Extending your browser

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Who are Mozilla?

What is Firefox?

What is Mozilla Application Framework?

What is Gecko?

- Development began at Netscape in 1997

- Netscape 6 released

- AOL embed the Gecko engine

- In 2003, AOL lay off all Gecko Developers

- Mozilla foundation

- Currently developing Gecko 1.9

- Applications built using the Mozilla Application Framework or parts of.

  - Joost (The Venice Project)
  - XCube
  - Thunderbird
  - K-Meleon
  - eXe
  - Nvu
  - Flock
  - FireFTP
  - Swiftfox
  - XulRunner

  - Chatzilla
  - Camino
  - Democracy Player
  - Songbird
  - Epiphany
  - Galeon
  - SeaMonkey
  - MiniMo
  - Firefox

Anatomy of Mozilla Application Framework

1. Gecko
2. XPCOM
3. Necko
4. XUL
5. XBL
6. XPConnect
7. XPInstall
8. Web Services
9. Others

- Rich programming API
- Standards support
  - HTML 4.0
  - CSS Level 1 (partial support for CSS 2 and 3)
  - JavaScript 1.7 (ECMAScript)
  - DOM Level 1 and 2 (partial support for DOM 3)
  - XML 1.0
  - XHTML 1.1
  - MathML
  - XForms (via an official extension)
  - SVG (Partial SVG 1.1 support*)
  - RDF
  - Canvas

- Cross platform component object model, similar to Microsoft COM

- Multiple languages

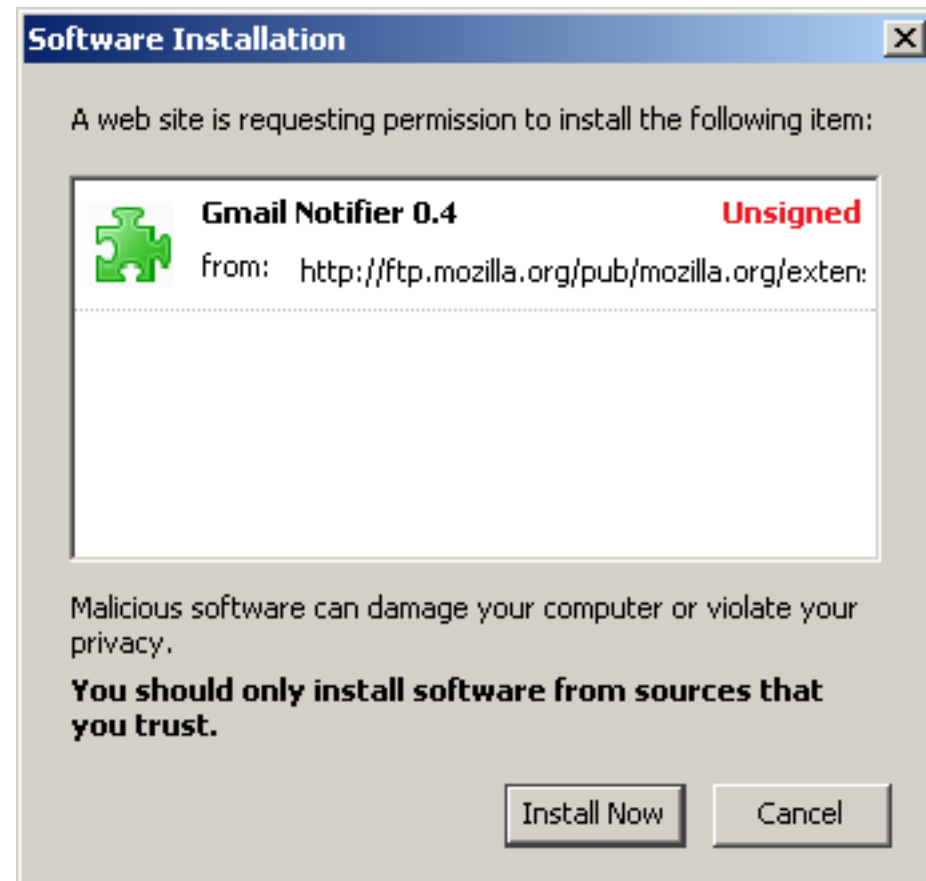- XPIDL interface

- Provides a set of core components and classes

- Necko is an extensible, scriptable API for client-side networking tasks built on XPCOM.

- XML User Interface Language
- Uses many existing standards and technologies
- Localizable
- Can be run remotely
  - application/vnd.mozilla.xul+xml

- XML Binding Language is a language for describing bindings that can be attached to elements in other documents

- XML Syntax for describing those bindings

- Bound using CSS and the -moz-binding property.

- Nice way to template XUL

- XPConnect is a bridge between JavaScript and XPCOM.

- Security Issues

- Installing extensions or applications

- Format of an XPI

- Security

Software Installation

A web site is requesting permission to install the following item:

Gmail Notifier 0.4   **Unsigned**

from: http://ftp.mozilla.org/pub/mozilla.org/exten:

Malicious software can damage your computer or violate your privacy.

You should only install software from sources that you trust.

Install Now   Cancel

- XML-RPC

- SOAP

- WSDL

- XMLHttpRequest

- DTD
- RDF
- XSLT/XPATH
- MathML
- SVG
- Javascript
- SQLLite
- LDAP

- Session Storage
- OpenSearch
- MicroSummaries
- Spell Check
- SAX Parser
- DOM Parser

Firefox - Not just a browser

Firefox is not just a browser

- ➢ Add-ons (extensions)
- ➢ Plugins
- ➢ Themes
- ➢ Profiles

"Add-ons extend Firefox, letting you personalize your browsing experience. They can make a tiny tweak, or bring a whole new range of features to your favourite browser."
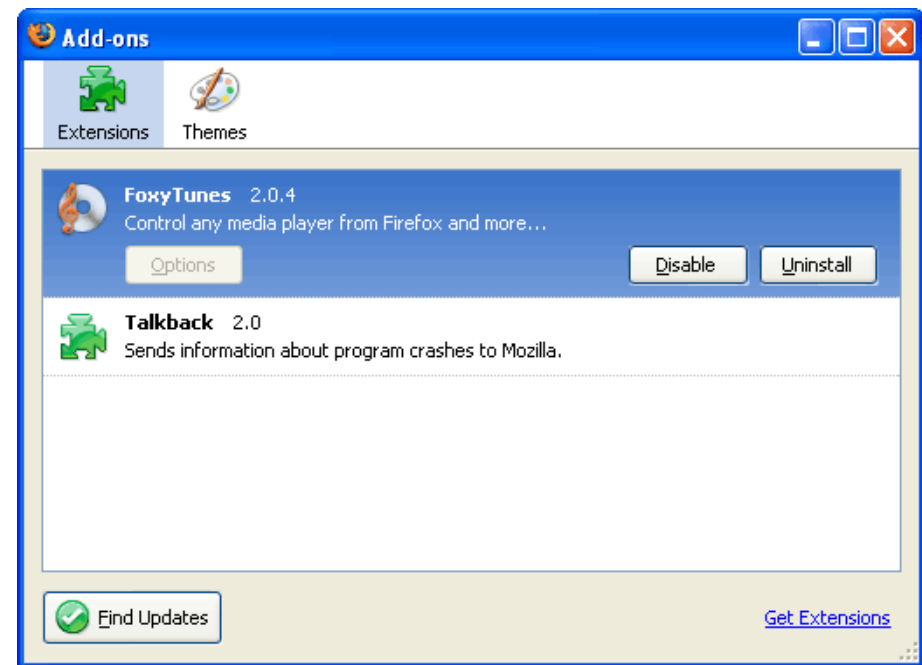
"Plugins help your browser perform specific functions like viewing special graphic formats or playing multimedia files. Plugins are slightly different from extensions, which modify or add to existing functionality. "
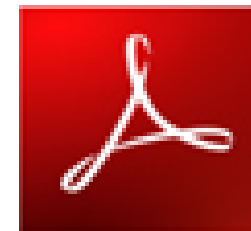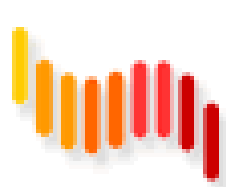
"Themes are like new clothes for your Firefox. A theme can change only a few colors, or every piece of Firefox's appearance. It's another great way to personalize Firefox to your tastes."

- Personal Settings

- Bookmarks

- History

- Passwords

- Extensions

- Themes

- Viewing Code

- Code/Directory structure
  - chrome
  - components
  - extensions
  - plugins
  - res
  - searchplugins
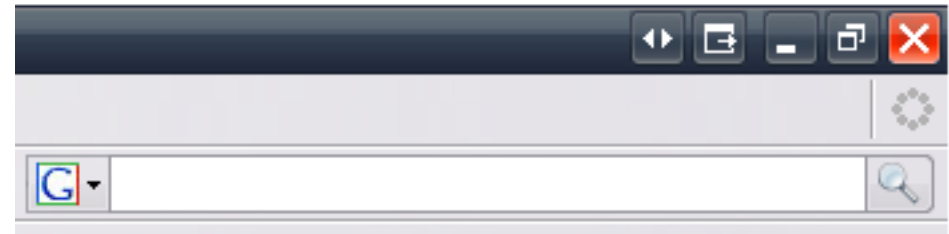
Firebug (getfirebug.com)

"Firebug integrates with Firefox to put a wealth of development tools at your fingertips while you browse. You can edit, debug, and monitor CSS, HTML, and JavaScript live in any web page."
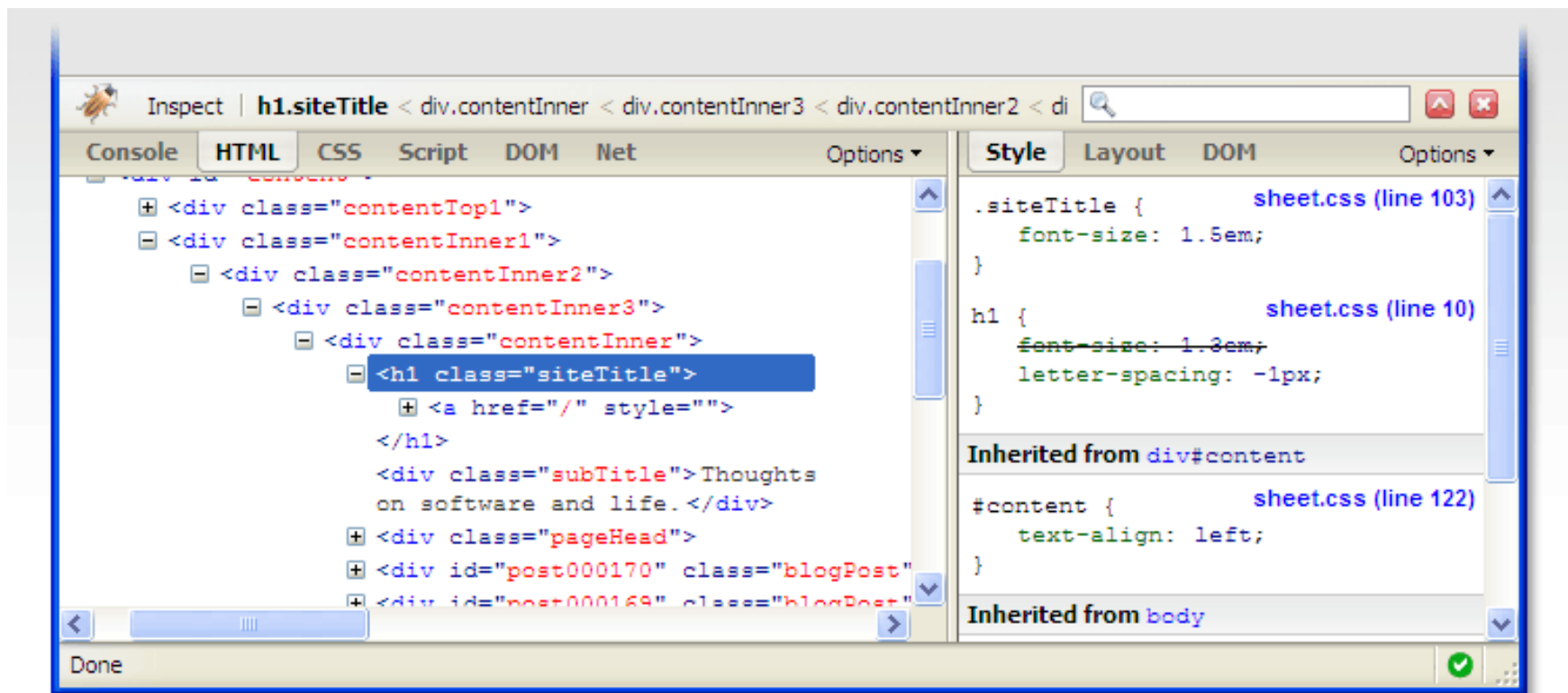
Clipmarks (clipmarks.com)

"Clipmarks lets you clip and tag pieces of web pages. Whether it's a compelling paragraph in an article, interesting quotes, facts or tidbits, or a cool image, Clipmarks lets you save and share the best stuff you find on the web without having to bookmark the entire page. "
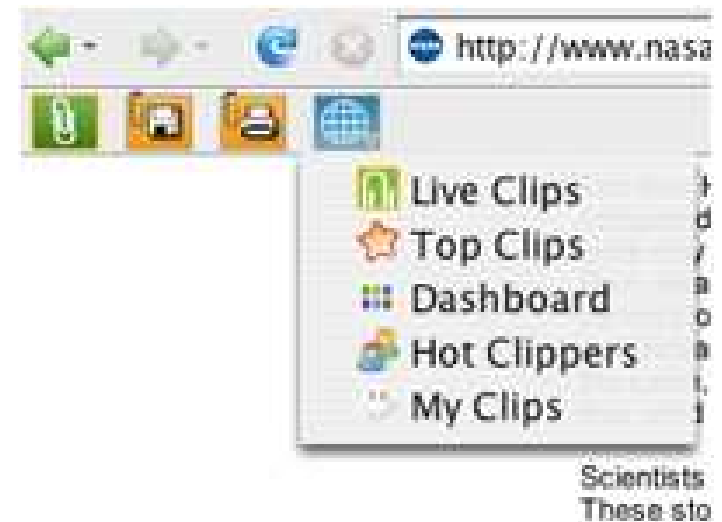
Greasemonkey (userscripts.org)

"Allows you to customize the way a webpage displays using small bits of JavaScript. "
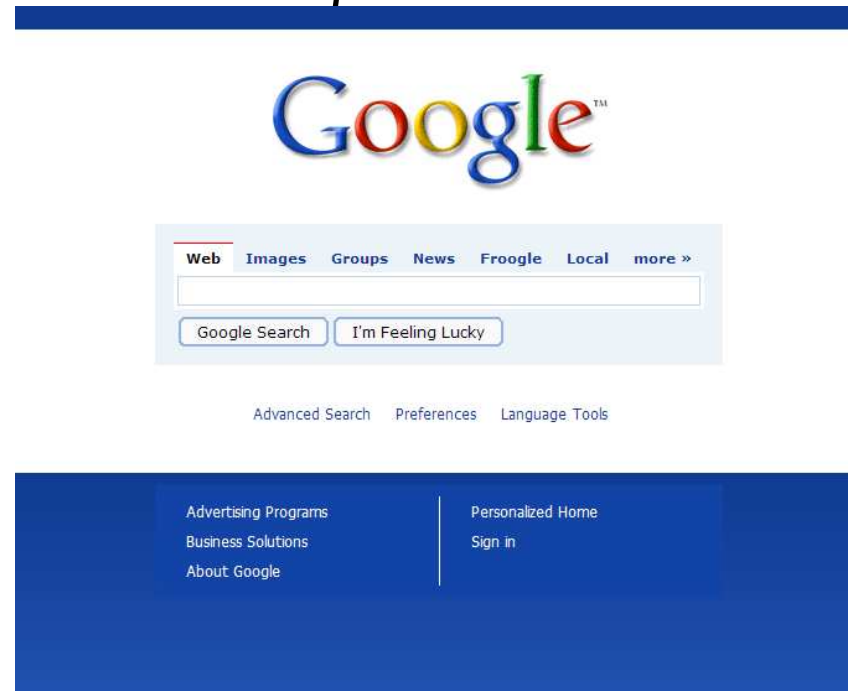
Aggreg8 (aggreg8.mozdev.org)

RSS feed aggregator built as a Firefox extension.

- RDF (Resource Description Framework)

- Firefox has built in support for querying RDF databases

- Aggreg8 uses RDF to store all the feed subscriptions

- Javascript is used for all of Aggreg8's functionality

- Interfacing with built in components

- Writing new subscriptions to the RDF database

- Building up and displaying the parsed RSS feed

- Aggreg8 uses CSS to style the parsed RSS feeds.

- Style sheet switcher to switch between multiple page styles.

- XUL is used to specify the user interface for Aggreg8, the feed tree, the display panel, the subscriptions form etc.

- Overlays – using the overlays feature we are able to add our extension to Firefox's existing chrome.
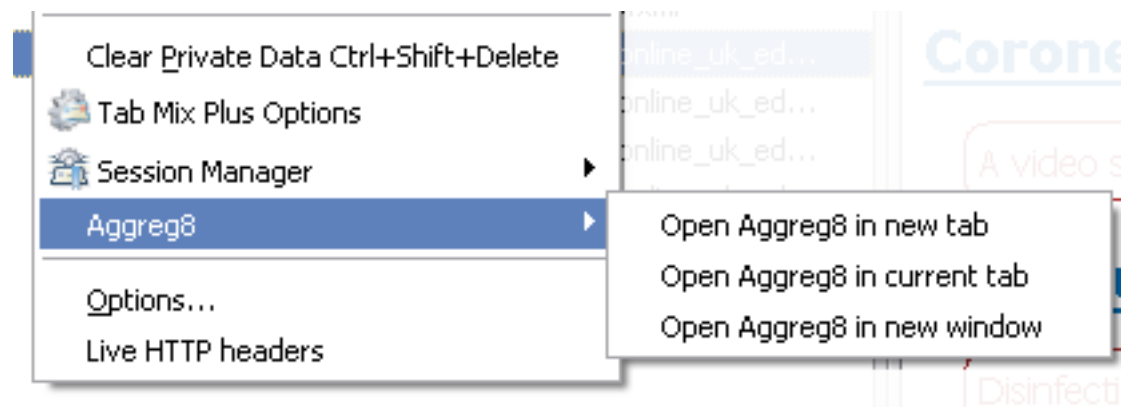
- All Firefox extensions and themes can be localized.

- Localizing an XUL interface is achieved using DTD (Documents Type Definition) files.

- javascript property strings are used for localization.

- Where the XUL could use the DTD for localized strings, the javascript uses, string property files to specify all the language specific content.

Build script

- creates the jar archive containing all the extensions code.

- Creates the XPI zip archive containing the jar archive, the install manifest and the install script.

Finished product

- Eclipse (Eclipse.org)
  - Aptana
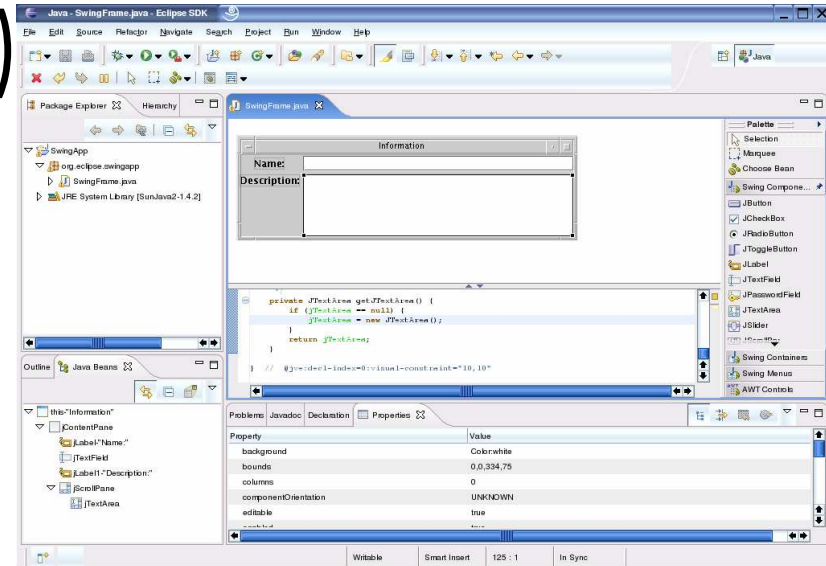
- Internet Explorer 7 extensions (ieaddons.com)

The End

http://www.philroche.net/downloads

- developer.Mozilla.org

- Mozdev.org

- XULPlanet.com

- www-128.ibm.com/developerworks

- Wikipedia.org

- Roachfiend.com

- simon-cozens.org