From Chaos to Order (and back!): How thousands of people collaborate on a global scale to create Firefox

Tristan Nitot, President & Founder, Mozilla Europe
What is Mozilla?
The Mozilla project

- We build software
- Firefox, anyone?
- We build communities
- 75 languages for Firefox 3.5.
- 800,000 Beta testers
- 300 million active users
- We have a vision of the Internet
This isn’t it
nor this...
The Mozilla Manifesto 1/2

• The Internet is an integral part of modern life – a key component in education, communication, collaboration, business, entertainment and society as a whole.

• The Internet is a global public resource that must remain open and accessible.

• The Internet should enrich the lives of individual human beings.

• Individuals’ security on the Internet is fundamental and cannot be treated as optional.

• Individuals must have the ability to shape their own experiences on the Internet.
• The effectiveness of the Internet as a public resource depends upon **interoperability** (protocols, data formats, content), **innovation** and **decentralized participation** worldwide.

• **Free and open source software** promotes the development of the Internet as a public resource.

• Commercial involvement in the development of the Internet brings many benefits; a **balance between commercial goals and public benefit** is critical.

• Magnifying the public benefit aspects of the Internet is an important goal, worthy of time, attention and commitment.

http://www.mozilla.org/about/manifesto
What I’ll focus on today:
Decentralized Participation
How does the Mozilla project work?

Mass participation
VP of Engineering
Daily users
(approx 330M)

Contributors
Nightly testers
Beta testers
IM
37% of the code contributed to Firefox since November ’06 has come from the community.
From Chaos to Order
Chaos

Anyone can propose a change

<table>
<thead>
<tr>
<th>Bug #</th>
<th>Dupe Count</th>
<th>Change in last 30 day(s)</th>
<th>Component</th>
<th>Severity</th>
<th>Op Sys</th>
<th>Target Milestone</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>247116</td>
<td>64</td>
<td>5</td>
<td>Toolbars</td>
<td>normal</td>
<td>All</td>
<td>---</td>
<td>Web pages bounce/shake/jump when &quot;Bookmarks Toolbar Items&quot; is empty and placed to right of menu bar</td>
</tr>
<tr>
<td>319196</td>
<td>115</td>
<td>4</td>
<td>Startup and Profile System</td>
<td>blocker</td>
<td>Windows XP</td>
<td>Firefox 3 beta1</td>
<td>customized toolbar always reset to default on restart, bookmarks and search engines lost, unable to add search engines (localstore.rdf corruption on upgrade or crash). SEE URL FIELD FOR SUPPORT LINK</td>
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<tr>
<td>351819</td>
<td>9</td>
<td>2</td>
<td>Extension/Theme Manager</td>
<td>normal</td>
<td>All</td>
<td>---</td>
<td>When installing an incompatible extension that is made compatible via its update rdf the Restart button is not enabled</td>
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<tr>
<td>334065</td>
<td>8</td>
<td>2</td>
<td>Menus</td>
<td>normal</td>
<td>Mac OS X</td>
<td>---</td>
<td>Click and hold / Long mouse click brings up no right click / ctrl click / context menu.</td>
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<tr>
<td>311438</td>
<td>19</td>
<td>2</td>
<td>Toolbars</td>
<td>normal</td>
<td>All</td>
<td>---</td>
<td>Blank strip or bar appears in top chrome over time, or when dragging tabs</td>
</tr>
<tr>
<td>283697</td>
<td>33</td>
<td>2</td>
<td>Preferences</td>
<td>normal</td>
<td>All</td>
<td>Firefox 3 beta1</td>
<td>Firefox Options (Preferences) panels are cropped (cut off)</td>
</tr>
<tr>
<td>260553</td>
<td>11</td>
<td>2</td>
<td>Bookmarks</td>
<td>major</td>
<td>Windows XP</td>
<td>---</td>
<td>Bookmarks disappear after power outage and/or crashes</td>
</tr>
<tr>
<td>253331</td>
<td>7</td>
<td>2</td>
<td>Search</td>
<td>normal</td>
<td>Windows XP</td>
<td>---</td>
<td>Search bar's text should be cleared after a search is performed</td>
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<tr>
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<td>normal</td>
<td>Windows NT</td>
<td>---</td>
<td>Can't delete &quot;Bookmarks Toolbar Folder&quot;</td>
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<tr>
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<td>Bookmarks</td>
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<td>All</td>
<td>Firefox 3 beta1</td>
<td>Bookmarks menus should be sticky (should remain open in some cases)</td>
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<tr>
<td>375710</td>
<td>7</td>
<td>1</td>
<td>Software Update</td>
<td>major</td>
<td>Windows XP</td>
<td>---</td>
<td>Firefox wants to downgrade to 2.0.0.2 from 2.0.0.3</td>
</tr>
<tr>
<td>370219</td>
<td>6</td>
<td>1</td>
<td>Software Update</td>
<td>normal</td>
<td>Windows XP</td>
<td>---</td>
<td>add xpicleanup.dat to removed-files.in on trunk and MORKILLA 1.0 BRANCH</td>
</tr>
</tbody>
</table>
Anyone can *comment* on a proposal for a change.
Anyone can submit a change to the code.

```javascript
Index: browser/base/content/browser.js

RCS file: /cvsroot/mozilla/browser/base/content/browser.js,v
retrieving revision 1.777
diff -u -B -p -r1.777 browser.js
--- browser/base/content/browser.js 13 Apr 2007 01:26:38 -0000 1.777
+++ browser/base/content/browser.js 14 Apr 2007 23:36:20 -0000
@@ -1818,16 +1818,18 @@
 @function addBookmarkForBrowser(aDocShell
     title = url;
 )
 BookmarksUtils.addBookmark(url, title, charSet, aIsWebPanel, description);
 #endif

function openLocation()
 {
     if (window.fullScreen)
         FullScreen.mousedownToggle(true);
     if (gURLBar && isElementVisible(gURLBar)) {
         gURLBar.focus();
         gURLBar.select();
         return;
     }
 #ifndef XP_MACOSX
     if (window.location.href != getBrowserURL()) {
         var win = getTopWin();
 @@ -3090,16 +3092,18 @@ const BrowserSearch = {

 win = window.openDialog("chrome://browser/content/", "_blank",
```
Not everyone can *approve* a change
Strong leadership structure
Mike Beltzner, Director of Firefox
Delegating authority: Module Ownership

- A Module is a collection of source files that form a coherent bundle.
- An Owner is the person in charge of a Module.
- A Peer is a person whom the Owner has designated to help maintain the Module.
- If a Module has an Owner, the Owner or a Peer should in general review all code changes that go into that module.
Order

Multiple Code Reviews
Order

Multiple Code Reviews

Submit Patch (anyone)
Multiple Code Reviews

Submit Patch (anyone) → Module Owner Code Review
Multiple Code Reviews

1. Submit Patch (anyone)
2. Module Owner Code Review
3. Super Review
Multiple Code Reviews

1. Submit Patch (anyone)
2. Module Owner Code Review
3. Super Review

Trunk Check-in
Multiple Code Reviews

Submit Patch (anyone) -> Module Owner Code Review -> Super Review

Trunk Check-in -> Release Team Review -> Release Branch Check-in
Multiple Code Reviews

Order

Submit Patch (anyone) → Module Owner Code Review → Super Review

Trunk Check-in → Release Team Review → Release Branch Check-in
What about innovation?
Issue: the process limits participation

- Steep learning curve
- Difficult to share experiments between users
- Release cycle getting in the way
Solution: Add-ons
Add-ons

• Little interference with release cycle
• Lower (technical) barrier to entry
• Ability to share prototypes with others
• Long tail of innovation
• Best ideas may be featured in a future version of Firefox (if useful for a majority and not introducing complexity)
Add-ons examples

• **Weave**: synchronizing user profiles across several Firefox instances (including mobile)

• **AdBlock+**: blocks advertising

• **Flashblock**: blocks Flash applets

• **CustomizeGoogle**: adds features to Gmail, remove redirects from search results

• **MassPasswordReset**: makes it easier to change your corporate password

• **BetterPrivacy**: removes ad-related tracking cookies

• **ThiTan**: Shortcut to create a wiki link and puts it into the clipboard
Issue: (even) more people could participate

- Despite add-ons, the learning curve is still too steep
- Non technical people are less likely to participate. What about designers?
- 330 million users, but only several thousand participants. How can we extend the reach of participation?
Enter Mozilla Labs

- Encourage Open Innovation through participation
- Monthly events IRL
- Dozens of experiments
- Organizing Contests
- Forums to encourage discussion and information sharing
Ubiquity

• “An experiment of connecting the Web with language”

• A command-line to interact with the Web

• Ability to easily create “verbs” to extend Ubiquity’s vocabulary and power.
Add-ons by Web devs

- Simple set of APIs enabling Web developers to create add-ons
- Lower barrier to entry, enable more participation
Personas: theming for non-tech users

What will your browser wear today?

Personas are lightweight, easy-to-install and easy-to-change "skins" for your Firefox web browser.
Mozilla Creative Collective

- Grow the graphic design community
- Enable community-generated artwork
How can you participate?

• Use Firefox

• Use add-ons - addons.mozilla.org

• Spread the word
  spreadfirefox.com

• Give us feedback - http://hendrix.mozilla.org/

• Write an Add-on
  developer.mozilla.org

• Become a contributor
Thank you!
nitot@mozilla-europe.org