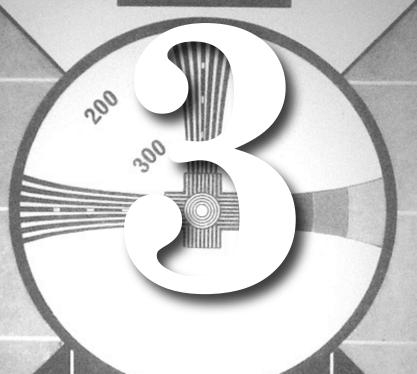


CBC

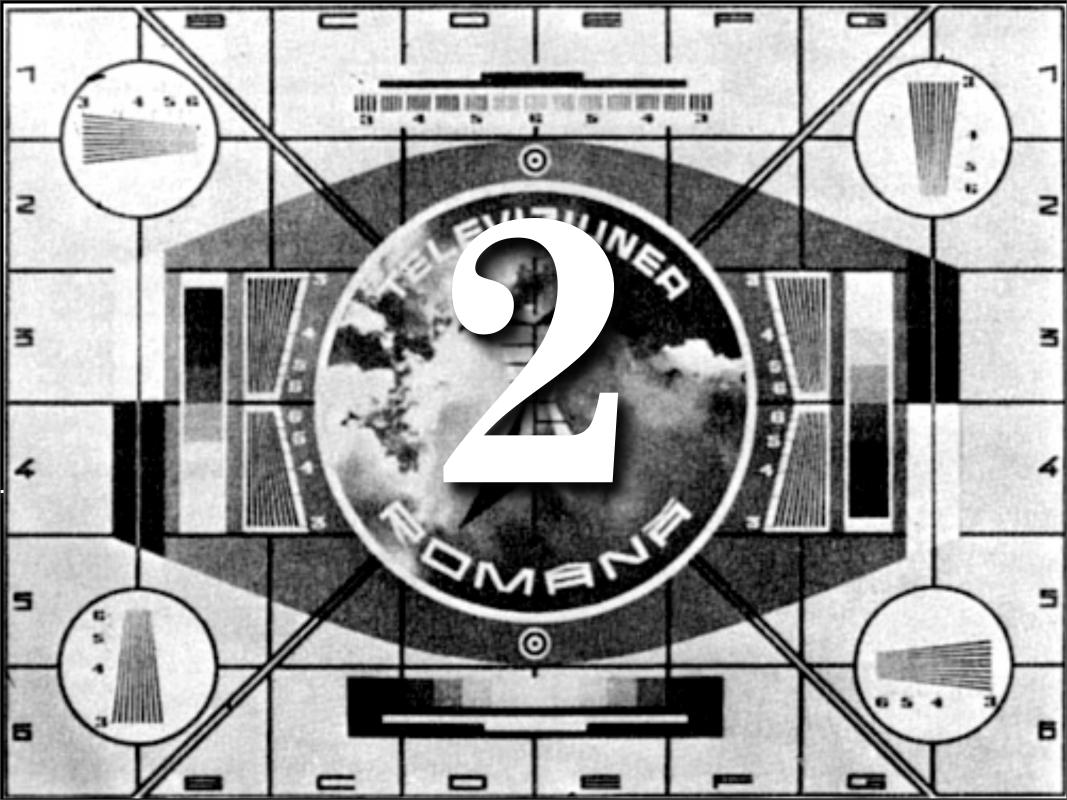
325

575



300

RADIO - CANADA







Satan Is On My Friends List



Satan Is On My Friends List

Attacking Social Networks





Nathan Hamiel

- Senior Consultant @ Idea InfoSec
- Associate Professor at UAT
- Facebook, LinkedIn, MySpace, Twitter

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- Hacking for dollars @ FishNet Security
- BH speaker, multipurpose windbag
- ★ LinkedIn, Twitter, kinda-sorta Facebook

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[Please pay us to come break your web apps. kthxbye.]



And so is

satan



Male 69 years old CONNECTICUT United States

Last Login:03/07/2008

View My: Pics | Videos

Contacting satan

satan is in your extended network

satan's Latest Blog Entry [Subscribe to this Blog]

[View All Blog Entries]

satan's Blurbs

About me:

Who I'd like to meet:

satan's Friend Space (Top 7)





No animals, bloggers, journalists or camwhores were harmed during these demonstrations. While actual SocNet sites and users were involved, all payloads were benign and only resulted in wounded pride and possibly high blood pressure.



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MySpace contains the most feature-complete OpenSocial implementation. Many of the issues discussed here are on their platform.

The rest of you guys suck too, srsly. We mean it.



So, WTF is this about?



So, WTF is this about?

- Our obsession with SocNets, mostly.
 - | Impromptu threat modeling over \${drinks}.
 - ★ Various (harmless) sorties on SocNet sites.
 - SocEng experiments and silliness.

So, WTF is this about?

- Our obsession with SocNets, mostly.
 - | Impromptu threat modeling over \${drinks}.
 - ★ Various (harmless) sorties on SocNet sites.
 - SocEng experiments and silliness.
- But... Are you dropping 0day?
 - No, at least we don't think so...
 - Teaturebilities". Design flaws. Architecture FAIL.
 - They put it there... On purpose! Srsly!
 - ★ Still, lots of soft, squishy attack surface.



- SocNets as attack platform
 - ★ Millions of users^H^H^HArgets
 - Business model: Ads, user-generated content

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 - Promiscuous and pervasive trust
 - SocEng + vulns = attacker ROI
- Dance, monkey, dance!
 - ★ Demos-of-shame, captures, bugs
 - Things we wish we could un-see



- App threats (OpenSocial, FB)
 - Attacking clients with apps
 - Attacking apps with apps
 - SocNet as lightweight Botnet.

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- CSRF-palooza
 - Innocuous functions and escalation
 - Broken token + breaking the membrane
- External content. Bad. Discuss.
 - Markup, attributes, blacklisting. Fail.

Don't Taze Us, Bro...



Don't Taze Us, Bro...

- Please don't hate, Chris.
- You seem very cool. :)
- Still, this is a lot of fail, in one handy package.





External Content = Fuxor



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- Link to crap offsite = epic fail
 - ★ IMG tag CSRF
 - CSS Jscript hijacking, click fraud, SocNet as botnet
 - Hello, SocNets. Plz fix. kthxbye.
 - ★ MySpace, Hi5, LiveJournal, many others.

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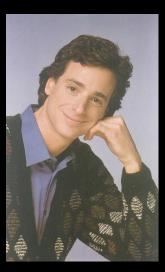
Request Conversions (SSRF)

- POST to GET
- Sometimes enforced / validated differently based on method
- ★ Viewstate MAC, params, auth components
- We don't need XMLHTTP kung fu for GET-based CSRF



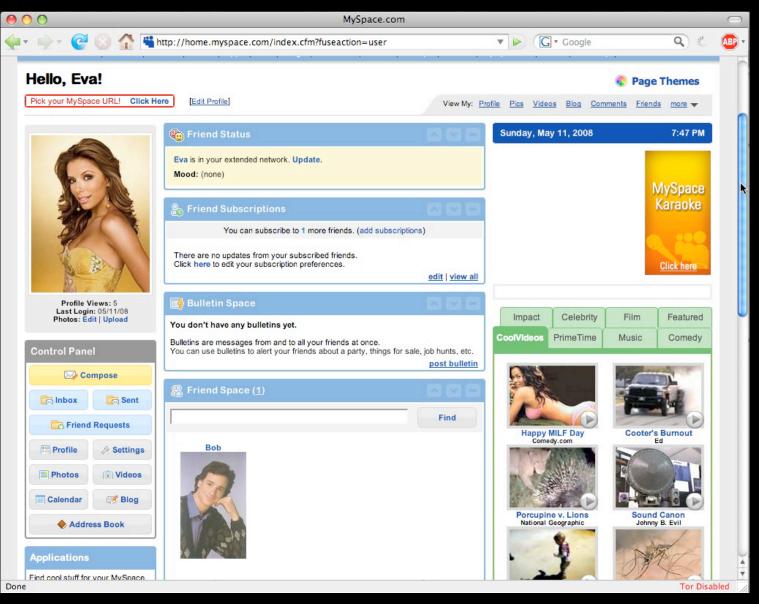
Meet Alice, Bob, and Eva







External content -> CSRF





MySpace add hack

Innocuous Functions



Innocuous Functions

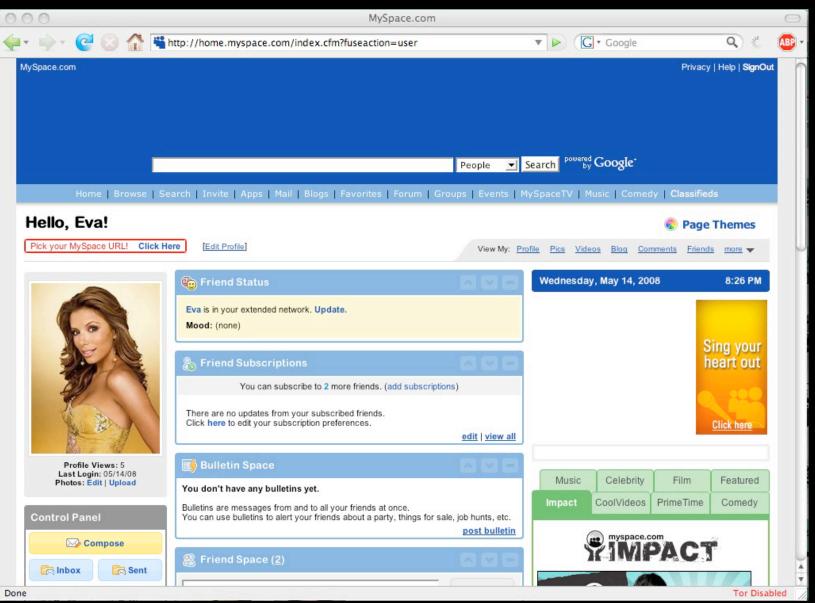
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 - Computationally expensive, overhead
 - ★ Tokenized against CSRF (varying entropy... Brutable?)

Innocuous Functions

- Most sites protect functions that appear valuable
 - Account changes, messaging, profile admin
 - Computationally expensive, overhead
 - ★ Tokenized against CSRF (varying entropy... Brutable?)
- Things that don't appear valuable
 - **Logging** out
 - Blocking communication
 - Friend adds, apparently
 - ★ Lots of other stuff



MySpace DoS (Irritation)







No JavaScript, No Problem

- There may be other ways ;)
 -
 - <meta http-equiv="refresh" content="0;url=http://domain.com/whatever">
 - <iframe src="http://domain.com/whatever"></iframe>





Attacks don't always have to be so straight forward

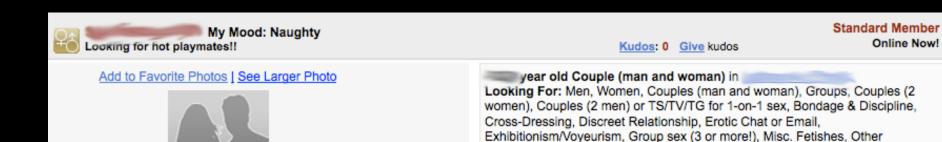


- Attacks don't always have to be so straight forward
- Extremely difficult to identify through automated testing.

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- Extremely difficult to identify through automated testing.
- AdultFriendFinder privilege escalation
 - t's a SocNet, right? We think so!
 - Allows for the viewing of paid for content



Elite AFF pwnage. Ph33r.

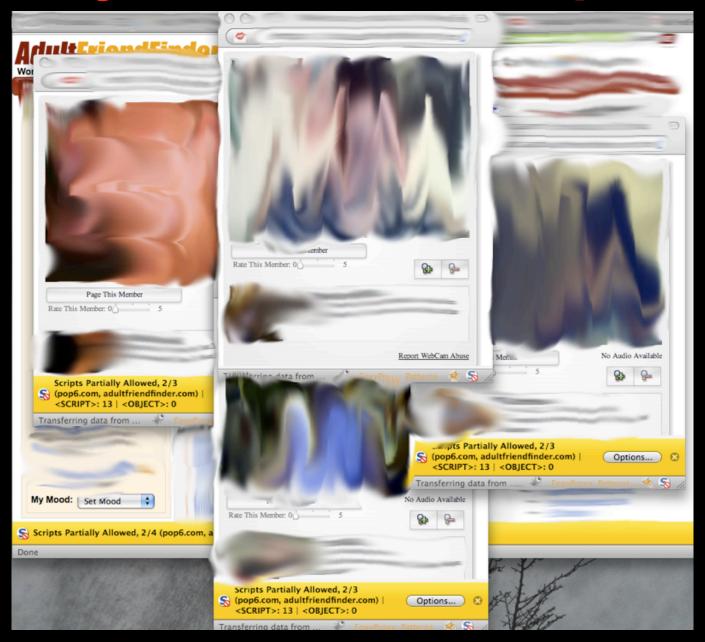


Profile for

"Alternative" Activities or Sadism & Masochism



We did you a favor, we promise.





Pwning Kevin Bacon



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- SocNet attacks = SocEng++
 - Much of this is about blended threats.
 - The social and technical are always linked.

Pwning Kevin Bacon

- SocNet attacks = SocEng++
 - Much of this is about blended threats.
 - The social and technical are always linked.
- This is why this stuff was so fun!
 - Generally, we PoC the technical or social.
 - Why "weaponize the obvious"? [@dakami]
 - The combination of the two get ugly FAST.

Profiling and OpSec



Profiling and OpSec

- t's on a public site, you eee-diot!
 - We think ID theft via SocNet is hype
 - ★ You shared it, so ASSUME IT'S PUBLIC
 - If you give your CC to FB, you deserve to fail

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- SocEng = low line noise, high hit rate
 - Great ROI for a targeted attack.
 - ★ Diamond-tipped spearphishing. =)
- Build a plausible profile
 - Public sources, company data
 - Get "respectable" # of connections
- And then what, pray tell?
 - We just built friends / connections
 - Real attack: mail / msg custom payload



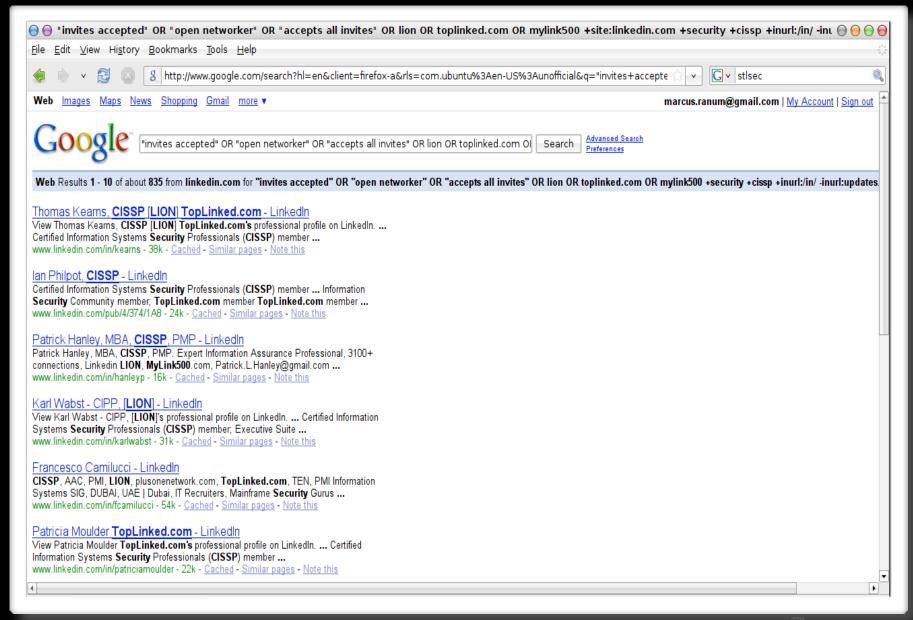
Marcus was concerned about SocNets. He agreed to help us out.

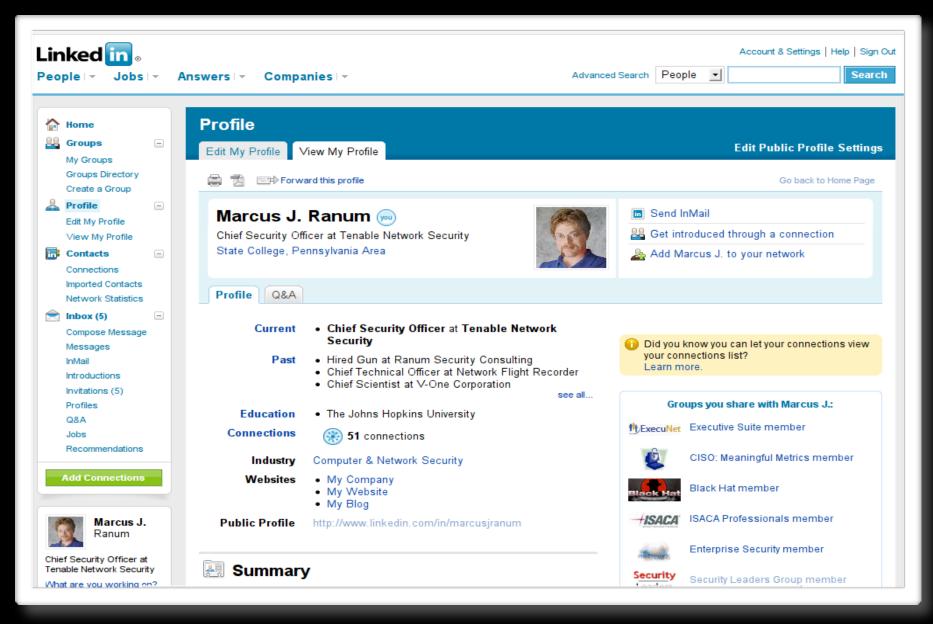


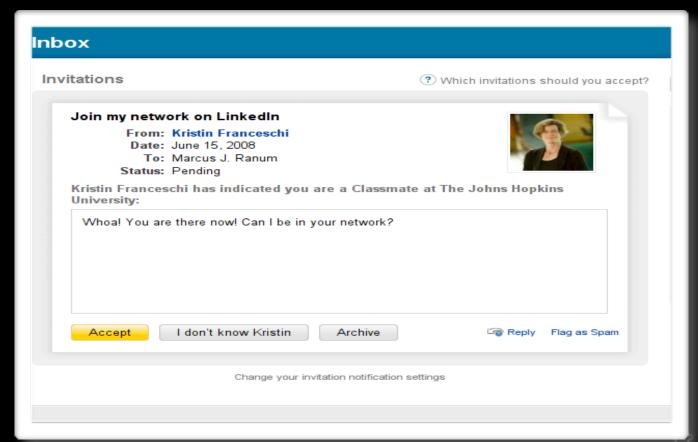


- Profiling was pretty trivial
 - Press releases, bios, artices
 - Took us about 3 hours to build

- Profiling was pretty trivial
 - Press releases, bios, artices
 - Took us about 3 hours to build
- But, wait... How to build connections?
 - Need quick legitimacy (friends, groups)
 - ★ Meet the linkwhores! =)

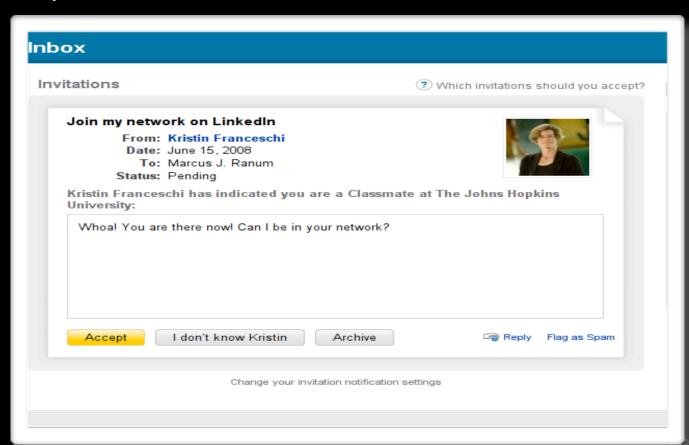






The end result

- ★ 50+ connections in less than 24 hours
- CSOs, bigwigs, CISSPs, feds, ISSA ppl, and my personal favorite...



Black Hat

DoppelGadi!



gadi_evron

@GeorgeVHulme It'ss not something I can talk to yet, but yes, it's there.

40 minutes ago from web in reply to George VHulme



RealPlayer bug again. The botmasters will have a busy weekend. http://tinyurl.com/5rjegp about 2 hours ago from web



RealPlayer stack overflow from ZDI. Anyone knows this is different than the heap bug? http://tinyurl.com/65umzp about 4 hours ago from web

Spam King dead in apparent suicide: http://blogs.zdnet.com/secu... about 5 hours ago from web

ŵ

First 1M \$ phishing fraud hits inboxes: http://tinyurl.com/6lkggh about 5 hours ago from web

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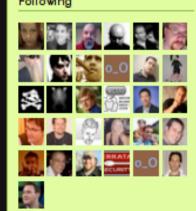
About

Name Gadi Evron. Location Tel Aviv, Israel Web http://gevron.liv... Bio Security Visionary.

Stats

Following Followers Favorites Updates

Following



MySpace Apps and OpenSocial



Your bling just bit you in the ass, douchebag.



User-Installed Nunchaku



User-Installed Nunchaku

- Who needs vulns?
 - Convenient APIs, 100% arbitrary code
 - OpenSocial: "Write once, 0wn anywhere."(tm)
 - Pick a meme, get installs... Then "go rogue".
 - Your own personal botnet, for a few lines of PHP.

User-Installed Nunchaku

★ Who needs vulns?

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- OpenSocial: "Write once, 0wn anywhere."(tm)
- → Pick a meme, get installs... Then "go rogue".
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SocNet sites DON'T CARE. Period.

- EULA and separate domain = zero responsibility
- Arbitrary execution on most sites
- ★ Little to no validation (vetting process, # friends)
- Any app can attack another app (same domain)

Origin Shmorigin



Origin Shmorigin

- ★What about same origin?
 - ★ What are you attacking? Site, or user?
 - API functions allow you to proxy requests
 - Comes from server, not client though ;)
 - **★** GETs
 - **POSTs**

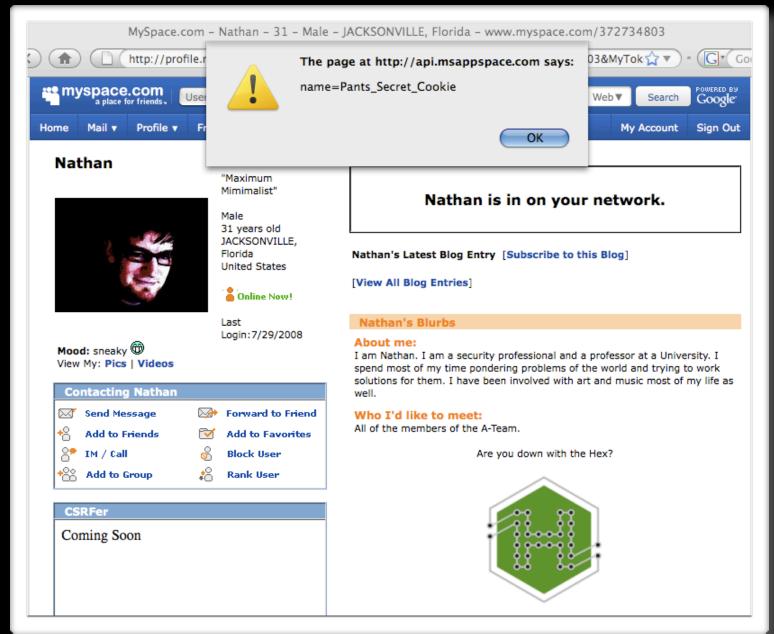


Origin Shmorigin

- What about same origin?
 - ★ What are you attacking? Site, or user?
 - API functions allow you to proxy requests
 - Comes from server, not client though ;)
 - GETs
 - **POSTs**
- Depends on the attacker and goal.
 - Are you targetting the site itself?
 - Can still hit many clients via apps
 - ★ Useful for propagation: installs, messages, adds
 - ★ We can also CSRF via simple GETs w/o XSS



Pudding and Proof



OpenSocial GET Request

The Defaults to GET if method not specified

```
function makeRequest(url) {
  var params = {};
  params[gadgets.io.RequestParameters.METHOD] =
  gadgets.io.MethodType.GET;
  gadgets.io.makeRequest(url, response, params);
};
```



OpenSocial POST Request

★ OpenSocial POST method

```
function makeRequest(url, postdata) {
 var params = {};
 postdata = gadgets.io.encodeValues(postdata);
 params[gadgets.io.RequestParameters.METHOD] =
gadgets.io.MethodType.POST;
 params[gadgets.io.RequestParameters.POST_DATA]= postdata;
 gadgets.io.makeRequest(url, response, params);
};
function response(obj) {
 alert(obj.text);
};
var data = {
 data1: "test",
 data2: 123456
};
makeRequest("http://example.com", data);
```





You can add your own headers



- You can add your own headers
- Reference for 0.7 OpenSocial
 - http://code.google.com/apis/opensocial/docs/0.7/ reference/



- You can add your own headers
- Reference for 0.7 OpenSocial
 - http://code.google.com/apis/opensocial/docs/0.7/ reference/
- Relay.proxy smells like fail.
 - MySpace server makes the request for you, even without an app or dev access.



Routing Traffic via MySpace





MySpace Apps Capabilities



MySpace Apps Capabilities

- tlf provided it, an app can get
 - Interests
 - Heros
 - ★ Photo Albums
 - Friends / Connections

MySpace Apps Capabilities

- tlf provided it, an app can get
 - Interests
 - Heros
 - Photo Albums
 - **Friends / Connections**
- If you provided it to the app, it's probably offsite.
 - ★ Delivers code via the API
 - ★ Deliver off-site code / content via iframe

SocNet Apps Jujitsu



SocNet Apps Jujitsu

Attacking social net is trivial.



SocNet Apps Jujitsu

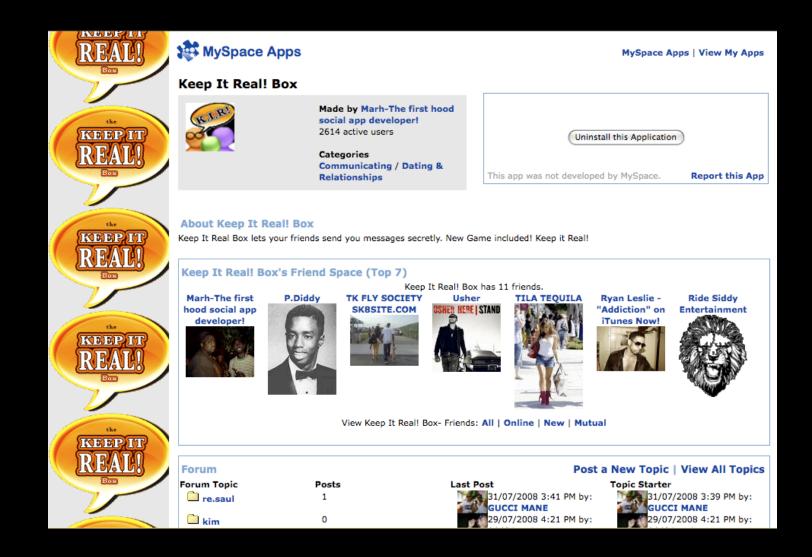
- Attacking social net is trivial.
- Apps are delivered as:
 - **External site though iframe**
 - Functionality on Canvas
 - ★ Functionality on Profile
 - ★ Functionality on Home
 - Contained app grabbing external content
 - Functionality in same areas as above
 - Coded by people who shouldn't be writing code
 - Trivial to find out who has what apps installed ;)
 - Let's look at a couple examples.



Keep It Real



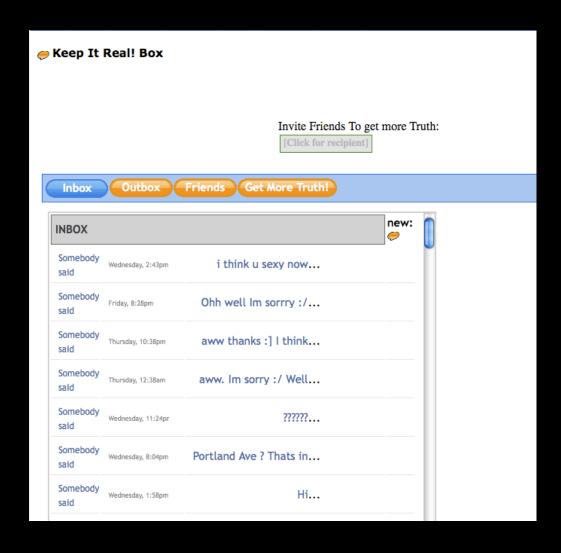
Allows for "secret" communication





Keep It Real 0wn3d

The ownage

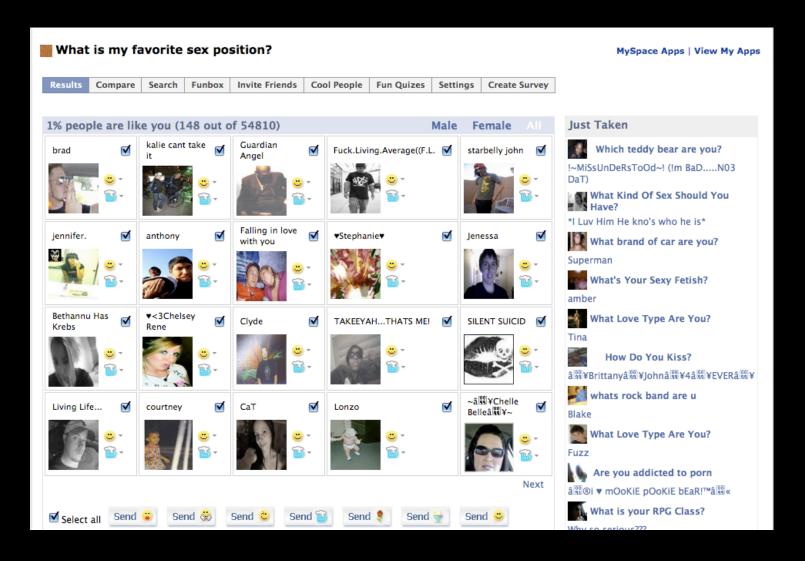




Sexual Positions Poll

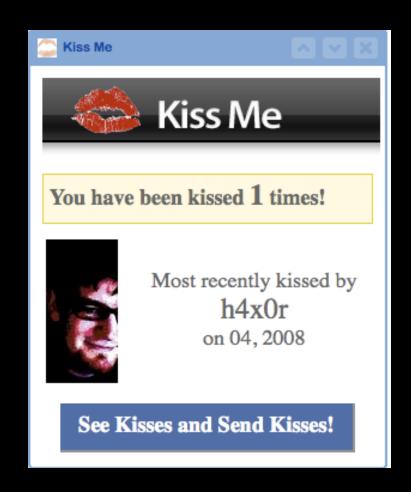


Kama Sutra poll





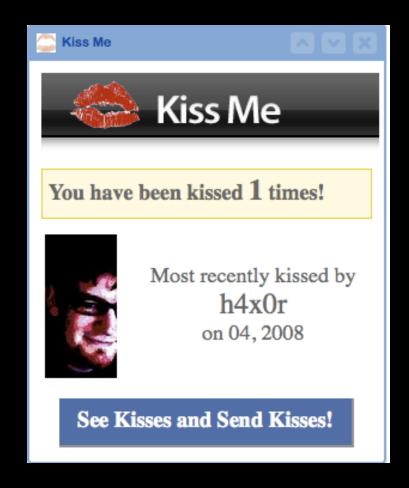
Properly Done?





Properly Done?

- An self-contained OpenSocial app not an offsite iframe.
- ★ Utilizing signed requests with authtype=SIGNED.
- Request tampering still worked. Why?





Kiss Me App Ownage

```
api.msappspace.com:80/proxy/relay.proxy?
opensocial_authtype=SIGNED&opensocial_token=Yn7XsoORUtjDaANU0WRKy/
Julah6OvUQYG0VrTU7NSFXXweXSLAomgmuGb1egf5XSDwilli29lim+UduxZUBzFnf9S0QlwFTLNi
+34gg91s=&opensocial_url=http%3A//kiss-dynamic-lb.myspacegamingapps.com/hugme/sendmessage
%3Fnetwork%3Dmyspace%26to_user_id%3DREMOVED%26type%3DKISS%26from_user_id
%3DREMOVED%26from_user_name%3Dcstm_REMOVED%26from_user_profile%3Dhttp%3A//
a680.ac-images.myspacecdn.com/images01/110/REMOVED.jpg%26nocache%3D1217872981976
```





Caja is meant to create "safe" JavaScript in OpenSocial



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- Tries to un-suckify .js, removing:
 - eval()
 - top.location
 - And many others...
 - ★ Demonstrates the way this problem is typically approached anyway.

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- Tries to un-suckify .js, removing:
 - eval()
 - top.location
 - And many others...
 - Demonstrates the way this problem is typically approached anyway.
- Seems irrelevant if it's opt-in.



DoSer Function?



DoSer



Made by Nathan < 100 active users

Categories Fun Stuff / Dating & Relationships

About DoSer

A general Kick in the Nuts.



DoSer Function?

- Stupid test MySpace app
 - → 7 seconds after viewing, it logs you out
 - Logs anyone out that views your page for 7 seconds
 - Logs you out after viewing for 7 seconds ;)
 - ★ Demonstrates content on canvas, profile, and home



DoSer



Made by Nathan < 100 active users

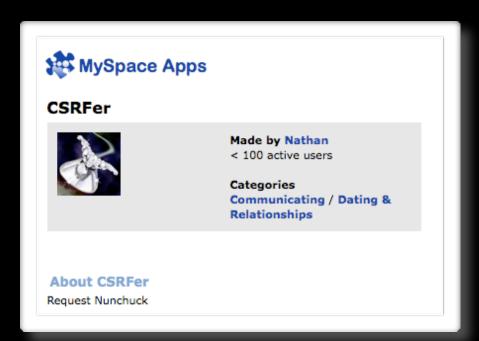
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Surfs Up!



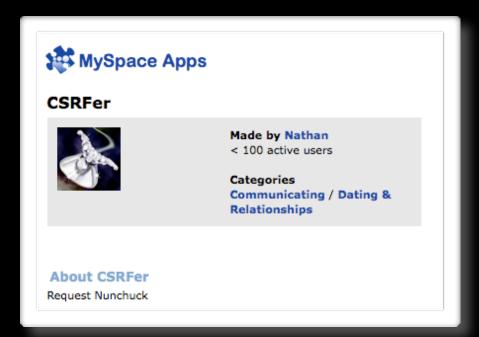


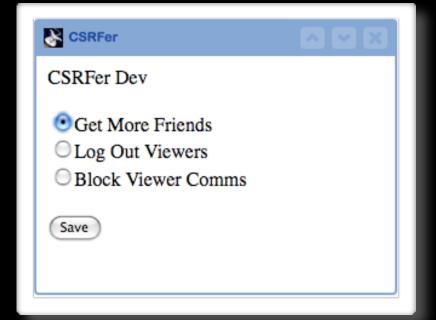


Surfs Up!

★ Meet CSRFer

- Demonstrates 3 different ways to do CSRF on MySpace
- ★ Image tags, iframes, and meta tags, oh my!
- Demonstrates content on canvas, profile, and home









tldentify app content



- tldentify app content
- Firefox, AdBlock Plus, NoScript, etc.

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- Firefox, AdBlock Plus, NoScript, etc.
- Blocking iframes
 - Click fraud
 - ★ CSRF
 - Malicious scripts

- tldentify app content
- Firefox, AdBlock Plus, NoScript, etc.
- Blocking iframes
 - Click fraud
 - ★ CSRF
 - Malicious scripts
- Blocking <div> content
 - More of an impact on social experience
 - Protects from the same as above

mixi





mixi





mixi

How is mixi different?





Are we hosed? Plz advise.



Are we hosed? Plz advise.

- Kill external content
- Drastically reduce API functionality
- Threat model your stuff, people
- Props to late adopters. =)
- No opt in security models
- Developers, Developers, Developers
- Profile lifetime bit (member since / training wheels)
- Email verification for corporate socnets
- Create a profile, before someone else does ;)