De-Railing: Smashing the Rails Stack

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Just so you know...

There's more to life than being really really ridiculously good looking.

On Pirates and Ninjas

Pirates are cool, but anyone can be a pirate. That, and you can see them a mile away.

You might not even know a Ninja is around, at least until he's gone and you are laying in a pool of your own code...

Most of us are prepared for a pirate attack, but can you survive the Ninjas?

SQL Injection

Asset.find params[:id]

Asset.find(:all, :limit => "#{params}")

Asset.find(:all, :limit => "#{params}")

10 procedure help()

Methods to be careful of

- find_by_sql
- execute
- limit -- (fixed in Rails 2.1)
- offset -- (fixed in Rails 2.1)
- group_by
- order

What should I do to fix it?

- Only drop to raw SQL when absolutely necessary.
- Take advantage of built in Active Record methods such as quote() when applicable.
- Write tests.
- Use analysis tools that help you look for possible attack vectors.

Cross Site Scripting

<%= @asset.text %>

<%= @asset.text %>

<%= h @asset.text %>

Preventative Measures

- SafeERB
- XSS Shield
- Manual Escaping (Not Recommended)

Tarantula

Eight Legs, Two Fangs, and an Attitude

http://opensource.thinkrelevance.com/wiki/tarantula

- Crawls every available link reporting the http status
- Checks every rendered page for bad html
- Fuzzes every encountered form with garbage data
- Produces detailed reports of every action that include the html rendered along with the logs from the rendering methods

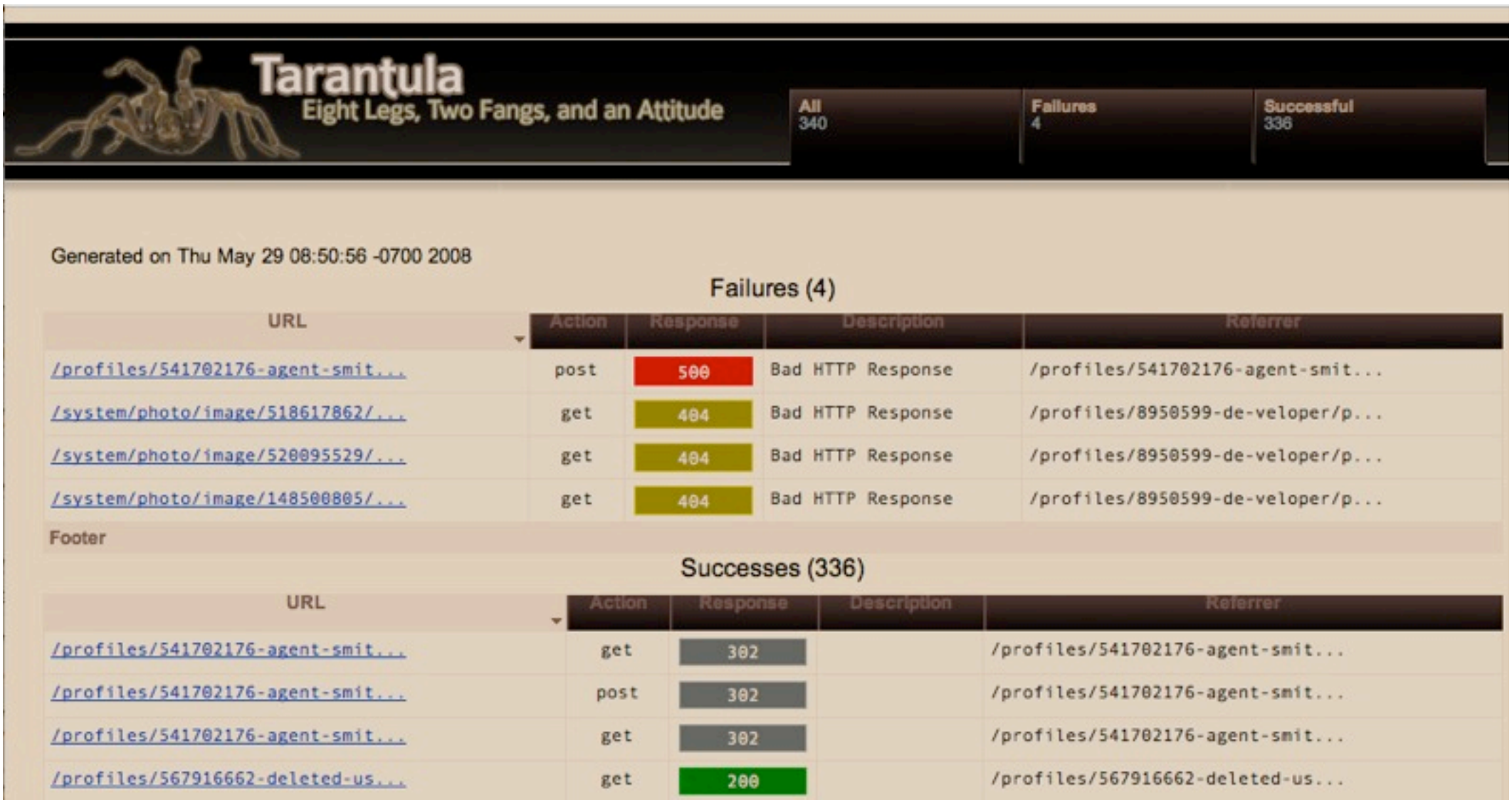
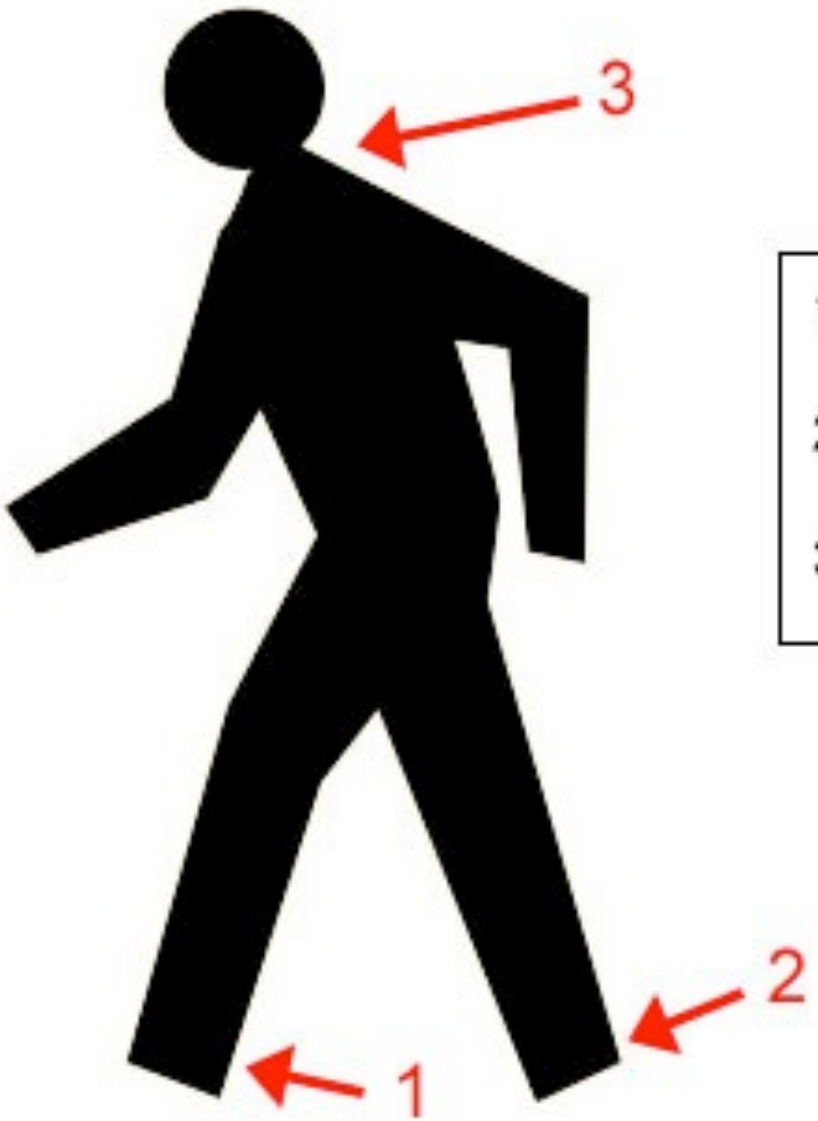


Fig. 3c: When Dealing With a Killa Bee Swarm in the Lands of Shaolin

Courtesey of the Wu-Tang Institute, Dr. Robert Digital



1. Watch Your Step, Kid
2. Watch Your Step, Kid
3. Protect Your Neck

Don’t let the Ninjas get your neck!

- Add a firewall script that blocks all non used ports.
- Don’t allow the root user to login remotely.
- Move your ssh port to a non-standard place.
- Demand strong passwords for all your users.
- Turn off password authentication entirely and use ssh keys.
- Monitor your server logs every now and then to make sure nobody is doing anything sneaky.

Now that you know some Ninja moves, let's put a plan into action.

Audit Planning

- Make plans with your project manager to incorporate audits.
- Put together an audit checklist so any member of your team can do it.
- Preach security awareness within your organization.
- Just do it!

PeepCode press

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Security Audit

Building safe applications

by Aaron Bedra

Valuable Links

- http://rorsecurity.info
- http://owasp.org
- http://www.quarkruby.com/2007/9/20/ruby-on-rails-security-guide
- http://rubythis.blogspot.com/2006/11/rails-security-checklist.html
- http://aaronbedra.com

Questions?

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