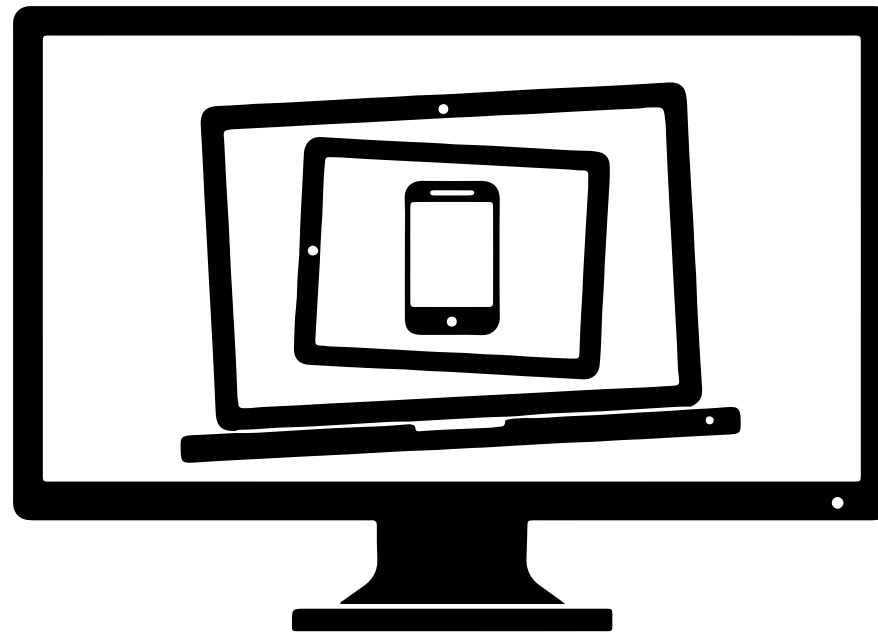


A SMARTER TOOL TO PROVIDE
SUPERIOR CUSTOMER EXPERIENCE

RESPONSIVE WEB DESIGN





In This Guide...

Uplers takes a deep dive in the wide ocean of Responsive Web Design with a mixture of web design experience, the latest best practices and industry analytics.

Uplers has been exploring responsive web technology for years, through our experiences we will elucidate the crucial steps in designing a responsive website.

We begin by understanding the evolution of responsive web design - what is it and where does the technology come from?

From this, we can then explore fluid grids and media queries, both critical concepts to understand and consider during the design process.

Finally we access the merits of responsive web design and the best practices for developing mobile and tablet friendly websites.

This guide also examines some of the challenges that developers and designers are likely to encounter during the design process.

We hope that Uplers' accrued wisdom and experience in building responsive websites will be able to improve your own projects in the future.

www.uplers.com

A Desktop site...

...evolved with a mobile site

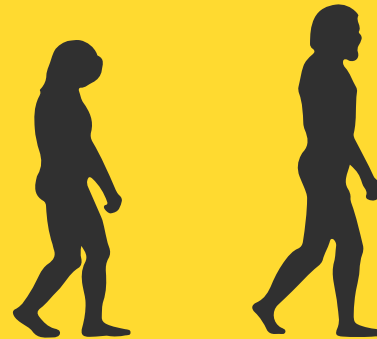
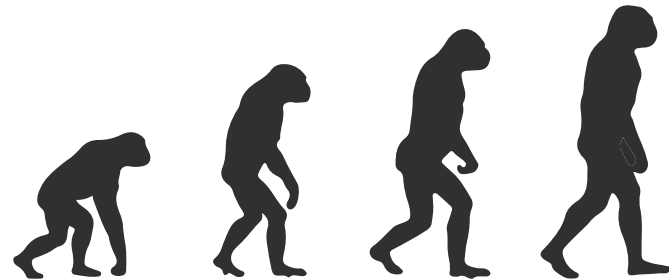
Two separate URLs...

...finally turned out to be single URL

One website...

...superior customer experience

Responsive Websites



Evolution Of Responsive Web Design

An excellent starting question is, what problem does responsive web design solve? Around the release of iPhone in 2007, pressure mounted for websites to be usable from a very small screen. Apple had created the first mobile device with a stripped down, but fully functional web browser based on Safari.

In response to this, designers begin creating two sites: one for desktop users and another for mobile users. This was workable when the iPhone was really the only mobile phone with an impressive web browser, with its consistent resolution and 3.5" screen.

But with tablets and competition in the smartphone space, the spectrum of screen sizes and resolution is widening everyday, and creating a different version of a website that targets each individual device is not a practical solution. This is the problem that responsive web design addresses head on.

What is Responsive Web Design



Responsive Web Design (RWD) is design strategy aimed at tailoring sites to provide an optimal viewing experience—easy reading and navigation with a minimum of resizing, panning, and scrolling—across a wide range of devices.

A site designed with RWD adapts its layout to its viewing environment by using fluid, proportion-based grids, flexible images and CSS3 media queries—an extension of the media rule.

Ethan Marcotte coined the term responsive web design (RWD) in May 2010.

Fluid Grid Concept

The fluid grid concept calls for page element sizing to be coded in relative units such as percentages, rather than absolute units such as pixels or points.

With fluid layout, when a layout is squeezed onto a tiny mobile device or stretched across a wide screen, all of the elements in the layout will resize their widths in relation to one another.

However when the width of the browser becomes too narrow, the design can start to severely break down.

How do we solve this problem? With media queries.

Media Queries

The second aspect of responsive design is CSS3 media queries, which currently enjoy decent support across many modern browsers. **If you are not familiar with CSS3 media queries, they allow the page to use different CSS style rules based on characteristics of the device of the site is being displayed on, most commonly the width of the browsers.**

With each viewpoint device, there is a new breakpoint that is primarily defined by the width and resolution of said device. It is up to the designer, developer and client to agree on a set of breakpoints to consider.

The set of pixel widths Uplers recommend targeting are as follows:

320px

480px

600px

768px

900px

1200px

Largely, developers consider breakpoints for mobile and tablets (around 480 and > 1200 PX.)

Media Queries support extensively well on more than 70% of browsers and email clients except Internet Explorer (IE) version 7 and below.

Why is Responsive Web Design important?

2.1
BILLION
mobile
internet users by
2015-Estimates



With **67 percent search market share**, when Google speaks, search marketers listen. Google states that responsive web design is its recommended mobile configuration, and even goes so far as to refer to responsive web design **as industry best practice**. This is because **responsive design sites have one URL and the same HTML, regardless of device, which makes it easier and more efficient for search engines to crawl**. It also provides a **consistent user experience** across the internet.



ONE WEBSITE
for every screen

Mobile internet browsing has surpassed **24% share worldwide** and around **20% in Australia**. According to a Morgan Stanley report, Mobile internet usage is expected to **match desktop usage by 2014**.

SHORTER
SITE
development cycle



A recent study by ComScore cites that **55%** of social media consumption occurs on a mobile device.

Challenges for the responsive road map

Full Layout Requirements

Fitting the same desktop layout on smaller screens with a similar layout and content architecture.

Cross-Browser Supportability

Certain old Internet Explorer (IE) browsers donot recognise media queries.

Multiple User Behaviour

Users behave differently with changing devices like mobiles, tablets, desktops etc.

Multiple Screens, Multiple Layouts

Different screens require a different content architecture. Showing different versions of the same site on different devices become cumbersome.

Shabby Images

Screen based scaling of images is lossy. Flexible images using vectors and responsive typography are required.

Intuitive Navigation

Designing unobstructed and intuitive navigation menus, within limited real estate.

Testing And Load Speed Optimisation

Testing responsive design in multiple viewing environments is time consuming. Likewise, optimising site speed is more challenging.

General Design Considerations / Best Practices for Responsive Web Design

Content, Fonts and Finger targets

- Design the website with finger targets. According to Apple the comfortable minimum size of tappable UI elements is 44 x 44 px. This limit is often broken and the real estimate limit is approximately 25 px.
- Increase font size, line spacing, button sizes and white spaces to make it easy to touch and go with smartphones.
- Specs out design elements in Photoshop to gauge the site should look at different widths.
- Besides fingers, the existing array of keyboards, mice and styluses (not to mention up-and-coming eye and hand gesture interface) provide many modes of input. During brainstorming and sketching, don't forget to consider current (and some potential) input modalities.

Keeping it readable

- Make sure that the line of text is legible on the major breakpoints and the fonts do not become unreasonably big or too short with changing devices. Fonts can range from 14 Pt to 60 Pt.
- Keep reasonable and readable typographic proportions on every device by adjusting layouts to the available screen width.

Keep it simple

- Avoid overly complex div tags, useless absolute positioning, and unnecessary Javascript or Flash elements that will just complicate site adjustment on the whole.

Keep the Images Flexible and Workable

- Use variable breakpoints and store multiple image sizes on your server for different screen resolutions.
- Alternatively, use adaptive sizing and resize the width of the images.

Key Points

- Consider the Width / Height of the display area.
- Make sure multiple device width / height is accurately tested.
- Choose between Vertical and Horizontal orientation and sketch the design accordingly.
- Maintain Image Aspect Ratio.
- Design keeping in mind a comprehensive list of resolutions.
- Design in sync with the Grids.

Miscellaneous Considerations

- It's important to **avoid too much scrolling** - large amounts of content pushed into single column makes very long, making it hard to obtain the desired content.
- **Resort to conditional loading.** It involves chunking out secondary content into their own HTML fragments, then loading them only when the user requests them (or the conditions are right).
- **Showcase content that is vital** to mobile user, as opposed to the desktop user.
- Be mindful of content types, content hierarchy, and general flow.
- **Progressive disclosure** is a handy technique to create scannable experiences while still providing access to full content.

Navigational Consideration

You can move the navigation to footer, keep everything in the header and have a select menu for navigation, put simple dropdown navigation beneath the logo, incorporate toggle menu or flyouts and do a lot more. Make sure you consider these approaches while designing a responsive website.

Frameworks

A framework is a standardised set of concepts, practices and criteria for dealing with a common problem. Frameworks can be used as references to help us approach and resolve new problems of a similar nature.

Simple Frameworks

- cssgrid.net
- goldengridsystem.com
- titanthemes.com

Complete Frameworks

- Bootstrap
- Foundation 3
- Skeleton
- TUKTUK
- Gumby

These complete frameworks offer configurable features such as styled-typography, sets of forms, buttons, icons and other reusable components built to provide navigation, alerts, popovers, image frames, HTML templates, custom settings, etc.

Bootstrap

Bootstrap - a sleek, intuitive, and powerful front-end framework for faster and easier web development. Built at Twitter by @mdo and @fat, Bootstrap utilises LESS CSS, is compiled via Node, and is managed through GitHub.

Foundation

Foundation is another popular responsive front-end framework. Foundation is by ZURB, a company of product designers focussed on providing web-based solutions. It has clean and commended markup, customisable elements like fonts and colours and a faster speed of coding compared to other frameworks.

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Who is Uplers?

Uplers is a team of experienced professionals, offering white-labelled and web development services to support agencies with their SEO, PPC, Web development, Email marketing, Analytics needs through double barrel business model.

Double Barrel Business Model

Our 'Double Barrel' business model leverages our local account managers to match digital strategy to the client's brief, with ongoing agency support. Combined with our offshore operations, we provide our clients with an unparalleled mix of quality, cost and superior technical competency.

Why Uplers?

- **WORLD-BEATING SEARCH AND ANALYTICS EXPERTISE**
- **UNPARALLELED EXPERIENCE IN CLIENT SERVICE**
- **WHITE LABEL OPPORTUNITIES WITH STRICT NDA TERMS**
- **FAST, HIGH-QUALITY WEB CONVERSION**
- **DOUBLE BARREL SERVICE MODEL**



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