Origins and Evolution of HTML

- HTML was defined with SGML
- Original intent of HTML: General layout of documents that could be displayed by a wide variety of computers
- Recent versions:
  - HTML 3.2 – 1997
    - Introduced many new features and deprecated many older features
  - HTML 4.01 - 1999 - A cleanup of 4.0
  - XHTML 1.0 - 2000
    - Just 4.01 defined using XML, instead of SGML
  - XHTML 1.1 – 2001
    - Modularized 1.0, and drops frames
    - We’ll stick to 1.1, except for frames

Reasons to use XHTML, rather than HTML:

1. HTML has lax syntax rules, leading to sloppy and sometime ambiguous documents
   - XHTML syntax is much more strict, leading to clean and clear documents in a standard form
2. HTML processors do not even enforce the few syntax rule that do exist in HTML
3. The syntactic correctness of XHTML documents can be validated

Basic Syntax

- Elements are defined by tags (markers)
  - Tag format:
    - Opening tag: <name>
    - Closing tag: </name>
  - The opening tag and its closing tag together specify a container for the content they enclose
- Not all tags have content
  - If a tag has no content, its form is <name />
- The container and its content together are called an element
- If a tag has attributes, they appear between its name and the right bracket of the opening tag
- Comment form: <!-- … -->
- Browsers ignore comments, unrecognizable tags, line breaks, multiple spaces, and tabs
- Tags are suggestions to the browser, even if they are recognized by the browser
HTML Document Structure

- `<html>`, `<head>`, `<title>`, and `<body>` are required in every document
- Every XHTML document must begin with:

```xml
<?xml version = "1.0"?>
<!DOCTYPE html PUBLIC "-/w3c//DTD XHTML 1.1//EN"
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>
```

- The whole document must have `<html>` as its root
- `<html>` must have the xmlns attribute:

```xml
<html xmlns = "http://www.w3.org/1999/xhtml" />
```

- A document consists of a head and a body
- The `<title>` tag is used to give the document a title, which is normally displayed in
  the browser’s window title bar (at the top of the display)
- Prior to XHTML 1.1, a document could have either a body or a frameset

Basic Text Markup

- Text is normally placed in paragraph elements
- **Paragraph Elements**
  - The `<p>` tag breaks the current line and inserts a blank line - the new line
gets the beginning of the content of the paragraph
  - The browser puts as many words of the paragraph’s content as will fit in
each line

```xml
<?xml version = "1.0"?>
<!DOCTYPE html PUBLIC "-/w3c//DTD XHTML 1.1//EN"
http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd>
<!-- greet.html -->
A trivial document
--> 
<html xmlns = "http://www.w3.org/1999/xhtml"> 
<head> 
<title> Our first document </title>
</head>
<body> 
<p> 
Greetings from your Webmaster!
</p> 
</body> 
</html>
```

- W3C HTML Validation Service
  http://validator.w3.org/file-upload.html
- Line breaks
  - The effect of the `<br />` tag is the same as that of `<p>`, except for the blank line
No closing tag!

Example of paragraphs and line breaks
On the plains of hesitation `<p>` bleach the bones of countless millions `</p>` `<br />
who, at the dawn of victory `<br />` sat down to wait, and waiting, died.

Typical display of this text:
On the plains of hesitation
bleach the bones of countless millions
who, at the dawn of victory
sat down to wait, and waiting, died.

Headings

- Six sizes, 1 - 6, specified with `<h1>` to `<h6>`
- 1, 2, and 3 use font sizes that are larger than the default font size
- 4 uses the default size
- 5 and 6 use smaller font sizes

<!-- headings.html
An example to illustrate headings -->
<html xmlns = "http://www.w3.org/1999/xhtml">
<head> <title> Headings </title> </head>
<body>
<h1> Aidan’s Airplanes (h1) </h1>
<h2> The best in used airplanes (h2) </h2>
<h3> "We’ve got them by the hangarful" (h3) </h3>
<h4> We’re the guys to see for a good used airplane (h4) </h4>
<h5> We offer great prices on great planes (h5) </h5>
<h6> No returns, no guarantees, no refunds, all sales are final (h6) </h6>
</body>
</html>
Aidan's Airplanes (h1)

The best in used airplanes (h2)

"We've got them by the hangarful" (h3)

We're the guys to see for a good used airplane (h4)

We offer great prices on great planes (h5)

No returns, no guarantees, no refunds, all sales are final! (h6)

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