OWASP Pantera Unleash

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OWASP
Day
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The OWASP Foundation
http://www.owasp.org/

Intro - Who I am?

- Security Technologist at Microsoft.
- Former PwC, @Stake among others…
- Postgraduate in E-Commerce from Harvard University and a B.S. from Suffolk University at Boston, Massachusetts.
- Natural from wonderful Mallorca Island in the Mediterranean Sea.

Agenda

- Pantera Overview
- Pantera Features
- Privacy Assessments
- Demo
- Q&A

Pantera Overview

Pantera Overview (I)

- Pantera is not just another “proxy” but a Web Assessment Framework.
  - aka: Pantera – Web Assessment Studio (WAS)
- Analysis Framework.
- Born out of necessity.
- Pantera Description:
  - Pantera uses an improved version of SpikeProxy to provide a powerful web application analysis engine.

Pantera Overview (II)

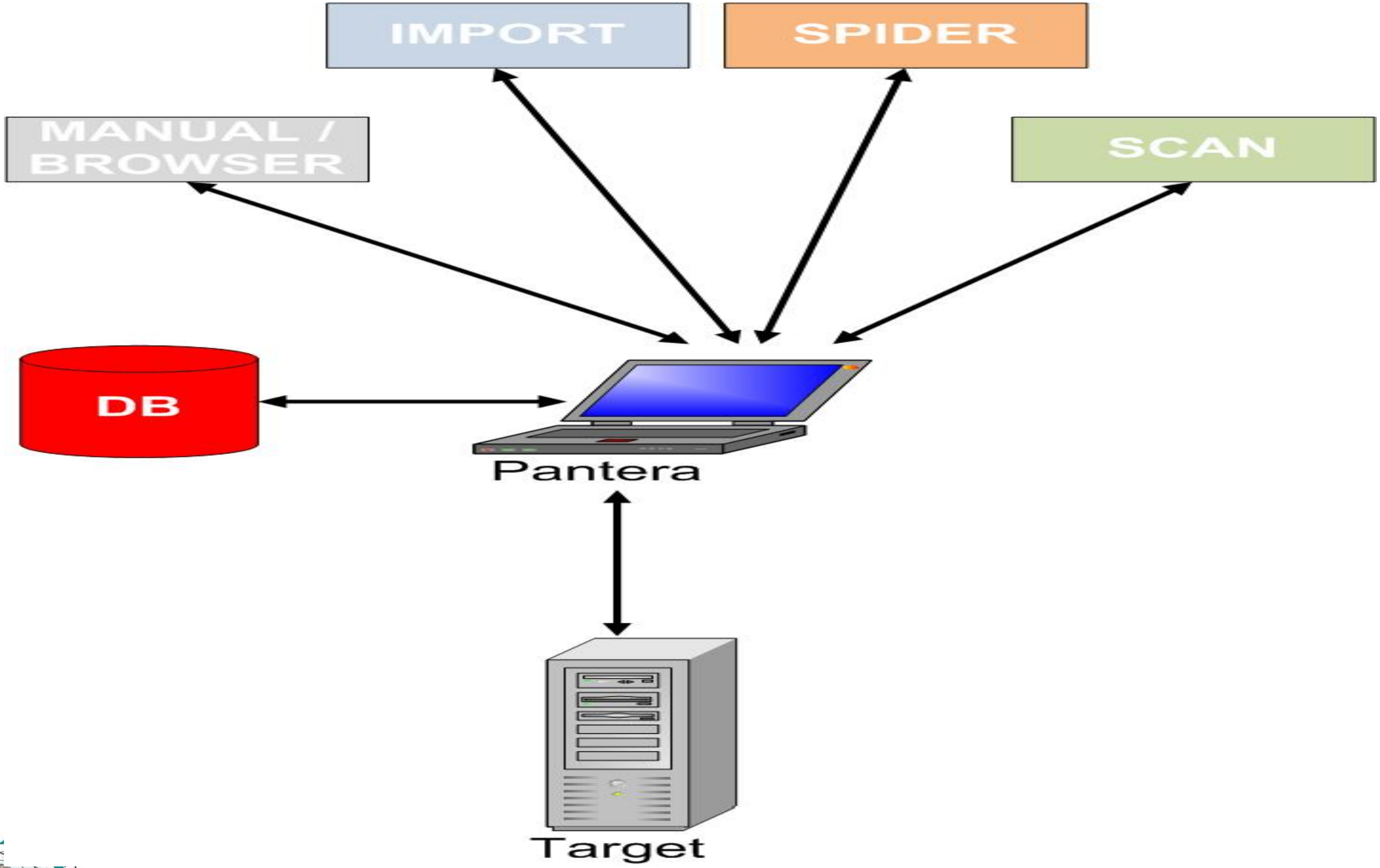
- Pantera works well with other proxies and is a complementary tool.

- Pantera is 100% python and has been tested on:
  - Windows
  - Linux
  - MacOS
  - FreeBSD

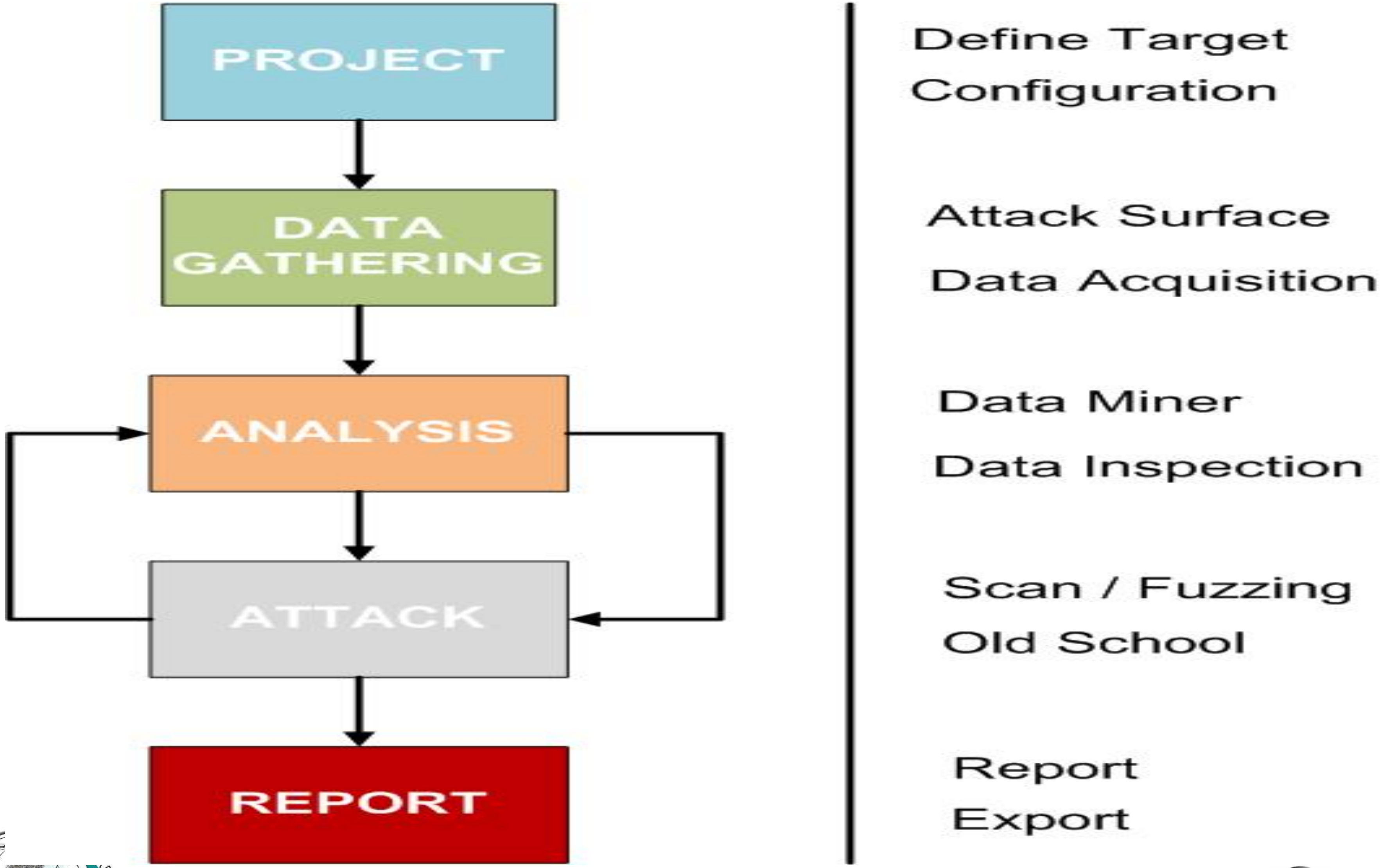
Pantera Overview (III)

- Two main operational modes:
  - Cache
  - Project Session

Pantera Architecture



Pantera Workflow



PROJECT

DATA GATHERING

ANALYSIS

ATTACK

REPORT

Define Target
Configuration

Attack Surface

Data Acquisition

Data Miner

Data Inspection

Scan / Fuzzing
Old School

Report
Export

Pantera Goal

- The primary goal of Pantera is to combine automated capabilities with complete manual testing to get the best penetration testing results.

Pantera Features

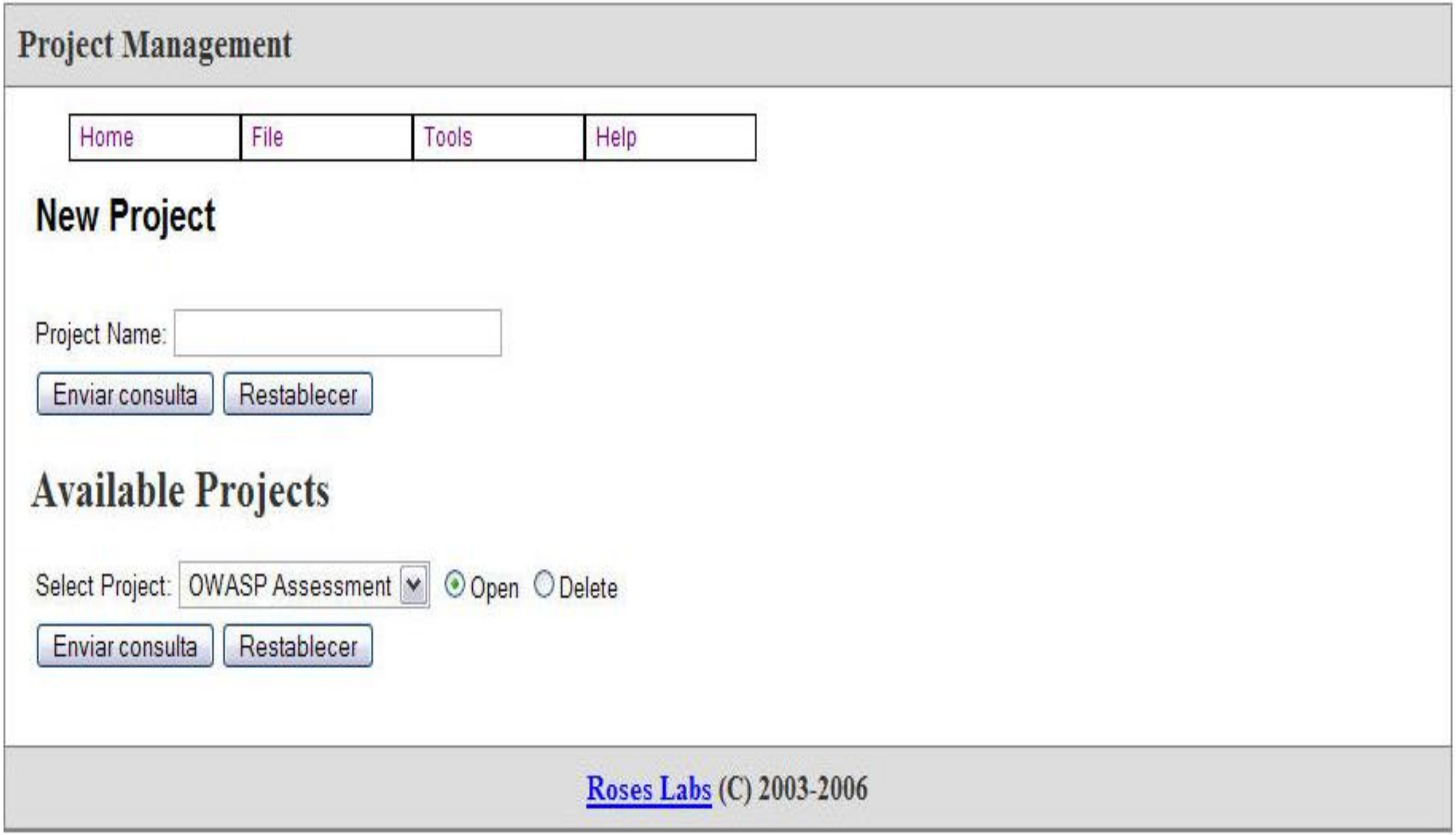
Pantera Features List

- Session Management
- Database support
- Pantera Passive Analysis (PPA)
- Import / Export
- Spider
- Data Miner
- Visual Resource Icons (VRI)
- Fingerprint (Cookies / Extensions)
- Anti-IDS Generation
- Statistics
- The Snitch

Pantera Feature – Session Management

- An assessment is a project.
- Manage your projects easily.
- Under Project Session Mode you get the “whole enchilada”.

Pantera Feature – Session Management



Project Management

New Project

Project Name:

Available Projects

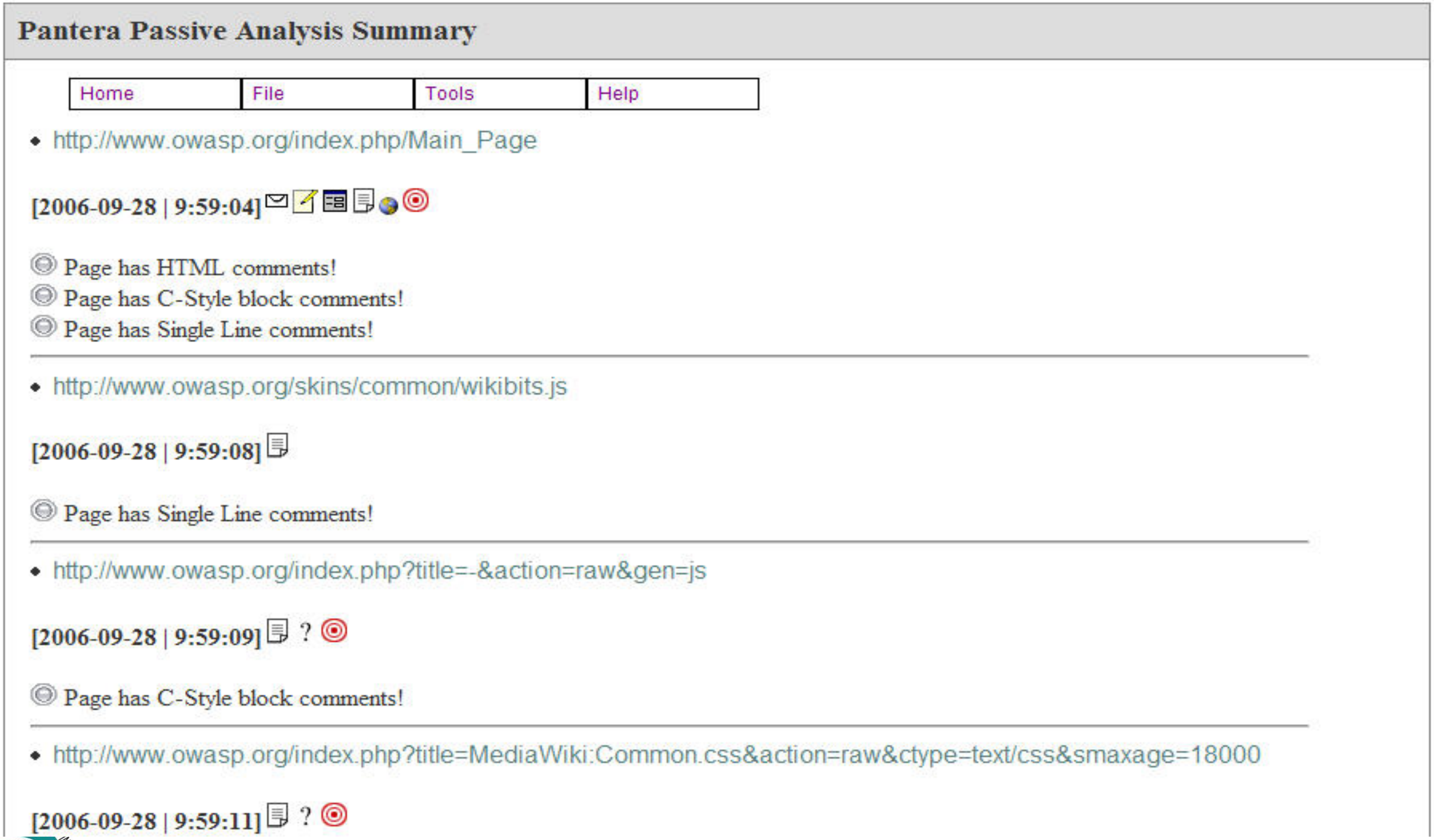
Select Project: OWASP Assessment ● Open ○ Delete

Roses Labs (C) 2003-2006

Pantera Feature – Pantera Passive Analysis (PPA)

- PPA is a passive analysis engine on the fly.
- PPA checks are easy to write plug-ins.
- Checks are divided into categories (17)
  - Forms / Authentication Forms
  - SSL
  - Email
  - Cookies
- More than 20+ checks available.

Pantera Feature – Pantera Passive Analysis (PPA)



Pantera Passive Analysis Summary

- http://www.owasp.org/index.php/Main_Page

[2006-09-28 | 9:59:04]

Page has HTML comments!
Page has C-Style block comments!
Page has Single Line comments!

- http://www.owasp.org/skins/common/wikibits.js

[2006-09-28 | 9:59:08]

Page has Single Line comments!

- http://www.owasp.org/index.php?title=-&action=raw&gen=js

[2006-09-28 | 9:59:09] ?

Page has C-Style block comments!

- http://www.owasp.org/index.php?title=MediaWiki:Common.css&action=raw&ctype=text/css&smaxage=18000

[2006-09-28 | 9:59:11] ?

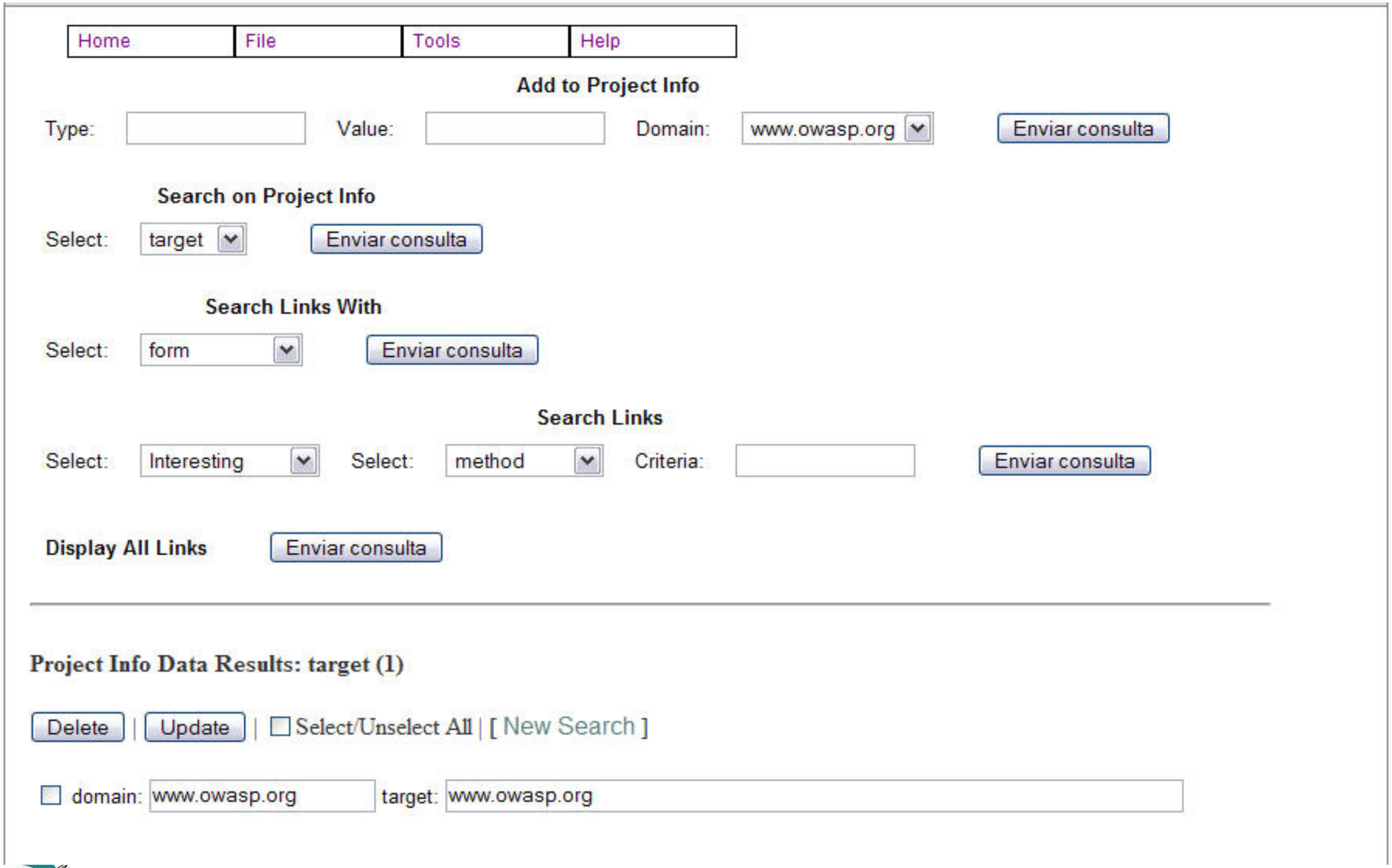
Pantera Feature – Spider

- Pantera now includes a Spider. (still in infancy)
- Works in both operational modes.
- Uses many smart gathering techniques:
  - Parse robots.txt
  - Parse sitemap
  - Parse JavaScript
  - Request Directory Index

Pantera Feature – Data Miner

- “Get what you want”.
- Allows to get any information from the project.
  - Emails
  - IE. Query ”All links with forms”
- Only place in Pantera to view all links.
- Easy to use and powerful.

Pantera Feature – Data Miner



Add to Project Info

Type: Value: Domain: www.owasp.org [Enviar consulta]

Search on Project Info

Select: target [Enviar consulta]

Search Links With

Select: form [Enviar consulta]

Search Links

Select: Interesting Select: method Criteria: [Enviar consulta]

Display All Links [Enviar consulta]

Project Info Data Results: target (1)

[Delete] | [Update] | □ Select/Unselect All | [New Search]

□ domain: www.owasp.org target: www.owasp.org

Pantera Feature – Visual Resource Icons (VRI)

- The Visual Resource Icons are an easy and convenient way of quickly identify target page attributes.

- More than +10 icons:
  - Target page has an object. (ActiveX, Java Applet, etc.)
  - Target page has Authorization Forms
  - Target page sets a Session ID
  - Target page has possible attack vectors (like forms, hidden tags, URL parameters, etc.)

Pantera Feature – Fingerprint

- Pantera can fingerprint:
  - File Extensions: +60 files.
  - Session ID: +40 applications.
- Fingerprints are stored in XML files.
- This information is used by many other Pantera features.

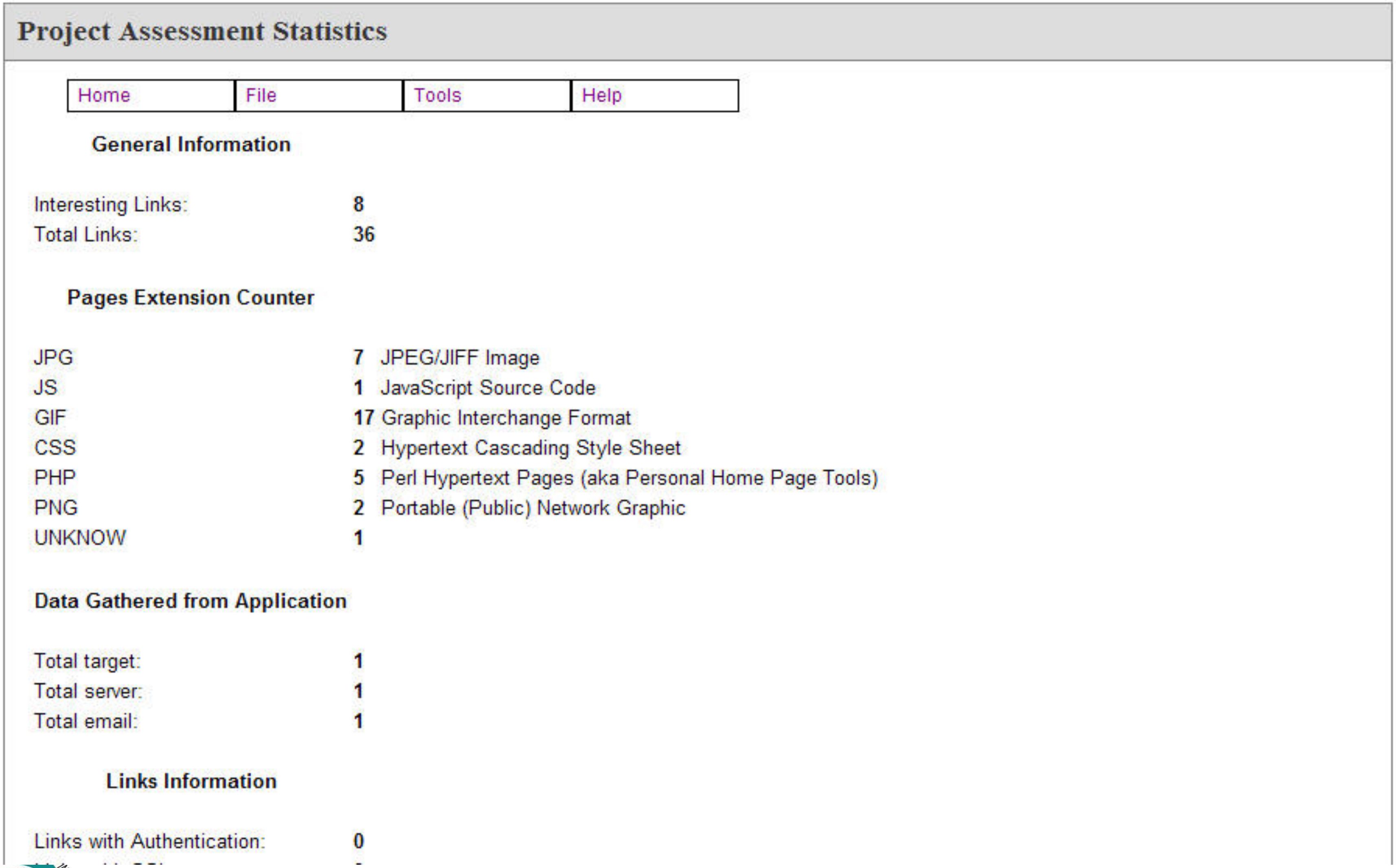
Pantera Feature – Fingerprint

```
<pattern desc="MS IIS">ASPSESSIONID.*?(;| )</pattern>
<pattern desc="ASP.NET">ASP.NET_SessionId.*?(;| )</pattern>
<pattern desc="IBM Tivoli Policy Director WebSeal">PD-S-SESSION-ID.*?(;| )</pattern>
<pattern desc="IBM Tivoli Policy Director WebSeal">PD_STATEFUL.*?(;| )</pattern>
<pattern desc="WEBTRENDS">WEBTRENDS_ID.*?(;| )</pattern>
<pattern desc="IBM WebSphere Application Server">sessionid.*?(;| )</pattern>
<pattern desc="IBM WebSphere Application Server or Siebel CRM">_sn.*?(;| )</pattern>
<pattern desc="BlueCoat Proxy">BCSI-.*?(;| )</pattern>
<pattern desc="Coldfusion">CFID.*?(;| )</pattern>
<pattern desc="Coldfusion">CFTOKEN.*?(;| )</pattern>
```

Pantera Feature – Statistics

- Very helpful to get a quick status on the project.
- Divided into 5 sections:
  - General Information
  - Pages Extension Counter
  - Data gathered from Application
  - HTTP Return Codes Information
  - Links Information

Pantera Feature – Statistics



Project Assessment Statistics

General Information

Interesting Links:	8
Total Links:	36

Pages Extension Counter

JPG	7	JPEG/JIFF Image
JS	1	JavaScript Source Code
GIF	17	Graphic Interchange Format
CSS	2	Hypertext Cascading Style Sheet
PHP	5	Perl Hypertext Pages (aka Personal Home Page Tools)
PNG	2	Portable (Public) Network Graphic
UNKNOW	1	

Data Gathered from Application

Total target:	1
Total server:	1
Total email:	1

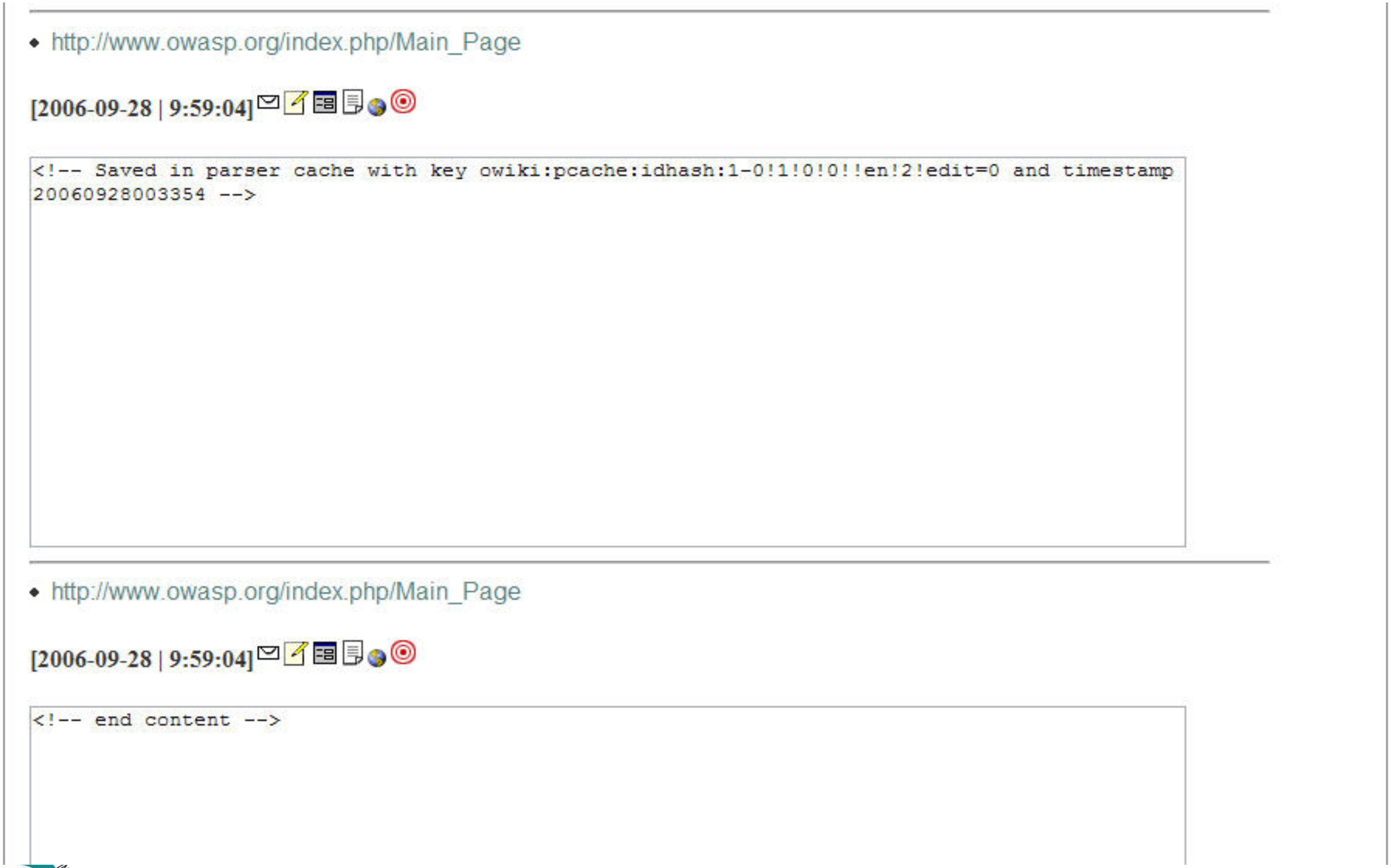
Links Information

Links with Authentication:	0

Pantera Feature – The Snitch

- The Snitch is a gather of information.
- It can currently gather:
  - Comments
  - Scripts
  - Links

Pantera Feature – The Snitch



- http://www.owasp.org/index.php/Main_Page

[2006-09-28 | 9:59:04]

```
<!-- Saved in parser cache with key owiki:pcache:idhash:1-0!1!0!0!!en!2!edit=0 and timestamp
20060928003354 -->
```

- http://www.owasp.org/index.php/Main_Page

[2006-09-28 | 9:59:04]

```
<!-- end content -->
```

Privacy Assessments

Privacy Assessments (I)

- PII – Personally Identifiable Information
  - Wikipedia: “Any piece of information which can be potentially be used to uniquely identify, contact, or locate a single person.”
  - Full Name
  - Telephone Number
  - Email Address
  - Street Address

Privacy Assessments (II)

- Sensitive PII
  - Medical/health condition
  - Racial origin
  - Political, religious and philosophical views
  - PIN
  - Passwords

Privacy Assessments (III)

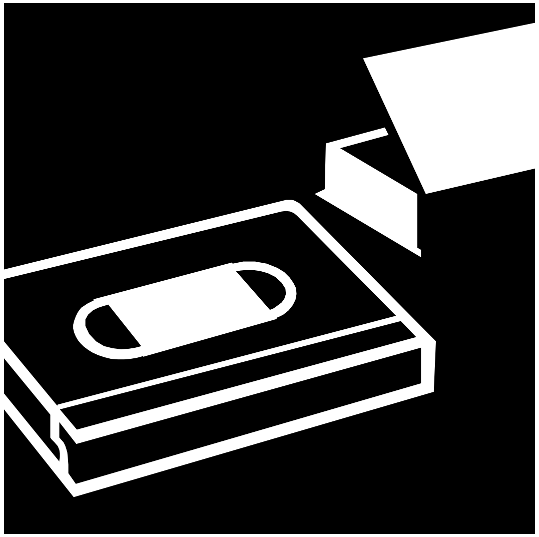
- Not as sexy as pen-test but necessary.
- Knowledge gap:
  - Security consultant
  - Clients
- Many countries require by law privacy assessments (kind of).
  - Spain: LSSI / LPOD

Privacy Assesments (IV)

- Some things to look for (web apps):
  - Disclaimer
    - Site contains a disclaimer page
    - All pages link to the disclaimer
    - Is the disclaimer clear?
  - Legal Notice
  - What type of data is the app collecting
  - How is the site managing our information
  - Are we advised of any changes?
  - Is Sensitive PII transfer secure?
  - Why site needs Sensitive PII?

Pantera Privacy Analysis

- Pantera now includes privacy analysis feature!
- PPA Privacy Category.
- Currently 3 plugins:
  - Looks for disclaimers links
  - Checks if site uses P3P
  - Looks for US Social Security Numbers
- New Privacy Analysis Page on the UI ☺



DEMOS

The End

- Q&A

- Important: Beer / hard liquor (Vodka Lemon, Margaritas, Mojitos, you named it…) are always welcome ☺

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  pantera.proxy@gmail.com

Pantera Resources

- Official Website
  http://www.owasp.org/index.php/Category:OWASP_Pantera_Web_Assessment_Studio_Project

- Mailing list
  https://lists.owasp.org/mailman/listinfo/owasp-pantera

- Contact us
  pantera.proxy@gmail.com