Kane County
GIS-Technologies
Management Solutions

Application Development using the ArcReaderControl

Thomas S. Nicoski
GIS-Technologies
nicoskithomas@co.kane.il.us

Application Development using the ArcReader Control

ESRI Objects

Requires an Additional License

-ArcObjects
  -ArcGIS/ArcView @ $1,500 per client
  -ArcEngine @ $5,000 + $500 per client

-MapObjects @ $5,000 + $2,500 per 25 clients

Does Not Require an Additional License

-MapObjectsLT @ $1,000 (cannot access ArcSDE)

-ArcReaderControl $FREE (can access ArcSDE)
(The building of a PMF file requires the Publisher Extension @ $2,000)

Prices obtained from the ESRI store website http://store.esri.com/esri

Application Development using the ArcReader Control

ArcReaderControl Samples

ArcGIS Developer Online

http://arcgisdeveloperonline.esri.com/ArcGISDeveloper/default.asp

ArcGIS Publisher Extension

c:\Program Files\ArcGIS\DeveloperKit\samples\Publisher\ArcReaderControl

GeneralFramework Samples

- DocumentProperties
- DragRectangle
- LoadDocument
- Scrollbars
- Statusbar

Navigation Samples

- FixedPanZoom
- MagnifierWindow
- MapTools
- PageLayoutTools
- SpatialBookmarks

OutPut Samples

- AttributeQuery
- CopytoClipboard
- Find
- Hyperlinks
- Printing
- Query

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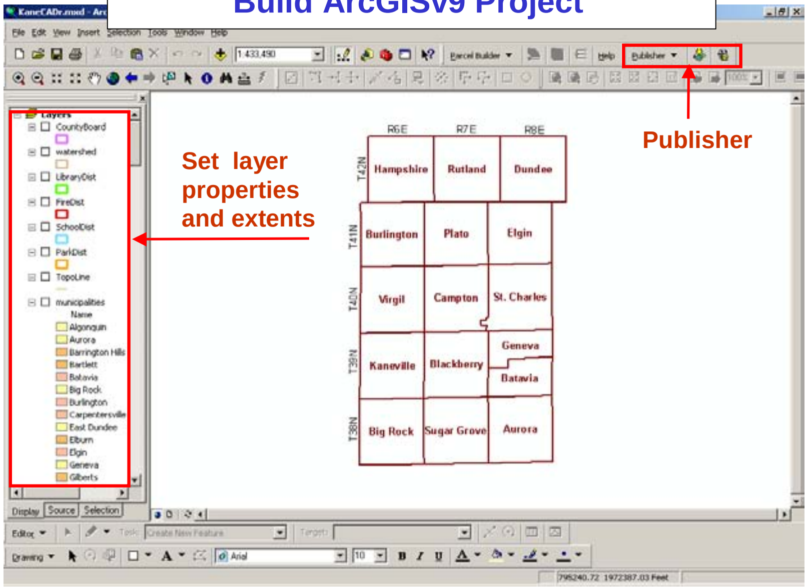
Build ArcGISv9 Project



Set layer properties and extents

Publisher

Create ArcGISv9 project with Publisher extension activated

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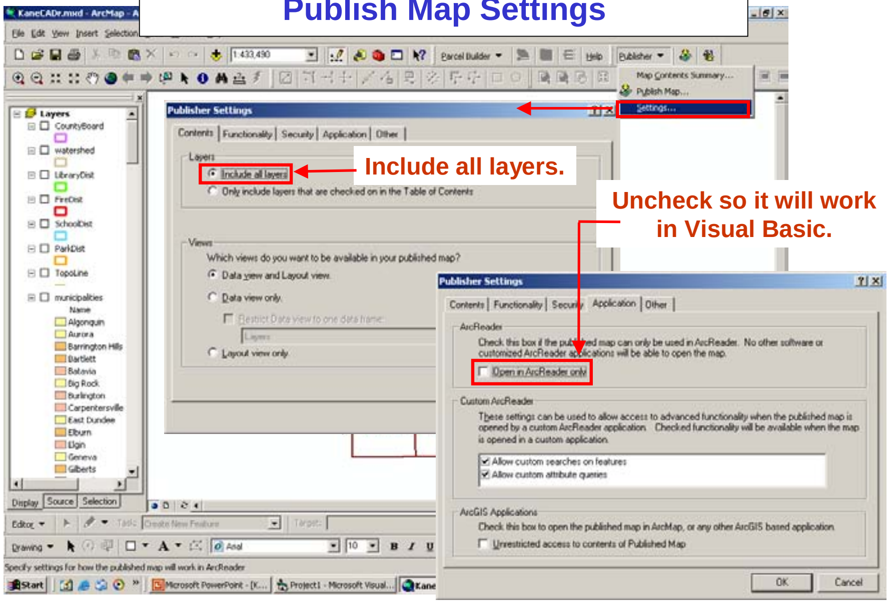
Publish Map Settings



Publisher Settings

Contents | Functionality | Security | Application | Other

Layers

● Include all layers

○ Only include layers that are checked on in the Table of Contents

Include all layers.

Views

Which views do you want to be available in your published map?

● Data view and Layout view

○ Data view only

□ Restrict Data view to one data frame:

Layers

○ Layout view only

Uncheck so it will work in Visual Basic.

Publisher Settings

Contents | Functionality | Security | Application | Other

ArcReader

Check this box if the published map can only be used in ArcReader. No other software or customized ArcReader applications will be able to open the map.

□ Open in ArcReader only

Custom ArcReader

These settings can be used to allow access to advanced functionality when the published map is opened by a custom ArcReader application. Checked functionality will be available when the map is opened in a custom application.

☑ Allow custom searches on features

☑ Allow custom attribute queries

ArcGIS Applications

Check this box to open the published map in ArcMap, or any other ArcGIS based application.

□ Unrestricted access to contents of Published Map

OK | Cancel

Specify settings for how the published map will work in ArcReader

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Adjust Publisher Settings before Publishing Map

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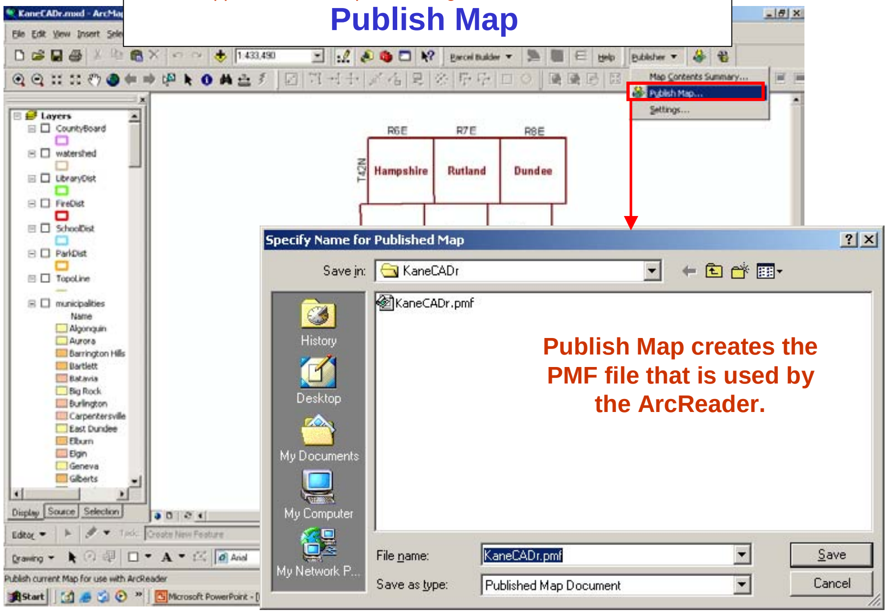
Publish Map



Specify Name for Published Map

Save in: KaneCADr

KaneCADr.pmf

Publish Map creates the PMF file that is used by the ArcReader.

File name: KaneCADr.pmf

Save as type: Published Map Document

Save | Cancel

Publish current Map for use with ArcReader

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Publish Map using the ArcGIS Publisher Extension

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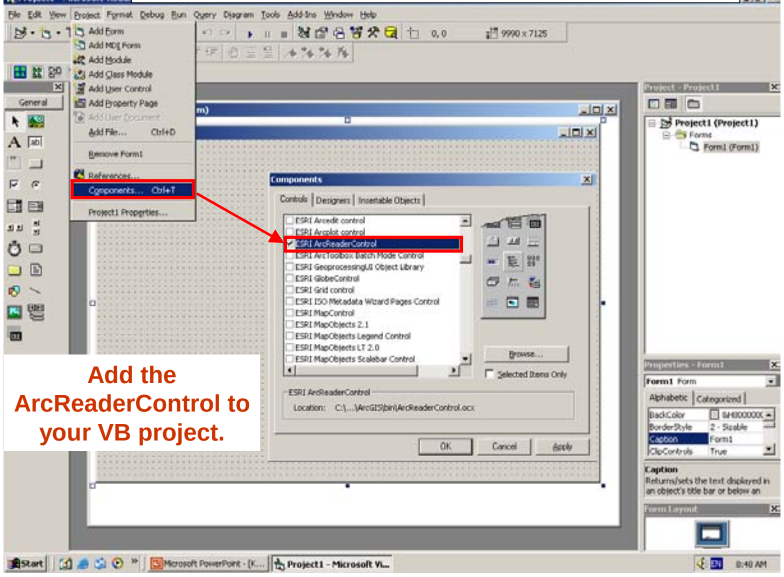
Add Object to VB Toolbar



Components

Controls | Designers | Insertable Objects

- □ ESRI Arcedit control
- □ ESRI Arcplot control
- ☑ ESRI ArcReaderControl
- □ ESRI ArcToolbox Batch Mode Control
- □ ESRI GeoprocessingUI Object Library
- □ ESRI GlobeControl
- □ ESRI Grid control
- □ ESRI ISO Metadata Wizard Pages Control
- □ ESRI MapControl
- □ ESRI MapObjects 2.1
- □ ESRI MapObjects Legend Control
- □ ESRI MapObjects LT 2.0
- □ ESRI MapObjects Scalebar Control

Browse...

□ Selected Items Only

ESRI ArcReaderControl

Location: C:\...\ArcGIS\bin\ArcReaderControl.ocx

OK Cancel Apply

Add the ArcReaderControl to your VB project.

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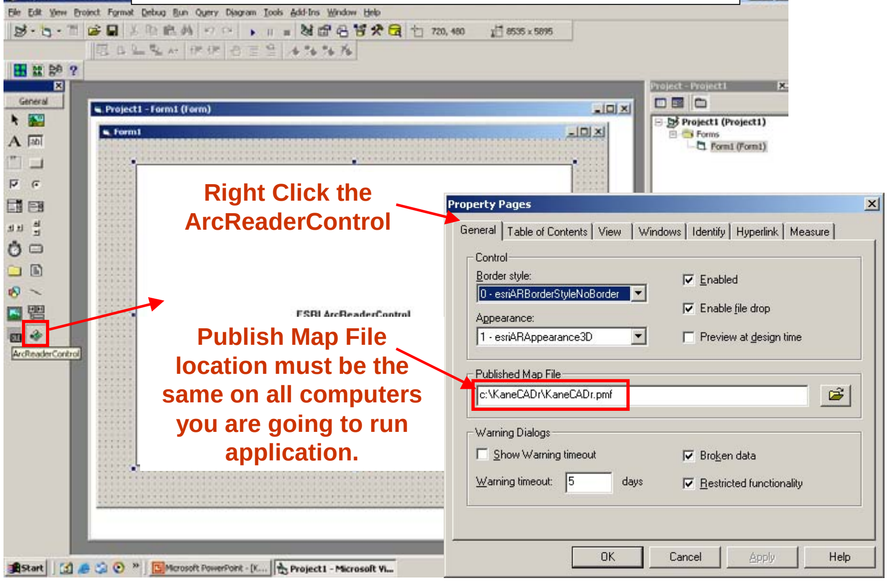
Application Development using the ArcReader Control

Add Object to VB Form


Project1 - Microsoft Visual
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
720, 480
8535 x 5895
General
ArcReaderControl
Project1 - Form1 (Form)
Form1
ESRI ArcReaderControl
Project - Project1
Project1 (Project1)
Forms
Form1 (Form1)
Start
Microsoft PowerPoint - [K...
Project1 - Microsoft Vi...

Right Click the ArcReaderControl

Publish Map File location must be the same on all computers you are going to run application.

Property Pages

General | Table of Contents | View | Windows | Identify | Hyperlink | Measure

Control

Border style: 0 - esriARBorderStyleNoBorder

Appearance: 1 - esriARAppearance3D

☑ Enabled

☑ Enable file drop

□ Preview at design time

Published Map File

c:\KaneCADr\KaneCADr.pmf

Warning Dialogs

□ Show Warning timeout

Warning timeout: 5 days

☑ Broken data

☑ Restricted functionality

OK Cancel Apply Help

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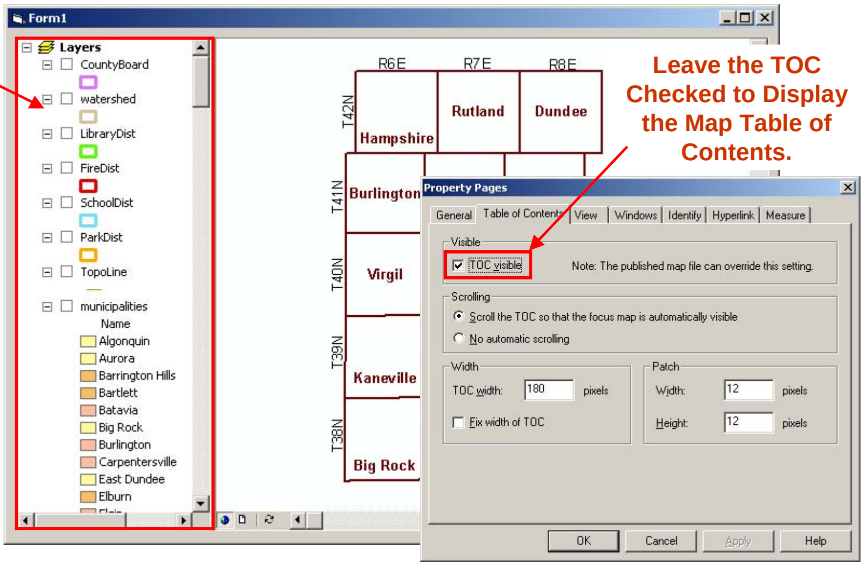
Application Development using the ArcReader Control

Table of Contents ON



TOC ON

Leave the TOC Checked to Display the Map Table of Contents.

Visible

☑ TOC visible

Note: The published map file can override this setting.

Scrolling

● Scroll the TOC so that the focus map is automatically visible

○ No automatic scrolling

Width

TOC width: 180 pixels

☐ Fix width of TOC

Patch

Width: 12 pixels

Height: 12 pixels

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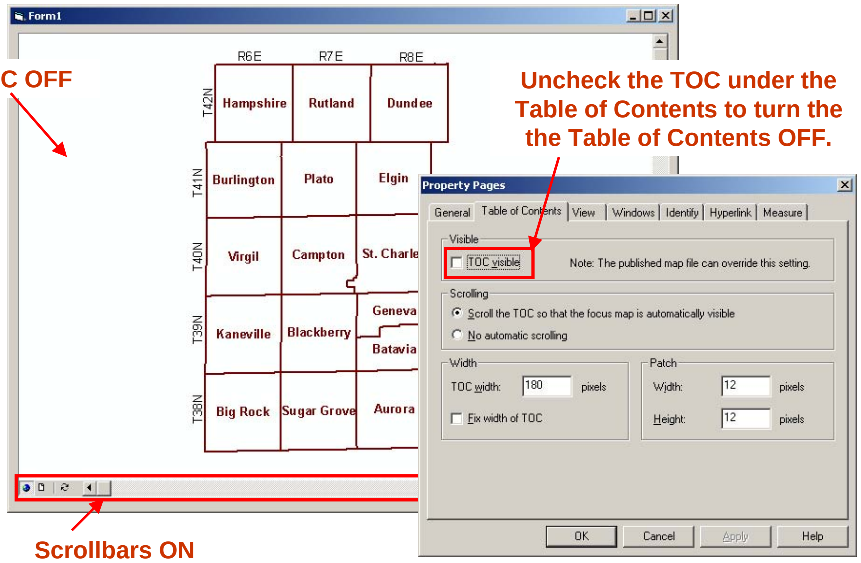
Table of Contents OFF



TOC OFF

Uncheck the TOC under the Table of Contents to turn the the Table of Contents OFF.

Visible

☐ TOC visible

Note: The published map file can override this setting.

Scrolling

● Scroll the TOC so that the focus map is automatically visible

○ No automatic scrolling

Width

TOC width: 180 pixels

☐ Fix width of TOC

Patch

Width: 12 pixels

Height: 12 pixels

Scrollbars ON

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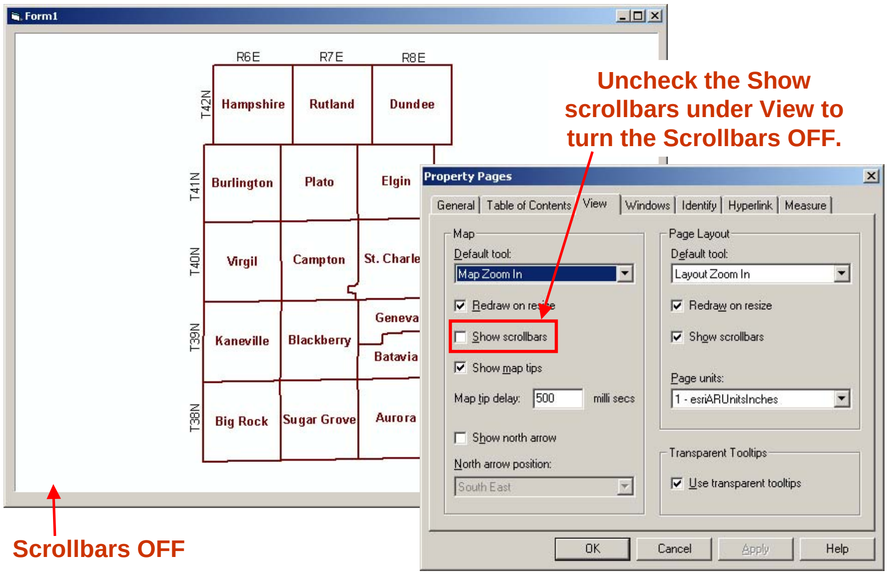
Scrollbars OFF



Uncheck the Show scrollbars under View to turn the Scrollbars OFF.

Map

Default tool: Map Zoom In

☑ Redraw on resize

☐ Show scrollbars

☑ Show map tips

Map tip delay: 500 milli secs

☐ Show north arrow

North arrow position: South East

Page Layout

Default tool: Layout Zoom In

☑ Redraw on resize

☑ Show scrollbars

Page units: 1 - esriARUnitsInches

Transparent Tooltips

☑ Use transparent tooltips

Scrollbars OFF

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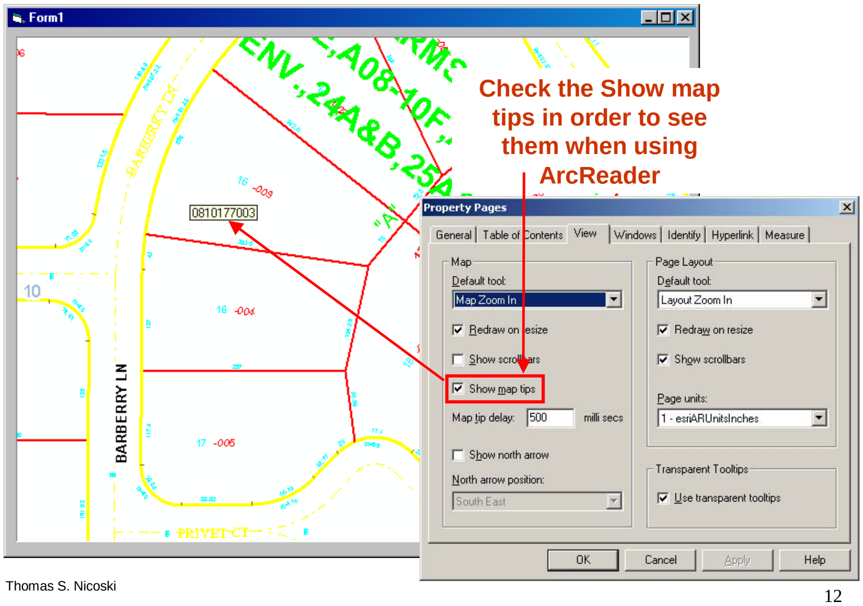
MapTips



Check the Show map tips in order to see them when using ArcReader

Map

Default tool: Map Zoom In

☑ Redraw on resize

☐ Show scrollbars

☑ Show map tips

Map tip delay: 500 milli secs

☐ Show north arrow

North arrow position: South East

Page Layout

Default tool: Layout Zoom In

☑ Redraw on resize

☑ Show scrollbars

Page units: 1 - esriARUnitsInches

Transparent Tooltips

☑ Use transparent tooltips

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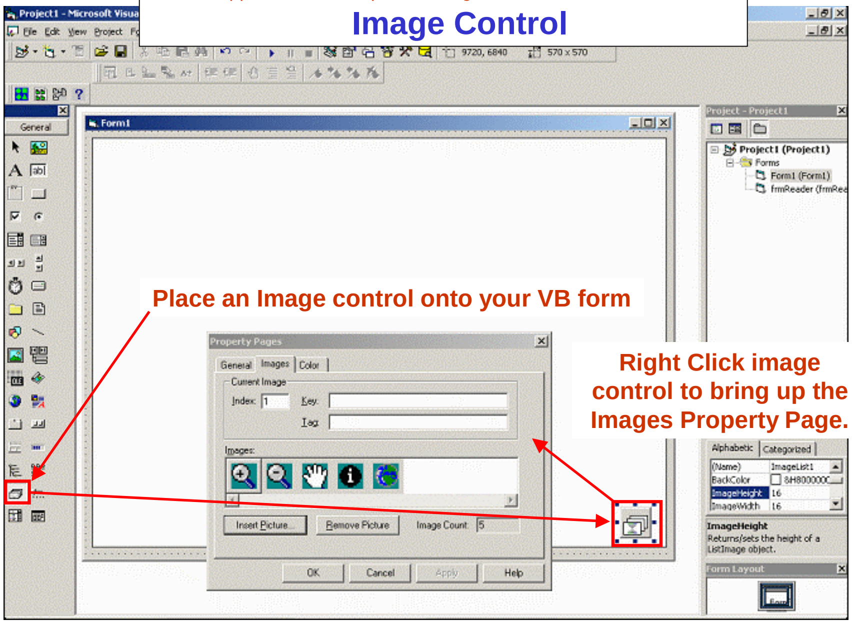
Application Development using the ArcReader Control

Image Control



Index: 1

Image Count: 5

(Name)	ImageList1
BackColor	&H800000
ImageHeight	16
ImageWidth	16

ImageHeight
Returns/sets the height of a ListImage object.

Place an Image control onto your VB form

Right Click image control to bring up the Images Property Page.

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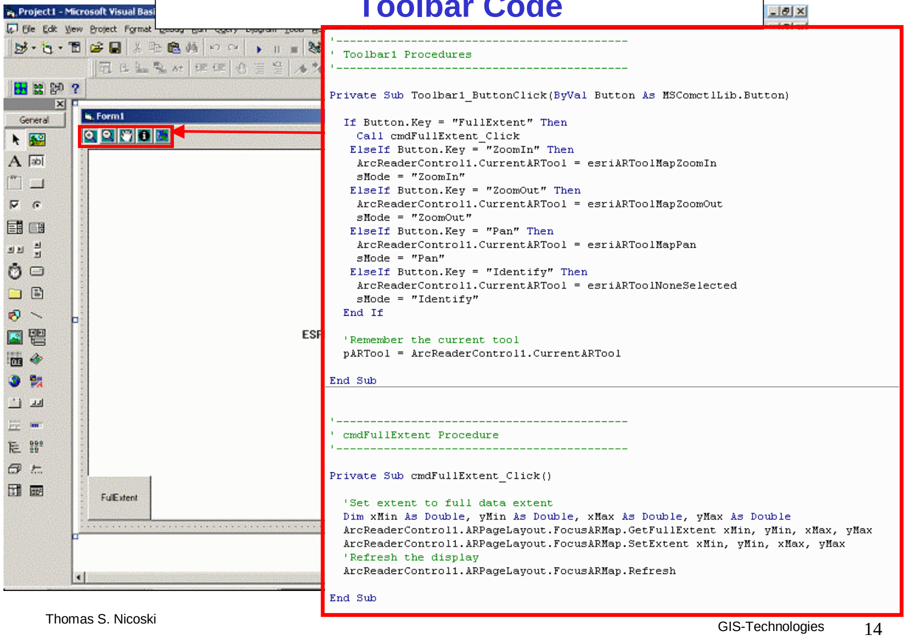
Application Development using the ArcReader Control

Toolbar Code


Project1 - Microsoft Visual Basi
File Edit View Project Format
General
Form1
FullExtent
ESF

```
'-------------------------------------------
' Toolbar1 Procedures
'-------------------------------------------

Private Sub Toolbar1_ButtonClick(ByVal Button As MSComctlLib.Button)

  If Button.Key = "FullExtent" Then
    Call cmdFullExtent_Click
   ElseIf Button.Key = "ZoomIn" Then
    ArcReaderControl1.CurrentARTool = esriARToolMapZoomIn
    sMode = "ZoomIn"
   ElseIf Button.Key = "ZoomOut" Then
    ArcReaderControl1.CurrentARTool = esriARToolMapZoomOut
    sMode = "ZoomOut"
   ElseIf Button.Key = "Pan" Then
    ArcReaderControl1.CurrentARTool = esriARToolMapPan
    sMode = "Pan"
   ElseIf Button.Key = "Identify" Then
    ArcReaderControl1.CurrentARTool = esriARToolNoneSelected
    sMode = "Identify"
  End If

  'Remember the current tool
  pARTool = ArcReaderControl1.CurrentARTool

End Sub


'-------------------------------------------
' cmdFullExtent Procedure
'-------------------------------------------

Private Sub cmdFullExtent_Click()

  'Set extent to full data extent
  Dim xMin As Double, yMin As Double, xMax As Double, yMax As Double
  ArcReaderControl1.ARPageLayout.FocusARMap.GetFullExtent xMin, yMin, xMax, yMax
  ArcReaderControl1.ARPageLayout.FocusARMap.SetExtent xMin, yMin, xMax, yMax
  'Refresh the display
  ArcReaderControl1.ARPageLayout.FocusARMap.Refresh

End Sub
```

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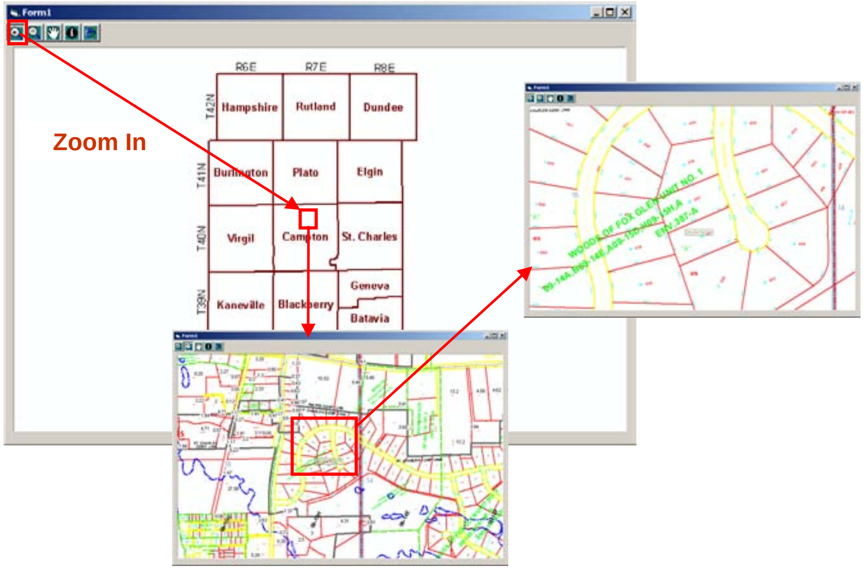
Application Development using the ArcReader Control

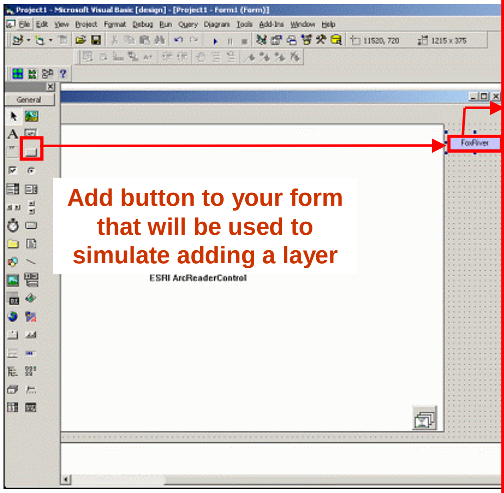
Test Zoom In Tool



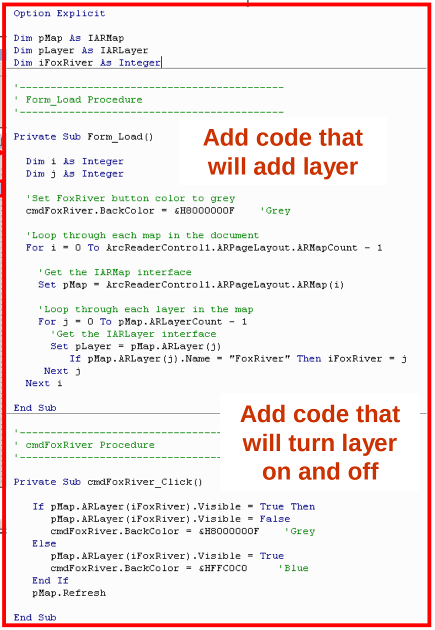
Zoom In

Application Development using the ArcReader Control

Add Button Control


Project1 - Microsoft Visual Basic [design] - [Project1 - Form1 (Form)]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
11520, 720
1215 x 375
General
FoxRiver
ESRI ArcReaderControl

Add button to your form that will be used to simulate adding a layer



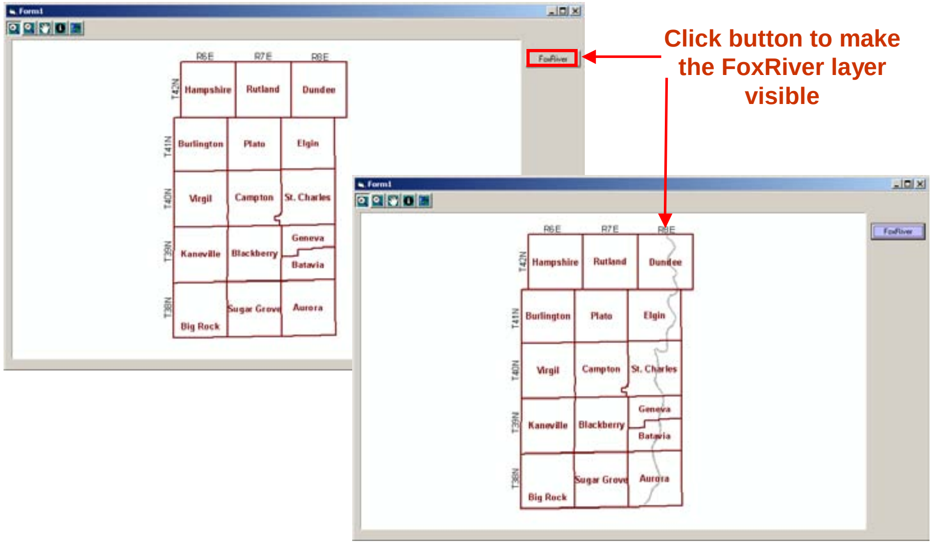
```
Option Explicit

Dim pMap As IARMap
Dim pLayer As IARLayer
Dim iFoxRiver As Integer

'-------------------------------------------
' Form_Load Procedure
'-------------------------------------------

Private Sub Form_Load()

  Dim i As Integer
  Dim j As Integer

  'Set FoxRiver button color to grey
  cmdFoxRiver.BackColor = &H8000000F    'Grey

  'Loop through each map in the document
  For i = 0 To ArcReaderControl1.ARPageLayout.ARMapCount - 1

    'Get the IARMap interface
    Set pMap = ArcReaderControl1.ARPageLayout.ARMap(i)

    'Loop through each layer in the map
    For j = 0 To pMap.ARLayerCount - 1
      'Get the IARLayer interface
      Set pLayer = pMap.ARLayer(j)
         If pMap.ARLayer(j).Name = "FoxRiver" Then iFoxRiver = j
     Next j
  Next i

End Sub

'-------------------------------------------
' cmdFoxRiver Procedure
'-------------------------------------------

Private Sub cmdFoxRiver_Click()

   If pMap.ARLayer(iFoxRiver).Visible = True Then
      pMap.ARLayer(iFoxRiver).Visible = False
      cmdFoxRiver.BackColor = &H8000000F    'Grey
   Else
      pMap.ARLayer(iFoxRiver).Visible = True
      cmdFoxRiver.BackColor = &HFFC0C0     'Blue
   End If
   pMap.Refresh

End Sub
```

Add code that will add layer

Add code that will turn layer on and off

Application Development using the ArcReader Control

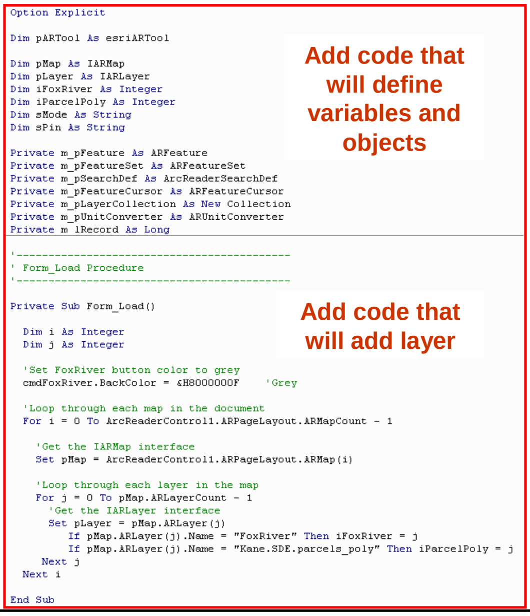
Test FoxRiver Button Control



Click button to make the FoxRiver layer visible

Application Development using the ArcReader Control

Identify Parcel – Form Load



```
Option Explicit

Dim pARTool As esriARTool

Dim pMap As IARMap
Dim pLayer As IARLayer
Dim iFoxRiver As Integer
Dim iParcelPoly As Integer
Dim sMode As String
Dim sPin As String

Private m_pFeature As ARFeature
Private m_pFeatureSet As ARFeatureSet
Private m_pSearchDef As ArcReaderSearchDef
Private m_pFeatureCursor As ARFeatureCursor
Private m_pLayerCollection As New Collection
Private m_pUnitConverter As ARUnitConverter
Private m_lRecord As Long
```

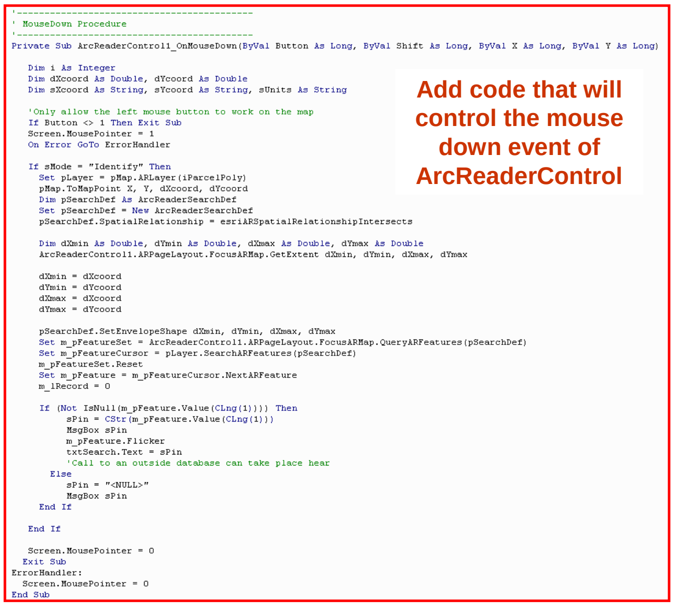
Add code that will define variables and objects

```
'--------------------------------------------
' Form_Load Procedure
'--------------------------------------------

Private Sub Form_Load()

  Dim i As Integer
  Dim j As Integer

  'Set FoxRiver button color to grey
  cmdFoxRiver.BackColor = &H8000000F    'Grey

  'Loop through each map in the document
  For i = 0 To ArcReaderControl1.ARPageLayout.ARMapCount - 1

    'Get the IARMap interface
    Set pMap = ArcReaderControl1.ARPageLayout.ARMap(i)

    'Loop through each layer in the map
    For j = 0 To pMap.ARLayerCount - 1
      'Get the IARLayer interface
      Set pLayer = pMap.ARLayer(j)
         If pMap.ARLayer(j).Name = "FoxRiver" Then iFoxRiver = j
         If pMap.ARLayer(j).Name = "Kane.SDE.parcels_poly" Then iParcelPoly = j
     Next j
  Next i

End Sub
```

Add code that will add layer

Application Development using the ArcReader Control

Identify Parcel – Mouse Down



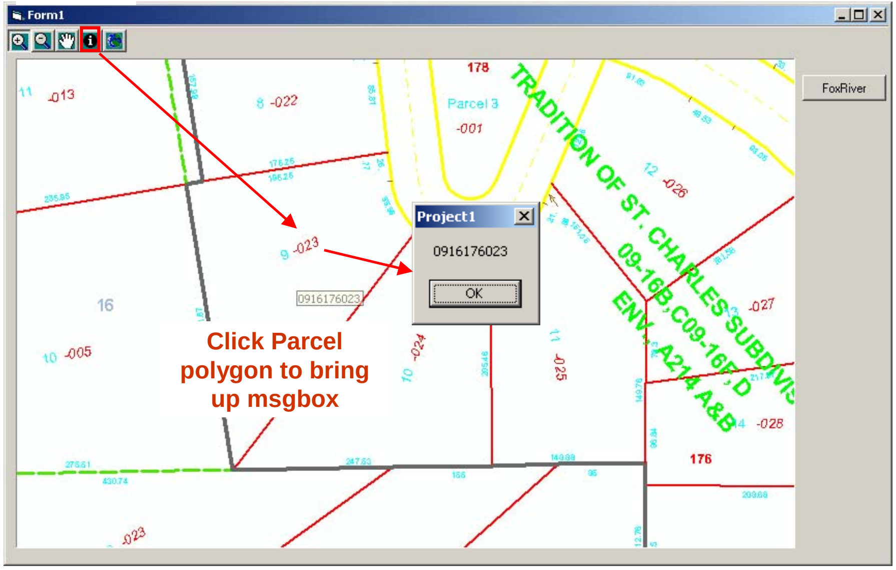
```
'--------------------------------------------
' MouseDown Procedure
'--------------------------------------------
Private Sub ArcReaderControl1_OnMouseDown(ByVal Button As Long, ByVal Shift As Long, ByVal X As Long, ByVal Y As Long)

   Dim i As Integer
   Dim dXcoord As Double, dYcoord As Double
   Dim sXcoord As String, sYcoord As String, sUnits As String

   'Only allow the left mouse button to work on the map
   If Button <> 1 Then Exit Sub
   Screen.MousePointer = 1
   On Error GoTo ErrorHandler

   If sMode = "Identify" Then
     Set pLayer = pMap.ARLayer(iParcelPoly)
     pMap.ToMapPoint X, Y, dXcoord, dYcoord
     Dim pSearchDef As ArcReaderSearchDef
     Set pSearchDef = New ArcReaderSearchDef
     pSearchDef.SpatialRelationship = esriARSpatialRelationshipIntersects

     Dim dXmin As Double, dYmin As Double, dXmax As Double, dYmax As Double
     ArcReaderControl1.ARPageLayout.FocusARMap.GetExtent dXmin, dYmin, dXmax, dYmax

     dXmin = dXcoord
     dYmin = dYcoord
     dXmax = dXcoord
     dYmax = dYcoord

     pSearchDef.SetEnvelopeShape dXmin, dYmin, dXmax, dYmax
     Set m_pFeatureSet = ArcReaderControl1.ARPageLayout.FocusARMap.QueryARFeatures(pSearchDef)
     Set m_pFeatureCursor = pLayer.SearchARFeatures(pSearchDef)
     m_pFeatureSet.Reset
     Set m_pFeature = m_pFeatureCursor.NextARFeature
     m_lRecord = 0

     If (Not IsNull(m_pFeature.Value(CLng(1)))) Then
          sPin = CStr(m_pFeature.Value(CLng(1)))
          MsgBox sPin
          m_pFeature.Flicker
          txtSearch.Text = sPin
          'Call to an outside database can take place hear
       Else
          sPin = "<NULL>"
          MsgBox sPin
     End If

   End If

   Screen.MousePointer = 0
  Exit Sub
ErrorHandler:
  Screen.MousePointer = 0
End Sub
```

Add code that will control the mouse down event of ArcReaderControl

Application Development using the ArcReader Control

Test Identify Tool

Identify



0916176023

0916176023

Click Parcel polygon to bring up msgbox

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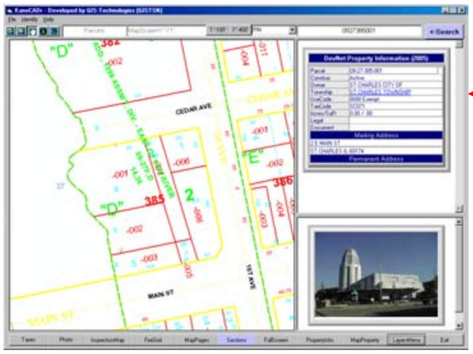
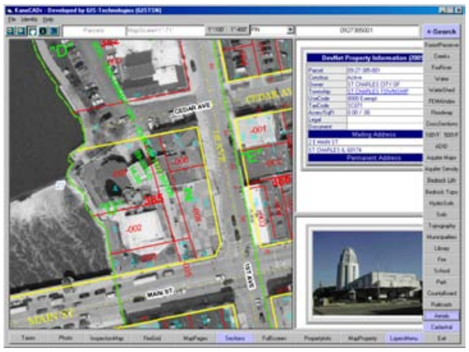
Application Development using the ArcReader Control

KaneCADr Database Integration



DevNet Property Information (2005)	
Parcel	09-27-385-001
Condition	Active
Owner	ST CHARLES CITY OF
Township	ST CHARLES TOWNSHIP
UseCode	0000 Exempt
TaxCode	SC071
Acres/SqFt	0.30 / 00
Legal	
Document	
Mailing Address	
2 E MAIN ST	
ST CHARLES IL 60174	
Permanent Address	

The Parcel number is sent to an ASP page which does a database lookup and then displays the parcel record.



KaneCADr - Developed by GIS-Technologies (GISTSN)
0927385001
<-Search
DevNet Property Information (2005)
CEDAR AVE
MAIN ST
1ST AVE