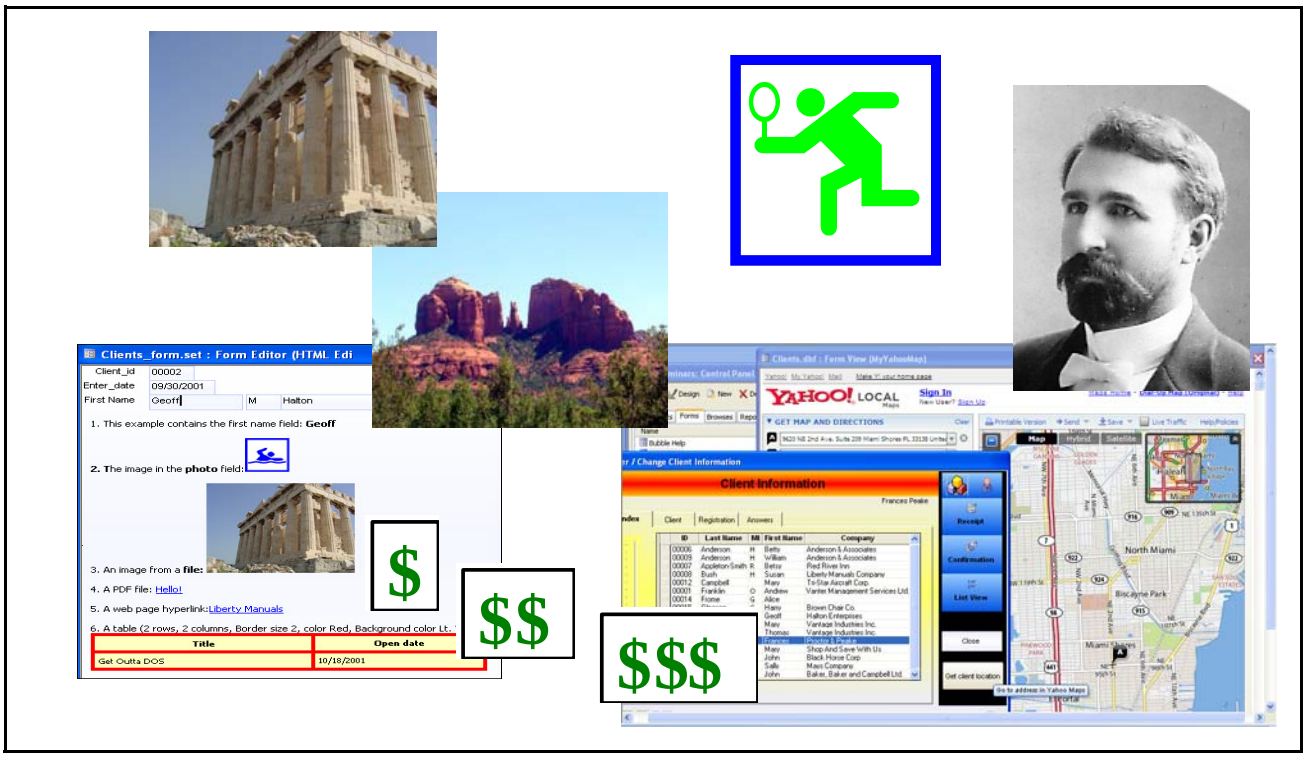
Chapter 10.

Graphics in the database



Picture this!

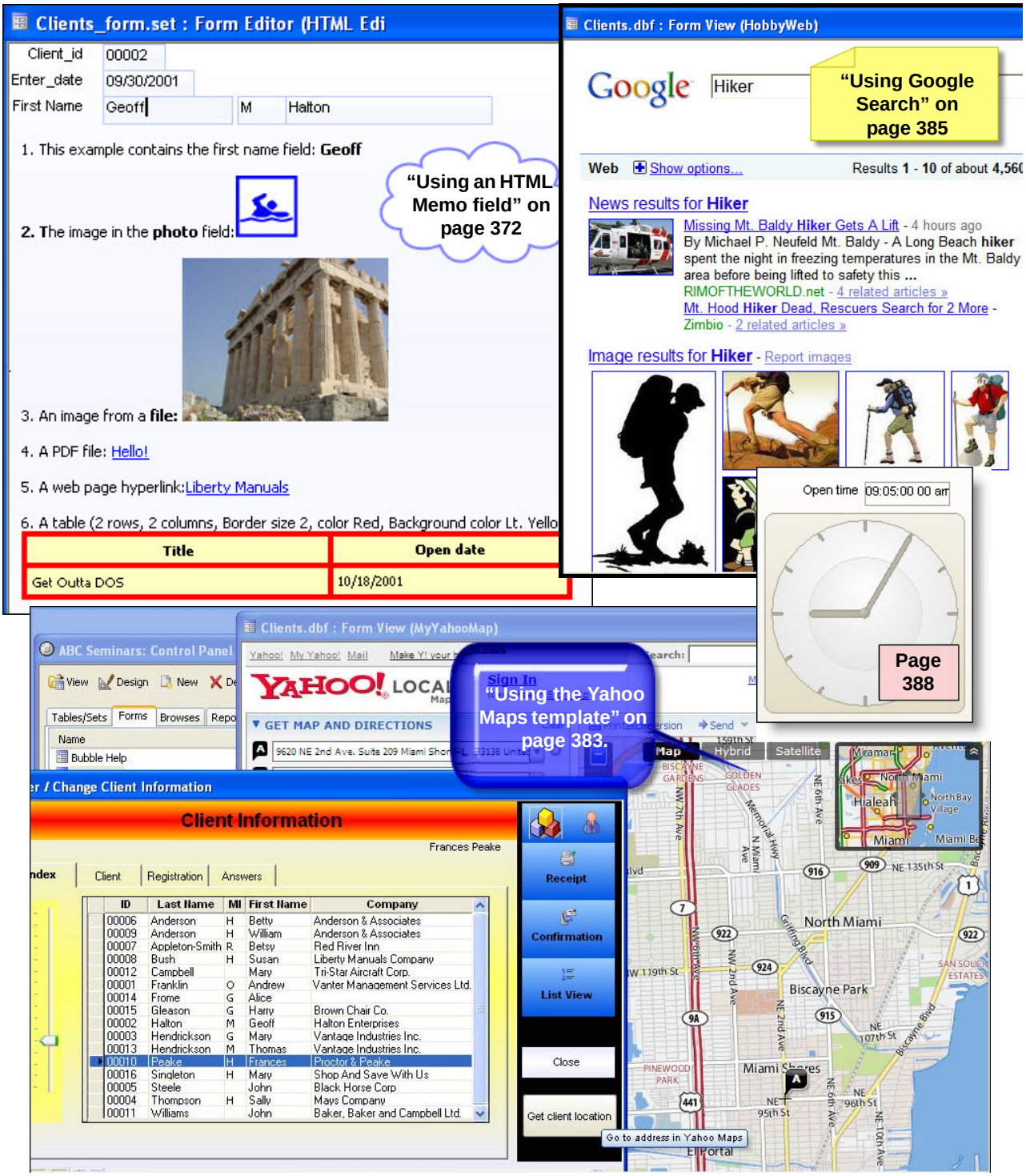
They say that one is worth a thousand words. Graphics add both interest and information to your application. Tables can have image fields and memos that allow end users to insert graphics. Forms and reports can contain HTML windows with fields, images, web page links and more. Browses can have columns with icons that represent the value in a field.

Think how much more lively your database will be![*]

*. The handsome man above is Channing Whitney Barrett, MD, my husband's maternal grandfather. He practiced in Chicago.

Graphics bring your database to life…

Top: HTML Editor with fields, images, hyperlink and table; Google Search gets info from the Hobby field. *Center:* A clock super control. *Bottom:* Find a client address using Yahoo Maps.



Tomorrow is here with Alpha Five

PLEASE TAKE A MOMENT TO READ THIS

With each new day, databases are becoming become more and more about graphics. In the beginning, everything was black and white. Windows designs brought more opportunity for color, but the data was still, for the most part, lots of words and numbers on both screen and print-out.

Times are changing. People want to see what their employees and customers look like; symbols are sometimes quicker to grasp than words. These additions are easy with Alpha Five. Fields can hold pictures and both developer and end user can put them in notes. The built-in HTML* editors create static or dynamic windows on forms, Browse columns can have icons that inform with graphics, as well as words and numbers. You can link to Google and Yahoo and get information based on data in the current record.

We have gathered these options together in one chapter so that you can decide which to use in a given circumstance. In some cases, their names are similar, but each is suited to a different purpose. We will explain their distinctive traits and put them to use.

Understanding the terms

IMAGES

The word “image” is used for photographs,† drawings and other graphics that have file names and can be stored in fields.

- For use in forms, browses, reports and other layouts.

ICONS

An “icon” gives a graphical representation of the contents of a field. These are created using a *Browse control* that adds a special column. The icons at the left, for example, could be tied to the price of hotel rooms. Custom graphics are first added to the database at the *Control Panel* > *Code tab*.

- For use in stand alone or embedded browses only.

Understanding field and file types

FIELD TYPES‡

There are three field types that support images, JPG Image and Image File Reference and HTML Memo. All can be included when the table is initially created or added at:

- *Control Panel* > *Tables/Sets tab*: Right click > Edit Structure.

FILE TYPES

- **JPG Image** and **Image File Reference** fields support the following file types: JPEG, JPG, BMP, PNG files.
- **HTML memo** allows text, tables and images. The end user can also add hyperlinks that access web pages and external files such as Word and PDF documents.

JPG IMAGE FIELD

All image file types are automatically converted to the JPG format. Files are stored in the table.

- *Advantage*: Files are always a part of the database. If it is moved, they go with it.
- *Disadvantage:* Enlarges database size.

*. HTML: HyperText Markup Language: This is the code with which web pages are developed. Most of the Alpha Five editors also have WYSIWYG (What You See is What You Get) pages that everyone can use.

†. This is Aaron Celadon Bush, a Civil War veteran.

‡. There is no longer a bitmap field type. To use BMP files, import into a JPG field and it will automatically be converted to JPG.

IMAGE FILE REFERENCE FIELD

An **Image File Reference** field links to and displays a JPG or BMP image, without storing it in the table.

- *Advantage:* Database files will be smaller because only the reference is carried, not the image.
- *Disadvantage*: If the database is moved, the image files must also be moved.

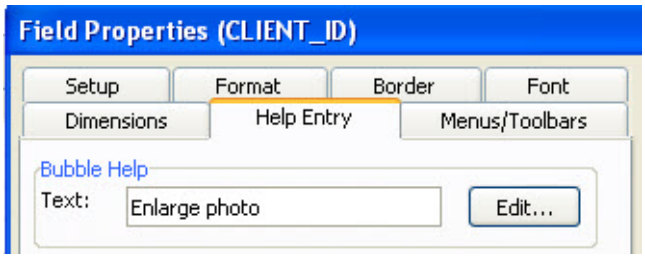
HTML MEMO FIELD

The **HTML Memo** allows the *end user* to create graphic memos that include text, tables, images and hyperlinks.

Using the graphic design features

We have grouped these features into two categories: basic and advanced. The basic controls have both WYSIWYG and Source (HTML code) pages and can be used by both novice and advanced developers. The advanced features require a working knowledge of HTML.

BASIC CONTROLS



- **Bubble Help:** Available in design mode for Forms and Browses. See "Showing more with bubble help" on page 308.

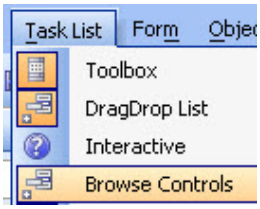
TOOLBOX > FORM

- **HTML** control: This control is located in the toolbox and is most often used in forms. It is available for reports and it does work, but it takes a lot of space and we have trouble finding a use for it at that level. See "Understanding the HTML Editor" on page 369.

TOOLBOX > SUPERCONTROLS

- **Web Content:** Displays a web page in a window on a form or report. URL can be either static or dynamically computed from data in the current record. There are several predefined templates, such as *Yahoo Maps* and *Google Search* — or you can create your own template. See "Getting more information from the Internet" on page 383.

BROWSE CONTROLS

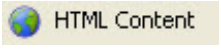


- **Browse Controls**: Available in design mode for stand alone and embedded Browses. This control is located at *Top Menu* > *Task Lists* > *Browse controls* > *Image*. Inserts an *icon* based on the contents of another field. See "Adding Icons to browses" on page 377.

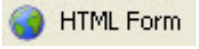
ADVANCED CONTROLS

Both of these Supercontrols are designed for use on forms by HTML writers. It is beyond the scope of this book to go into details on their use, but here's an overview.

TOOLBOX > SUPERCONTROLS

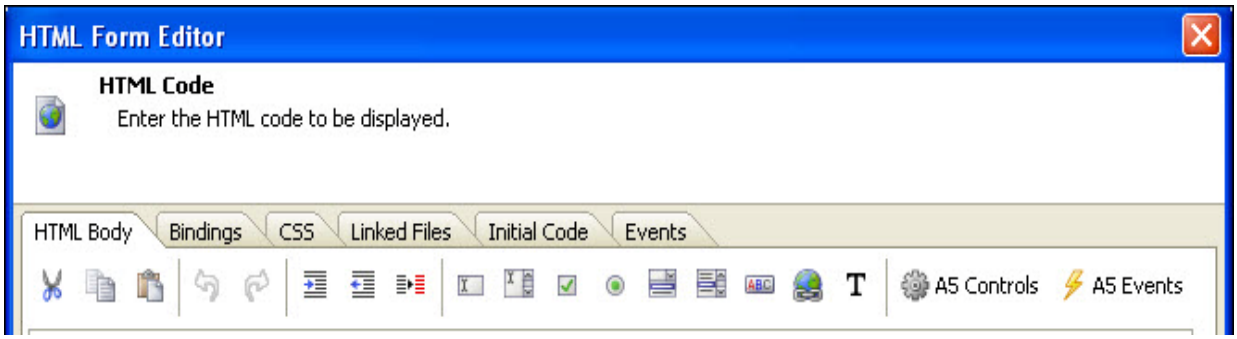


- **HTML Content**: Available in design mode for forms and reports. Opens the *Expression Builder* where HTML and Expressions can be added.



- **HTML Form:** A dynamic control, this highly sophisticated supercontrol is for developers who prefer to design their forms

using HTML. Data can be entered in HTML window fields and saved to the table; fields can be entered and updated. Available in design mode for forms and reports.



GO TO ALPHA 5 HELP

For complete instructions on using the above and a video, go to Help > What's New in Version 9 > Supercontrols > *HTML Content* and *HTML Forms*.

Static and dynamic control types

Generally speaking, Static means "stay the same" and dynamic means "change with the situation," but that is not entirely true with the HTML Editor. Here's how they work and how they differ. All except HTML Form are classified as static controls.

STATIC

At form and browse views, field and file content in the HTML window ***do change with the record***. For example, if you put an image field in the HTML editor, as we did with Bubble Help, the image changes with the record. Updated and new records become visible in the HTML window as soon as the record is saved.

- For novice and experienced users.

DYNAMIC

HTML Form, the only dynamic control, is quite different. Not only does field content change with the record, but it can be changed *from within* the HTML window. Additions and updates are immediately posted to the table.

- For experienced HTML users who want to use HTML for form design.

Understanding the HTML Editor

The HTML Editor varies, depending on where it is used. The full version is used by the developer and a "lite" version is available for HTML memo fields.

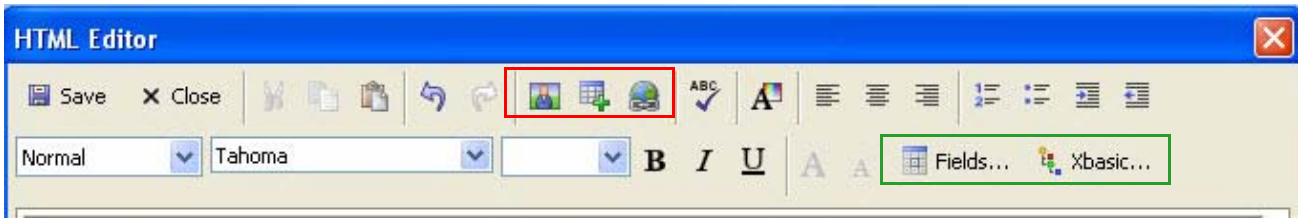
HTML MEMO FIELDS

The HTML Memo field is designed for the *end user* and is opened in View mode. It has buttons to quickly enter the date and time, but does not permit the entry of fields or Xbasic. See "Using an HTML Memo field" on page 372.

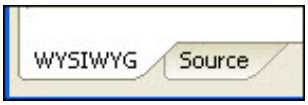
FULL HTML EDITOR

The full editor permits fields, text, tables, images, hyperlinks and Xbasic to be entered.

You can add images, tables, and hyperlinks (red box below) as well as fields and Xbasic (green box).



WYSIWYG & SOURCE & XBASIC



At the bottom are two tabs: WYSWIYG and Source. We will work in WYSIWYG most of the time. Click Source at any time to see the HTML code that is written in the background. Unlike other HTML design software programs, the Alpha Five HTML Editor integrates Xbasic with HTML.

Use of the HTML Editor is quite straightforward. Enter text and/or, click on the various buttons to add fields, images, etc., and format as desired. Edits and changes can be made in WYSIWYG or at the Source tab.*

Using image fields in forms and browses

Image fields can be placed as objects on forms and as columns in browses.

Sizing the file: JPG, BMP, etc.

Consider the image size before you begin importing the file. If images are oversized, they will be awkward for the user, especially if you use Bubble Help to enlarge them on forms or browses.† Also, if you choose to add them to your database, smaller pictures take up less space. The size you need will depend to a certain extent on your screen resolution. Experiment to find what is best for your application.

IMAGE FIELDS

When importing images into fields, change the image size first. You can use photo enhancing software, such as *Adobe Photoshop* to make the adjustment. If you change the size of an image after adding it to the database, you will need to re-add it, unless you are using an *Image File Reference* field.

HTML EDITORS

Image size can be adjusted when it is added to the editor (see “Using an HTML Memo field” on page 372).

- Does not impact the original file.

PIXELS

When we measure an item, most of us think in terms of inches or centimeters. In HTML, however, size is properly designated by the number of pixels.

- The file size of the Walter Rathbun‡ photo (above) in **Pixels** is Width: 120; Height: 152.

*. See “Editing the HTML” on page 375. For a full discussion of the editor, see “Creating an HTML window on a form” on page 373.

†. See “Enlarging a photograph” on page 310.

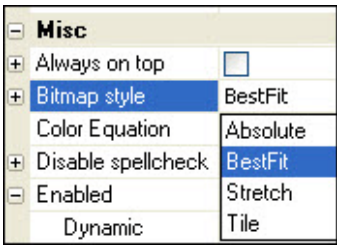
•My photo (above) in **Pixels** is: Width: 248; Height: 281.

1. Open the *ImageDemo* form in view mode, find the Rathbun and Bush records and put your cursor on the image to see how the above sizes look in Alpha Five.

Adding an image field to a form

2. Close the *ImageDemo* form and open *ImageDemoPractice* in Design mode.
3. Drag Clients -> **Photo** to the upper right of the form.
4. Resize the box to about 1/2” x 1/2” (see screen shot for step 7 below).

APPEARANCE



We want to see the entire photo in the small window, regardless of its size, so we will adjust the way the image fits in the window.

5. *Photo* field > Properties Pane:

MISC

•Bitmap style: **Best Fit**.

6. Save the form.

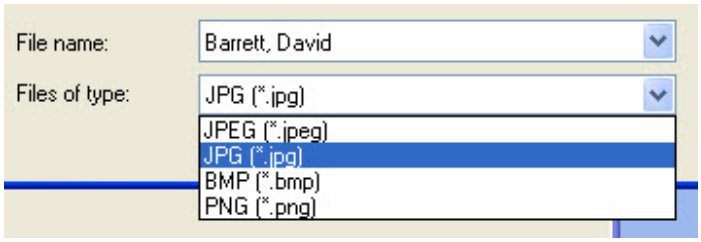
ENTER / CHANGE RECORD

The process is the same for entering new images or changing existing ones.

7. Save and go to View mode.

8. Click on the Photo field.

•A tiny photo icon appears next to the field (red box at left).



9. Click on the icon.

•The Filename dialog comes up.

JPEG VS. JPG

The image file type default is JPEG (extension = .jpeg). Our image files have the extension **.jpg**, so you will need to change the *Files of Type* drop down box to JPG in order to see the files.

10. Navigate to: c:\A5_Ver10Book\ABC_V10_Lessons\Images\Barrett, David.*
11. Click **Open**.

•The photo changes.

‡. Walter Rathbun was my father.

*. My husband’s great-grandfather on his mother’s side. David Barrett was a farmer in Michigan and had eight sons.

IMPORTANT NOTE

Once you click *Open*, the photo ***becomes part of the record***. Unless you make other changes, saving is not necessary.

12. Go to "Enlarging a photograph" on page 310 for the instructions on using bubble help to show a larger image when your cursor is on the field.

13. Close the form when finished.

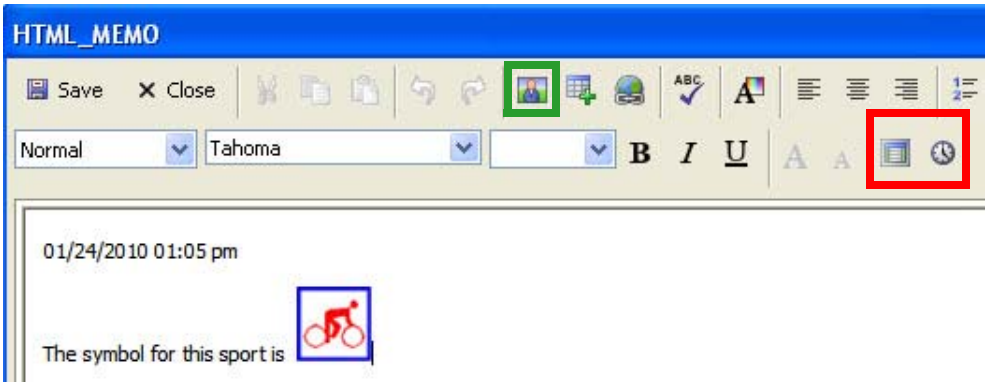
Using an HTML Memo field

An HTML Memo field allows the user to add images to notes. It functions in the same manner for forms and browses. This time we'll use a **browse** for the exercise.

14. *Browse tab:* Open **HTML Memo Practice** in View mode.

15. *Biking* record: click in the **HTML Memo** field, then click on the small pencil icon at the right of the field.

- The HTML Memo editor opens.



16. Make the following entries (red box at left).

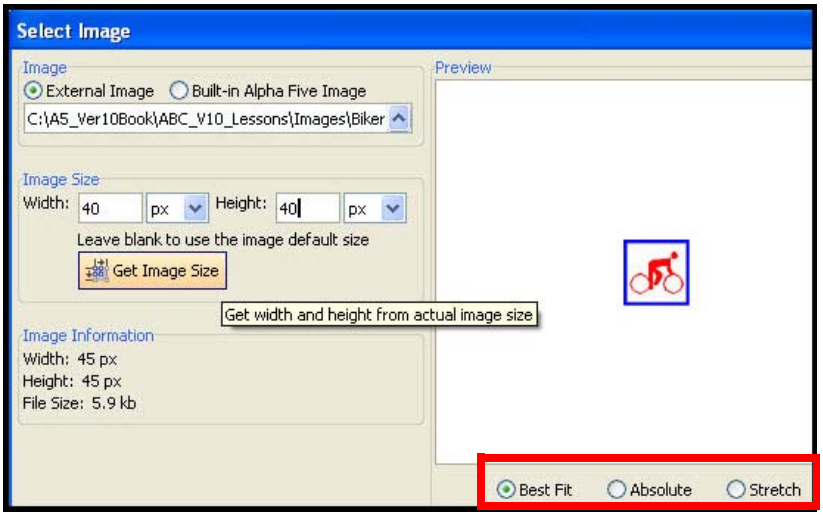
   a. Date: Click the Calendar button to insert the current date.

   b. Time: Click the Clock button to insert the current time.

17. Press ENTER (twice).

18. Type: **The symbol for this hobby is:**

19. Click the **Insert Image** button (green box above).



- The Select Image dialog opens.

20. *Image:* choose **External Image**, click the smart button navigate to:
c:\A5_Ver10Book\ABC_V10_Lessons\Images\Biker

21. Click Open.

22. *Image Size:* Click the **Get Image Size** button.

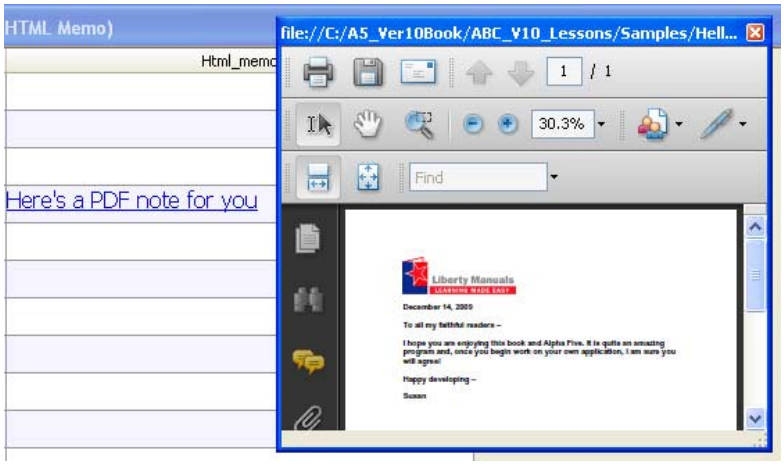
- We are going to make the image a bit smaller.

23. Overtype the defaults with the following: *Width:* **40**; *Height*: **40**.

24. Choose **Best Fit** (red box at left).

25. Click OK.

26. Press F9 or click **Save** again to save the record.



OPEN A FILE

You can add a hyperlink that opens a file, but here's the dilemma. The hyperlink is only active at form or browse view, so it won't be much help in a browse. We put one in the entry for hiker so you could get an idea of how it displays.

27. At the Hiker entry, click the hyperlink two times—first to activate the memo & second to open the file.

28. Drag the corner to enlarge the PDF window—and read my note!

- To see the hyperlink at form view go to the screen shots on page 366 and 374.
- If you'd like to test it out for yourself, the file is located at: c:\A5_Ver10Book\ABC_V10_Lessons\Samples\Hello.pdf.

TABLE & URL

You can also add tables and URL hyperlinks.

29. Close the browse.

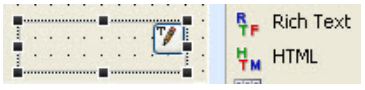
Creating an HTML window on a form

The **HTML** control uses the full HTML Editor (page 375) to put windows on forms, reports, etc. It is used by the developer at Design mode.

- Since we've already used several of these tools, we'll just give a quick review of how the following HTML control was created. Then, we will modify it.

1. *Forms* tab: Open **HTML Editor Practice** in Design mode.

TOOLBOX > HTML

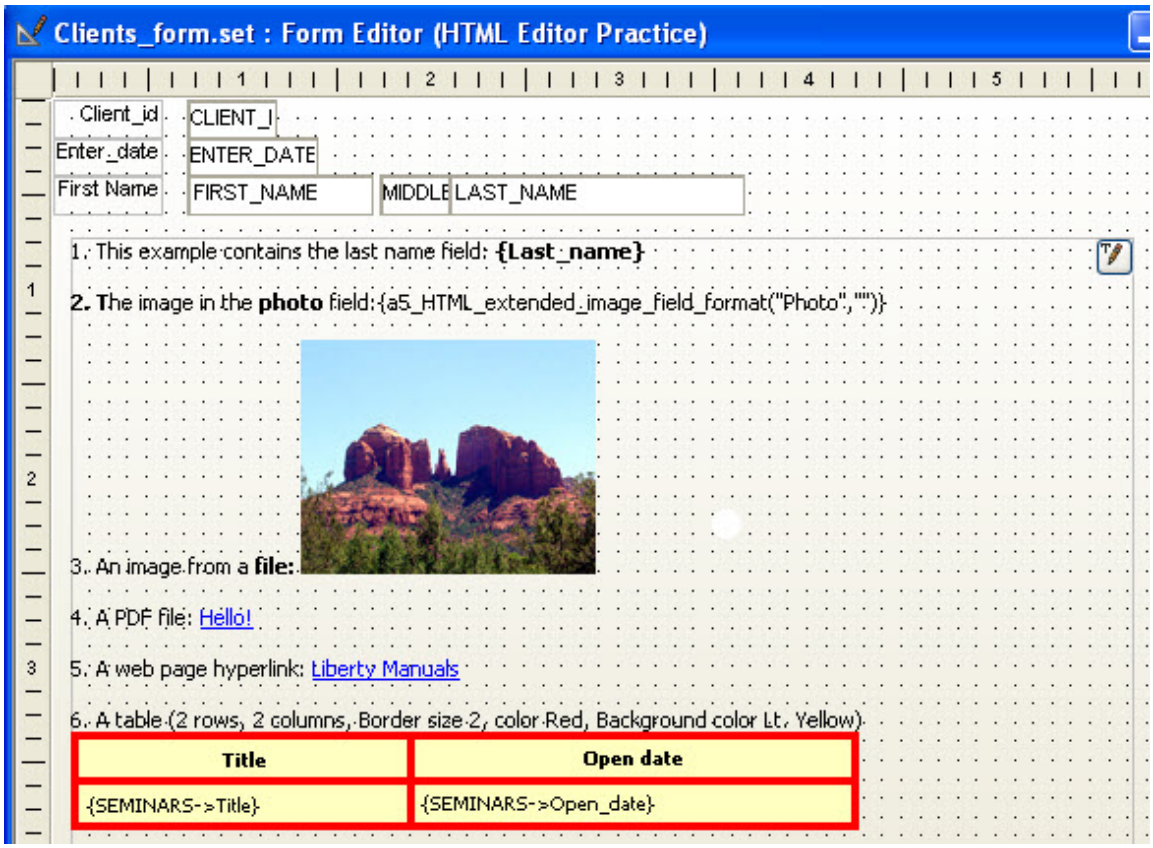


- The HTML control is already on the form.

a. Using the toolbox **HTML** control, we drew a large box on the form (much reduced at left).

2. Click on the HTML object and put your cursor on the little pencil at the top right to **highlight the button**.

3. **Single click** to open the *HTML Editor.*[*]



4. Also refer to the HTML Editor screen shot on page 370.

LINE 1: LAST NAME FIELD

b. Typed text, clicked the *Fields* button (green box, p.370) and dragged the **last_name** field into the Editor.

LINE 2: PHOTO FIELD

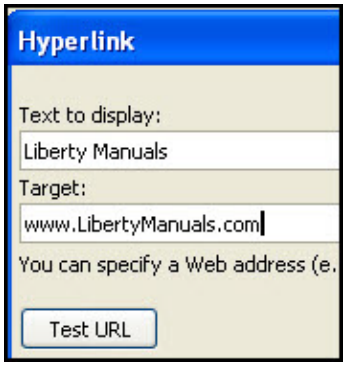
c. Typed text, clicked the **Fields** button and dragged the **photo** field into the Editor.

LINE 3: IMAGE FROM FILE

d. Typed text, clicked *Insert Image* button (red box, p.370) and navigated to file.

- c:\A5_Ver10Book\ABC_V10_Lessons\Images\Sedona

*. The HTML Editor can be compared to a program within a program, therefore it may take a couple of moments to open.



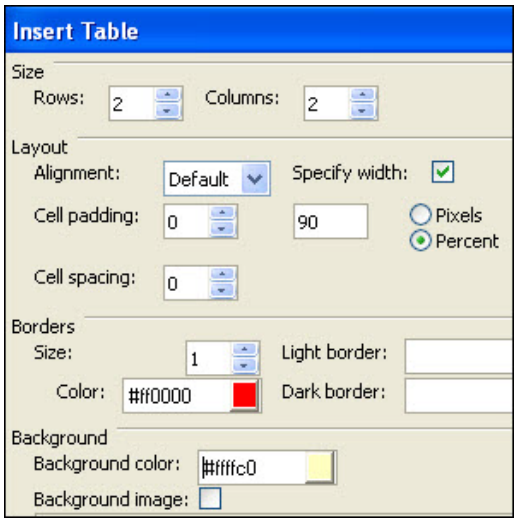
LINES 4 & 5: LINK TO WEB PAGE OR FILE

e. Typed text, clicked the *Insert Hyperlink* button (red box, p.370). 

- Clicked *Select File* button (far right, out of sight in screen shot at left) that was used to add a link to an external PDF document.
- c:\A5_Ver10Book\ABC_V10_Lessons\ISamples\Hello.

f. Typed text, reclicked *Insert Hyperlink* button

- Text to display: Liberty Manuals.
- Target: www.LibertyManuals.com



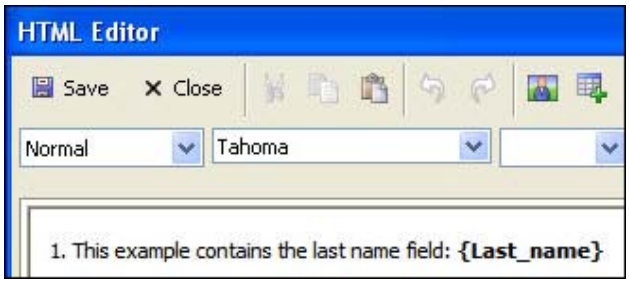
LINE 5: TABLE

g. Clicked the *Insert Table* button (red box, p.370), defined rows, columns as at left. Added text and fields.

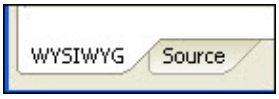
Editing the HTML

You can edit the text and add or remove other features. For example, you can delete one field and then replace it with another.

- Next, we will change text, a field name and a photo directly at the HTML code. Not to worry, you don't have to know anything about the code in order to make some simple changes.

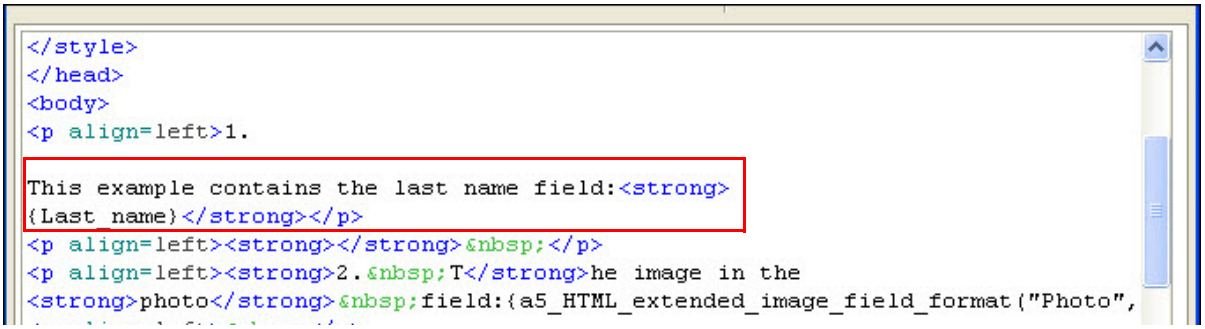


- First we'll review the first line in WYSIWYG mode and then make some changes at the *Source* tab.
- After that, we'll see the changes in WYSIWYG at both Design and View modes.

5. 

At the WYSIWYG tab, note the first line of text/field combination (at left).

6. *HTML Editor:* Click the **Source tab** at the bottom of the window.



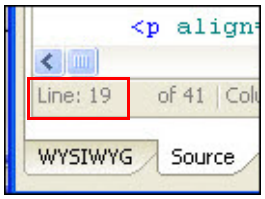
7. Find the following (red box above):

   This example contains the last name field {Last_name}</p>

- It's pretty easy to figure out that this is the line of text, followed by the field name in curly brackets. on either side of the field indicates bold text and the end of the line is indicated by </p>.

8. Overtype **last** with ***first*** in both the text and the field so it reads:

   This example contains the *first* name field {*First*_name}</p>



9. Move to Line 19.

•The line number is in the status bar at the bottom of the window (red box at left).
Find **Sedona** and overtype it with ***Athens*** to change the name of the file picture so end of the line reads:

…ABC_V10_Lessons/Images/Athens.jpg" width=130 >

10. Click the *WYSIWYG* tab to see the changes.

WYSIWYG OR SOURCE

The text and field changes could also have been made at the WYSIWYG tab. In order to change the photo at WYSIWYG, you would have had to delete the Sedona photo and then insert the Athens photo. In this case we also made the photo a bit smaller, so the revised version would also have had to be resized.

LINE 1 The text and field have changed to first name.

LINE 3 The photo has changed to a picture of the Acropolis in Athens, Greece.

11. Save the **HTML** Editor changes.

You **must save** the form before going to View mode in order to keep these changes. There is no warning prompt.

12. Save the **form** and then go to View mode.

•The text and field are changed, as is the file photo.

13. Change the **first name** in the textbox at the top of the window. (Press F9)

•The change is immediately reflected in the HTML window.

Sizing the form

Also keep form size in mind when you are designing HTML windows on forms. The size of the graphics in fields can vary, altering the size of the HTML window as it goes from record to record.

14. Press PAGE DN to cycle through the records to see the form change in both content and size.
15. Close the form.

Adding Icons to browses

You can enhance your browses with icons that represent the value(s) in one or more fields. In this exercise, we will tie five custom graphics to the cost of the seminars. The graphics will then appear in a special browse column.

- This feature is for **browses only.** If you want one on a form, use an embedded browse.

The custom graphics and their filenames are as follows:

- **Expense1**:  ; **Expense2**:  ; **Expense3**:  ; **Expense4:**  and **Expense5**: 

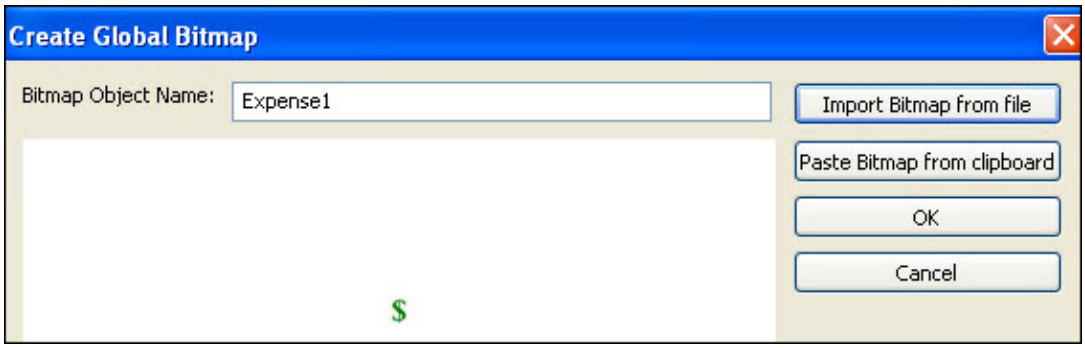
We will set up 5 conditions, based on the cost of seminars (**cost_1** field) that govern the display in the column:

- If *condition 1* is met, show  , if *condition 2* is met, show  , if condition 3 is met, show  , etc.

Adding the graphics to the database

The first step is to add the graphics to the database.

1. *Control Panel > Code tab:* Click **New**. Choose **Bitmap**.
   - The Create Global Bitmap dialog opens.



2. *Bitmap Object Name:* Type **MyExpense1**.
   - Does not have to be same as filename.
3. Click the **Import Bitmap from File** button. Navigate to:
   - c:\A5_Ver10Book\ABC_V10_Lessons\Images\Expense1
4. Click **Open**.