**Introduction to Responsive Web Design**

**Responsive web design** (**RWD**) is an approach to web design which makes web pages render well on a variety of devices and window or screen sizes. Recent work also considers the viewer proximity as part of the viewing context as an extension for RWD. Content, design and performance are necessary across all devices to ensure usability and satisfaction.

A site designed with RWD adapts the layout to the viewing environment by using fluid, proportion-based grids, flexible images, and CSS3 media queries, an extension of the @media rule, in the following ways:

* + The fluid grid concept calls for page element sizing to be in relative units like percentages, rather than absolute units like pixels or points.
  + Flexible images are also sized in relative units, so as to prevent them from displaying outside their containing element.
  + Media queries allow the page to use different CSS style rules based on characteristics of the device the site is being displayed on, most commonly the width of the browser.

Responsive web design has become more important as the amount of mobile traffic now accounts for more than half of total internet traffic. Therefore, Google announced Mobilegeddon in 2015, and started to boost the ratings of sites that are mobile friendly if the search was made from a mobile device. Responsive web design is an example of user interface plasticity.

**A Little History**

The first site to feature a layout that adapts to browser viewport width was *Audi.com* launched in late 2001,[[45]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-45) created by a team at [razorfish](https://en.wikipedia.org/wiki/Razorfish_(company)) consisting of Jürgen Spangl and Jim Kalbach (information architecture), Ken Olling (design), and Jan Hoffmann (interface development). Limited browser capabilities meant that for Internet Explorer, the layout could adapt dynamically in the browser whereas for Netscape, the page had to be reloaded from the server when resized.

Cameron Adams created a demonstration in 2004 that is still online.[[46]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-46) By 2008, a number of related terms such as “flexible”, “liquid”,[[47]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-47) “fluid”, and “elastic” were being used to describe layouts. CSS3 media queries were almost ready for prime time in late 2008/early 2009.[[48]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-48) Ethan Marcotte coined the term responsive web design[[49]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-49) (RWD)—and defined it to mean fluid grid/ flexible images/ media queries—in a May 2010 article in [*A List Apart*](https://en.wikipedia.org/wiki/A_List_Apart).[[2]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-fluid_grid-2) He described the theory and practice of responsive web design in his brief 2011 book titled *Responsive Web Design*. Responsive design was listed as #2 in Top Web Design Trends for 2012 by [.net magazine](https://en.wikipedia.org/wiki/.net_(magazine))[[50]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-50) after [progressive enhancement](https://en.wikipedia.org/wiki/Progressive_enhancement) at #1.

[Mashable](https://en.wikipedia.org/wiki/Mashable) called 2013 the Year of Responsive Web Design.[[51]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-mashable_2013-51) Many other sources have recommended responsive design as a cost-effective alternative to mobile applications due to its ability to house all of the code in a single website. Users and developers alike began realizing the benefits and importance of mobile-responsive designs as mobile use continued to rise. [[52]](https://en.wikipedia.org/wiki/Responsive_web_design#cite_note-wesfed_2016-52) This realization of importance was confirmed when Google made their announcement that search engines were going to reward responsive websites with increased rankings.