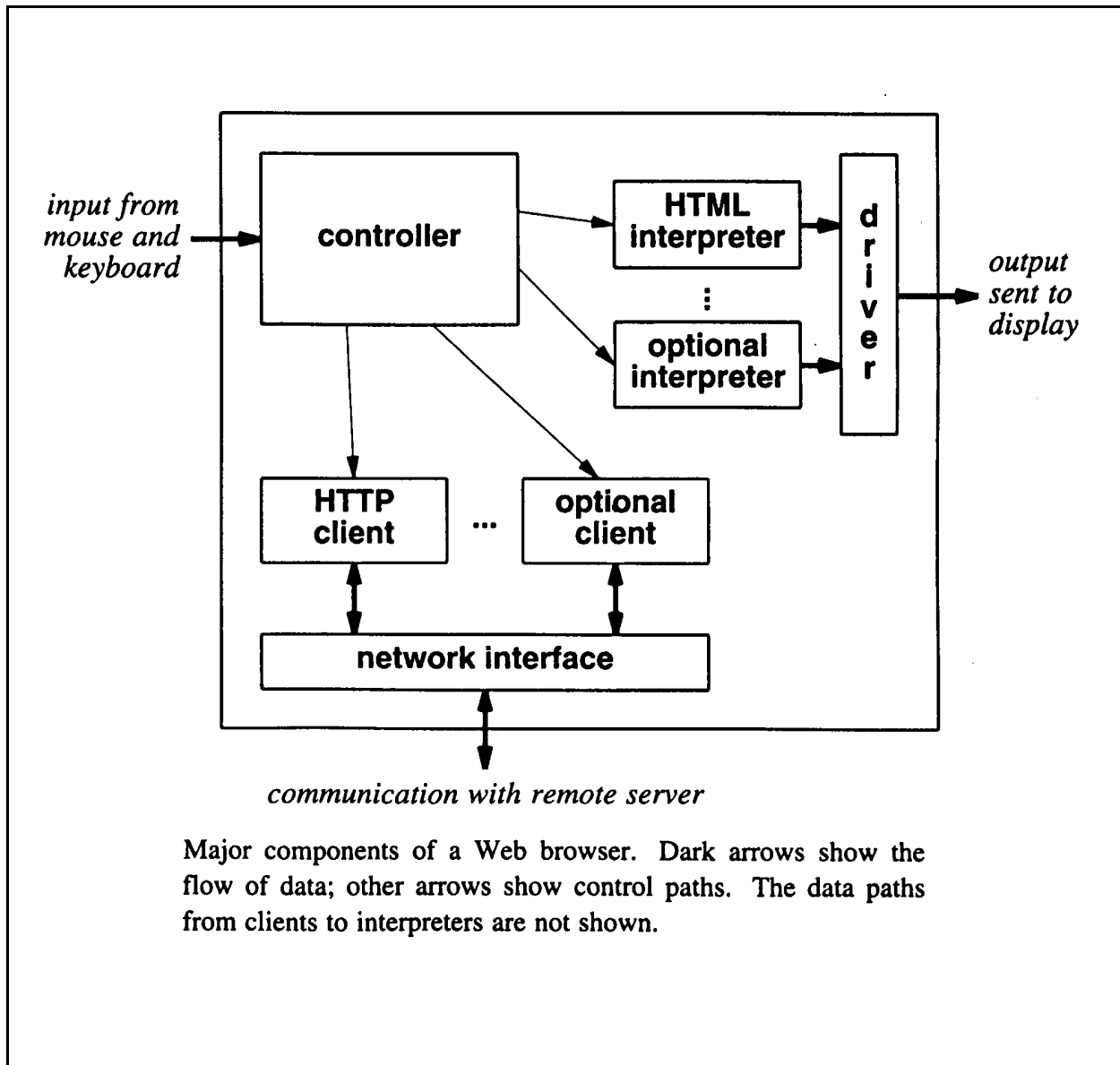# The World Wide Web (WWW)

- The World Wide Web is a large scale, on-line repository of information that users can search using an interactive application program called a **browser**.

- Technically, the web is a distributed **hypermedia** system that supports interactive access.

- Information is stored in a set of documents.

- Besides the basic information, a document can contain pointers to other documents in the set.

- A hypermedia document available on the Web is called a **page**. The root page for an organization or individual is called the **homepage**.

- Each Web page that contains a hypermedia document uses a standard representation known as **Hypertext markup language (HTML)**.

- HTML allows an author to give general guidelines for display and to specify the contents of the page. (Consequently, two browsers may display a page differently.)

Browser Architecture

- A browser interacts with a Web server using HTTP.

- A browser consists of a set of clients, a set of interpreters, and a controller that manages them.

communication with remote server

Major components of a Web browser. Dark arrows show the flow of data; other arrows show control paths. The data paths from clients to interpreters are not shown.

HTML Format and Representation

- Each HTML document consists of two parts: a **head** followed by a **body**.

- Each HTML document is represented as a text file that contains **tags** along with other information.

- HTML tags provide structure for the document as well as formatting hints.

- General Form of an HTML Document:
  ```
  < HTML>
      < HEAD>
          < TITLE>
              text that forms the document title
          < /TITLE>
      < /HEAD>

      < BODY>
          body of the document appears here
      < /BODY>
  < /HTML>
  ```

- Equivalent Document:
  < HTML> < HEAD> < TITLE> text that forms the document title< /TITLE> < /HEAD> < BODY> body of the document appears here< /BODY> < /HTML>

Example HTML Formatting Tags

- Line Breaks:
  Hello there.< BR> This is an example< BR> of HTML

  Hello there.
  this is an example
  of HTML

- Headings:
  Hello.< BR> < H1> Heading< /H1> < BR> normal

  Hello.
  # Heading
  normal

- Unordered Lists:
  Here is a list of 4 names:
  < UL>
  < LI> Scott
  < LI> Sharon
  < LI> Jan
  < LI> Rebecca
  < /UL>
  This text occurs after the list

  Here is a list of 4 names:
  - Scott
  - Sharon
  - Jan
  - Rebecca
  This text occurs after the list.

- Ordered Lists:
  Here is a list of 4 names:
  < OL>
  < LI> Scott
  < LI> Sharon
  < LI> Jan
  < LI> Rebecca
  < /OL>
  This text occurs after the list

  Here is a list of 4 names:
  1. Scott
  2. Sharon
  3. Jan
  4. Rebecca
  This text occurs after the list.

- Bold, Italic, and Underlined Text:
  < B> Bold text < /B> < BR> < I> Italic text < /I>
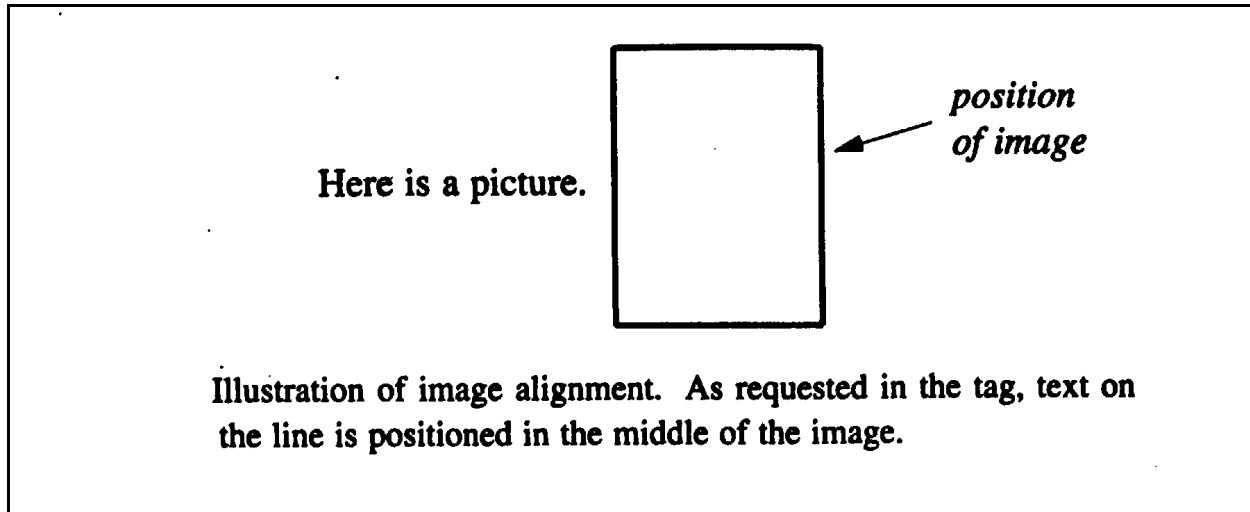 < BR> < U> Underlined text < /U>

  Bold text
  Italic text
  <u>Underlined text</u>

Embedding Graphical Images Into a Web Page

● Example:

Here is a picture. < IMG SRC= "myphoto.gif" ALIGN= middle>

Here is a picture.

position of image

Illustration of image alignment. As requested in the tag, text on the line is positioned in the middle of the image.

Graphics files should be in either .gif or .jpg (or .jpeg) format only. Other formats will not work with all browsers.

● Background picture (wallpaper):

< BODY BACKGROUND= " myphoto.gif" >

Hypertext Links to Other Documents

- The HTML mechanism for specifying a hypertext reference is called an **anchor**.

- Example:
    This book is published by
    < A HREF= "http://www.prenhall.com">
    Prentice-Hall, < /A> one of the larger publishers of Computer Science textbooks.

- Example Output:
    This book is published by <u>Prentice-Hall,</u> one of the larger publishers of Computer Science textbooks.

Adding Color to Web Pages

- There are 5 color elements to a Web page:

    - the background color
    - the text color
    - the unvisited link color
    - the visited link color
    - the active link color (sometimes visible when you hold down the mouse button before you release.)

< BODY   BGCOLOR= " yellow"   TEXT= " red" LINK= "green" VLINK= "pink" ALINK= "white">

- Note:
    Do not use both BACKGROUND and BGCOLOR. One is like wallpaper and the other is like painting with flat paint. You either wallpaper or paint!