What is Responsive Design?

Responsive design is a term coined in 2010 by web developer Ethan Marcotte. Leveraging grid-based layouts, media queries, and images that resize, Marcotte created a new technique for building websites with a single code base that would display content in a readable manner, compatible with screens of any size. The technique was first described on the web magazine A List Apart.

In 2010, the iPhone and Android operating systems were just a few years old; the iPad had only been in existence for five months when Marcotte's article was published. Before responsive design, it was common for developers to create two entirely different website layouts, one for phones and one for desktop computers. Typically this approach was created in one of several ways:

| Early Methods used to Design for Mobile and Desktops	
Content Management Systems	If a content management system like WordPress was used, the same content would load into entirely separate templates or themes to display on the device of choice. **Main Drawback:** While website maintenance was a little easier with the same content loading on both sites, maintaining the HTML and CSS was time-consuming and challenging.
Two Code Bases: Mobile & Desktop	Some developers would use a tool like jQuery Mobile to create one website for phones and a second for desktops. Unfortunately, using jQuery Mobile without a database meant that two versions of site content were created, since these HTML, CSS, and JavaScript files were completely separate for each platform. **Main Drawback:** There was no way to share content between devices. Furthermore, the website addresses for a mobile site vs. a desktop site were different, which was confusing for many users.
Custom Solution	Developers wrote a completely custom solution **Main Drawback:** This approach usually resulted in two code bases again.

Responsive design, however, addressed all of these problems:

Responsive Design

- By using a single code base for website layout, website maintenance was simplified for developers.

- Only one version of the content needed to be written, which could then be displayed on any platform at an appropriate screen size.

- Designs were not limited to phone (narrow) vs. desktop (wide). With the introduction of the iPad and the rapid proliferation of different sized devices that followed shortly after, designs needed to adapt to screen sizes that hadn't yet been defined or invented. Only responsive design could do this.

Looking at Responsive Websites

Many websites today are built using responsive design techniques. They will adapt and change their layouts right in your web browser's window. As you narrow the browser's window, the layout of the website will change. Consider the following screenshots of the Skye Learning website taken from a mobile device.
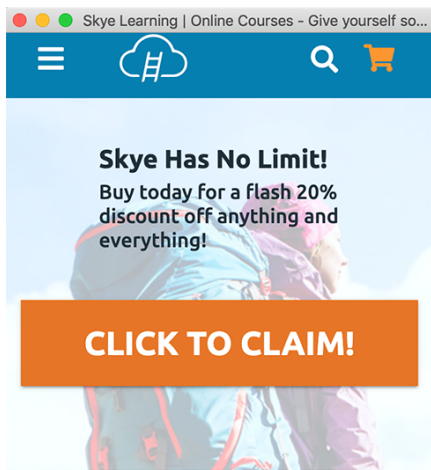
Mobile Device

Tablet Device
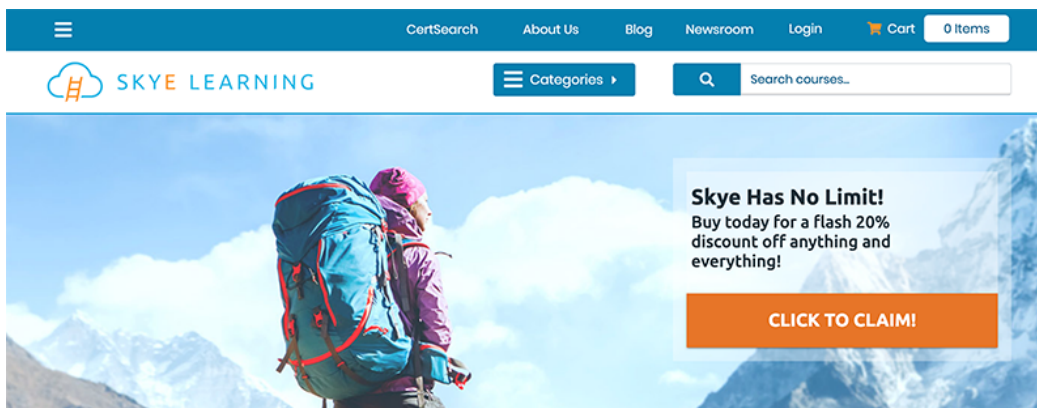
Desktop

Or consider a website like The Boston Globe. Open the link and then adjust the size of your browser and watch how the display changes. These dynamic layout changes are happening right on the computer in front of you — rather than happening on a web server and then downloaded to your computer. Furthermore, all that's needed to make the design change is some HTML and CSS — **no JavaScript or other technologies are required**.

Where is responsive design used today?

Responsive design is available in off-the-shelf coding frameworks like Bootstrap, Foundation, and UIkit, among many others. Individuals may also write code to create a responsive website.

Responsive design is compatible with many web design technologies, including content management systems like WordPress, JavaScript-based sites using React or Node.js, websites using databases, and server-side technologies like PHP or Python; and

static websites built with HTML and CSS. Responsive design may be used with any version of a website.

Video Commentary: Responsive Design
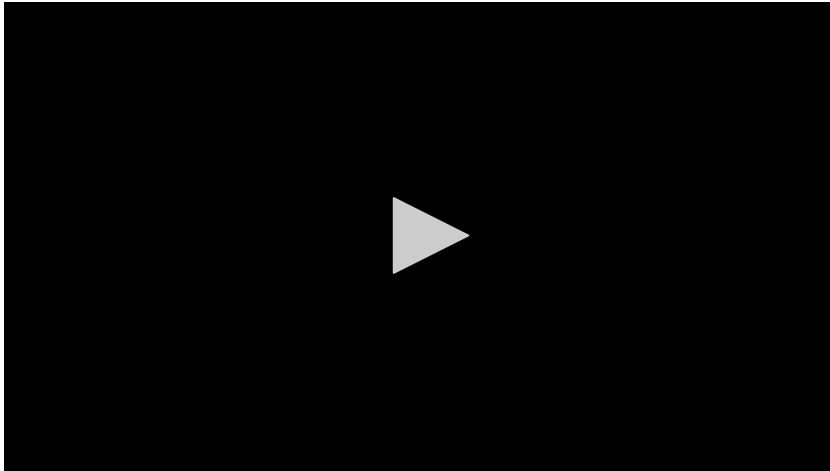
View the Transcript

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Non-Responsive Sites Suffer a High Bounce Rate

According to iAcquire.com, 40% of web users will choose another website if a website that shows up in a search is non-responsive.

Review Checkpoint

To test your understanding of the content presented in this assignment, please click on the Questions icon below. If you have trouble answering any of the questions presented here, you are always free to return to this or any assignment to re-read the material.

1. True or False?

Building a responsive design requires JavaScript, along with HTML and CSS.

a. True

Incorrect. Try again.

b. False

Correct. This statement is false. All that is needed for responsive design is HTML and CSS. No JavaScript or other technologies are required.

2. What was the main drawback to using a content management system to create a responsive design?

a. Content management systems did not allow for the use of images because they did not load on mobile devices

Incorrect. Try again.

b. Web designers had to load the same content into separate templates or themes to display on different devices

Correct. If web designers used content management system like WordPress, the same content would load into entirely separate templates or themes to display on the device of choice.

c. Web designers would develop custom solutions that did not function on content management systems

Incorrect. Try again.

d. Content management systems could not support grid layouts on mobile devices

Incorrect. Try again.