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dClass and Varnish

Reza Naghibi
reza.naghibi@yahoo.com

Agenda

- What is dClass?
- Brief history of device detection
- Device classification in Varnish using dClass
- Device classification and developers
- Apache DeviceMap
- The future of dClass

What is dClass?

- dClass is search reversed
- Search is discovery, dClass is classification
- dClass indexes searches
- Searches are patterns
- Patterns represent knowledge
- dClass indexes knowledge

How does dClass work?

- dClass uses a handful of performance optimizations
- Algorithms == speed
- Memory efficiency == speed
- dClass precompiles all regex
- dClass breaks out of dead input by walking the input as it walks the pattern tree
- Concise patterns == high performance

History of device detection

- User-Agent header was designed for this
- Browsers, screen sizes, network speeds, and CPU speeds all progressed at 'relatively' the same pace
- Mobile devices and tablets changed that
- Client fragmentation led to developer fragmentation

Server side device 'detection'

- It is not detection, its classification!
- The device classes we care most about:
 - Smart phones
 - Tablets
 - Desktop browsers
 - Web Crawlers
 - Feature phones (maybe?)
- Each class has different requirements
- Browser version targeting is available (think IE)

Device 'detection' challenges

- Device detection used to be difficult:
 - Logic was messy and non performant
 - New devices are released every month
- dClass + Varnish is clean and performant
- Apache DeviceMap (formally OpenDDR) and other commercial offerings stay on top of releases
- How often do you update your website?
That is how often you should update your DDR!

dClass + Varnish

- The solution is completely contained within Varnish
- VCL is expressive! Lots of options:
 - Send device classification header to backend. Serve different views on same URL and domain.
 - Redirect requests to device specific domain or rewrite to device specific URL. Can still have single backend.
 - Mix and match
- Upstream caching (CDN) complicates this, may need to use cookies (or just find a better CDN)
- Varnish can even serve device classification JSON for client side use

dClass + Varnish configuration

- To update your DDR just use `vcl.load` and `vcl.use` in `varnishadm` (no downtime!)
- Apache DeviceMap has **monthly** DDR updates
- Vendors/Admins/SysOps, offer this to your clients!
- Get the dClass Source Code now:
(<https://github.com/TheWeatherChannel/dClass>)

Device classification + developers

- Device classification will simplify your code
- Device classification is just another backend parameter
- It can be completely transparent to the web stack like load balancing or caching
- Projects like dClass and DeviceMap have made device classification more accessible than ever

Apache DeviceMap

- Was born out of the OpenDDR project
- Still in incubator status, so look for big changes in the upcoming months
- Have an issue with a device, tell us!
- Contribute!
- Get it:
(<http://incubator.apache.org/devicemap/>)

dClass and the future

- dClass is a powerful pattern classification engine
- Better classification leads to things like higher order reasoning and richer interactions webClass
(<http://www.rezsoft.org/webclass/class>)
- Contribute!

Questions?

- I am always available for questions and support
 - Email: reza.naghibi@yahoo.com
 - LinkedIn: Reza Naghibi
 - Twitter: rezaberry