

# software studio

document object model

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# a web page

Screenshot of webpage removed due to copyright restrictions.  
See next slide for image reference.

# highlighting elements

The screenshot shows the Apple homepage for the new MacBook Air. At the top, there's a navigation bar with links for Store, Mac, iPod, iPhone, iPad, iTunes, and Support. Below the navigation bar is a large image of a MacBook Air laptop. To the left of the laptop, there's a smaller image of an iPhone displaying a galaxy wallpaper. The main headline reads "The new, faster MacBook Air". Below the headline, there's a sub-headline "The ultimate everyday notebook." followed by "Now up to 2.5x faster, featuring high-speed Thunderbolt I/O and OS X Lion." At the bottom of the page, there are four promotional boxes: "OS X Lion. Available Now.", "Watch the new iPad TV ad.", "iCloud. Coming this fall.", and "Buy a Mac for college and get \$100 to spend on the Mac App Store." The "billboard" section at the bottom is highlighted with a yellow border.

div#billboard [680x400]

OS X Lion. Available Now.  
Download it today from the Mac App Store.

Watch the new iPad TV ad.

iCloud. Coming this fall.  
iCloud stores your content and wirelessly pushes it to all your devices.

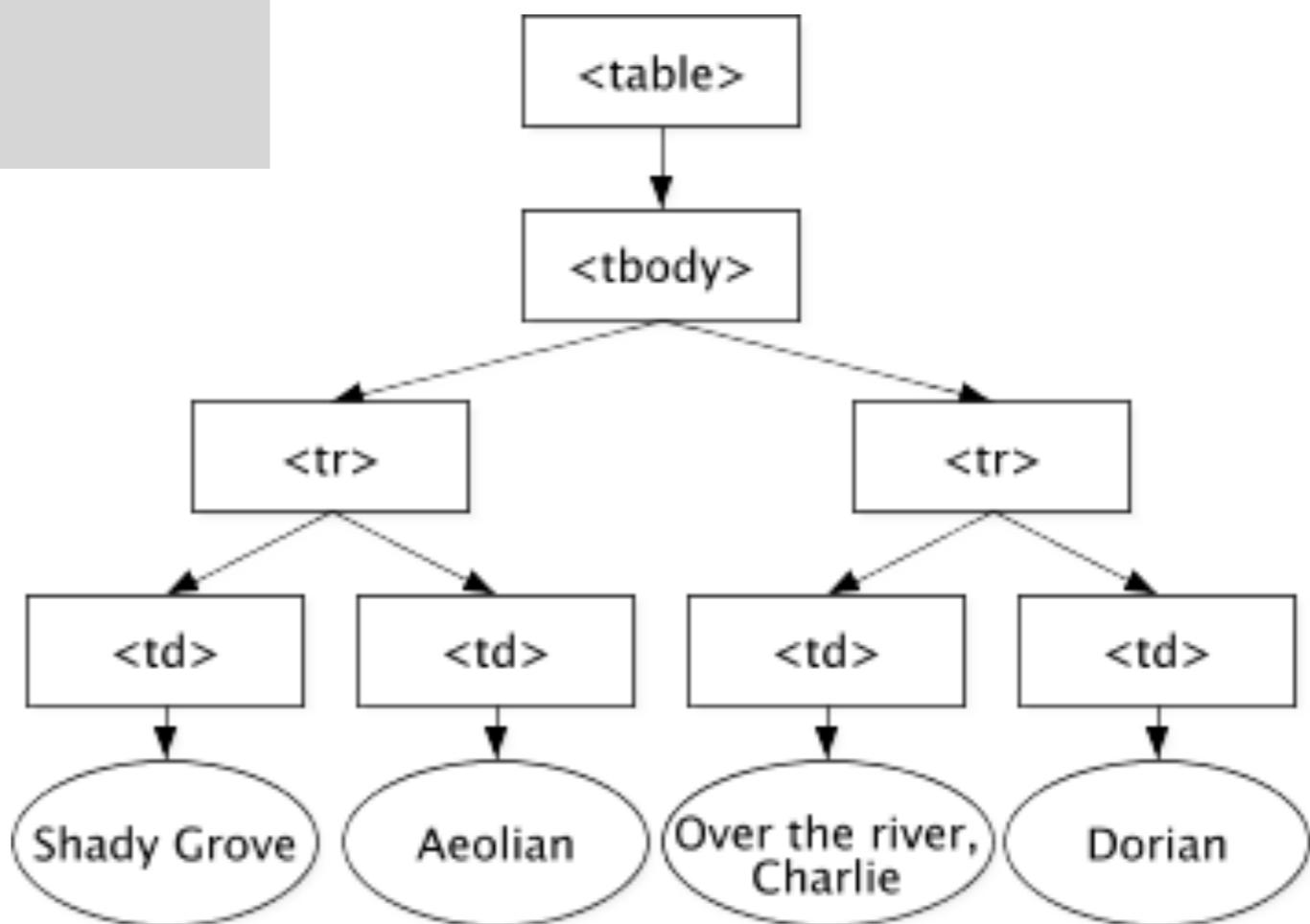
Buy a Mac for college and get \$100 to spend on the Mac App Store.  
Terms apply.

Shop the [Apple Online Store](#) (1-800-MY-APPLE), visit an [Apple Retail Store](#), or find a reseller.  
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```
http://www.apple.com/air/mac  
lang="en-US"  
► <head>...</head>  
▼ <body id="home" class="keynote">  
  <script type="text/javascript">  
    var searchSection = 'global';  
    var searchCountry = 'us';  
  </script>  
  <script src="http://images.apple.com/globalnav.js" type="text/javascript" 8"></script>  
  ▶ <nav id="globalheader" class="apple g globalheader-loaded globalheader-load<script type="text/javascript"> AC.GlobalNav.Instance = new A</script>  
  <div id="globalheader-loaded-test"></div>  
  ▶ <div id="top">...</div>  
  ▼ <div id="main">  
    ▼ <div id="content">  
      ▶ <div id="billboard">...</div>  
      <!--/billboard-->  
      ▶ <aside id="headlines">...</aside>  
      ▶ <aside class="promos">...</aside>  
      <!--/promos-->  
    </div>  
    <!--/content-->  
    ▶ <footer id="homefooter">...</footer>  
    <!--/homefooter-->  
  </div>  
  <!--/main-->  
  <!-- Start of DoubleClick Spotlight Tag -->  
  <!-- Creation Date:11/19/07 -->  
  ▶ <script type="text/javascript">...</script>  
  ▶ <iframe src="http://fls.doubleclick.net/ src=1566767;type=apple663;cat=apple24 ord=6378379939123.988?" width="1" height="0">...</iframe>  
  ▶ <noscript>...</noscript>  
  <!-- End of DoubleClick Spotlight Tag -->  
  </body>  
</html>
```

# the DOM structure

```
<table>
  <tbody>
    <tr>
      <td>Shady Grove</td>
      <td>Aeolian</td>
    </tr>
    <tr>
      <td>Over the River, Charlie</td>
      <td>Dorian</td>
    </tr>
  </tbody>
</table>
```



# client-side programming

where's the code?

- › JavaScript

manipulating the DOM

- › traverse the elements
- › add and delete elements
- › modify properties (eg position)
- › modify styles (eg color)

also

- › registering events (against timers, buttons)
- › making calls to webservers

# what DOM code looks like

```
// bind arrow button callbacks
// to arrow keys also
$(document).keydown(function(e){
  if (e.keyCode == ARROW_LEFT) {
    gallery.prev();
    widget.refresh();
  }
  else if (e.keyCode == ARROW_RIGHT)
  {
    gallery.next();
    widget.refresh();
  }
});
...
gallery.prev = function () {
  if (mode == SP.mode.SLIDESHOW) {
    change(SP.mode.PHOTO);
    gallery.prev_photo();
  }
  else if (mode == SP.mode.PHOTO)
    gallery.prev_photo();
  else if (mode == SP.mode.GRID)
    gallery.prev_grid();
}
```

```
var photo = {};
// JQuery image object
var image = $('');
// box to contain image and caption
var box = $('

');
// box to contain caption
var captionBox = $('

');

// make invisible initially
box.css('opacity', 0);
box.addClass(css_prefix + '_box');
box.append(image);
if (caption && caption != "") {
  captionBox.text(caption);
  captionBox.addClass(css_prefix +
'_caption');
  box.append(captionBox);
}


```

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