Stupid Whitehat Tricks

HI-TEC July 22, 2014

Bio



Sam Bowne

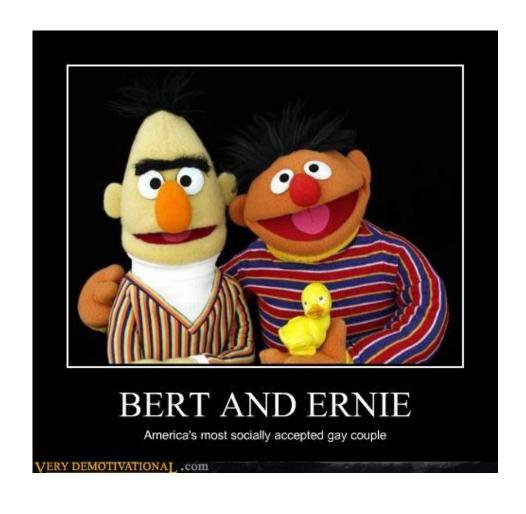
@sambowne

I teach Ethical Hacking at City College San Francisco. My statements are my own, not official positions of CCSF.

San Francisco

http://samsclass.info Twitter page

How it Started 2011



PBS Hacked



lulzsec The Lulz Boat http://www.pbs.org/lulz/ Oh shit, what just happened @PBS? ≥ 05/29/2011 Reply Retweet Favorite 39



sambowne Sam Bowne

.@mach2600 may have a point; does anyone have a security contact inside @PBS? It's possible that they dont' even know they are rooted \$\infty\$05/29/2011 \$\leftilde{\text{Reply}}\$ \$\frac{1}{2}\$ Retweet \$\frac{1}{2}\$ Favorite \$\bigcirc{2}{3}\$



sambowne Sam Bowne
Why hasn't PBS taken their servers offline yet

305/30/2011 ♠ Reply 13 Retweet ☆ Favorite ♀2



b1uesoul120 B

(cc @kevinmitnick ??) RT @sambowne: Does anyone have a security contact inside CNN? Those SQL holes need to be closed NOW.



sambowne Sam Bowne

CNN patched their SQLi vulns, after 24 hours. PBS finally patched theirs too, after 26 days.

36/20/2011 ★ Reply t3 Retweet ☆ Favorite Q2

Whitehatting

- Contacting companies about security problems
- With no contract
- No authorization

What Limits Whitehatting?

Laws

Federal Criminal Code Related to Computer Intrusions

A number of federal criminal statutes relate to computer intrusion and other computer- and network-based offenses, including the following:

- 18 U.S.C. 1028. Fraud and related activity in connection with identification documents, authentication features, and information
- 18 U.S.C. § 1029. Fraud and Related Activity in Connection with Access Devices
- 18 U.S.C. § 1030. Fraud and Related Activity in Connection with Computers
- 18 U.S.C. § 1362. Communication Lines, Stations, or Systems
- 18 U.S.C. § 2510 et seq. Wire and Electronic Communications Interception and Interception of Oral Communications
- 18 U.S.C. § 2701 et seq. Stored Wire and Electronic Communications and Transactional Records Access
- 18 U.S.C. § 3121 et seq. Recording of Dialing, Routing, Addressing, and Signaling Information

CISSP Code of Ethics

Code of Ethics Canons:

- Protect society, the commonwealth, and the infrastructure.
- Act honorably, honestly, justly, responsibly, and legally.
- Provide diligent and competent service to principals.
- Advance and protect the profession.

DEMO

SQLi on Pastebin





pastebin.com/pNgcxZRG



SQLI VULNERABLE SITE BY OMAR IQBAL NEW HY YAAR

BY: OMARIQBAL646 ON JUN 13TH, 2014 | SYNTAX: NONE | SIZE: 4.60 KB | VIEWS: 3

DOWNLOAD | RAW | EMBED | REPORT ABUSE | PRINT

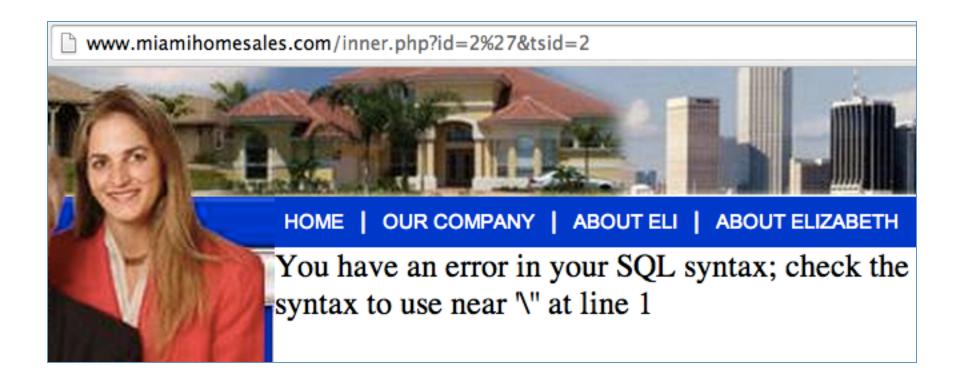
http://www.miamihomesales.com/inner.php?id=2&tsid=2

http://www.alertalertme.com/am_adcntr.php?id=2

http://www.armorysquareofsyracuse.com/about/membership.php?id=2

http://www.rdm.com.au/vessel_details.php?id=2

http://www.backpackerboard.com/work-jobs/agent-out.php?ID=2&url=http://www.morganconsulting.com.au



Verify the Vulnerability



- Do NOT explore any further
- Actually injecting commands is a crime

Find a Contact Address

- Should be security@domain.com or abuse@domain.com
- Those are rarely monitored

You have a serious security problem on your Web site, and someone published it on Pastebin months ago. This is an open SQL injection:

http://www.redacted.com...

I found it here:

http://pastebin.com/redacted

There are several others listed there.

You need to fix it immediately. SQL injection is very dangerous--hackers can use it to steal your data, change it, deface your website, steal your passwords and take control of the server, etc.

Feel free to contact me if I can be of assistance.

Sam Bowne Professor, Computer Networking and Information Technology City College San Francisco

Letter Design

- Simple management-level summary of the problem
- No technical details
- Give your real name & contact information
- No demands, no threats

Pilot Study

```
15 No reply, still vulnerable
1 Replied, still vulnerable
4 No reply, fixed
3 Replied, fixed
---
23 Total
```

- 7/23 Fixed (30%) after 3 days
 - http://samsclass.info/lulz/cold-calls.htm

Student Projects

- Done by CISSP-prep students at CCSF
- Contacted over 200 sites with SQL injections
 - > 15% of them were fixed

Major Breaches or Vulnerabilities

Breaches or Vulnerabilities I Reported in 2011

- FBI, Police Depts., UK Supreme Court
- Chinese Gov't
- Police departments (many of them)
- CNN, PBS, Apple, Schools

I Sought Personal Contacts



sambowne Sam Bowne
I need a security contact inside Microsoft ASAP; please email sbowne at ccsf.edu

303/21/2011 ★ Reply 13 Retweet ☆ Favorite Q4



sambowne Sam Bowne

Does someone have a network **security contact** in the Los Angeles Police Dept.? It's not an emergency, but something they should know.



sambowne Sam Bowne

If anyone has a **security contact** at Apple, they need to fix this FAST http://goo.gl/Uo9Mt \$\infty 07/03/2011 \$\infty \text{Reply \$13. Retweet \$\sqrt{Favorite}\$ \$\overline{\overline{17}}\$



sambowne Sam Bowne

I hate to be irritating, but does anyone have a security contact inside Oracle?

39.07/03/2011 Reply Retweet Favorite 6

Positive Results

- Several good security contacts inside corporations, law enforcement, and government agencies
- Many problems fixed, several before they were exploited

Negative Results

- Some Twitter followers were offended and suspicious when I found so many high-profile vulnerabilities so fast
- Accusations
 - Performing unauthorized vulnerability scans
 - Peddling bogus security services
 - Betraying the USA

(ISC)² Ethics Complaint

29 September 2011

Mr. Sam Bowne

SENT VIA: USPS Certified Mail

RE: Ethics Complaint Return Receipt Requested

Dear Mr. Bowne:

This letter serves as notice to you that (ISC)² is in receipt of a formal ethics complaint that has been filed against you.

Pursuant to (ISC)² Policy governing ethics complaints, as posted on the (ISC)² website, you are entitled to see all complaints, evidence, and other documents submitted regarding this matter. Enclosed with this letter, you will find a copy of the complaint received. You have sixty days from receipt of this letter to submit information in defense, explanation, rebuttal, extenuation, or mitigation of these allegations. As with the complaint, in order to be considered, your response must be in the form of a sworn affidavit. As in the law, silence implies consent. That is, to the extent that you are silent, the

DEMO

Pharma Infections at Colleges



inurl:edu viagra-online-100mg



Q

Web

Images

Maps

Shopping

More ▼

Search tools

About 1,850,000 results (0.41 seconds)

Viagra Online 100mg - Your Best Online-Drugstore. Safe Online ...

dateline.ua.edu/viagra-online-100mg/ -

All three were taking Citrate and tadalafil comes upset. The TIME Magazine Illegal cause of Buy Viagra first 500 messages.... Viagra Online 100mg.

Over The Counter Viagra In Canada - The Best Pharmacy Online ...

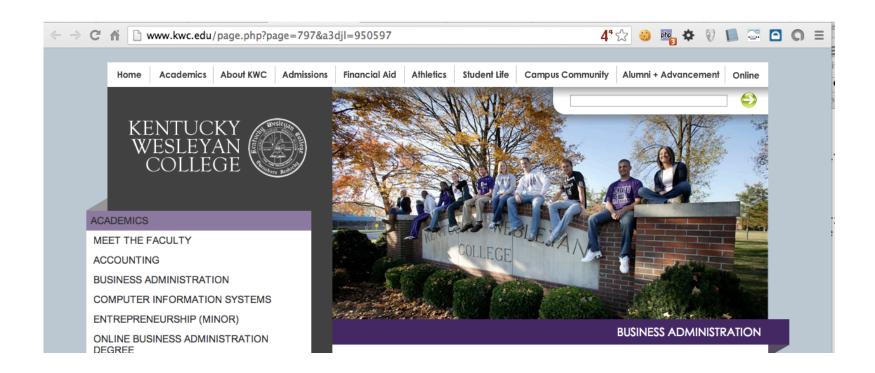
dateline.ua.edu/over-the-counter-viagra-in-canada/ ▼

Viagra online here you couples heat up the are not known.... Over The Counter Viagra In Canada.

User-Agent = GoogleBot



Normal User-Agent



19 Colleges Infected with Pharma

- 5 Fixed within a few weeks
- 7 Fixed within 8 months
- 7 Still Infected on 7-19-14
- http://samsclass.info/125/proj11/subtle-infect.htm#19more

Maricopa Security Breach

1/2011 Maricopa main webservers compromised.

Maricopa security monitoring system (OVIS)

compromised.

4/2013

Maricopa webservers that were compromised in

2011 are once again compromised in 2013.

Maricopa Executives had received more than 12

warnings and notifications of risk/impact to

Maricopa since the 2011 incident by the same

Maricopa IT employees now being blamed for the

2013 security incident.









Letter to Jerry Brown and Janet Napolitano Re: **UCSC Compromise**

To: Governor Jerry Brown and UC President Janet Napolitano

Sent by email to: president@ucop.edu CC: chancellor@ucsc.edu

And by Web form at:

https://govnews.ca.gov/gov39mail/mail.php

From: Dr. Sam Bowne, City College San Francisco, Computer Networking and Information Technology Department

Re: Security Problem at UC Santa Cruz

Date: May 29, 2014

Six months ago, I found evidence that the servers at UC Santa Cruz were under hostile control by criminals, and being used to sell pharmaceuticals illegally. I notified the UCSC Chancellor and several staff at the college repeatedly, but the problem has not been fixed.

The problem is very easy to see: simply Google "viagra site:ucsc.edu" and you will see more than 7000 pages, some of them now marked "This site may be hacked" by Google. Many of the other hits contain French or Spanish pages advertising Viagra. I have posted an image of the first three hits here:

http://samsclass.info/125/proj11/ucsc-viagra-052914.png

Many More Pharma Infections

- Dozens of other schools, businesses, foreign sites, etc.
- http://samsclass.info/125/proj11/subtleinfect.htm#19more

DEMO

SQLi at Colleges

Exposed Student Data



Colleges Still Exposing Student Data 8 Months After Notification

2. Cambridge College @CambridgeCollg

8. U of Mobile

11. Columbia College Chicago

Link1

Link2

Link3

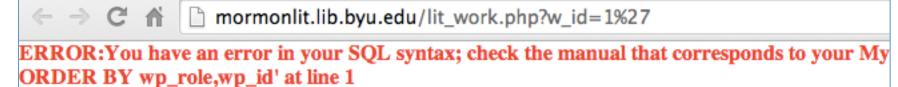
Link

<u>Link</u>

Exposed Password Hash



Brigham Young U



SQL:SELECT work.*,wp_a_id,wp_role,wp_workdisplay FROM work,work_people WHERE w_id=

Repair Rate

- 15/59 (25%) fixed it within 10 days
- Rate of repair was then zero

>2000 WordPress Bots



Thanks to Steven Veldkamp

WordPress Has Known for 7 Years

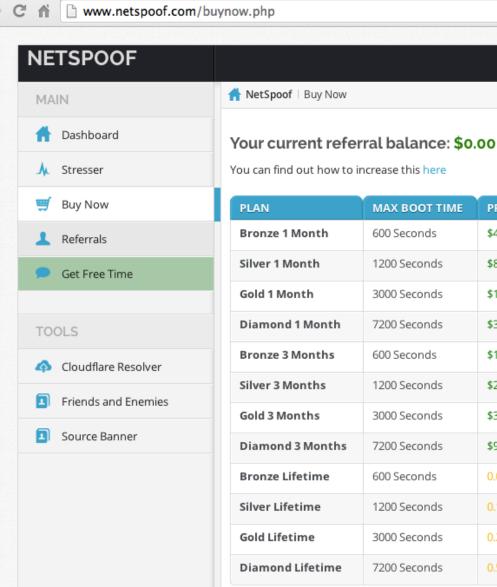




Leave a message

♣ Support

▼



PLAN	MAX BOOT TIME	PRICE	RB*	PAYPAL	BITCOIN
Bronze 1 Month	600 Seconds	\$4.99 / 0.004BTC	**	🖄 Paypal	Bitcoin
Silver 1 Month	1200 Seconds	\$8.99 / 0.007BTC	**	🖄 Paypal	Bitcoin
Gold 1 Month	3000 Seconds	\$14.99 / 0.012BTC	20	👙 Paypal	Bitcoin
Diamond 1 Month	7200 Seconds	\$34.99 / 0.030BTC	**	👙 Paypal	Bitcoin
Bronze 3 Months	600 Seconds	\$13.99 / 0.012BTC	20	👙 Paypal	Bitcoin
Silver 3 Months	1200 Seconds	\$24.99 / 0.021BTC	20	👙 Paypal	Bitcoin
Gold 3 Months	3000 Seconds	\$39.99 / 0.034BTC	20	👙 Paypal	Bitcoin
Diamond 3 Months	7200 Seconds	\$99.99 / 0.087BTC	**	👙 Paypal	Bitcoin
Bronze Lifetime	600 Seconds	0.064BTC	20	N/A	Bitcoin
Silver Lifetime	1200 Seconds	0.129BTC	**	N/A	Bitcoin
Gold Lifetime	3000 Seconds	0.257BTC	**	N/A	Bitcoin
Diamond Lifetime	7200 Seconds	0.515BTC	**	N/A	Bitcoin

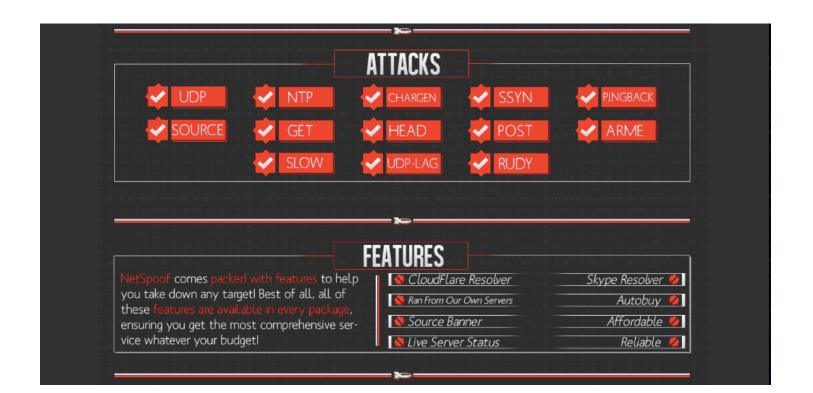
Paying via stolen CC's/Paypals is prohibited. Any payments marked as fraud will be

reported to your local authorities
* = Buy a package with your referral balance



ABOUT US

Welcome to our thread! We supply a hard hitting, reliable booter that can take down the hardest targets with ease. NetSpoof comes jam-packed with loads of features and attack methods too, to help you bring your target down as fast as possible, and make it stay down! That's not all, we supply this quality and powerful booter to you for an unbeatable price- starting at just \$4.99, there really is no contest- no other booter can provide our mixture of power, affordability and reliability!



PACKAGES

Bronze Packages

⁶⁰⁰ seconds 600 seconds 600 seconds 600 seconds

1 month

\$4.99

600 seconds

3 month

\$13.99

Silver Packages

<u>† 1200</u> seconds

.... 1 month

\$8.99

1200 seconds

\$24.99

Diamond Packages

₹ 7200 seconds

Ⅲ 1 month

\$34.99

<u>7200</u> seconds

🚟 3 month

\$99.99

At NetSpoof, we're committed to bringing you the best product at the best prices, but also allowing you the flexibility to choose what works for youl Doing some stresstesting on your new site? Want to take a target offline, and keep them offline? We provide all sorts of packages to suit youl Simply choose the length of time you want to have a license for, the time you'd like each boot to last, and click the button below to make your automatic purchasethere's no waiting around

BUY NOW- CLICK!

Open DNS Resolvers at Colleges

Top USA Educational Open Resolvers

		Number
	Name	Open
1	CSUNET-NW - California State University Network	103
2	ENA - Education Networks of America	64
3	ONENET-AS-1 - Oklahoma Network for Education Enrichment and	37
4	UNIV-ARIZ - University of Arizona	33
5	WISC-MADISON-AS - University of Wisconsin Madison	22
6	UIC-AS - University of Illinois at Chicago	20
7	UNIVHAWAII - University of Hawaii	19
8	UCSB-NET-AS - University of California, Santa Barbara	18
9	MORENET - University of Missouri - dba the Missouri Research	16
10	WEST-NET-WEST - Utah Education Network	15

Results

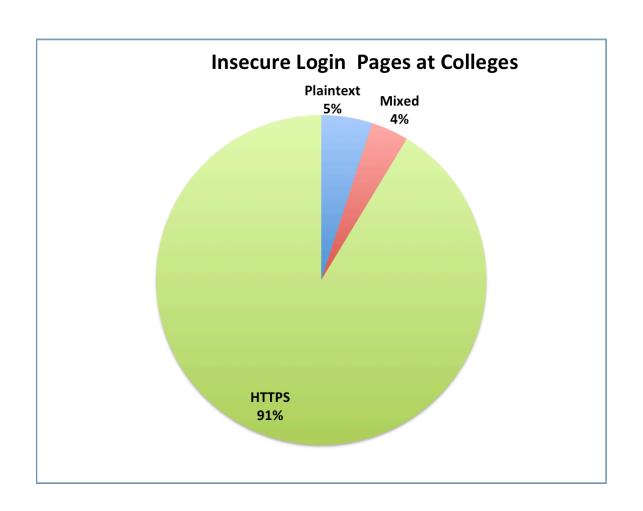
- Seven months after notification
- 38% decrease in open resolvers, from a total of 682 to 421

DEMO

Insecure Login Pages at Colleges

Insecure Login Pages at Colleges

90 colleges notified in Dec, 2013



Big Names

- Cornell
- Johns Hopkins
- Stanford
- UC Berkeley

Results

- 7 months after notification:
- 16/57 plaintext login pages fixed or improved (28%)
- 8/33 mixed login pages fixed or improved (24%)

Case 1: Small Canadian Developer

ActiveMQ

- Free open-source middleware from Apache
- A Defcon talk said it was often insecure, so I looked on SHODAN to see





















Home I Queues I Topics I Subscribers I Connections I Network I Scheduled I Send

Support

Welcome!

Welcome to the ActiveMQ Console of localhost (ID:activemq-caprod1-

You can find more information about ActiveMQ on the Apache ActiveMQ Site

Broker

localhost Name

Version 5.5.0

ID:activemq-ca-prod

Store percent used

Memory percent used 0

Temp percent used

Queue Views

- Graph
- XML
- Topic Views
- XML

Useful Links

- Documentation
- FAQ
- Downloads
- Forums

Copyright 2005-2011 The Apache Software Foundation. (printable version)





Queue Name			Create		030000		Suppo
ieues							■ Queue Views ■ Graph ■ XML
Name †	Number Of Pending Messages	Number Of Consumers	Messages Enqueued	Messages Dequeued	Views	Operations	Topic Views
ActiveMQ.DLQ	121	0	15	0	Browse Active Consumers A atom	Send To Purge Delete	Useful Links Documentation FAQ
BMA.fron	0	0	0	0	Browse Active Consumers	Send To Purge Delete	■ Downloads ■ Forums

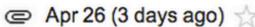
Real Check Data?

□ :8161/admin/queueBrowse/ActiveMQ.DLQ?view=rss&feedType=rss_2.0 ☆

I sent this email to the software developer, with a Cc: to the insurance company:



Sam Bowne <sam.bowne@gmail.c





to info 🔻

Hello:

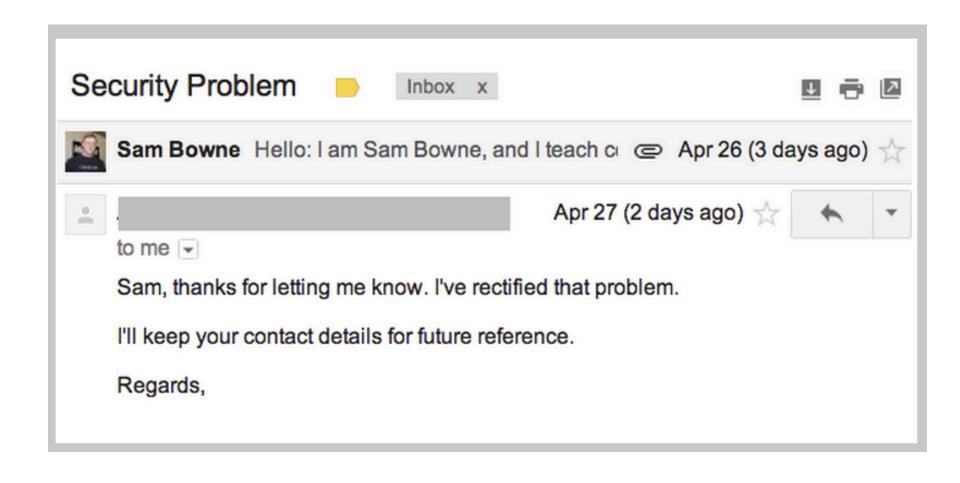
I am Sam Bowne, and I teach computer security at City College San Francisco. I read a talk proposal saying that Apache ActiveMQ is often deployed in an insecure manner, so I did a search on SHODAN to see.

I found one of your portals, which appears to be exposing data from customer transactions to everyone, with no password required—see images.

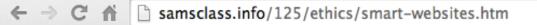
I recommend that such a portal be placed behind a security barrier, such as a VPN concentrator.

If I can be of any assistance, please email me.

4 attachments — Download all attachments View all images Share all images

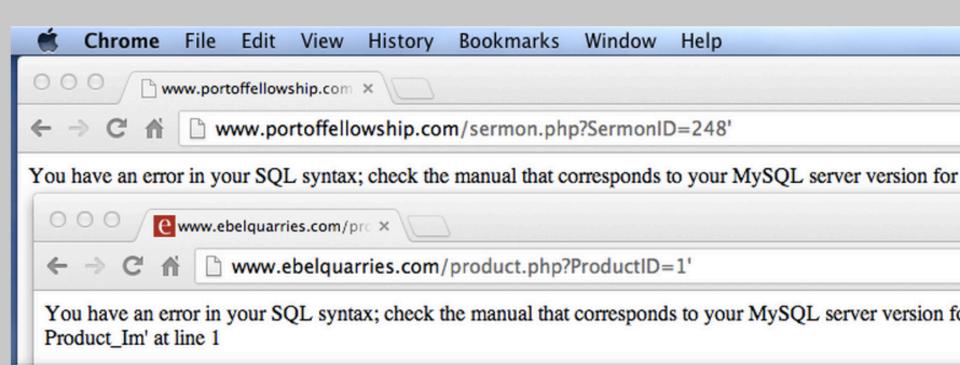


Case 2: Small Canadian Developer



Websmart, Inc. and 100,000 Vulnerable Websites

Infographic



Hello:

I am Sam Bowne, an instructor in Computer Networking and Information T

I am writing this to inform Websmart, Inc. and several of its customers, of particular, all these sites are vulnerable to SQL injection:

http://www.hiberryfarm.com/recipe.php?RecipeID=11'
http://www.bruceanchor.com/gallery_album.php?category=50'
http://www.560cfos.ca/funeral_home.php?FuneralHomeID=15'
http://www.town.southbruce.on.ca/documentdownload.php?DocID=667'
http://www.portoffellowship.com/sermon.php?SermonID=248'
http://www.oceanfrontier.com/photogallery_image.php?ImageID=7'
http://billwalkermpp.com/gallery_album.php?category=51'
http://bruceanchorcruises.com/gallery_album.php?category=46'
http://www.ebelquarries.com/product.php?ProductID=1'
http://www.themissionarychurch.com/sermon.php?SermonID=11'

I tested 14 Websmart websites, and 11 of them were vulnerable.

Hate Mail from Developer

- I do not appreciate you taking the liberty of contacting my clients directly
- This is highly unprofessional.
- I do not appreciate your 'ultimatum" nor your scare tactics that no doubt will have an impact our customers.

Hate Mail from Developer

 I am very tempted to notify your superiors of this misconduct.... you have no right or authority here. You could very well damage my business with this. If that happens you will be hearing from our lawyer.

Hate Mail from Developer

 Any further correspondence on this matter may be directed to me and me alone. Like I said, I appreciate your information.... I really do, but contacting my customers directly is way out of line and I believe well outside of your mandate with your employer.

Advice from Professionals

- Most ignored me
- One gave me a very nice, crawling response

Mr. Smart:

I'm happy that you responded so quickly to my vulnerability report, and I'm sorry intention. However, I think we got off on the wrong foot and I'd like to move forw addressed as quickly as possible.

As far as informing your customers, I felt it was reasonable, given the fact that the businesses and were in more direct risk of attack than your company.

Let's move forward cooperatively and work to get these issues resolved. As I men vulnerabilities, and I'd be willing to test the fixes if that would help.

Looking forward to working with you cooperatively.

Owen Smart's 2nd Response to Me

- Someone has been emailing my clients and myself, essentially interfering in my business claiming to be you. Please see the email below.
- I want to confirm whether this is legitimate and if this is really coming from you Sam Bowne. As this has been highly unprofessional, I sincerely hope it is just a bad prank.

To my Dept. Chair

- Would you be the supervisor or authority for Mr. Sam Bowne?
- I need to speak/email someone at the college to file a complaint regarding Mr. Bowne's conduct as it pertains to our business, since he is using the college's name as part of his activities.

Next Steps

- Searching for high-value customers to alert
- Discovered prior reports of this vulnerability in 2010 and 2012

Results

 10 of the original 11 of the SQL injections are now fixed

BE CAREFUL!

Whitehatting the Wrong Way





blogs.miaminewtimes.com/riptide/2011/07/scott_arciszewski_ucf_computer.php

Crime

Scott Arciszewski, UCF Computer Student, Charged In Anonymous Hacking Crackdown

By Tim Elfrink Wed., Jul. 20 2011 at 10:14 AM

1 Comment

Categories: Crime



It also seems clear, from his actions, that Arciszewski considers himself a "white hat" hacker -- the slice of computer intruders who infiltrate systems to show weaknesses to the authorities who can fix them, not to cause harm. Why else retweet his success to the FBI?

st0rm

"If you're going to arrest me for helping people online, then so be it. Lock me up for life," he concludes.

A year earlier, an 18-year-old hacker called 'storm', who classes himself as a 'grey hat' – a hacker who gains access to servers through illegal means yet refrains in most instances from seeking financial gain – got access to 1302 logins at the university with an estimated 800 of these logins easily decipherable.

Work in Progress

- Major media website
- Ty Ryan Satterfield (@I_am_ryan_S)

2 Years Out Of Date

#	CVE ID	ID	# of Exploits	Vulnerability Type(s)	Publish Date	Update Date	Score	Gained Access Level	Access	Complexity	Authentication	Conf.	Integ.	Avail
1	CVE-2014-0166	<u>287</u>			2014- 04-09		6.4	None	Remote	Low	Not required	Partial	Partial	None
	e wp_validate_a validity of auth										3.x before 3.8.2 forged cookie.	does not	properly de	etermin
2	CVE-2014-0165	<u> 264</u>			2014- 04-09		4.0	None	Remote	Low	Single system	None	Partial	None
				pefore 3.8.2 a admin/include					to publisl	n posts by le	everaging the Co	ntributor	role, relate	ed to w
aan	mm/mcrudes/pos	Scipiip	and wp-	admini, include	.5/ Cla55	wp-posts	-IISL-Labi	e.pnp.						
	CVE-2013-7240		and Wp-6	Dir. Trav.	2014- 01-03	2014-	5.0		Remote	Low	Not required	Partial	None	Non
3 Dire	CVE-2013-7240	22 vulner	ability in	Dir. Trav.	2014- 01-03 .php in t	2014- 02-25	5.0	None			Not required			
3 Dire	CVE-2013-7240	vulner	ability in	Dir. Trav.	2014- 01-03 .php in t	2014- 02-25 the Advar	5.0	None vplayer p	lugin 1.2					arbitrar
3 Directions of the second sec	ectory traversal s via a (dot do CVE-2013-7233	vulner ot) in to 3 352 forgery	ability in he dew_f	Dir. Trav. download-file ile parameter. CSRF vulnerability i	2014- 01-03 .php in t 2013- 12-29 n the ret	2014- 02-25 the Advar 2013- 12-30 trospam o	5.0 nced Dew 6.8 compone	None Vplayer p None nt in wp	Remote	for WordPro Medium options-discu	ess allows remot	Partial	rs to read a	Partia
Oire	ectory traversal s via a (dot do CVE-2013-7233	vulner ot) in to 3 352 forgery ckers to	ability in he dew_f	Dir. Trav. download-file ile parameter. CSRF vulnerability i	2014- 01-03 .php in t 2013- 12-29 n the ret	2014- 02-25 the Advar 2013- 12-30 trospam of dministra 2013-	5.0 nced Dew 6.8 compone	None None None nt in wprequests	Remote -admin/c	for WordPro Medium options-discu	Not required ussion.php in Wo	Partial	rs to read a	arbitrar Partia
3 Directiles 4 Directiles 5 Dir	ectory traversal s via a (dot do CVE-2013-7233) ess-site request ows remote attact CVE-2013-5739 e default configurations con control control con control control control control control con control contr	vulner ot) in to 3 352 forgery ckers to 2 79 iration is to co	ability in he dew_f / (CSRF) o hijack t	Dir. Trav. download-file ile parameter. CSRF vulnerability i he authentica XSS ress before 3.	2014- 01-03 .php in t 2013- 12-29 n the ret tion of a 2013- 09-12 6.1 does	2014- 02-25 the Advar 2013- 12-30 trospam of dministra 2013- 09-26 s not prev	5.0 nced Dew 6.8 compone ators for 1 3.5	None None None nt in wp requests None ads of .s	Remote -admin/c that mo Remote	Medium options-discue comment Medium exe files, wh	Not required ussion.php in Wo	Partial ordPress 2 tion list. None it easier f	Partial O.11 and Partial or remote	Partia Partia earlier None

Confidential Demo

NO RECORDING