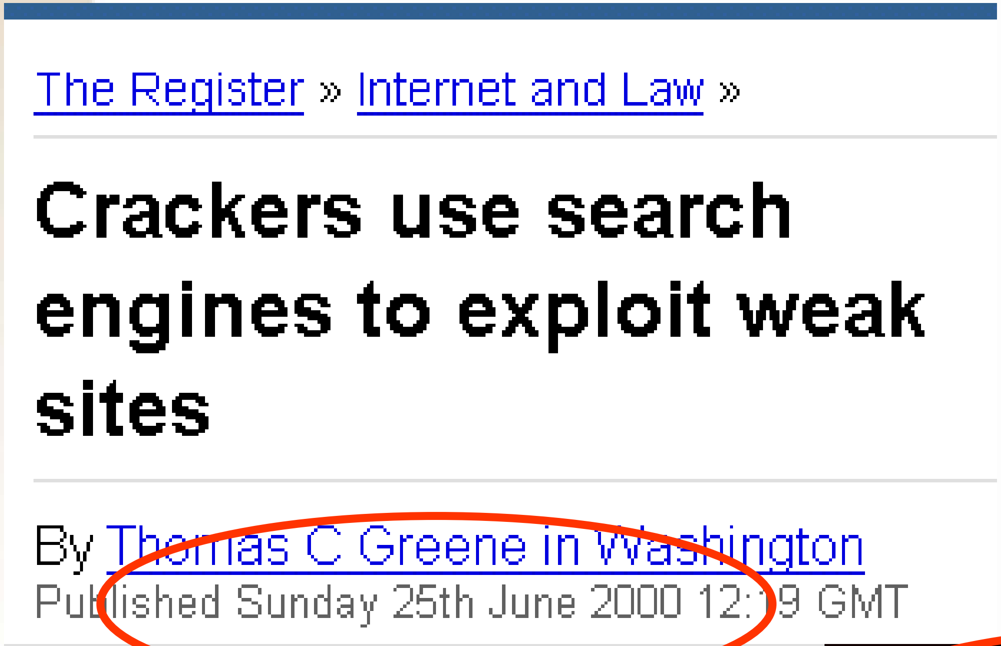
Using Google™ Canada as a Reconnaissance Tool

"Google is in many ways (the) most dangerous website on the Internet…."

- Scott Granneman, *SecurityFocus*

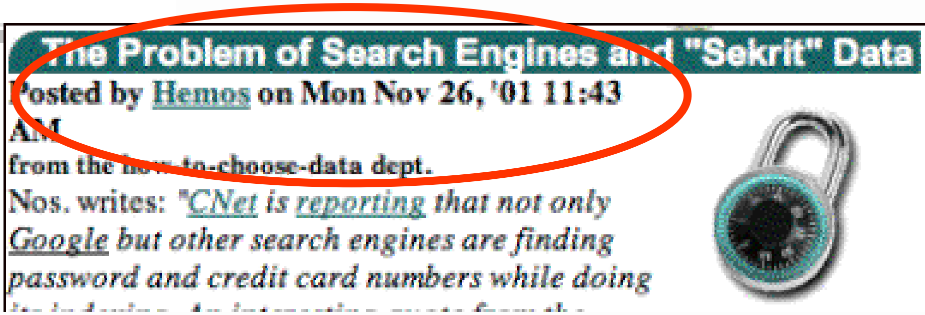
The problem isn't new...



The Register » Internet and Law »

Crackers use search engines to exploit weak sites

By Thomas C Greene in Washington
Published Sunday 25th June 2000 12:19 GMT



The Problem of Search Engines and "Sekrit" Data

Posted by Hemos on Mon Nov 26, '01 11:43 AM
from the how-to-choose-data dept.

Nos. writes: "*CNet is reporting that not only Google but other search engines are finding password and credit card numbers while doing*

...but it persists,...

Google Hacking Database: Entries by Category

Advisories and Vulnerabilities (78)

Error Messages (54)

Files containing juicy info (192)

Files containing passwords (96)

Files containing usernames (13)

Sensitive Online Shopping Info (7)

Vulnerable Files (33)

Vulnerable Servers (37)

Web Server Detection (54)

Footholds (11)

Pages containing login portals (106)

Pages containing network or vulnerability data (42)

Sensitive Directories (48)

...even evolves and grows.

Selected Online Devices (76) accessible to anyone:

- "Copyright (c) Tektronix, Inc." "printer status"
- "intitle:Cisco Systems, Inc. VPN 3000 Concentrator"
- "powered by webcamXP" "Pro|Broadcast"
- intitle:"Spam Firewall" inurl:"8000/cgi-bin/index.cgi"
- intitle:"SpeedStream Router Management Interface"
- inurl:TiVoConnect?Command=QueryServer
- Xerox Phaser® 840 Color Printer

Who/What is to Blame?

The Google?

- Easy to use
- Free
- Fast
- Global coverage
- Safe (no trail)

Google Advanced Search Operators

site: search for references to the specified site

link: find sites containing search term as a link

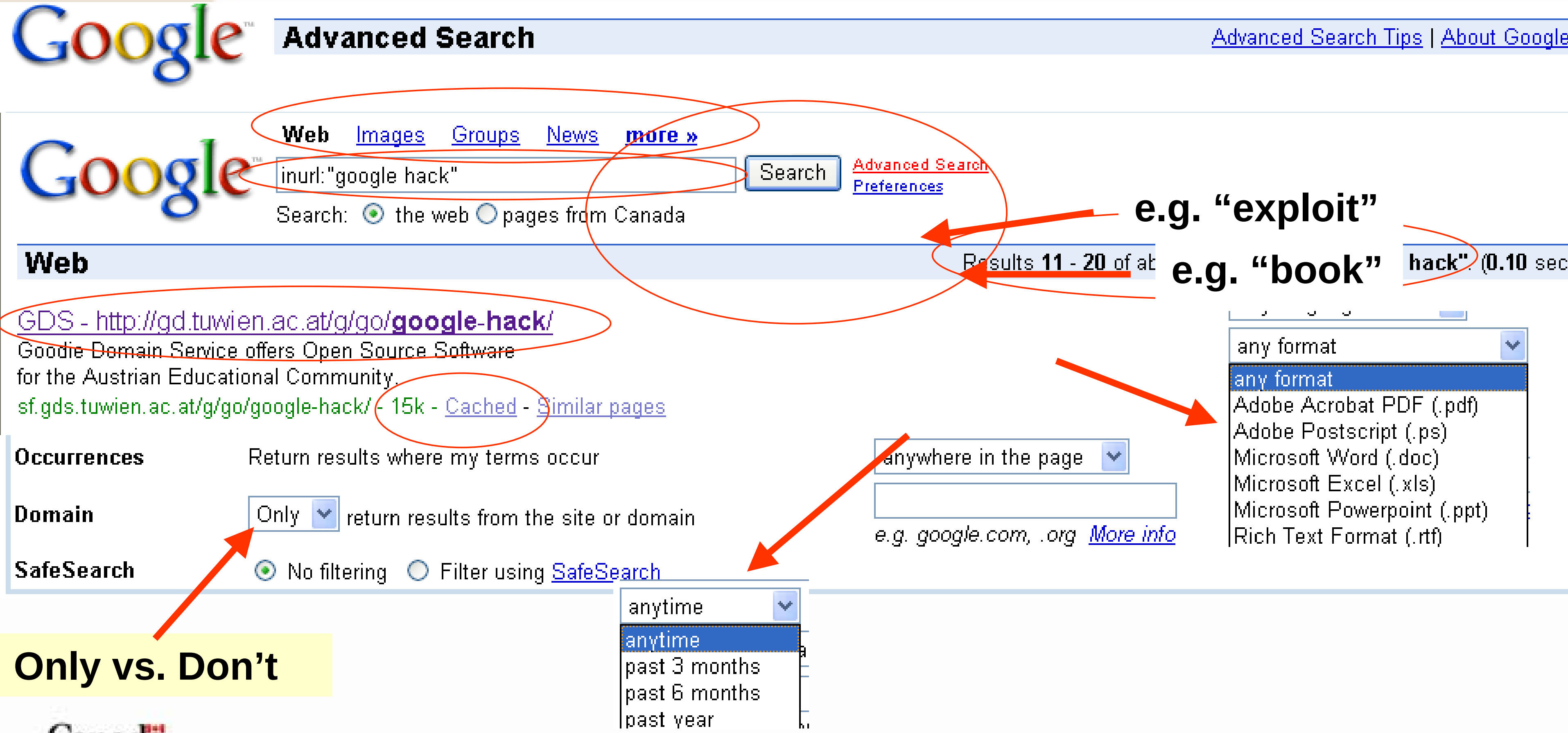
cache: display the cached version of pages found

intitle: find sites containing terms in the title of a page

inurl: find sites containing terms in the URL of a page

filetype: search specific document types

Advanced Search in Google



Advanced Search Advanced Search Tips | About Google

Web Images Groups News more »

inurl:"google hack" Search Advanced Search Preferences

Search: ● the web ○ pages from Canada

Web Results **11** - **20** of ab... hack". (**0.10** sec...

GDS - http://gd.tuwien.ac.at/g/go/**google-hack**/
Goodie Domain Service offers Open Source Software for the Austrian Educational Community.
sf.gds.tuwien.ac.at/g/go/google-hack/ - 15k - Cached - Similar pages

Occurrences	Return results where my terms occur	anywhere in the page
Domain	Only return results from the site or domain	e.g. google.com, .org More info
SafeSearch	● No filtering ○ Filter using SafeSearch	

e.g. "exploit"

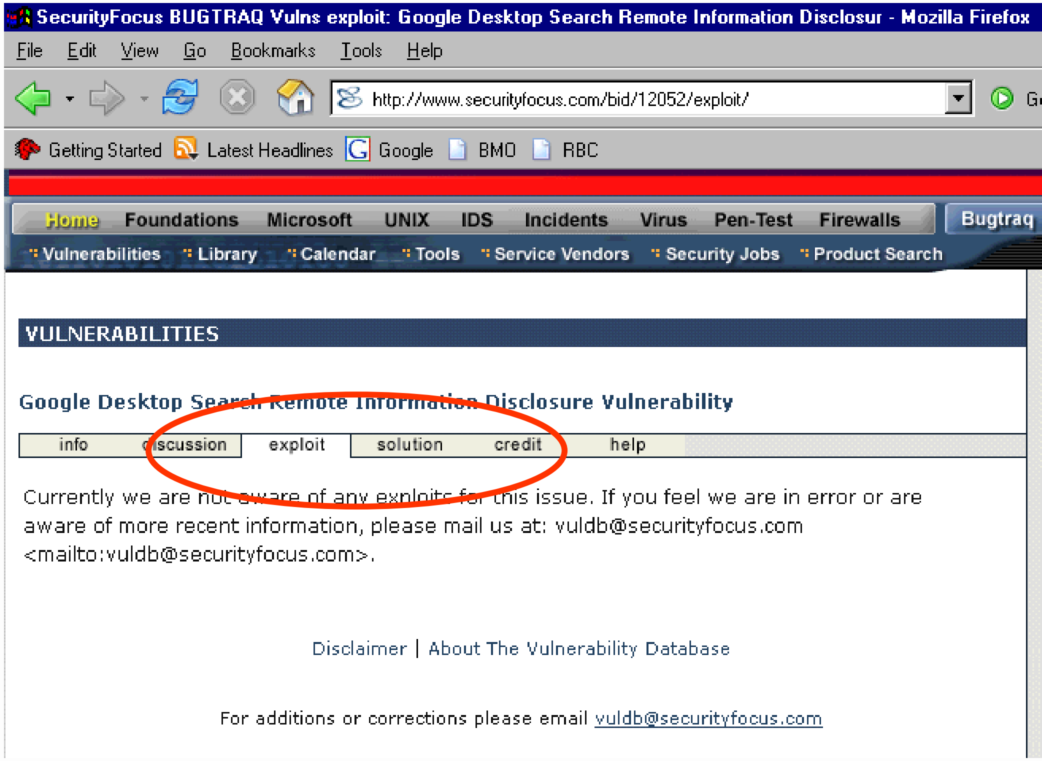
e.g. "book"

Only vs. Don't

Who/What is to Blame?

Security Analysts?

- Reveal vulnerabilities
- Discuss exploits
- Make attacks newsworthy



VULNERABILITIES

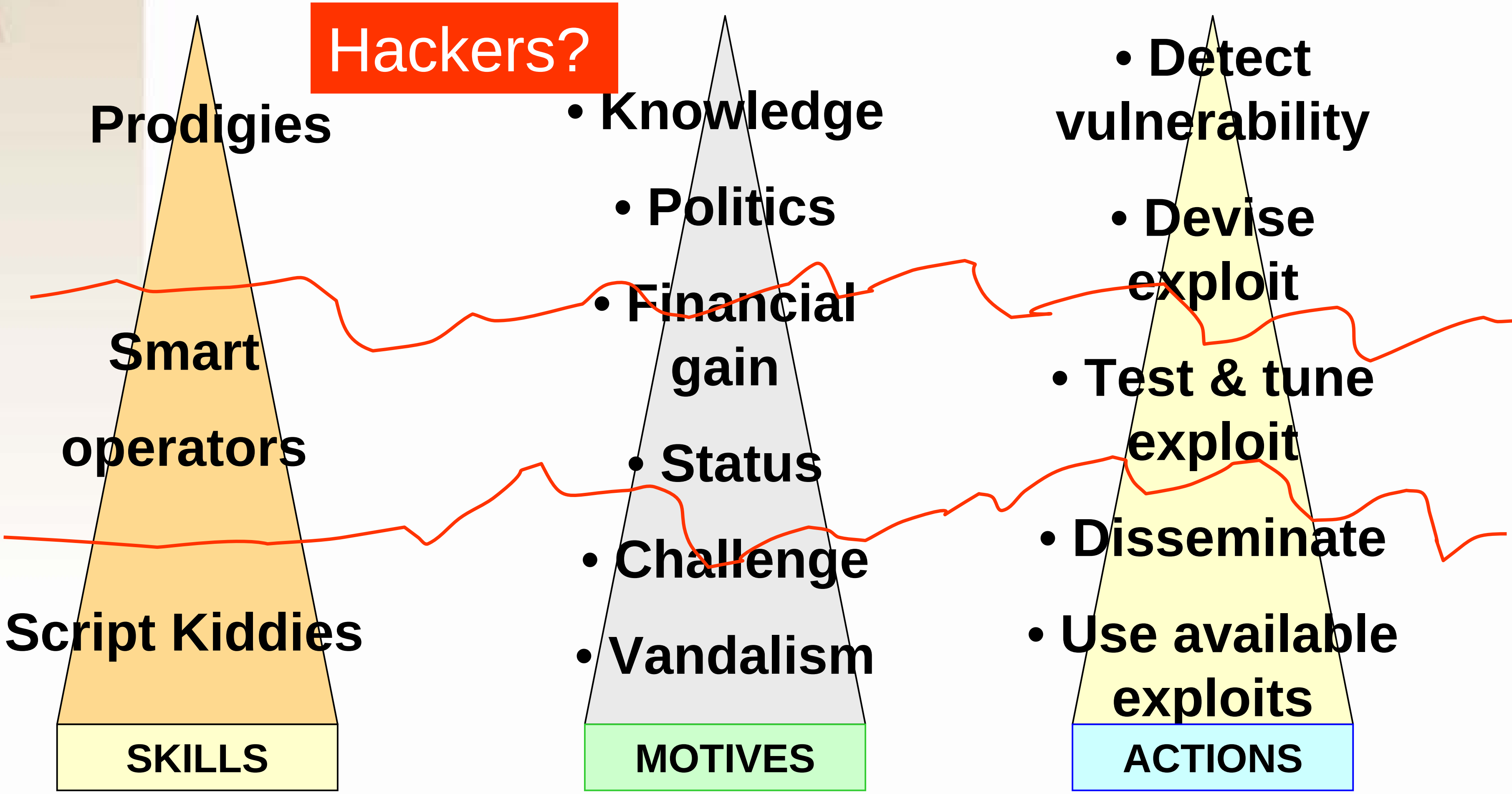
Google Desktop Search Remote Information Disclosure Vulnerability

Currently we are not aware of any exploits for this issue. If you feel we are in error or are aware of more recent information, please mail us at: vuldb@securityfocus.com <mailto:vuldb@securityfocus.com>.

Disclaimer | About The Vulnerability Database

For additions or corrections please email vuldb@securityfocus.com

Who/What is to Blame?



Hackers?

Prodigies

Smart operators

Script Kiddies

SKILLS

- Knowledge
- Politics
- Financial gain
- Status
- Challenge
- Vandalism

MOTIVES

- Detect vulnerability
- Devise exploit
- Test & tune exploit
- Disseminate
- Use available exploits

ACTIONS

Who/What is to Blame?

Source: Symantec. All data for Jan-June 2004

SysAdmins?

- 48 new vulnerabilities/week
- 5.8 days from vuln. disclosure to an exploit
- 70% easy to exploit
- 39% associated with Web application tech.
- poor training, resources

Industry?

- ever new software
- rush to market
- lack of testing

Government?

- regulatory framework?
- problem: *dual purpose tools* (like guns): defensive-offensive

The Problem Revisited

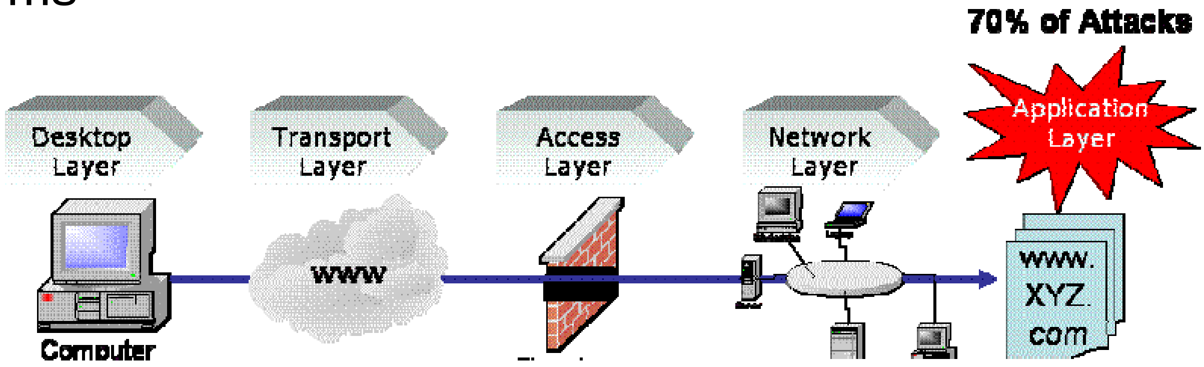
A Routine Problem?

- INDUSTRY: a possible source of vulnerability
- INFOSEC ANALYST: disclosure
- SYSADMIN: ignores/neglects
- HACKER: finds out; explores; creates exploitation tools…
- GOOGLE: confirms problem, paves the way to it's exploitation

"Distributed responsibility"?

A Deeper Problem?

- Most defences aimed at "network layer" attacks
- However, "application layer" attacks increasing in prevalence
- Training and awareness of rising importance
- Technology-alone will fail



Source: SPI Labs

Counter-measures

Passive

- Keep sensitive data off the web!
- Remove site or pages from search engine's index.
- Prevent access to devices (printers, cameras, copiers) from Web applications, or use proven access control measures

Active

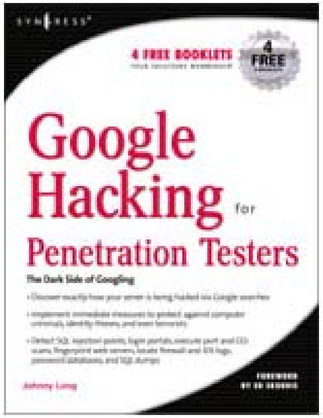
- "Google" the site(s) for vulnerabilities.
- Use Foundstone's SiteDigger, or similar tool, to check for vulnerabilities
- Keep track of newly disclosed ("dynamic") vulnerabilities
- Train the workforce in active measures

Conclusions

Not just Google, but Google the most popular

Pros	Cons

- Easy
- Free
- Fast
- Global
- Safe



SYNGRESS

4 FREE BOOKLETS

4 FREE

Google Hacking for Penetration Testers

The Dark Side of Googling

- Discover exactly how your server is being hacked via Google searches
- Implement immediate measures to protect against computer criminals, identity thieves, and even terrorists
- Detect SQL injection points, login portals, execute port and CGI scans, fingerprint web servers, locate firewall and IDS logs, password databases, and SQL dumps

Johnny Long

FOREWORD BY ED SKOUDIS

- Imprecise, “shotgun-like” tool
- Complementary to other tools, rather than a substitute

Questions?

anton.ljutic@cse-cst.gc.ca