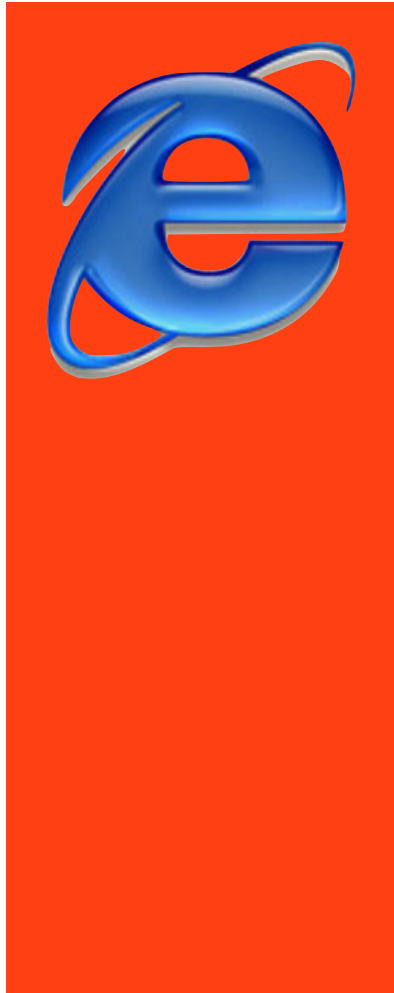


An introduction to WebKit for Web developers

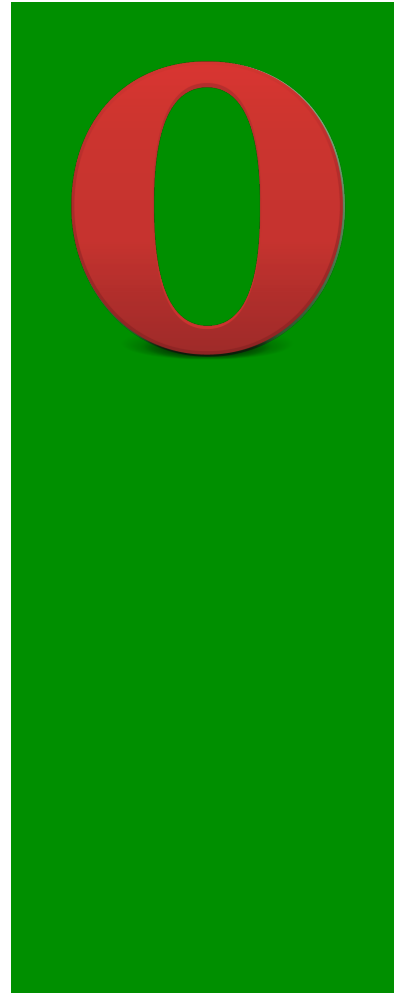
Jeremy Moskovich & Pam Greene
13-Sept-2010



Web Rendering Engines



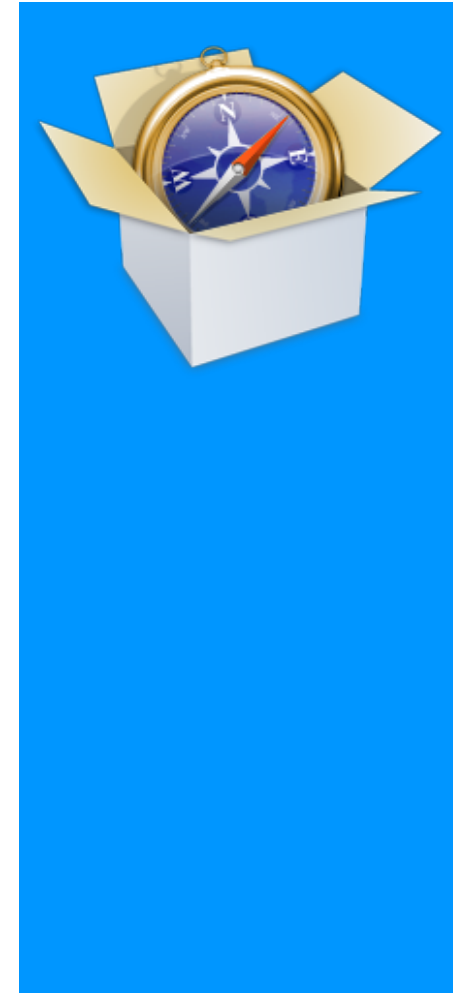
Trident



Presto



Gecko



WebKit

WebKit Everywhere



Desktop

Mobile



palm webOS

 BlackBerry™



NOKIA
Connecting People

What is WebKit?

- <http://www.webkit.org>
- Open Source rendering engine
- JS Engine: JavascriptCore (pluggable)
- Lots of built-in functionality

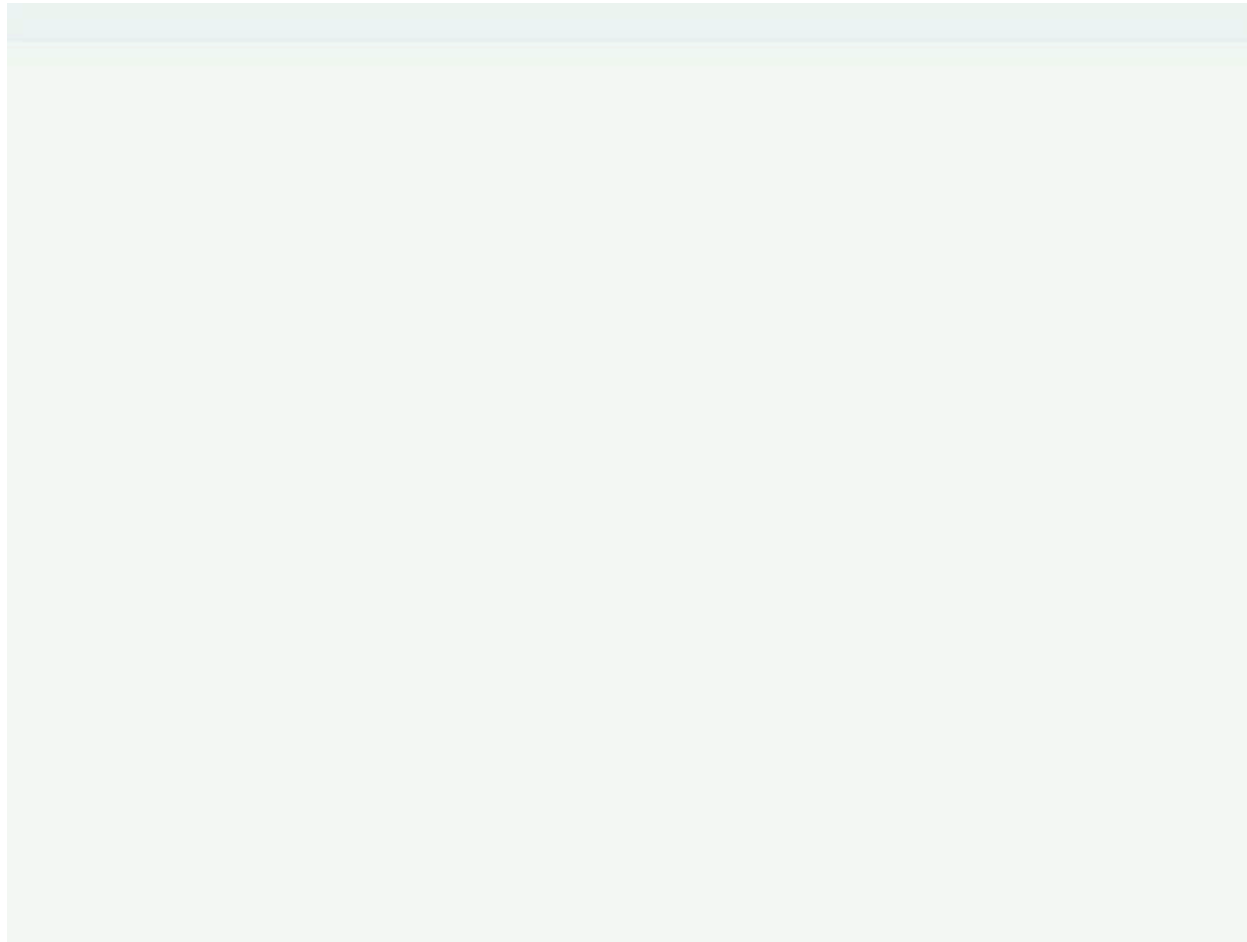


Vital Stats

- Net ~1 Million lines of code
- Mostly C++, Some JS (Web Inspector)
- 198 committers, 81 reviewers



Layout [Reflow] in action



<http://www.youtube.com/watch?v=ZTnlxIA5KGw>

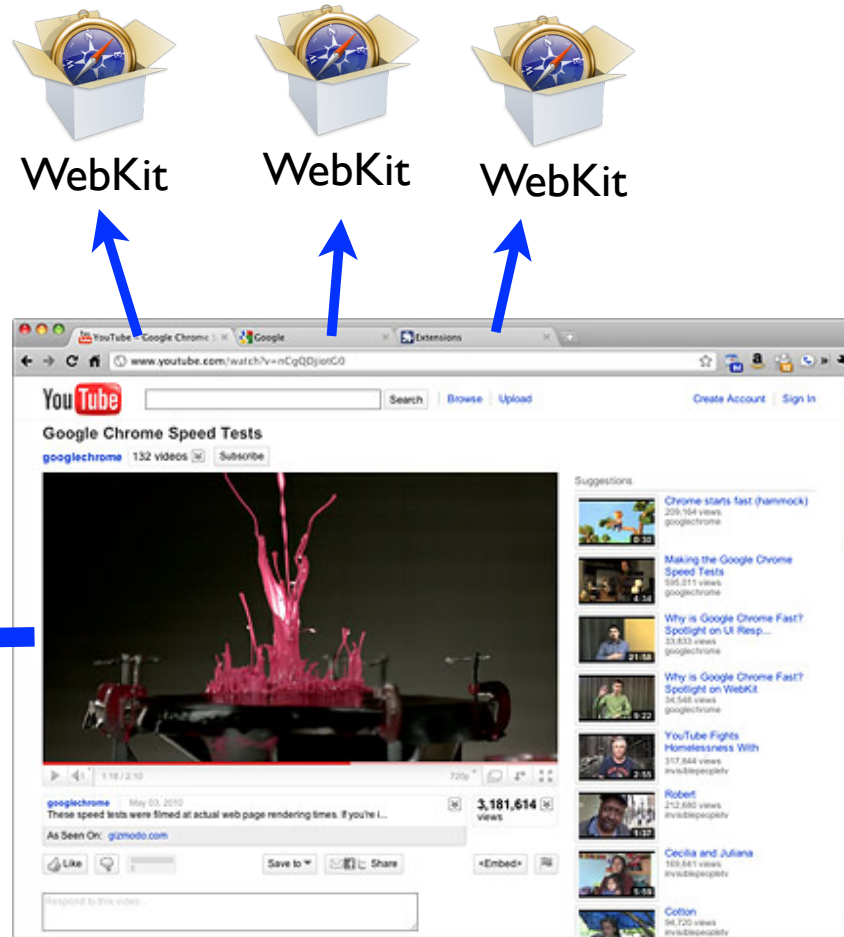
Chrome and WebKit



Multiprocess browsing?

- Crashing/slow tabs shouldn't affect other tabs.
- OS processes already do this.
- Added security.

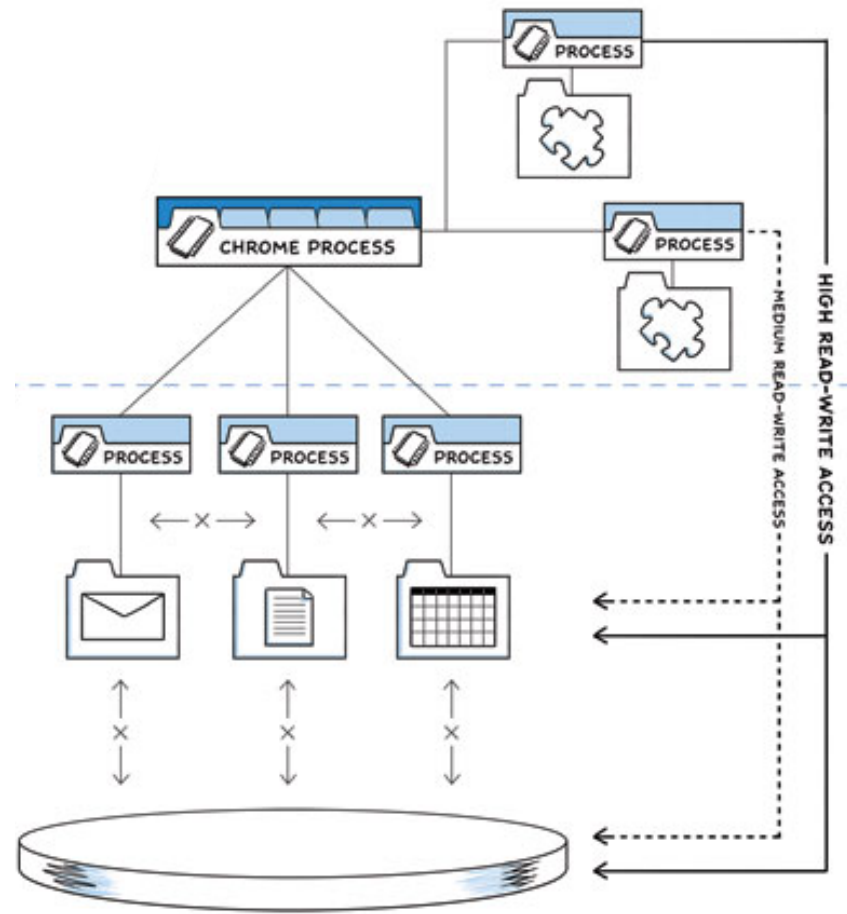
Chrome Architecture



Flash Process

Browser Process

Chrome and WebKit



Chrome & Chromium



Chrome



Chromium

Sniffing Chrome User Agent

Mozilla/5.0 (Macintosh; U; Intel Mac OS X 10_5_8; en-US) AppleWebKit/534.1
(KHTML, like Gecko) Chrome/6.0.437.3 Safari/534.1

- Very hard to get `navigator.userAgent` parsing code right
- Prefer Object detection



Prefer Object Detection

Bad:

```
if (navigator.userAgent.indexOf("Gecko/") != -1)
  ...
else if (navigator.userAgent.indexOf("; MSIE"))
  ...
else if (navigator.userAgent.indexOf("Safari/"))
  ...
else
  ...
```

Good:

```
if (document.querySelectorAll) {
  // We know that document.querySelectorAll is definitely implemented.
  var a = document.querySelectorAll(":hover");
}
```



Chrome Release Cycle

- Chrome autoupdates.
- New major release every 6 weeks, version number not relevant.
- Check WebKit version not Chrome version!

Sniffing Chrome User Agent

```
var isWebKit =  
    navigator.userAgent.indexOf("AppleWebKit") > -1;  
  
var WebKitVersion =  
    parseFloat(navigator.userAgent.split("AppleWebKit/")[1]) ||  
    undefined;  
if (WebKitVersion && WebKitVersion > 500 ) {  
    // use spiffy WebKit feature here  
}
```



Is this bug in WebKit or Chrome?

- Create a reduced test case.
- Does the bug reproduce in a WebKit nightly build <http://nightly.webkit.org/> ?
- If not - <http://crbug.com>

Filing a WebKit bug.

- <http://bugs.webkit.org>
- Search for existing bugs.
- Test in 1 or 2 other browsers.
- Extra credit: include a Layout Test (more on that later).

<http://webkit.org/quality/reporting.html>