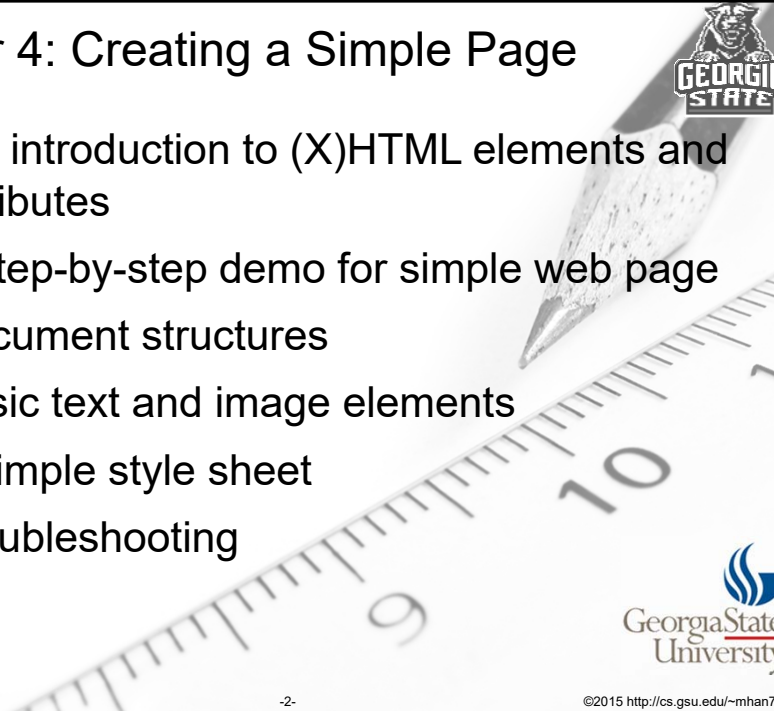# Fundamentals of Website Development
CSC 2320, Fall 2015

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The Department of Computer Science

Chapter 4: Creating a Simple Page

- An introduction to (X)HTML elements and attributes
- A step-by-step demo for simple web page
- Document structures
- Basic text and image elements
- A simple style sheet
- Troubleshooting

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5-steps to produce a web page

- Start with content

- Give the document structure

- Identify text elements

- Add an image
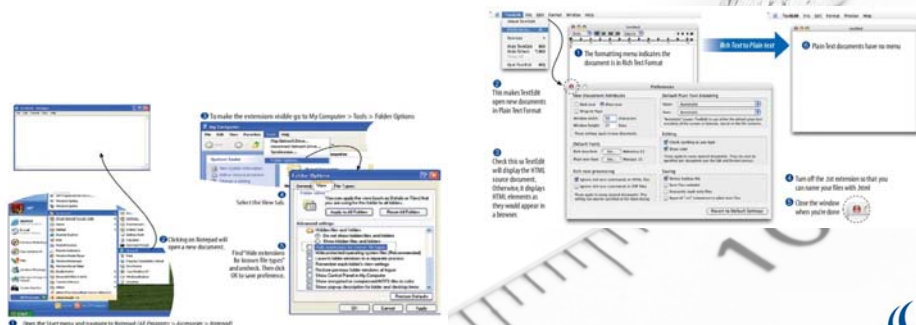
- Change the look with a style sheet

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Launch a Text Editor

- Creating a new document in Notepad (Windows)
- Creating a new document in TextEdit (Mac OS)

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Step 1: Content

- Type your content

- Save your file

- What Browsers Ignore?

  – Line breaks (carriage returns)

  – Tabs and multiple spaces

  – Un-recognized markup

  – Text in comments

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Step 2: Document Structure

- HTML element

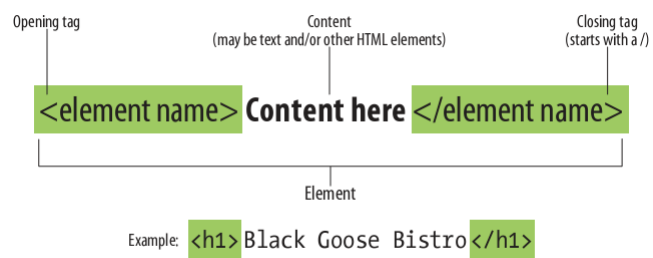Opening tag

Content
(may be text and/or other HTML elements)

Closing tag
(starts with a /)

<element name> **Content here** </element name>

Element

Example: `<h1>`Black Goose Bistro`</h1>`

Figure 4-6. The parts of an (X)HTML element.

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Step 2: Document Structure

- Basic document structure

```
                                    <html>
                                    <head>
          ❷ ─┐                      <title> Title here </title>──── ③
                                    </head>
  ❶ ─┤
                                    <body>
          ❹ ─┐                      Web page content here.
                                    </body>
                                    </html>
```
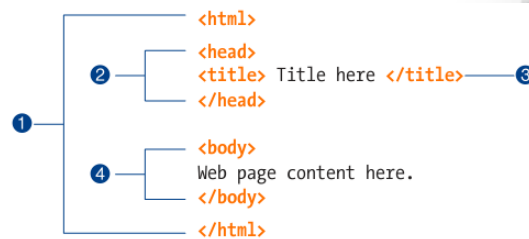
The minimal structure of an (X)HTML document:

❶ Identifies the document as written in HTML or XHTML
❷ The head provides information about the document
❸ A descriptive title is required
❹ The body contains the content that displays in the browser

Step 2: Document Structure

- Tips
  - Lower cases for elements and attributes
    - <head> …</head>, <p>…</p>
  - Use quotation marks for attribute values
    - <content name="The Web Design" > …
  - Closing elements every time
  - Use style sheets instead of table-based approach

Step 3:Identify Text Elements

- **Semantic Markup**
  - ▫ Block elements
    - Headings → <h1>
    - Subheadings → <h2>, <h3>,...
    - Paragraphs → <p>
  - ▫ Inline elements
    - Emphasized text → <em>
    - Link → <a>
  - ▫ Comment tags → <!-- comment -->
- **Default Styles**
  - ▫ All browsers have their own built-in style sheets that describe the default rendering of (X)HTML elements.
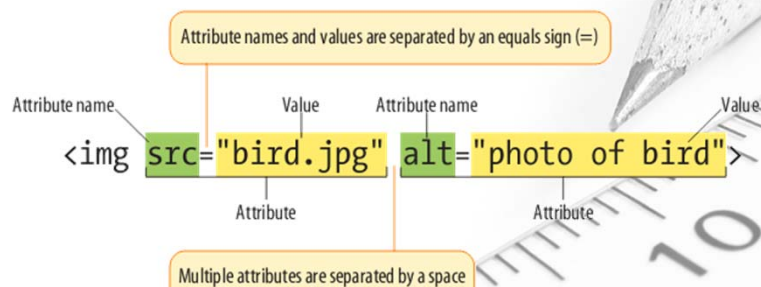
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Step 4: Add an Image

- Use element <img>

Attribute names and values are separated by an equals sign (=)

Attribute name   Value   Attribute name   Value

`<img src="bird.jpg" alt="photo of bird">`

Attribute   Attribute

Multiple attributes are separated by a space

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Step 5: Set the Look (Style Sheet)

• Create style rules

```
<head>
    <title>Black Goose Bistro</title>
    <style type="text/css">

    </style>
</head>
```

```
<style type="text/css">
body {
    background-color: #C2A7F2;
    font-family: sans-serif;
    }
h1 {
    color: #2A1959;
    border-bottom: 2px solid #2A1959;
    }
```

```
h2 {
    color: #474B94;
    font-size: 1.2em;
    }
h2, p {
    margin-left: 120px;
    }
</style>
```

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em vs. px vs. pt vs. percent

• **"Ems" (em):** The "em" is a scalable unit that is used in web document media. An em is equal to the current font-size, for instance, if the font-size of the document is 12pt, 1em is equal to 12pt. Ems are becoming increasingly popular in web documents due to scalability and their mobile-device-friendly nature.

• **Pixels (px):** Pixels are fixed-size units that are used in screen media (i.e. to be read on the computer screen). One pixel is equal to one dot on the computer screen (the smallest division of your screen's resolution). Problem?

• **Points (pt):** Points are traditionally used in print media (anything that is to be printed on paper, etc.). One point is equal to 1/72 of an inch. Points are much like pixels, in that they are fixed-size units and cannot scale in size.

• **Percent (%):** The percent unit is much like the "em" unit, save for a few fundamental differences. First and foremost, the current font-size is equal to 100% (i.e. 12pt = 100%). While using the percent unit, your text remains fully scalable for mobile devices and for accessibility.

	body { font-size: 100%; }	body { font-size: 120%; }
font-size: 1em	The quick brown fox	The quick brown
font-size: 12pt	The quick brown fox	The quick brown fox
font-size: 16px	The quick brown fox	The quick brown fox
font-size: 100%	The quick brown fox	The quick brown

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Color Code

HTML Codes format:
Each HTML code contains symbol "#" and 6 letters or numbers. These numbers are in hexadecimal numeral system. For example "FF" in hexadecimal represents number 255 in Decimal.

Meaning of symbols:
The first two symbols in HTML color code represents the intensity of **red** color. 00 is the least and FF is the most intense. The third and fourth represents intensity of **green** and fifth and sixth represents the intensity of **blue**. So with combining the intensity of red, green and blue we can mix almost any color that our heart desire;)

Examples:
#FF0000 - With this HTML code we tell browser to show maximum of red and no green and no blue. The result is of course pure red color:

#00FF00 - This HTML code shows just green and no red and blue. The result is:

#0000FF - This HTML code shows just blue and no red and green. The result is:

#FFFF00 - Combination of red and green color gives us yellow:

#CCEEFF - Take some red a bit more of green and maximum of blue to get color of sky:

Reference to http://html-color-codes.info
http://www.w3schools.com/tags/ref_colorpicker.asp

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Troubleshooting

- Missing slash?

- Missing ending tags?

- Missing left/right angle brackets?

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Homework

- Reading Chapter 4
- Assignment 1:
  - Make a same or a similar web page like:
    - The page "Black Goose Bistro" in page 66 of the textbook
    - You can use other pictures and text content that you like
    - You have to use the elements we have talked about including <img>,<h1>,<h2>,<p> and add a style sheet (the one in page 11).
    - For the paragraphs, it will be appreciated if you put some comments about the class so far.
    - Name your html file as "**assignment1_YOURFULLNAME.html**"
  - **Email the .html file** to TA with the attachment.
  - Due: Sep 9, 2015

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assignment1.html should be like

Figure 4-17. A missing end bracket makes all the following content part of the tag, and therefore it doesn't display.

```
<h2The Restaurant</h2>
<p>The Black Goose Bistro offers casual lunch and dinner fare
in a hip atmosphere. The menu changes regularly to highlight
the freshest ingredients.</p>
```

<h2The

Missing headline

BLACK GOOSE BISTRO

Without the bracket, a following characters a interpreted as part of unrecognizable eleme and "The Restaurant" from the page.

66   Part II, HTML Markup for Structure

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