

Drawing Group and Repeater

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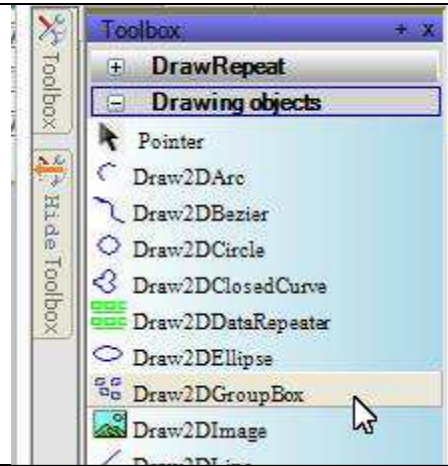
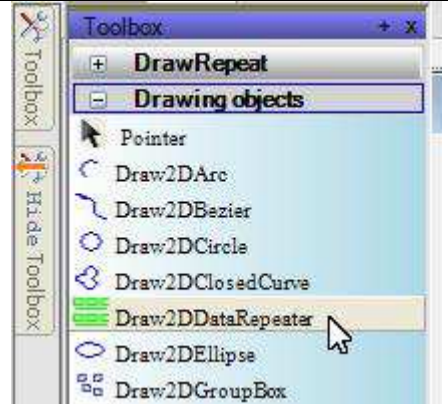
Introduction

Drawing objects can be used for building graphic user interfaces and data reports, for viewing and printing. Drawing objects are What You See Is What You Print. For how to use drawing objects, see <http://www.limnor.com/support/Limnor%20Studio%20-%20User%20Guide%20-%20Part%20VII.pdf>. For

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how to use drawing objects to build data entry form, see
<http://www.limnor.com/support/DataEntryWithDrawings.pdf>.

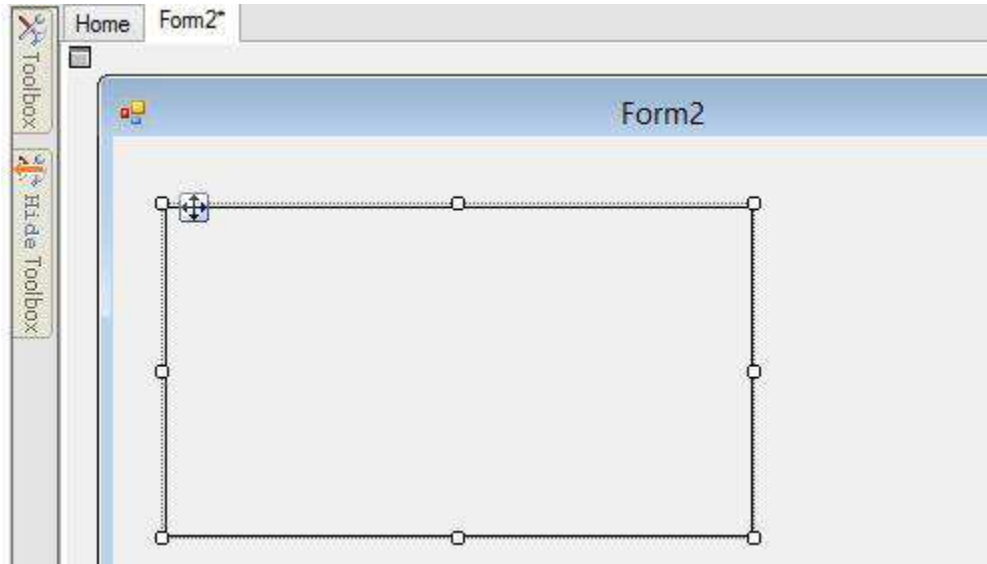
This document describes how to use two types of drawing objects: Draw2DGroupBox and Draw2DDataRepeater.

	<p>Draw2DGroupBox is a drawing object for containing other drawing objects. It makes it easy to treat a set of drawing objects as one single drawing object. You may easily move drawing objects in and out of a group, move the whole drawing group around screen at design time and runtime. Make the whole group visible or invisible at runtime.</p> <p>A drawing group can be saved to an image file or an XML file. The saved XML file can be loaded into other drawing groups, making it easy to re-use drawing designs in forms and projects.</p>
	<p>Draw2DDataRepeater repeats a group of drawing objects in columns and rows. It allows you to design one group of drawings instead of repeatedly design many identical groups. Not only drawings are repeated, programming for drawing objects inside a group is also automatically repeated.</p> <p>Data-bindings of drawing objects in a group are also repeated. It can be used to create database reporting or data entry cards.</p>

Drawing Group

Draw2DGroupBox is a group box for containing other drawing objects.

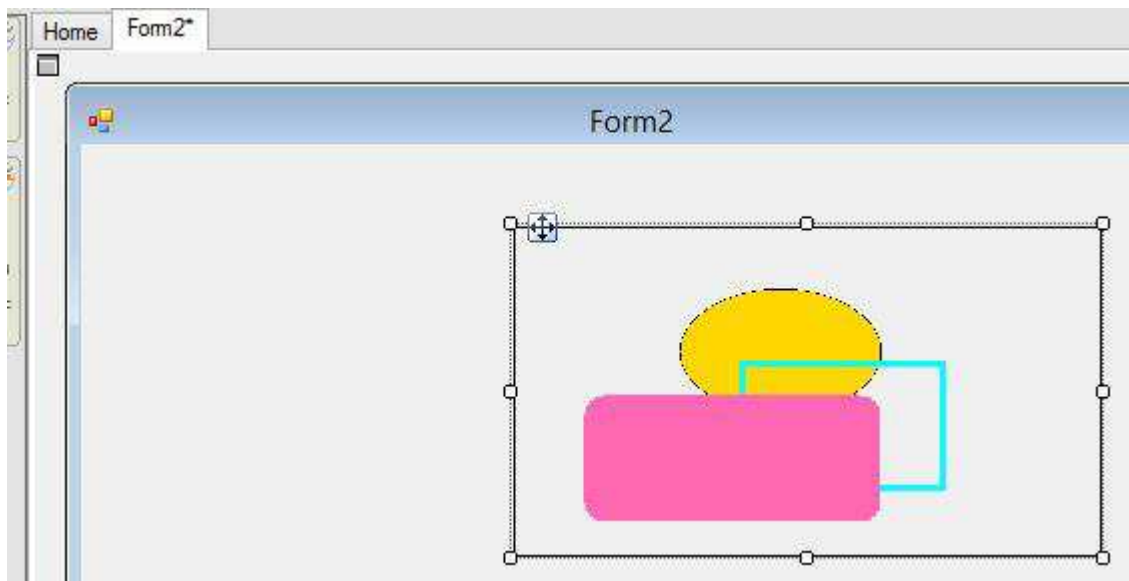
Drawing Group and Repeater



Add drawing objects

Drawing objects can be added to a Draw2DGroupBox by dropping objects from toolbox to a Draw2DGroupBox or by dragging objects on a form and dropping to a Draw2DGroupBox.

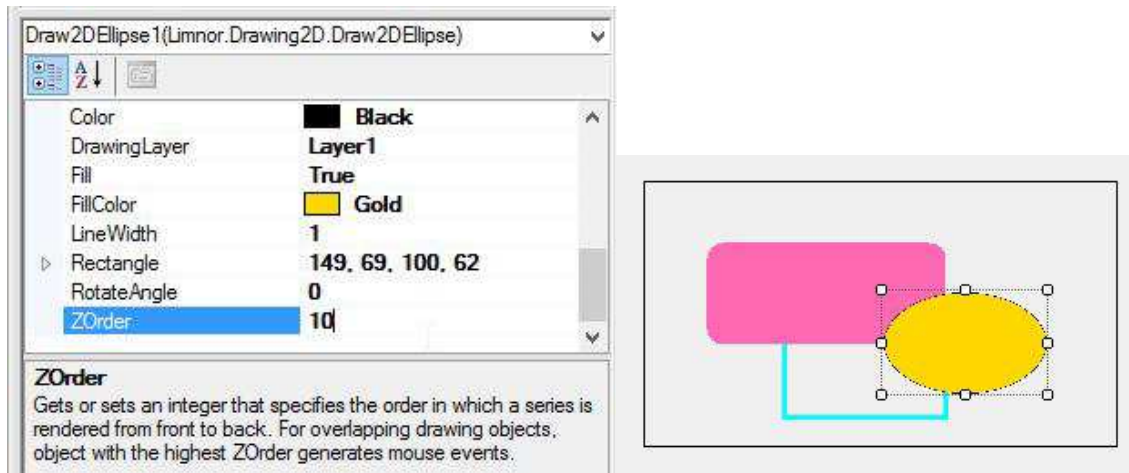
Dragging a Draw2DGroupBox drags all objects contained in it.



Sequence of drawing

Each drawing object has a ZOrder property. A drawing object with a larger ZOrder appears in front of drawing objects of smaller ZOrder values.

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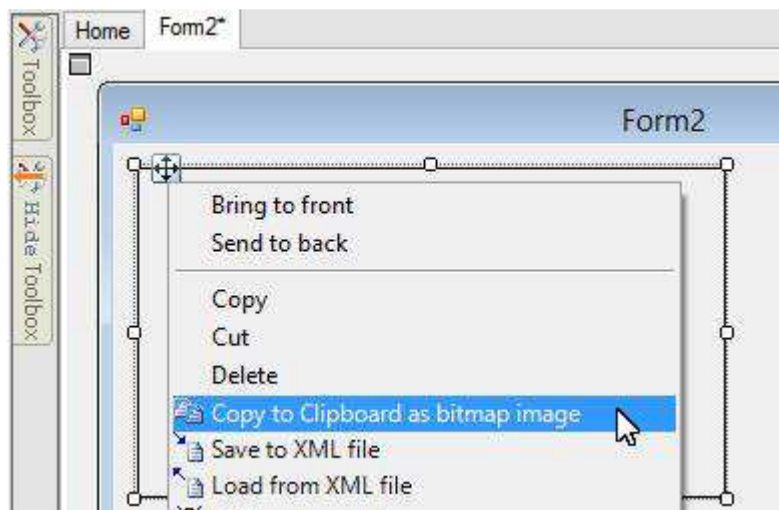
You may change ZOrder of drawing objects at design time and runtime.

Save drawings as image

Drawings can be saved as image at both design time and runtime.

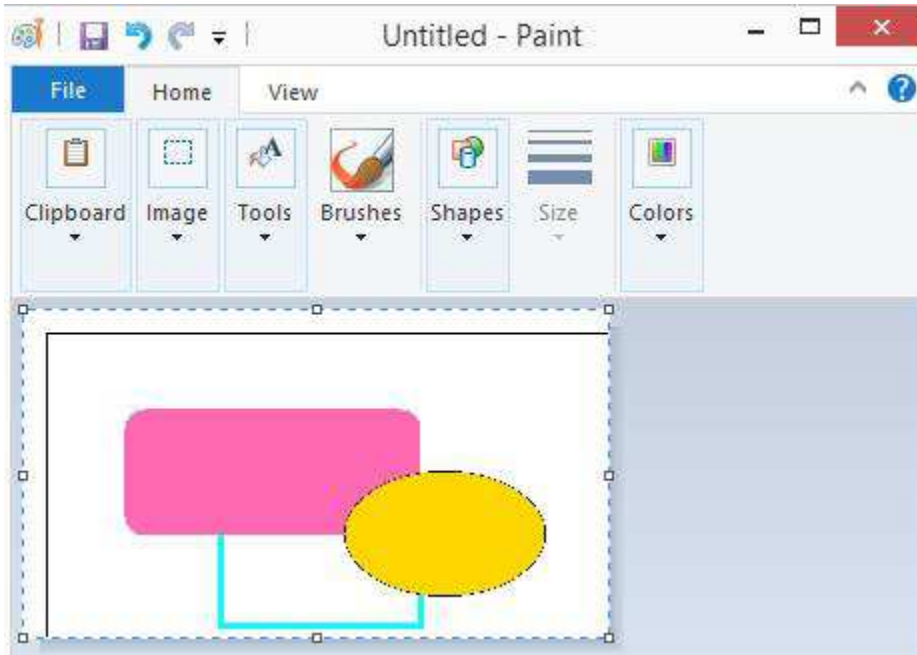
Copy to Clipboard as image at design time

At design time, right-click a drawing, for example, a drawing group; choose "Copy to Clipboard as bitmap image":



On copying to Clipboard, paste it to a drawing program. For example, paste to Microsoft Paint:

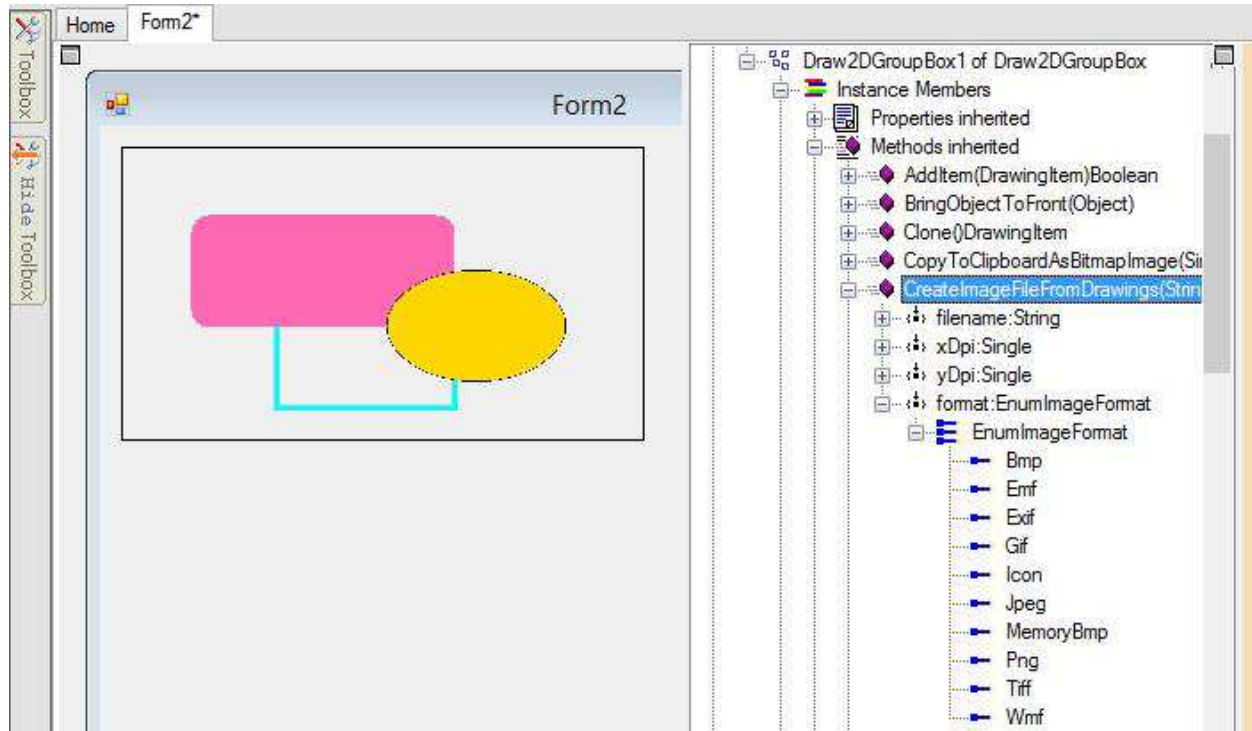
Drawing Group and Repeater



Create image file at runtime

At runtime, images can be generated from drawings by `CreateImageFileFromDrawings` actions. A `CreateImageFileFromDrawings` action returns a bitmap image. If filename parameter is not empty then an image file is generated at same time, image format of the image file is specified by "format" parameter. If xDpi and yDpi are greater than 0 then the image file is generated in resolution specified by xDpi and yDpi. xDpi represents horizontal resolution in dot-per-inch. yDpi represents vertical resolution. If xDpi or yDpi are not greater than 0 then screen resolution is used.

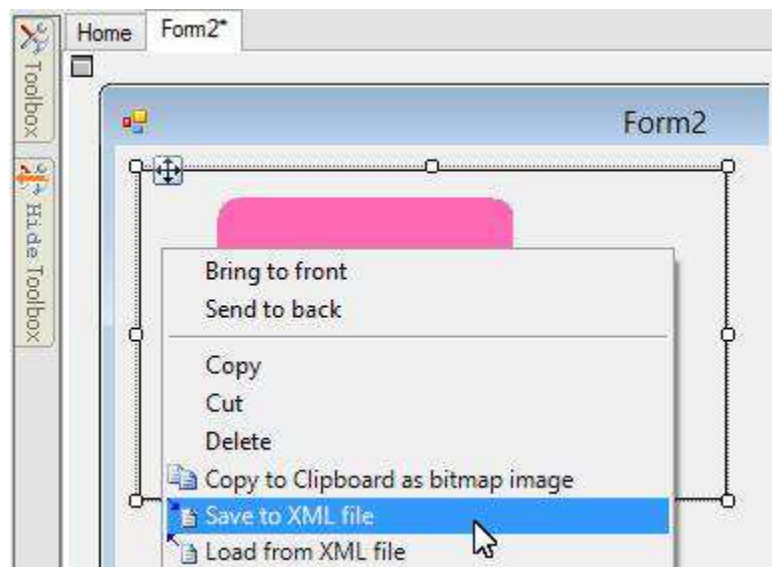
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Re-use drawing design

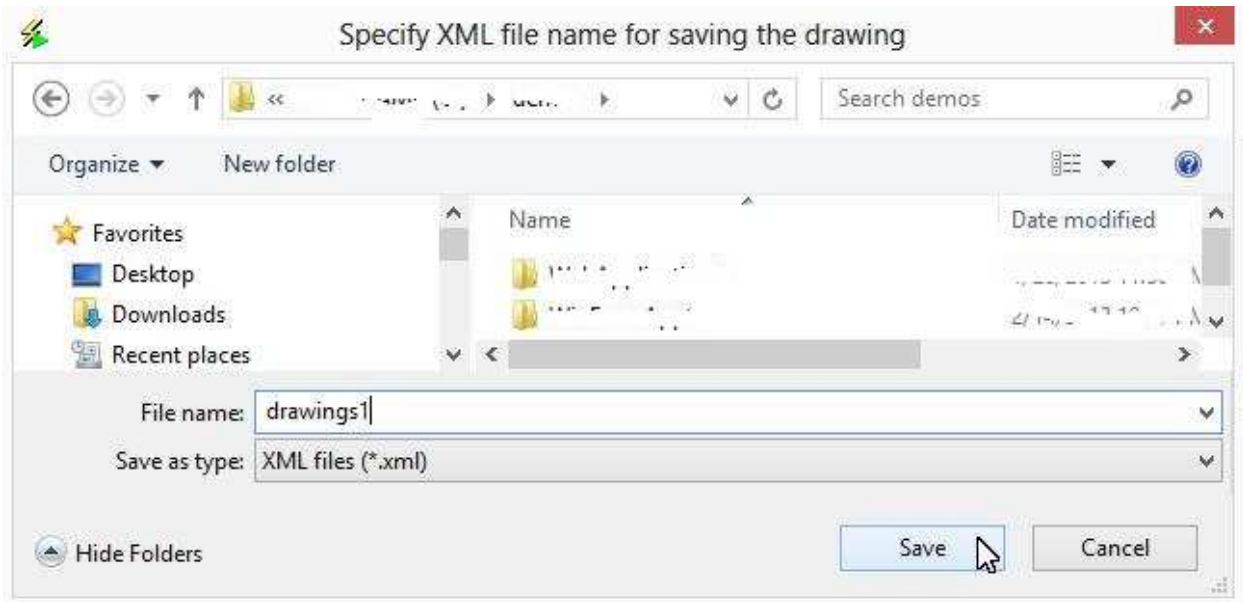
Save drawing design to XML file

Drawing designs can be saved to an XML file for re-use. Right-click a drawing and choose “Save to XML file”:

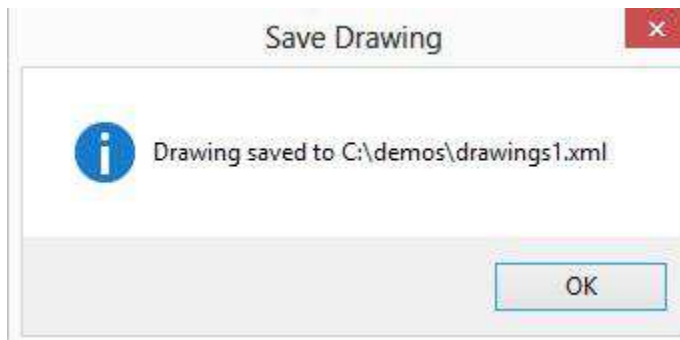


Select a filename:

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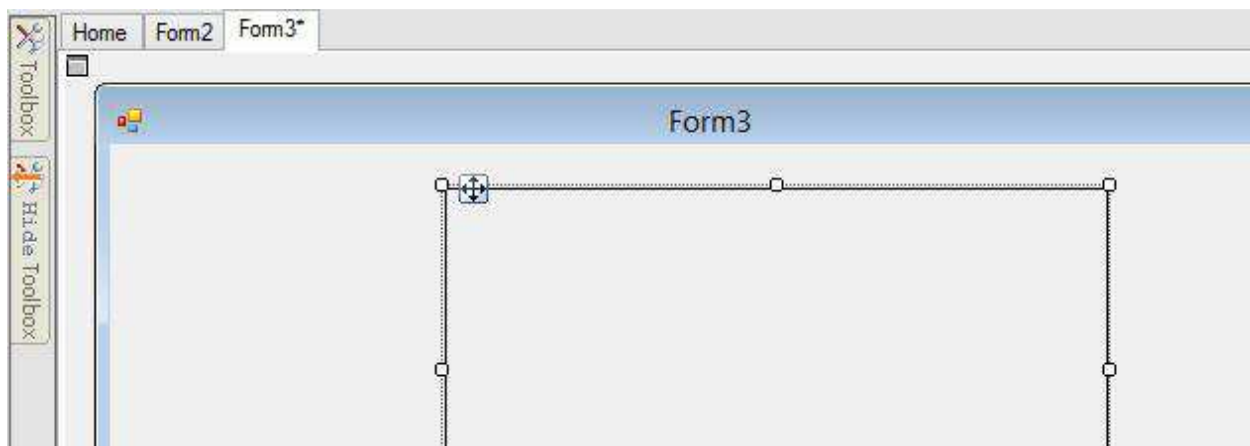


A message box appears on saving:



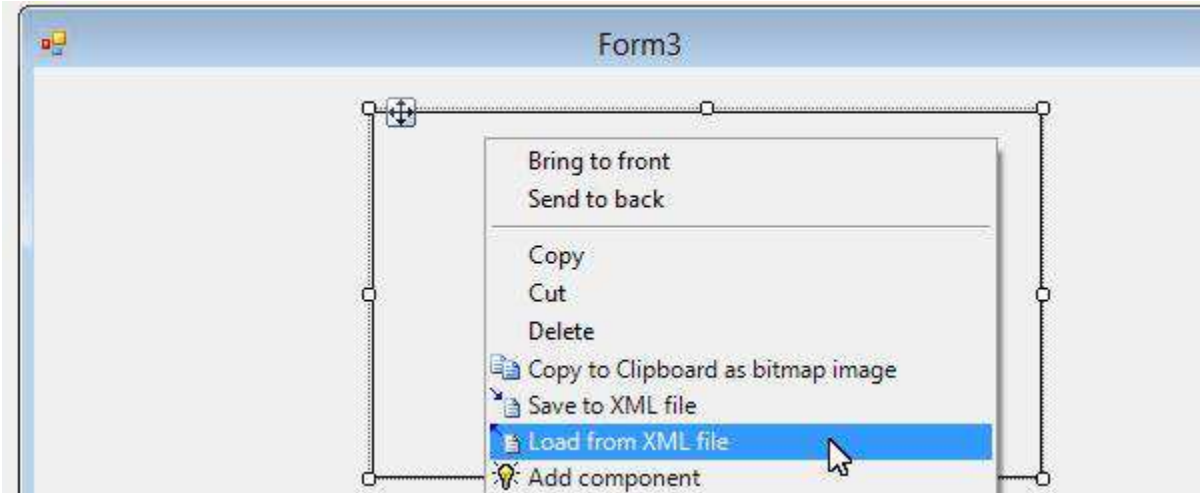
Load drawing design from XML file at design time

To re-use a saved drawing design, create a drawing of same type on a form, right-click the drawing and choose "Load from XML file". For example, we have saved a drawing group to an XML file. Let's create a drawing group on another form:

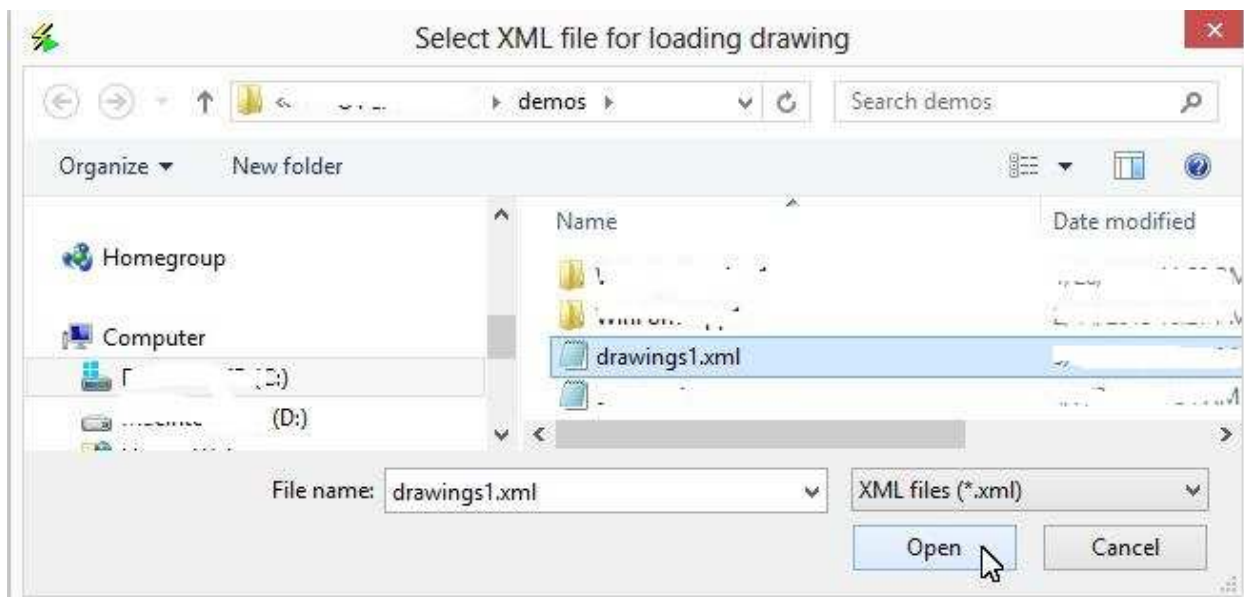


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Right-click the drawing group; choose “Load from XML file”:

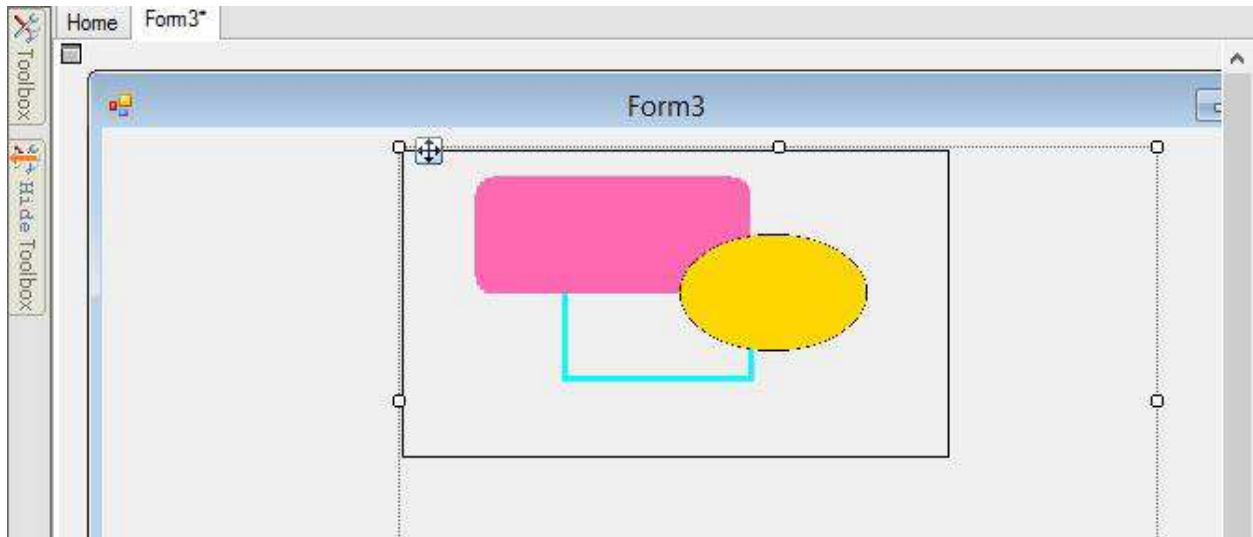


Select the XML file we created previously:

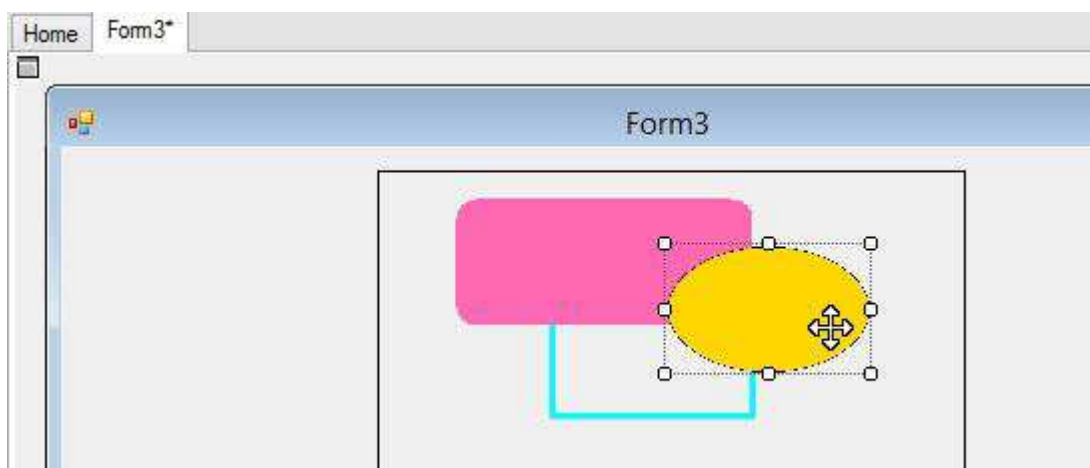


Drawings saved in the XML file are loaded:

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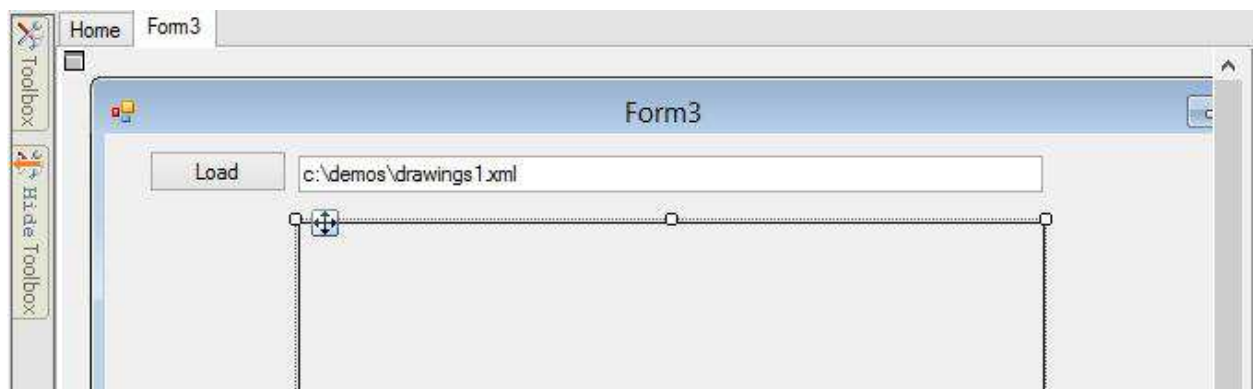


Note that loaded drawings can be modified by selecting a drawing object and modify its properties. Loaded drawing objects can also be programmed by creating actions and assign actions to events.



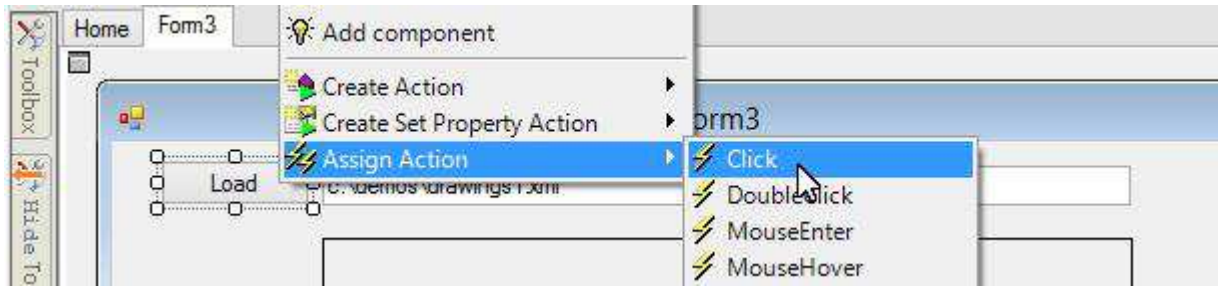
Load drawings from XML at runtime

Drawings saved in a XML file can also be loaded at runtime. We use an example to show it. A button is used to trigger such an operation at runtime:

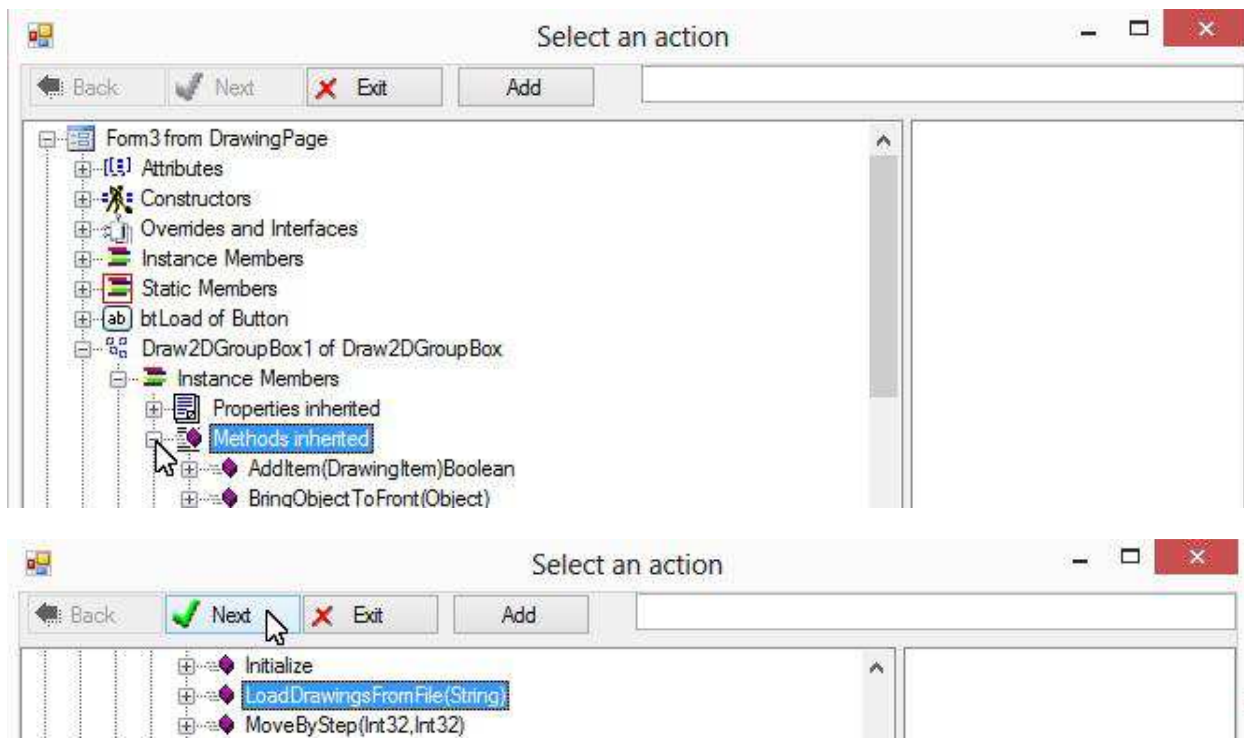


Drawing Group and Repeater

To do such programming, right-click the button, choose “Assign Action”, choose “Click” event:

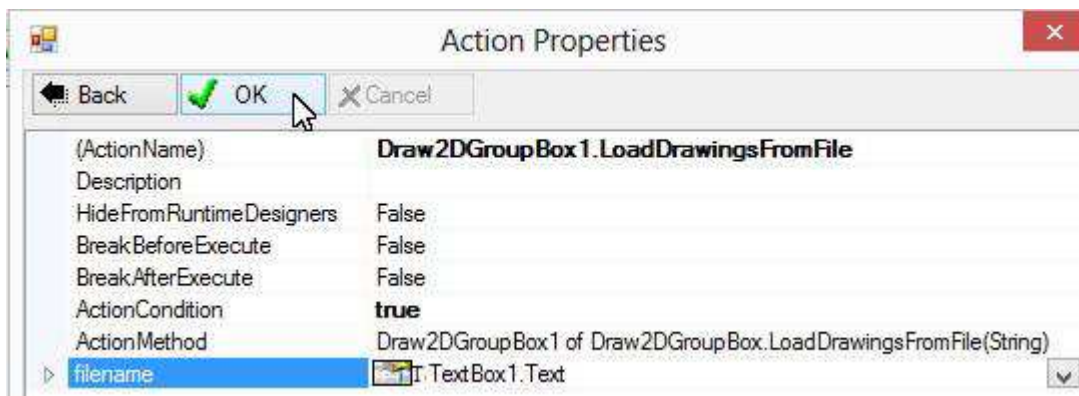
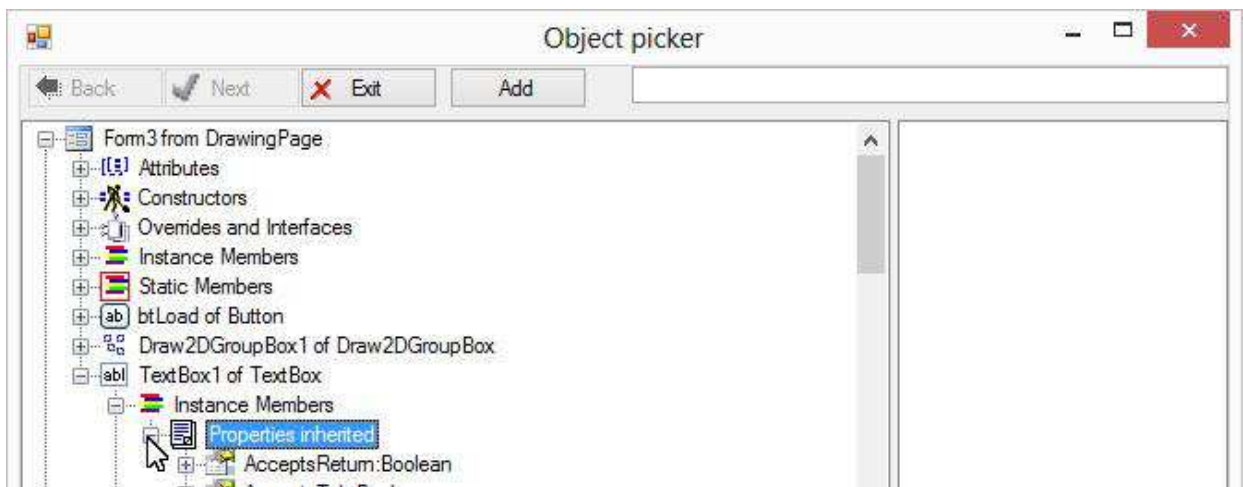
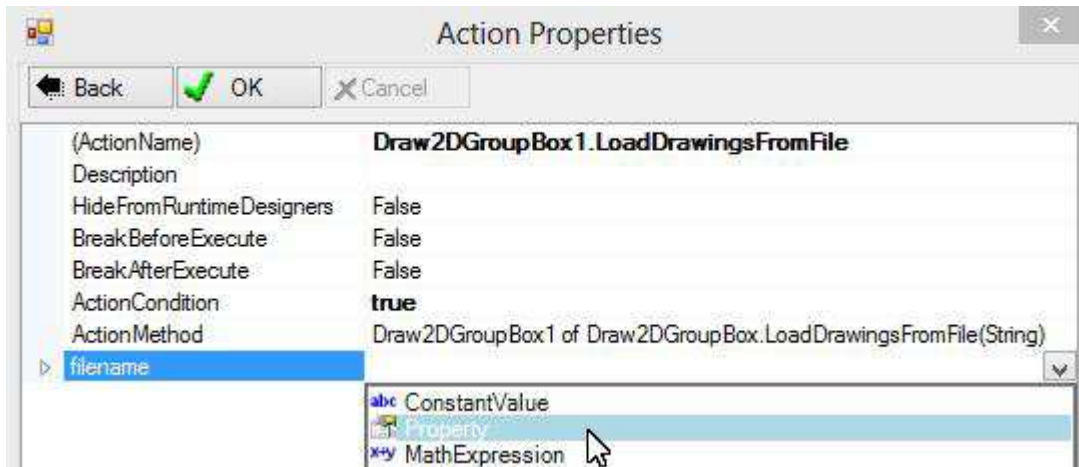


Choose “LoadDrawingsFromFile”:



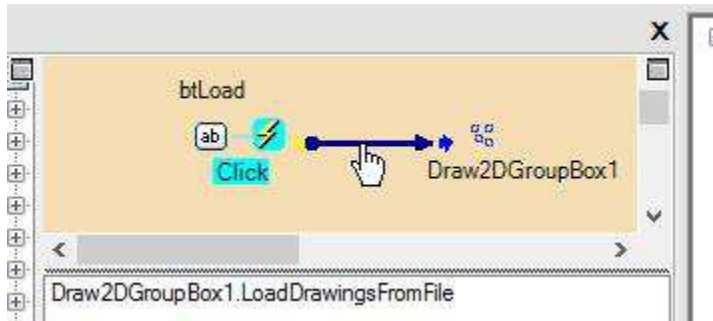
Select Text property of a text box where XML file name is shown:

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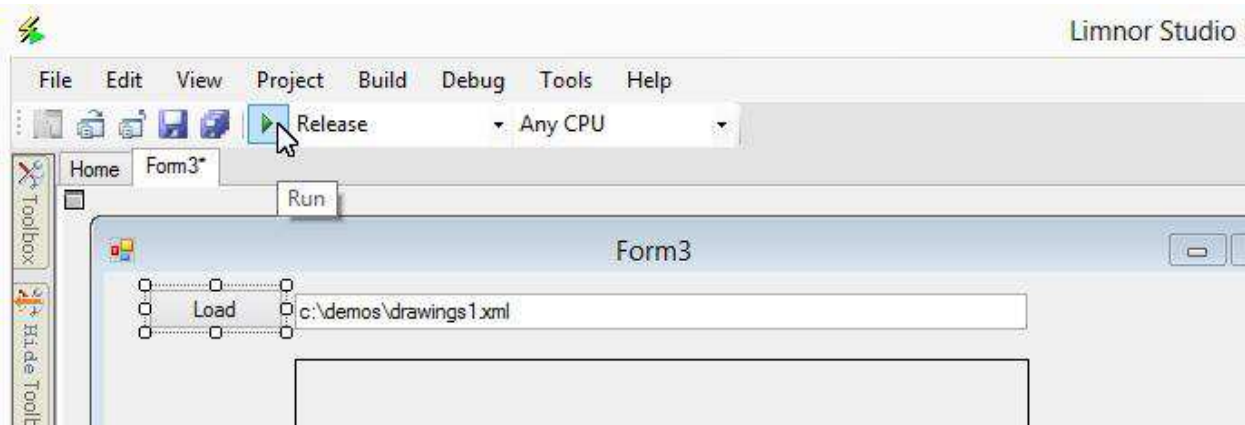


The action is created and assigned to the button:

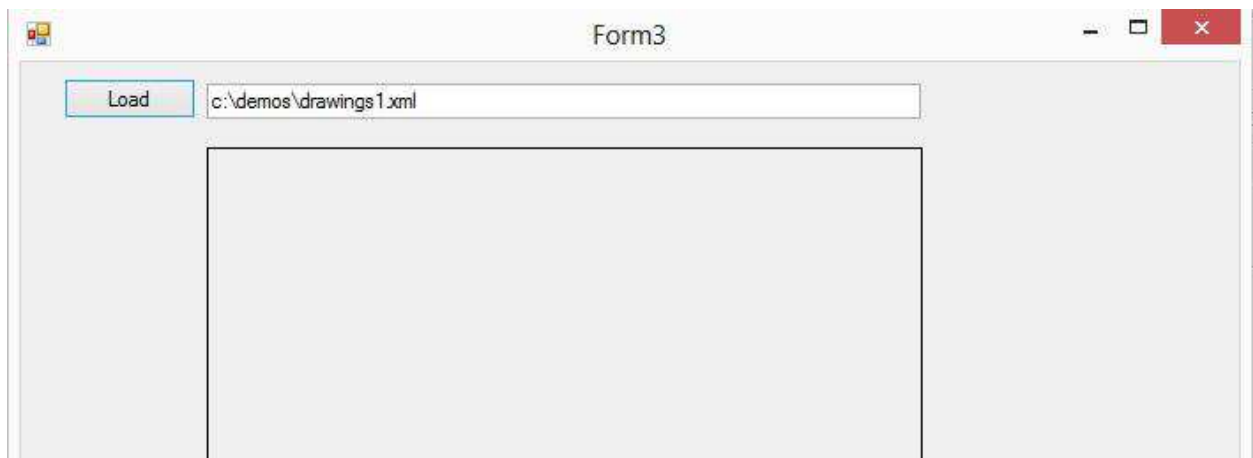
Drawing Group and Repeater



Launch testing:

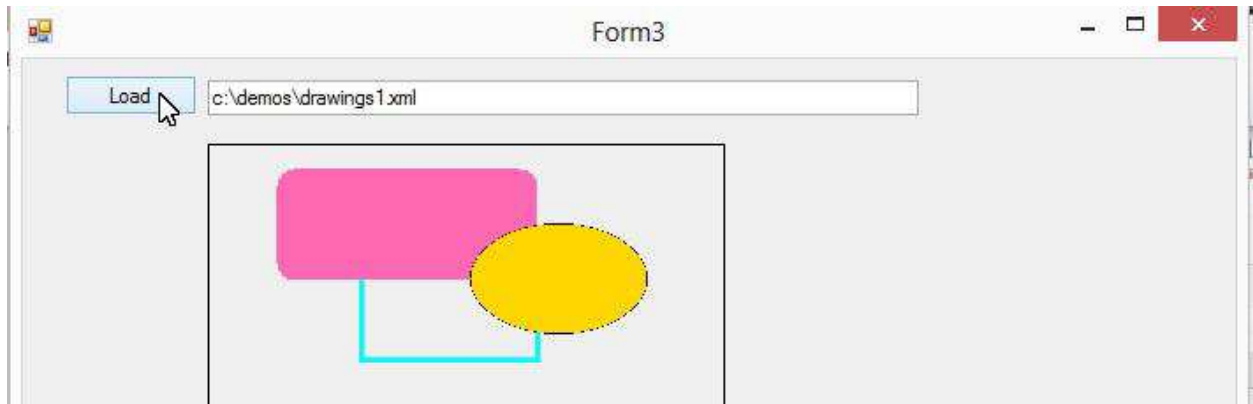


The form appears:



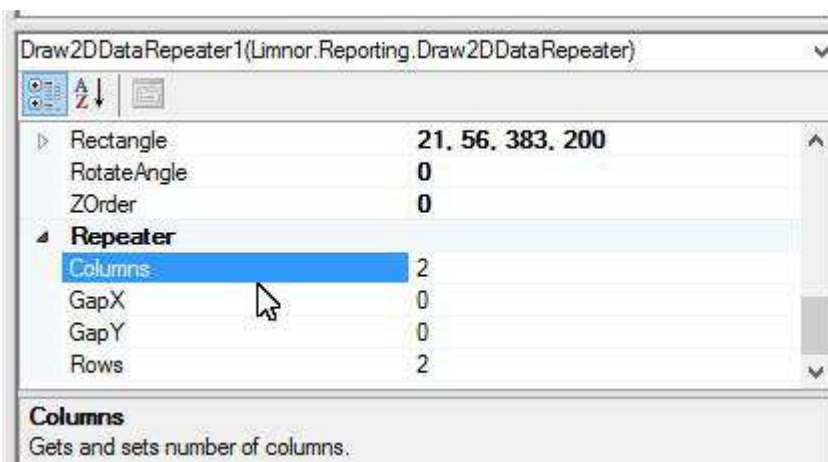
Click the button, drawings are loaded:

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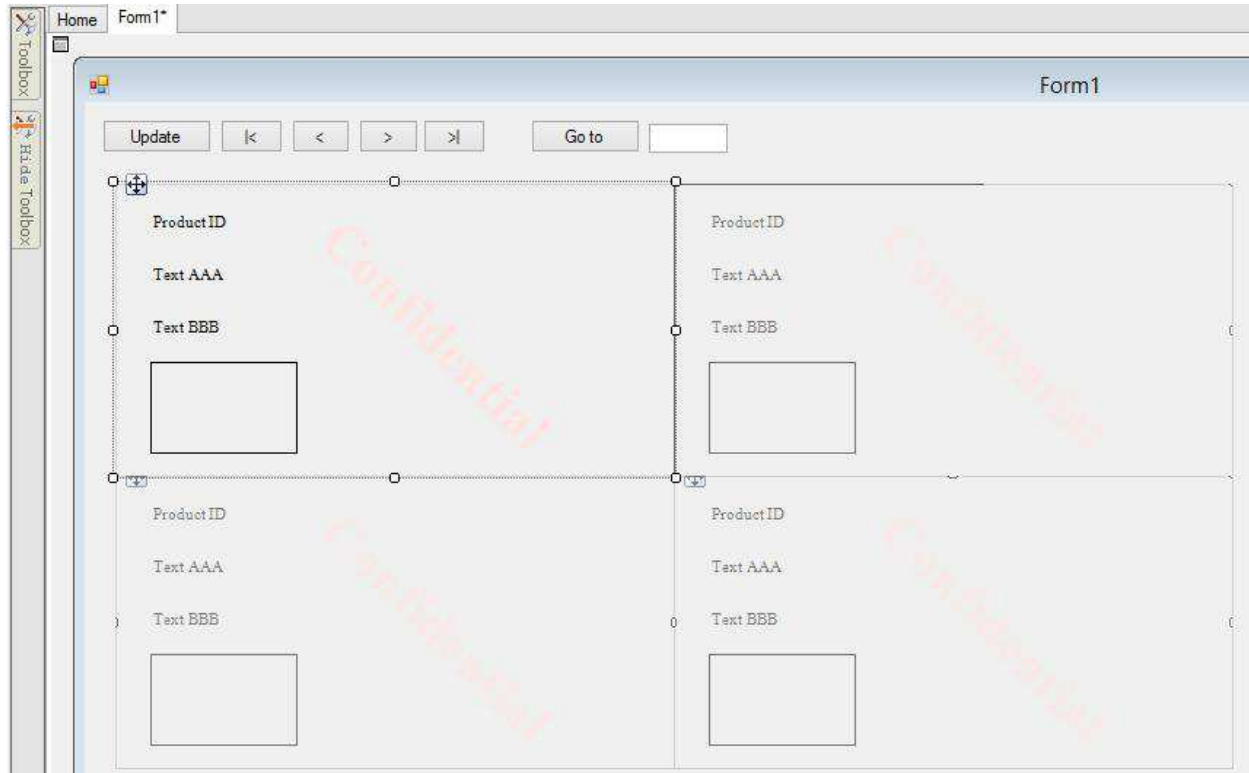
Drawing Repeater

Drawing repeater is used for repeat drawing designs. Designing a drawing repeater is very much like designing a drawing group. But the drawing group is automatically repeated in columns and rows, specified by Columns and Rows properties:



GapX indicates column gap, in pixels. GapY indicates row gap, in pixels.

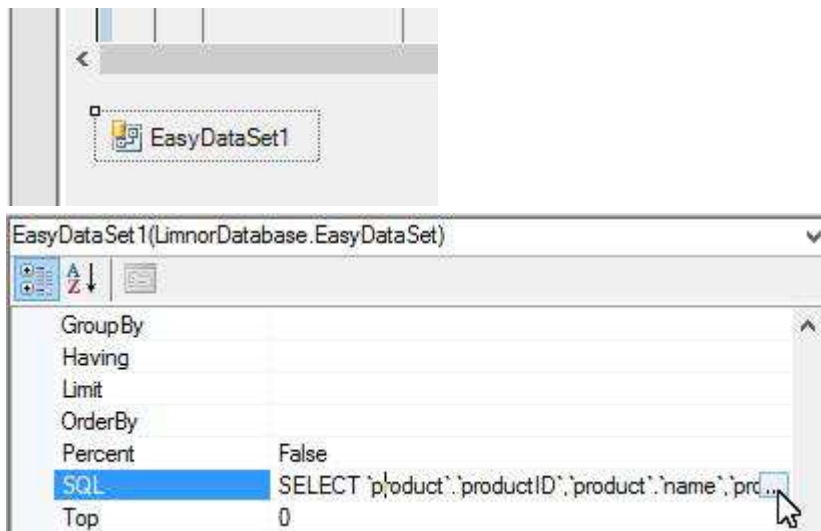
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You can see that groups other than the first one are dimmed, indicating that you can only modify the first group.

Data binding

For data binding of drawings, add an EasyDataSet component to the form for providing data from database. Set its SQL property to build a query for fetching records from a database:



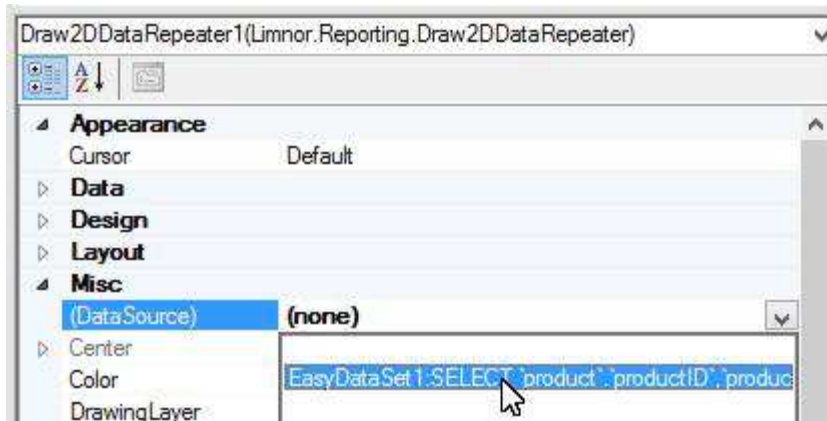
For more information on building queries, see <http://www.limnor.com/support/Limnor%20Studio%20-%20User%20Guide%20-%20Part%20VI.pdf>

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In this sample, we build a query to pull productID, name, model, and ImageData from a product table.

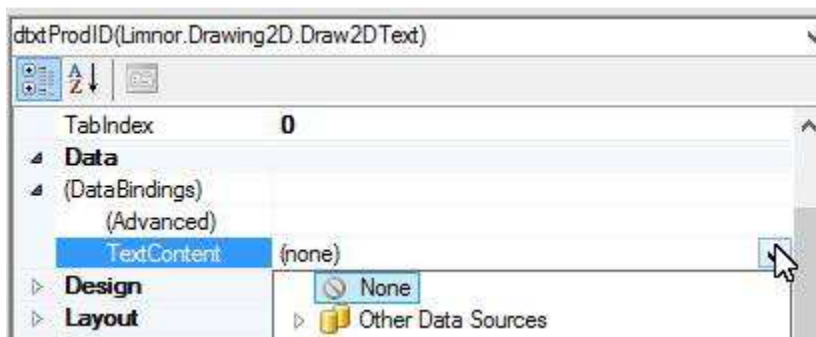
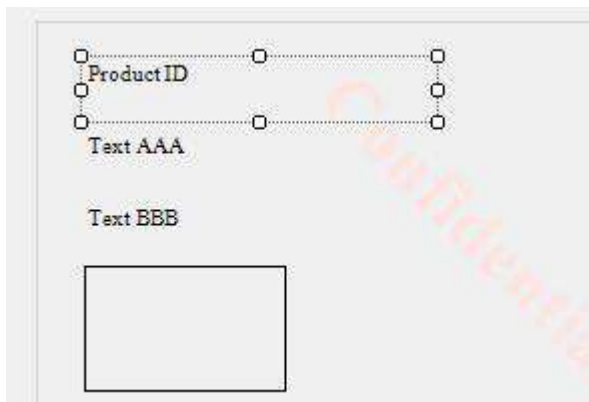
Specify Data Source

Each drawing repeater has a DataSource property. Point DataSource to an EasyDataSet on the form for data binding purpose:



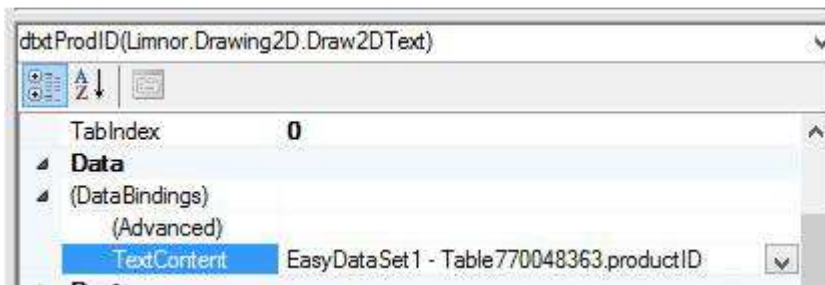
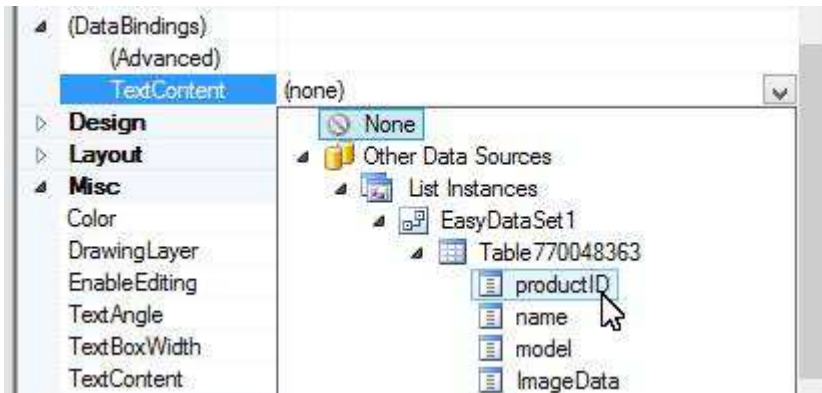
Binding data on drawings

Each drawing object may support data-binding on some of its properties, which are listed under “DataBindings”. For example, a text drawing object supports data-binding on TextContent:



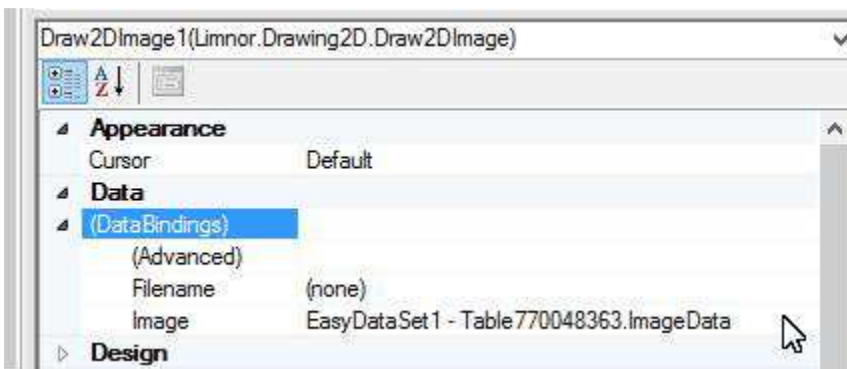
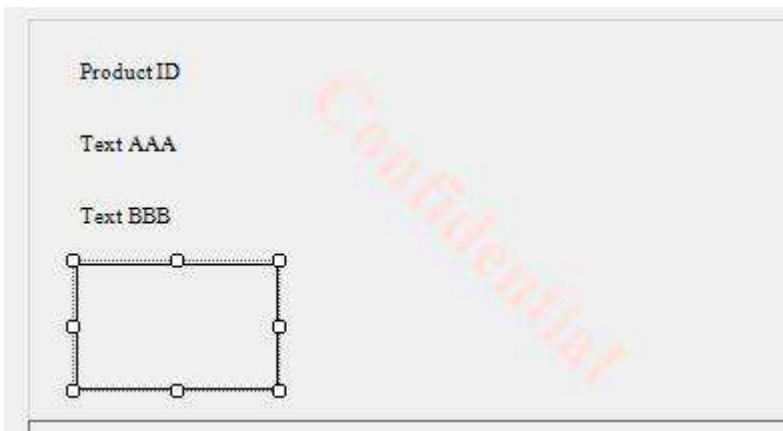
We may bind TextContent to a data field:

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Binding to image

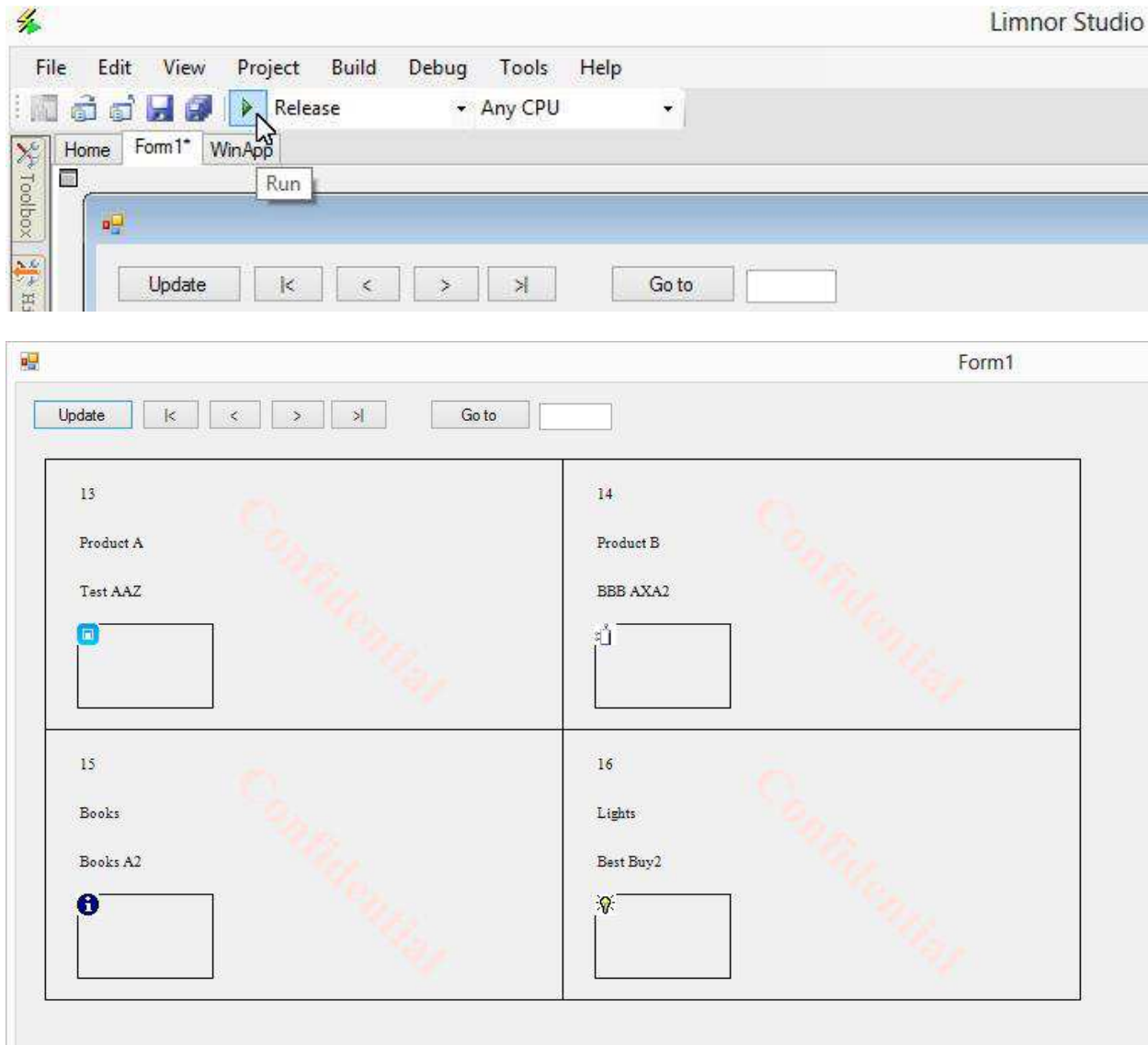
Image drawing objects support binding to Filename and Image:



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In above sample, we bind Image property to data field ImageData. This is because ImageData holds actual image data. If you have a data field holding image file name then you should bind it to Filename.

Run the project, data from database appears on each group of drawing repeater:

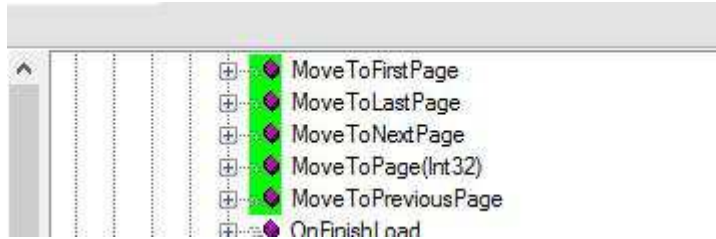


Page navigation

Each group of a drawing repeater shows one record of the EasyDataSet. In this sample, Columns is 2 and Rows is 2. So, there are 4 groups on the form, showing 4 records. Moving to the next page will show the next 4 records.

Drawing repeater provides following page navigation methods:

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MoveToNext: Shows the next Columns x Rows records

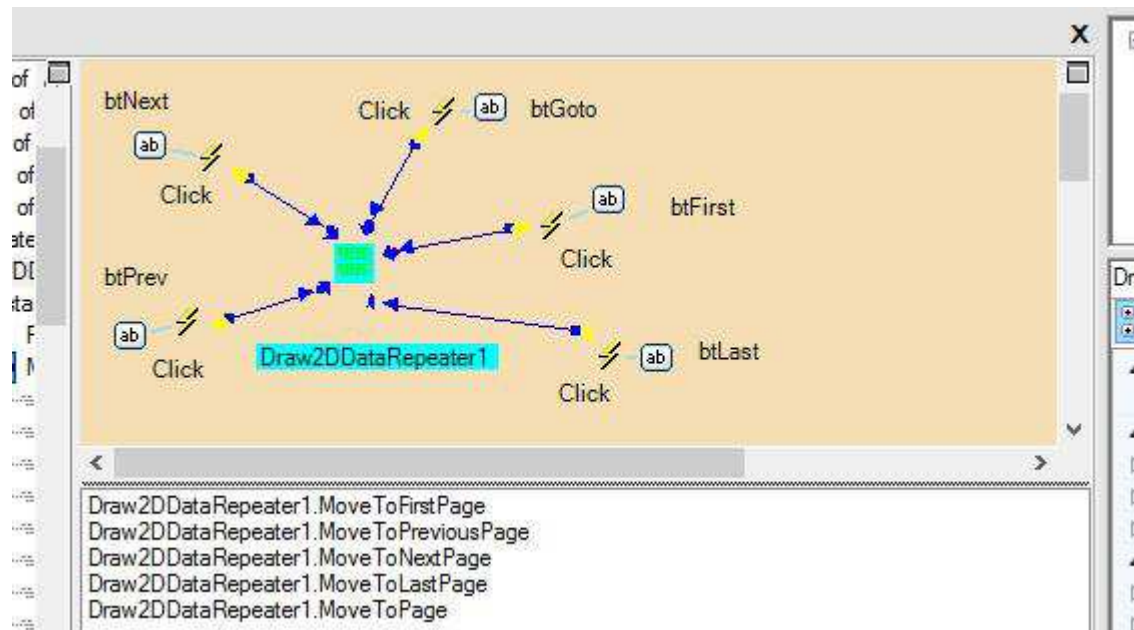
MoveToPrevious: Shows the previous Columns x Rows records

MoveToLast: Shows the last Columns x Rows records

MoveToFirst: Shows the first Columns x Rows records

MoveToPage: Given a page number, shows a set of Columns x Rows records starting from record (page number) x Columns x Rows.

We use a set of buttons to execute above methods:




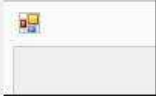


Run the project; click the button to different pages of records:

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Form1

Update < > >| Go to

17 Webcam 	18 waa 111 
19 easd 222 	20 Computer +e'n 

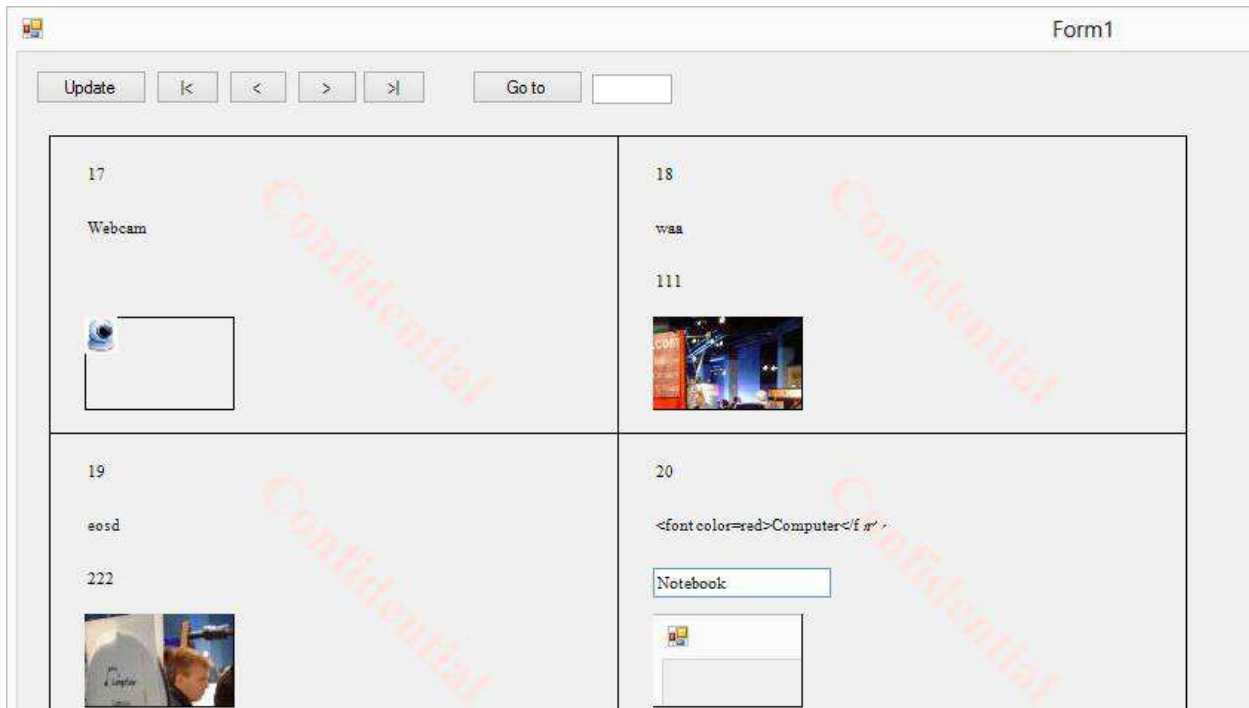
Data entry

Text drawing and image drawing can be used for data entry by setting EnableEditing to True for text drawing and AllowSelectFileByClick for image drawing. See

<http://www.limnor.com/support/DataEntryWithDrawings.pdf> for more details.

Text drawings and image drawings inside a drawing repeater can also be used for data entry in exactly the same way as if they were outside of a drawing repeater. Like data entry without a drawing repeater, an Update action of the EasyDataSet saves all data modifications back to the database.

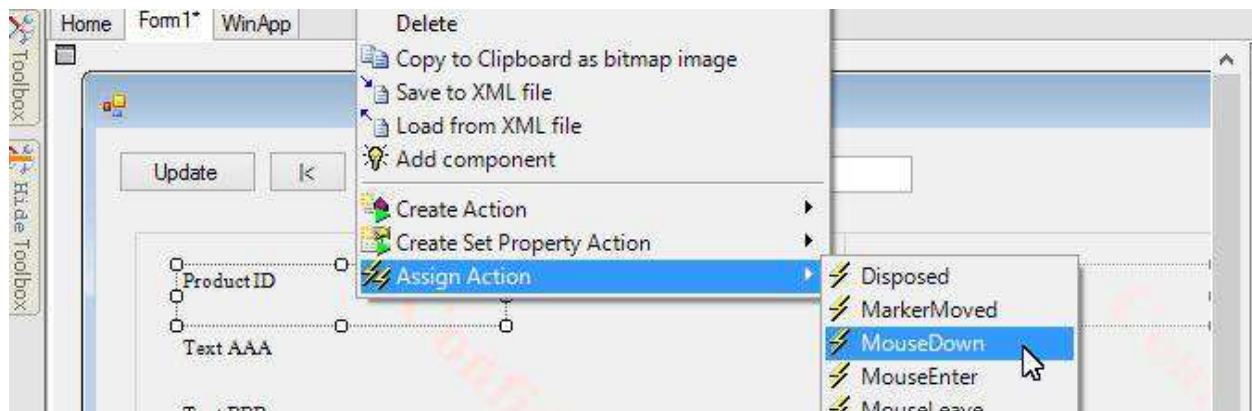
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Drawing programming

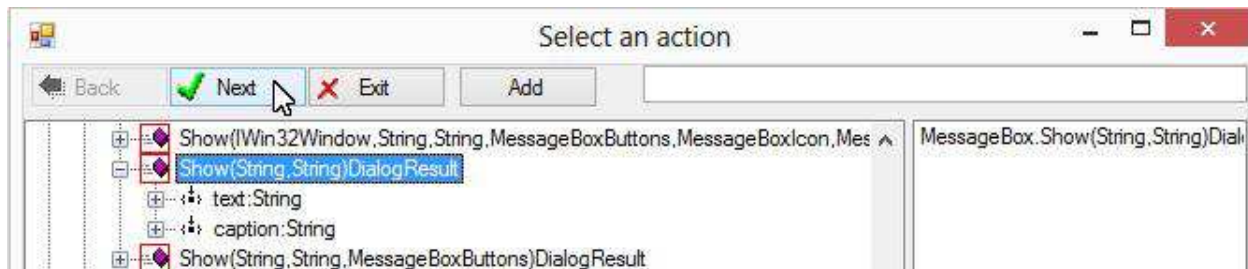
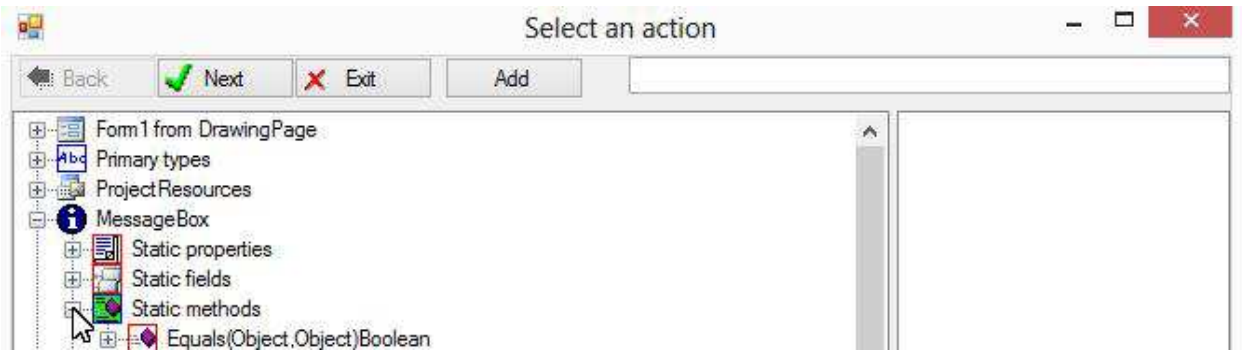
Programming done inside a drawing group is duplicated on all groups at runtime. To better illustrate this concept and understand what it means by “duplicated”, we do such a programming: at mouse down event of the first text drawing, show a message box with a message formed by contents of the second and the third text drawings.

Right-click the text drawing, choose “Assign Action”, choose “MouseDown” event:

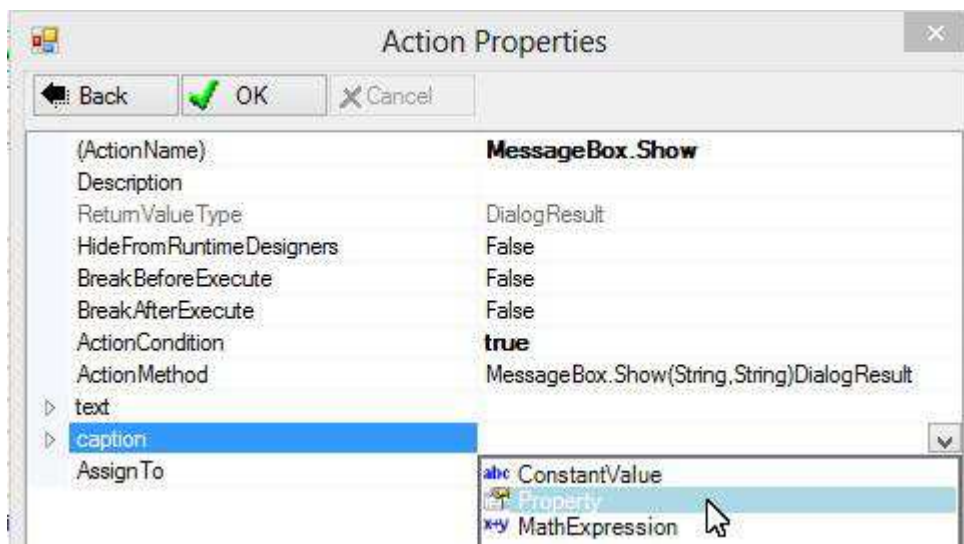


Select a Show method of the MessageBox:

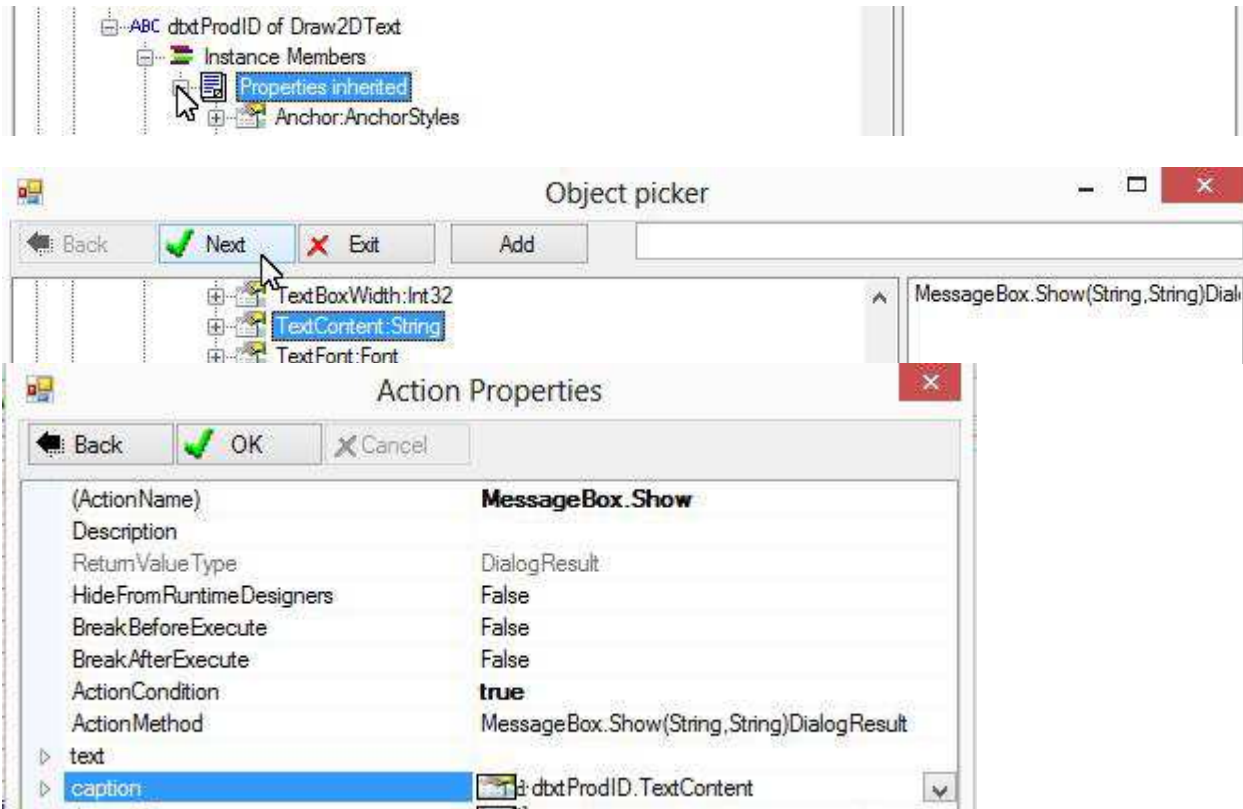
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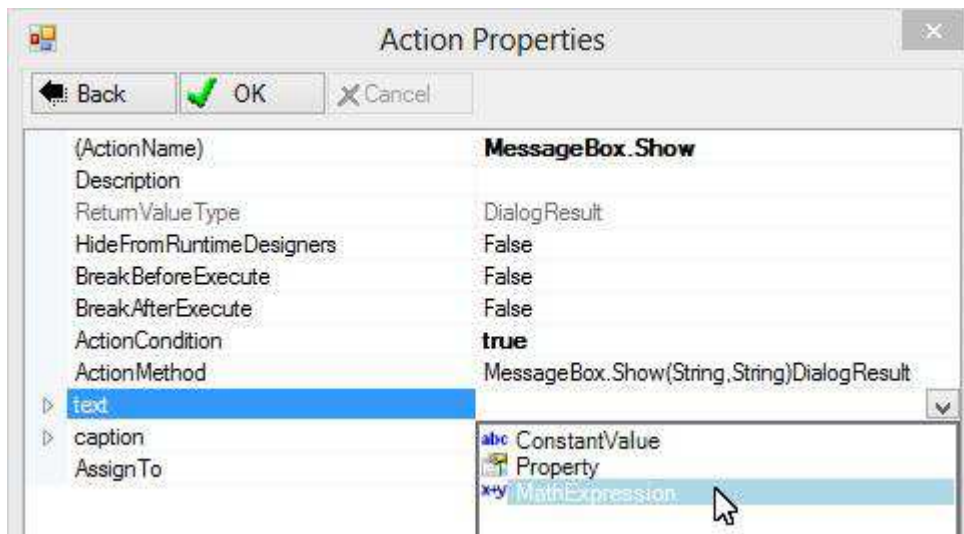
Suppose we want to show the contents of the first text drawing as the message box caption:



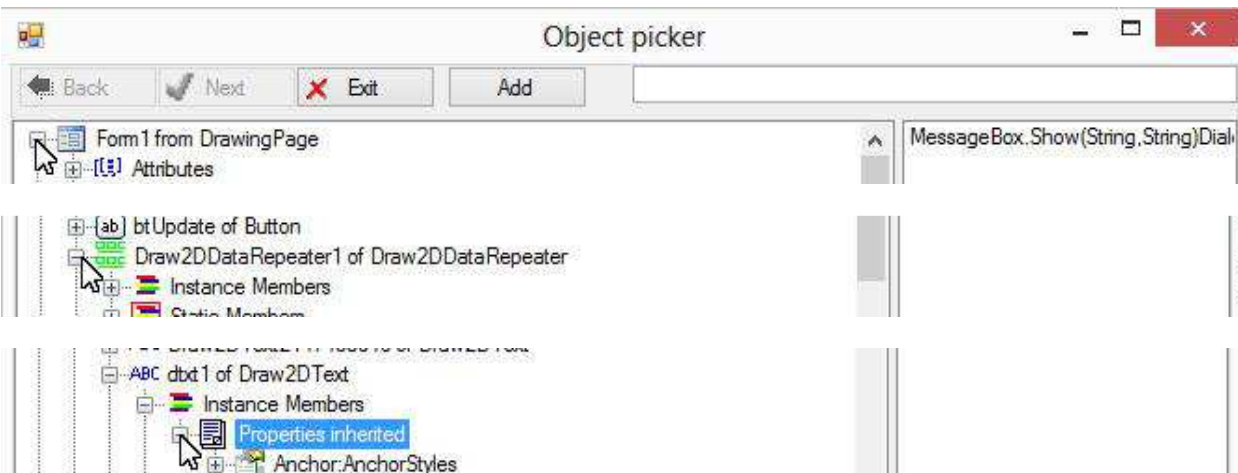
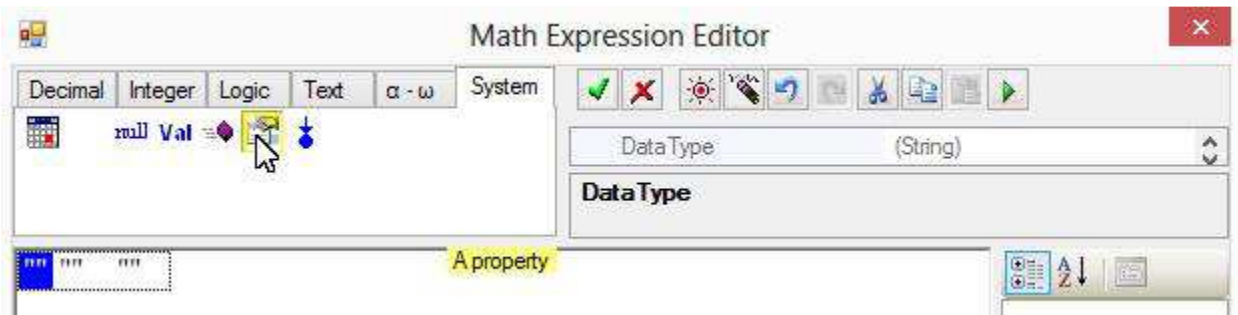
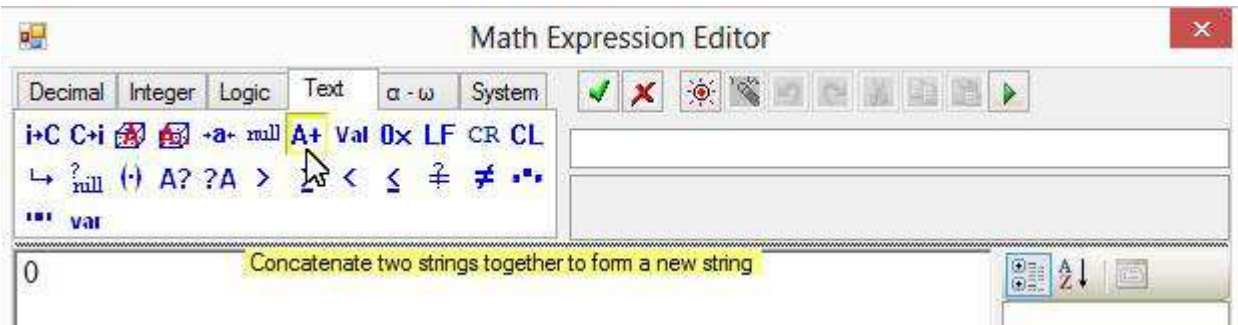
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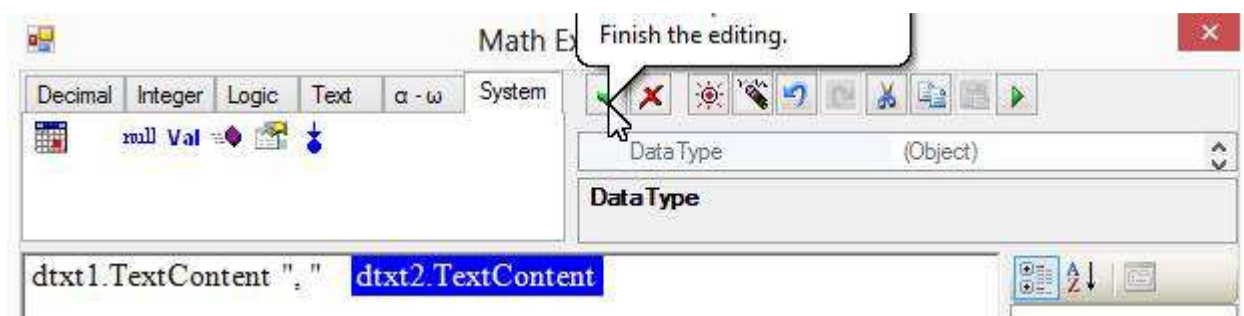
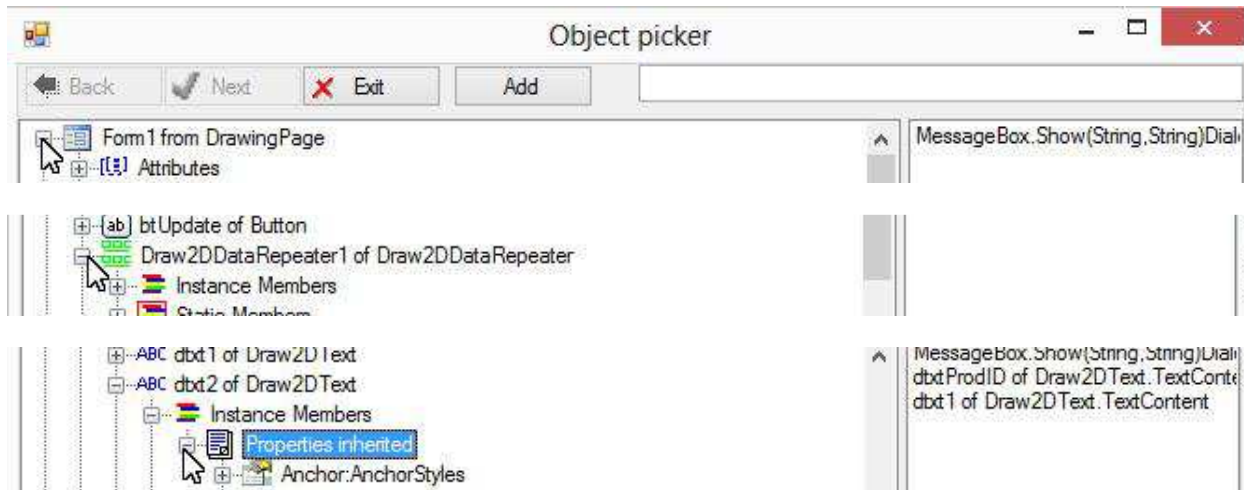
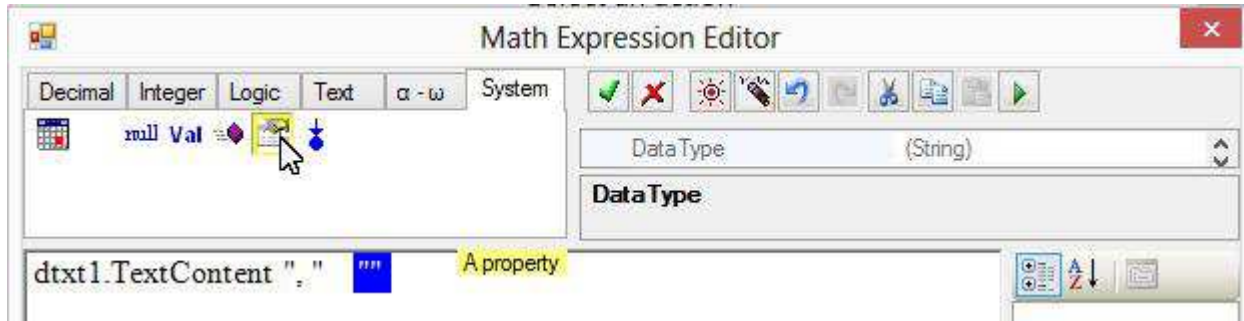
Suppose we want to for message text by the second and the third text drawings:



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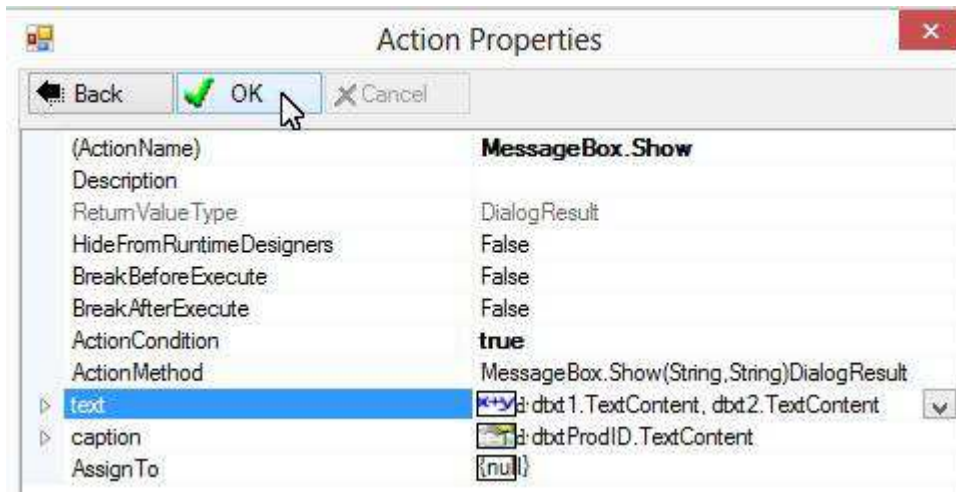


For more information on using the Expression Editor, see

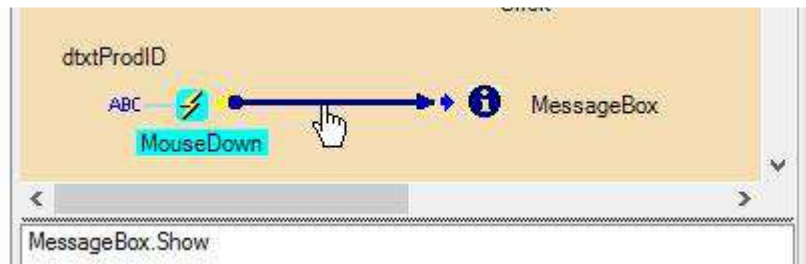
<http://www.limnor.com/support/Limnor%20Studio%20-%20User%20Guide%20-%20Part%20III.pdf>

Click OK:

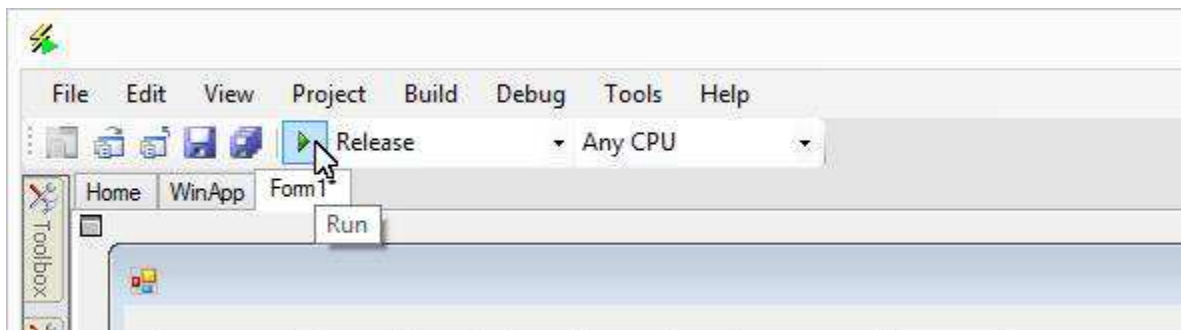
Drawing Group and Repeater



The action is created and assigned to the drawing object:



Run the project and see how the above programming works:






The form appears show data from database:

Drawing Group and Repeater

Form1



Update |< < > >| Go to

13 Product A Test AAZ  <div></div>	14 Product B BBB AXA2  <div></div>
15 Books Books A2  <div></div>	16 Lights Best Buy2  <div></div>

Click the first text drawing in the first group, a message box appears showing the data we expected:

Form1

Update |< < > >| Go to

13 Product A Test AAZ  <div></div>	14 Product B BBB AXA2  <div></div>
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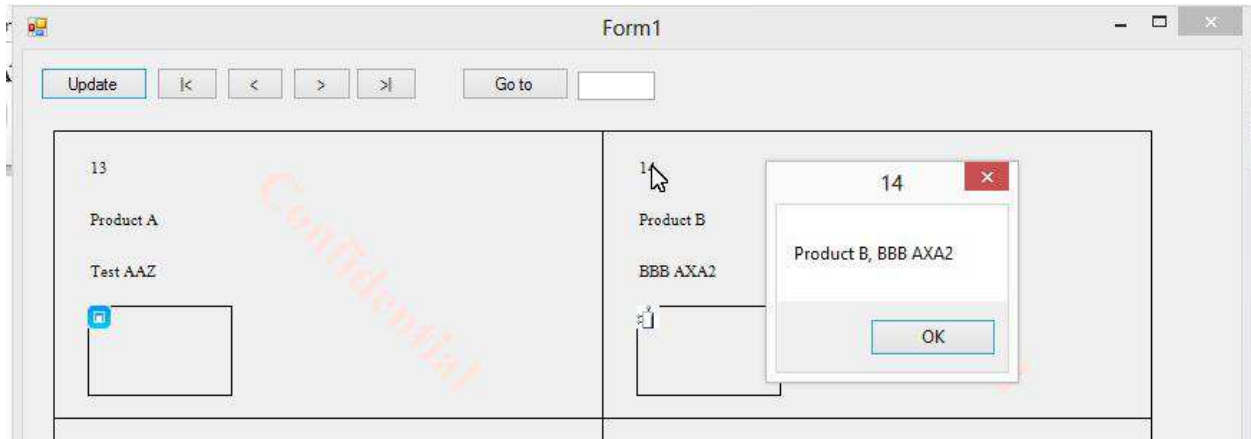
13

Product A, Test AAZ

OK

Click the first text drawing of another group, a message box appears showing the data related to the group of the text drawing being clicked:

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As you can see, you need do nothing special and the programming is automatically duplicated for all groups.

Feedback

Please send your feedback to support@limnor.com