



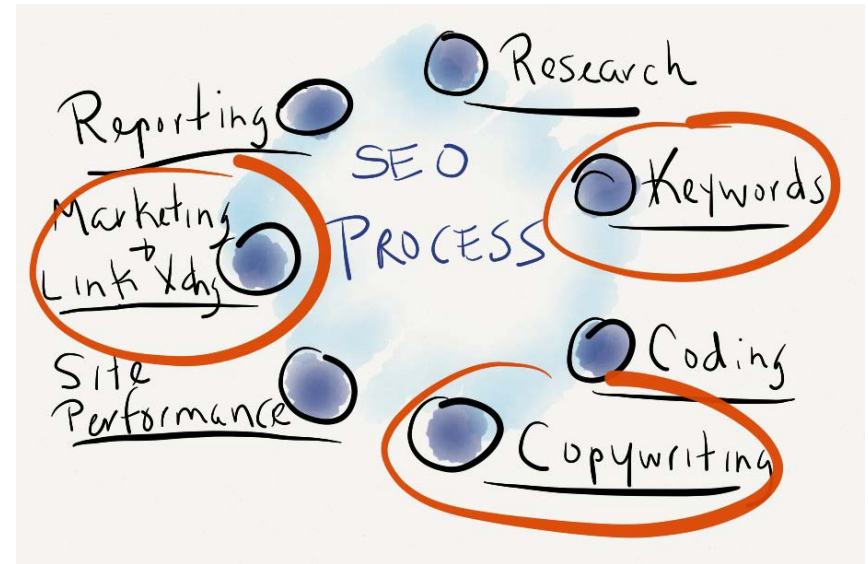
DENITA S.B. MORRIS, PRESIDENT & CEO, SISTERWORKS PUBLISHING, LLC

# SEO & CONTENT AUDIT FOR OWASP MARKETING STRATEGY

Prepared for Open Web Application Security Project  
Proprietary and Confidential  
June 7, 2013

# PROCESS

- Focused on three key SEO strategies
  - Marketing and Link Exchanges
  - Copywriting
  - Keywords
- Defined keywords
- Used research and analytics to prioritize pages
- Final recommendations



- @82% of all the clicks on search results in engines like Google & Bing go to the unpaid, organic results.
- @18% go to paid listings.
- SEO is the practice of attracting traffic from those unpaid results and involves an array of strategies and tactics.

# TOOLS

- Google Analytics
- PRO MOZ Tools (moz.com)
  - Keyword Difficulty
  - On-Page keyword optimization
  - Search engine rankings
  - Mentions Tool
- Started analysis: April 2013
- Weekly analysis combined with Google Analytics



# KEYWORDS DEFINED FOR AUDIT

Top keywords discussed and used by those that search for your content:

1. blind sql injection
2. cross site request forgery
3. cross site scripting
4. httponly
5. information security
6. owasp
7. owasp cheat sheet
8. OWASP Initiatives Global Strategic Focus
9. owasp top 10
10. Global
11. owasp Top 10 2013
12. session hijacking
13. sql injection
14. sql injection cheat sheet
15. web application firewall
16. webgoat
17. webscarab
18. xss
19. xss cheat sheet
20. Security
21. Information security
22. Web application security

# ANALYTICS AND MOZ

# ORGANIC TRAFFIC DATA

	Total			Branded Keywords			Non-branded Keywords				
Month:	3/2013	Change	4/2013	Change	5/2013	3/2013	Change	4/2013	3/2013	Change	4/2013
Organic Search Visits	328,622	3%	337,588	2%	342,720	37,661	-5%	35,791	290,961	4%	301,797
URLs Receiving Entrances Via Search	5,977	2%	6,070	0%	6,088	2,144	-2%	2,105	3,833	3%	3,965
Non-Paid Keywords Sending Search Visits	53,261	-1%	52,876	-2%	52,001	8,819	-3%	8,562	44,442	0%	44,314

## Key Definitions:

**Branded keyword:** A branded keyword is a keyword you want to track as a brand. Let's say I am tracking the keywords.

**Organic Search Visits:** Total number of organic (unpaid) visits to your site from search engines.

**URLS Receiving Entrances Via Search:** The number of distinct URLs on your site that receive one or more organic (unpaid) visits from a search engine.

**Non-Paid Keywords:** The number of distinct keywords that send one or more organic (unpaid) visits to your site.

# ORGANIC TRAFFIC DATA CONT...

	Branded Keywords					Non-branded Keywords				
Month:	3/2013	Change	4/2013	Change	5/2013	3/2013	Change	4/2013	Change	5/2013
<b>Organic Search Visits</b>	37,661	-5%	35,791	-2%	35,171	290,961	4%	301,797	2%	307,549
<b>URLs Receiving Entrances Via Search</b>	2,144	-2%	2,105	1%	3,965	3,833	3%	3,965	0%	3,970
<b>Non-Paid Keywords Sending Search Visits</b>	8,819	-3%	8,562	-3%	44,314	44,442	0%	44,314	-1%	43,699

## Key Definitions:

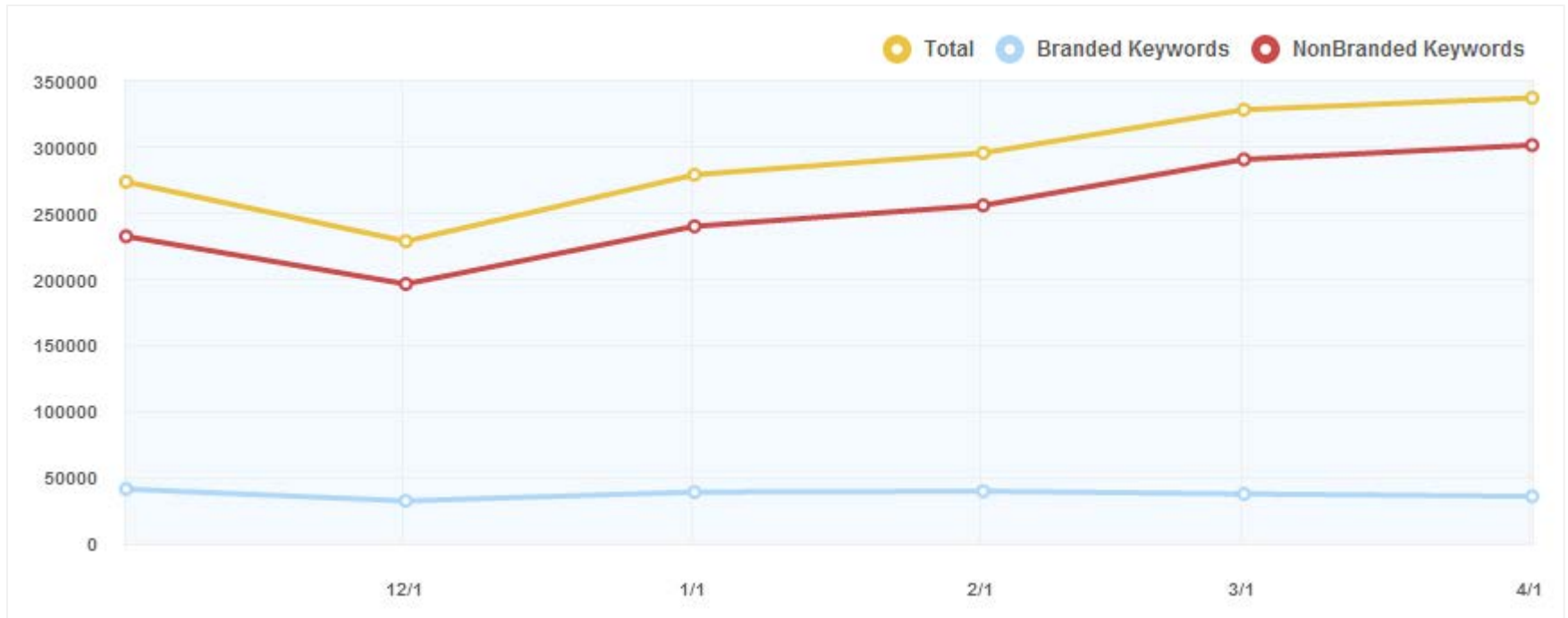
**Branded keyword:** A branded keyword is a keyword you want to track as a brand. Let's say I am tracking the keywords.

**Organic Search Visits:** Total number of organic (unpaid) visits to your site from search engines.

**URLs Receiving Entrances Via Search:** The number of distinct URLs on your site that receive one or more organic (unpaid) visits from a search engine.

**Non-Paid Keywords:** The number of distinct keywords that send one or more organic (unpaid) visits to your site.

# ORGANIC SEARCH VISITS



- Branded keywords do not show increase
- Non-branded (without OWASP in name) are driving people to your site



# ORGANIC SEARCH VISITS BY SOURCE

**Key Insight:** Google is highest driver to OWASP, but the bounce rate from Google is too high.

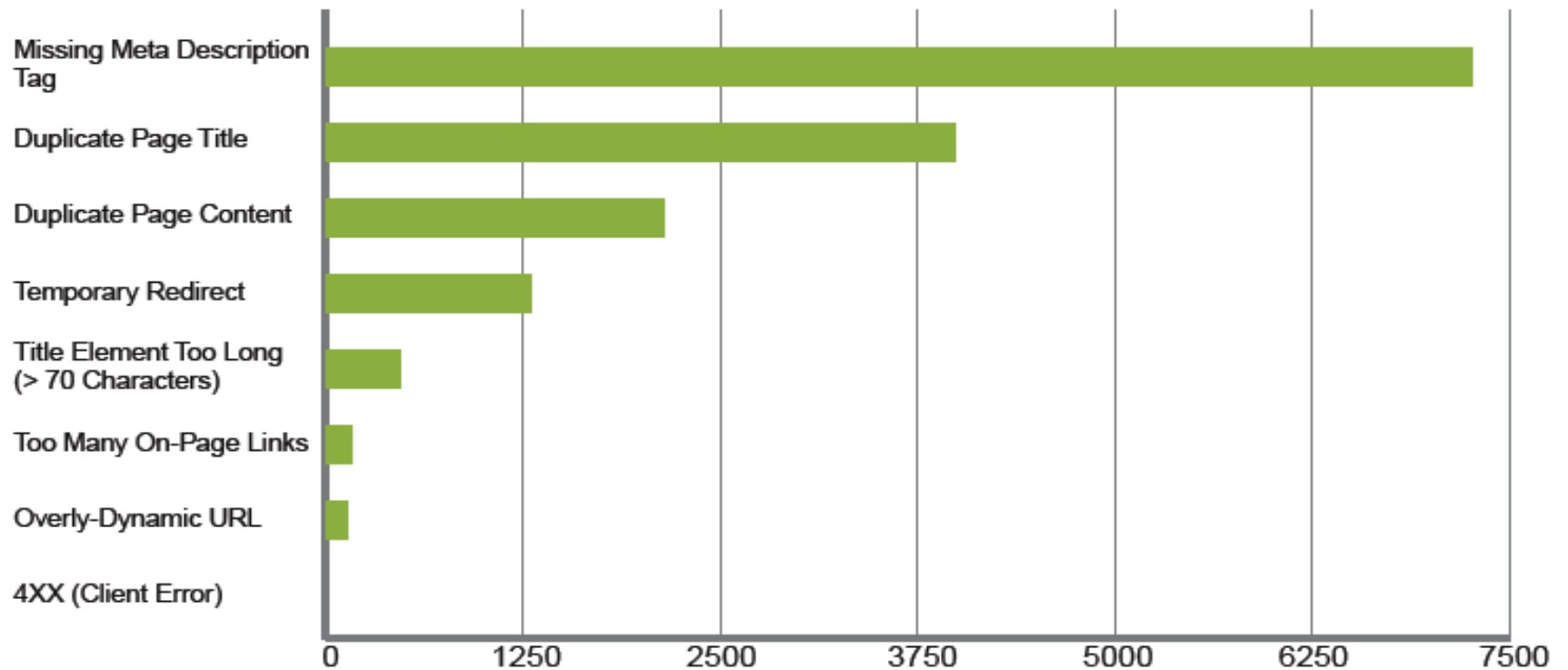
Source	Total visits	% of total traffic	Branded visits	Pages/visit	Average time on site (hh:mm:ss)	% New visits	Bounce rate
google	328,721	97.37%	32,401	2.19	00:02:48	52.4%	63.67%
bing	4,674	1.38%	1,788	2.43	00:02:37	55.76%	62.13%
baidu	1,334	0.40%	594	2.83	00:03:34	47.75%	49.63%
yahoo	1,304	0.39%	399	2.13	00:01:58	63.04%	68.48%
naver	361	0.11%	240	2.59	00:02:36	63.16%	56.51%
yandex	268	0.08%	125	1.98	00:01:39	62.69%	72.01%
ask	243	0.07%	55	2.02	00:01:43	67.9%	70.78%
avg	203	0.06%	54	2.44	00:02:44	49.75%	62.56%
conduit	148	0.04%	43	1.94	00:02:53	58.11%	73.65%
babylon	110	0.03%	23	2.04	00:02:05	70.91%	73.64%

# CRAWL DIAGNOSTIC SUMMARY

- 14,540 pages crawled
- 6,177 errors
- 9,438 warnings
- 10,635 notices

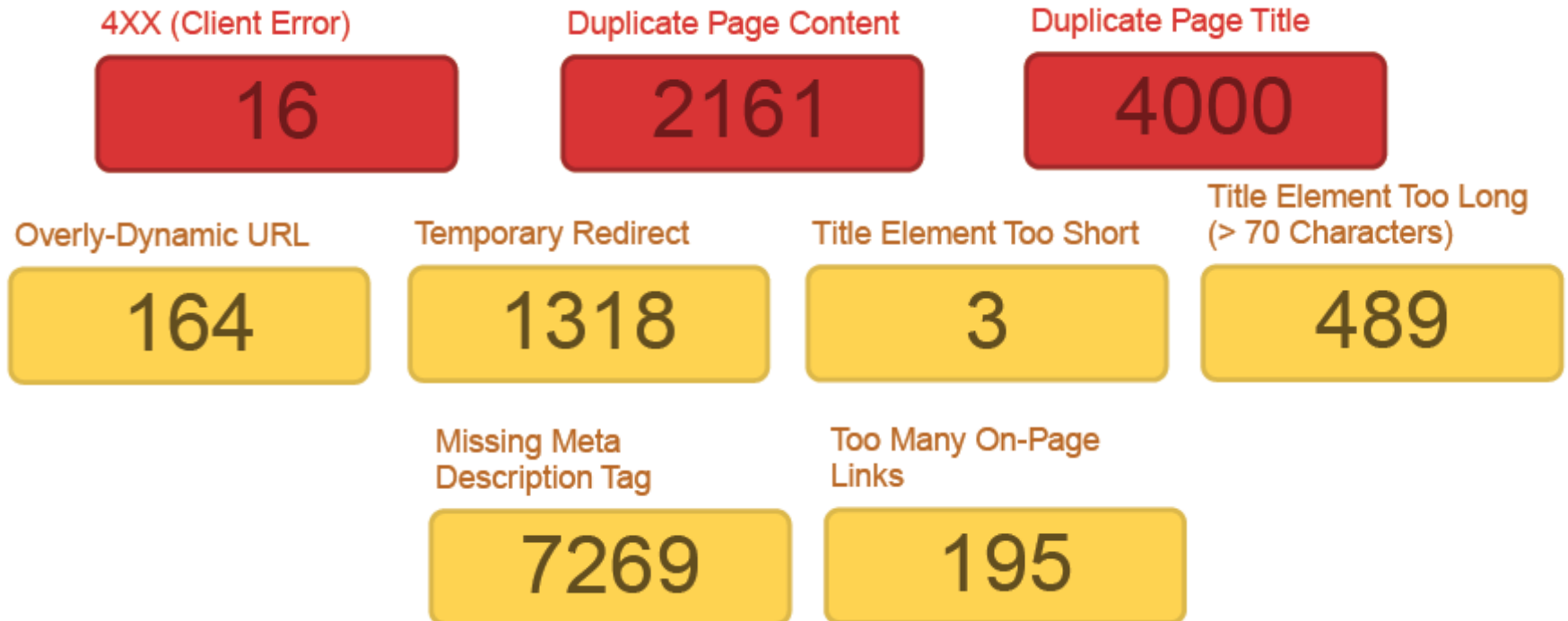
## Most Common Errors & Warnings

From crawl on 2013-05-29T09:39:56Z



# CRAWL ERRORS AND WARNINGS

- Pages with crawl errors are often difficult for search engines to crawl, index and rank which contributes to higher bounce rate (i.e. - Users are not finding what they sought.)
- Pages with crawl warnings are often penalized by search engines



# LINK EXCHANGE: ANALYSIS OF OWASP.ORG

Domain Metrics:		Page Metrics:					
Domain Authority	Page Authority	Linking Root Domains	Total Links	Facebook Shares	Facebook Likes	Tweets	Google +1s
83/100	83/100	566	5,787	502	142	485	105

*Just-Discovered Links index updated continuously. Last Mozscape index update: June 6, 2013. Next Mozscape index update: July 3, 2013.*

## Top 12 Linking Domains

1. Google
2. Wordpress
3. Adobe
4. Blogspot
5. Wikipedia
6. W3
7. Livejournal
8. Sourceforge
9. Joomla
10. Fc2
11. Mozilla
12. PRweb

# COMPETITIVE DOMAIN ANALYSIS

## Root Domain Metrics

	OWASP	OASIS	ITAA	ISC
<ul style="list-style-type: none"> <li>Domain Authority</li> </ul>	83	89	73	74
<ul style="list-style-type: none"> <li>Domain MozRank</li> </ul>	6.35	6.74	5.66	5.77
<ul style="list-style-type: none"> <li>Domain MozTrust</li> </ul>	6.65	7.10	6.54	6.33
<ul style="list-style-type: none"> <li>External Followed Links</li> </ul>	125,398	320,282	11,071	23,267
<ul style="list-style-type: none"> <li>Total External Links</li> </ul>	146,829	389,887	11,290	25,818
<ul style="list-style-type: none"> <li>Total Links</li> </ul>	1,174,313	911,049	18,112	149,189
<ul style="list-style-type: none"> <li>Followed Linking Root Domains</li> </ul>	4,466	8,214	1,581	1,930
<ul style="list-style-type: none"> <li>Total Linking Root Domains</li> </ul>	5,048	9,234	1,650	2,047
<ul style="list-style-type: none"> <li>Linking C-Blocks</li> </ul>	3,195	5,959	1,156	1,284
<ul style="list-style-type: none"> <li>Followed Links vs NoFollowed Links</li> </ul>				
<ul style="list-style-type: none"> <li>Followed Linking Root Domains vs NoFollowed Linking Root Domains</li> </ul>				

# PAGE ANALYSIS

# PAGE ANALYSIS

## Top Pages

1. [OWASP Initiatives](#)
2. [OWASP](#)
3. [OWASP Cheat Sheets](#)
4. [OWASP Top 10](#)
5. [OWASP Top 10 2013](#)
6. [Web Goat](#)
7. [Web Scarab](#)
8. [XSS Cheat Sheet](#)
9. [Cross-site Scripting](#)
10. [SQL Injection](#)
11. [SQL Injection Cheat Sheet](#)

## Components of Analysis

- Look-and-Feel
  - Industry standards vs. OWASP
- Analytics
- Content
  - SEO (keyword optimization and Google rank)
  - User experience

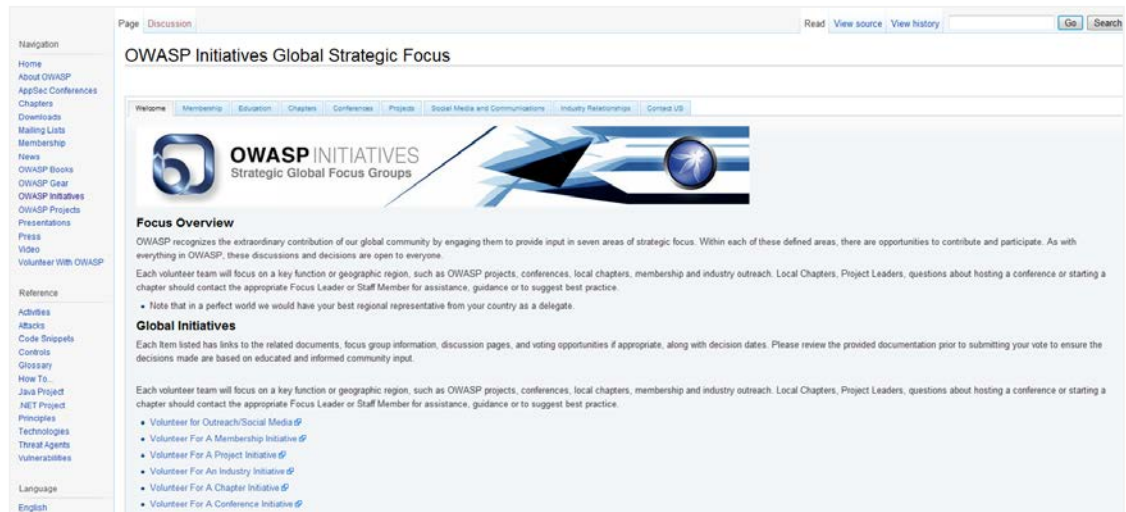
## SEO

- The “on-page grades” tell us that the level of optimization and keyword targeting an individual page has achieved.
- Using the keywords from the analytics, the SEO tool graded OWASP’s pages on ranking models and correlation research, as well as looking at what appears in the pages and ranks well within search engines.

# OWASP INITIATIVES

## Look-and-Feel:

- Navigation Font too small—smaller than document text
- “Wall of text” Too much text to understand what you should do on the page



## Google Analytics (April/May 2013)

- PV: 2298
- Average Time on Site: 1:08
- Bounce Rate: 57.53%
- Exits: 20.12%



# OWASP INITIATIVES CONT...

## Content:

- SEO Grade: A
- Volunteer mentioned 13x on page—confusing as to where to click
- Goal of page is not clear

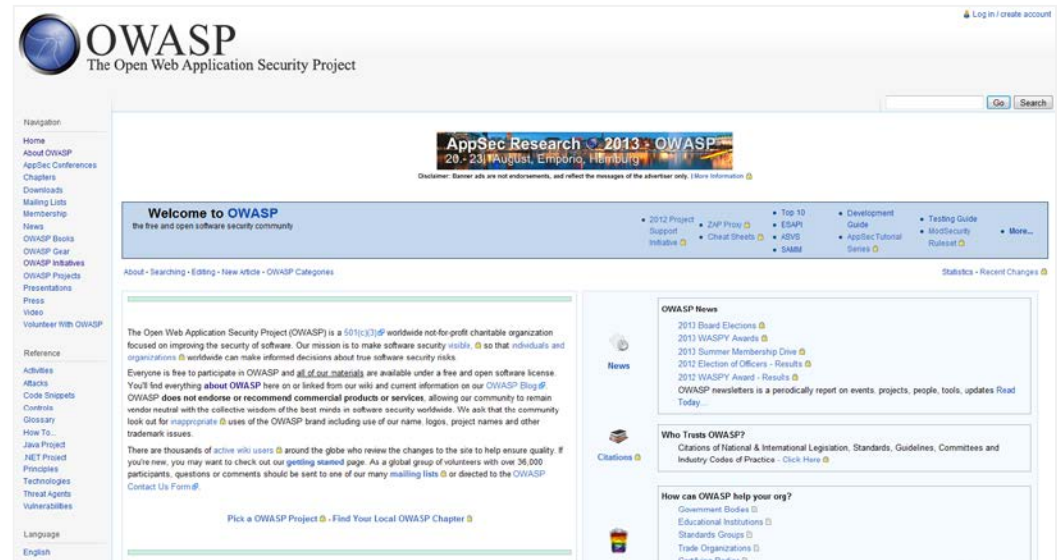
## Meta Description:

- OWASP engages a global community to keep Web application security safe, free and open to all. Volunteers may contribute, participate and lead initiatives. Sign-up now.

# OWASP

## Look-and-Feel:

- Font is too small
- Banner ads are small and hard to read
- Too many modules creates confusion for the user



## Google Analytics (April/May 2013)

- PV: 166686
- Average Time on Site: 1:44
- Bounce Rate: 47.67%
- Exits: 41.09%

# OWASP CONT...

## Content:

- SEO Grade: A
- Lacking a clear call to action
- Exit percentage shows that @53% of visitors to the site leave the page—consider creating high impact message upfront on this page with bullets of what you offer that is most valuable to organic search visitors of your site

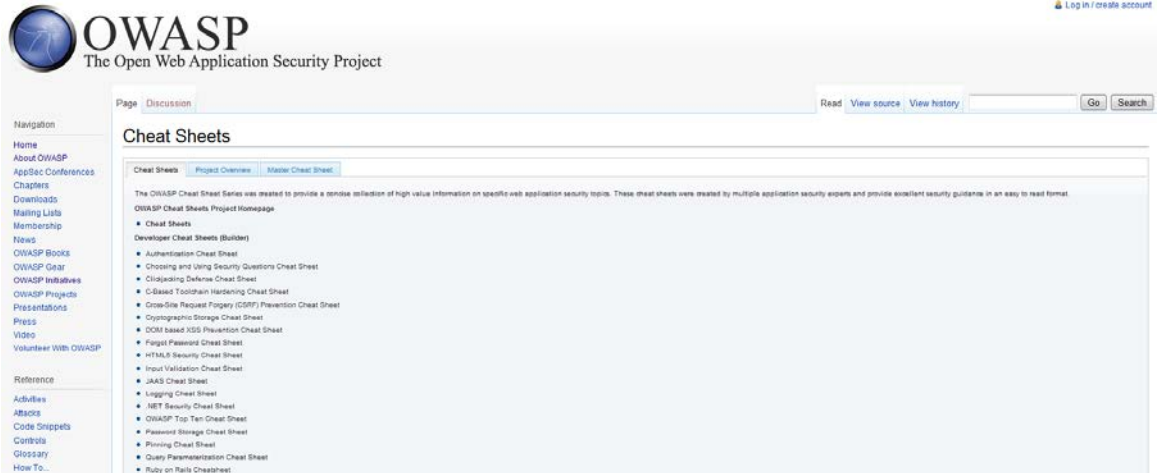
## Meta Description:

- OWASP is a 501(c)(3) not-for-profit charitable organization helping individuals and organizations make informed decisions about software security risks.

# OWASP CHEAT SHEETS

## Look-and-Feel:

- Font too small
- Navigation for page is unclear—  
Consider having “Master Cheat Sheet” as landing page so user has explanation of what they are



## Google Analytics (April/May 2013)

- PV: 10984
- Average Time on Site: 1:12
- Bounce Rate: 36.36%
- Exits: 22.02%

# OWASP CHEAT SHEETS CONT...

## Content:

- SEO Grade: C
- Highlight content that is most used at top and provide alpha listing for ease of navigation

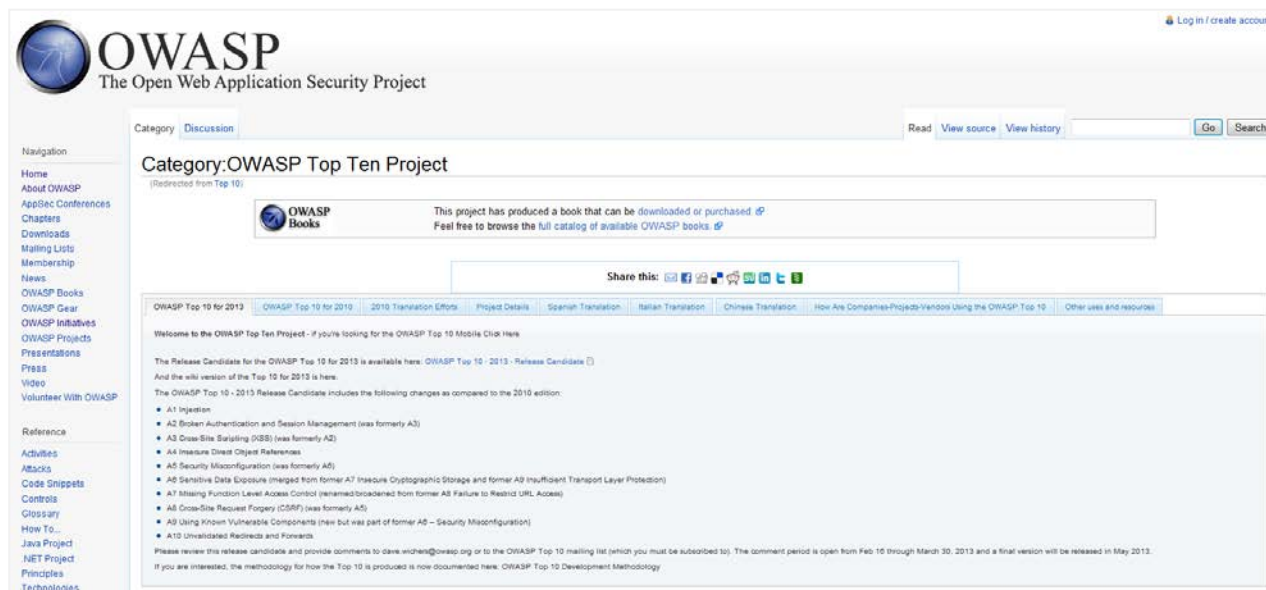
## Meta Description:

- OWASP provides specific web application security topics. Download these cheat sheets created by application security experts for security guidance.

# OWASP TOP 10

## Look-and-Feel

- Font too small
- Navigation for page is unclear—cluttered
- Too many lists to dig through



The screenshot shows the OWASP Top Ten Project website. The header includes the OWASP logo and the text "The Open Web Application Security Project". Below the header is a navigation menu with categories like "Category" and "Discussion". The main content area features a "Category: OWASP Top Ten Project" heading, a "OWASP Books" section, and a "Share this:" section with social media icons. The main content area also includes a "Welcome to the OWASP Top Ten Project" message and a list of changes for the 2013 release candidate.

## Google Analytics (April/May 2013)\*

- PV: 166928
- Average Time on Page: 2:14
- Bounce Rate: 50.88%
- Exits: 32.84%

\*all top 10 pages combined

# OWASP TOP 10 CONT...

## Content

- SEO Grade: D
  - Change page title to include why the top ten matters
- Highlight how these are being used first—why matters
- Top 10 content was most viewed—now 2013 shows without links---create links to most used top 10
- 441 pages on site that come up for top 10

## • Meta Description

The OWASP Top Ten is created with global consensus about what the most critical web application security flaws are.

# OWASP TOP 10 2013

## Look-and-Feel

- Forward and About are easier to read than most of the pages
- uncluttered

The screenshot shows the OWASP website's page for the 'Top 10 2013' release candidate. The page is titled 'Top 10 2013' and includes a navigation sidebar on the left with links like 'Home', 'About OWASP', 'AppSec Conferences', 'Chapters', 'Downloads', 'Mailing Lists', 'Membership', 'News', 'OWASP Books', 'OWASP Gear', 'OWASP Initiatives', 'OWASP Projects', 'Presentations', 'Press', 'Video', 'Volunteer With OWASP', 'Reference', 'Advises', 'ABoCs', 'Code Snippets', 'Controls', and 'Glossary'. The main content area features a 'Forward' section with a green border, containing text about the project's goal and the importance of application security. To the right of the 'Forward' section is an 'About OWASP' section, also with a green border, which describes the project as an open community and lists various resources like application security tools, standards, books, and conferences. The page also includes a 'Table of Contents' and a '2013 Top 10 List' link.

## Google Analytics (April/May 2013)\*

- PV: 19765
- Average Time on Page: 0:54
- Bounce Rate: 22.09%
- Exits: 19.50%

\*2013 version coming up in searches of a top 10



# OWASP TOP 10 2013

## Content:

- SEO Grade: F
  - Change page title to include why the Top 10 matters
  - Add keywords to document so search engines will rank with security, etc.
- Menu to get to content is above larger fonts and small—hard to find

## Recommendations for Top 10:

- Keep one landing page for top 10 and create individual pages when updated.
- Ensure that wherever the Top 10 is linked, the same page is used.
- Hide pages that are old and/or do not need to be found by a search engine

# WEBGOAT

## Look-and-Feel:

- Create call out for book to purchase that is easier to read and markets book
- Create call out for support for installation and or community that can help
- Consider reducing text and going straight to goals

The screenshot shows the OWASP WebGoat Project page. The header includes the OWASP logo and the text 'The Open Web Application Security Project'. A navigation menu is on the left. The main content area has a search bar and a category header 'OWASP WebGoat Project'. Below this is a callout box for purchasing OWASP books. The main text describes WebGoat as a deliberately insecure web application for teaching security lessons. It includes sections for 'Goals' and 'Overview'. On the right, there are two small screenshots of the WebGoat application interface.

## Google Analytics (April/May 2013)\*

- PV: 51762
- Average Time on Page: 2:03
- Bounce Rate: 53.63%
- Exits: 37.45%

\*Analytics for all pages with webgoat project

# WEBGOAT CONT...

## Content:

- SEO Grade: B
- Solution hints are small and hidden to right of page
- Call out that it is a teaching tool upfront and bold
- Add teaching tool into page title for search engines
- 393 pages with WebGoat in site—multiple listed as WebGoat project—same recommendation as top ten

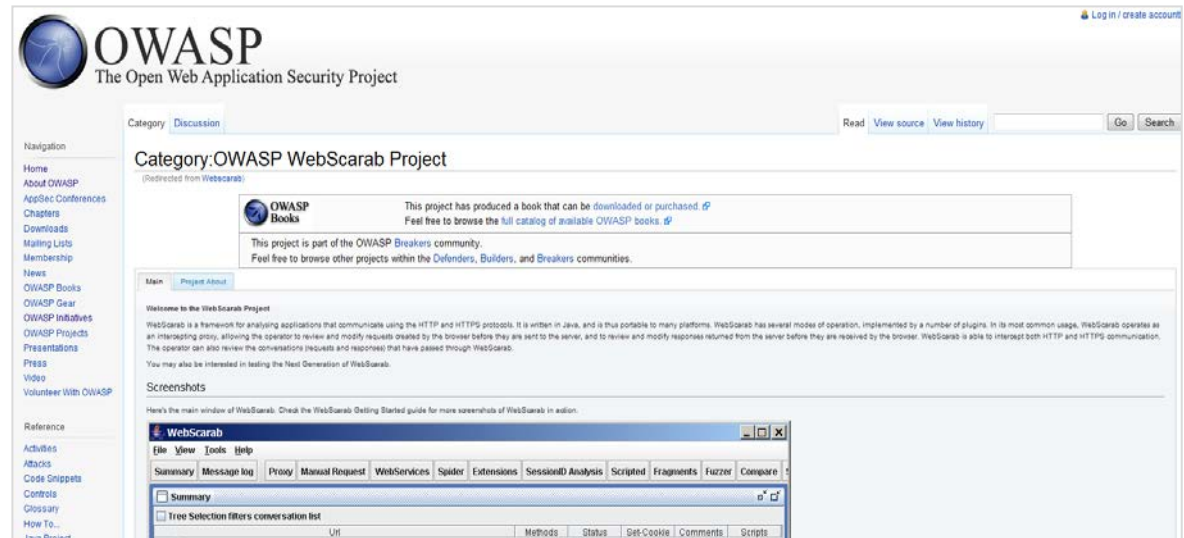
## Meta Description:

- WebGoat is an insecure web application maintained by OWASP designed to teach web application security lessons.

# WEBSCARAB

## Look-and-Feel:

- Font too small and navigation small
- Create call out for book to purchase that is easier to read and markets book



## Google Analytics (April/May 2013)\*

- PV: 41,777
- Average Time on Page: 2:55
- Bounce Rate: 57.44%
- Exits: 47.14%

\*Analytics for all pages with webscarab project

# WEBSCARAB CONT...

## Content:

- SEO Grade: A
- What is breakers community—why does that community matter?
- Make it clear why this project matters
- 322 pages for WebScarab: consolidate pages as with Webgoat and Top 10

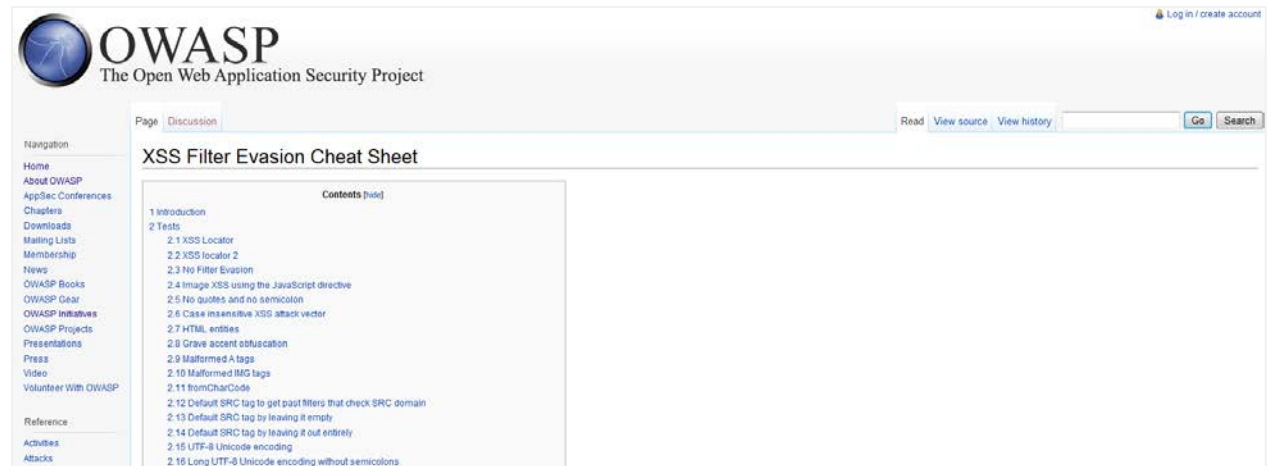
## Meta Description:

- WebScarab is a framework for analyzing applications that communicate using the HTTP and HTTPS protocols. It is written in Java, thus portable to many platforms.

# XSS CHEAT SHEET

Look-and-Feel:

- Wall of text
- Why would a user use this cheat sheet?
- What is most relevant to know—where to click next?



Google Analytics (April/May 2013)\*

- PV: 81868
- Average Time on Page: 4:32
- Bounce Rate: 77.12%
- Exits: 71.32%

*\*Analytics for all pages with same project*

# XSS CHEAT SHEET CONT...

## Content

- SEO Grade: A
- Introduction is one word—need overview for user—why matters to stay on the site.
- 92 pages with same naming convention—consolidate into one.

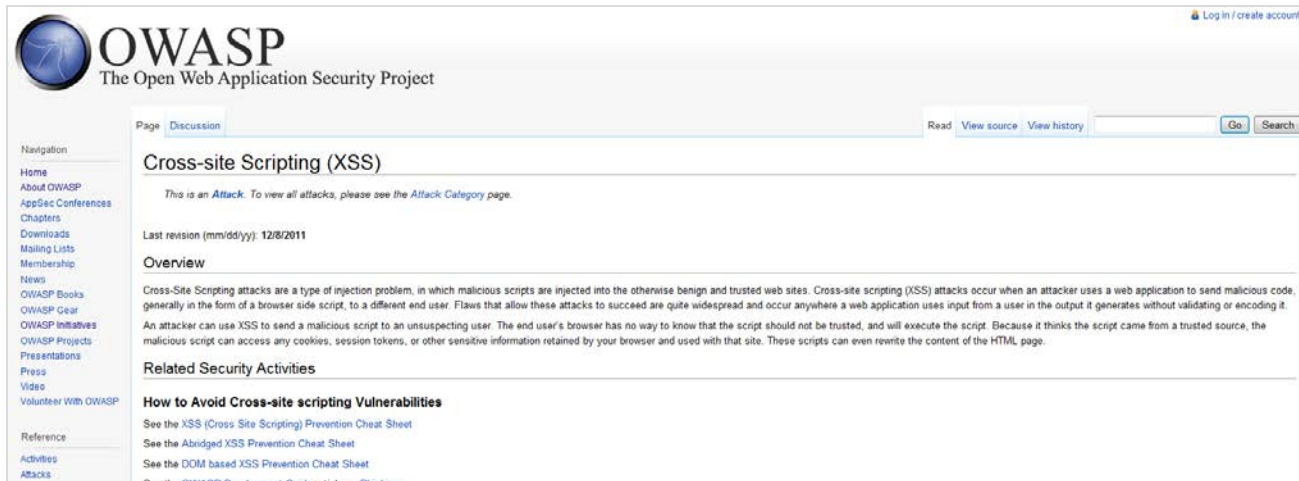
## Meta Description

- OWASP created short, simple guidelines that developers can follow to prevent XSS.

# CROSS-SITE SCRIPTING

## Look-and-Feel:

- Well-organized and not too long—it's clear why you are on this page



OWASP  
The Open Web Application Security Project

Page Discussion

Read View source View history

## Cross-site Scripting (XSS)

This is an **Attack**. To view all attacks, please see the [Attack Category](#) page.

Last revision (mm/dd/yyyy): 12/8/2011

### Overview

Cross-Site Scripting attacks are a type of injection problem, in which malicious scripts are injected into the otherwise benign and trusted web sites. Cross-site scripting (XSS) attacks occur when an attacker uses a web application to send malicious code, generally in the form of a browser side script, to a different end user. Flaws that allow these attacks to succeed are quite widespread and occur anywhere a web application uses input from a user in the output it generates without validating or encoding it.

An attacker can use XSS to send a malicious script to an unsuspecting user. The end user's browser has no way to know that the script should not be trusted, and will execute the script. Because it thinks the script came from a trusted source, the malicious script can access any cookies, session tokens, or other sensitive information retained by your browser and used with that site. These scripts can even rewrite the content of the HTML page.

### Related Security Activities

#### How to Avoid Cross-site scripting Vulnerabilities

- See the [XSS \(Cross Site Scripting\) Prevention Cheat Sheet](#)
- See the [Abridged XSS Prevention Cheat Sheet](#)
- See the [DOM based XSS Prevention Cheat Sheet](#)
- See the [OWASP XSS Development Guide](#), which is [English](#)

## Google Analytics (April/May 2013)\*

- PV: 82,505
- Average Time on Page: 3:08
- Bounce Rate: 62.93%
- Exits: 50.45%

*\*Analytics for all pages with same project*



# CROSS-SITE SCRIPTING CONT...

## Content:

- SEO Grade: B
- Last updated in 2011— need to update the content and/or ensure that the date is updated and content has been reviewed to be valid in 2013

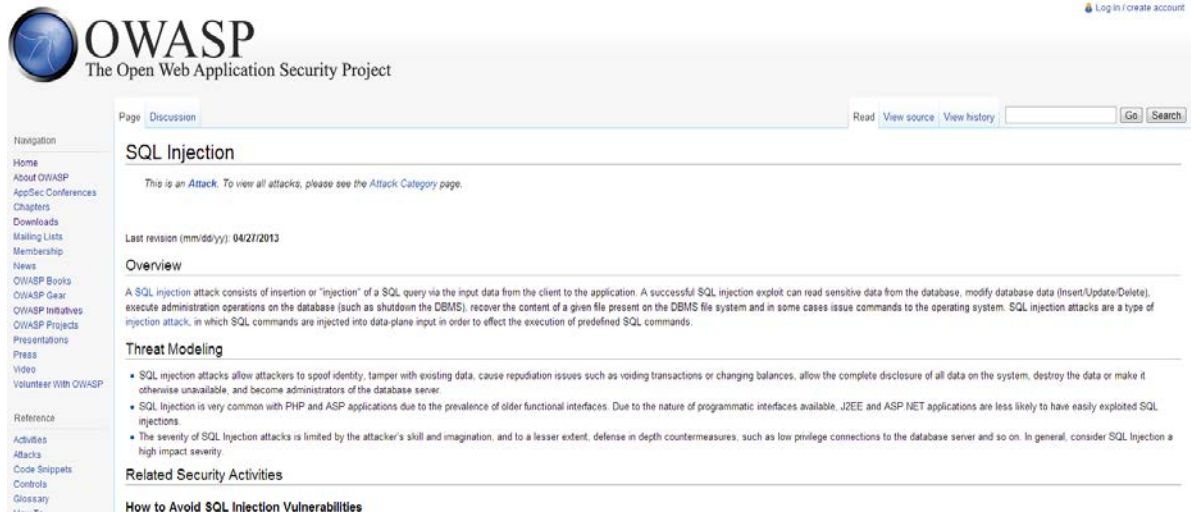
## Meta Description:

- Find out how to avoid, review code and test for cross-site scripting vulnerabilities from OWASP

# SQL INJECTION

## Look-and-Feel:

- Well-organized and not too long—clear why you are on the page



The screenshot shows the OWASP website's page for SQL Injection. The header includes the OWASP logo and the text "The Open Web Application Security Project". A navigation menu is on the left, listing various site sections. The main content area has a title "SQL Injection" and a sub-header "Overview". The text describes SQL injection attacks, their threat modeling, and related security activities. A search bar is visible in the top right corner.

## Google Analytics (April/May 2013)\*

- PV: 97386
- Average Time on Page: 3:22
- Bounce Rate: 73.70%
- Exits: 62.62%

*\*Analytics for all pages with same project*

# SQL INJECTION CONT...

## Content:

- SEO Grade: A
- 292 pages about SQL Injection
- Refine content, add landing page for search engines and clarify message across the pages

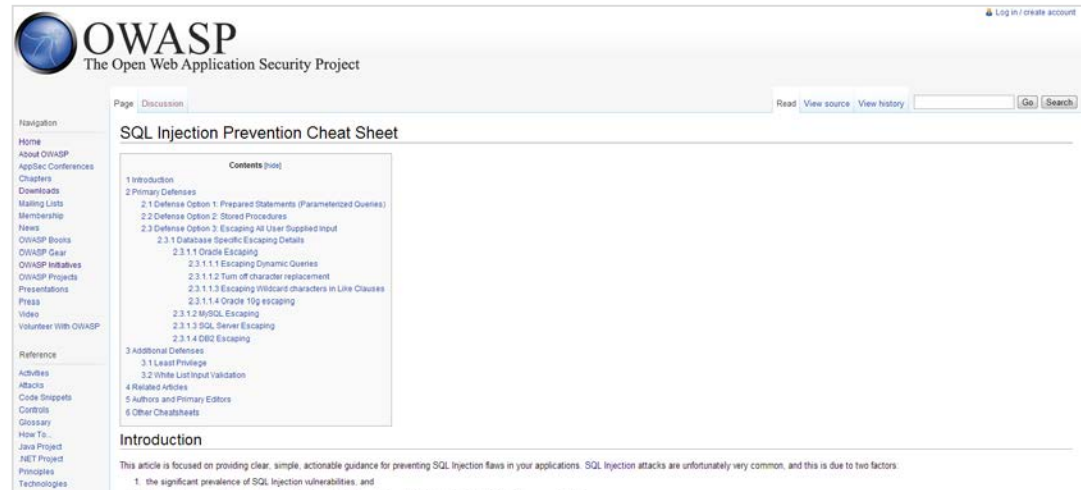
## Meta Description:

- Find out how to avoid, review code and test for a SQL injection attack to prevent loss of sensitive data by OWASP.

# SQL INJECTION PREVENTION CHEAT SHEET

## Look-and-Feel

- Well organized and not too long—clear why you are on the page



## Google Analytics (April/May 2013)

- PV: 26188
- Average Time on Page: 4:02
- Bounce Rate: 76.55%
- Exits: 65.86%

# SQL INJECTION PREVENTION CHEAT SHEET CONT...

## Content:

- SEO Grade: A
- Since a landing page from searches, add mission for OWASP and other information highlighted that could be of interest—news, other cheat sheets, etc.

## Meta Description:

- Prevent SQL Injection flaws in your applications with this clear, simple and actionable cheat sheet by OWASP.

# RECOMMENDATIONS

- **Copyedit top pages—ensure that the non-branded keywords are showing up in your copy**
  - Information security
  - Global security
  - Web application security
  - Mobile application security
- **Add meta descriptions to top pages (156 Character Limit) and Page Titles—very important and easy to fix if prioritize pages**
  - None of your pages have meta descriptions. The meta description, while it does not influence rankings in the results, can still be valuable to employ to improve the click-through-rate of searchers from the results page and to provide context to those visitors about the page's topic/focus.
  - Use queried keywords from your search analytics to give a better chance of your description being used in the engine's page snippet. Also, creates prominence for your page
- **Redesign horizontal menu navigation for your templates**
- **Consider redesigning banner ad space**
  - Add horizontal banner ad space
  - Enlarge vertical banner ad space
- **Design content templates for topic pages**
  - Attacks/Threats/Vulnerabilities
  - How To
  - Membership
- **Create callouts for your highlighting cheat sheets—measure which are most clicked on**
- **Ensure that duplicates of your top pages and subpages are cleaned up and that you have one landing page per topic**

# KEY WORDS

## TERM

## DEFINITION

### **Bounce Rate:**

This Internet marketing term is used in web traffic analysis. It represents the percentage of visitors who enter the site and "bounce" (leave the site) rather than continue viewing other pages within the same site.

### **Exit Rate:**

The percentage of visitors that leave your site from a given page based on the number of visits to that page. The visitor who **exits** might have visited other pages on the site, but exited on that specific page. Exit rate is important for determining which page in a process is not performing and your visitors are exiting the site on a webpage that might be a break gap in their experience.

### **Conversion Rate:**

The proportion of visitors to a website who take action to go beyond a casual content view or website visit, as a result of subtle or direct requests from marketers, advertisers, and content creators. For example, conversion rate = number of goal achievements/visits.

### **Keywords:**

the actual search terms or keywords typed into search engines and which search engines are preferred by their targeted audience.

### **Organic Search:**

listings on search engine results pages that appear because of their relevance to the search terms, as opposed to their being advertisements. In contrast, non-organic search results may include pay per click advertising.

### **Page Views:**

They are counted as part of web analytics. For the owner of the site, this information can be useful to see if any change in the "page" (such as the information or the way it is presented) results in more visits. If there are any advertisements on the page, the publishers would also be interested in the number of page views to determine their expected revenue from the ads. For this reason, it is a term that is used widely for Internet marketing and advertising.

### **Pay-Per-Click (PPC):**

This term is an Internet advertising model used to direct traffic to websites, where advertisers pay the publisher (typically a website owner) when the ad is clicked. With search engines, advertisers typically bid on keyword phrases relevant to their target market. Content sites commonly charge a fixed price per click rather than use a bidding system. PPC "display" advertisements, also known as "banner" ads, are shown on web sites or search engine results with related content that have agreed to show ads. This approach differs from the "pay per impression" methods used in Facebook, television and newspaper advertising. Similar to the pay per click model which often uses a bidding system, with the online pay per impression method, advertisers bid how much they are willing to spend for their ad to show up 1000 times. *(It's also called Cost-Per-Click.)*

### **Search Engine Optimization (SEO):**

The process of affecting the visibility of a website or a web page in a search engine's "natural" or un-paid ("organic") search results.

### **Unique Visitors:**

A count of how many different people access a Web site. For example, if a user leaves and comes back to the site five times during the measurement period, that person is counted as one unique visitor, but would count as five "user sessions." Unique visitors are determined by the number of unique IP addresses on incoming requests that a site receives, but this can never be 100% accurate. Depending on configuration issues and type of ISP service, in some cases, one IP address can represent many users; in other cases, several IP addresses can be from the same user.