

mozilla

Mozilla & Firefox

Sylvestre Ledru

- N'hésitez pas à m'interrompre !
- (désolé, c'est la seule phrase en Français)

Who am I ?

36

- Curriculum
 - DEUG MIAS (first year)
 - DUT informatique de gestion
 - IUP MIAGE
 - DESS informatique distribuée (Paris XII)

Who am I ?

Before Mozilla

- PhD in Australia & Paris XII (3 months)
- Worked for two years in a Geophysics company in Melbourne

Who am I ?

Before Mozilla

- Inria on Scilab (+ Digiteo + Scilab Enterprises) for 7 years
- Debian for 9 years – LLVM/Clang for 5/6 years

Who am I ?

Before Mozilla

- Mozilla for two year – Release manager
- Lead of the release management & stability teams – 10 people
- Lead of the Mozilla French branch

About:Mozilla

- Adventure started by Netscape (~1994)
- Failed against Microsoft (Internet Explorer)
- Decided to open the sources of Netscape



- Documentary about this period:

Code rush:

<https://www.youtube.com/watch?v=u404SLJj7ig>

About:Mozilla

Brought by AOL in 1998

- AOL gave some money to the Mozilla Foundation in 2003
- Mozilla was nothing
- Massive refactorings
- Firefox 1.0 released 11 years ago
 - A game changer (popup blocker, tab,



mozilla
FOUNDATION

About:Mozilla

About 1050 employees

12 offices (Mountain View, SF, Toronto, Taipei, Paris, etc)

- Revenue of \$423M (2015)
 - Mainly from the search deal
 - Google before 2015, now Yahoo and others (incl G again)
- Salaries ?
 - Important competition with Fb, Twitter, Google, etc
 - Bonus



About:firefox

About:Firefox

- Web browser with ~500 million users
- About 14.5M Lines of code
- Only (major) browser developed by a non-profit
- Support 4 operating systems:
 - Microsoft Windows XP => 10 (32 & ~64 bit)
 - GNU/Linux
 - Mac OS X
 - Android

iOS – not based on Gecko

About:Firefox

- Second or third browser in term of market share
- 12 to 22 % market share
 - (don't trust them too much)
- Chrome started in 2008

About:Code







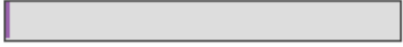





Gecko is the based of Firefox

And ... Thunderbird, Seamonkey and
Firefox OS (rip)

... has had 331 176 commmits made by 4214
contributors representing 14 563 143 lines of code

Average of 400 developers / month

About:Code

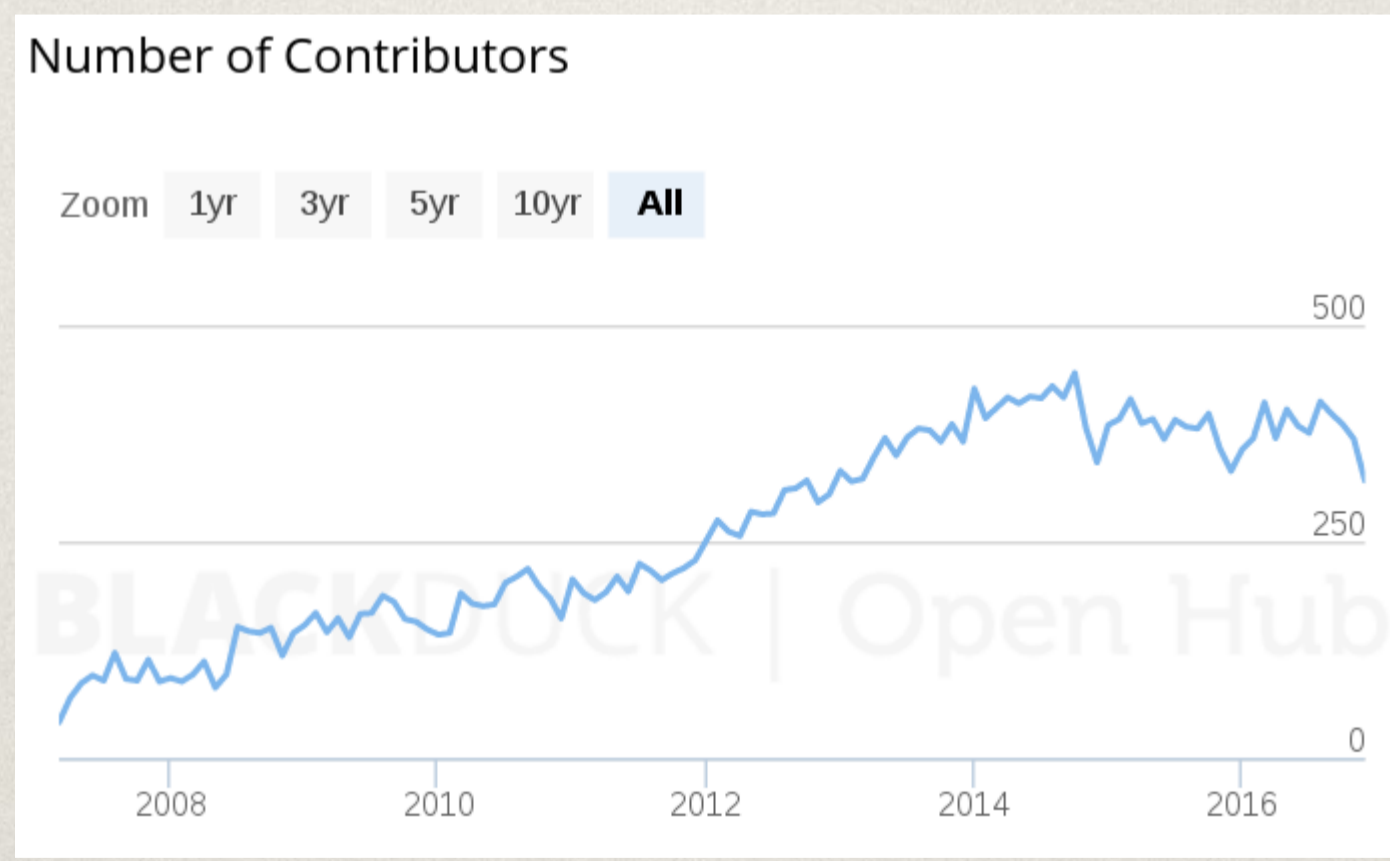
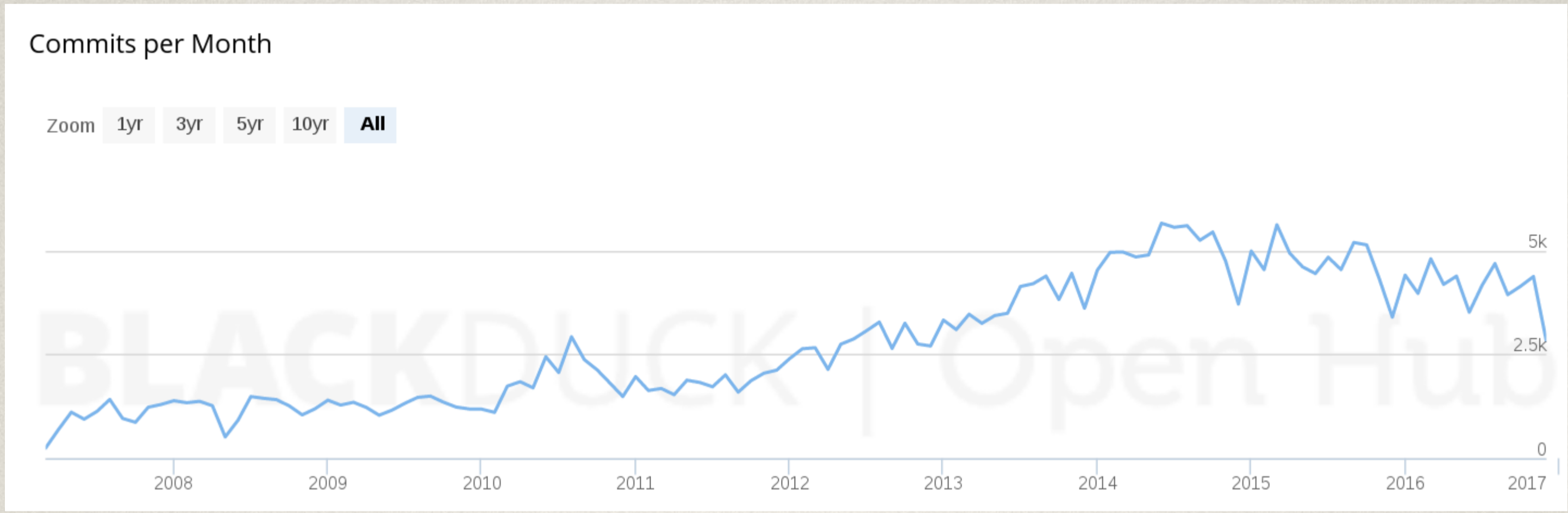
Language	Code Lines	Comment Lines	Comment Ratio	Blank Lines	Total Lines	Total Percentage	
C++	5,099,006	1,115,449	17.9%	997,721	7,212,176		36.1%
JavaScript	3,154,539	594,394	15.9%	575,514	4,324,447		21.6%
C	2,207,294	662,537	23.1%	364,853	3,234,684		16.2%
HTML	1,957,821	125,954	6.0%	216,383	2,300,158		11.5%
XML	528,409	14,437	2.7%	39,813	582,659		2.9%
Python	513,234	149,852	22.6%	129,391	792,477		4.0%
Java	242,962	89,116	26.8%	52,638	384,716		1.9%
Assembly	173,889	21,224	10.9%	26,685	221,798		1.1%
CSS	167,416	11,049	6.2%	28,610	207,075		1.0%
Autoconf	139,636	2,244	1.6%	19,375	161,255		0.8%
shell script	96,016	17,554	15.5%	13,060	126,630		0.6%
Rust	63,651	3,245	4.9%	3,522	70,418		0.4%

Source :
openhub

https://www.openhub.net/p/firefox/analyses/latest/languages_summary

Some Lovely Graphs

Healthy open source project?



Firefox Releases

- One major release every 6 to 8 weeks
- ESR – lock-step with major releases, security focus
- In parallel, 3 other feedback *branches* :
 - Nightly - updated daily with recent code changes
 - Developer Edition (a.k.a Aurora) + aurora on mobile - updated on change
 - Beta – 2 per week Desktop – 1 for Mobile
- Managed by 4 people

More about ESR

Major ESR (Extended Support Release) version is created every ~12/13 months, with two cycles of overlap with the prior version

- Security (high/critical) every 6 weeks (in sync with Firefox)
- Other issues by request from mailing list community
- Used by some GNU/Linux distributions (example: Debian), major companies, universities, etc
- Active community mailing list, various sized orgs
- Base for Thunderbird & Seamonkey

Many companies & projects contributing


- Tor
- Google
- Microsoft
- Telefonica
- Red Hat
- Cisco
- Adobe
- FreeBSD
- ...

Release management

Making sure that Firefox releases are released in good shape and on time, deciding when to build & when to wait for patches.

Coordinate work between :

- Quality Engineering
- Stability
- Release Engineering
- Firefox Developers
- L10n
- Security
- User Advocacy
- Addons
- Marketing
- ...

[[]]


mozilla wiki

Log in Request account

Page Discussion Read View source View history Search

New feature! You can now embed Google documents ([how-to](#)), calendars ([how-to](#)), presentations ([how-to](#)) and spreadsheets ([how-to](#)).
[Read more](#) about January's MozillaWiki releases.

Release Management

 **Firefox**

Quick Links

- [Release Calendar](#)
- [Release Process](#)
- [Current and Past Releases](#)
- [Public Firefox Merge/Release Scheduling Calendar](#)
- [Release Scheduling Calendar](#) [\(more detailed\)](#)

Hello!

Quality

- A web browser is comparable to an OS (network, JIT, video, sound, parallel, etc)
- Platform to run untrusted code
- Complex code base with legacy code
- Hard to test all cases + test suites are time consuming



Firefox : Next steps ?

Quantum project

- Reboot of Firefox
- Developed using Rust
- Based on the results of the servo project
- Create a *wahou* effect

The Quantum initiatives 1/2

- Quantum DOM
More responsive
Freezing some JS executions
- Quantum Compositor
Move compositor into its own process
- Quantum Flow
UI optimization
Perception of the performances

The Quantum initiatives 2/2

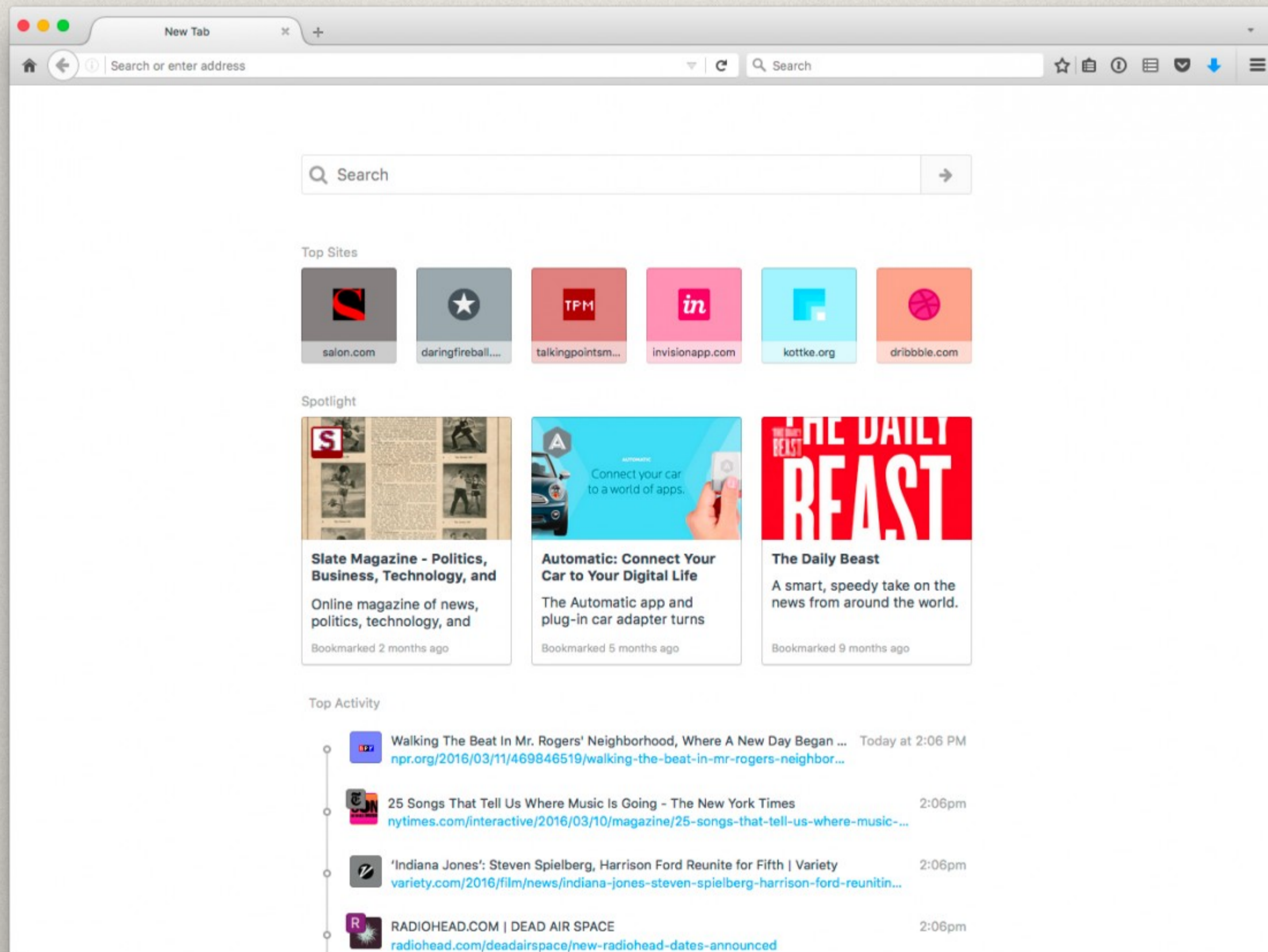
- Quantum Renderer (aka Webrenderer)
Page rendering is faster – GPU rendering
- Quantum Style (aka Stylo)
CSS system
- Photon UI
New and responsive UI

Dawn project

- Kill aurora to ship faster
- Improve the quality of nightly
 - Static analysis integrated in the workflow of the developers
- Code coverage – JS, C, C++, Rust & Java
- Infer the cause for new crashes
- Risk assessment

More

- Activity stream





How to contribute ? Demo

Basic rules

Don't be shy. We have all been beginners at some point

- RTFM
- Find a mentor/friend to guide you
- Use Firefox nightly

Report bugs - <https://bugzilla.mozilla.org/>

Think small

- Try to build Firefox
- Start with a small bug
- Easy example : remove a C/C++ warning
 - Don't try to fix a big issue
 - *You will probably fail*
- Workflow/procedure represent an important part of the contribution process

Demos

- <https://whatcanidoformozilla.org/>
- <http://www.joshmatthews.net/bugsahey/>
- https://dxr.mozilla.org/mozilla-central/source/uriloader/exthandler/unix/nsOSHelperAppService.cpp?q=nsOSHelperAppService.cpp%3A735&redirect_type=direct#735
- https://dxr.mozilla.org/mozilla-central/source/dom/base/nsGlobalWindow.cpp?q=nsGlobalWindowp&redirect_type=direct#13623

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Questions ?

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