

# ListBox: font and image



```
/*  
Professional Windows GUI Programming Using C#  
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Publisher: Peer Information
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ISBN: 1861007663
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```
*/
```

```
using System;
```

```
using System.Drawing;
```

```
using System.Collections;
```

```
using System.ComponentModel;
```

```
using System.Windows.Forms;
```

```
using System.Data;
```

```
namespace MyListBox
```

```
{
```

```
///
```

```
/// Summary description for MyListBox.
```

```
///
```

```
public class MyListBox : System.Windows.Forms.Form
```

```
{
```

```
///
```

```
/// Required designer variable.
```

```
///
```

```
private System.ComponentModel.Container components = null;
```

```
private System.Windows.Forms.Label label1;
```

```
private System.Windows.Forms.Label label2;
```

```
private System.Windows.Forms.Label label3;
```

```
private System.Windows.Forms.ListBox VARIABLE;
```

```
private System.Windows.Forms.ListBox FIXED;
```

```
private System.Windows.Forms.ListBox SIMPLE;
private System.Windows.Forms.ListBox MULTI_COLUMN;
private System.Windows.Forms.Label label4;
private System.Windows.Forms.ListBox MULTI_SELECTION;
private System.Windows.Forms.Label label5;
static int delta = 5 ;
string[] ListItems = new string[7];

public MyListBox()
{
ListItems[0] = "Apples";
ListItems[1] = "Oranges";
ListItems[2] = "Mangoes";
ListItems[3] = "PineApple";
ListItems[4] = "Strawbverries";
ListItems[5] = "Bananas";
ListItems[6] = "GrapeFruit";

//
// Required for Windows Form Designer support
//
InitializeComponent();

//
// TODO: Add any constructor code after InitializeComponent
call
//
}

///

/// Clean up any resources being used.
///
protected override void Dispose( bool disposing )
{
if( disposing )
{
if (components != null)
```

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{
components.Dispose();
}
}
base.Dispose( disposing );
}

#region Windows Form Designer generated code
///
/// Required method for Designer support – do not modify
/// the contents of this method with the code editor.
///
private void InitializeComponent()
{
this.label1 = new System.Windows.Forms.Label();
this.label2 = new System.Windows.Forms.Label();
this.label3 = new System.Windows.Forms.Label();
this.VARIABLE = new System.Windows.Forms.ListBox();
this.FIXED = new System.Windows.Forms.ListBox();
this.SIMPLE = new System.Windows.Forms.ListBox();
this.MULTI_COLUMN = new System.Windows.Forms.ListBox();
this.label4 = new System.Windows.Forms.Label();
this.MULTI_SELECTION = new System.Windows.Forms.ListBox();
this.label5 = new System.Windows.Forms.Label();
this.SuspendLayout();
//
// label1
//
this.label1.Font = new System.Drawing.Font("Microsoft Sans
Serif", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((System.Byte)(0)));
this.label1.Location = new System.Drawing.Point(208, 24);
this.label1.Name = "label1";
this.label1.Size = new System.Drawing.Size(192, 23);
this.label1.TabIndex = 1;
this.label1.Text = "Fixed Owner Draw List Box";
//

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// label2
//
this.label2.Font = new System.Drawing.Font("Microsoft Sans
Serif", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((System.Byte)(0)));
this.label2.Location = new System.Drawing.Point(24, 24);
this.label2.Name = "label2";
this.label2.Size = new System.Drawing.Size(168, 23);
this.label2.TabIndex = 2;
this.label2.Text = "Simple List Box";
//
// label3
//
this.label3.Font = new System.Drawing.Font("Microsoft Sans
Serif", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((System.Byte)(0)));
this.label3.Location = new System.Drawing.Point(424, 24);
this.label3.Name = "label3";
this.label3.Size = new System.Drawing.Size(208, 16);
this.label3.TabIndex = 1;
this.label3.Text = "Variable Owner Draw List Box";
//
// VARIABLE
//
this.VARIABLE.DrawMode =
System.Windows.Forms.DrawMode.OwnerDrawVariable;
this.VARIABLE.Location = new System.Drawing.Point(424, 56);
this.VARIABLE.Name = "VARIABLE";
this.VARIABLE.Size = new System.Drawing.Size(200, 240);
this.VARIABLE.TabIndex = 5;
this.VARIABLE.MeasureItem += new
System.Windows.Forms.MeasureItemEventHandler(this.VARIABLE_Mea
sureItem);
this.VARIABLE.DrawItem += new
System.Windows.Forms.DrawItemEventHandler(this.VARIABLE_DrawIt
em);
this.VARIABLE.SelectedIndexChanged += new

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System.EventHandler(this.VARIABLE_SelectedIndexChanged);
//
// FIXED
//
this.FIXED.DrawMode =
System.Windows.Forms.DrawMode.OwnerDrawFixed;
this.FIXED.Location = new System.Drawing.Point(208, 56);
this.FIXED.Name = "FIXED";
this.FIXED.Size = new System.Drawing.Size(208, 238);
this.FIXED.TabIndex = 4;
this.FIXED.DrawItem += new
System.Windows.Forms.DrawItemEventHandler(this.FIXED_DrawItem)
;
this.FIXED.SelectedIndexChanged += new
System.EventHandler(this.FIXED_SelectedIndexChanged);
//
// SIMPLE
//
this.SIMPLE.Location = new System.Drawing.Point(24, 56);
this.SIMPLE.Name = "SIMPLE";
this.SIMPLE.Size = new System.Drawing.Size(176, 238);
this.SIMPLE.TabIndex = 3;
this.SIMPLE.SelectedIndexChanged += new
System.EventHandler(this.SIMPLE_SelectedIndexChanged);
//
// MULTI_COLUMN
//
this.MULTI_COLUMN.Location = new System.Drawing.Point(24,
344);
this.MULTI_COLUMN.MultiColumn = true;
this.MULTI_COLUMN.Name = "MULTI_COLUMN";
this.MULTI_COLUMN.Size = new System.Drawing.Size(224, 69);
this.MULTI_COLUMN.TabIndex = 6;
this.MULTI_COLUMN.SelectedIndexChanged += new
System.EventHandler(this.MULTI_COLUMN_SelectedIndexChanged);
//
// label4

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```
//
this.label4.Font = new System.Drawing.Font("Microsoft Sans
Serif", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((System.Byte)(0)));
this.label4.Location = new System.Drawing.Point(24, 320);
this.label4.Name = "label4";
this.label4.Size = new System.Drawing.Size(168, 24);
this.label4.TabIndex = 7;
this.label4.Text = "Multi Column ListBox";
//
// MULTI_SELECTION
//
this.MULTI_SELECTION.Location = new System.Drawing.Point(296,
344);
this.MULTI_SELECTION.MultiColumn = true;
this.MULTI_SELECTION.Name = "MULTI_SELECTION";
this.MULTI_SELECTION.SelectionMode =
System.Windows.Forms.SelectionMode.MultiSimple;
this.MULTI_SELECTION.Size = new System.Drawing.Size(200, 147);
this.MULTI_SELECTION.TabIndex = 6;
this.MULTI_SELECTION.SelectedIndexChanged += new
System.EventHandler(this.MULTI_SELECTION_SelectedIndexChanged)
;
//
// label5
//
this.label5.Font = new System.Drawing.Font("Microsoft Sans
Serif", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((System.Byte)(0)));
this.label5.Location = new System.Drawing.Point(296, 320);
this.label5.Name = "label5";
this.label5.Size = new System.Drawing.Size(208, 24);
this.label5.TabIndex = 7;
this.label5.Text = "Multi Selection ListBox";
//
// MyListBox
//
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this.AutoScaleBaseSize = new System.Drawing.Size(5, 13);
this.ClientSize = new System.Drawing.Size(640, 493);
this.Controls.AddRange(new System.Windows.Forms.Control[] {
this.label4,
this.MULTI_COLUMN,
this.VARIABLE,
this.FIXED,
this.SIMPLE,
this.label2,
this.label1,
this.label3,
this.MULTI_SELECTION,
this.label5});
this.Name = "MyListBox";
this.Text = "ListBox Style";
this.Load += new System.EventHandler(this.MyListBox_Load);
this.ResumeLayout(false);

}
#endregion

///

/// The main entry point for the application.
///
[STAThread]
static void Main()
{
Application.Run(new MyListBox());
}

private void MyListBox_Load(object sender, System.EventArgs e)
{
// Set the height of the ListBox with OwnerDrawFixed property
FIXED.ItemHeight = 35 ;

// Populate all the ListBoxes
for ( int i=0; i < ListItems.Length; i++) {

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MULTI_SELECTION.Items.Add(ListItems[i]);
MULTI_COLUMN.Items.Add(ListItems[i]);
SIMPLE.Items.Add(ListItems[i]); FIXED.Items.Add(ListItems[i]);
VARIABLE.Items.Add(ListItems[i]); } } private void
FIXED_DrawItem(object sender,
System.Windows.Forms.DrawItemEventArgs e) { //Select the Icon
that you want to display Icon i = new Icon("TICK.ico"); // Get
the Bounding rectangle Rectangle rc = new Rectangle(e.Bounds.X
+ delta , e.Bounds.Y + delta , e.Bounds.Width-10,
e.Bounds.Height-delta); Console.WriteLine(e.State.ToString());
// Setup the stringformatting object StringFormat sf = new
StringFormat(); sf.Alignment = StringAlignment.Center ; // Get
the item text FIXED = (ListBox)sender ; string str =
(string)FIXED.Items[e.Index]; // Draw the rectangle
e.Graphics.DrawRectangle(new Pen(new SolidBrush(Color.Black) ,
2) , rc); e.Graphics.FillRectangle(new SolidBrush(Color.White)
, rc); // Check if the item is selected if ( e.State == (
DrawItemState.NoAccelerator | DrawItemState.NoFocusRect)) { //
Paint the item that if not selected
e.Graphics.FillRectangle(new SolidBrush(Color.White) , rc);
e.Graphics.DrawString( str , new Font("Arial" , 12) , new
SolidBrush(Color.Black), rc ,sf); e.DrawFocusRectangle(); }
else { // Paint the item accordingly if it is selected
e.DrawFocusRectangle(); e.Graphics.FillRectangle(new
SolidBrush(Color.LightYellow) , rc); e.Graphics.DrawIcon(i,
e.Bounds.X , e.Bounds.Y+5); e.Graphics.DrawString( str , new
Font("Arial" , 12) , new SolidBrush(Color.Black), rc ,sf); } }
private void VARIABLE_DrawItem(object sender,
System.Windows.Forms.DrawItemEventArgs e) { //Select the Icon
that you want to display Icon i = new Icon("TICK.ico"); // Get
the Bounding rectangle Rectangle rc = new Rectangle(e.Bounds.X
+ delta , e.Bounds.Y + delta , e.Bounds.Width-10,
e.Bounds.Height-delta); Console.WriteLine(e.State.ToString());
// Setup the stringformatting object StringFormat sf = new
StringFormat(); sf.Alignment = StringAlignment.Center ; //
UnBox the sender VARIABLE = (ListBox)sender ; // Get the item
text string str = (string)VARIABLE.Items[e.Index]; // Draw the

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rectangle    e.Graphics.DrawRectangle(new    Pen(new
SolidBrush(Color.Black) , 2) , rc); // Fill the rectangle with
white    background.    Default    Item    not    selected
e.Graphics.FillRectangle(new SolidBrush(Color.White) , rc); //
Check if the item is selected if ( e.State == (
DrawItemState.NoAccelerator | DrawItemState.NoFocusRect)) { //
Paint    the    item    that    if    not    selected
e.Graphics.FillRectangle(new SolidBrush(Color.White) , rc);
e.Graphics.DrawString( str , new Font("Arial" , 12) , new
SolidBrush(Color.Black), rc ,sf); e.DrawFocusRectangle(); }
else { // Paint the item accordingly if it is selected
e.DrawFocusRectangle();    e.Graphics.FillRectangle(new
SolidBrush(Color.LightCyan) , rc); e.Graphics.DrawIcon(i,
e.Bounds.X , e.Bounds.Y+5); e.Graphics.DrawString( str , new
Font("Arial" , 12) , new SolidBrush(Color.Black), rc ,sf); } }
private void VARIABLE_MeasureItem(object sender,
System.Windows.Forms.MeasureItemEventArgs e) { // For every
second item in the VariableListBox, set the itemheight to 55
if ( e.Index %2 == 0 ) { e.ItemHeight = 55 ; } else { // For
all other items set the items to 33 e.ItemHeight = 33 ; } }
private void SIMPLE_SelectedIndexChanged(object sender,
System.EventArgs e) { // Unbox the sender SIMPLE =
(ListBox)sender ; // Get the position of the item selected int
posSelected = SIMPLE.SelectedIndex ; // Get the item text
string str = (string)SIMPLE.Items[posSelected];
MessageBox.Show("ITEM SELECTED FROM SIMPLE LIST BOX = " + str
, "Simple    ListBox"); } private void
FIXED_SelectedIndexChanged(object sender, System.EventArgs e)
{ // Unbox the sender FIXED = (ListBox)sender ; // Get the
position of the item selected int posSelected =
FIXED.SelectedIndex ; // Get the item text string str =
(string)FIXED.Items[posSelected];    MessageBox.Show("ITEM
SELECTED FROM FIXED LIST BOX = " + str , "Fixed Height
ListBox"); } private void VARIABLE_SelectedIndexChanged(object
sender, System.EventArgs e) { // Unbox the sender VARIABLE =
(ListBox)sender ; // Get the position of the item selected int
posSelected = VARIABLE.SelectedIndex ; // Get the item text

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string str = (string) VARIABLE.Items[posSelected];
MessageBox.Show("ITEM SELECTED FROM VARIABLE LIST BOX = " +
str , "Variable Height ListBox"); } private void
MULTI_COLUMN_SelectedIndexChanged(object sender,
System.EventArgs e) { // Unbox the sender MULTI_COLUMN =
(ListBox)sender ; // Get the position of the item selected int
posSelected = MULTI_COLUMN.SelectedIndex ; // Get the item
text string str = (string) MULTI_COLUMN.Items[posSelected];
MessageBox.Show("ITEM SELECTED FROM MULTI_COLUM LIST BOX = " +
str , "Multi Column"); } private void
MULTI_SELECTION_SelectedIndexChanged(object sender,
System.EventArgs e) { // Unbox the sender MULTI_SELECTION =
(ListBox)sender ; string str = "" ; // Get the list of
selected index's for ( int i=0; i <
MULTI_SELECTION.SelectedIndices.Count; i++) { // Get the index
int posSelected = MULTI_SELECTION.SelectedIndices[i]; // Get
the item text at the index str = str +
(string)MULTI_SELECTION.Items[posSelected] + "," ; }
MessageBox.Show("ITEM SELECTED FROM MULTI_SELECTION LIST BOX =
" + str , "Multi Selection"); } } } MyListBox.zip( 49
k)[/csharp]

```