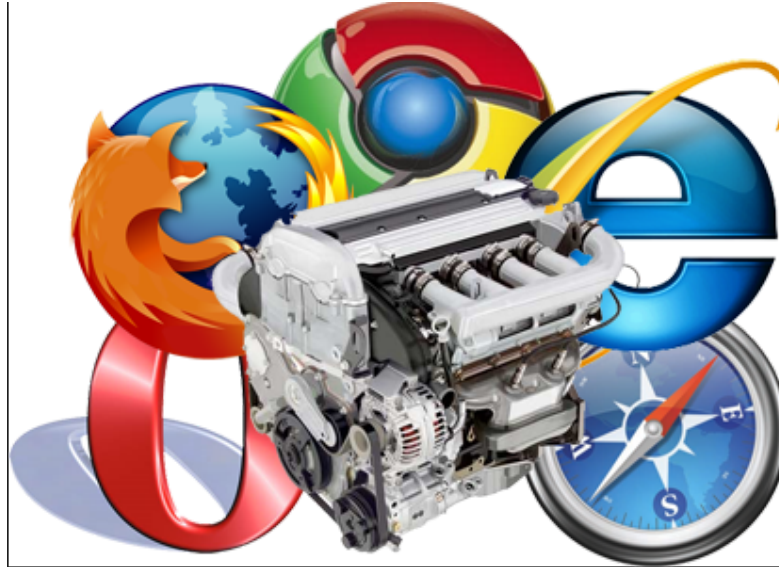


# WEB BROWSERS



# WHAT IS A BROWSER?

- Processing of Web Resources
  - **Downloading** of HTML/JS/CSS/Images/Videos ... using Internet Protocols
    - Sequential, Parallel, Synchronous, Asynchronous, ...
  - **Rendering** (aural and visual)
- Handling **dynamicity**
  - Reacting to **user interactions**
    - Navigation, Click, ...
  - Reacting to **network conditions**
    - TCP Congestion, Streaming, ...
  - Processing **animations**

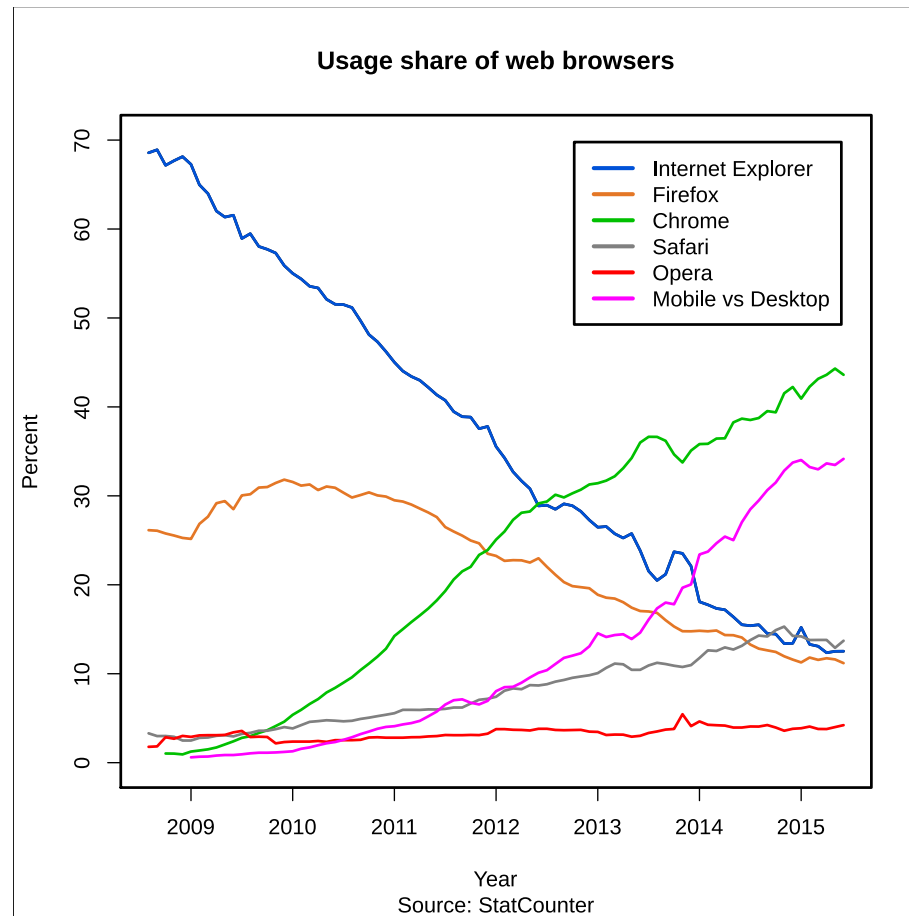
# BROWSERS CATEGORIES

- Desktop
- Mobile



- Embedded
- TV
- Text-only

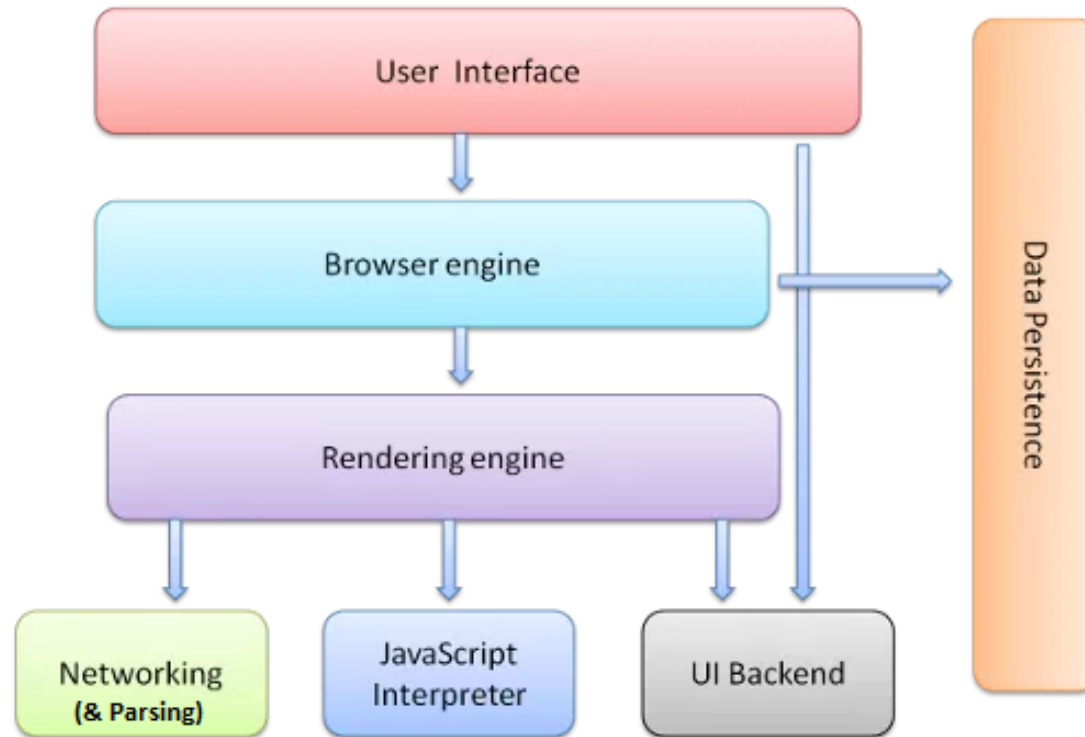
# BROWSER WARS



# BROWSER HISTORY

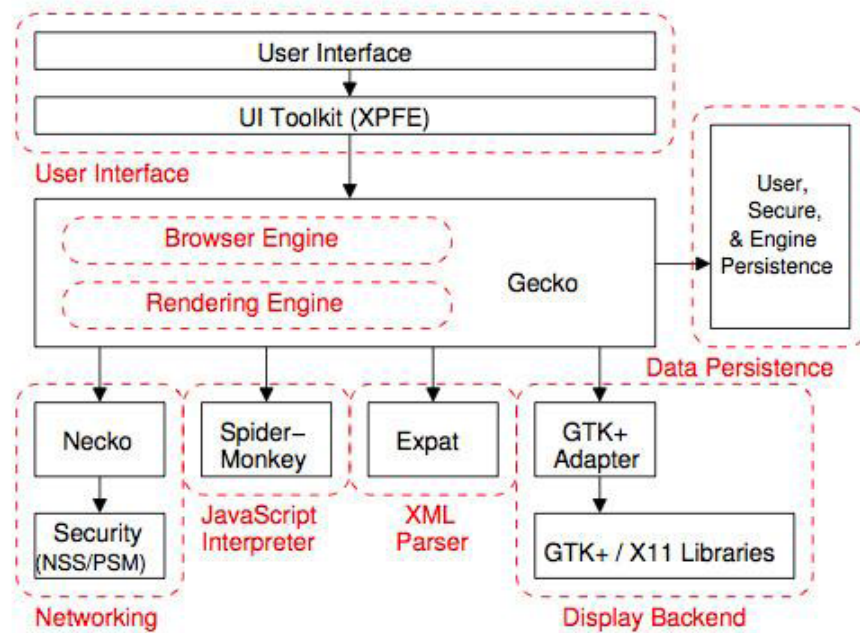
- Long [history](#) of browsers
- [Browsers](#) are evolving fast
  - Next versions of major browsers very often
    - Ex: Chrome release a new version every 6 weeks
    - Ex: Firefox 5 (June 2011), Firefox 25 (Oct. 2013)
- Browsers are converging in standards support
  - But still have differences (see sites like [CanIUse.com](#) or [QuirksMode](#))

# BROWSERS SIMPLIFIED ARCHITECTURE



<http://www.html5rocks.com/en/tutorials/internals/howbrowserswork/>

# FIREFOX ARCHITECTURE



LEGEND:



Component



Grouping



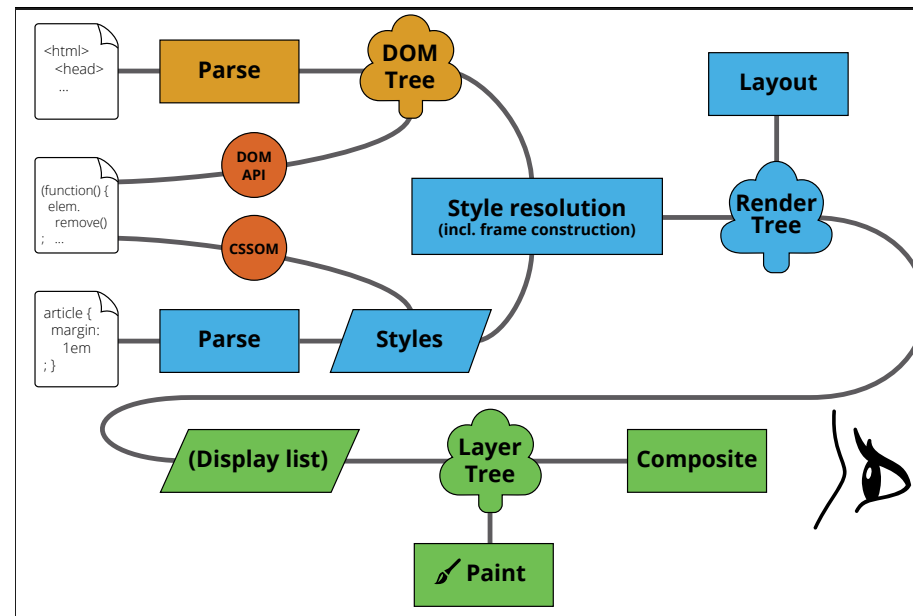
Dependency

# BROWSERS COMPONENTS

Browser	Rendering Engine	Scripting Engine
Edge	EdgeHTML	Chakra
Internet Explorer	Trident	Chakra
Firefox and alike (IceWeasel, Seamonkey...)	Gecko	(Spider)Monkey
Safari	WebKit	JavaScript Core
Chrome	Blink (previously WebKit)	V8
Opera	Blink (previously Presto)	V8 (previously Carakan)



# BROWSER PROCESSING



See [Mozilla's presentation](#)