





CSS MEDIA QUERIES

Andrew Sheehan

*Boston University
Computer Science Dept/MET*

CANIUSE.COM MEDIA QUERIES

CSS3 Media Queries  - REC				
Method of applying styles based on media information. Includes things like page and device dimensions				
Current aligned Usage relative Date relative Filtered All 				
Chrome	Edge *	Safari	Firefox	Opera
		^{1 2} 3.1-3.2		
¹ 4-25		¹ 4-6	2-3	
26-119	12-119	6.1-17.1	3.5-120	10-103
120	120	17.2	121	104
121-123		17.3-TP	122-124	

caniuse.com (December, 2023)

WHAT ARE MEDIA QUERIES

Control the way
your webapp looks on
different devices &
orientations



MOBILE-FIRST DESIGN





A media query is composed of a media type + expressions

case-insensitive



@media screen (min-width: 320px) and (max-width: 768px)

AT-RULE

MEDIA TYPE

MEDIA FEATURE

OPERATOR

MEDIA FEATURE

SYNTAX

CONTENT CAN ADAPT TO THE DEVICE



width & height



orientation of the
viewport

SPELLING/FORMAT MATT3RS

Misspelling your media
type or having invalid
logic/syntax will result in
the media query not working



Value	Description
all	Used for all media type devices
print	Used for printers
screen	Used for computer screens, tablets, smart-phones etc.

ALLOWABLE
MEDIA TYPES |



STANDARD USE

```
@media screen and (max-width: 520px) {  
    /* CSS rules go inside brackets */  
}  
  
@media screen and (max-width: 980px) {  
    /* CSS rules go inside brackets */  
}  
  
@media screen and (max-width: 1440px) {  
    /* CSS rules go inside brackets */  
}
```

Shift or change content to be the width of the device



EXPRESSIONS MUST EVALUATE TO TRUE



- i. The media type of the media query matches the media type of the device.
- ii. All expressions in the media query eval to true.
- iii. If the media query list is empty (i.e. the declaration is the empty string or consists solely of whitespace) it evaluates to true.

EXAMPLE

```
@media (max-width: 2082px) {  
    #main_content_area {  
        display: block;  
    }  
}
```

Display that target a block-level element
when the viewport width is equal to or less
than 2082 pixels

PRINTING

When a user wants to print, they *probably* do not want to waste their color ink on graphics or unnecessary content.

```
@media print {  
    #header, #left-side-ads, #menu {  
        display: none;  
    }  
}
```



```
<link rel="stylesheet" type="text/css"  
      media="screen" href="sans-serif.css">
```

```
<link rel="stylesheet" type="text/css"  
      media="print" href="serif.css">
```

USING THE
LINK ELEMENT

LOGICAL *NEGATION (NOT)*



The **not** keyword inverts the meaning of an entire media query. It will only negate the specific media query it is applied to. The not keyword can't be used to negate an individual feature query, only an entire media query.

That means they can be prefixed with "min-" or "max-" to express "minimum condition" or "maximum condition" constraints.

For example, this CSS will apply styles only if your browser's viewport width is equal to or narrower than 1250px:

```
@media (max-width: 1250px)
{
    /* CSS rules go here*/
}
```

Range Features

Media Queries: Range Syntax

Syntax improvements to make media queries using features that have a "range" type (like width or height) less verbose. Can be used with ordinary mathematical comparison operators: `>`, `<`, `>=`, or `<=`.

For example: `@media (100px <= width <= 1900px)` is the equivalent of `@media (min-width: 100px) and (max-width: 1900px)`

Current aligned Usage relative Date relative Filtered All ⚙

Chrome	Edge	Safari	Firefox
4-103	12-103		2-62
104-111	104-111	3.1-16.3	63-111
112	112	16.4	112
113-115		16.5-TP	113-114

EXAMPLES

```
@media (min-width: 30em) and (orientation: landscape) { ... }
```

Viewport set to landscape mode with a width of at least 30em's

```
@media (min-height: 680px), screen and (orientation: portrait) { ... }
```

Viewport with at least a height of 680 pixels or using a screen display in portrait mode

```
@media (30em <= width <= 50em ) { ... }
```

Viewport min-width and max-width between 30em & 50em
(Example using new, Level 4 media query syntax)

```
/* When the browser is at least 600px and above */  
@media screen and (min-width: 600px) {  
  .element {  
    /* Apply some styles */  
  }  
}
```

BLACK AND WHITE PRINTER ONLY

```
@media print and ( not(color) ) {  
  body {  
    background-color: none;  
  }  
}
```