





# Pentagon trains workers to hack Defense computers

By **Larry Shaughnessy**, CNN Pentagon Producer

March 11, 2010 – Updated 0027 GMT (0827 HKT)



The idea behind the Pentagon's training is that thinking like a hacker can beat a hacker.

## STORY HIGHLIGHTS

**Washington (CNN)** -- The Pentagon is training people to hack into its own computer networks.

"To beat a hacker, you need to think like one," said Jay Bavisi, co-founder and president of the International Council of Electronic Commerce Consultants, or EC-Council. His company was chosen by the Pentagon to oversee training of Department of Defense employees who work in computer security-related jobs and certify them when the training is complete.





**EC-Council Courseware certified to have met the CNSS Standards by the United States National Security Agency (NSA) and the Committee on National Security Systems (CNSS)**

EC-Council Certified Ethical Hacker (C|EH), Computer Hacking Forensics Investigator (C|HFI), Disaster Recovery Professional (E|DRP), Certified Security Analyst (E|CSA) and Licensed Penetration Tester (L|PT) Courseware has been certified at the highest national level by National Security Systems (CNSS). The CNSS is a federal government entity under the U.S. Department of Defense that provides procedures and guidance for the protection of national security systems. The NSA certified these programs as meeting the 4012, 4013A, 4014, 4015 and 4016 training standards for information security professionals in the federal government.



<http://www.eccouncil.org>

**EC-Council**

**Certified Ethical Hacker  
Program Achieves  
DoD 8570**



The Certified Ethical Hacker (CEH) program is a recognized certification for the United States Department of Defense's (DoD) computer network defense Service Providers (CND-SP's), a specialized personnel classification within the DoD's information assurance workforce.

This recognition falls under the auspices of DoD Directive 8570 Information Assurance Workforce Improvement Program. Directive 8570 provides clear guidance to information assurance training, certification and workforce management across all affected components of the DoD.



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# DEPARTMENT OF DEFENSE (DoD 8570.1) ENDORSED



“The course was very informative and provided a sound base upon which to build many other certifications and skills. I will personally be recommending that this course be mandatory for all personnel within our cyber threat section.

- DoD Participant

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Texas State Technical College



ALAMO COLLEGES  
Northwest Vista College



UNIVERSITY OF PITTSBURGH

HOLYOKE  
COMMUNITY COLLEGE  
Futures Inspired  
HOLYOKE CC



OHIO NORTHERN UNIVERSITY



UNIVERSITY OF TEXAS



HILL COLLEGE



AMERICAN CAREER UNI



GEORGE MASON UNIV - PRINCE WILLIAM



TRUMBULL CAREER TECH CTR



HOWARD COLLEGE



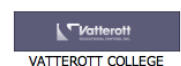
MARYMOUNT UNIVERSITY



UNIVERSITY OF CENTRAL OKLAHOMA



SOUTH PLAINS COLLEGE LUB



VATTEROTT COLLEGE



COLLINS COLLEGE



ITT ONLINE SCHOOL



J SARGEANT REYNOLDS CC - PARHARR



ACRT  
ACADEMY OF COURT REPORTING & TECHNOLOGY



ODESSA COLLEGE



DELTA COLLEGE



AMERICAN INTERCONTINENTAL UNIVERSITY



ROWAN CABARRUS COMMUNITY COLLEGE



CLOVER PARK TECH O



MILLER-MOTTE TECH COLLEGE



KAPLAN UNIVERSITY



CARL ALBERT STATE COLLEGE



EDGECOMB COMMUNITY COLLEGE



NAPA VALLEY COLLEGE



NORTH SCHUYLKILL SCHOOL DIST



LAKE LAND COLLEGE



PASCO-HERNANDO COMMUNITY COLLEGE



SOUTHERN POLYTECHNIC STATE UNIVERSITY



ASHTABULA CNTY TECH CAREER CENTER



HILL JUNIOR COLLEGE



MCCANN SCHOOL OF BUSINESS



CARL ALBERT STATE COLLEGE



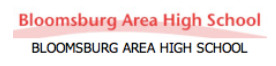
EDGECOMB COMMUNITY COLLEGE



NAPA VALLEY COLLEGE



SOUTHWESTERN COMMUNITY COLLEGE



BLOOMSBURG AREA HIGH SCHOOL



DONA ANA COMMUNITY



WESTERN GOVERNORS UNIVERSITY



GLENDALE COMMUNITY COLLEGE  
GLENDALE CC

Leeds City College - Network Academy, United Kingdom



Bournemouth University, UK/Europe



CFA-AFTI, France



Northumbria University, UK/Europe



REGENT UNIVERSITY



PINELLAS TECH ED

Budapest University of Technology and Economics, Hungary



ESAIP, France



HILLSBOROUGH COMMUNITY COLLEGE - DALE MABRY



LOS ANGELES SOUTHWEST COLLEGE

ROC Midden Nederland, Netherlands



ACISSI Maubeuge



MCLENNAN COMMUNITY COLLEGE

Institut Informatique et Entreprise, France



Africa

School of Information Systems and Technology, University of KwaZulu-



EASTERN KENTUCKY UNIVERSITY

# Puntos clave

- **ECC es una organizacion internacional**
- **Trabaja el rededor del mundo con organizaciones como:**
  - **ONU,**
  - **PENTAGON,**
  - **Departamento de Defensa (USA)**
- **Trabajamos actualmente con diversas universidades en el mundo**



# CyberWar – A New Mindset

- **Taxonomy of War vs CyberWar**
- **When did the war start?**
- **Who are the opponents?**
- **What key targets are they after?**
- **When has the war ended?**
- **What was the damage?**
- **Geneva War Convention – protocols of war**



# Experts: US Is Not Prepared to Handle Cyber Attacks

**In Congressional testimony, authorities on cyber defense say neither government agencies nor private companies are ready for what may come**

By Tim Wilson  
Site Editor, *Dark Reading*

If the bad guys launched a coordinated cyber attack on the United States tomorrow, neither government nor industry would be able to stop it, experts warned legislators yesterday.

At a hearing held by the House Permanent Select Committee on Intelligence, cyber defense experts testified that government agencies are insufficiently coordinated to handle an attack, and that efforts to build a defense have not adequately addressed issues in the private sector.

"The Department of Homeland Security lacks the personnel, capability, authority, and culture required to do the job entrusted to them by the President and Congress," said Amit Yoran, CEO of NetWitness Corp. and former director of the National Cyber Security Division at DHS. "DHS's cyber efforts are disorganized and disjointed, and practical operations continued to be buried deeper within the organization."





# **Bubonic Plague – Black Death**

Estimated 30–60% of the European population was killed

# Plague Timeline

Quarantine

224 BC



Hygiene

+1500 years



Vaccine

1796



200 years to reach population pre-plague

2000 years to solve the problem?

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# Elimination vs. Eradication vs. Control



## Elimination

- The reduction of prevalence of a disease in a defined area to zero or the reduction of global prevalence to a negligible amount, e.g. Poliomyelitis and measles



## Eradication

- The permanent reduction of the worldwide prevalence of a disease to zero, e.g. Smallpox

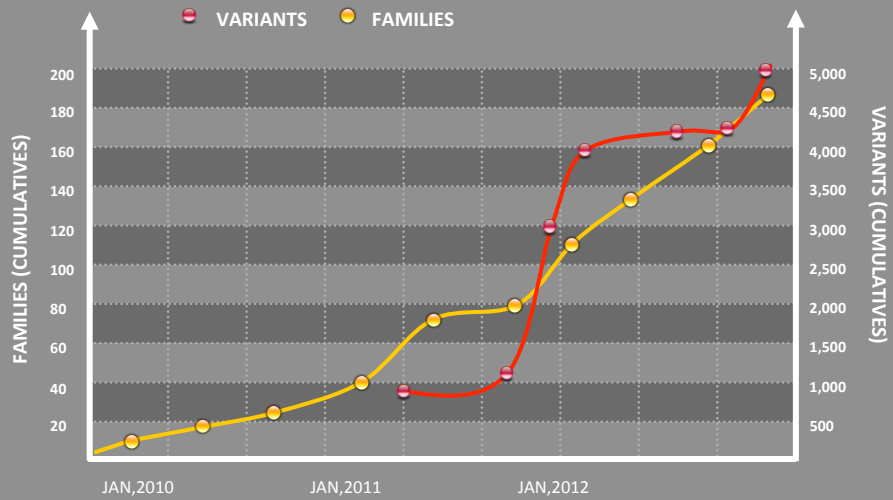


## Control

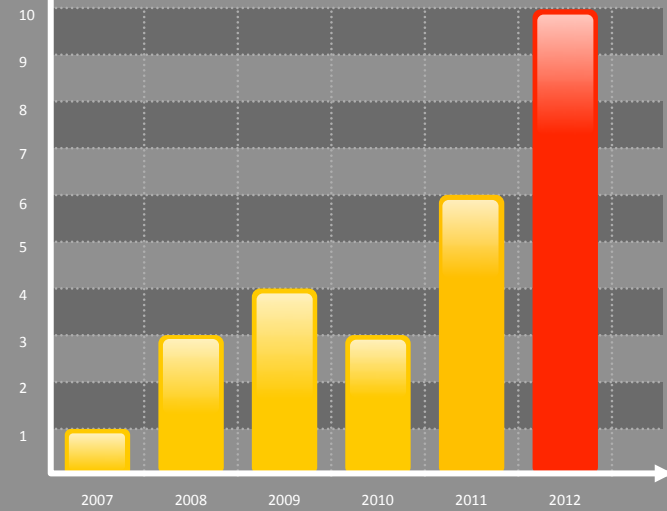
- The reduction in the incidence, prevalence, morbidity or mortality of an infectious disease to a locally acceptable level



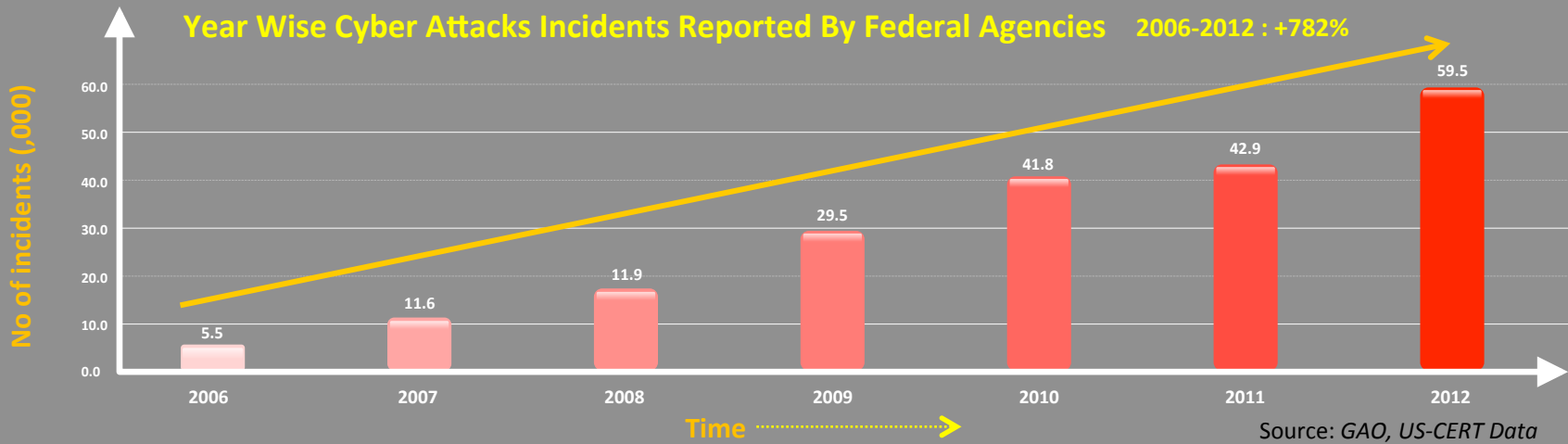
Cumulative Mobile Android Malware, 2010 to 2012



Mac-specific Threats by Year



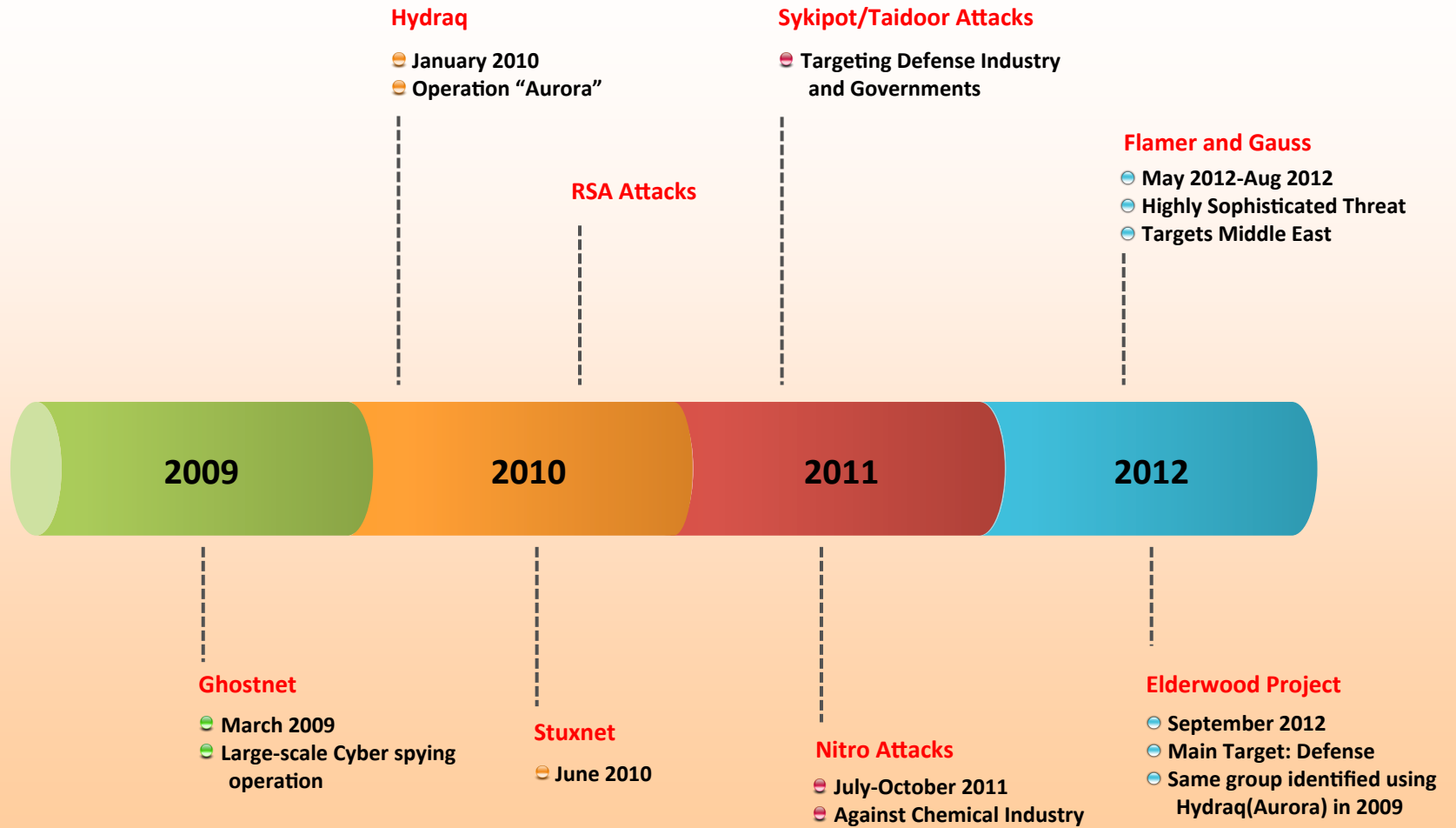
Year Wise Cyber Attacks Incidents Reported By Federal Agencies 2006-2012 : +782%



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# Timeline of Targeted attacks



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# Puntos clave

- **Fiebre bubonica: elimino entre 30-60% poblacion**
- **Epidemia: 2,000 anos para solucion**
- **200 anos para recuperar la poblacion perdida**
- **Solucion: Eliminar, Erradicar, Controlar**
- **Tiempos entre problema y solucion**
- **Que tienen que ver las plagas con nosotros?**
- **Nuevas formas de plaga: Tecnologia, Internet**



# The Massive Attacks



## BIGGEST DDoS ATTACK IN HISTORY hammers Spamhaus

**Plucky mail scrubbers battle internet carpet bombers**

By John Leyden, 27th March 2013

<http://www.theregister.co.uk>

Anti-spam organisation Spamhaus has recovered from possibly the largest DDoS attack in history.

A massive 300Gbps was thrown against Spamhaus' website but the anti-spam organisation was able to recover from the attack and get its core services back up and running. CloudFlare, the content delivery firm hired by Spamhaus last week to guard against an earlier run of DDoS attacks, was also hit, forcing it into taking the highly unusual step of dropping London as a hub in its network - as a [Twitter update](#) by CloudFlare on Monday explained.

### RELATED STORIES

Spamhaus-style DDoS attacks: All the hackers are doing it

Rotten spam causing more infections than ever - study

Call centers under attack in targeted cyber-blackmail scheme

**Analysis**  
BIGGEST DDoS in history FAILS to slash interweb arteries

**Analysis**  
Spamhaus and ISP spar over 'email DoS' blacklisting

**Our peering in London has been dropped due to a large attack. Modifying routes to avoid degradation. Affecting location: London, GB**

Spamhaus supplies lists of IP addresses for servers and computers on the net linked to the distribution of spam. The blacklists supplied by the not-for-profit organisation are used by ISPs, large corporations and spam filtering vendors to block the worst sources of junk mail before other spam filtering measures are brought into play.

Spammers, of course, hate this practice so it's no big surprise that Spamhaus gets threatened, sued, and DDoSed regularly. Those affected by what they regard as incorrect listings also object about Spamhaus' alleged vigilante tactics.



## Twitter: Hackers target 250,000 users

COMMENTS (251)

<http://www.bbc.co.uk>



The BBC's technology correspondent Rory Cellan-Jones is one of those affected

**A quarter of a million Twitter users have had their accounts compromised in the latest of a string of high-profile internet security breaches.**

Twitter's information security director Bob Lord said about 250,000 users' passwords had been stolen, as well as usernames, emails and other data.

### Related Stories

[Google boss on China 'IT menace'](#)

['China hackers' attack NY Times](#)

[China condemns NY Times 'smear'](#)

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# The Massive Attacks

## Apple suffers largest hacking attack in its history

By Jim Finkle and Joseph Menn  
Reuters

Posted: 02/19/2013 11:40:58 AM PST  
Updated: 02/19/2013 05:29:57 PM PST

BOSTON/SAN FRANCISCO -- [Apple \(AAPL\)](#) was recently attacked by hackers who infected Macintosh computers of some employees, the company said Tuesday in an unprecedented disclosure describing the widest known cyber attacks targeting Apple computers used by corporations.

Unknown hackers infected the computers of some Apple workers when they visited a website for software developers that had been infected with malicious software. The malware had been designed to attack Mac computers.

The same software, which infected Macs by exploiting a flaw in a version of [Oracle's \(ORCL\)](#) Java software used as a plug-in on Web browsers, was used to launch attacks against [Facebook](#), which the social network disclosed on Friday.

The malware was also employed in attacks against Mac computers used by "other companies," Cupertino-based Apple said, without elaborating on the scale of the assault.

### More Apple coverage

- [Apple, Google, Facebook deny giving NSA, FBI access to servers](#)
- [Cupertino: Apple's new headquarters will get 'unacceptable level' of 280, report says](#)
- [Officials to seek cure for smartphone thefts in Apple, Google](#)
- [Apple said to begin iPhone sales this month](#)
- [Apple to sell audio ads for music service, source](#)

<http://www.mercurynews.com>



Infesting MAC Computers



## Chameleon botnet steals \$6M per month in click fraud scam

More than 120,000 Windows-based computers running Internet Explorer 9 are infected in the U.S., researchers say.



by Steven Musil | March 19, 2013 8:55 PM PDT

Follow @stevenmusil

<http://news.cnet.com>



140



0



12



17

More +

Comments 0



Security researchers say they have identified a botnet that steals more than \$6 million per month by generating fake customer clicks on online display ads.

Dubbed Chameleon, the botnet has infected more than 120,000 Windows-based computers in the U.S., mimicking human behavior on select Web sites to generate billions of ad impressions and fraudulent income for its creators, according to security firm [Spider.io](#).

Click fraud costs Web advertisers in lost revenue by making them pay for illegitimate clicks. [Spider.io](#) reported that advertisers paid an average of 69 cents per one thousand impressions generated by the botnet. Researchers estimate Chameleon was responsible for two-thirds of the 14 billion ad impressions served by the 202 affected Web sites, nearly all of which are located in the U.S.

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# Chinese hackers steal U.S. weapons systems designs, report says



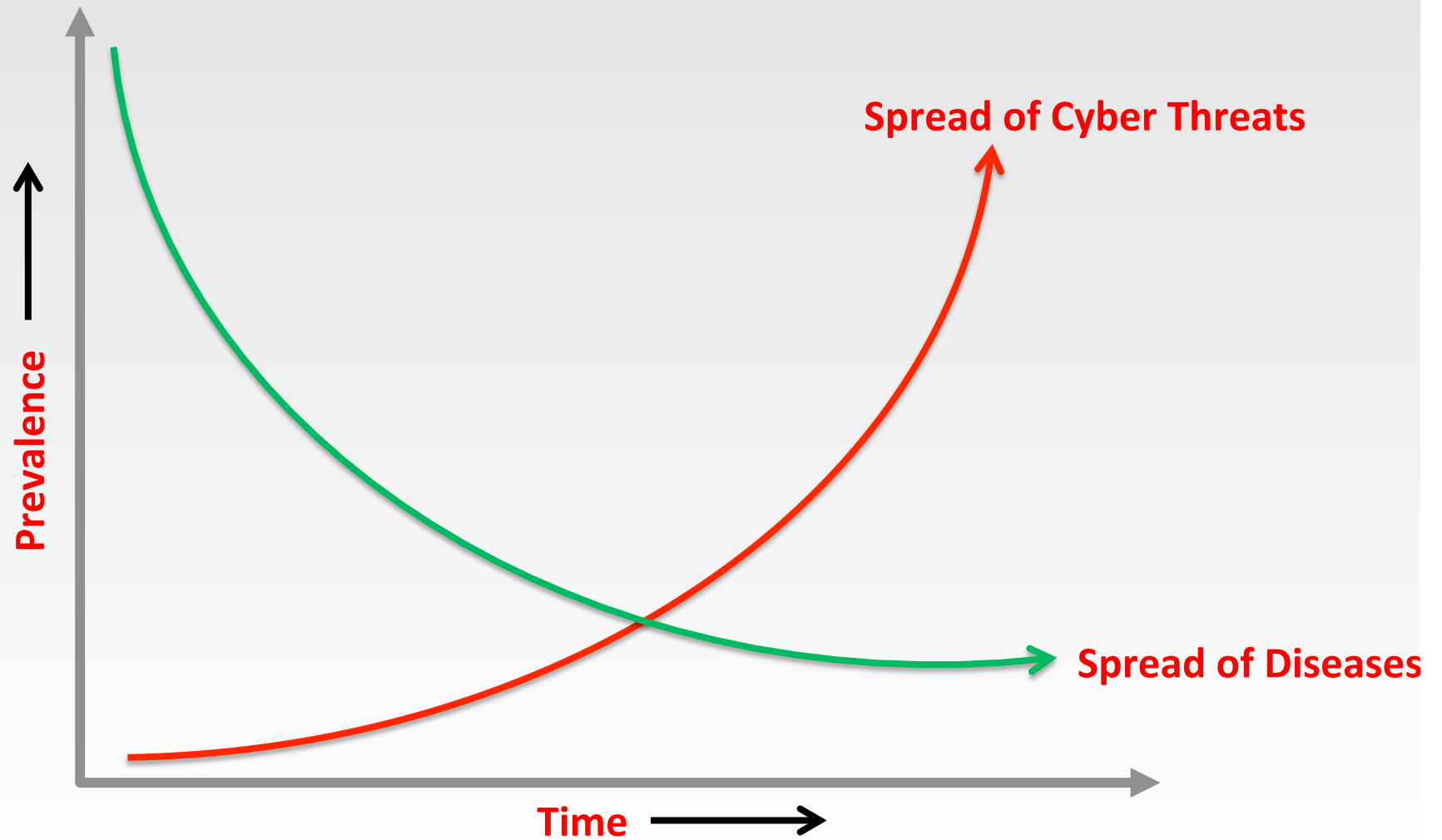
This image provided by the US Navy shows a modified Standard Missile 2 interceptor is launched in 2008 from the guided-missile cruiser USS Lake Erie during a test. A new report says Chinese hackers have stolen designs for several U.S. weapons systems.

*By Terril Yue Jones, Bill Trott and Rob Taylor, Reuters*

Chinese hackers have **gained access to designs of more than two dozen major U.S. weapons systems**, a U.S. report said on Monday, as Australian media said Chinese hackers had stolen the blueprints for Australia's new spy headquarters.

Citing a report prepared for the Defense Department by the Defense Science Board, the Washington Post said the compromised U.S. designs included those for combat aircraft and ships, as well as missile defenses vital for Europe, Asia and the Gulf.

# An Analogy: **WE ARE LOSING THE FIGHT !**



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# Cyber Plague

*You are in IT !!!!!!!*

Large Giants being taken out with hacks  
invented a long time ago



Linked in

facebook.



CHASE



Microsoft

The New York Times



SONY  
make.believe

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# Cyberplague Timeline

Quarantine



Firewall



IDS



IPS

Cyber Hygiene

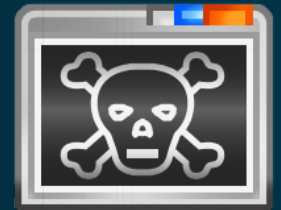


Education



Policy

Vaccine



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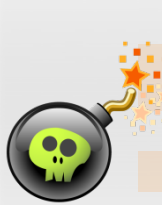


# Puntos clave

- **Enfermedades Humanas y enfermedades virtuales**
- **Humanas – Desprotegidos**
- **Virtuales – Todos (Grande, reconocido, mayor)**
  
- **Estamos perdiendo!**
- **Antiguas soluciones: Cuarentena, Higiene**
- **Aun no hay vacuna**

# Wrong Code vs. Correct Attack

## Vulnerable Code (Non-Parameterized stored procedure)



```
1: Try
2: Dim command As SqlCommand = new
   SqlCommand("sp_getAccountBalance(CustomerName.Text)", connection);
3: Dim reader As SqlDataReader = command.ExecuteReader();
4: Catch se As SqlException
5:     \ error handling
6: End Try
```



**Vulnerable to  
SQL injection  
attack**

**This parameterized  
stored procedure  
approach helps in  
preventing SQL  
injection attacks**



## Secure Code (Parameterized stored procedure)

```
1: Try Dim command As SqlCommand = new SqlCommand("sp_getAccountBalance", connection);
2: command.CommandType = CommandType.StoredProcedure;
3: command.Parameters.Add(new SqlParameter("@CustomerName", CustomerName.Text));
4: Dim reader As SqlDataReader = command.ExecuteReader();
5: Catch se As SqlException
6:     \ error handling
7: End Try
```





# Type's of Vaccine



## ACTIVE IMMUNIZATION

Measles, Mumps, Yellow Fever, Rotavirus

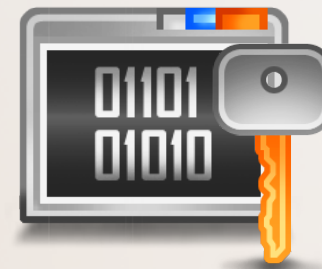


Ethical Hacker (Antigen and Antibody)



## PASSIVE IMMUNIZATION

Tetanus



Secure Code (Antibody)  
Immunological Memory

# The **Problem**

A review of  
curricula globally  
on secure coding



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# Secure Coding Education: **Are We Making Progress?**



“ While current computer science (CS) programs are adept at teaching programming skills including exposing students to languages commonly used in industry, the focus is often on “making programs work”. Students are typically given an assignment with a set of functional goals such as to create a program that reads records from a file, and then performs some calculation based on the values retrieved. In such cases **little consideration is given to secure programming issues**, and as such students do not learn how to write programs that would be resilient to accidentally or maliciously malformed input in real world conditions. ”

- *Proceedings of the 16th Colloquium for Information Systems Security Education. 2012*



# World's Best Universities



*No Comprehensive  
Secure Coding Program*

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# The Point



**The Vaccine**



**Secure Coding**

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# Manufacturing the **Panacea**



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1

All India Secure Coding Competition 2013

3

Preliminary, Semi Finals, and Final

2

Across Universities All Over India

4

We want HOD across Universities to be part of it

**EC-Council Code | Uncode**  
**Researching India**

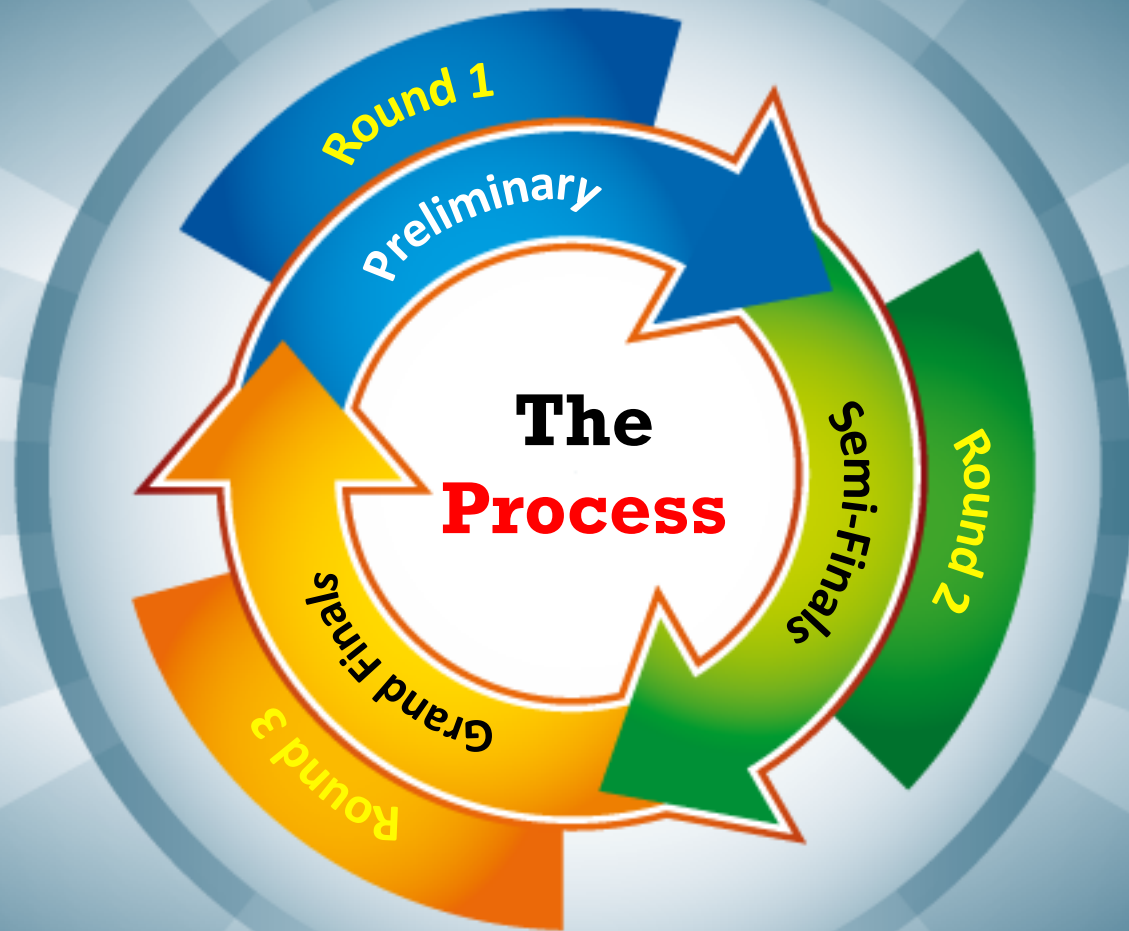
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# Code Uncode Partnerships



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**The Result!!!**

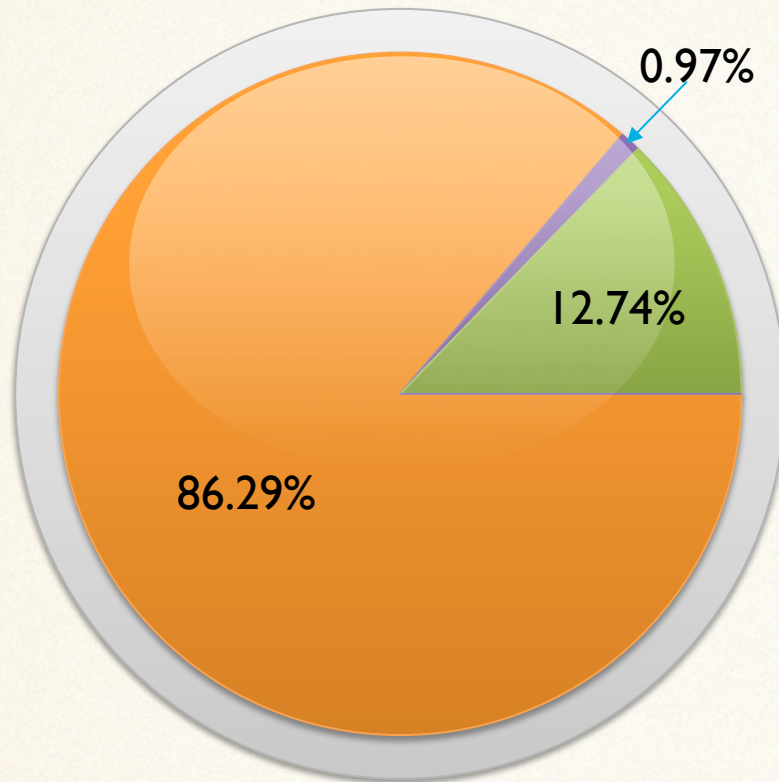


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# Lessons Learnt

## All India – Skill Level Analysis



India's talent pipeline in **Secure Coding** skills emerges at its weakest with just under a percentage of student population in engineering equipped with **basic skills** in **Secure Coding**

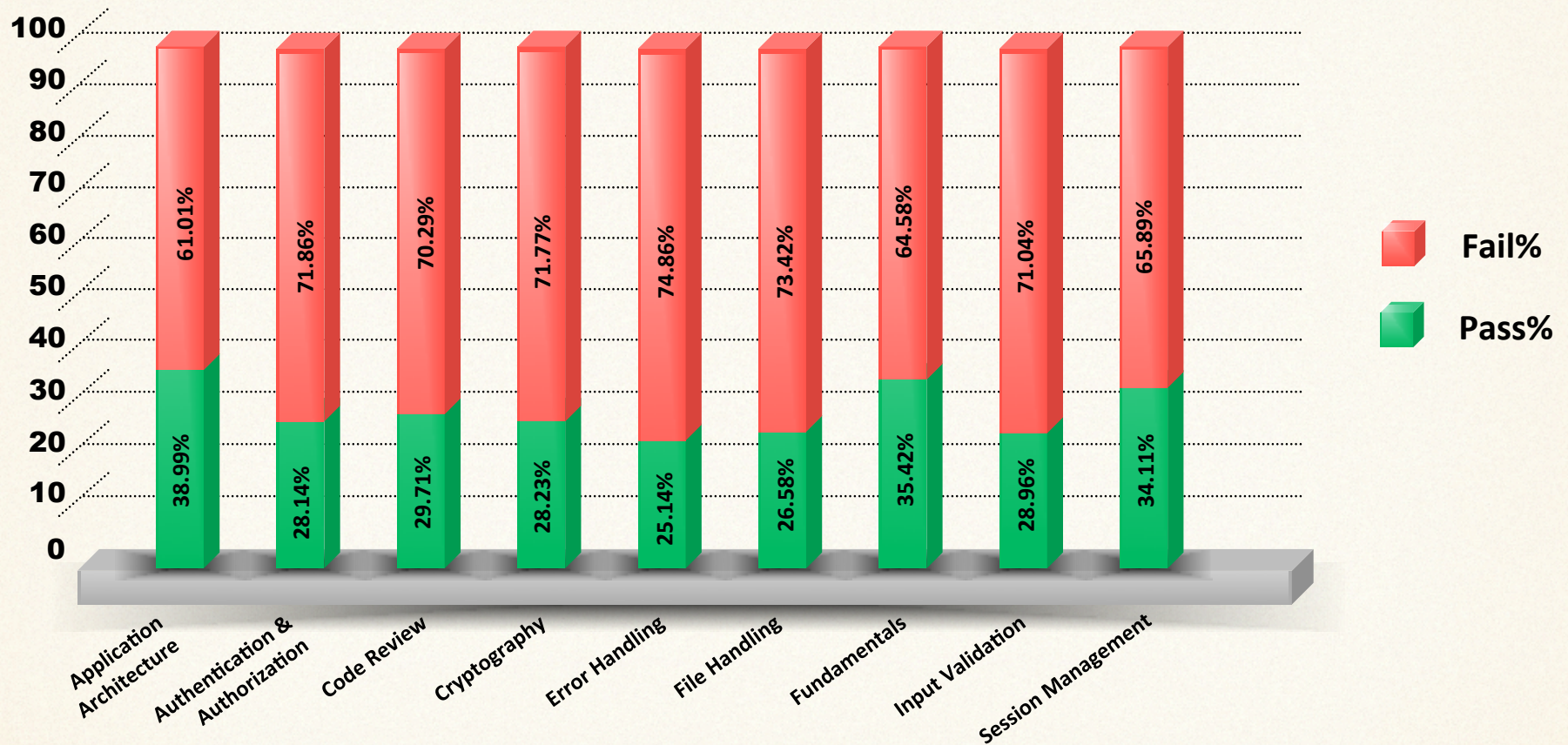
■ In Demand ■ Employable ■ Not Employable

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# Lessons Learnt – Identifying the Gaps

Performance of the **candidates** in individual skill categories



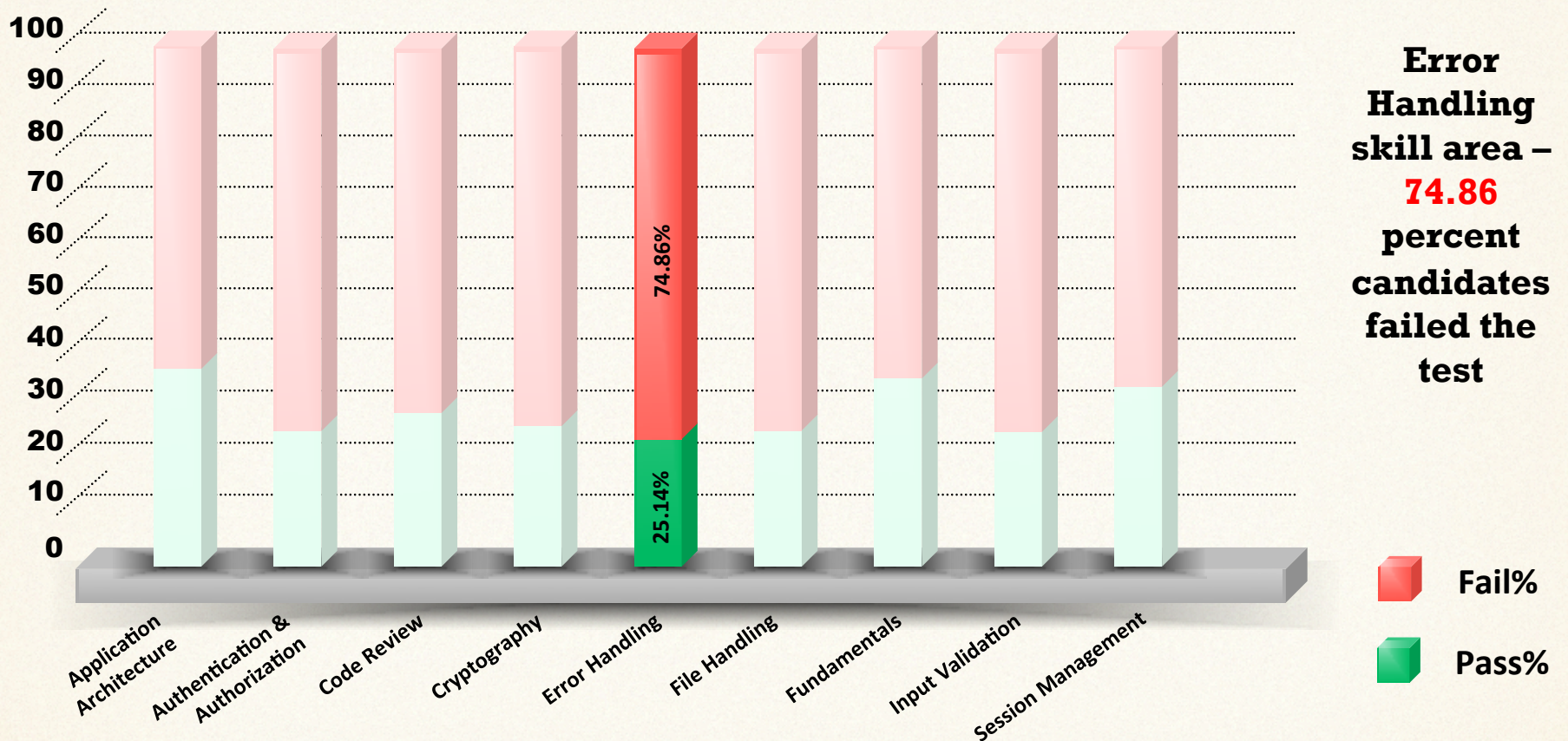
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# Identifying the Gaps – What Does It Mean?

Improper handling of errors and exception makes you vulnerable to:

- Disclosure of sensitive information
- Denial-of-service attacks



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# Cybercrooks Use **DDoS Attacks** to Mask theft of Banks' Millions

Distributed denial of service attacks have been used to divert security personnel attention while **millions of dollars were stolen from banks**, according to a security researcher.

At least three US banks in recent months have been plundered by fraudulent wire transfers while hackers deployed "low powered" **DDoS attacks** to mask their theft, Avivah Litan, an analyst at research firm Gartner, told SCMagazine.com. She declined to name the institutions affected but said the attacks appeared unrelated to the wave of DDoS attacks last winter and spring that took down Web sites belonging to JP Morgan , Wells Fargo, Bank of America, Chase, Citigroup, HSBC, and others.

<http://news.cnet.com>



# DoS/DDoS attack due to Improper Exception Error handling and Poor Input Validation



## GCSB website attacked by hackers today

By [Brendan Manning](#)

7:04 PM Friday Aug 23, 2013

★ Save

f 29

t 44

in

The Government Communications Security Bureau website was attacked by hackers earlier today.

A spokesman for the organisation said although the attack did not shut down the website, it slowed the website's gateway for about 30 minutes.

"... There is an indication there could have been some temporary degradation of service."



Prime Minister John Key. Photo / Mark Mitchell

It is believed the website suffered a DDoS or distributed denial-of-service attack, where a website suffers a saturation of external communications requests to the point that it cannot respond to legitimate traffic in an attempt to cause the server to overload.

The attack did not affect GCSB operations in any way the spokesman said.

A Twitter page with the handle 'OpF\*ckGCSB' tweeted "#TangoDown" and a screen shot showing the website down.

The Twitter user claimed links to the international 'hacktivist' group Anonymous.

- APNZ

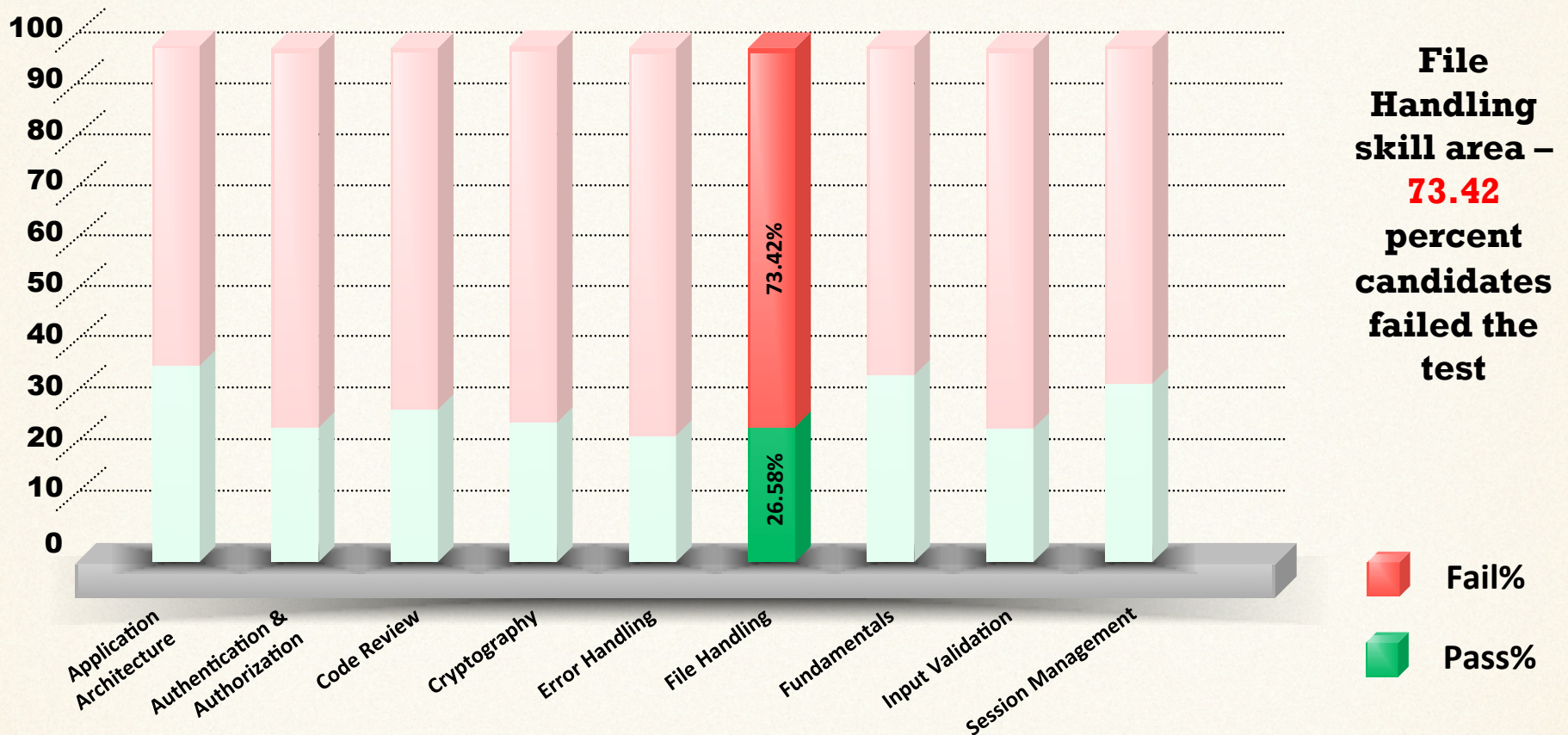
By [Brendan Manning](#) Brendan

Unravel the Enigma of Insecurity

# Identifying the Gaps – What Does It Mean?

Insecure file handling makes you vulnerable to:

- Malicious file Inclusion; malware distribution
- DoS/DDoS attacks



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# Sensitive Information Disclosure due to Insecure Data Storage

## Officials: Public Disclosure Commission hacked

Washington agency provides public access to campaign data

By Rachel LaCorte, Associated Press

Tuesday, September 17, 2013

[Recommend](#) 0 [Send](#) [Tweet](#) 0 [+1](#) 0 [Pin it](#) [Digg](#) [submit](#)

OLYMPIA — The state Public Disclosure Commission's network was breached earlier this month, though officials on Tuesday said no information was compromised.

Michael Smith, chief technology officer for the state agency, said that the agency was notified by the state's Consolidated Technology Services last week that a virus had hit the network on Aug. 17, but that the actual network incursion occurred on Sept. 8.

Smith says that the PDC was told by CTS that the incursion was initially believed to be domestic, but may have been done by a foreign government. Smith said no sensitive information was obtained or changed on the system, which contains financial records that are public records. The commission provides public access to information about financing of political campaigns and lobbying activities.

"We believe it was mostly for a reconnaissance mission to identify machines on our network," Smith said.

However, David Postman, a spokesman for Gov. Jay Inslee, said that there was no evidence of foreign involvement.

"Often, it is a possibility that an attack can come from overseas, but in this case we are certain there is no good evidence that this was any foreign government," Postman said in an emailed response. "There were foreign IP addresses, which is quite common in hacking attacks. This is considered a lower level attack."

Smith said that CTS was notified of the breach by the FBI, which saw some of the agency's usernames and passwords on a reputed hacker's website. Since the agency learned of the hacking, Smith said that passwords have been changed, and CTS has been scanning their sites looking for potential points of vulnerability.

The FBI is currently analyzing the breach, Smith said, but, Postman said that the FBI was not involved.

In an email, FBI spokeswoman Ayn Dietrich said she could neither confirm nor deny any investigation, but wrote "the public should be assured that the FBI takes seriously cyber intrusions that could compromise national security."

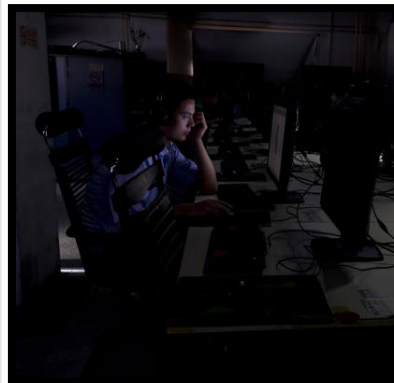
This is the second known data breach in Washington state this year.

## China hit by massive Web attack this weekend

Over the weekend, .cn – the Chinese equivalent of .com – went dark, according to reports by the China Internet Network Information Center.

By Katherine Jacobsen, Contributor / August 26, 2013

Every website that uses the .cn suffix was inaccessible for several hours over the weekend, the result of "the largest ever" hack on Chinese sites, according to the China Internet Network Information Center (CNNIC).



Before malicious coders can launch a DDoS attack, they must infect the computers of unsuspecting users, often by tricking people into installing malware on their computers. The malware can then be coordinated to attack a website or network, and an off-site controller can launch the attack at his or her choosing, flooding the servers with a stream of hits. This effectively

causes the site to collapse, or at least become useless for a few hours. Though the .cn domain was down, many service providers store parts of the online registry, so some .cn websites could have still been

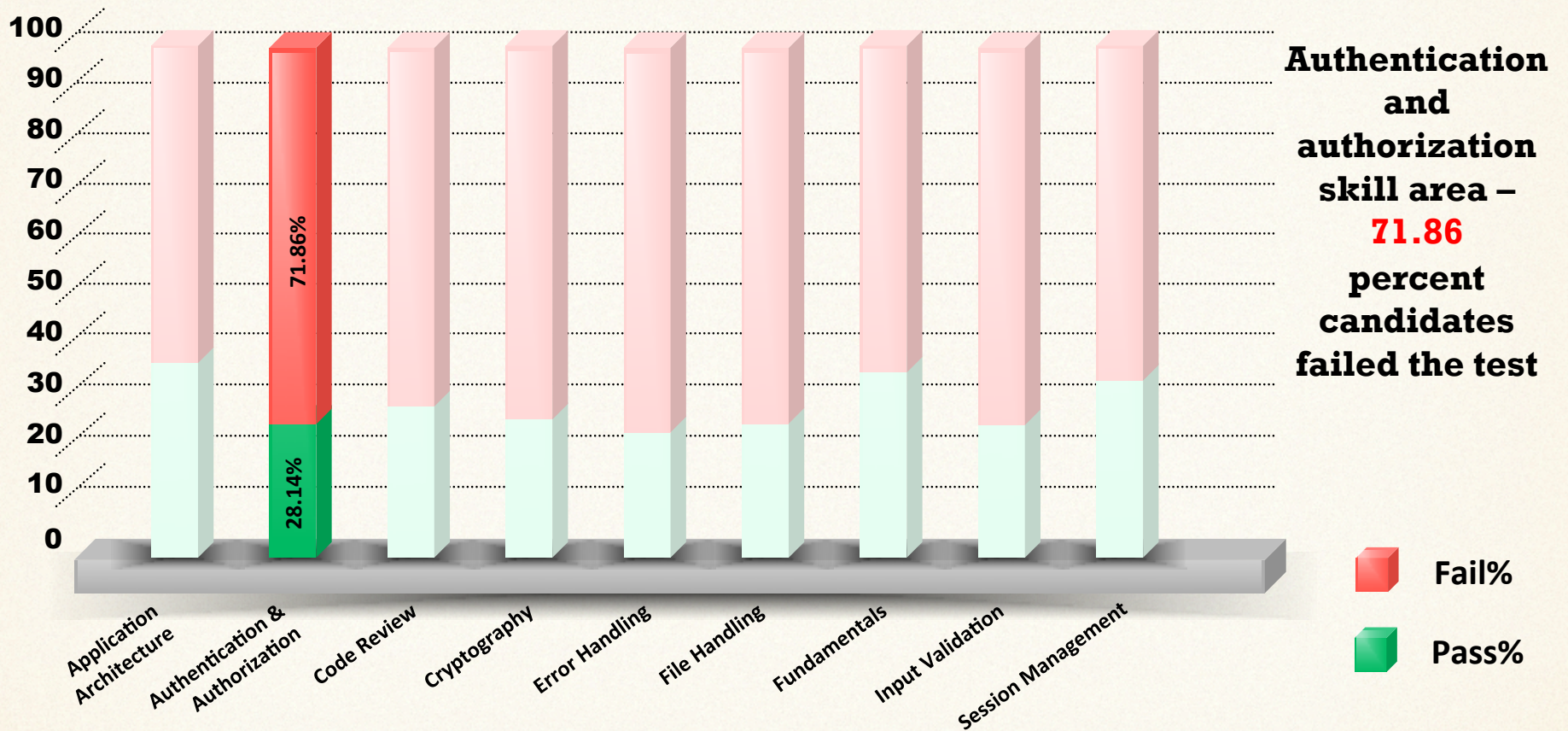
accessible to users, according to CloudFlare, an online content delivery network. Furthermore, the relative ease of spreading viruses means that the attack could have been perpetrated by an individual.

Unravel the Enigma of Insecurity

# Identifying the Gaps – What Does It Mean?

Improper authentication and authorization makes you vulnerable to:

- Credential theft
- Account hijacking
- Eavesdropping
- Information leakage
- Brute-force and dictionary attacks
- Disclosure of confidential data
- M-I-T-M attack
- Privilege escalation
- Data tampering
- Luring attacks



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# Man-in-the-Middle(MITM) attack due to poor Implementation of Authentication and Authorization mechanism



## NSA disguised itself as Google to spy, say reports

If a recently leaked document is any indication, the US National Security Agency -- or its UK counterpart -- appears to have put on a Google suit to gather intelligence.



by Edward Moyer | September 12, 2013 2:19 PM PDT



Here's one of the latest tidbits on the NSA surveillance scandal (which seems to be generating nearly as many blog items as there are phone numbers in the spy agency's data banks).

Earlier this week, Techdirt picked up on a passing mention in a [Brazilian news story](#) and a [Slate article](#) to point out that the US National Security Agency had apparently impersonated Google on at least one occasion to gather data on people. (Mother Jones subsequently [pointed out](#) Techdirt's point-out.)

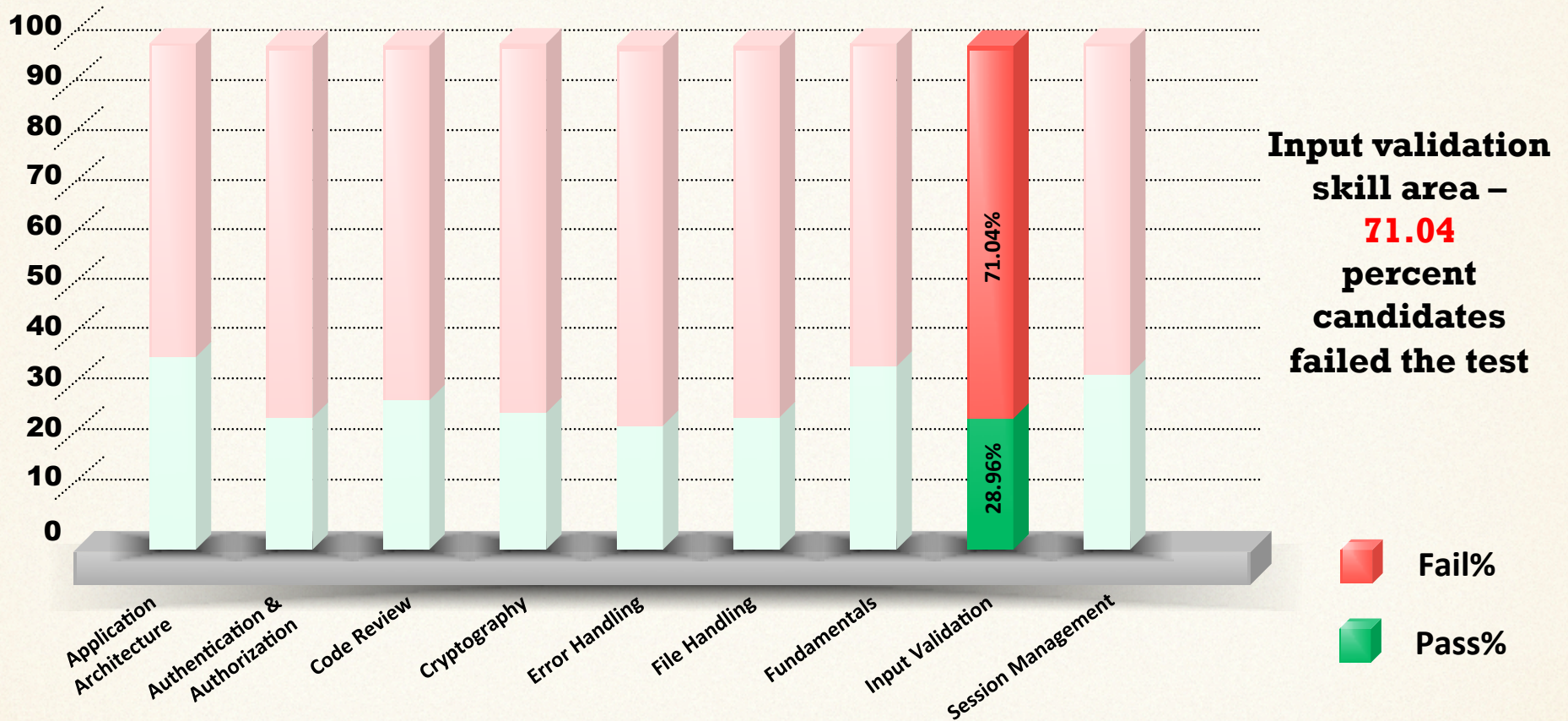
Brazilian site Fantastico obtained and published a [document](#) leaked by Edward Snowden, which diagrams how a "man in the middle attack" involving Google was apparently carried out.

A technique commonly used by hackers, a MITM attack involves using a fake security certificate to pose as a legitimate Web service, bypass browser security settings, and then intercept data that an unsuspecting person is sending to that service. Hackers could, for example, pose as a banking Web site and steal passwords.

# Identifying the Gaps – What Does It Mean?

Improper input validation makes you vulnerable to:

- Buffer overflow
- Cross-site request forgery
- Query string manipulation
- Unvalidated Redirect
- Canonicalization attacks
- SQL injection
- Cookie manipulation
- HTTP header manipulation
- Cross-site scripting
- Form field manipulation

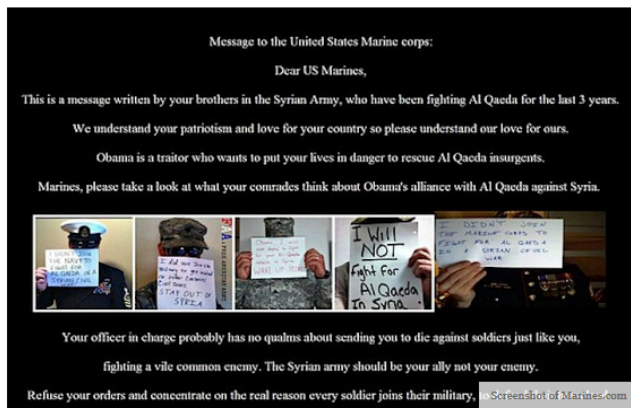


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## Unvalidated Redirect/Website Defacement attack due to Poor Input Validation

Syrian Electronic Army attacks Marines website saying 'Obama is a traitor'



September 2, 2013 1:52 PM  
Meghan Kelly

2 Comments



The Syrian Electronic Army hit the Marines' recruiting website today, redirecting visitors to a separate website with images depicting "soldiers" who are against a military strike on Syria.

The SEA is a group of pro-regime hackers who most often target publications for their coverage of the conflict in Syria. The group often **defaces websites or redirects them to its own website** as an attempt to get their own messaging and propaganda across. Recently, the group reportedly hacked into Melbourne IT, a domain name registrar, and **was able to take down the New York Times website**.

## Website Defacement attack due to Poor Input Validation

Brazilian hackers attack NASA website instead of NSA in retaliation for US 'snoop-op'

The hackers left a message on the site that read, 'Stop spying on us'

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Brazilian hackers mistook the US space agency NASA for the country's spy agency NSA, and hacked it in retaliation of the alleged US 'snoop-op' on Brazil.

Brazilian news portal Uol said that some activists decided to protest the US practice but picked the wrong target and hacked NASA's website with a message that read, 'Stop spying on us' and also called on the US to not attack Syria.

Nasa spokesperson Alard Beutel confirmed the attack but said that none of the agency's primary websites, missions or classified systems were compromised, News24 reports.

The spokesperson further added that the agency was diligently taking action to investigate and reconstitute the websites impacted during **web defacement incident**.

According to the report, the classified documents leaked by NSA whistleblower Edward Snowden indicated that the US spy agency allegedly snooped on Brazilian President Dilma Rousseff's e-mail communications and on the state-run energy giant Petrobras.

Brazil, slamming the alleged surveillance programmes as 'unacceptable', demanded explanations from Washington.

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# Why the **Gap** is **Dangerous** – A Summary

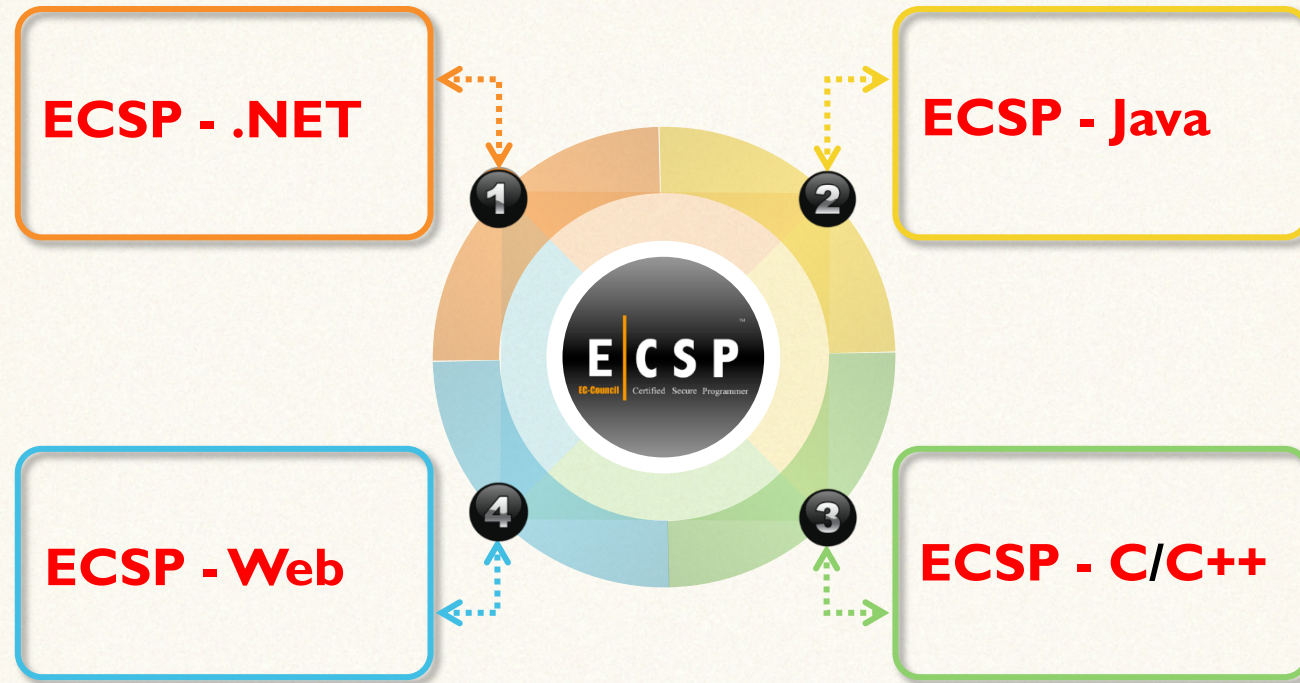
Category	Attacks		
<b>Poor Input and Data Validation</b>	<ul style="list-style-type: none"> <li>• Buffer overflow</li> <li>• Cross-site scripting</li> <li>• SQL injection</li> </ul>	<ul style="list-style-type: none"> <li>• Cross-site request forgery</li> <li>• Canonicalization attacks</li> <li>• Query string manipulation</li> </ul>	<ul style="list-style-type: none"> <li>• Form field manipulation</li> <li>• Cookie manipulation</li> <li>• HTTP header manipulation</li> </ul>
<b>Poor Authentication and Authorization Mechanism</b>	<ul style="list-style-type: none"> <li>• Credential theft</li> <li>• Eavesdropping</li> <li>• Privilege escalation</li> </ul>	<ul style="list-style-type: none"> <li>• Brute-force and dictionary attacks</li> <li>• Man-in-the-Middle attack</li> <li>• Disclosure of confidential data</li> </ul>	<ul style="list-style-type: none"> <li>• Account hijacking</li> <li>• Information leakage</li> <li>• Data tampering</li> </ul>
<b>Insecure Data Storage</b>	<ul style="list-style-type: none"> <li>• Accessing sensitive data in storage and memory</li> </ul>	<ul style="list-style-type: none"> <li>• Data tampering</li> </ul>	<ul style="list-style-type: none"> <li>• Network eavesdropping</li> </ul>
<b>Poor Session Management</b>	<ul style="list-style-type: none"> <li>• Session hijacking</li> </ul>	<ul style="list-style-type: none"> <li>• Man-in-middle attacks</li> </ul>	<ul style="list-style-type: none"> <li>• Session replay</li> </ul>
<b>Insecure Exception and Error Handling</b>	<ul style="list-style-type: none"> <li>• Disclosure of sensitive information</li> </ul>	<ul style="list-style-type: none"> <li>• Denial-of-service attacks</li> </ul>	
<b>Poor Configuration Management</b>	<ul style="list-style-type: none"> <li>• Illegal access to administration Interfaces</li> </ul>	<ul style="list-style-type: none"> <li>• Illegal access to configuration stores</li> </ul>	<ul style="list-style-type: none"> <li>• Theft of clear text configuration secrets</li> </ul>
<b>Weak Cryptography</b>	<ul style="list-style-type: none"> <li>• Loss of decryption keys</li> </ul>	<ul style="list-style-type: none"> <li>• WEP Encryption cracking</li> </ul>	
<b>Improper Auditing and Logging</b>	<ul style="list-style-type: none"> <li>• Denial of performing an operation by user</li> </ul>	<ul style="list-style-type: none"> <li>• Exploitation of an application by an attacker without trace</li> </ul>	<ul style="list-style-type: none"> <li>• Covering tracks</li> </ul>
<b>Improper File Handling</b>	<ul style="list-style-type: none"> <li>• Malicious file Inclusion</li> </ul>	<ul style="list-style-type: none"> <li>• DoS/DDoS attacks</li> </ul>	

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# What **EC-Council** is Doing to Fill the Gap

## **ECSP** – The Vaccine



EC-Council's **comprehensive secure programming training** programs

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**Solution:**

***Start Manufacturing the Panacea now!***

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## EUROPE: Universities must address information security

Writer: Paul Cochrane  
Date: 05 October 2008



Information technology security training at European universities was an aspect of the university curriculum that institutions needed to address, participants were told at a conference organised by the European Network and Information Security Agency, Enisa, last month in Crete.

"Universities have started to work on courses and are defining security but we can do more in terms of programmes," said Professor Evangelos Markatos of the Institute of Computer Science of the Foundation for Research and Technology. "There needs to be a new generation of security engineers, and security has to be thought about from the beginning."

Courses that are offered, such as those at Britain's Cambridge University and Royal Holloway College at the University of London, also needed to train students for security issues in the work place, said Paul Dorey, Director of Digital Security with oil company BP.

"It helps engineers when training to think about security. Courses are being given but there is not enough awareness of standard IT security. Many large companies often have to retrain programmers, such as at banks in secure programming," Dorey said.

Markatos said universities were sensitive to hacking and cyber crime, and usually had systems in place to rapidly find such cases and stop them from spreading within the university's IT infrastructure.

While universities were updating techniques to respond to cyber attacks, institutions were also playing a vital role in raising awareness of IT security and protection through partnerships with European ministries of education and the private sector, said Isbaella Santa, Senior Expert at Enisa.

"Such an approach, of public-private partnerships, is better than say Microsoft doing it, as people would say, trying to sell software," she said. "Some universities in Germany are also offering courses on the psychological effects of stolen data, whether children are addicted to computing, and other social aspects of e-security."

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Dr. R. Manoj Kumar  
Education Officer



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**BY SPEED POST**

D. O. No.14-7/2009(CPP-II)

16<sup>th</sup> January, 2013

Dear Madam/Sir,

Subject: Introduction of Cyber Security/Information Security as a subject.

This is with reference to the recommendation of the Task Force on National Security System constituted on the direction of the Cabinet Committee on Security. The Task Force has made the following recommendation:-

***UGC and AICTE would ensure that Cyber Security/Information Security is introduced as a subject in the universities/technical institutions at the under-graduate and post-graduate levels.***

Therefore, I am directed to request you to take appropriate action on the above recommendation. This may also be brought to notice of the colleges, if any, affiliated to your university.

Yours faithfully,

(R. Manoj Kumar)  
Education Officer

To  
All Vice-Chancellor

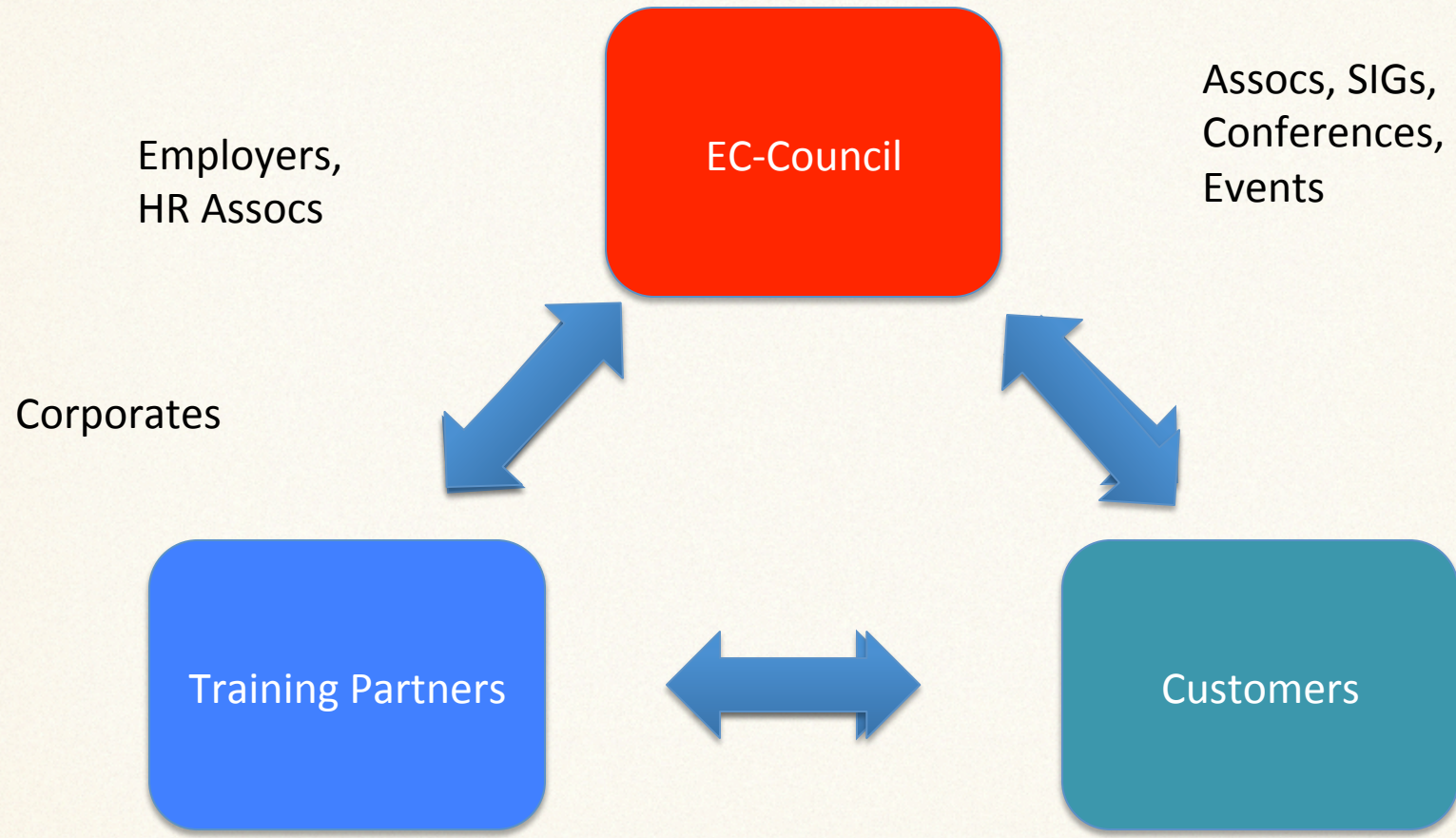
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**Thank you!**

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