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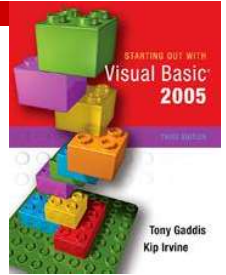
Programming for the Web

A Web Application Runs on a Web Server and Presents Its Content to the User Across a Network, via a Web Browser



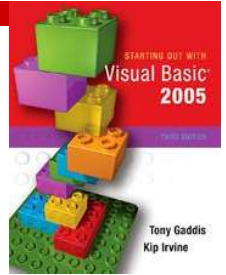
Hypertext Markup Language (HTML)

- *HTML* describes appearance of web pages
 - A standardized formatting language
 - It is *not* a programming language
- Formatting instructions appear as commands called *tags* embedded in the web page text
 - Tags enclosed by greater than/less than signs
 - Text following the bold tag (****) is shown in bold until an end bold tag (****) appears
`This text is bold.This text is normal.`
- Web design editors create HTML for you



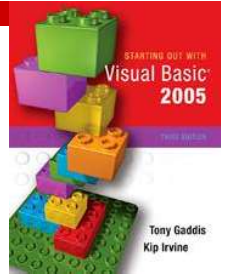
ASP.NET

- A server-side Web programming platform
 - Provides development tools and visual controls for web browser based applications
 - Contains Web forms and controls, HTML, and program logic in compiled VB code
 - VB knowledge transfers directly to ASP.NET
- VB code runs on the server, not the client
 - Server runs code that creates an HTML page
 - Client web browser receives the HTML
- Visual Web Developer included with text CD



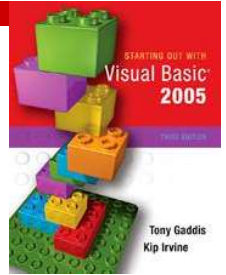
Web Clients and Web Servers

- The *client-server* model
 - A server is a computer that produces data
 - A client is a computer that uses the data
- Web applications use the *client-server* model
 - Web sites are hosted on Web servers that produce data as requested by Web browsers
 - Web browsers run on clients and request data from web servers



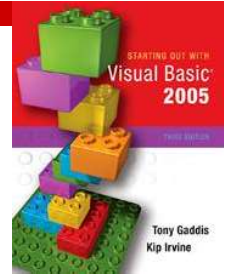
Uniform Resource Locator (URL)

- A *URL* references a particular web page
 - `http://www.kipirvine.com/vbnet/index.html`
 - Begins with the protocol, `http://`
 - Then the domain name `www.kipirvine.com`
 - Finally the file path `/vbnet/index.html`
- This example retrieves the file *index.html* in the *vbnet* folder of the web site `www.kipirvine.com`
- The URL is used as an address that uniquely identifies the web page to be retrieved



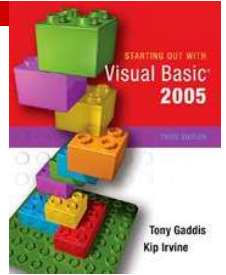
Web Forms

- ASP.NET web pages are called *Web forms*
 - Uses a file name extension of *.aspx*
 - Contains text, HTML tags, and HTML controls
 - Also contains Web server controls such as text boxes, list boxes, and buttons
 - Web server controls are similar to VB controls
- Program logic for a Web form is stored in a related *codebehind* file with extension *aspx.vb*
- *Cascading style sheet* (.css) customizes the appearance of a Web form



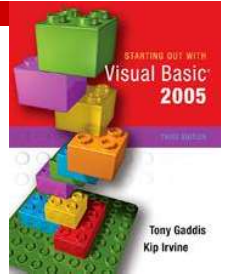
ASP.NET Runs on a Web Server

- Need a web server environment to run ASP
- Can use the *ASP.NET Development Server* included with Visual Studio
- *Internet Information Services* available with Win XP/Pro, 2000, or Windows 2003 Server
 - Requires careful security configuration
- Or use existing Web server if available to you
 - Need an account with a user ID and password



HTML Design & Browser Issues

- *HTML Designer* is a tool to generate HTML and Web server controls
 - Can do this with a text editor but it's tedious
 - The tool simplifies the design process
 - Has a design view similar to VB form design
 - Has a source view for direct editing of HTML
- Many different Web browser versions in use
 - ASP.NET generates version specific HTML
 - Usually good to try Web applications on other browsers such as Netscape and Mozilla



Web Form Controls

- Toolbox contains controls for Web forms
- Many are closely related to Windows forms you've already worked with in VB
- Some like Hyperlink control are only in ASP
- Can connect to data sources similar to VB
- Validation and navigation controls provided
- There are login controls to authenticate users
- Standard HTML controls are also available
 - Buttons, checkboxes, radio buttons, text boxes
 - But with few properties and no event handling