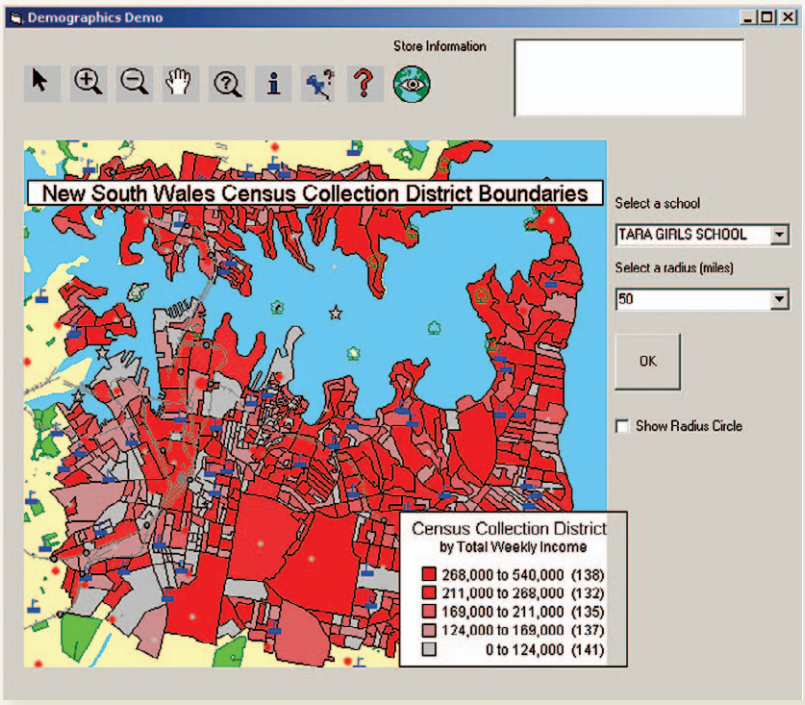
techtips

By Cindy Makarowsky

Using MapX and MapXtreme to Load and Query SpatialWare for SQL Server Layers

MAPINFO® SPATIALWARE® FOR SQL SERVER ENABLES GEOGRAPHIC OBJECTS, LIKE LINES, POLYLINES AND REGIONS, TO BE STORED IN SQL SERVER TABLES. THIS POWERFUL ADDITION TO THE DATABASE ALLOWS USERS TO SEND GEOGRAPHIC QUERIES TO A TABLE IN SQL SERVER; PROCESS THE RESULTS ON THE SERVER; AND, THEN DISPLAY RESULTS IN A CLIENT APPLICATION LIKE MAPINFO MAPX® OR MAPINFO® MAPXTREME®.

The screen shot to the right is taken from an application developed using MapX and Spatialware for SQL Server. This application will load a schools table stored in SQL Server. Then, it will ask the user to select a school and a radius value in miles. Once this information is selected, a query will be sent to SQL Server to return the census collection districts that fall within this radius around the school. A theme will be created based on the total weekly income for the census collection districts that were returned. The census collection districts are stored in a table in SQL Server.



The following is the relevant code used in MapX to return the census collection districts from SQL Server that are contained within the 50 mile radius around the selected Tara Girls School.

```
Sub createtheme()

'this converts the radius in miles to meters for the calculation in SQL Server

If CombRadius.Text = "20" Then
    i = Val(CombRadius) * 1609.344
ElseIf CombRadius.Text = "30" Then
    i = Val(CombRadius) * 1609.344
ElseIf CombRadius.Text = "40" Then
    i = Val(CombRadius) * 1609.344
ElseIf CombRadius.Text = "50" Then
    i = Val(CombRadius) * 1609.344
End If

'adds the school layer as a dataset so we can search on it

Set lyrstore = Map1.Layers.Item("schools")

Set ds = Map1.Datasets.Add(miDataSetLayer, lyrstore, "demo")

'searches for the store the user chose

Set ftrs = lyrstore.Search("name=" & """" & CombStore.Text & """")

Set ftr = ftrs.Item(1)

'creates a point from the coordinates of the store found which will be used to create the radius circle

pnt.Set ftr.CenterX, ftr.CenterY

Map1.Layers.CreateLayer "temp", , 1
'temporary layer to store radius circle
```

```
Map1.Layers.Item("temp").Visible = False

'code to create circle

Set ftrcir =
Map1.FeatureFactory.CreateCircularRegio
n(1, pnt, Val(CombRadius.Text),
miUnitMile, 50)

ftrcir.Style.RegionPattern = 0

ftrcir.Style.RegionBorderWidth = 2

'adds circle feature to the temporary
layer

Set ftrcir =
Map1.Layers.Item("temp").AddFeature
(ftrcir)

'displays the check box for displaying
the circle

CheckRadius.Visible = True

CheckRadius.Value = 0

'creates a query to send to SQL Server
to select the blocks that fall within the
radius circle, uses HG_LL_Circle because
considers the curvature of the earth

str = "exec sp_spatial_query 'select
Tot_Wkly_Income,hg_morph_out(sw_geom
etry) from demographics where
ST_Overlaps(sw_geometry,HG_LL_Circle
(" & ftr.CenterX & "," & ftr.CenterY & ","
& i & "))'"

LayerInfoObject.Type =
miLayerInfoTypeServer

LayerInfoObject.AddParameter "name",
"blocks"

LayerInfoObject.AddParameter
"ConnectString",
"DSN=sqlserver;UID=ts;PWD=ts"

LayerInfoObject.AddParameter "Query",
str

LayerInfoObject.AddParameter "toolkit",
"ODBC"

'adds the selected blocks to the map

Set lyrstore =
Map1.Layers.Add(LayerInfoObject, 3)
```

Here is the equivalent code for adding the results of the same query above in MapXtreme 3.0:

```
dim lInfo

dim str

'this is the query being sent to SQL
Server to return the census collection
districts

str = "exec sp_spatial_query 'select
Tot_Wkly_Income,hg_morph_out(sw_geom
etry) from demographics where
ST_Overlaps(sw_geometry,HG_LL_Circle
(" & fMapX & "," & fMapY & "," &
cMapXRadius & "))'"

Set lInfo =
Session(cMapXCourierObject).CreateMap
XLayerInfo

'layer type is RDB

lInfo.Type = 4

linfo.addparameter "Name","blocks"

'connection string

lInfo.AddParameter "ConnectString",
"DSN=sqlserver;UID=ts;PWD=ts;"

'toolkit name

lInfo.AddParameter "ToolKit", "ODBC"

'layer server query

lInfo.AddParameter "Query", str

set
lyrstore=Session(cMapXObject).Layers.
Add (lInfo)
```

As demonstrated with this code, users may send geographic queries to a table stored in SQL Server, process results via a server and display results via a mapping server. ★

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