

# **Effiziente Fehlersuche in Web 2.0-Anwendungen**

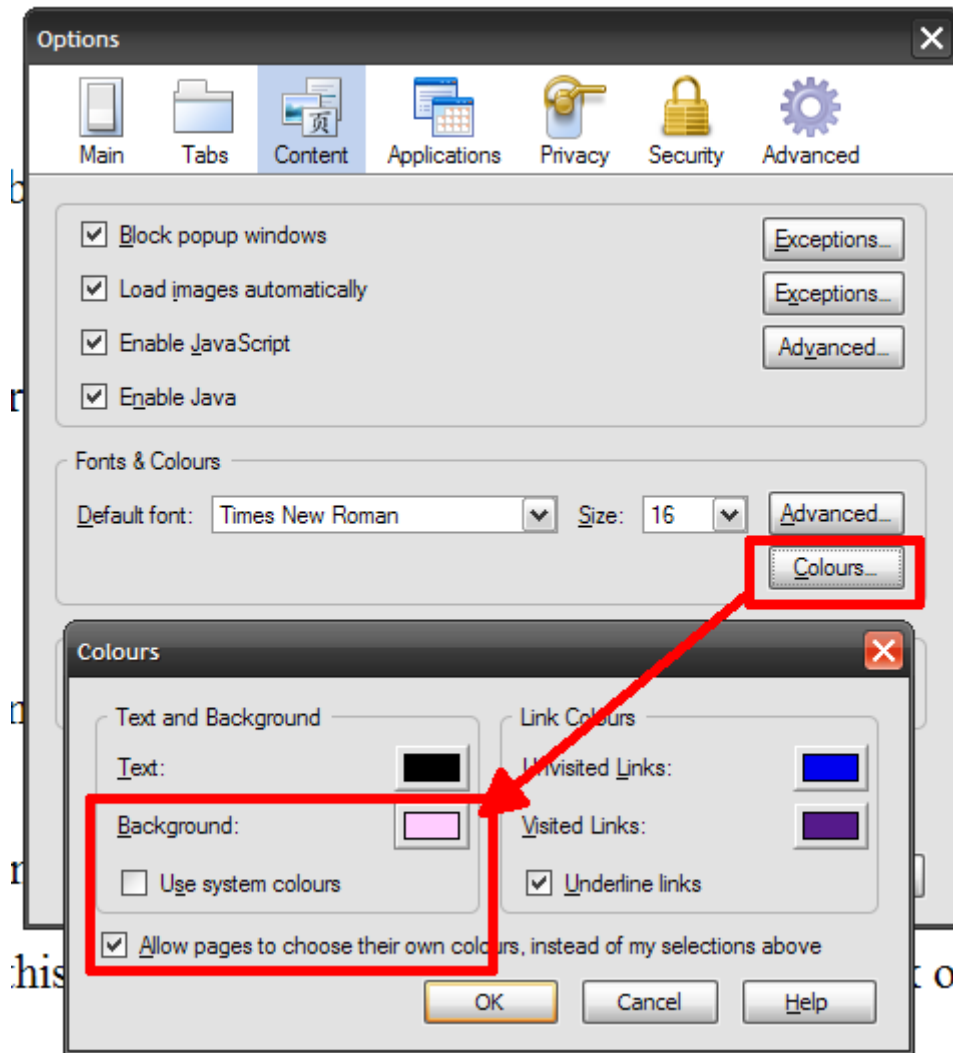
# Agenda

- Kurze Vorstellung
- Eingebaute Firefox-Tools
- Webdeveloper Toolbar
- Firebug
- Weitere Firefox-Tools
- Weitere Tools für Internet Explorer, Safari und andere Browser
- Fragen & (hoffentlich) Antworten

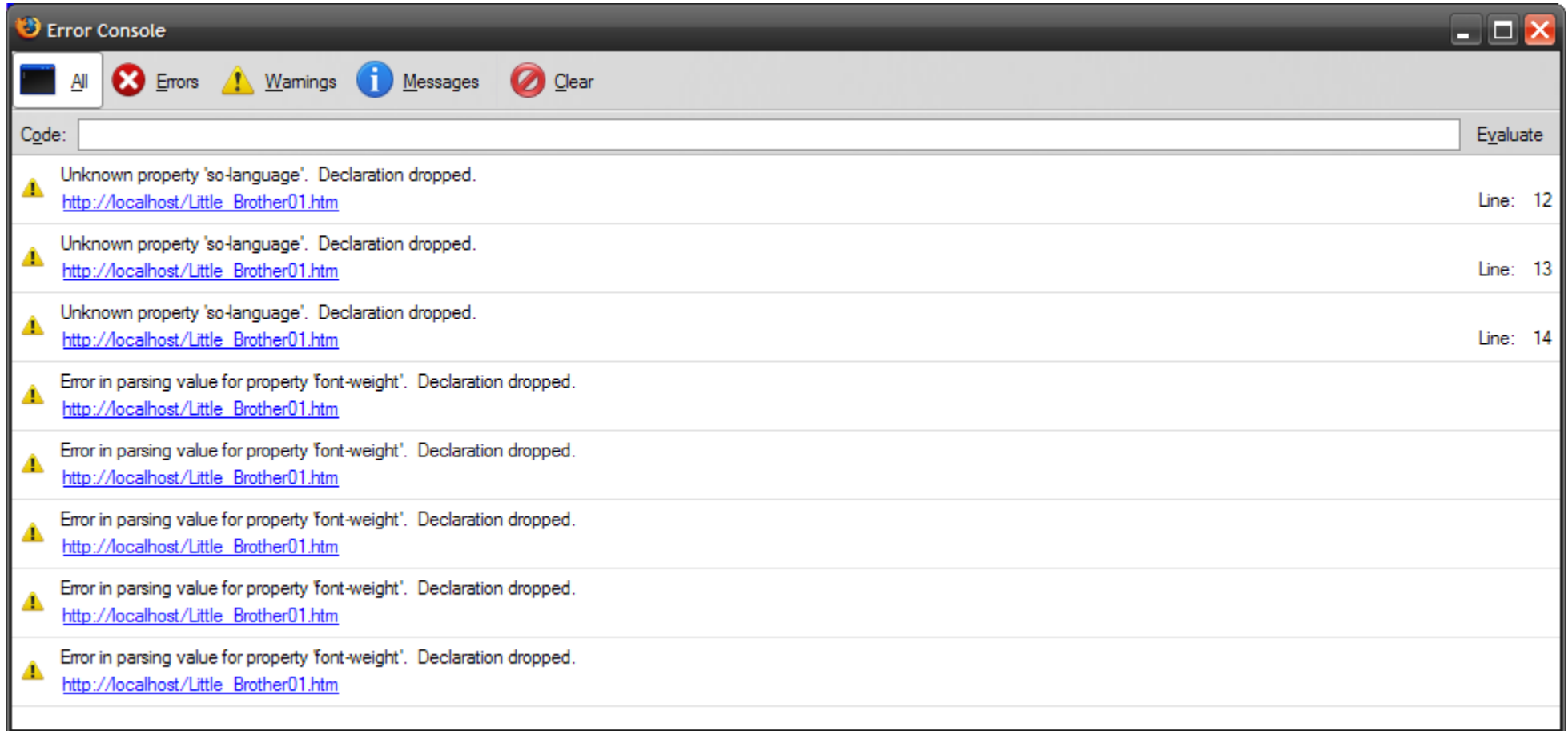
# Martin Leyrer

- Alter Sack (Netscape 0.x, frühe 90er)
- Anhänger des "Progressive Enhancement"
- KEIN JavaScript & CSS Guru
- Lasse mich gerne vom Code anderer „inspirieren“
- Fan von „fertigen“ Frameworks

# Hintergrundfarbe

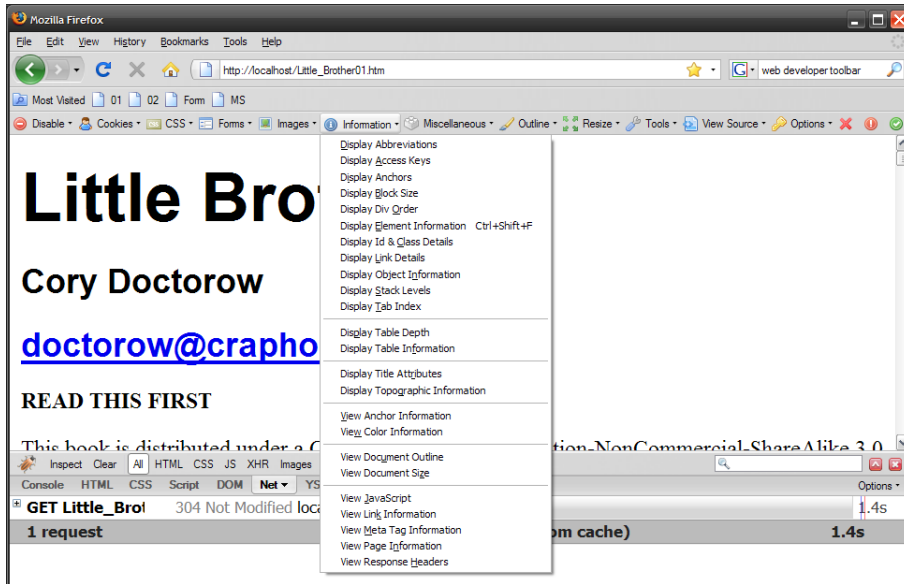


# Error-Console



Strg-Shift-J

# Web Developer Toolbar



- Anzeige div. Infos
- (De-)Aktivieren von JavaScript, Bildern, Cache, ...
- Forms
- Cookies
- Tools
- View Generated Source !!!



**Firebug**

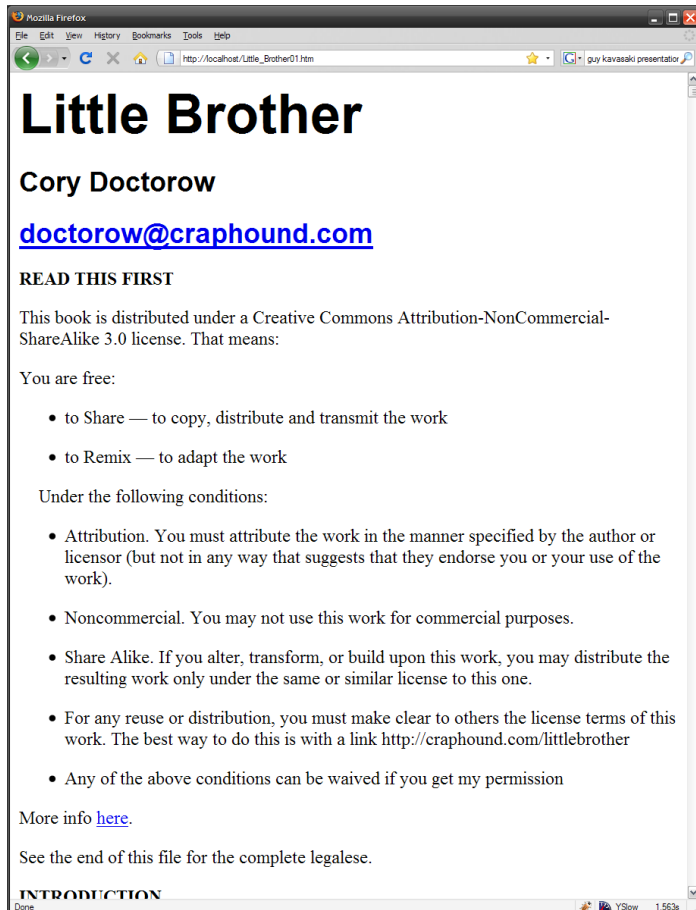
# Firebug ist ...

- Firefox Plugin
- JavaScript Debugger
- DOM Viewer
- CSS Viewer
- JavaScript Logging Engine
- und ...





# Firebug aufrufen



F12



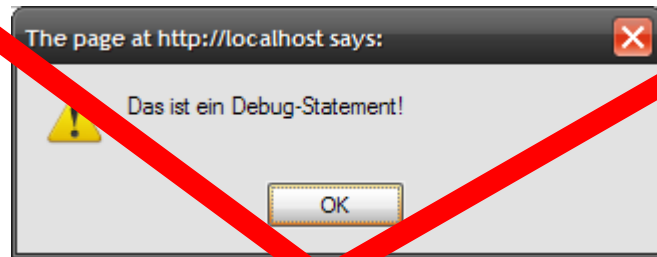
# Die Tabs



- Console
- HTML
- CSS
- Script
- Dom
- Net

# Console

- `console.log("We are at point A");`
- `console.info("We are at point B");`
- `console.warn("At point C!");`
- `console.error("We reached point D :-(");`
- AJAX-Calls
- Wird von Frameworks wie Dojo, ....  
genutzt
- Firebug „Light“ für IE



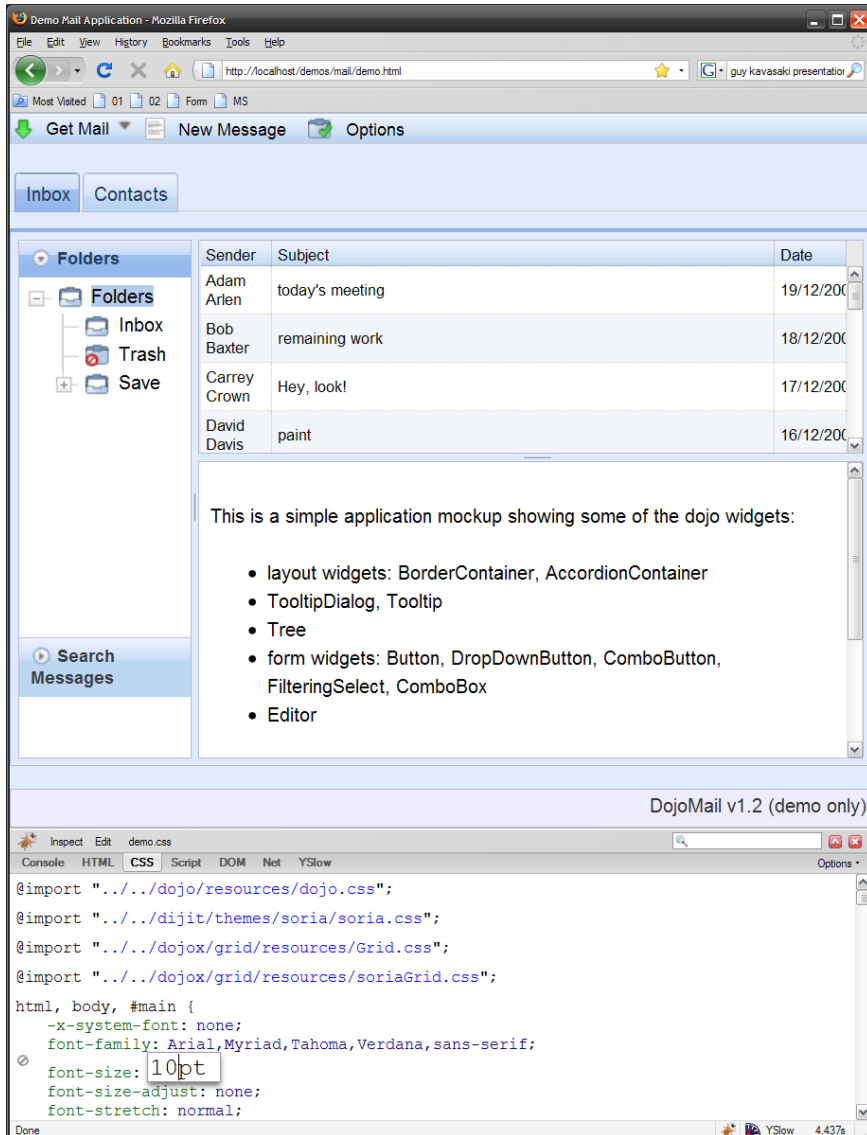
# HTML-Ansicht

- Elemente werden hervorgehoben
- HTML editierbar
- Rechte Maustaste  
→ Inspect um Elemente zu finden

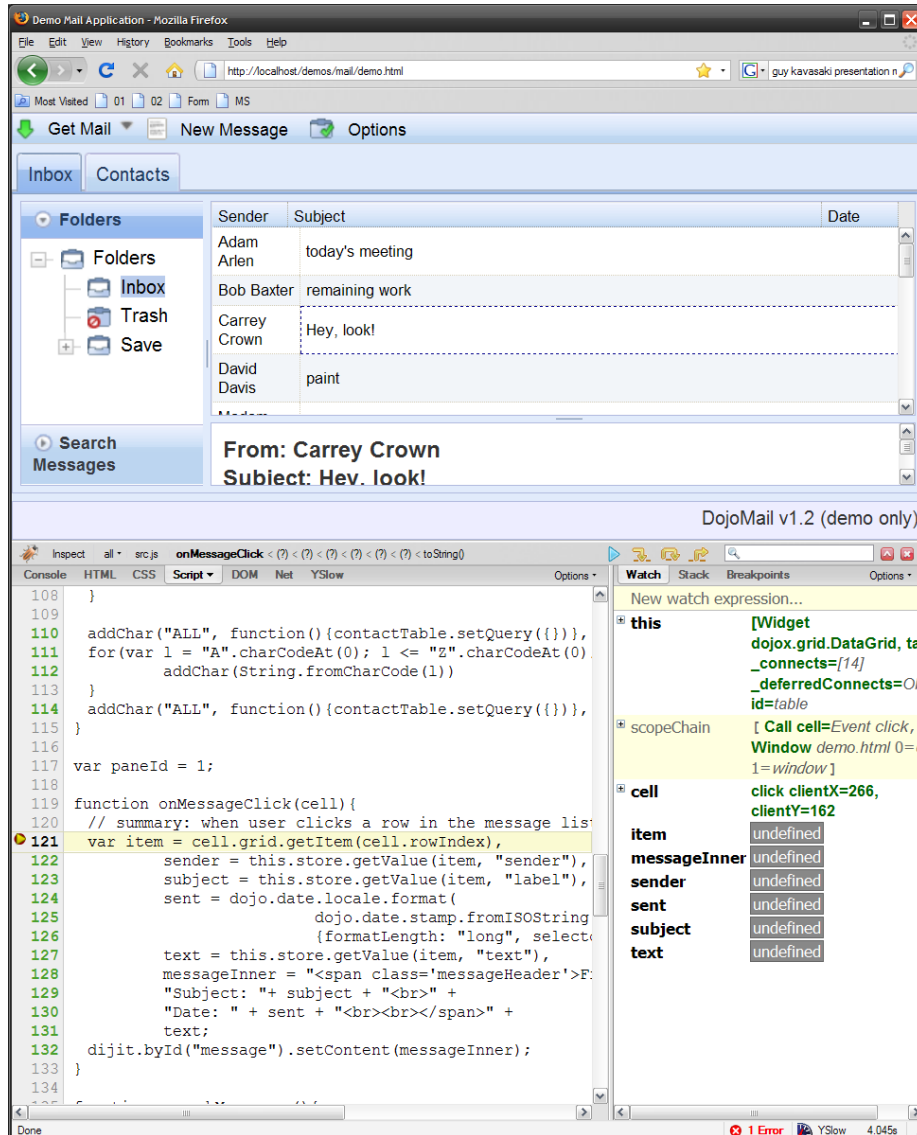


# HTML/CSS-Ansicht

- CSS kann durchsucht werden
- CSS editierbar & Live Update
- CSS-Vererbung sichtbar
- Box-Modell



# JavaScript-Debugger



- Full debugger
- Breakpoints
- Variable value on hover
- Step in, Step over, etc.
- Watches
- `debugger();`



# Netzwerk-Ansicht

The screenshot shows a Mozilla Firefox browser window displaying a demo mail application. The browser's address bar shows the URL `http://localhost/demos/mail/demo.html`. The application interface includes a navigation bar with 'Get Mail', 'New Message', and 'Options' buttons, and a sidebar with 'Inbox' and 'Contacts' tabs. The main content area displays a list of emails with columns for 'Sender', 'Subject', and 'Date'. Below the email list, the browser's developer tools are open, showing the 'Network' tab. The network view displays a list of requests, with the selected request 'GET treeI\_half' expanded to show its headers and response. The response headers include 'Date', 'Server', 'Last-Modified', 'Etag', 'Accept-Ranges', 'Content-Length', 'Keep-Alive', 'Connection', and 'Content-Type'. The request headers include 'Host', 'User-Agent', 'Accept', 'Accept-Language', and 'Accept-Encoding'. A yellow highlight in the network view shows the following timing information: '944ms : Queuing', '0ms : Receiving Data', '-1101ms : 'DOMContentLoaded' (event)', and '+953ms : 'load' (event)'.

Sender	Subject	Date
Adam Arlen	today's meeting	19/12/200
Bob Baxter	remaining work	18/12/200
Carrey Crown	Hey, look!	17/12/200
David Davie	paint	16/12/200

Request	Status	Size
GET tabContai	200 OK	3 KB
GET spriteChec	200 OK	774 B
GET spriteArro	200 OK	720 B
GET spriteRou	200 OK	2 KB
GET splitConta	200 OK	125 B
GET treeI_half	200 OK	65 B

**Response Headers**

- Date: Fri, 17 Apr 2009 01:18:04 GMT
- Server: Apache/2.2.11 (Win32) PHP/5.2.9-1
- Last-Modified: Thu, 26 Mar 2009 07:00:46 GMT
- Etag: "1000000016e6e-41-466002ce3c380"
- Accept-Ranges: bytes
- Content-Length: 65
- Keep-Alive: timeout=5, max=93
- Connection: Keep-Alive
- Content-Type: image/gif

**Request Headers**

- Host: localhost
- User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-GB; rv:1.9.0.8) Gecko/2009032609 Firefox/3.5.30729
- Accept: image/png, image/\*;q=0.8, \*/\*;q=0.5
- Accept-Language: en-gb,en;q=0.5
- Accept-Encoding: gzip, deflate

- Anzeige der Ladezeiten aller Elemente der Webseite
- HTTP-Header des Requests sowie der Antwort des Servers

# YSlow

The screenshot shows a Mozilla Firefox browser window displaying a demo mail application. The address bar shows the URL `http://localhost/demos/mail/demo.html`. The page content includes a navigation bar with 'Get Mail', 'New Message', and 'Options' buttons, and a list of emails in the inbox. The YSlow performance tool is open at the bottom, showing a comparison between 'Empty Cache' and 'Primed Cache' states. The 'Empty Cache' state shows a total size of 841.7K and 125 HTTP requests, while the 'Primed Cache' state shows a total size of 0.0K and 125 HTTP requests. A pie chart labeled 'Weight graphs:' is also visible, showing the distribution of resources. The status bar at the bottom indicates 'Done' and 'F 841.7K 3.295e'.

Category	Count	Size
HTML/Texts	3	16.0K
IFrame	1	0.07K
JavaScript Files	3	97.1K
Stylesheet Files	6	86.9K
CSS Images	20	31.3K
Images	2	2.9K
Unknowns	90	607.2K
<b>Total</b>		<b>841.7K</b>

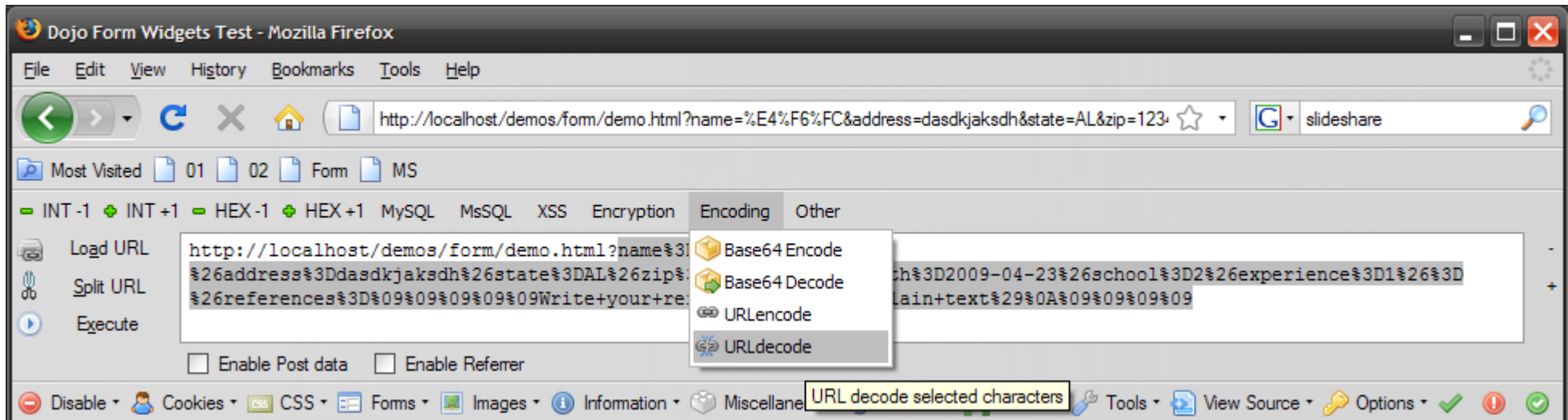
Category	Count	Size
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IFrame	1	0.0K
JavaScript Files	3	0.0K
Stylesheet Files	6	0.0K
CSS Images	20	0.0K
Images	2	0.0K
Unknowns	90	0.0K
<b>Total</b>		<b>0.0K</b>

- Performance-Analyse & Tipps
- Statistik über Ladezeiten
- JSLint & andere Tools
- Gedacht für „große“ Seiten

# „ME-Tools“

- XSS Me
  - Überprüft Forms auf Cross Site Scripting Probleme
  - Lange Laufzeit
  - Kein Wundermittel
- SQL Inject Me
  - Überprüft Datenbankzugriffe via Forms auf SQL-Injections
  - Ebenfalls kein Wundermittel

# Hackbar



- URL-Manipulation (encode/decode)
- XSS & SQL-Injection Überprüfung

# Firefox-Tools

- Webdeveloper  
Toolbar

- <https://addons.mozilla.org/en-US/firefox/addon/60>

- Firebug

- <https://addons.mozilla.org/de/firefox/addon/1843>

- YSlow

- <https://addons.mozilla.org/de/firefox/addon/5369>

- XSS Me

- <https://addons.mozilla.org/en-US/firefox/addon/7598>

- SQL Inject Me

- <https://addons.mozilla.org/en-US/firefox/addon/7597>

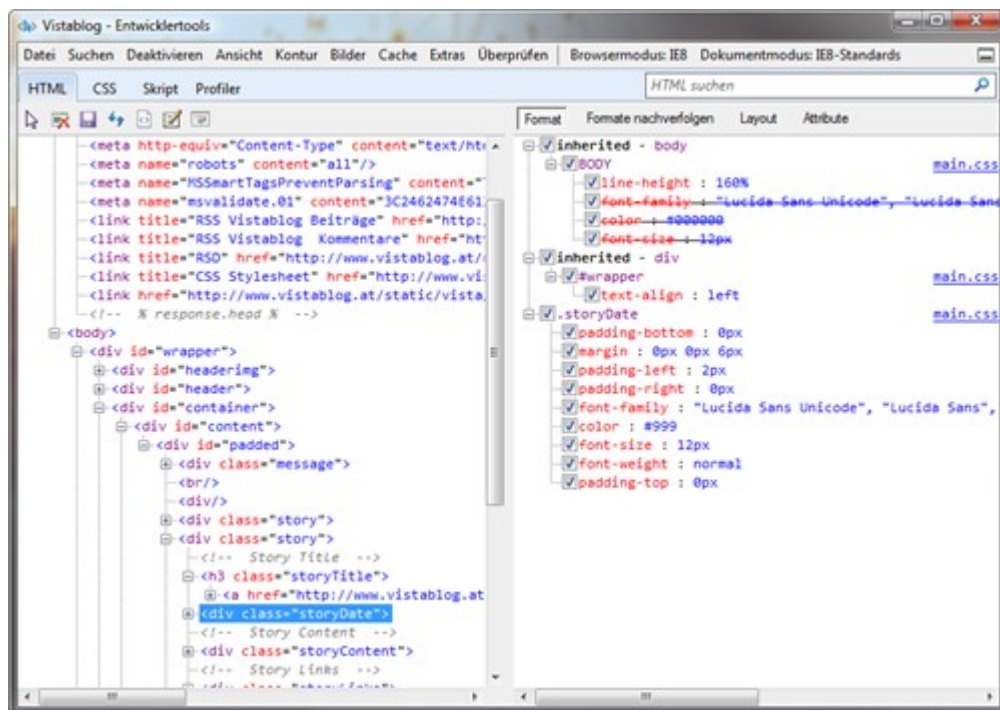
- Hackbar

- <https://addons.mozilla.org/en-US/firefox/addon/3899>

- Venkman  
JavaScript  
Debugger

- <http://www.mozilla.org/projects/venkman/>

# Internet Explorer 8 Entwicklertools



- Debugger
- Firebug-ähnlich
- On-the-fly  
Änderungen

• <http://www.microsoft.com/germany/windows/internet-explorer/default.aspx>

# Weitere IE-Tools

- Internet Explorer Developer Toolbar  
IEDevToolBarSetup.msi
- Companion.JS  
Javascript debugger for IE
- DebugBar (kostenpflichtig!)  
Development Bar (IE sidebar)
- Microsoft Script Debugger  
Scripting Debugging im IE

# Tools für Safari & Andere

- Safari Web Inspector
- Drosera Debugger
- Opera Dragonfly
- Fiddler Web Debugging Proxy
- Debugging using Apache as proxy



# Danke für die Aufmerksamkeit !

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