DATA DYNAMICS

What's New in Data Dynamics Reports for users of ActiveReports for .NET

Data Dynamics Reports is a new reporting toolkit from Data Dynamics, the creators of ActiveReports for .NET. Readers may wonder why Data Dynamics has introduced a new reporting toolkit. First, let me assure readers that ActiveReports for .NET will continue to be maintained and to have new versions produced. Data Dynamics Reports is not a replacement for ActiveReports for .NET.

The goal behind creating Data Dynamics Reports is to create a reporting product in which users need not write code to create most basic reports. This white paper aims to introduce ActiveReports for .NET users to report creation in Data Dynamics Reports.

What are the main differences?

Briefly, Data Dynamics Reports supports multiple data sources, data sets, and several different data regions. It also supports the use of VB.NET expressions to set properties. These expressions control the entire report generation process and replace the event handlers fired from within ActiveReports for .NET.

Expressions

With ActiveReports for .NET, if you want to set the color of a TextBox at run time based on its value, you have to write an event handler like the following:

```
private void detail_Format(object sender, EventArgs
        e) {
        if( ((double) textbox.Value) < 0.0 )  {
                textbox.ForeColor = Color.Red;
        }
        else {
                textbox.ForeColor = Color.Black;
        }
}
```

In Data Dynamics Reports you instead use expressions -- snippets of inline VB.NET code that when executed return the value desired. The expression to duplicate the event handler earlier would be written like so:

```
=IIF( Fields!field.Value < 0, "Red", "Black" )
```

Multiple Data Sources/Data Sets

Each report can have multiple data sources and data sets associated with it. A data region and its children can only be associated with a single dataset. If multiple data sets are needed within a data region a subreport can still be used to link in the second data set. However, in most cases a data set that contains the join of both sets of data could be used.

Drilldown

Data Dynamics Reports has true drilldown support, that allows report authors to hide data conditionally in the report and expose it when requested. This is done by setting a report item to be hidden and then setting its ToggleItem property to the name of a textbox or image report item in the report.

Below is an example of Drilldown being used in a table.

Category Name	Product Name	Product Sales
⊟ Beverages		
	Chai	$4,887.00
	Chang	$7,038.55
	Chartreuse verte	$4,475.70
	Côte de Blaye	$46,563.08

Data Regions

A data region is a how a set of data is manipulated to be output by various report items (if needed). Data Dynamics Reports includes 5 data regions, 2 of which I'll take about later.

The List data region outputs itself once for every row of data in the data set or unique set of grouping expressions.

The Banded List functions very similar to how a report in ActiveReports for .NET works.

The Chart data region contains the same charting technology used in ActiveReports, but it has been updated to work with the Data Dynamics Reports ideas of a data set and expressions.

Matrix

Data Dynamics Reports also features a matrix data region – sometimes called a crosstab or pivot table. This data region consists of a grid that adds columns and rows for distinct sets of field values in the data set.

The matrix is such a powerful data region that many products exist for the same premise, to group data in n-ways and look at the data comes out.

Each row or column group in a matrix can optionally have a subtotal column/row as well. This works by taking the same expression in the data cell and expanding its scope to include all of the data in that group.

Below is some sample output from the matrix in Data Dynamics Reports. In this case only four fields were set, on the row groups CategoryName and ProductName, and ShippedQuarter on the column grouping.

		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Beverages	Chai	$705.60	$878.40	$1,174.50	$2,128.50
	Chang	$2,720.80	$228.00	$2,061.50	$2,028.25
	Chartreuse verte	$590.40	$360.00	$1,100.70	$2,424.60
	Côte de Blaye	$25,127.36	$12,806.10	$7,312.12	$1,317.50
	Guaraná Fantástica	$529.20	$467.55	$219.37	$337.50
	Ipoh Coffee	$1,398.40	$4,496.50	$1,196.00	$3,979.00
	Lakkalikööri	$1,141.92	$1,774.08	$3,261.60	$1,705.50

Table

As seen earlier, Data Dynamics Reports offers a Table data region which simplifies the positioning and sizing of report items in a grid format. The designer makes it easy to set gridlines on the table as well.

The table shown below has two groups. One is grouped on the CategoryName field, which is evidenced by the group header and footer as the second and fourth rows of the table (respectively).

The second group is less evident. The table supports what is called a detail grouping, which works by outputing the detail row once for each unique set of grouping values, similar to a group header row.

Category Name	Product Name	Product Sales
Beverages		
	Chai	$4,887.00
	Chang	$7,038.55
⋮	⋮	⋮
	Category Total	$65,544.19
	Total	**$608,846.76**

Nested Data Regions

In ActiveReports for .NET it is possible to add a chart to any section of the report, but that is the limit of nesting a data region. In Data Dynamics Reports data regions can also be added within data regions that accept report tiems, as long as the data is grouped.

The ability to nest data regions means that report authors don't have to resort to using subreports which incur additional processing overhead that should be avoided if possible.

A standard usage is to nest another data region within the List data region when it has detail grouping set. This set up allows the summary data to be output in the outer List while details are output in the inner List.

Another usage is to take advantage of the grouping construct of the Matrix data region. This allows the report author to create a trellis display of charts, tables, or lists.

	Qtr 1	
Beverages	**Product Name**	**Product Sales**
	Chai	$705.60
	Chang	$2,720.80

For example, above is a matrix set up with CategoryName set on the row group and QuarterShipped set on the column group. Contained within the matrix data area is a table that outputs the product name, product sales, and a sum of the product sales.

Conclusion

There is a lot of information to digest concerning Data Dynamics Reports; the information contained in this paper explains the basic construction of report for Data Dynamics Reports.

An evaluation version of Data Dynamics Reports is available on the Data Dynamics Web site.

Screen casts, product information, and support for Data Dynamics Reports are also available on the website.

For more information about Data Dynamics Reports, visit www.datadynamics.com