

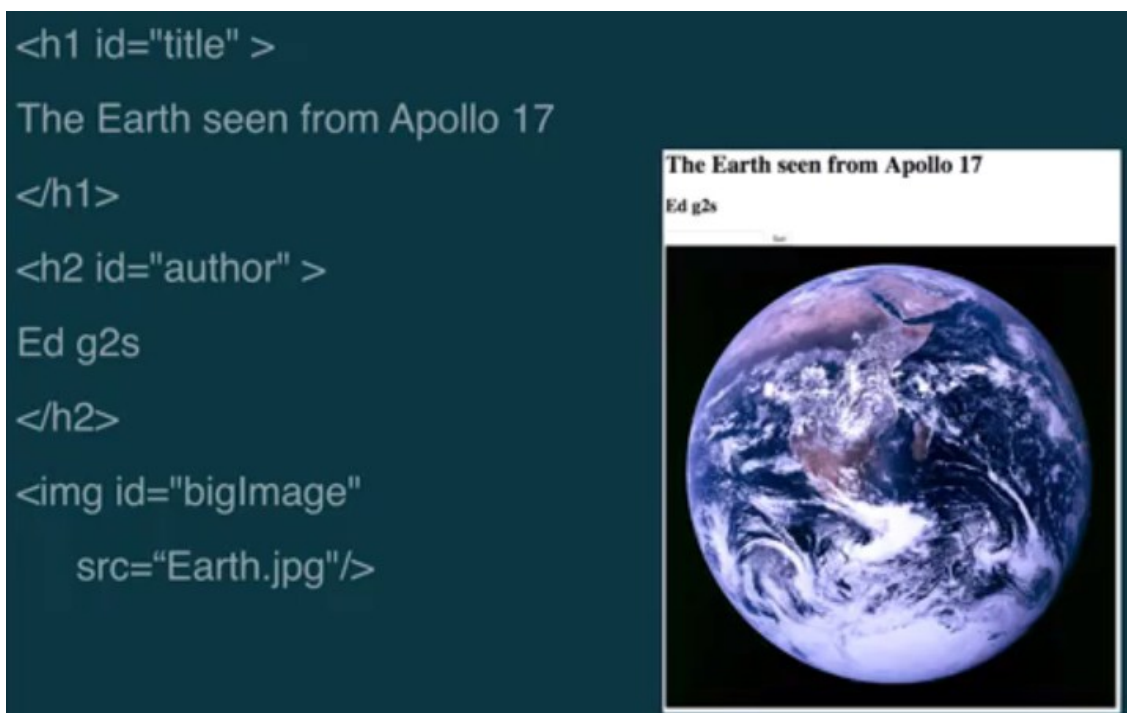
2.3.1.1: Separating structure and content

This week we're gonna look at separating out the structure and the content of a webpage but what does that actually mean? Kate has been telling you is how to lay the webpage out, correct? Get a TD structure, a graphical structure, that helps people understand how to use it.

And that structure consists of a lot of elements. Consists of a nav bar with a menu in consists of a body, and that body has the actual content of the webpage. And that content is a bunch of images. But, the thing we can do here is that this structure, the fact that it has a nav bar, the fact that it has a menu, the fact that there are a bunch of images in, is separate from the fact that, which individual images those are.

- We could use the same structure to display all sorts of different images and we still get a nice image based gallery website.

So what I wanna do is look at how we do that, we separate structure and the content of a webpage. So, this is some HTML that creates this very simple web page, so we've got a title element, an author element, and an image element, and the title and author heading element with text in the image. It's got a source in the image file. All of these things, these three elements, give us the structure of the web page. But they're also giving us the content to the web page because they've got the the text of the title, the text of the author, the source of the image.



So really each element is doing two things

```
<h1 id="title">
  The Earth seen from Apollo 17
</h1>
```

- Firstly, there is the actual h1 and the ID, the tag itself. This is the structure of it. It's saying how it's actually laid out. And importantly it's the same for all the images that we're looking at. We don't, all of the images are gonna have an h1 for their title.
- The other bit is the actual text that goes inside this title. And this is gonna be different from each image. Other images are gonna have different names.

So, we can see that any bit of HTML we're working with, can have this structure bits which could really apply to sort of any kind of very different content file. So any image is going to have a title author image tag. And the actual content of those tags, the text, the image files, are gonna be unique to each specific image, and we're gonna talk about how to do that, make that separation.

- Each of the tags, the h1, the h2, the image, they are your structure.
- Whereas here, the actual text of the title, the author, and the image file, those are your content and can vary between different images.

So, if we can separate those out, we can create a sort of much more powerful web experience. But I wanna give you through a little bit of an example of why that's a good idea, and why that helps.

Let's have a quick look at the actual HTML of the webpage I've been showing you, up to now. So this is a bit of the webpage that I showed you at the beginning of this lecture. It's a, it's displaying one particular image. It's got a bunch of HTML, it's actually quite complex. There's some Bootstrap up here. It's got an image tag which is the actual image we're displaying and it's got a bit for the title. A bit for the description of the image, there's some really complex HTML in here and as we can see all these tabs are really the structure I've been talking about.

```
(taking up 12 grid columns)-->
37  <!-- md-3 : medium and up displays use 3 grid
    columns per column -->
38  <div class="col-xs-12 col-md-3">
39    <a href="photos.html">
40      <div class="thumbnail">
41        
42
43        <div class="caption">
44          <h3>Album 1</h3>
45          <p>description of the image</p>
46        </div>
47      </div>
48    </a>
49  </div> <!-- / col -->
```

This image file and the name album one, that's the content. And you can see down here, to produce another one, these aren't actually images. These are albums, but it's the same type of thing. The structure is pretty much the same structure, it's got the same elements. It's got all the same divs. But, the actual content here is changing.

So this is quite an easy thing to produce, like copy paste all of the code and type in the new versions, and we've fairly quickly got four different images on there. But then I said, what if I don't really like the fact that this is in h3, that's a bit too big, I wonder if I change it to an h4? I've got to change the other one, haven't I? I'm having to remember to change them in lots of places and it's getting to be quite a lot of work.

- And if you watch me carefully, you'll have noticed that I forgot to change the h3 here. So I've made a mistake and the more stuff you have to change the more likely you are to make a mistake.

So I'm creating a lot of work for myself, because every time I want to change the structure of the webpage, I'm gonna have to edit individually for every single element, every single image I've got in there. Rather than having a single structure which applies to all elements and to be able to simply change it once and then automatically whenever I bring up a new image, the structure will be my new edited structure.

So that's a really nice example of why you need separate our content and structure, and it makes it more convenient if I've got four images. If I'm scaling this website to thousands of images, there's no way I gonna be able to individually edit the HTML of each individual image if I'm gonna have to create them separately. I need a way of being able to define the HTML once and bring in images individually, so that our website can scale fully to the number of images we would really like to have on it. So thousands. So what I'm gonna do for the rest of this week, is, talk about how to make that separation. Do the HTML just once, and then bring in lots of different types of content based on different images you want to display.