

Repeater, ListView, DataList, DataGrid, GridView ... Which to choose?

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So many different controls to choose from! What are best practices for determining which control to use for displaying data in ASP.NET?

[asp.net](#)[user-interface](#)

asked Sep 26 '08 at 12:43



[mattruma](#)

9,941 26 92 157

2 This question has only one definitive answer: It depends. What are you trying to do? – [Tomalak](#)
Sep 26 '08 at 12:49

@Tomalak I'm just displaying a list of data ... normally I just use the Repeater but wants to see the pros/cons of using the others. – [mattruma](#) Sep 26 '08 at 13:02

5 Answers

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It's really about what you trying to achieve

- Gridview - Limited in design, works like an html table. More



in built
functionality like
edit/update,
page, sort. Lots
of overhead.

- DataGrid - Old version of the Gridview. A gridview is a super datagrid.
- Datalist - more customisable version of the Gridview. Also has some overhead. More manual work as you have to design it yourself.
- ListView - the new Datalist :). Almost a hybrid of the datalist and gridview where you can use paging and build in Gridview like functionality, but have the freedom of design. One of the new controls in this family
- Repeater - Very light weight. No built in functionality like Headers, Footers. Has the least overhead.

answered Sep 26 '08 at 12:55



[WebDude](#)

4,750 5 29 42

12 Is it still up to date this answer? (since it's from 2008 and it's 2013) –

[Michel Ayres](#) Mar 28 '13 at 20:06

3 @Michel Repeater became strongly typed since .NET 4.5. I like that a lot. – [Evgeni Nabokov](#) Oct 22 '13 at 14:02

1 @MichelAyres I would say yes in general. While MS has made some updates to webforms since 2008, the general ideas conveyed in the answer are the same. – [akousmata](#) Aug 7 '14 at 14:27

2 Hmm.. "No built in functionality like headers, footers", well, there is the HeaderTemplate and FooterTemplate.. if you want to put in things like your <table> and </table> tags. – [Ads](#) Aug 17 '15 at 6:26



Everyone else hit it: It Depends.

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Now for some specific guidance (expanding upon WebDude's excellent answer above) ...

Does your design fit into a natural spreadsheet or grid view of the data?

GridView.

Do you need to display a list or other formatted view of data, possibly with headers and footers, and

probably with specific controls and/or formatting for each record of data? (EG, customized links, possibly LinkButtons, or specific edit controls?) Does this display specifically *not* fit naturally into a spreadsheet or grid view? **ListView**

If you meet all the criteria of ListView, but you would naturally fit in a grid, you may consider **DataList**.

I go for **Repeater** when I just need some basic data iterated with some custom design bits, no headers, no footers, nice and clean.

answered Sep 26 '08 at 13:53



[John Rudy](#)

24.2k 11 58 98



Markup View

19



Declaring the following sample code is possible for all 3(ListView, DataList , Repeater)

```
<asp:ListView runat="sc
<ItemTemplate> <%# Eval
<asp:ListView>
```

in the following lists
You can see the available templates and options for each of them and see the differences for yourself

ListView (note the
edit,group,insert
,layout)

- AlternatingItemTemplate
- EditItemTemplate
- EmptyDataTemplate
- EmptyItemTemplate
- GroupSeparatorTemplate
- GroupTemplate
- InsertItemTemplate
- ItemSeparatorTemplate
- ItemTemplate
- LayoutTemplate
- SelectedItemTemplate

DataList (note the
Style pairs)

- AlternatingItemStyle
- AlternatingItemTemplate
- EditItemStyle
- EditItemTemplate
- FooterStyle
- FooterTemplate
- HeaderStyle
- HeaderTemplate
- ItemStyle
- ItemTemplate
- SelectedItemStyle
- SelectedItemTemplate
- SeparatorStyle

- SeparatorTemplate

Repeater

- AlternatingItemTemplate
- FooterTemplate
- HeaderTemplate
- ItemTemplate
- SeparatorTemplate

Code View (advanced view)

CompositeDataBoundControl:

look the following classes hierarchy (and related controls).

these controls hosts other asp.net controls in their templates to display bound-data to user

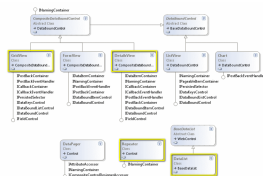


FIGURE 12-18 The CompositeDataBoundControl classes (and related controls).

Some descriptions for better clarifications

The ListView Control

The ListView control also uses templates for the display of data. However, it supports many additional templates that allow

for more scenarios when working with your data. These templates include the **LayoutTemplate, GroupTemplate, ItemSeparatorTemplate**.

The ListView control (**unlike DataList and Repeater**) also implicitly supports the ability to edit, insert, and delete data by using a data source control. You can define individual templates for each of these scenarios.

The DataList Control

The DataList control works **like the Repeater** control. It repeats data for each row in your data set, and it displays this data according to your defined template.

However, it lays out the data defined in the template within various HTML structures. This includes options for horizontal or vertical layout, and **it also allows you** to set how the data should be repeated, as flow or table layout.

The DataList control does not automatically use a data source control to edit data. Instead, it **provides command events** in which you can write your own code for these scenarios. To

enable these events, you add a Button control to one of the templates and set the button's CommandName property to the edit, delete, update, or cancel keyword. The appropriate event is then raised by the DataList control.

The Repeater Control

The Repeater control also uses templates to define custom binding. However, it does not show data as individual records. Instead, it repeats the data rows as you specify in your template. This allows you to create a single row of data and have it repeat across your page.

The Repeater control is a **read-only** template. That is, it supports only the ItemTemplate. It does not implicitly support editing, insertion, and deletion. You should consider one of the other controls if you need this functionality, otherwise **you will have to code this yourself** for the Repeater control.

The above Descriptions are from [MCTS Exam 70-515 Web Applications](#)

[Development with Microsoft.NET Framework 4](#) book.

DataGrid is not even mentioned in this book and is replaced by popular GridViews and answered nicely by other users

edited Dec 7 '14 at 5:05

answered Oct 18 '13 at 8:54



[Iman Abidi](#)

11.6k 6 57 74

1 Great descriptions of all the answers ! – [Ali007](#) Jun 8 '14 at 11:05

My goodness... the definition of a complete answer. Well done. – [user3308043](#) Jun 11 '14 at 6:29



6



Indeed! I've blogged on the differences between the [ASP.NET 4.0 data tools](#).

Basically, gridviews are the most powerful way to present tabular information, whereas ListView controls are for more complicated displays of repeated data. If I were giving advice to an ASP.NET newbie, I'd tell them to learn gridviews inside out and ignore the other controls to begin with.

answered Nov 11 '11 at 8:48



[Andy Brown](#)

2,717 3 21 31

Just to add a comment to my own blog: 2-3 years down the line, what I'd actually recommend is learning ASP.NET MVC instead, which makes the question irrelevant (and also makes raising events from grids trivial). However, it is a LONG learning curve! – [Andy Brown](#)
Jun 12 '14 at 7:12



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It all comes down to how you want to layout your data.



If you need to control the layout (like tables versus CSS versus whatever), when use a Repeater or ListView. Between the two, ListView gives you a lot more events and built-in commands for editing, selecting, inserting. Additionally paging and grouping functionality. A Repeater is extremely simple, it repeats a layout with the data. Since you're building the layout by hand, Listview and Repeater require more code.

GridView is an updated DataGrid so there is hardly any reason to use DataGrid. GridView works really well when

hooked up to standard
ASP.NET
datasources, but
restricts you to a
tabular layout with lots
of layout rules.
GridView requires less
code since you're
using a built-in layout.

answered Sep 26 '08 at 12:51



[Joseph Daigle](#)

36.4k 10 40 63
