selected Result  |                          |                                  |  |
| Sensitive Director     Sensitive Online 5     Various Online D     Vulnerable Files     Vulnerable Server | Advanced Scan started. [9/13/20<br>Search Safety: Moderate.<br>Unlimited results per query.<br>Not using Custom Search ID.<br>Found 41 result(s) for query: " "<br>Total Results: 41.<br>Scan Complete. [9/13/2010 10:4 | [stachliu.com].          |                                  | •  |
| Google Status: Ready  |   | Ding Sta                 | tus: Ready                       |  |
| boogie bracas: ready  |   | Ding Sta                 |                                  |  |





# New Toolkit

 $\bigcirc$ 

| ile<br>oogleDigo    | Options<br>gity BingDiggi  | Help                               |  |   |                   |                                  |                          |                               |
|---------------------|--|------------------------------------|--|---|-------------------|----------------------------------|--------------------------|-------------------------------|
| Advance<br>Query Ap | d Simple   |                                    | SCAN   | Cancel  |                   | Sites                            | /Domains/IPs             | Add                           |
| Queries             |  | •                                  | Bing 2.0 API   | Key: Create   | C73B99461F9367FBF | Impo<br>Clea                     | _                        |                               |
| -                   |  | •                                  | Category   | Subcategory   | Search String     | Page Title                       |                          | URL                           |
|                     | Advisories and   |                                    | Custom   | Custom  | ip:98.129.200.37  | 5                                | http://www.stachliu.com/ |                               |
|                     | Backup Files   | v.                                 | Custom   | Custom  | ip:98.129.200.37  | Google Hacking Diggity Project   |                          | index.php/resources/tools/goo |
| Þ                   | Configuration N  | 1a                                 | Custom   | Custom  |                   | Tools « Stach & Liu              |                          | index.php/resources/tools/    |
| Þ                   | Error Messages   |                                    | Custom   | Custom  |                   | Training « Stach & Liu           | http://www.stachliu.com/ |                               |
| Þ                   | Files containing   | 5                                  | Custom   | Custom  |                   | Webinars « Stach & Liu           |                          | index.php/resources/webinars/ |
|                     | Files containing   |                                    | Custom   | Custom  | ip:98.129.200.37  |                                  |                          | index.php/company/managem     |
|                     | Files containing<br>Footholds  | U                                  | Custom   | Custom  | •                 | Clients & Partners « Stach & Liu |                          |                               |
|                     | Misc   | =                                  |  |   |                   |                                  |                          |                               |
|                     | Pages containir<br>Pages containir   | -                                  | Output   | Selected Res  | ult               |                                  |                          |                               |
|                     | Privacy Related<br>Remote Admini<br>Reported Vulne<br>Sensitive Direct<br>Sensitive Online<br>Technology Pro<br>Various Online | st<br>ra<br>or<br>e t<br>fil<br>De | Adult Optio<br>Maximum<br>Using Cust<br>Found 32 r<br>Total Resu | on: Moderate<br>200 results per<br>om Search ID:<br>esult(s) for qu<br>lts: 32. |                   | 0CB87C73B99461F9367FBFD32.       |                          | •                             |
|                     |  | •                                  |  |   |                   |                                  |                          | •                             |
| gle Statu:          | D d-   |                                    |  |   |                   | Bing Status: Ready               |                          |                               |



## New Toolkit STACH&LIU TOOLS



## GoogleScrape Diggity

- Uses Google mobile interface
  - Light-weight, no advertisements
  - Violates Terms of Service
- Bot detection avoidance
  - Distributed via proxies
  - Spoofs User-agent and Referer headers
  - Random &userip= value
  - Across Google servers





| »     | site:stachliu.com  |      |
|-------|--|------|
| Stack | n & Liu  |      |
|       | s Brown and Rob Ragan will be presenting Lord of the Bing: Taking back search engine hacking from Google and Bing" at Blac<br>tachliu.com/ - <u>Options</u> ▼            | k    |
|       | ord of the Bing!   |      |
|       | f the Bing! Taking back search engine hacking from Google and Microsoft. 03 MAY 2010. Presented by: …<br>tachliu.com/slides/lordoft <u>Options</u> ▼                     |      |
| Com   | pany « Stach & Liu   |      |
|       | & Liu was founded in 2005 by industry leading experts to help companies secure their networks and applications<br>tachliu.com//company/ - <u>Options</u> v               |      |
|       | Defeating Forensic Analysis - Slide 1  |      |
|       | ing Forensic. Analysis. CEIC 2006 – Technical Lecture 1. Thursday, May 4 – 10:30 am to 11:30 am. Presented by Vincent Liu<br>tachliu.com/files/CEIC2006 <u>Options</u> ▼ | and  |
| News  | s « Stach & Liu  |      |
|       | 5, 2009   Vincent Liu will be participating in Jump Start Application Security Initiatives with SaaS, a CSO online webinar …<br>.tachliu.com//news/ - <u>Options</u> ▼   |      |
| Clien | ts & Partners « Stach & Liu  |      |
|       | & Liu serves a broad array of organizations all over the world including the Fortune 1000, mid-market enterprises, …<br>tachliu.com/index.php/comp <u>Options</u> •      |      |
| Regu  | latory Compliance « Stach & Liu  |      |
| HIPA/ | Health Check & Readiness Review. Stach & Liu's HIPAA Health Check & Readiness Review service will help you gain a com<br>tachliu.com/index.php/serv Options ▼            | lete |

# New Hack Databases



### ATTACK QUERIES

### BHDB – Bing Hacking Data Base

- First ever Bing hacking database
- Bing hacking limitations
  - Disabled inurl:, link: and linkdomain: directives in March 2007
  - No support for ext:, allintitle:, allinurl:
  - Limited filetype: functionality
    - Only 12 extensions supported

### Example - Bing vulnerability search:

- GHDB query
  - "allintitle:Netscape FastTrack Server Home Page"
- BHDB version
  - intitle:"Netscape FastTrack Server Home Page"





## BaiduDiggity CHINA SEARCH ENGINE



<u>COMING SOON</u>

• COMING SOON!

| http://www.baidu.com                         | n/s?wd=intitle%3A"Snap+Server"+intitle%3A"Home"+"Active+Users"&n=2               |
|--|--|
| 📓 百度搜索_intitle:"Sr                           | nap Server" intitl 🔅   |
|  | <u>新闻网页贴吧 知道 MP3 图片视频 地图 更多</u> ▼  |
| Bai创百度                                       | intitle:"Snap Server" intitle:"Home" "Active Users"                              |
| 把百度设为主页                                      |  |
| 去掉""获得更多 <u>inti</u>                         | <u>tle: Snap Server intitle: Home Active Users</u> 的搜索结果( <u>关于双引号)</u>          |
|  | ents of network share 'Admin' Admin View contents ofActive Users                 |
| Change Password Adr<br>gsti.miis.edu/ 2010-1 |  |
| Snap Server QRC:                             | 2 [Home]   |
| QRC2 Home View con                           | tents of network share "ICYLANDS' ICYLANDS View contentsActive                   |
| Users Change Passwo                          |  |
| qrc2.ess.washington.e                        | du/ 2010-9-16 - <u>百度快照</u>  |
| Home Directories                             | <u>On Snap Server</u>  |
|  | oftware > Windows 7/2000/NT: Setting up <mark>home</mark> directories in Windows |
|  | iver snap open "Users and computers Active                                       |
| www.exactmatch.info/l                        | home_directories_on 2010-10-9 - <u>百度快照</u>                                      |



 $\bigcirc$ 

## Google Custom Search NORWAY SEARCH ENGINE



| Google Custom Search X 🕀  |
|---|
| ← → C f (S www.google.com/cse/home?cx=013931441997728635234:w6kfuwsuxj4 😭 G 🔦   |
| Google custom search  |
| Norway - Google Custom Search   |
| test  |
| Google CSE ID   |
| Search engine details   |
| searches sites including: *.no/*  |
| Last updated: February 16, 2011   |
| Add this search engine to your the homepage. It Cooste<br>Add this search engine to your blog on the Results filtered for |
| Create your own Custom Search Engine » *.no - Norway sites.   |
| ©2008 Google - <u>Google Home</u> - <u>About Google</u> - <u>Privacy Policy</u>   |
|   |





# NEW GOOGLE HACKING TOOLS







### GOOGLE HACKING DEFENSES

- "Google Hack yourself" organization
  - Employ tools and techniques used by hackers
  - Remove info leaks from Google cache
    - Using Google Webmaster Tools
- Regularly update your robots.txt.
  - Or robots meta tags for individual page exclusion
- Data Loss Prevention/Extrusion Prevention Systems
  - Free Tools: OpenDLP, Senf
- Policy and Legal Restrictions





# **Traditional Defenses**

## GOOGLE HACKING DEFENSES

- "Google Hack yourself" organization
  - Employ tools and techniques used by hackers
  - Remove info leaks from Google cache
    - Using Google Webmaster Tools
- Regularly update your robots.txt.
  Or robots meta tags for individual page exclusion
- Data Loss Prevention / Extrusion Prevention Systems
  Free Tools: OpenDLP, Senf
- Policy and Legal Restrictions



## Advanced Defenses PROTECTYONECK





## Existing Defenses "HACKYOURSELF"



- $\checkmark$  Tools exist
- × Convenient
- ✗ Real-time updates
- ✗ Multi-engine results
- ✗ Historical archived data
- ✗ Multi-domain searching





## Advanced Defenses NEW HOT SIZZLE



Stach & Liu now proudly presents:

- Google Hacking Alerts
- Bing Hacking Alerts





# Google Hacking Alerts Advanced defenses



## Google Hacking Alerts

- All hacking database queries using Google alerts
- Real-time vuln updates to >2400 hack queries via RSS
- Organized and available via **Google** reader importable file

|  |  |  | stachli          | u0@gmail.com   <u>Settings</u>   <u>FA</u>    | <u>\Q   Sign out</u> |
|--|--|--|------------------|---|----------------------|
| Google alerts Manage your Alerts                         | GHDB regexs made into<br>Google Alerts |  |                  |   |                      |
| Your Google Alerts                                       |  |  |                  | Switch to text emails                         | Export alerts        |
| Search terms   | Туре                                   | How often  | Email length     | Deliver te                                    |                      |
| <u>IHost=*.* intext:enc_UserPassword=* ext:pcf</u>       | Web                                    | as-it-happens  | up to 50 results | Feed S<br>View in Google Reader               | <u>edit</u>          |
| "#Dumping data for table (username]user]users[password)" | Web                                    | ac.it.hannone  | up to 50 resulte | Feed M<br>View in Google Reader               | <u>edit</u>          |
| □ <u>"# Dumping data for table"</u>                      | Web                                    | RSS Feeds generate<br>track new GHDB vulr<br>pages in real-tim | nerable results  | <u>Feed</u> 🔊<br>View in Google Reader        | <u>edit</u>          |
| #phpMyAdmin MySQL-Dump" "INSERT INTO" -"the"             | Web                                    | , ,  | 50 results       | <u>Feed</u> 🔊<br><u>View in Google Reader</u> | <u>edit</u>          |



## Google Hacking Alerts ADVANCED DEFENSES



| Google reader   | All items    Search  James Bond needs help!   |  |  |
|---|---|--|--|
| Add a subscription  | Google Alerts - "mvSQL error with guery" mySQL error page snippet conveniently  |  |  |
| All items (1000+)   | Show: 11 new items - all items Mark all as read - Refresh Feed settings   |  |  |
| People you follow 🔹 💌                                       |   |  |  |
| Explore 💿   | 👷 東京都文京区の不動産仲介・管理会社です。文京区・豊島区を中心に、駅 mySQL error with a CREATE TEMPORARY TABLE p   |  |  |
| Subscriptions   | 👷 期間延長 - わかの奇妙な日常 - mySQL error with query SELECT COUNT(*) AS result FROM nucleus 🖉 ctionlog: Can't open file: 'nucleus_actio   |  |  |
| 🖲 🎾 FSDB-Backup Files (195) 🛛 🔤                             | James Bond 007 :: Ml6 - The Home Of James Bond - mySQL error with query SELECT c.citem as itemid, c.cnumber as commentid, c.cbody as  |  |  |
| 표 🎾 FSDB-Configuration Ma (371)                             | James Bond 007 :: MI6 - The Home Of James Bond®   |  |  |
| 🕀 🎾 FSDB-Error Messages (654)                               | James Bond 007 Wild - The Home Of James Bond W  |  |  |
| 🕀 🎾 FSDB-Privacy Related (501)                              | via Google Alerts - "mySQL error with query"  |  |  |
| 🖲 🎾 FSDB-Remote Administr (102)                             |   |  |  |
| 🖲 🎾 FSDB-Reported Vulnera (90) 🛛                            | mySQL error with query SELECT c.citem as itemid, c.cnumber as commentid, c.cbody as body, c.cuser as<br>user, c.cmail as userid, c.cemail as email,<br>www.mi6.co.uk/mi6.php3//news/index.php?itemidt |  |  |
| 🗉 芦 FSDB-Technology Profile (652)                           |   |  |  |
| 🖲 🎾 GHDB-Advisories and V (1000+                            |   |  |  |
| 🖻 ሯ GHDB-Error Messages (1000+)                             | Add star 🙂 Like 🌈 Share 🔊 Share with note 🗠 Email 🔗 Add tags  |  |  |
| 🗟 Google Alents - ''mySQ (11 🗹                              | ☆ 等価交換 » ジェノベソース - mySQL error with query INSERT INTO nucleus_plug_captcha (ckey, time, solution, active) VALUES ('890c8be481   |  |  |
| Google Alerts - "A sv (10)     Google Alerts - "mySQL error |   |  |  |
| Soogle Alerts - "acce (45)                                  | with query (11)<br>会 埼玉県上尾市 vuln alerts generated each day 也 所在地:埼玉県 mySQL error with query INSERT INTO nucleus_plugin_option (ova  |  |  |
| 🗟 Google Alerts - ''An i (1)                                | mysgl macosx and alone applications with mysgl. mysgl error with query, creating standalone applications with mysgl. mysgl  |  |  |
| Google Alerte "ASP (5)                                      | - Myoqi mavoor, ashaar sharoo taami - Broadmay i mango oomory Myoqi onor mariqaoty, albaang stanadiono appirodasono warmyoqi, myoqi o   |  |  |



## Bing Hacking Alerts Advanced defenses



## Bing Hacking Alerts

- Bing searches with regexs from BHDB
- Leverage & format=rss directive to turn into update feeds
- Real-time vuln updates to >900 Bing hack queries via RSS

| Google reader                       | All items  |
|-------------------------------------|--|
| 🔹 Add a subscription                | Bing: intitle:"Snap Server" intitle:"Home" "Active Users" »  |
| All items (1000+)                   | Show: 0 new items - all items Mark all as read 🔻 Refresh Feed settings   |
| People you follow                   |  |
| Explore 🔹                           | Snap Server WELW-SNAP [Home] - WELW-SNAP • Home  |
| Subscriptions                       | 😭 Snap Server CORESERVER [Home] - CORESERVER • Home  |
| 🗄 🃁 BHDB-Advisories and V (910) 🛛 🙍 | 😚 Snap Server GSTI (Home) - GSTI • Home  |
| 🕀 🃁 BHDB-Backup Files (50)          | adsphotographer.com - SNAP55373 • Home SNAP network attached   |
| 🕀 🎾 BHDB-Configuration Ma (207)     | Snap Server SNAP824929 [Home] - SNAP824929 • Home  |
| 🕀 📁 BHDB-Error Messages (507)       |  |
| ⊕ 🎾 BHDB-Files containing (607)     | Snap Server SAINTSNAP [Home] - SAINTSNAP • Home  |
| 🕀 🎾 BHDB-Files containing (343)     | 😭 Snap Server DIGITALDATA1 [Home] - BOT - Unavailable: folder does not exist. SHARE1: acesag - For ACES publicat   |
| ⊕ 🎾 BHDB-Files containing (50)      | 🔝 Snap Server FTP-SERVER [Home] - Flinn - Flinn OFF-Site Backup: Home - Folder for network shares/drive mapping:   |
| ⊕ 🃁 BHDB-Footholds (45)             | Snap Server FTP-SERVER [Home] <sup>(1)</sup>   |
| ⊕ 🃁 BHDB-Misc (116)                 |  |
| ⊕ 🎾 BHDB-Pages containing (765)     | Flinn - Flinn OFF-Site Backup: Home - Folder for network shares/drive mapping: MyHost - Folder for my personal<br>Web Hosting: msmcs.net - www.msmcs.net PUB FTP |
| ⊕ 🃁 BHDB-Pages containing (159)     |  |
| ⊕ 📁 BHDB-Privacy Related (196)      | ☆Add star 🗉 Like 🌈 Share 🔊 Share with note 🖾 Email 🗆 Keep unread 🖉 Edit tags: BHDB-Various Online Devices  |
| ■ DBLB-Remote Administr (36)        | 😭 Snap Server XRAY7 [Home] - XRAY7 • Home  |
| ⊕ 🃁 BHDB-Reported Vulnera (20)      | 2 Snap Server SNAP205861 [Home] - SNAP205861 • Home  |
| BHDB-Sensitive Direct (200)         |  |







World's Largest Live Vulnerability Repository

• Daily updates of ~3000 new hits per day





## Bing/Google Alerts THICK CLIENTS TOOLS



Google/Bing Hacking Alert Thick Clients

- Google/Bing Alerts *RSS feeds as input*
- Allow user to set one or more filters
  - e.g. *"yourcompany.com"* in the URL
- Several *thick clients* being released:
  - Google Desktop Gadget
    - OS independent client
  - Droid app (coming soon)













Tools exist
 Convenient
 Real-time updates
 Multi-engine results
 Historical archived data

✓ Multi-domain searching











# Other OSINT Attacks

### WHAT YOU SHOULD KNOW



### Google Apps Explosion SO MANY APPLICATIONS TO ABUSE Google alerts Google reader Google custom search Google buzz 💕 Google code Google health code search Google news Google public data explorer Google calendar labs Google docs Google Insights for Search Google wave Google blogs Google maps Google groups STACH&LIU 35



# Google Code Search VULNS IN OPEN SOURCE CODE

- Regex search for vulnerabilities in public code
- Example: SQL Injection in ASP querystring
  - select.\*from.\*request\.QUERYSTRING






# GOOGLE CODE SEARCH HACKING









 $\bigcirc$ 







 $\bigcirc$ 

# Black Hat SEO



#### SEARCH ENGINE OPTIMIZATION

- Use popular search topics du jour
- Pollute results with links to badware
- Increase chances of a successful attack





## Google Trends BLACK HAT SEO RECON





# Malware Ads



#### BLACK HAT ADS

| bing  | adobe reader   |  |  |
|---|--|--|--|
| Web   | Web News   |  |  |
| RELATED SEARCHES  | ALL RESULTS 1-10 of 54,900,000 results · Advanced  |  |  |
| Adobe Reader <b>0Day</b><br>Adobe Reader <b>Free</b><br><b>Download</b><br>Adobe Reader <b>7 Free</b><br><b>Download</b><br>Adobe <b>Acrobat</b> Reader<br><b>8.1</b><br>Adobe Reader <b>Plugin</b><br>Adobe Reader <b>10</b><br><b>Free</b> Adobe Reader for<br><b>XP</b><br><b>Java</b> | Reader 9.0 -Official Site Sponsored sites   www.PDF-Format.com · Open, Create & Edit PDF Files! Official Site (Recommended Download) Adobe Acrobat 9 Download   Adobe Acrobat 9 Download AdobeAcrobat.PDF-S0ftware.com · Ultra Fast Acrobat Download - Latest Version 100%   Guaranteed Adobe Reader Download   AdobeProReader10.com/Free · New Adobe Reader Official Version. 100% Support. Free Download!   Adobe Acrobat 9.3 Version   www.PDF-9-D0wnload.com · Download Adobe PDF Latest Version Ultra Fast 100% Guaranteed! |  |  |
| SEARCH HISTORY<br>adobe reader<br>See all<br>Clear all · Turn off   | Adobe - Adobe Reader   Download Adobe Reader to view, print and collaborate on PDF files.   get.adobe.com/reader · Cached page   Get Flash Player Adobe - Adobe Air   Adobe - Adobe Reader Accessibility   Show more results from get.adobe.com  |  |  |



 $\bigcirc$ 

## Defenses

#### BLACKHAT SEO DEFENSES

- Malware Warning Filters
  - Google Safe Browsing
  - Microsoft SmartScreen Filter
  - Yahoo Search Scan
- Sandbox Software
  - Sandboxie (sandboxie.com)
  - Dell KACE Secure Browser
  - Office 2010 (Protected Mode)
  - Adobe Reader Sandbox (Protected Mode)
- No-script and Ad-block browser plugins





## Google Trends OTHER INTERESTING





## Google Trends OTHER INTERESTING





trends

## Google Trends PREDICTING ELECTIONS



# Mass Injection Attacks



#### Malware Distribution Woes

• Popular websites victimized, become malware distribution sites to their own customers

#### Massive Malware Hits Media Web Sites

Security researchers estimate that roughly 7,000 Web pages were compromised in a SQL injection attack this week, including *The Wall Street Journal* and *Jerusalem Post*.





### Future Direction PREDICTIONS





## Predictions FUTURE DIRECTIONS



#### Data Explosion

- More data indexed, searchable
- Real-time, streaming updates
- Faster, more robust search interfaces

#### Google Involvement

- Filtering of search results
- Better GH detection and tool blocking

#### Renewed Tool Dev

- Google Ajax API based
- Bing/Yahoo/other engines
  - Search engine aggregators
- Google Code and Other Open Source Repositories
  - MS CodePlex, SourceForge, ...
- More automation in tools
  - Real-time detection and exploitation
  - Google worms



# Real-time Updates





## Predictions Update GOOGLE REALTIME/INSTANT



## Google

#### Google About Google Instant

Learn i

Google Instant is a new search enhancement that shows results as you type. We are pushing the limits of our technology and infrastructure to help you get better search results, faster. Our key technical insight was that people type slowly, but read quickly, typically taking 300 milliseconds between keystrokes, but only 30 milliseconds (a tenth of the time!) to glance at another part of the page. This means that you can scan a results page while you type.

The most obvious change is that you get to the right content much faster than before because you don't have to finish typing your full search term, or even press "search." Another shift is that seeing results as you type helps you formulate a better search term by providing instant feedback. You can now adapt your search on the fly until the results match exactly what you want. In time, we may wonder how search ever worked in any other way.



## Predictions Update RENEWED TOOL DEV



#### New maintainers of the GHDB – 09 Nov 2010

http://www.exploit-db.com/google-hacking-database-reborn/

#### **Google Hacking Database Reborn**

9th November 2010 - by admin

The incredible amount of information continuously leaked onto the Internet, and therefore accessible by Google, is of great use to penetration testers around the world. Johnny Long of Hackers for Charity started the Google Hacking Database (GHDB) to serve as a repository for search terms, called Google-Dorks, that expose sensitive information, vulnerabilities, passwords, and much more.



As Johnny is now pursing his mission in Uganda, he has graciously allowed us at The Exploit Database to pick up where the GHDB left off and resurrect it. It is with great excitement that we announce that the GHDB is now being hosted by us and actively maintained again. This will allow us to tie the GHDB directly into our database of exploits providing the most current information possible.



### Predictions Update SEEMS STRANGELY FAMILIAR



#### Google Safe Browsing Alerts for Network Administrators

- Google's new service which greatly resembles MalwareDiggity
- Imitation is the sincerest form of flattery...

| Home  | Home                               |   |   |
|---|------------------------------------|---|---|
| Messages<br>Safe Browsing Alerts for<br>Network Administrators<br>allows autonomous<br>system (AS)<br>administrators to register<br>to receive Google Safe<br>Browsing notifications.<br>The goal is to provide<br>network administrators<br>with information of<br>malicious content that is | Messages                           | <b></b>   |   |
|   | You have no recent notification    | Google  | Google Online Security Blog<br>The latest news and insights from Google<br>on security and safety on the Internet |
|   | Enter the AS you'd like to manage. | Safe Browsing Alerts<br>Tuesday, September 28, 2010 1:<br>Posted by Nav Jagpal and Ke Wa  |   |
| networks.   |                                    | Google has been working hard to protect its users from malicious web pages, and also to help webmasters keep their websites clean. When we find malicious content on websites, we <u>attempt</u> to notify their webmasters via email about the bad URLs. There is even a <u>Webmaster Tools</u> feature that helps webmasters identify specific malicious content that has been surreptitiously added to their sites, so that they can clean up their site and help prevent it from being compromised in the future. |   |



# Sensitive Info Mashup



GOOGLE MAPS + SENSITIVE INFO DISCLOSURE





## Youtube Info Leak



#### YOUTUBE + SENSITIVE INFO DISCLOSURE





 $\bigcirc$ 

## WikiLeaks Auto-Generator FUTURE DIRECTIONS









# Questions? Ask us something We'll try to answer it.

For more info: Email: contact@stachliu.com Project: diggity@stachliu.com Stach & Liu, LLC www.stachliu.com



# Thank You



Stach & Liu Google Hacking Diggity Project info: http://www.stachliu.com/index.php/resources/tools/google-hacking-diggity-project/

