HTML5 – adding semantics to webpages

- HTML / XHTML were simple page-oriented structures
  - Headings, paragraphs, lists, tables, images etc

- Gradually generic structures take over as use of the Web explodes
  - `<div>` & `<span>`

- HTML5 recognises major new structures that are useful for
  - search engines; Google or Yahoo! can weight content in footer elements lower, or extra weight to content in the header.
  - usability for people with disabilities, screen readers etc
Structure of HTML5 Web page

<!DOCTYPE html>
<html>
<head>
<title>Title of the document</title>
</head>

<body>
This is a really simple HTML5 page
</body>

</html>
Navigation support

<nav>: Represents a major navigation block. It groups links to other pages or to parts of the current page whose role is simply navigation

```html
<nav>
  <ul>
    <li><a href="/">Home</a></li>
    <li><a href="/events">Current Events</a></li>
    <li><a href="/contact">Contact us</a></li>
  </ul>
</nav>
```
<Header>: tag specifies a header for a document or section, the title and
datestamp of a blog entry or news article

<body>
  <header>
    <h1>Little Green Guys With Guns</h1>
    <nav>
      <ul>
        <li><a href="/games">Games</a></li>
        <li><a href="/forum">Forum</a></li>
        <li><a href="/download">Download</a></li>
      </ul>
    </nav>
  </header>
  <article>
    <header>
      <h1>Military Offers Assurances to Egypt and Neighbors</h1>
      Published: <time datetime="2011-02-13">February 13 2011</time>
    </header>
    <p>
      CAIRO - As a new era dawned in Egypt on Saturday,
      the army leadership sought to reassure Egyptians and
      the world that it would shepherd a transition to civilian
      rule and honor international commitments like the peace treaty with Israel.
    </p>
  </article>
<p>You have three active games:</p>
<!-- this is still part of the subsection entitled "Games" -->
...
Header & Footer

<footer>: Material that comes at the base of the page or article, e.g. copyright and contact information.

<ARTICLE>
<H1>My Favorite Trains</H1>
<P>I love my trains. My favorite train of all time is a Kof.</P>
<P>It is fun to see them pull some coal cars because they look so dwarfed in comparison.</P>
</FOOTER> <!-- footer for article -->

<P>Published <TIME PUBDATE DATETIME="2009-09-15T14:54-07:00"></TIME></P>
</FOOTER>
</ARTICLE>

<FOOTER> <!-- site wide footer -->
</NAV>

<P><A HREF="/credits.html">Credits</A>-
<A HREF="/tos.html">Terms of Service</A> -
<A HREF="/index.html">Blog Index</A></P>
</NAV>

<P>Copyright © 2009 Gordon Freeman</P>
</FOOTER>
</BODY>
Articles

<article>: Articles and blog entries are common, an alternative to <div class="article"> used for distributable content in e.g. RSS feeds

An article may contain a header and footer and a title.

```html
<body>
<h1>My blog</h1>
<article>
<header>
<h1>The Very First Rule of Life</h1>
<p><time pubdate datetime="2009-10-09T14:28:08:00"></time></p>
</header>
<p>If there's a microphone anywhere near you, assume it's hot and sending whatever you're saying to the world. Seriously.</p>
<p>...</p>
<footer>
<a href="/comments=1">Show comments...</a>
</footer>
</article>
</body>
```
Asides (not as important)

<aside>: The "aside" element is a section that somehow related to main content, but it can be separate from that content

<article>
<p>
As of writing, the only web browser completely support date time input is Opera. In HTML5, it is the job of web browser to ensure user can only enter a valid date time into the input textbox.
</p>

<aside>
Picking a date from Calendar is not the only way to input a date value even though it's HTML5 specifications does not mention anything about displaying a calendar for date inp
</aside>
</article>
Media - audio & video

• Until now, there has not been a standard for playing media files.

• Today, most audio & video is played by a plug-in (e.g. Adobe Flash).

• HTML5 provides new elements for media
  – But only understands a limited set of formats

<video src="movie.webm"></video>
<audio src="music.mp3"></audio>
Overall Structure of Web page

- `<header>`
- `<nav>`
- `<article>`
- `<section>`
- `<aside>`
- `<footer>`

Other Tags

- `<canvas>`
- `<meter>`
- `<hgroup>`
- `<progress>`
- `<address>`
- `<time>`
- `<figure>`
Drawing – Canvas

Provides a surface for programs to draw images using a standard API.
Avoids the need to download pre-generated images from the network.
- Lines
- Arcs
- Text
- Gradients
- Patterns.
Also provides image and pixel manipulation.

```html
<canvas id="myCanvas">
</canvas>

<script>
  var myCanvas = document.getElementById("myCanvas");
  var drawingContext = myCanvas.getContext("2d");

  canvasContext.fillRect(100, 100, 100, 100);
</script>
```