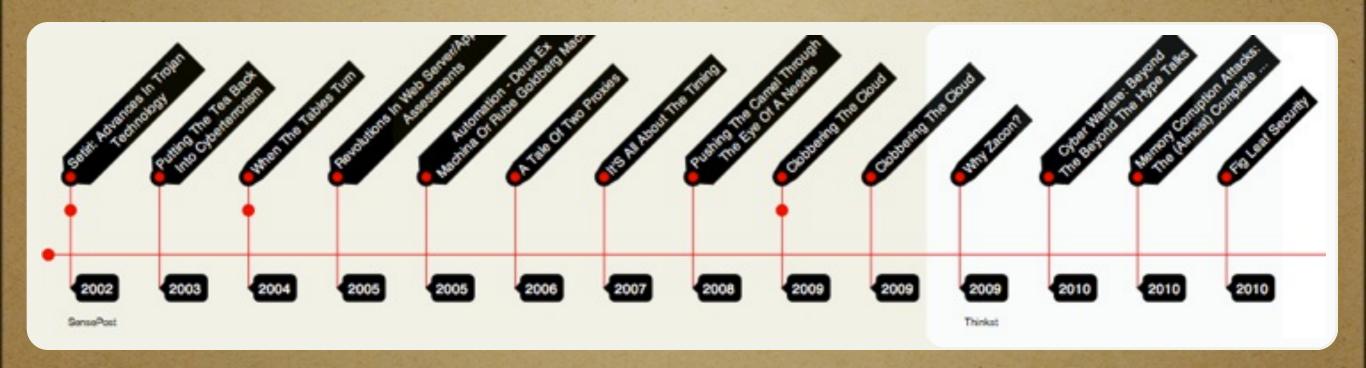
## You & Your Research

2012 - @haroonmeer (haroon@thinkst.com)

2445-2164-9831-4599-0334

#### About: Me



@haroonmeer
haroon@thinkst.com

http://cc.thinkst.com/speaker/Meer/Haroon/timeline/

http://cc.thinkst.com/

(jameel@thinkst.com) / (@RC110)

#### About: Dr Bratus











Cc.thinkst.com/speaker/Bratus/Sergey/







blog

about

online-applications

folklore fun

conference fun

Login

Speakers

Conferences

Contributors

Upcoming

Analytics About

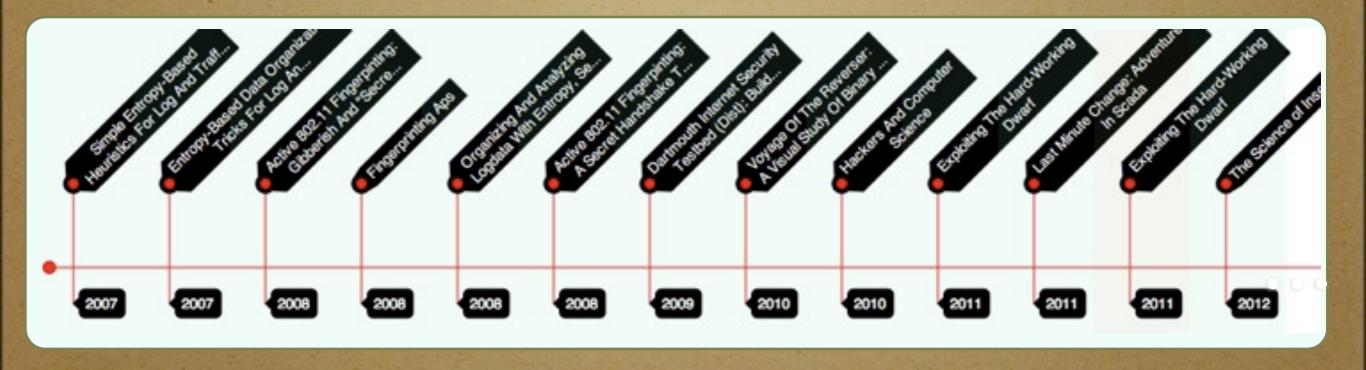
Speaker: Sergey Bratus [Speaker-Timeline] [Speaker-Links]

Submit Patch For Speaker

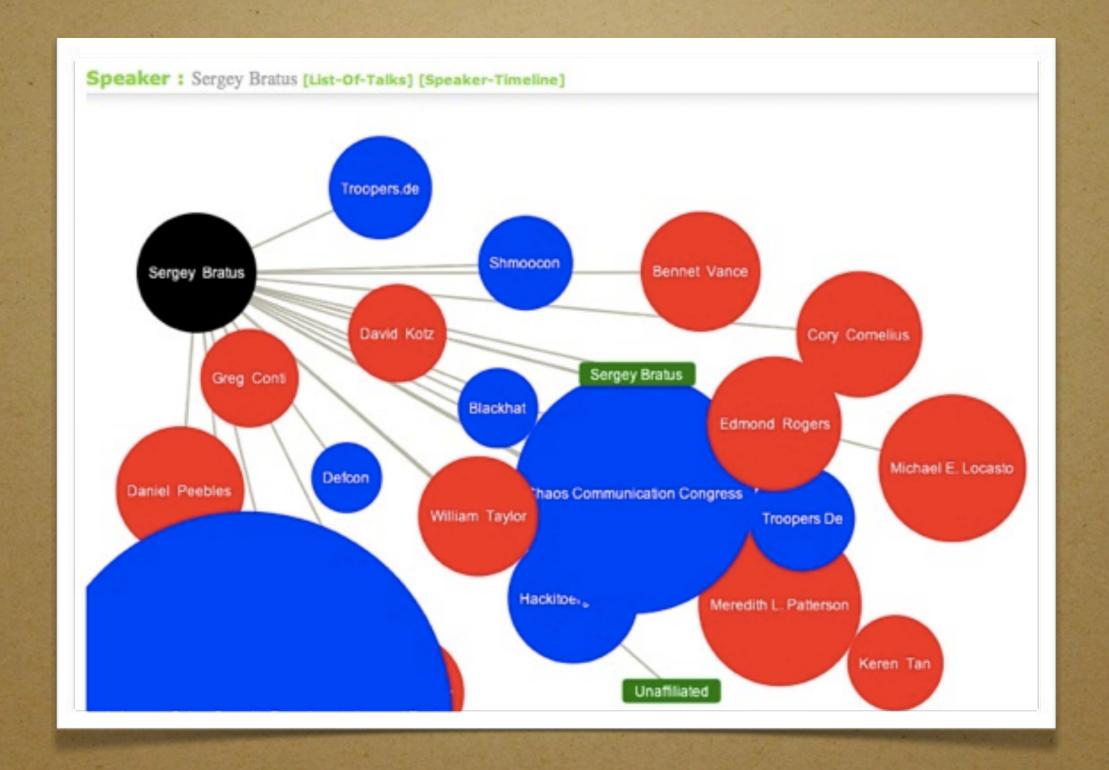
Conference	Topic
Shmoocon-2012 - USA	The Science of Insecurity
Hackitoergosum-2011 - Paris	Exploiting The Hard-Working Dwarf
Troopers De-2011 - Germany	Last Minute Change: Adventures In Scada
Shmoocon-2011 - Washington USA	Exploiting The Hard-Working Dwarf
Chaos Communication Congress-27 - Berlin	Hackers And Computer Science
Blackhat-10 - USA	Voyage Of The Reverser: A Visual Study Of Binary Species
2nd Workshop on Cyber Security Experimentation and Test -2009 - Canada- Montreal	Dartmouth Internet Security Testbed (Dist): Building A Campus-Wide Wireless Testbed
Blackhat-08 - USA	Active 802.11 Fingerpinting: A Secret Handshake To Know Your Aps
Troopers.de-2008 - Munich	Fingerprinting Aps
Troopers.de-2008 - Munich	Organizing And Analyzing Logdata With Entropy, Sergey Bratus
Shmoocon-2008 - Washington	Active 802.11 Fingerpinting: Gibberish And "Secret Handshakes" To Know Your Ap
Defcon-15 - USA	Entropy-Based Data Organization Tricks For Log And Packet Capture Browsing
Shmoocon-2007 - Washington	Simple Entropy-Based Heuristics For Log And Traffic Analysis

home | blog | contact us | Copyright @ 2012 - thinkst.com

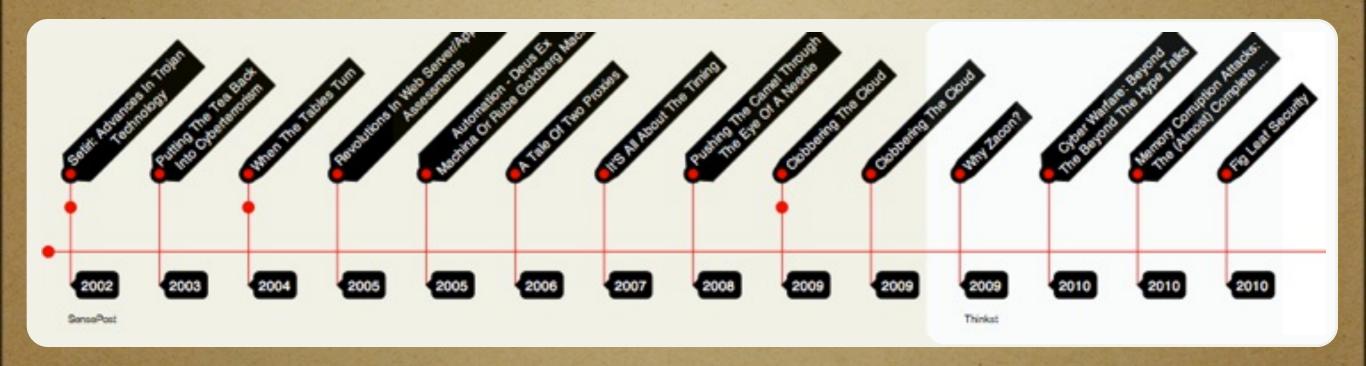
#### About: Dr Bratus



#### About: Dr Bratus



#### About: Me



@haroonmeer
http://blog.thinkst.com

About: You!

& Your Research

#### Setec Astronomy Setec Confer Moan (yo!.)

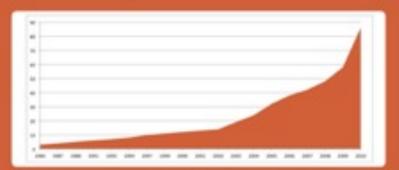




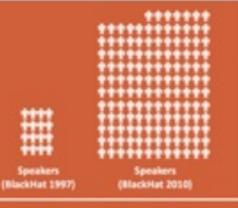
Number of Industry Related InfoSec conferences in 1997 vs.

Number of Industry Related Infosec conferences in 2010

Number of Conferences per year (1984-2010)



The Established Conferences keep getting bigger...



At Least one InfoSec Conference is going on in any given month (with 19 in October alone!)



205

That means an infosec conference is taking place for 205/365 days of the year

http://blog.thinkst.com

```
88888888888
                               ,ad8888ba,
       ,88"
                             d8'
               ,adPPYYba,
                                               ,adPPYba,
                                                            8b, dPPYba,
                             88
                                             a8"
                                                            88P'
               ,adPPPPP88
                             Y8,
                                                            88
                                                                      88
               88,
                              Y8a.
                                              "8a,
                                                            88
                                                                      88
                               ""Y8888Y" '
88888888888
               "8bbdP"Y8
                                                            88
                                                                      88
```

#### For | Against?

#### Setec Astronomy Setec Confer Moan (yo!.)

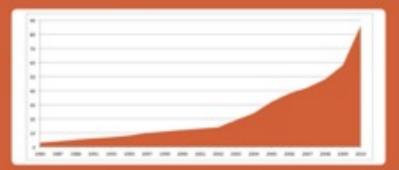




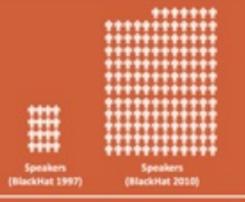
Number of Industry Related InfoSec conferences in 1997 vs.

Number of Industry Related Infosec conferences in 2010

Number of Conferences per year (1984-2010)



The Established Conferences keep getting bigger...



At Least one InfoSec Conference is going on in any given month (with 19 in October alone!)





That means an infosec conference is taking place for 205/365 days of the year

http://blog.thinkst.com

```
88888888888
                               ,ad8888ba,
       ,88"
                             d8'
               ,adPPYYba,
                                               ,adPPYba,
                                                            8b, dPPYba,
                             88
                                              a8"
                                                            88P'
                ,adPPPPP88
                             Y8,
                                                            88
                                                                      88
               88,
                              Y8a.
                                              "8a,
                                                            88
                                                                      88
                               ""Y8888Y" '
88888888888
               "8bbdP"Y8
                                                            88
                                                                      88
```

#### For | Against?

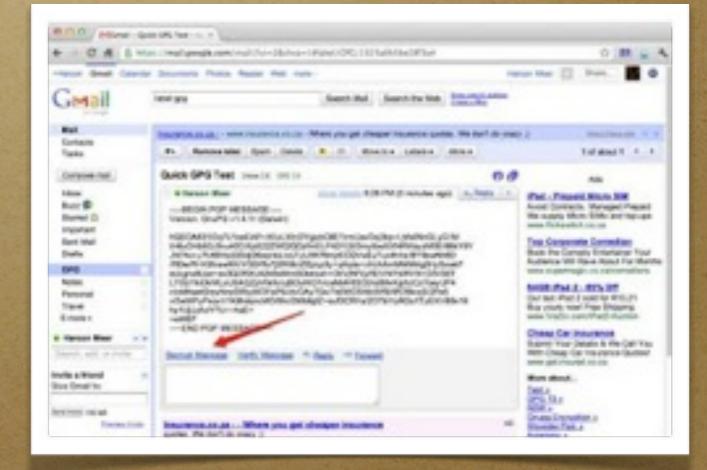
YES!

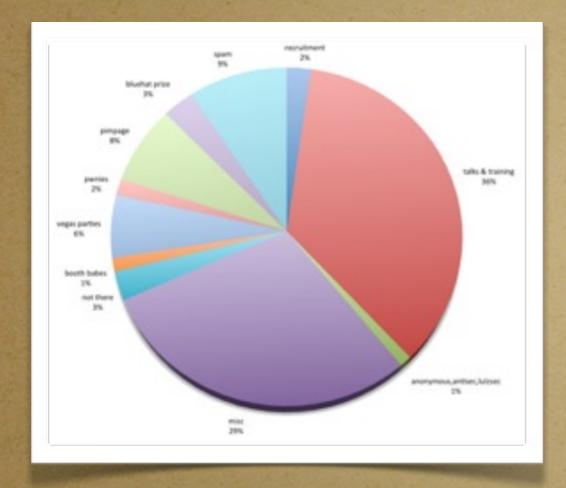
#### For Good Research

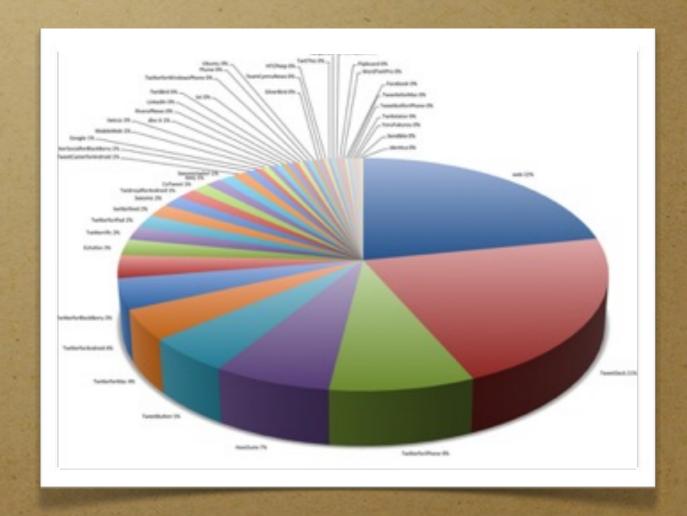
What's that?

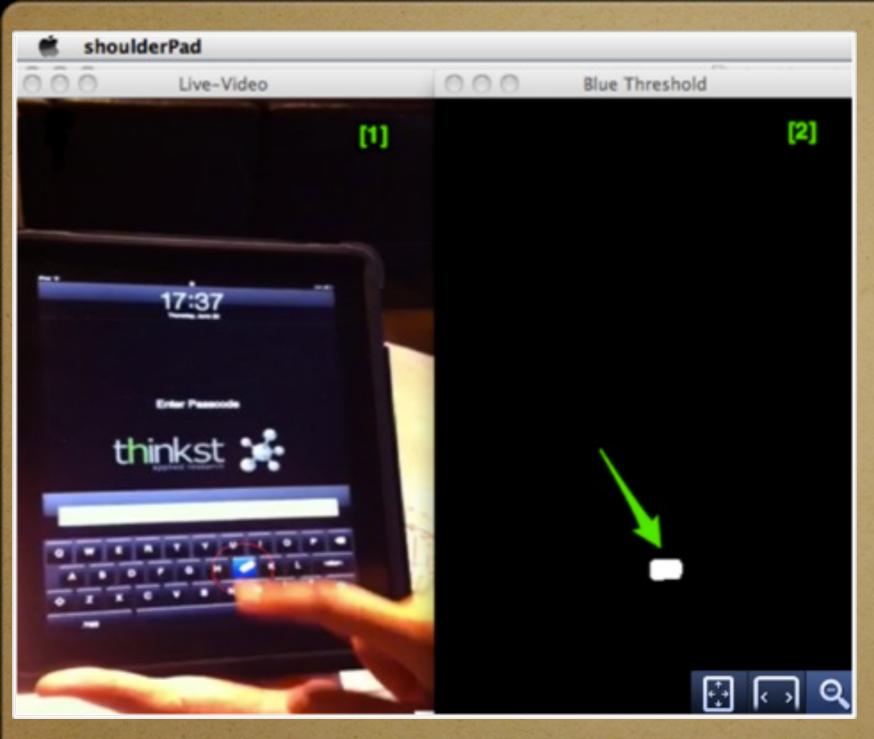
### Stuff we did the past 2 years.. past 2 years>

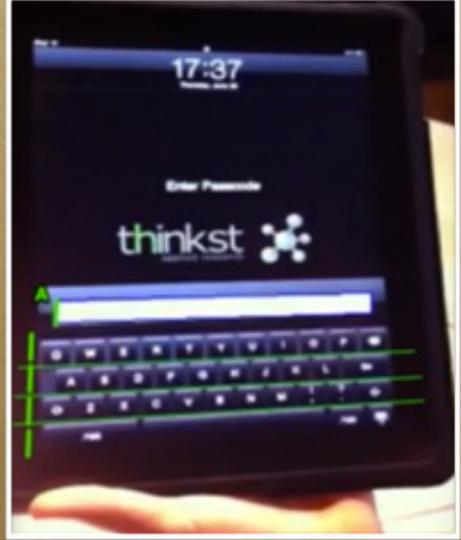






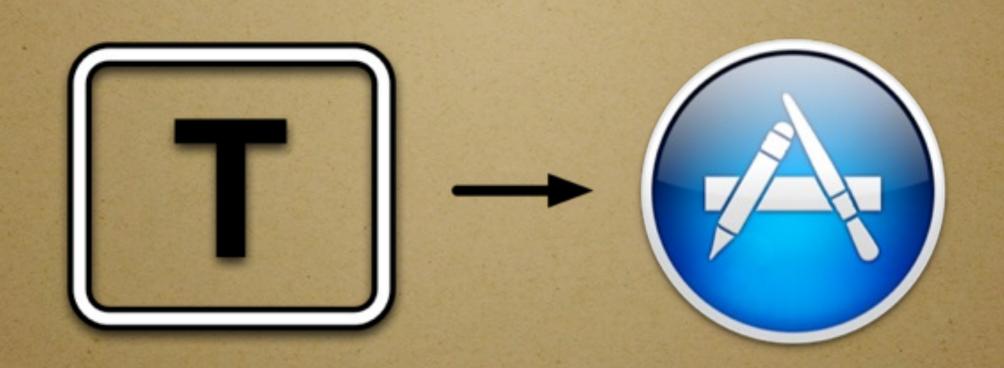




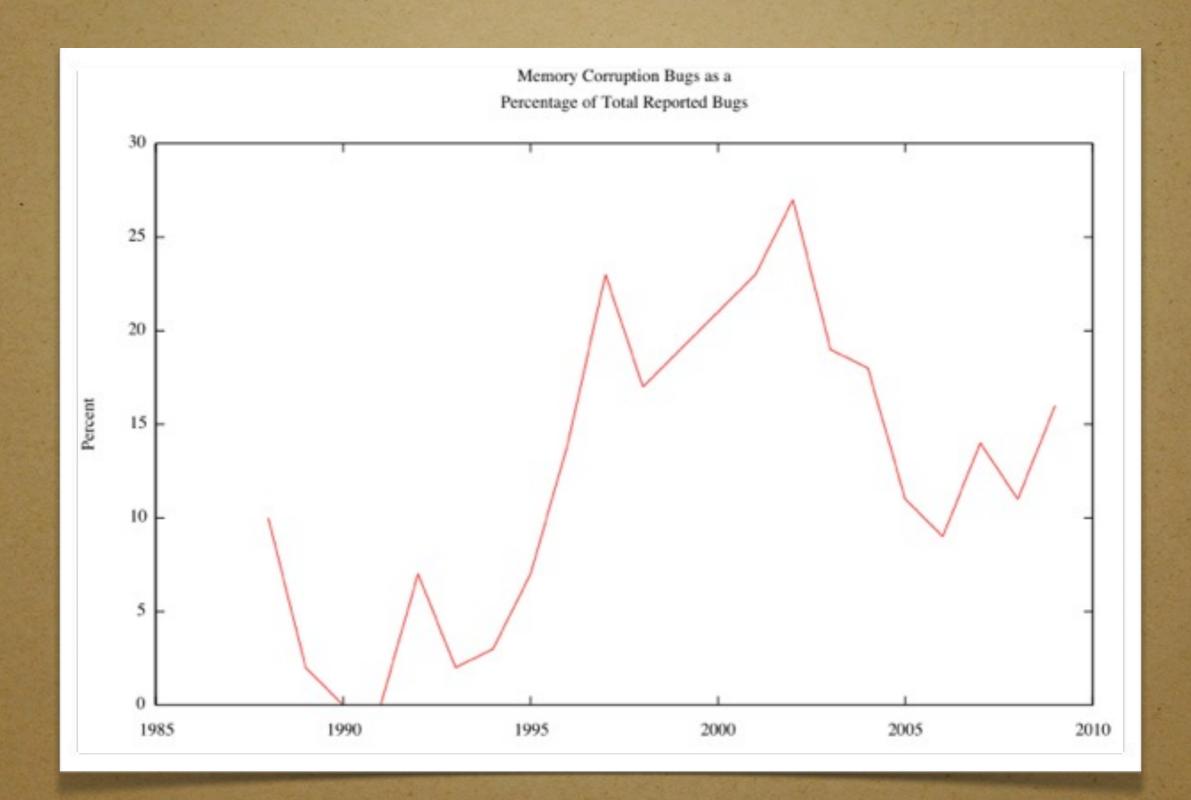


http://thinkst.com/stuff/ocv/osk-thinkst.pdf



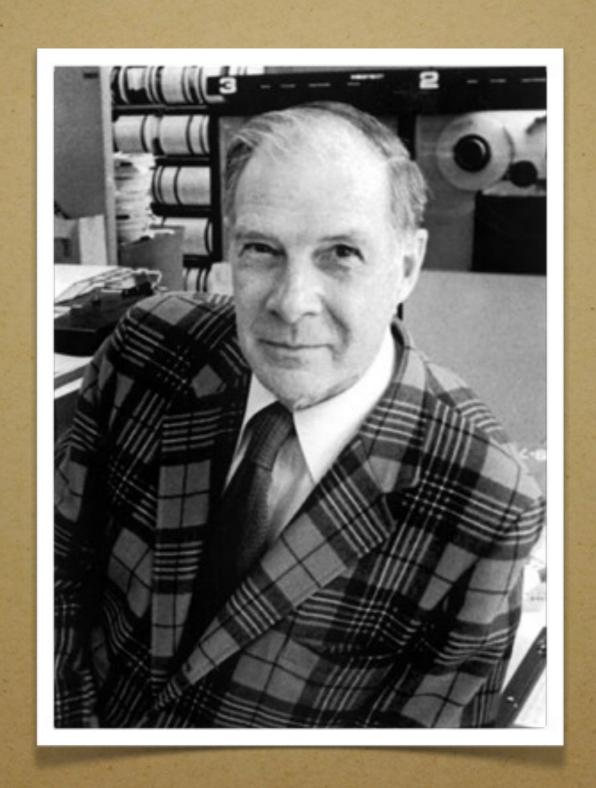






</past 2 years>

i'm poorly qualified



## Richard Hamming "You and Your Research"

Transcription of the Bell Communications Research Colloquium Seminar 7 March 1986 "I'm not talking about ordinary run-of- the-mill research; I'm talking about great research"

"I mean those kinds of things which we perceive are significant things."

### Now, how did I come to do this study?

I saw I was a stooge.

I saw Feynman up close.
I saw Fermi and Teller.
I saw Oppenheimer.
I saw Hans Bethe..

I became very interested in the difference between those who do and those who might have done. 2 Paragraphs in...

## ό δὲ ἀνεξέταστος βίος οὐ βιωτὸς ἀνθοώπω

- Socrates

I became very interested in the difference between those who do and those who might have done.















I continued examining the questions, "Why?" and "What is the difference?"

# Wait. Wasn't he a mathematician?

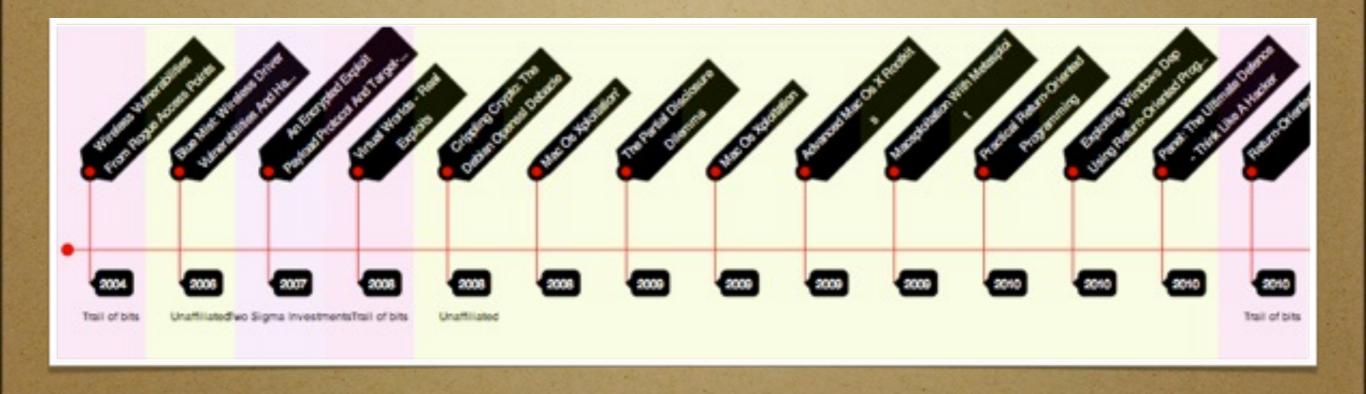
I will talk mainly about science because that is what I have studied. But .. much of what I say applies to many fields.

Outstanding work is characterized very much the same way in most fields,

I have to get you to drop modesty and say to yourself, "Yes, I would like to do first-class work." I find that the major objection is that people think great science is done by luck.

Well, consider Einstein. Note how many different things he did that were good. Was it all luck?
Wasn't it a little too repetitive?

You see again and again, that it is more than one thing from a good person.







#### The Flaw at the Heart of the Internet

TAL SECURITY PROBLEM IN THE INTERNET AND GOT PEOPLE TO CARE IN TIME TO PIX IT. IT'S A DRAWATIC STORY WITH A HAPPY END-ING ... BUT WE WERE LUCKY THIS TIME.

By ERICA NAONE

n Kaminsky, uncharacteristically, was not looking for age-surface this year when he happened upon a flow at the case of the Internet. The security researcher was using his knowledge of less once influences to come up with a better way to stream videos to users. Kaminsky's tocal responsible for murching websites URLs with the numeric addresses of the servers that best them. The same consent can be hosted by analopic servers with several addresses, and Katalinsky thought be had a great trick for directing mem to the serven best able to handle their requests at any given moment.

Normally, DNS is reliable but not nimble. When a computersuc a server that helps direct traffic across Comcast's networkrequests the numerical address associated with a given URL, it stores the answer for a period of time known as "time to live." which can be anywhere from seconds to days. This helps to reduce the number of requests the server makes. Kaminsky's idea was to hypass the time to live, allowing the server to get a fresh answer every time it wanted to know a site's address. Consequends, traffic on Concast's network would be sent to the optimal address at every moment, rather than to whorever address had already been stored. Kaminsky was sure that the senargy could significantly speed up consort distribution.

It was only later, after talking cantally about the idea with a friend, that Kaminsky realized his "trick" could completely break the security of the domain name events and, therefore, of the Innernes itself. The time to live, it rurns out, was at the core of DNS security: being able to bepass it allowed for a wide variety

of amarks. Karninsky wrote a little code to make sure the situation. reas as bad as he shought it was. 'Once I saw it work, my stomach dropped," he says. "I thought. What the hock am I going to do about this? This affects everything,"

Kaminsky's tochnique could be used to direct Websterfers to any With page amount acknowlesses. The most obvious use is no wind people to phishing sites (websites dosigned to trick people into entering banking passwords and other personal information, allowing an attacker to steal their identities) or other fake versions of Webpages. But the danger is even worse; protected such as those used to deliver e-mail or for secure communications over the Internet expectise is in the Internet's domain name cowern ENSs, the prosechnique to into respt sensitive e-mail, or to create forged westons of the certificates that ensure secure menactions between mers and banking websites. "Every day I find another domine." Kaminsky says. "Another thing falls over if DNS is bad. ... I mean. Brendly, you'red around and see anything that's using a networkanothing that's using a network - and it's probably using DNS."

Kaminsky called Paul Visio, provident of the Inserner Systems Consortism, a temperate corporation that supports several aspects of Insurant infrastructure, including the software most commonly used in the domain name system, "Usually, if somebody waster to report a problem, you expect that it's going to take a fair amount of time for them to explain it maybe a whitoboard, maybe a Word documentor two," Vinterago, "In this case, it rook at seconds for him to explain the problem, and another as seconds for him to answering objections. After that, I said, Thin, I are speaking to you over an amore colliphone. Please do not ever say to anyone what you had said to me over an unaccure-cell phone again,"

Perhaps most frightening was that because the valuerability was not located in any particular hardware or software but in the design of the DNS protocol (seeff, it wasn't clear how to fix it. In secret, Kaminsky and Virte gathered regerber some of the top DNS experts in the world people from the U.S. government and

Phospophily JOHN KENTLEY

Association 49

"Luck favors the prepared mind"

The prepared mind sooner or later finds something important and does it.

So yes, it is luck. The particular thing you do is luck, but that you do something is not.

## So what's a key characteristic?

independent thoughts
+
the courage to pursue
them

### Lot's of Brains?

Great work is something else more than brains.

Bill Pfann & Clogston!

### **Corelan Team**

:: Knowledge is not an object, it's a flow ::



Exploit writing tutorial part 1 : Stack Based Overflows

#### **Corelan Team**

:: Knowledge is not an object, it's a flow ::

### **Corelan Team**

:: Knowledge is not an object, it's a flow ::

#### **Exploit Writing Tutorials**

- Universal DEP/ASLR bypass with msvc/71.dll and
- Hack Notes : Ropping eggs for breakfast
   Hack Notes : ROP retn+offset and impact on stack setup
- foll writing tutorial part 10 : Chaining DEP with ROP
- Exploiting Ken Ward Zipper: Taking advantage of payload conversion
- Ken Ward Zipper exploit write-up on abysssec.com.
- QuickZip exploit article part 2 released on OffSec Blog
- Exploit writing tutorial part 9 : Introduction to Win32
- Starting to write Immunity Debugger PyCommands : my
- Exploit writing tutorial part 8 : Win32 Egg Hunting
- Exploit writing tutorial part 7 : Unicode from 0×00410041 to calc
- Exploit writing tutorial part 6: Bypassing Stack Cookles, SafeSeh, SEHOP, HW DEP and ASLR
- Exploit writing tutorial part 5 : How debugger modules & plugins can speed up basic exploit develop
- Exploit writing tutorial part 4 : From Exploit to Metasploit
- Exploit writing tutorial part 3b : SEH Based Exploits Just another example

  Exploit writing tutorial part 3 : SEH Based Exploits
- Exploit writing tutorial part 2 : Stack Based Overflows umping to shellcode
- Exploit writing tutorial part 1 : Stack Based Overflows

- Metasploit Bounty the Good, the Bad and the Ugly
- Universal DEP/ASLR bypass with msvor71.dll and mona.py
- Hack Notes : Ropping eggs for breakfast

- HITB 2011 CTF Reversing Vectored Exception Handling (VEH)
- Honeynet Workshop 2011
- Pastenum Pastebin/pastie enumeration tool
- Codegate 2011 CTF Binary200 Anti Debugging Techniques Explained
- Cheat sheet: Installing Snorby 2.2 with Apache2 and Suricata with Barnyard2 on Ubuntu 10.x
- Anti-debugging tricks revealed Defcon CTF Qualifications 2009: Bin300 Analysis
- Hack Notes: ROP retn+offset and impact on stack setup.
- The Honeypot Incident How strong is your UF (Reversing FU)
   Death of an fip client / Birth of Metasploit modules
- Cisco VoiP Phones A Hackers Perspective
- WATOBO the unofficial manual
- Exploit writing tutorial part 10 : Chaining DEP with ROP. - the Rublik's[TM] Cube

  Blackhat Europe 2010 Barcelona - Day 10

  Blackhat Europe 2010 Barcelona - Day 01

- Exploiting Ken Ward Zipper: Taking advantage of
- Ken Ward Zipper exploit write-up on abysssec.com
- QuickZip exploit article part 2 released on OffSec Blog
- Exploit writing tutorial part 9 : Introduction to Win32
- Starting to write Immunity Debugger PyCommands : my
- Exploit writing tutorial part 8 : Win32 Egg Hunting
- Exploit writing tutorial part 7 : Unicode from 0×00410041 to calc
- Fuzzing with Metasploit: Simple FTP fuzzer
   Exploit writing tutorial part 6: Bypassing Stack Cookies, SafeSeh, SEHOP, HW DEP and ASLR
- Exploit writing tutorial part 5 : How debugger modules & plugins can speed up basic exploit development
- Exploit writing tutorial part 4 : From Exploit to Metasploit
- Exploit writing tutorial part 3b : SEH Based Exploits =



You found that on Google?

Gaining awareness about "Google Hackers" Johnny Long johnny@ihackstuff.com











Age

Einstein did things very early, and all the quantum mechanic fellows were disgustingly young when they did their best work..

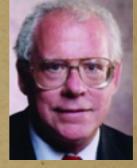
### Wait? Are we too old?

#### Lifetime Achievement Award

Most hackers have the personality of a supermodel who does discrete mathematics for fun. Like mathematicians, hackers get off on solving very obscure and difficult to even explain problems. Like models, hackers wear a lot of black, think they are more famous than they are, and their career effectively ends at age 30. Either way, upon entering one's fourth decade, it is time to put down the disassembler and consider a relaxing job in management.

This award is to honor the previous achievements of those who have moved on to bigger and better things such as management or owning (in the traditional sense) a coffee shop. On the other hand, in music, politics and literature, often what we consider their best work was done late. I don't know how whatever field you are in fits this scale, but age has some effect.



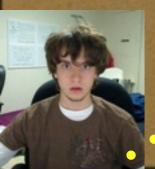




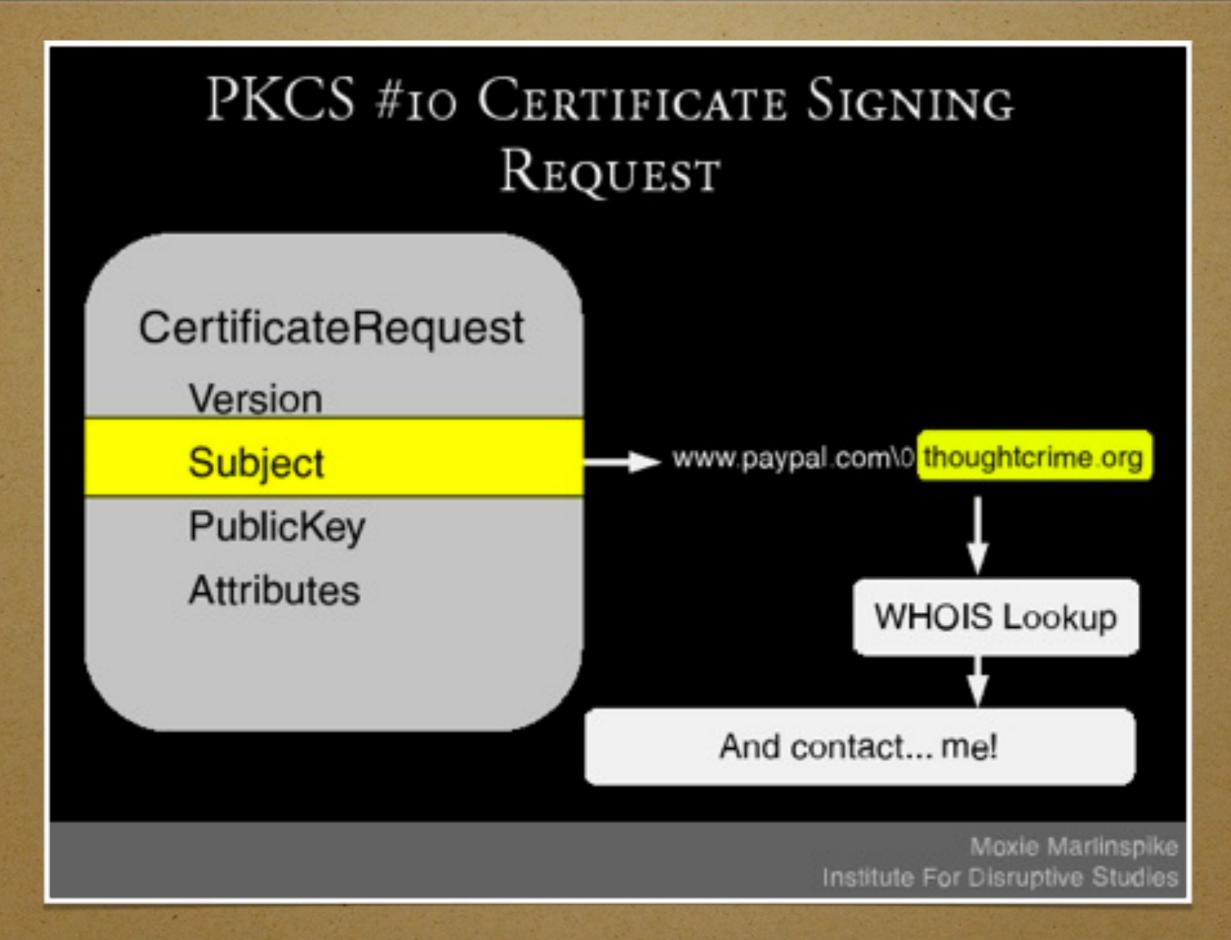








When you are famous it is hard to work on small problems. This is what did Shannon in. After information theory, what do you do for an encore?





. [-] Colonel\_Ham\_Sandwich 16 points 18 days ago

Firstly, congrats on the new internship, it sounds like a wonderful opportunity for you and I'm sure you'll love working with Apple.

I have a few question for you if wouldn't mind answering them. Firstly, why did you choose to get involved in specifically the iPhone jailbreaking scene, what was it attracted you to the iPhone? Secondly, did you always set out to be a hacker or was it just something that interested you and found you had a nack for? Finally, in regards to the PDF bug used for the JailbreakMe.com jailbreak, where on earth did you get the brilliant idea for it?

Thanks for doing this AMA!

permalink

♠ [-] comex [S] 23 points 18 days ago

Firstly, why did you choose to get involved in specifically the iPhone jailbreaking scene, what was it attracted you to the iPhone?

I had one... and it was a device that (a) had a lot of functionality, (b) had a nice and flexible UNIX OS, (c) already had an active homebrew community, and (d) was really cool. :p

Secondly, did you always set out to be a hacker or was it just something that interested you and found you had a nack for?

I never wanted to be a black hat hacker, but I did enjoy hacking (originally SQL injection and crap) as a natural extension of programming.

Finally, in regards to the PDF bug used for the JailbreakMe.com jailbreak, where on earth did you get the brilliant idea for it?

FreeType was one of the less studied open source components of iOS.

### So you need lot's of free time!

This brings up the subject ..
of working conditions.
What most people think are
the best working
conditions, are not.

So what you need is..

Now for the matter of **drive**. You observe that most great scientists have tremendous drive.

# "If others would think as hard as I did, then they would get similar results."













#### thegrugq

tell them that drinking that much takes effort and dedication, you can't just start out as the life of the party, you have to work at it! :D

8 hours ago 👚 Delete



### Outliers

THE STORY OF SUCCESS

MALCOLM
GLADWELL

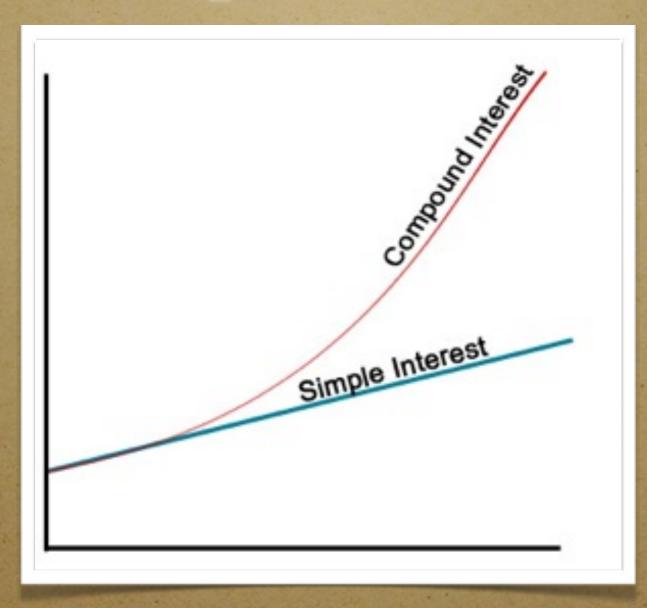
#1 bestwelling suther of The Tipping Point and Blink

## How can anybody my age know as much as John Tukey does?

"You would be surprised Hamming, how much you would know if you worked as hard as he did that many years"



### Knowledge and productivity are like compound interest.



### Knowledge and productivity are like compound interest.

The more you know, the more you learn; the more you learn, the more you can do; the more you can do, the more the opportunity

Given two people of approximately the same ability and one person who works ten percent more than the other, the latter will more than twice outproduce the former.



dinodaizovi Dino A. Dai Zovi tt by taviso

If you have found a bug, chances are that someone else has also.

And chances also are that the person is @taviso.

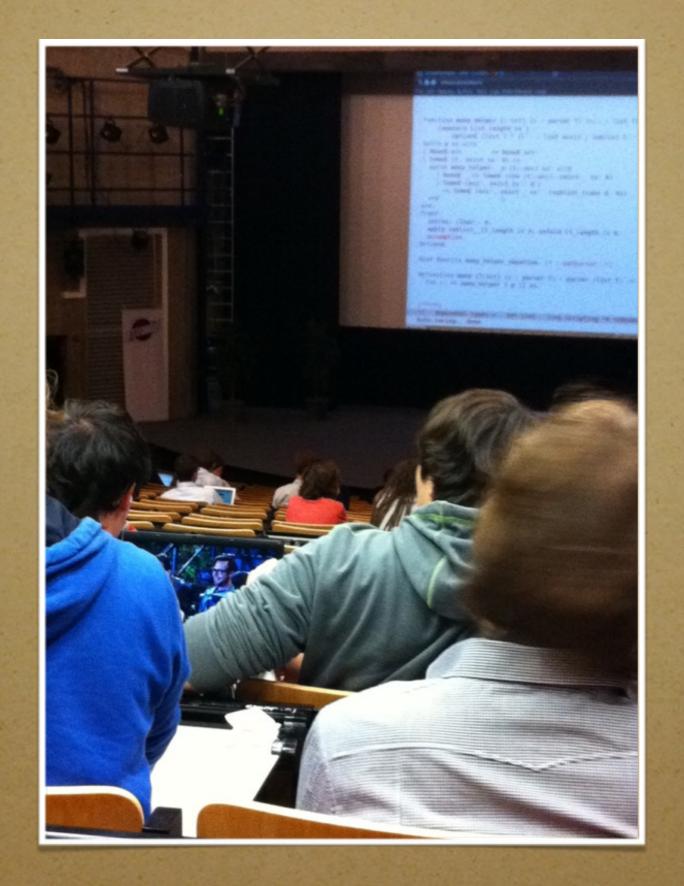
31 Aug 10 ☆ Favorite tt Retweet ♠ Reply



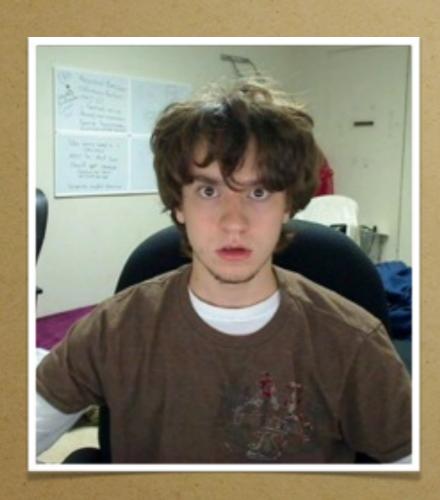
This crackme was really hard work...fun though.

http://www.crackmes.de/users/crp/trace\_q/

13 Apr 10 Apr 10 Retweet Reply



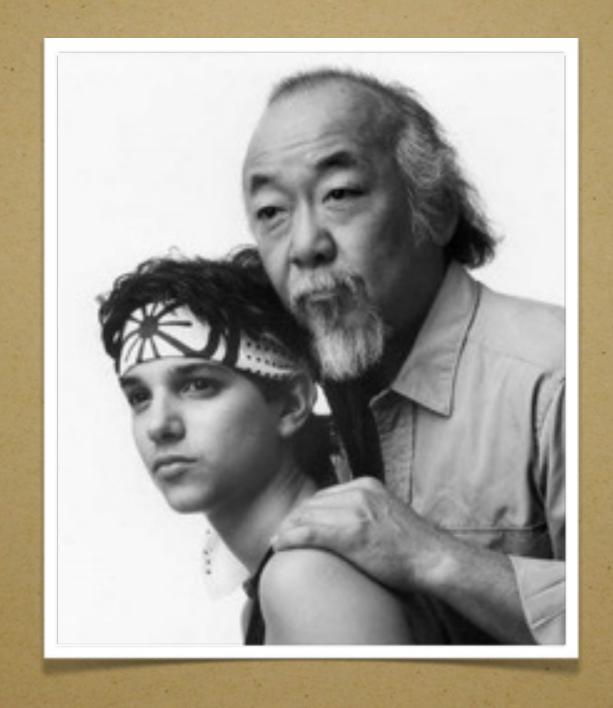
http://www.crackmes.de/users/crp/trace\_q/solution/taviso





So it's a little bit hard?

# Genius is 99% perspiration and 1% inspiration



### Karate Kid Ruined Us!

It's a lot hard!

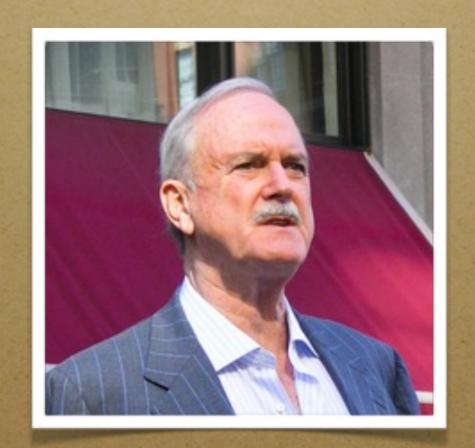
It comes down to an emotional commitment. Most great scientists are completely committed to their problem. Those who don't become committed seldom produce outstanding, first-class work.

Everybody who has studied creativity is driven finally to saying:

"creativity comes out of your subconscious."

# Everybody who has studied creativity is driven finally to saying:

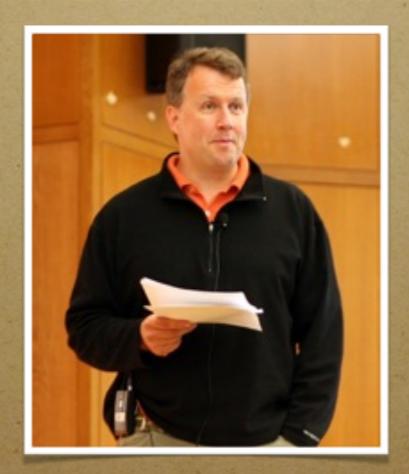
"creativity comes out of your subconscious."



http://www.youtube.com/watch?v=zGt3-fxOvug

## Everybody who has studied creativity is driven finally to saying:

"creativity comes out of your subconscious."



http://www.paulgraham.com/top.html

#### Didn't he ever rest?

Lunch with the Chemists..

## What are the important problems of your field?

## What important problems are you working on?

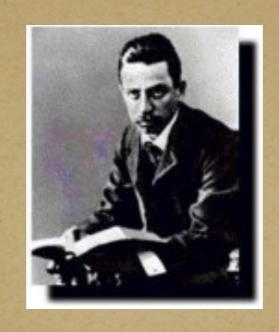
#### The average

scientist, so far as I can make out, spends almost all his time working on problems which he believes will not be important and he also doesn't believe that they will lead to important problems.

#### Good & Bad Procrastination



Great Thoughts Time.



When we win it's with small things, and the triumph itself makes us small.

What is extraordinary and eternal does not want to be bent by us.

Be Prepared..

Most great scientists know many important problems. They have something between 10 and 20 important problems for which they are looking for an attack. And when they see a new idea come up, one hears them say "Well that bears on this problem."

They drop all the other things and get after it.

"a horror story"

"they came in second!"

### What if I have to work on little problems?

I want to talk on another topic. It is based on the song which I think many of you know:

"It ain't what you do, it's the way that you do it."

--=[ msfconsole v2.0 [19 exploits - 27 payloads]

msf > show exploits

Metasploit Framework Loaded Exploits \_\_\_\_\_\_

apache\_chunked\_win32 blackice\_pam\_icq exchange2000\_xexch50 ia webmail iis50\_nsiislog\_post iis50\_printer\_overflow iis50\_webdav\_ntdll imail\_ldap msrpc\_dcom\_ms03\_026 mssql2000\_resolution poptop\_negative\_read realserver\_describe\_linux samba\_trans2open sambar6\_search\_results servu mdtm\_overflow solaris\_sadmind\_exec upnp\_winxp warftpd\_165\_pass

Apache Win32 Chunked Encoding Blackice/RealSecure/Other ISS ICQ Parser Buffer Overflow Exchange 2000 MS03-46 Heap Overflow frontpage\_fp30reg\_chunked Frontpage fp30reg.dll Chunked Encoding IA WebMail 3.x Buffer Overflow IIS 5.0 nsiislog.dll POST Overflow IIS 5.0 Printer Buffer Overflow IIS 5.0 WebDAV ntdll.dll Overflow IMail LDAP Service Buffer Overflow Microsoft RPC DCOM MS03-026 MSSQL 2000 Resolution Overflow PoPToP Negative Read Overflow RealServer Describe Buffer Overflow Samba trans2open Overflow Sambar 6 Search Results Buffer Overflow Serv-U FTPD MDTM Overflow Solaris sadmind Command Execution Universal Plug N Play Overflow War-FTPD 1.65 PASS Overflow





You should do your job in such a fashion that others can build on top of it, so they will indeed say, "Yes, I've stood on so and so's shoulders and I saw further."

--=[ msfconsole v2.0 [19 exploits - 27 payloads]

msf > show exploits

Metasploit Framework Loaded Exploits \_\_\_\_\_\_

apache\_chunked\_win32 blackice\_pam\_icq exchange2000\_xexch50 ia webmail iis50\_nsiislog\_post iis50\_printer\_overflow iis50\_webdav\_ntdll imail\_ldap msrpc\_dcom\_ms03\_026 mssql2000\_resolution poptop\_negative\_read realserver\_describe\_linux samba\_trans2open sambar6\_search\_results servu mdtm\_overflow solaris\_sadmind\_exec upnp\_winxp warftpd\_165\_pass

Apache Win32 Chunked Encoding Blackice/RealSecure/Other ISS ICQ Parser Buffer Overflow Exchange 2000 MS03-46 Heap Overflow frontpage\_fp30reg\_chunked Frontpage fp30reg.dll Chunked Encoding IA WebMail 3.x Buffer Overflow IIS 5.0 nsiislog.dll POST Overflow IIS 5.0 Printer Buffer Overflow IIS 5.0 WebDAV ntdll.dll Overflow IMail LDAP Service Buffer Overflow Microsoft RPC DCOM MS03-026 MSSQL 2000 Resolution Overflow PoPToP Negative Read Overflow RealServer Describe Buffer Overflow Samba trans2open Overflow Sambar 6 Search Results Buffer Overflow Serv-U FTPD MDTM Overflow Solaris sadmind Command Execution Universal Plug N Play Overflow War-FTPD 1.65 PASS Overflow





### It's very ugly; you shouldn't have to do it



dinodaizovi Dino A. Dai Zovi 13 by taviso

I learned years ago that if you care what the public thinks about your research or ideas, you must do marketing. Sucks, but it's true.

10 Aug 10

### it is not sufficient to do a job, you have to sell it.

### Summary

- Work on important problems;
- Deny that it is all luck (pasteur)
- Great Thoughts

Is the effort .. worth it?



Absolutely..
The result is worth the struggle

.. because the truth is, the value is in the struggle more than it is in the result. The struggle to make something of yourself seems to be worthwhile in itself. The success and fame are sort of dividends, in my opinion.

so why do so many people, with all their talents, fail?

## Well, one of the reasons is drive and commitment.

The people who do great work with less ability but who are committed to it, get more done that those who have great skill and dabble in it, who work during the day and go home and do other things and come back and work the next day.

You can lead a nice life; .. or you can be a great scientist.

If you want to lead a nice happy life with a lot of recreation and everything else, you'll lead a nice life.

The second thing is, I think, the problem of personality defects.

## a.. personality defect is ego assertion..

and then most presciently..

Many a second-rate fellow gets caught up in some little **twitting** of the system, and carries it through to warfare.

self delusion..

There are so many alibis. Why weren't you first? Why didn't you do it right? Don't try an alibi. Don't try and kid yourself. You can tell other people all the alibis you want. I don't mind. But to yourself try to be honest.

you need to know yourself, your weaknesses, your strengths, and your bad faults, like my egotism.

## Summary (People don't win because)

- Don't work on important problems;
- Don't become emotionally involved;
- Keep giving themselves alibis
- Keep saying "it's luck"

I've told you how easy it is; furthermore I've told you how to reform. Therefore, go forth and become great

## Fragen?

http://blog.thinkst.com @haroonmeer