post02-jessica-li

HTML website editing through “Inspect”

HTML, remarkably, was invented in 1989 at CERN. Its inventor, Tim Berners-Lee, wanted a method to connect international researchers and cross-reference research papers without having to locally save numerous versions of documents. HTML was evolved from a series of hypertext systems created to fulfill this niche.

HTML, Hyper Text Markup Language, uses markup to detail the structure of websites. HTML pages are combinations of HTML elements, and each element is represented by a tag. Tags categorize parts of webpages, e.g. into “heading,” “paragraph,” or “table.”

HTML is a powerful language, made more so because of its availability to most if not all computer users. Windows users can use Notepad and Mac users Text Edit to write HTML code, save it with HTML-preferred UTF-8 encoding, and open it in a web browser, such as Google Chrome, Safari, or Internet Explorer.

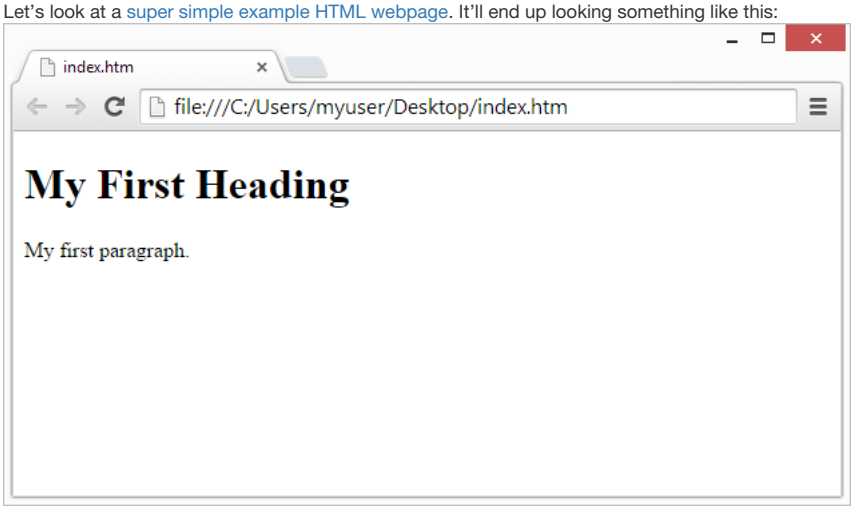
However, HTML can be a complicated and entire-life’s-work kind of undertaking. As discussed in lecture, a website’s source code (the entire HTML writing of its page) can be viewed through, in Google Chrome, my browser of choice, right-clicking and selecting “View Page Source.” More formally, Google Chrome allows users to find the HTML source code by opening the Chrome menu > “More Tools” > “Developer Tools.” The page that pops up consists of all the HTML code needed to create the website. It’s a lot, huh?

I suppose that if you wanted to mess with a website and make it say whatever you wanted, you could copy and paste the entire source code into a text editor and modify one line of it. But there’s an easier way. Right clicking on a webpage and choosing “Inspect” will open up a copy of the HTML source code of the website that will change the webpage in real time. This is useful to maintain confidentiality of information on websites you need to screenshot, test changes to the source code to recommend improvements, or guerilla learn how HTML. I’m going to take a shot at the latter.

HTML Basics

HTML, like Java, from my understanding, is a category-based language. That’s to say that each element is wrapped in a tag to distinguish its purpose or appearance in the whole of the page.

Let’s look at a super simple example HTML webpage. It’ll end up looking something like this:



This is its source code:

```
<!DOCTYPE html>
<html> #Stating what language this is . . . we're not in R anymore!
<body> #Everything following this is the body of the webage.

<h1>My First Heading</h1>
  #The tag <h1> indicates that this is a first level header. The tag <h2> would be smaller than <h1> and so forth.
  #Most HTML tags that start with a <[text]> end with a </[text]>, indicating that that element ends there. In thi
s case, the heading ends after "Heading."
  #Editing the text between the beginning and end tags will edit what the website says.

<p>My first paragraph.</p>
  #<p> indicates a non-header, paragraph element
  #Again, note that the paragraph ends where </p> is, therefore the paragraph consists of just "My first paragraph
."

</body>
  #The body of the webpage ends here!
</html>
  #The use of HTML ends here, at the end of the webpage code!
```

Using “Inspect”

Now, let’s try applying this to an actual website. I chose the Berkeley BioE faculty office hours website so I can pretend to have office hours with anyone I want.

First, open the website at http://bioeng.berkeley.edu/people/officehours. Right click on the page and choose “Inspect.” The panel that pops up has the entire source code of the website.

Notice the title, “Faculty office hours.” Let’s change that to represent what we’re going to turn this page into. The title is the largest header on the page, so it’ll have the tag `<h1>`. Scroll through the code to find:

```
<header class="entry-header">
  #Everything following this and before the closing tag are headers.
  <h1 class="entry-title" itemprop="headline">Faculty office hours</h1>
  #This tag <h1> signifies that this is the largest header.
  #The attribute itemprop = "headline" describes its attributes (the ITEM's PROPerties.
  #"Faculty office hours" is what this element actually says on the website.
  #That's all the headline has, so this is all followed by a closing tag.
</header>
  #That's it for the header, so here's the closing tag.
```

In the inspect panel, change this line to:

```
<header class="entry-header">
  <h1 class="entry-title" itemprop="headline">Imaginary office hours</h1>
  #Note that this only changes the text of the headline, not the appearance or class of it as appears on the webpa
ge.
</header>
```

Press Enter, and look at the webpage (temporarily) change!

Now let’s get into the good stuff, changing who we can have office hours with. It can be hard to find the info in the table of office hours, so in the inspect panel, click on the top left symbol that looks like a mouse pointer over a square. Selecting this will jump to whatever portion of the code corresponds to what part of the website you click. With that selected, click on the first entry of the table, “Paul Adams.”

The source code should jump to a section with this:

```
<tr>
  #The <tr> tag indicates a Table Row.
<td>Paul Adams</td>
  #The <td> tag indidcates a Table's Data. After the corresponding closing tag, the next table cell is selected.
<td>208 Donner Labs</td>
  #This <td> tag corresponds to the data in the cell to the right.
<td> by appointment</td>
</tr>
```

I want to have office hours with Iron Man. He’s a really remarkable example of bioengineering, and I’d love to learn from him, if not emulate him myself. Change the source code to this:

```
<tr>
<td>Iron Man</td>
<td>The infamous basement of Tony Stark</td>
<td>by appointment, with approval from Pepper Potts</td>
</tr>
```

Press Enter again, and voila! See you at Iron Man’s office hours!

Conclusion

I hope this has shown you that HTML is a pretty structured, straightforward language. Additionally, if you didn’t know about the Inspect tool before, I hope you have fun using to learn how websites are put together!

References

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