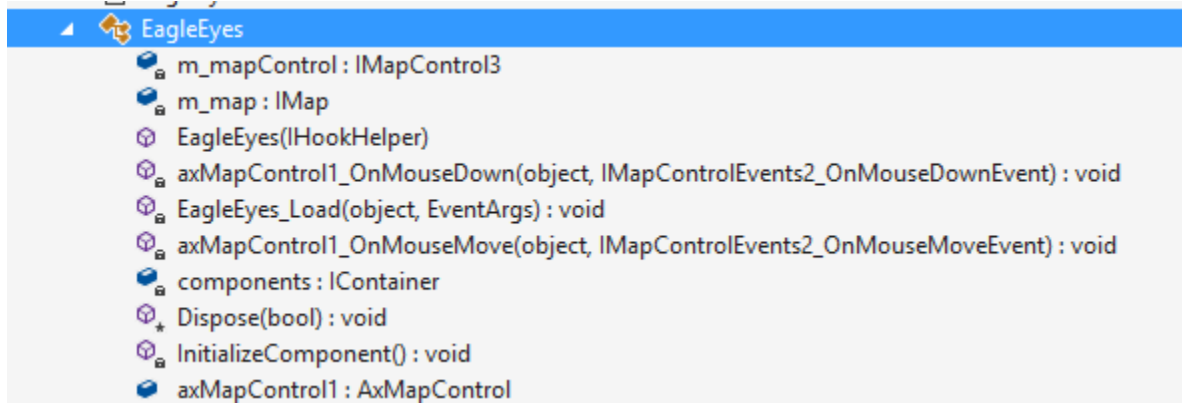


## Chapter 3 Eager Eye

1. Add a Windows Form named “EagleEyes”, and then drag a MapControl into the form, set the Dock Property to “Fill”. Then Implement EagleEyes class:



- Class Member:

```
IMapControl3 m_mapControl;  
IMap m_map;
```

- Construction Method:

```
public EagleEyes(IHookHelper hook)  
{  
    InitializeComponent();  
    m_mapControl = (IMapControl3)hook.Hook;  
    m_map = m_mapControl.Map;  
}
```

- EagleEyes Events:

```
private void EagleEyes_Load(object sender, EventArgs e)  
{  
    for (int i = 0; i <= m_map.LayerCount - 1; i++)  
    {  
        axMapControl1.Map.AddLayer(m_map.get_Layer(i));  
    }  
    axMapControl1.ActiveView.Extent = axMapControl1.ActiveView.FullExtent;  
}
```

- MapControl Events:

```
private void axMapControl1_OnMouseMove(object sender,  
    IMapControlEvents2_OnMouseMoveEvent e)  
{  
    if (e.button != 1)  
        return;  
    IPoint pPoint = new ESRI.ArcGIS.Geometry.Point();  
    pPoint.PutCoords(e.mapX, e.mapY);  
    m_mapControl.CenterAt(pPoint);  
    m_mapControl.ActiveView.PartialRefresh(  
        esriViewDrawPhase.esriViewGeography, null, null);  
}
```

```

private void axMapControl1_OnMouseDown(object sender,
    IMapControlEvents2_OnMouseDownEvent e)
{
    //Left Click to Move the rectangle
    if (e.button == 1)
    {
        IPoint point = new ESRI.ArcGIS.Geometry.Point();
        point.X = e.mapX;
        point.Y = e.mapY;
        axMapControl1.CenterAt(point);
        m_mapControl.CenterAt(point);
    }
    //Right Click to Draw the rectangle
    else if (e.button == 2)
    {
        IEnvelope pEnvelop = axMapControl1.TrackRectangle();
        m_mapControl.Extent = pEnvelop;
        m_mapControl.ActiveView.PartialRefresh(
            esriViewDrawPhase.esriViewGeography, null, null);
    }
}

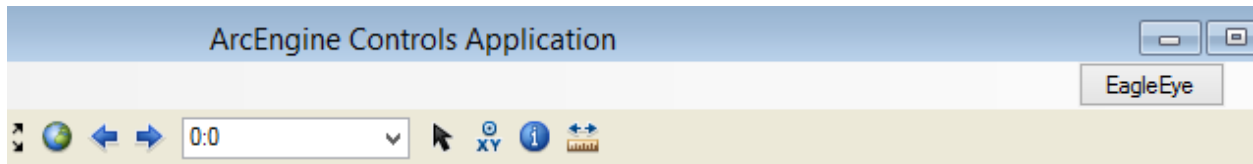
```

- In the EagleEyes.Designer.cs file, set the MapControl to public

```
public ESRI.ArcGIS.Controls.AxMapControl axMapControl1;
```

### 3. Implement Eagle Eye function:

- In the MainForm Design View, add an Button:



- Add a class member “private EagleEyes poverView” to the MainForm.
- Add Click event for the button:

```

private void button1_Click(object sender, EventArgs e)
{
    IHookHelper hookHelper = new HookHelperClass();
    //hookHelper.Hook = axMapControl1.Object;
    hookHelper.Hook = m_controlsSynchronizer.MapControl.Object;
    poverView = new EagleEyes(hookHelper);
    poverView.Show();
}

```

- Add OnExtentUpdated Event to MapControl in MainForm:

```

private void axMapControl1_OnExtentUpdated(object sender,
    IMapControlEvents2_OnExtentUpdatedEvent e)
{
    IEnvelope pEnv = e.newEnvelope as IEnvelope;
    IGraphicsContainer pGraphicsContainer = poverView.axMapControl1.Map
        as IGraphicsContainer;
    IActiveView pActiveView = pGraphicsContainer as IActiveView;
    pGraphicsContainer.DeleteAllElements();
    IRectangleElement pRectangleEle = new RectangleElementClass();
    IElement pEle = pRectangleEle as IElement;
    pEle.Geometry = pEnv;
    IRGBColor pColor = new RGBColorClass();
    pColor.RGB = 255;
    pColor.Transparency = 255;
    ILineSymbol pOutline = new SimpleLineSymbolClass();
    pOutline.Width = 1;
    pOutline.Color = pColor;
    pColor = new RGBColorClass();
    pColor.RGB = 255;
    pColor.Transparency = 0;
    IFillSymbol pFillSymbol;
    pFillSymbol = new SimpleFillSymbolClass();
    pFillSymbol.Color = pColor;
    pFillSymbol.Outline = pOutline;
    IFillShapeElement pFillShapeEle = pEle as IFillShapeElement;
    pFillShapeEle.Symbol = pFillSymbol;
    pEle = pFillShapeEle as IElement;
    pGraphicsContainer.AddElement(pEle, 0);
    pActiveView.PartialRefresh(esriViewDrawPhase.esriViewGraphics, null, null);
}

```

- When Error shows that you need choose a reference for Path, choose System.IO:

```

// Save the map document to the specified path
menuSaveDoc.Enabled = true;
statusBarXY.Text = System.IO.Path.GetFileName(m_mapDocumentName);
}

```

- In the MainForm\_Load method, add:

```

IHookHelper hookHelper = new HookHelperClass();
//hookHelper.Hook = axMapControl1.Object;
hookHelper.Hook = m_controlsSynchronizer.MapControl.Object;
poverView = new EagleEyes(hookHelper);

```