

FIGURE S5.1 Josh Emerson, *Responsive Dog website*. Resize your browser to see the dog “respond” to your browser’s dimensions.

## SECTION 5

# THE WEB

**WHEN I COAUTHORED** *Digital Foundations* in 2008, it made sense to develop chapters on basic HTML and CSS authorship using Adobe Dreamweaver and motion graphics development in Flash. At that time, not all universities offered complete “web design” or “net art” courses, so students were left to learn the basics in other foundations-level digital courses. In 2013, as I’m assembling this section, I’ve had to make some decisions about how to introduce the web to students and readers at a foundational level without taking on more than I can pack into three chapters. Much has changed in five years. Now, many schools, including some high schools, offer courses dedicated to the creation of content for the web. With the advent of HTML5 and CSS3 properties and the absence of Flash Player on the iPad and other touch or mobile devices, Flash is no longer an essential tool in the virtual kit for basic web designers. Furthermore, as much as web design and net art are simpatico with other types of digital art, the creation of such works is based on writing code—something you need not master in order to master

As an aside, this section is my primary area of research, creativity, and teaching. As such, I've authored or edited books to use in my web classes: *Visual Communication on the Web* and *Net Works: Case Studies of Web Art and Design*.

vector graphics, photography, collage, graphic design for multiple pages, or typography. It makes sense that Dreamweaver is nothing like any of the other Adobe applications you've learned to use in this book.

Keeping all of this in mind, I had to sort out what I could and could not realistically expect a student or reader to learn in three chapters. I also wanted to keep quality in mind: when I'm teaching a class, I want the students to leave the class with quality work. I didn't want to build three chapters full of such basic exercises that at the end of the section the quality of the work wouldn't meet the standard of the rest of the book. Upon reflection and lots of classroom time with learners of all levels, I realized that I couldn't teach someone who has never opened Dreamweaver to become a programmer, web designer, or net artist in three chapters. It would also be a mistake to try to show both Dreamweaver and Flash in just a few pages. However, I can demonstrate the foundations, including resolution, common sizes, and the preparation of graphics for the web (which is useful for websites and social media applications); HTML and CSS as coexisting elements of code most commonly used to design content and styles for the web; and remix as a concept that applies to all arenas of art and design but which frequently results in publications for the web. I can also introduce artists and designers who use the web as a platform for creative expression. These are my goals for this section. For anyone interested in becoming a web designer or net artist, I suggest following this with a book or class dedicated to the technical and critical aspects of design for the web.

## LO, THE INTERNET

For a succinct introduction to the earliest internet technologies, see Melih Bilgil's animation, *The History of the Internet*, at <http://youtube.com/9hIQjrMHTv4>.

The history of the web is traced to the history of the internet, which was a collaborative development influenced by ARPANET, created by the U.S. military agency DARPA (Defense Advanced Research Projects Agency), CYCLADES (a French research network), and the National Physical Laboratory (a commercial network in England). One of the primary motivators of the U.S. government in supporting the development of ARPANET was to create a way to archive information and communicate across great distances in the event of an atomic attack. In 1962, the Cuban Missile Crisis elevated the threat that the Cold War presented to the American homeland. Coincidentally, just months before the crisis, J.C.R. Licklider conceived of an "Intergalactic Computer Network," which would lay the foundations for ARPANET (built in 1969) and subsequently the internet.

However, my favorite "internet first" story is that of the first message sent via ARPANET from UCLA student programmer Charley Kline (supervised by

Professor Leonard Kleinrock) to the SRI SDS 940 host computer at Stanford University. While Kline was typing "LOG" to log into the Stanford host computer, the terminal at UCLA crashed. The first message ever sent was "Lo," a beautiful error that Professor Kleinrock has suggested might be understood as "Lo and behold." In an interview, he said, "We couldn't have a better, more succinct first message" (DailyMail.co.uk). I love this story because it alludes to the internet as a medium loaded with noise and errors. While many tout the internet's great democratizing features—anyone with a connection and know-how can publish anything at any time, elevating the status of web users to web producers—I also appreciate the human quality of failure and miscommunication inherent in the digital communication system.

See the computer that sent the world's first email in 1969 at <http://www.dailymail.co.uk/sciencetech/article-1224100/Internets-40th-birthday-First-email-crashes-just-letters.html>.

## SIR TIM BERNERS-LEE: "THIS IS FOR EVERYONE"

I would be remiss not to mention Tim Berners-Lee, who is credited with inventing the World Wide Web in 1990. Among other, probably more important, honors, he was featured in director Danny Boyle's production of the opening ceremony at the Summer 2012 Olympic Games in London. Berners-Lee's vignette showed him with a NeXT Computer (similar to the one on which he invented the web), tweeting, "This is for everyone." The message was immediately displayed in LCD lights on 80,000 chairs in the audience, reinforcing Berners-Lee's belief in royalty-free technology that anyone can use or adapt. This belief is written into and upheld by the standards of the World Wide Web Consortium (W3C), which Berners-Lee founded.

The W3C is "an international community that develops open standards to ensure the long-term growth of the Web." See more at [www.w3.org](http://www.w3.org).

The distinction between the web and the internet is that the web provides a method for accessing data via the internet. The development of the web included new protocols to transmit data and allow applications, such as browsers, to communicate. Since almost all of us use the internet to experience what happens within a browser, many think of the web and the internet as synonymous entities. This is false. An example of a difference is that the internet, not the web, is used to send email. Of course, there are web-based email clients (such as Gmail or Yahoo). However, these are simply linking the user's web-based email experience to the internet protocol utilized to send and receive messages. Since the 1990s and the "social era" of the 2000s, the web has come to trump the internet as the location for "intergalactic" (to use Licklider's term), or at least, international, online communication. In the following three chapters, you'll focus on creating media for display on the web.

# WEB DESIGNER, NET ARTIST, SOCIAL MEDIA ACTIVIST, CONTENT CREATOR

You might be interested in this section of the book for a variety of reasons—perhaps you’re a graphic designer who wants to learn more about interactive media standards, or a digital artist interested in the web as new conceptual terrain. Maybe developing websites or projects that require code doesn’t appeal to you, but using social media in inventive ways or developing content for the web is your goal (FIGURE S5.2). The beauty of the web is that it’s “for everyone,” as Berners-Lee suggested. Don’t let code or programming languages intimidate you as now, more than ever, there are many ways to express yourself on the web.

FIGURE S5.2 In *The Big Plot*, four characters tell a story using dialogues shown in YouTube videos and blog posts, and via entries on their Facebook, Flickr, and Twitter profiles and other social networks.



## RESOURCES FOR EVERYONE

**Web Designer?** Bookmark *A List Apart* and *Smashing Magazine* for their excellent articles and resources.

**Net Artist?** Learn about the early history of net.art in Natalie Bookchin and Alexei Shulgin's *Introduction to net.art* (1994–1999) at <http://easylife.org/netart/> and Mark Amerika's *How to Be an Internet Artist* (2001) at <http://www.altx.com/ebooks/artist.html>. For contemporary works, visit [www.rhizome.org](http://www.rhizome.org).

**Social Media Activist?** Get inspired by winners or leaders of the Shorty Awards #Activism section at <http://shortyawards.com/category/activism> and the Webby Awards Activism section at [www.webbyawards.com](http://www.webbyawards.com).

**Content Creator?** Read Joseph Puopolo's *The Emergence of the Content Creation Class* at <http://techcrunch.com/2012/01/29/the-emergence-of-the-content-creation-class/> and The Oatmeal's "Some thoughts and musings about making things for the web" at [http://theoatmeal.com/comics/making\\_things](http://theoatmeal.com/comics/making_things).

## GRAPHICS AND RESOLUTION

The web is a series of pages linked via the internet, containing text, images, animations, video, or audio files. There are many differences between the web and print technologies, but two essential ones come to mind. The first is that pages on the web can be linked to one another, changing the traditional “passive” reader into an active “user.” As a result, users have more control over the web than readers command over the printed page. An example of this is the second primary difference between the web and printed media: the web designer or developer, unlike the print designer, can never know for sure what the dimensions of the “page” (or web browser) will be for any given user. Users access the web on a variety of devices—smartphones, tablets, laptops, netbooks, desktop monitors, and even large television screens—and the screen resolution on one device often varies drastically from the resolution on another. Add to this the user’s ability, in many situations, to stretch the browser to any odd size that fits her viewing preferences, and you can easily imagine that there’s no one pixel dimension that is the set “page size” for users on the web (see FIGURE S5.1 at the beginning of this section).

However, standards are always developed. To keep things simple, this section doesn’t address the wide variety of interfaces or making a web page “responsive” (when the page resizes or reloads to fit the user’s viewing context). Instead, it simply assumes that the page will be viewed in a browser on a laptop or desktop computer. This limited situation let’s you work with the current web standard: 960 pixels wide (or less) at 72 PPI.

The length of a website is less important than its width, as users are willing to scroll vertically, but not vertically *and* horizontally.

In Chapter 13, you’ll create a series of graphics to be inserted on the web page developed in Chapter 14.

## STANDARD RESOLUTION DIMENSIONS ON WEB VIEWING DEVICES

This list is in no way comprehensive, and it's likely to change by the time you read this book. Nonetheless, this is a general, early 2013 guide to common resolutions:

- Smartphones: 320 by 480 pixels (landscape or portrait). The iPhone 3 and prior versions display at 163 PPI.
- Smartphones X2: The iPhone 4 is twice the size of the iPhone 3 at 640 by 960 pixels and 326 PPI.
- Tablets: 1024 by 768 pixels (landscape or portrait). The iPad 1 and iPad 2 display at 132 PPI.
- Tablets X2: The iPad 3 is twice the size of older versions at 2048 by 1536 pixels at 264 PPI.
- Netbooks and Some Laptops: 1024 by 768 pixels at 72 PPI.
- Large Laptops: 1900 by 1200 pixels at 72 PPI.
- Large Desktops: 1680 by 1050 pixels at 72 PPI.

In addition to standard sizes and resolutions, there are standard image file formats for display in a web browser. Currently, JPG and PNG are used most often, although the animated GIF has returned recently as a web meme.

With an understanding of resolution and graphic formats, you'll develop images in Chapter 13, *Graphics on the Web*, for a simple website to be tweaked in Chapter 14, *Know the Code*. In Chapter 15, *Remix the Web*, you'll learn about remix as a practice and discourse and develop visual media for publication on the web.

## CODE

The most basic programming language used on the web is hypertext markup language (HTML)—the language used to insert content on a web page. However, it's no longer sufficient to have a working knowledge of just one language. You also need to understand how Cascading Style Sheets (CSS) contribute to the style of the web page. HTML and CSS work in tandem in the development and display of web pages. Other languages are used for dynamic content, but these two are elementary.

While it's not possible to learn HTML and CSS in just three chapters (or three weeks of a semester-length class, perhaps), you can at least work with one of the many templates available in Dreamweaver or downloaded from a website to understand the purpose of each of these two languages.

In Chapter 14, you'll modify HTML and CSS template files in Dreamweaver.

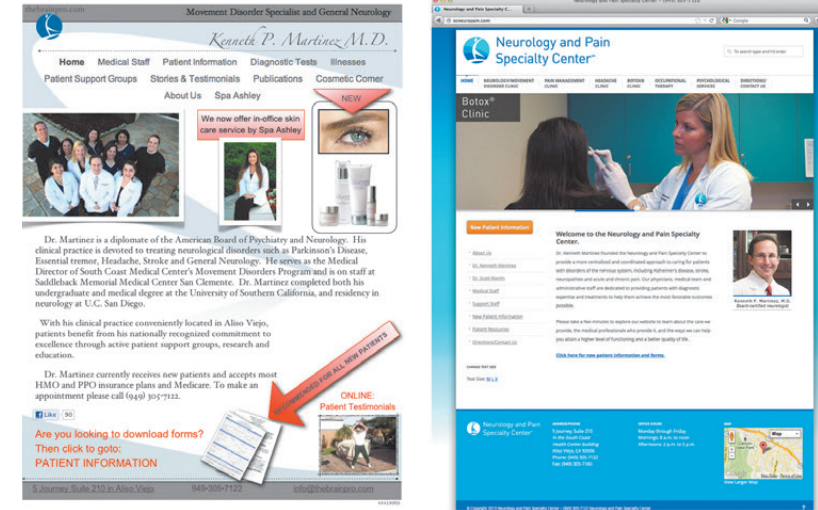


FIGURE 55.3 Adrienne Grace and Tony Pinto, Grace/Pinto Communication Design, *Redesign for Neurology and Pain Specialty Center*. The screenshot on the left was the client's original website. On the right, Grace/Pinto redesigned the site with a customized WordPress theme.

The word “template” seems oppositional to creativity and individuality. Yet in the process of web programming, a template often behaves better than your first crack at a new design. A commonly used synonym is “theme.” This feels a little less rigid, and with some modification (“modding”), you can always make a theme fit your own work (FIGURE 55.3). There's no shame in using a theme, but remember to credit the original designer with proper attribution.

## REMIX

In the final chapter in this section, you'll put your new web skills to work by focusing on a special topic: remix. Originally understood as a practice in music cultures, remix has emerged as a discourse for study in art, design, and visual communication. The popularity of remixed media created for publication on the web is ever growing. This type of work can be created by digital artists, fans (some of whom are “vidders”), and companies alike. In Chapter 15, you'll learn about different types of remix (extended, selective, reflexive, and regenerative) before taking on at least one of the suggested exercises. This chapter is different from most of the others in the book because the exercises act as points of departure, rather than step-by-step activities. You'll use all of the skills you've learned from Chapters 1 through 14 while working on the exercises in Chapter 15.

**LINK** Even MoMA has developed an interactive remix activity: [http://www.moma.org/interactives/redstudio/interactives/remix/index\\_f.html](http://www.moma.org/interactives/redstudio/interactives/remix/index_f.html).

In Chapter 15, you'll create a remixed media project to publish on the web.