Code Repository Exercises

Data Controls

Purpose: The purpose of this exercise is to familiarize you with ASP.NET's four primary data display controls: the Gridview, the Detailsview, the Listview, and the Formview. You will see the capabilities and limitations of each control and learn the appropriate scenarios for using each one. You will also see how to customize certain parts of the control to achieve more specialized functionality.

Directory Name: DataControls

Instructions:

1. Download the starting files for this part of the exercise. Create a subdirectory named 'Images' within the directory created for this exercise. Place the images you downloaded in the starting files into this directory (you will use these later in the exercise).
2. Create a new .aspx page called *AuthorTitles.aspx* in the directory created for this exercise. This page will display all authors in the Pubs database and allow for inserting, editing, and deleting author information. It will also allow the user to select an author and view/edit the titles associated with that author. This will be accomplished through the use of two Gridview controls and one Detailsview control. Add the following to the page:
    a. A level-1 HTML header with the text 'Authors'
    b. A Gridview called *gvwAuthors*. This Gridview should show author information for all authors in the database, including author ID, last name, first name, phone number, address, city, state, zip code, and contract. The Gridview should support editing, selecting, paging, and sorting (deleting will be implemented below). Bind the Gridview to an SqlDataSource that performs the appropriate select/update/insert/delete operations. In addition, implement the following:
        i. Set the row background color to yellow for any author that has authored more than one title. (Hint: you will want to modify the SELECT statement of the SQLDataSource to include a count of the titles authored by that author. You will then respond to the RowDataBound event of the Gridview as shown on page 523 of the MacDonald book. Make sure your query returns **all authors**, even those who have not authored anything.)
        ii. Add a ButtonField that will perform the delete operation. This button field should first prompt the user with a Javascript confirm window before performing the delete (Hint: Make the ButtonField into a TemplateField, and set the OnClientClick property of the button to the Javascript confirm function.)
        iii. Give the Gridview columns more user-friendly header names rather than simply using the database field names.
        iv. Apply an attractive formatting template to the Gridview

c. A DetailsView called *dvwInsertAuthor*. This DetailsView should appear below the *gvwAuthors* Gridview. The sole purpose of this DetailsView is to support insertion of a new author, including the fields of author ID, last name, first name, phone number, address, city, state, zip code, and contract.

    i. Set the data source of the DetailsView to the same SqlDataSource control you created for the *gvwAuthors* Gridview.

    ii. Set the DefaultMode property to *Insert*, since this DetailsView will be used only to insert a new author.

    iii. Apply an attractive formatting template to the Detailsview control.

    iv. Add header text to the DetailsView instructing the user to insert a new author here.

    v. Set the Visible property of the DetailsView to **false**

d. A LinkButton called *btnAuthorInsert*. This button should appear above the *gvwAuthors* GridView, and should display the text 'Click here to insert a new author…'. When the button is clicked, the *gvwAuthors* Gridview and the *btnAuthorInsert* Button should become **invisible**, and the *dvwInsertAuthor* DetailsView should become **visible.**

e. When the *insert* or *cancel* command of the DetailsView is fired, make the *gvwAuthors* Gridview and *btnAuthorInsert* Button **visible** and the *dvwInsertAuthors* DetailsView **invisible**. (Hint: Respond to the ItemCommand event of the DetailsView by checking the CommandName property of the DetailsViewCommandEventArgs object). Then re-bind the gvwAuthors Gridview to its data source.

f. When you have finished this portion, your page should look something like this when it loads…

Authors

Click here to insert a new author...

	Author ID	Last Name	First Name	Phone Number	Address	City	State	Zip Code	Contract
Edit Delete Select	098-98-1234	Jones	Bob	123-456-7890	100 S Main	Logan	UT	84321	☑
Edit Delete Select	123-45-7899	Fadel	Kelly	123-456-7890	100 S Main	Logan	UT	84321	☑
Edit Delete Select	172-32-1176	White	Johnson	408 496-7223	10932 Bigge Rd.	Menlo Park	CA	94025	☑
Edit Delete Select	**213-46-8915**	**Green**	**Marjorie**	**415 986-7020**	**309 63rd St. #411**	**Oakland**	**CA**	**94618**	☑
Edit Delete Select	238-95-7766	Carson	Cheryl	415 548-7723	589 Darwin Ln.	Berkeley	CA	94705	☑
Edit Delete Select	**267-41-2394**	**O'Leary**	**Michael**	**408 286-2428**	**22 Cleveland Av. #14**	**San Jose**	**CA**	**95128**	☑
Edit Delete Select	274-80-9391	Straight	Dean	415 834-2919	5420 College Av.	Oakland	CA	94609	☑
Edit Delete Select	341-22-1782	Smith	Meander	913 843-0462	10 Mississippi Dr.	Lawrence	KS	66044	☐
Edit Delete Select	409-56-7008	Bennet	Abraham	415 658-9932	6223 Bateman St.	Berkeley	CA	94705	☑
Edit Delete Select	427-17-2319	Dull	Ann	415 836-7128	3410 Blonde St.	Palo Alto	CA	94301	☑
1 2 3									

… and like this when the btnAuthorInsert button is clicked.

Authors

Insert a new author here...	
Author ID	
Last Name	
First Name	
Phone	
Address	
City	
State	
Zip code	
Contract	☐
Insert Cancel	

g. When the user selects an author from the *gvwAuthors* Gridview, a list of titles authored by that author should appear in a second Gridview named *gvwAuthorTitles*. This new Gridview should display the title, type, publisher **name**, price, advance, royalty, Year-to-date sales, notes, and publication date for each title authored by the selected author. The Gridview should have as its data source a new SqlDataSource control that retrieves all of the above fields and **also** the title ID and publisher ID of each title (these two fields are not displayed on the Gridview, but should still be returned by the SqlDataSource. You will need to use a JOIN statement in the select query to get the titles for the specified author and the publisher name for each title). The SqlDataSource and GridView should also allow for updating and deleting all fields that are displayed in the Gridview.

h. Convert the publisher, price, advance, royalty, year-to-date sales, notes, and publication date columns of the *gvwAuthorTitles* Gridview to template fields. Make the following changes to each field.

   i. *Publisher*: Display a DropDownList of all publishers in the database in the EditItemTemplate. This dropdownlist should get a list of publishers from **another** SqlDataSource control that returns the name and id of every publisher in the database. The DataTextField should be the publisher name and the DataValueField should be the publisher ID. The SelectedValue property should be bound to the publisher ID.

   ii. *Price* and *Advance*: Use string formatting to format these fields as currency in the ItemTemplate, and as two-digit decimals in the EditItemTemplate (see format strings on page 518). Add validation controls in the EditItemTemplate to ensure that the user enters a numeric value greater than 0.

iii. *Royalty* and *Year-to-date Sales*: Add validation controls in the EditItemTemplate to ensure that the user enters a integer value and that the value is a number greater than 0.

iv. *Notes*: Make the EditItemTemplate a multi-line Textbox (set the TextMode property of the TextBox).

v. *Publication Date*: Format the label in the ItemTemplate to show the date in short date format (see the format strings on page 519). Place a Calendar control in the EditItemTemplate. The SelectedDate and VisibleDate properties of the Calendar control should be bound to the publication date.

i. Create user-friendly column header names for the *gvwAuthorTitles* Gridview and apply an attractive formatting template.

j. Add a Label control above the *gvwAuthorTitles* Gridview that displays the text: "Titles authored by *author name*", where *author name* is the name of the selected author. This label should initially be invisible, but should be made visible when the user selects an author from the *gvwAuthors* Gridview. (Hint: You will want to respond to the SelectedIndexChanged Event of the *gvwAuthors* Gridview, retrieve the selected row of the Gridview, and then get the values in the table cells containing the first and last names)

k. When you are finished, your page should look something like this…

Authors

Click here to insert a new author...

	Author ID	Last Name	First Name	Phone Number	Address	City	State	Zip Code	Contract
Edit Delete Select	098-98-1234	Jones	Bob	123-456-7890	100 S Main	Logan	UT	84321	☑
Edit Delete Select	123-45-7899	Fadel	Kelly	123-456-7890	100 S Main	Logan	UT	84321	☑
Edit Delete Select	172-32-1176	White	Johnson	408 496-7223	10932 Bigge Rd.	Menlo Park	CA	94025	☑
Edit Delete Select	213-46-8915	Green	Marjorie	415 986-7020	309 63rd St. #411	Oakland	CA	94618	☑
Edit Delete Select	238-95-7766	Carson	Cheryl	415 548-7723	589 Darwin Ln.	Berkeley	CA	94705	☑
Edit Delete Select	267-41-2394	O'Leary	Michael	408 286-2428	22 Cleveland Av. #14	San Jose	CA	95128	☑
Edit Delete Select	274-80-9391	Straight	Dean	415 834-2919	5420 College Av.	Oakland	CA	94609	☑
Edit Delete Select	341-22-1782	Smith	Meander	913 843-0462	10 Mississippi Dr.	Lawrence	KS	66044	☐
Edit Delete Select	409-56-7008	Bennet	Abraham	415 658-9932	6223 Bateman St.	Berkeley	CA	94705	☑
Edit Delete Select	427-17-2319	Dull	Ann	415 836-7128	3410 Blonde St.	Palo Alto	CA	94301	☑

1 2 3

Titles authored by Abraham Bennet

	Title	Type	Publisher	Price	Advance	Royalty	Year-to-date Sales	Notes	Pulication Date
Edit Delete	The Busy Executive's Database Guide	business	Algodata Infosystems	$19.99	$5,000.00	10	4095	An overview of available database systems with emphasis on common business applications. Illustrated.	6/12/1991

A closer view of the gvwAuthorTitles Gridview in both display and edit mode:

Display mode…

Titles authored by Abraham Bennet

	Title	Type	Publisher	Price	Advance	Royalty	Year-to-date Sales	Notes	Pulication Date
Edit Delete	The Busy Executive's Database Guide	business	Algodata Infosystems	$19.99	$5,000.00	10	4095	An overview of available database systems with emphasis on common business applications. Illustrated.	6/12/1991

Edit mode…

Titles authored by Abraham Bennet

	Title	Type	Publisher	Price	Advance	Royalty	Year-to-date Sales	Notes	Pulication Date
Update Cancel	The Busy Executive's D	business	Algodata Infosystems	19.99	5000.00	10	4095	An overview of available database systems with emphasis on common	

<	June 1991					>
Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

Done

3. Create a new .aspx page called *TitleList.aspx* in the directory created for this exercise. This page will be a simple 'product catalog' page that will allow a user to browse through the available titles and see limited information about each title. If the user clicks on a title, they will be taken to another page that provides more details about the selected title. Create the following on this page:

   a. An SqlDataSource control that selects the title ID, title, and price for each title in the Pubs database (only a select statement is required for this SqlDataSource)

   b. A Listview control that is bound to the SqlDataSource created in the previous step. The Listview should show the title and price as well as a thumbnail image for each title. The image files you downloaded in the starting files are named according to the title IDs of each title in the original Pubs database (the images are really from the Balloonshop application, but use your imagination). Each title has two images: a thumbnail and a full-size image. The thumbnails are named as: "t*title_id*.jpg", where *title_id* is the title ID of the title. The full size images are named as "*title_id*.jpg" (without the preceding "t"). You can arrange your ListView in any way that you'd like, but you should make it look like a typical product catalog web page. A possible format would be the one below:
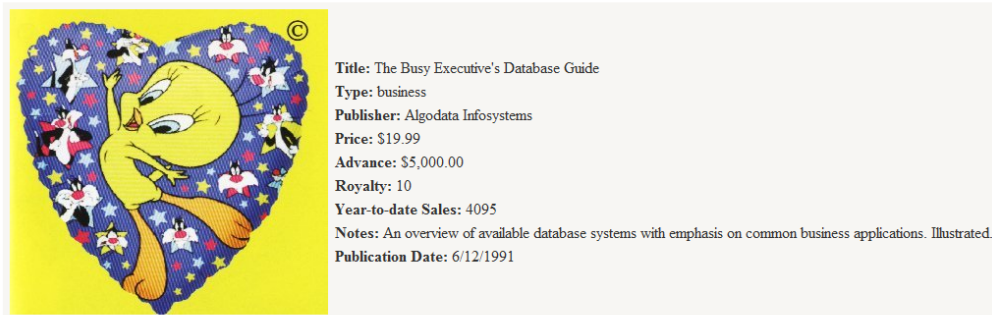

   c. You can refer to the *ProductsList.ascx* user control in the BalloonShop application to see an example of how to display the images, etc. (this example uses a DataList instead of a ListView, but the idea is the same). Note that you do not need to create a separate database field for the image file name; because each image is named according to the title ID, you can create the image filename dynamically from that field.

   d. The ListView control should support paging, but does not need to support any other operation (e.g. insert/update/delete).

   e. Each item in the Listview should be a link to another page that will display the details of the selected product. The name of this page should be *TitleDetail.aspx*. Each link should point to this page with the selected title ID as a parameter in the query string.

4. Create a new .aspx page called *TitleDetail.aspx* as referenced in the previous step. This page should have the following:

f. An SqlDataSource control that retrieves the title, type, publisher name, price, advance, royalty, year-to-date sales, notes, and publication date for the title selected on the *TitleList.aspx* page. The title ID should be retrieved from the query string.

g. A Formview control that displays the above information from the SqlDataSource as well as the full-size image for the selected title. The price and advance fields should be displayed in currency format, and the publication date should appear in short-date format. You can arrange the Formview in any way that you would like, but it should look clean and professional. A simple example would be as follows:

Title Details

Title: The Busy Executive's Database Guide
Type: business
Publisher: Algodata Infosystems
Price: $19.99
Advance: $5,000.00
Royalty: 10
Year-to-date Sales: 4095
Notes: An overview of available database systems with emphasis on common business applications. Illustrated.
Publication Date: 6/12/1991

Back to TitleList.aspx

Place a link at the bottom of the page that takes the user back to the *TitleList.aspx* page.

Header on Default.aspx: Data Controls

Pages linked from Default.aspx: *AuthorTitles.aspx*, *TitleList.aspx*