O MapObjects 2.1 é um controle ActiveX (OCX) com mais de 45 classes de objetos que podem ser utilizados em diversos ambientes de desenvolvimento para Windows, tais como Visual Basic, Visual C++, Delphi e Powerbuilder.

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Services

- display a map with multiple layers
- control panning and zooming
- display map layers based on scale
- perform spatial and logical queries
- draw simple graphics on the map
- display features with thematic renderers
- dynamically display real-time data with an event tracking layer
- programmatically add data to a map
Loading MapObjects
Adding a Map

1. Double-click the map control in the ActiveX palette to add a new map to the form.
2. Resize the map to fill the form.
3. Right-click the mouse on the map to display the context menu.
4. Choose **Properties** to display the property sheet.
Adding Pan and Zoom Controls (Delphi)

```delphi
procedure TForm1.Map1MouseDown(Sender: TObject; Button: TMouseButton; Shift: TShiftState; X, Y: Integer);
begin
    Map1.Extent := Map1.TrackRectangle;
end;
```

```delphi
procedure TForm1.Map1MouseDown(Sender: TObject; Button: TMouseButton; Shift: TShiftState; X, Y: Integer);
begin
    if (Button = mbLeft) then
    begin
        Map1.Extent := Map1.TrackRectangle
    end
    else
    begin
        Map1.Pan;
    end;
end;
```
procedure TForm1.Button1Click(Sender: TObject);
begin
    Map1.Extent := Map1.FullExtent;
end;
Dim recs As MapObjects.Recordset
Dim shp As Object
Dim rect As Rectangle
Dim exp As String

' build a search expression
exp = "STATE_NAME = '" + Text1.Text + "'

' perform the search
Set recs = Map1.Layers("States").SearchExpression(exp)

' show the results, if any
If Not recs.EOF Then
    Set shp = recs("Shape").Value ' get the shape
    Set rect = shp.Extent
    rect.ScaleRectangle 2
    Map1.Extent = rect ' zoom to the state
    Map1.Refresh ' force redraw of the map
    Map1.FlashShape shp, 3 ' flash the state
End If
Private Sub Form_Resize()
    Dim yFind As Integer ' y coordinate of the find controls
    Dim space As Integer ' a constant spacing
    space = Text1.Top - (Map1.Top + Map1.Height)
    yFind = ScaleHeight - Text1.Height - space
    ' move the controls that make up the find tool
    Label1.Move Label1.Left, yFind
    Text1.Move Text1.Left, yFind
    ' move the map itself
    Dim mapTop As Integer
    mapTop = Toolbar1.Top + Toolbar1.Height
    Map1.Move 0, mapTop, ScaleWidth, yFind - space - mapTop
End Sub
Private Sub Map1_BeforeLayerDraw(ByVal index As Integer, ByVal hDC As Long)
    Set layer = Map1.Layers(index)
    If index = 1 Then ' counties
        ElseIf index = 2 Then ' states
    End If
End Sub
Adding a spatial query tool (VBasic)

Dim p As Point
Dim recs As MapObjects.Recordset
Set p = Map1.ToMapPoint(x, y)
' search for a highway within a tolerance
Set recs = Map1.Layers("USHigh").SearchByDistance(p, Map1.ToMapDistance(100), "")
If recs.EOF Then ' nothing is found
    Set gSelection = Nothing
Else
    ' search for counties that intersect the highways
    Set gSelection = Map1.Layers("Counties").SearchShape(recs("Shape").Value, moEdgeTouchOrAreaIntersect, "")
End If
' trigger a redraw of the map
Map1.Refresh
Private Sub Map1_AfterLayerDraw(ByVal index As Integer, ByVal canceled As Boolean, ByVal hDC As Long)

    If index = 1 Then ' counties
        If Not gSelection Is Nothing
            Dim sym As New Symbol
            sym.Color = moYellow
            gSelection.MoveFirst
            Do While Not gSelection.EOF
                Map1.DrawShape
                gSelection("Shape").Value, sym
                gSelection.MoveNext
            Loop
        End If
    End If
End If
Private Sub Form_Load()

   ' counties layer
   Set r = New ClassBreaksRenderer
   Map1.Layers("Counties").Renderer = r
   r.Field = "MOBILEHOME"
   Set stats = Map1.Layers("Counties").Records.
     CalculateStatistics("MOBILEHOME")
   ' calculate breaks away from the mean in both
   ' but only add those breaks that are within
   Dim breakVal As Double
   breakVal = stats.Mean - (stats.StdDev * 3)
   For i = 0 To 6
      If breakVal >= stats.Min And breakVal <= stats.Max Then
         r.BreakCount = r.BreakCount + 1
         r.Break(r.BreakCount - 1) = breakVal
      End If
      breakVal = breakVal + stats.StdDev
   Next i
   r.RampColors moLimeGreen, moRed

End Sub
' states layer

Set r = New DotDensityRenderer
Map1.Layers("States").Renderer = r
r.Field = "HOUSEHOLDS"
Set stats = Map1.Layers("States").Records.CalculateStatistics("HOUSEHOLDS")
r.DotValue = stats.Max / 40
Event Tracking (VBasic)

**EVENT MOUSEDOWN**

```vbnet
Set p = Map1.ToMapPoint(x, y)
Map1.TrackingLayer.AddEvent p.x, p.y, 0
```

**TIMER**

```vbnet
Private Sub Timer1_Timer()
    Dim maxDist As Double
    Dim nEventCount As Integer
    maxDist = Map1.Extent.Width / 20
    nEventCount = Map1.TrackingLayer.EventCount
    For iIndex = 0 To nEventCount - 1
        Set gEvt = Map1.TrackingLayer.Event(iIndex)
        ' move each event randomly
        gEvt.Move maxDist * (Rnd - 0.5), maxDist * (Rnd - 0.5)
    Next iIndex
End Sub
```
Dim dc As New DataConnection
Dim layer As MapLayer
dc.Database = "C:\Getting Started\USA Data"
If dc.Connect Then
    Set layer = New MapLayer
    layer.GeoDataset = dc.FindGeoDataset("States")
    layer.Symbol.Color = moPaleYellow
    Map1.Layers.Add layer
    Set layer = New MapLayer
    layer.GeoDataset = dc.FindGeoDataset("Counties")
    Map1.Layers.Add layer
    Set layer = New MapLayer
    layer.GeoDataset = dc.FindGeoDataset("USHigh")
    layer.Symbol.Color = moRed
    Map1.Layers.Add layer
Else
    MsgBox "The data could not be located."
End If
End If
MapObjects Class Diagrams

MapObjects LT (Light)

MapObjects 2.3 (FULL)
Download & Referências

- http://support.esri.com/index.cfm?fa=knowledgeBase.gateway