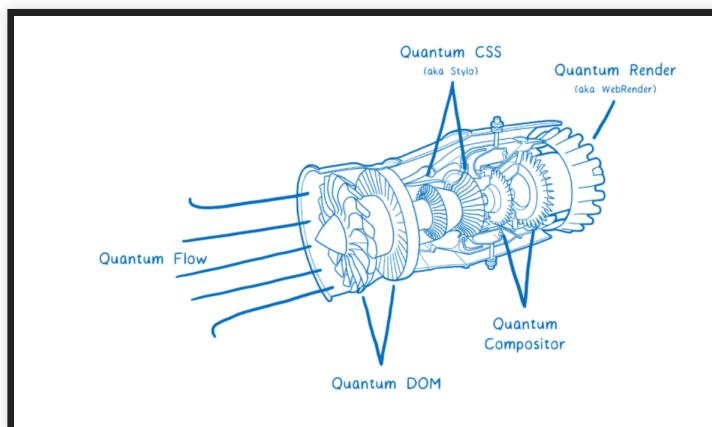


RUST, SERVO AND FIREFOX QUANTUM

The history through a personal tale



I'M STEFANIA DELPRETE

astrastefania on LinkedIn, Twitter, GitHub...

ONCE UPON A TIME...

JULY 2010

Rust, a personal project by Graydon Hoare, became officially sponsored by Mozilla Research and launched at the Mozilla Summit 2010.

**FAST FORWARD, FEW
YEARS LATER...**

MAY 2015

Rust programming language reached its 1.0
stability milestone!

WHY?

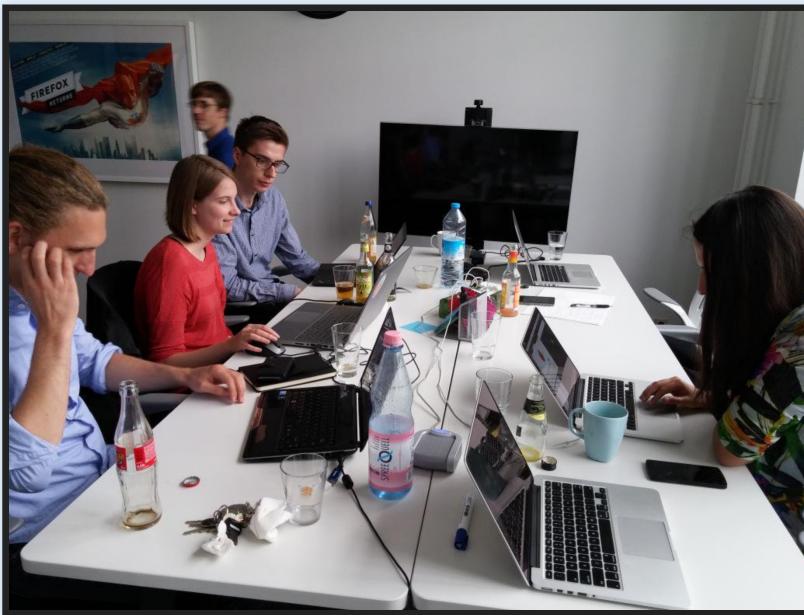
safety

speed

concurrency

JULY 2015

In the meantime I landed in Berlin where I attended my first Mozilla event and ended up working on a bug with David Bryant.



SEPTEMBER 2015

Three friends in a pub ready to change the world...

NOVEMBER 2015

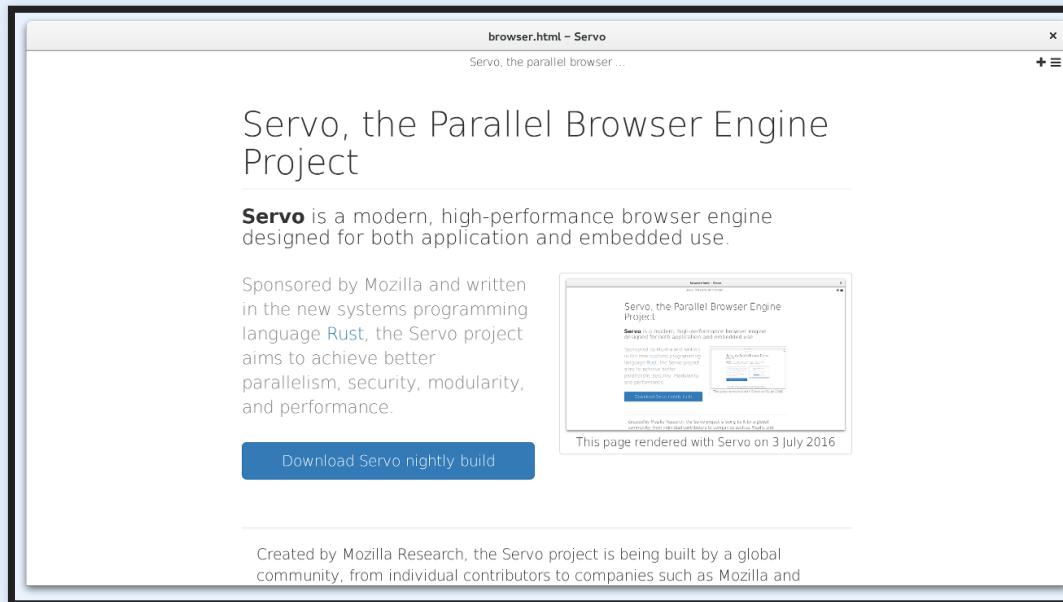
First Mozilla Berlin Tech Weekend where I really discover Servo, and Rust, with Till Schneidereit talk ["Mozilla's Parallel and Safe Next-Generation Browser Engine"](#).

"Rust makes parallelization feasible"



FEBRUARY 2016

And than it was time to play with Rust and Servo!



MAY 2016

Servo and Rust communities kept expanding, there were projects to test [Servo in HTML](#) and frequent Rust MeetUp events and study groups

AUGUST 2016

Rust is used for the first time in Firefox 48 to fix an MP4 metadata parser.

The [Oxidation Project](#), integrating Rust code in and around Firefox, became real!

SEPTEMBER 2016

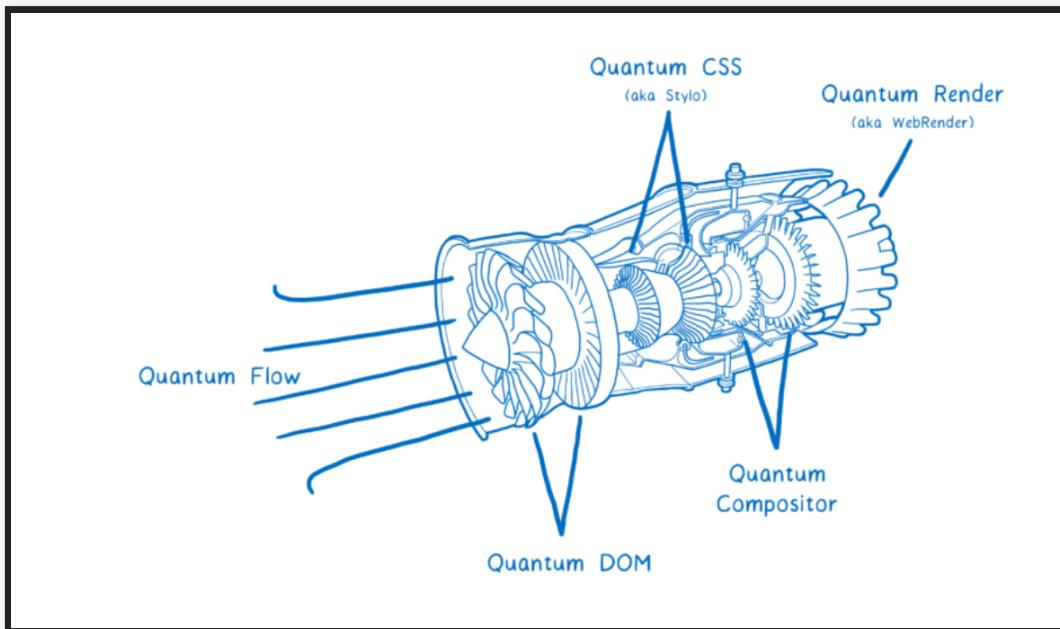
After the View Source I went back in Italy and started exploring the local open source scene.



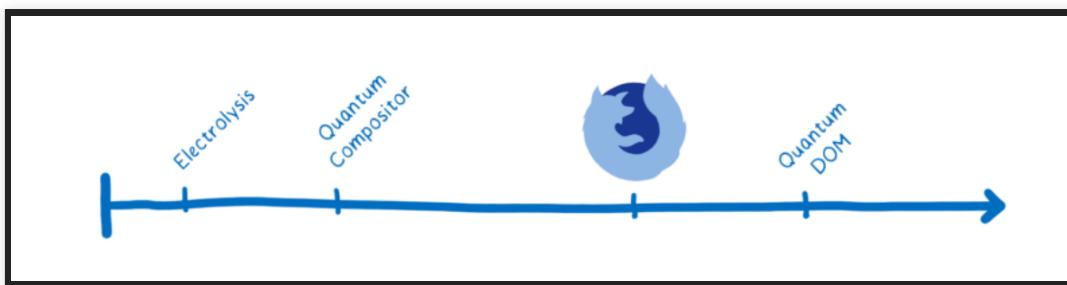
OCTOBER 2016

David Bryant announced the Quantum Project:
"Quantum is our effort to develop Mozilla's next-generation web engine and start delivering major improvements to users by the end of 2017. [...] Quantum has a number of components, including several adopted from the Servo project."

THE QUANTUM PROJECT...



... AND ITS TIMELINE



JANUARY 2017

I'm back in Berlin for ten intense days, talking about Quantum, data science and [comparing browser page load time](#).

APRIL 2017

First part of the Quantum Project in [Firefox 53](#): the
Quantum Compositor!

QUANTUM COMPOSITOR

"Compositors are responsible for flattening all of the various elements on a webpage into a single image to be drawn on the screen."

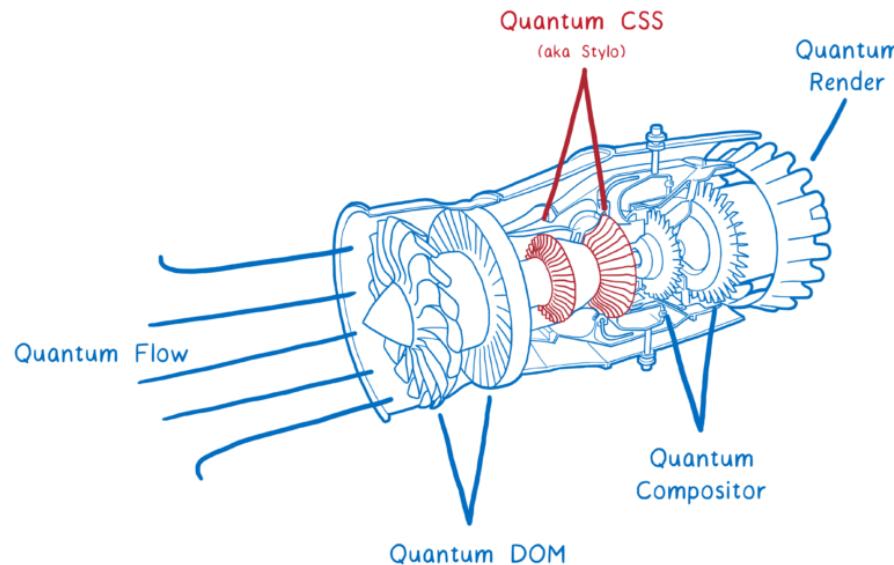
" Quantum Compositor moved the compositor to its own process. The biggest win here was that it made Firefox more stable. Having a separate process means that if the graphics driver crashes, it [won't crash all of Firefox.](#)"

QUANTUM DOM

"The goal of the [Quantum DOM](#) project is to eliminate jank caused by background tabs. One of the main ways we intend to do this is to run each tab in its own cooperatively scheduled thread."

NOVEMBER 2017

The CSS engine [Quantum CSS](#) (known as Stylo),
first major component from Servo, landed on
Firefox 57!



QUANTUM CSS

"With Stylo, the work of CSS style computation is fully parallelized across all of the CPU cores. Stylo uses a technique called work stealing to efficiently split up the work between the cores so that they all stay busy."

JANUARY 2018

Rust 1.23

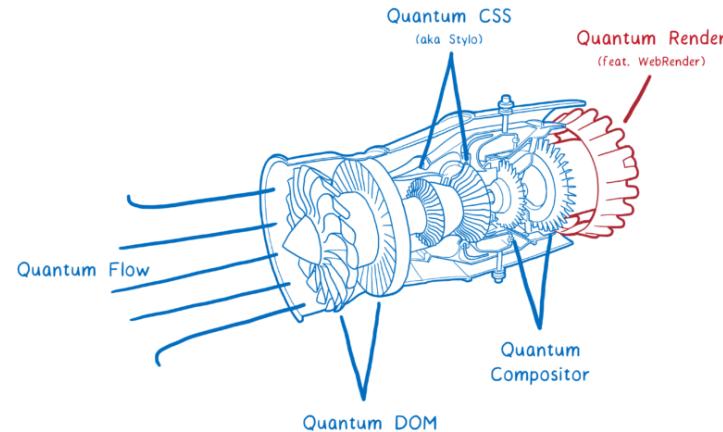
Firefox 57

Firefox 59 (Developer Edition, Nightly)



AND BEYOND...

The WebRender, as part of the Quantum Render, is expected to land in late spring.



Check out the latest [WebRender newsletters](#)

CREDITS AND ARTICLES

Drawings by [Lin Clark](#)

[Why Rust is the Most Loved Language by Developers](#)

Curiosities through 5-year old tickets: [Rust in Gecko](#) and in [Tor?](#)

[Designing for performance: A data-informed approach for Quantum development](#)

[Entering the Quantum Era—How Firefox got fast again and where it's going to get faster](#)

RESOURCES

[Rust](#) and [Servo](#)

The [Quantum Project](#) and how to get involved

[Quantum Up Close: What is a browser engine?](#)

[Quantum Render](#) and [WebRender](#) in Servo

[Firefox releases](#)

MERGE-IT

Mozilla Italia track including Rust activities

Turin, 24 March 2018

merge-it.net

"E QUESTO È QUANTUM!" ;)

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or astrastefania on

