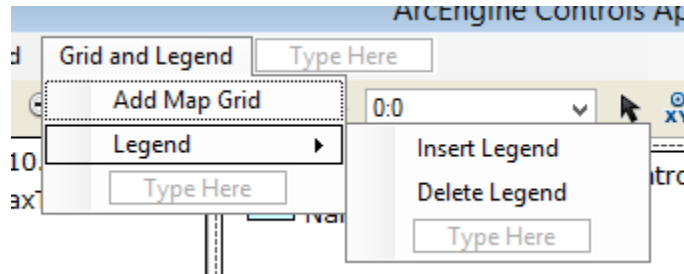


Chapter 6 Map Grid and Legend

1. In the menu of MainForm, add contents as following graph:



2. Implement Add Map Grid:

- Click event for “Add Map Grid”:

```
private void addMapGridToolStripMenuItem_Click(object sender, EventArgs e)
{
    IActiveView pActiveView = m_controlsSynchronizer.PageLayoutControl.PageLayout as
    IActiveView;

    CreateGrid(pActiveView, axPageLayoutControl1.PageLayout);
}
```

- Create Grid:

```
public void CreateGrid(IActiveView activeView, IPageLayout pageLayout)
{
    IMapGrid mapGrid = new GraticuleClass();
    mapGrid.Name = "Map Grid";
    IColor color = new RgbColorClass(); color.RGB = 0XBBBBBB;

    ICartographicLineSymbol cartographicLineSymbol = new CartographicLineSymbolClass();
    cartographicLineSymbol.Cap = esriLineCapStyle.esriLCSButt;
    cartographicLineSymbol.Color = color; cartographicLineSymbol.Width = 2;
    mapGrid.LineSymbol = (ILineSymbol)cartographicLineSymbol;
    mapGrid.Border = null;
    mapGrid.TickLength = 15;

    cartographicLineSymbol = new CartographicLineSymbolClass();
    cartographicLineSymbol.Cap = esriLineCapStyle.esriLCSButt;
    cartographicLineSymbol.Color = color; cartographicLineSymbol.Width = 1;
    mapGrid.TickLineSymbol = (ILineSymbol)cartographicLineSymbol;
    mapGrid.TickMarkSymbol = null; mapGrid.SubTickCount = 5; mapGrid.SubTickLength = 10;

    cartographicLineSymbol = new CartographicLineSymbolClass();
    cartographicLineSymbol.Cap = esriLineCapStyle.esriLCSButt;
    cartographicLineSymbol.Color = color; cartographicLineSymbol.Width = 0.2;
    mapGrid.SubTickLineSymbol = (ILineSymbol)cartographicLineSymbol;

    IGridLabel gridLabel = mapGrid.LabelFormat;
    gridLabel.LabelOffset = 15;
    mapGrid.SetTickVisibility(true, true, true, true);
    mapGrid.SetSubTickVisibility(true, true, true, true);
    mapGrid.SetLabelVisibility(true, true, true, true);
    mapGrid.Visible = true;
    IMeasuredGrid measuredGrid = mapGrid as IMeasuredGrid;
    measuredGrid.FixedOrigin = true;
    measuredGrid.XIntervalSize = 10;
    measuredGrid.XOrigin = 5; //Shift grid 5°.
    measuredGrid.YIntervalSize = 10; //Parallel interval.
    measuredGrid.YOrigin = 5; //Shift grid 5°.
```

```

    IMap map= activeView.FocusMap;
    IGraphicsContainer graphicsContainer = pageLayout as IGraphicsContainer;
    IFrameElement frameElement = graphicsContainer.FindFrame(map);
    IMapFrame mapFrame = frameElement as IMapFrame;
    IMapGrids mapGrids = null;
    mapGrids = mapFrame as IMapGrids;
    mapGrids.AddMapGrid(mapGrid);

    activeView.PartialRefresh(esriViewDrawPhase.esriViewBackground, null, null);
}

```

3. Legend:

- Click event for “Insert Legend”:

```

private void insertLegendToolStripMenuItem_Click(object sender, EventArgs e)
{
    IGraphicsContainer graphicsContainer = m_controlsSynchronizer.PageLayoutControl.GraphicsContainer;
    IMapFrame mapFrame = (IMapFrame)graphicsContainer.FindFrame
        (m_controlsSynchronizer.PageLayoutControl.ActiveView.FocusMap);
    if (mapFrame == null) return;
    UID uID = new UIDClass(); uID.Value = "esriCarto.Legend";
    IMapSurroundFrame mapSurroundFrame = mapFrame.CreateSurroundFrame(uID, null);
    if (mapSurroundFrame == null) return;
    if (mapSurroundFrame.MapSurround == null) return;
    mapSurroundFrame.MapSurround.Name = "Legend";
    IEnvelope envelope = new Envelope() as IEnvelope;
    envelope.PutCoords(1, 1, 3.4, 2.4);
    IElement element = (IElement)mapSurroundFrame;
    element.Geometry = envelope;
    m_controlsSynchronizer.PageLayoutControl.AddElement(element,
        Type.Missing, Type.Missing, "Legend", 0);
    m_controlsSynchronizer.PageLayoutControl.ActiveView.
        PartialRefresh(esriViewDrawPhase.esriViewGraphics, null, null);
}

```

- Click event for “Delete Legend”:

```

private void deleteLegendToolStripMenuItem_Click(object sender, EventArgs e)
{
    IGraphicsContainer graphicsContainer = m_controlsSynchronizer.
        PageLayoutControl.GraphicsContainer;
    IElement element = m_controlsSynchronizer.PageLayoutControl.
        FindElementByName("Legend", 1);

    if (element != null)
    {
        graphicsContainer.DeleteElement(element);
        m_controlsSynchronizer.PageLayoutControl.ActiveView.
            PartialRefresh(esriViewDrawPhase.esriViewGraphics, null, null);
    }
}

```