Media Queries

Daniel Glazman
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CSS WG

What it is about...

Select styles based on device's characteristics

- A large CSS-based part...

- and a little API-based part

The main component of « Responsive Design »

History (CSS part)

- Proposed as a WD by Opera and Microsoft in April 2001

- First CR in July 2002

- PR in April 2012...

- REC in June 2012...

- Implemented by all modern browsers

Original HTML4/CSS2 media types

all	braille	embossed	handheld	print
projection	screen	speech	tty	tv

HTML 4.01

6.13 Media descriptors

Future versions of HTML may introduce new values and may allow parameterized values.

Each entry is truncated just before the first character that isn't a US ASCII letter [a-zA-Z] (ISO 10646 hex 41-5a, 61-7a), digit [0-9] (hex 30-39), or hyphen (hex 2d)

CSS 2.1

```css
@media screen {
  ...
}
```

```html
<link rel="stylesheet" type="text/css"
      href="foo.css"
      media="screen" />
```

```html
<style type="text/css"
       media="screen" />
```

Media Queries

```css
@media screen and (max-width: 500px) {
  ...
}
```

```html
<link rel="stylesheet" type="text/css"
      href="foo.css"
      media="screen and (max-width: 500px)" />
```

```html
<style type="text/css"
       media="screen and (max-width: 500px)" />
```

Syntax

false   `print`

true   `screen AND (color) AND (min-width: 100px)`

true   `NOT screen AND (max-width: 500px)`

true   `projection, handheld AND (max-resolution: 92dpi)`

false   `(orientation: portrait)`
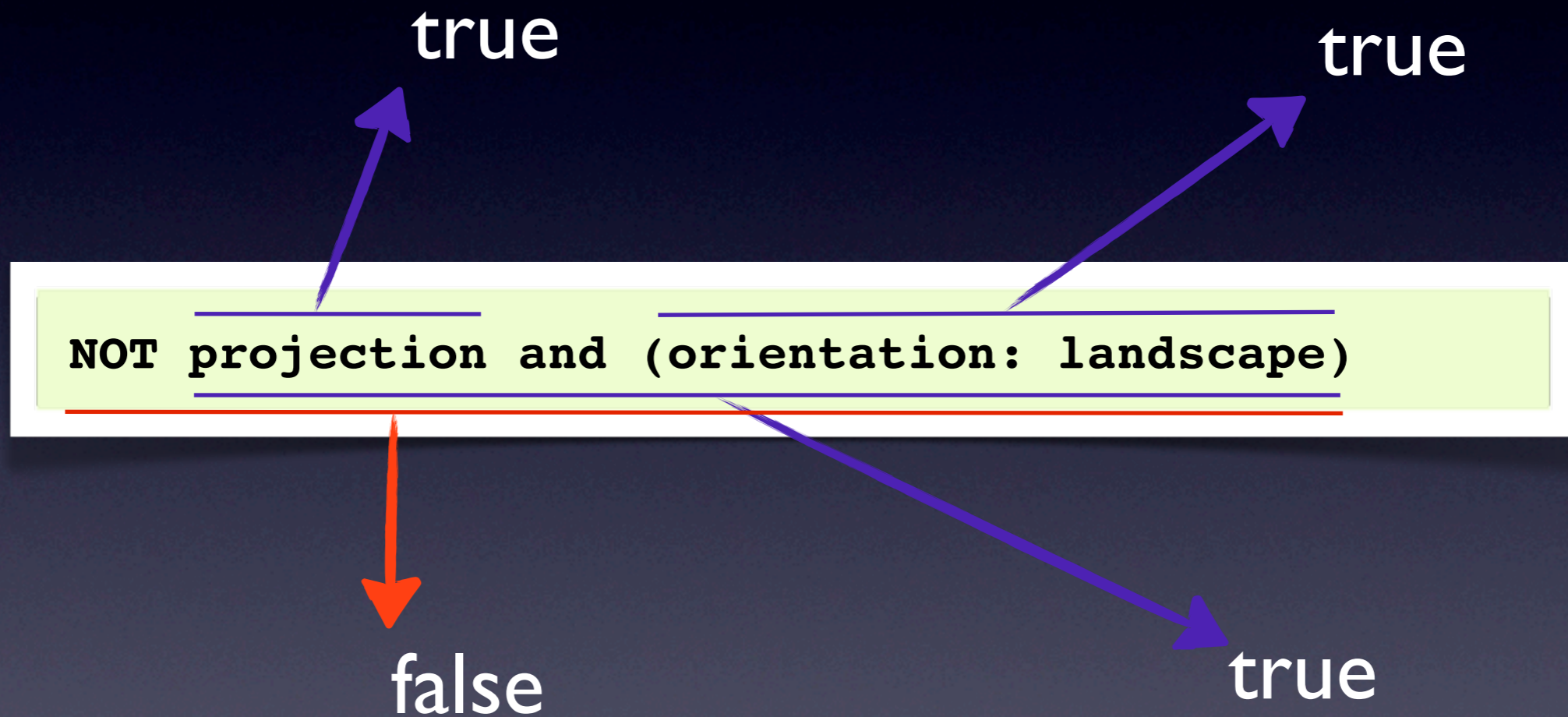
false   `ONLY screen AND (max-width: 500px)`

CSS powaaaah

```
screen AND (max-width: calc(650px - 2em))
```

NOT

true   true

```
NOT projection and (orientation: landscape)
```

false   true

NOT negates the whole query,
not the media type only...

ONLY

it's *only* here to hide style sheets
from older user agents...

Don't worry...

Groups of media descriptors are not dropped if one descriptor only is invalid

```
screen, projection, print AND (vendor: epson)
```

↓

```
screen, projection
```

Media Features

width	<length>
height	<length>
device-width	<length>
device-height	<length>
orientation	portrait	landscape
aspect-ratio	<integer>/<integer>
device-aspect-ratio	<integer>/<integer>
color	<integer>	∅
color-index	<integer>	∅
monochrome	<integer>	∅
resolution	<number>(dpi | dpcm)
scan	progressive	interlace
grid	<integer>	∅

The API part

```
MediaQueryList window.matchMedia(query)
```

media	serialization of the query
matches	true if the current rendering matches the query
addListener() removeListener()	to listen to query changes

What's missing #1

- paginated browsing

- ambient light detection

- JavaScript's availability

- human language

- ...

What's missing #2

CSSRule.matchingMedia	query necessary for that rule to be applied
CSSRule.matchMedia(query)	is the query enabing that CSS rule?
MediaList	parsed representation of each query

Media Queries
on steroids

- a Media Query is a condition

- a condition is a boolean

- trivial to write a JavaScript function returning a boolean

Conclusion ?-)

Media Queries on steroids #2

```
CSS.customMedia("foobar", CSSMFfoobar);

CS.customMedia.update(aFeature, aValue);
```

Media Queries on steroids #3

```
CSSMFfoobar {

  get value() { ... },

  resolve: function(aFeature, aPrefix,
                    aValueString) { /* BOOL */ },

  addListener: function(aEngine, aFeature) {
    /* adds device listener /* },

  removeListener: function(aEngine, aFeature) {
    /* remove device listener /* },
}
```

Maintenance

We should be able to associate a name to a given Media Query for readability and maintenance reasons.

```
@var iPadRetinaL screen
            AND (orientation: landscape)
            AND (resolution: 264dpi);

@media var(tablet) { ... }
```

Future of Media Types

- we don't need screen, print or speech

- we can move to media features !

Thank you!

Questions?

http://www.w3.org/TR/css3-mediaqueries/
http://www.w3.org/TR/cssom-view/

http://www.bluegriffon.org/

daniel@glazman.org
@glazou