Learning Video Series

Extending Map Suite

Lesson 3:
Exploring Layers

Explore what is possible by inheriting from Layer.

Duration: 45 minutes

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Agenda

- Answer the following questions.
  - What is the difference between a Layer and an Overlay?
  - What does the Layer inheritance hierarchy look like?
  - Why would I inherit from Layer?
  - What is required for a custom Layer?
- Review the MultiGeoRasterLayer.
- Review the WatermarkAdornmentLayer.
- Review the MiniMapAdornmentLayer
- Review the MapShapesLayer
- Answer additional questions.

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Differences between Layers and Overlays

- Layer
  - A member of the Core name-space
  - Intended to be easily used across Map Suite products
  - Linked one to one to a type of data
- Overlay
  - A member of a specific product
  - Designed to take advantage of platform capabilities
  - Can aggregate Layer
  - Used to facilitate rapid drawing and refreshing of Layers

What does the Layer inheritance hierarchy look like?

- Layer
  - This is what all other Layers inherit from
  - It has the fewest number of overload members
  - It provides the least amount of default functionality
  - Provides the highest degree of customization
- Inherited Classes
  - AdornmentLayer
  - FeatureLayer
  - RasterLayer

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AdornmentLayer & FeatureLayer

- AdornmentLayer
  - Designed for things drawn in screen coordinates
  - Examples: ScaleBar, Logo, Legend, North Arrow
  - Implemented to not move when panning
  - Very similar to Layer
- FeatureLayer
  - Covered in our first Extending Map Suite video
  - Created to represent vector data
  - Includes query, edit and style capabilities

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RasterLayer

- RasterLayer
  - Designed for drawing raster imagery
  - Examples: Mr Sid, ECW, GeoTiff, etc.
  - Designed to be drawing system neutral
  - Uses PNG stream in a GeoImage to transport data
  - Beware of some performance problems due to GeoImage
  - RasterLayer will be a topic for an upcoming video

Why inherit from Layer?

- Technically Standpoint
  - Provides the least number of overloads and dependencies
  - Quick to get up and running
- Requirements Standpoint
  - Aggregate raster and feature data
  - Best possible speed by avoiding the overhead of other Layers
  - Special requirements like Map Shapes
  - Produce something simple and straight forward
  - Draw in screen coordinates

What is required for a custom Layer?

- Required Overloads
  - DrawCore – This is where all of the drawing takes place
- Recommended Overloads
  - HasBoundingBoxCore – Indicates this layer has a bounding box
  - GetBoundingBoxCore – Returns the bounding box
  - OpenCore – Initialize expensive resources for the layer
  - CloseCore – Release expensive resource for the layer

Sample Code Overview

- **MultiGeoRasterLayer** - The first sample shows how we can aggregate a group of raster images into one layer. You can use this to handle hundreds or thousands of images and do not want to create the same number of layers.
- **WatermarkAdornmentLayer** - The second sample shows how we create a layer that draws watermarks on the map. This is handy for providing demos of your software to clients etc.
- **MiniMapAdornmentLayer** - The third example shows how easy it was to create a simple mini map layer to give you a reference of where you are when you zoomed in.
- **MapShapesLayer** - The fourth sample is a flashback to Map Suite 2.x and the concept of Map Shapes. Map Shapes are individual features that have their own styles and zoom levels.

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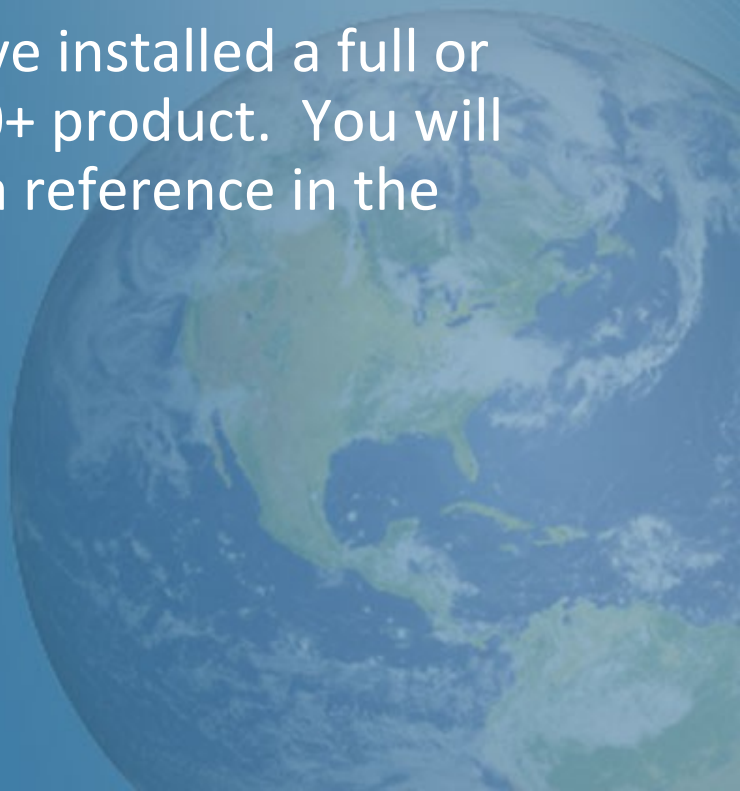
Let's Look at Some Code!

You can find the code we will review in a zip file accompanying this video on ThinkGeo.com.

To compile the code it requires you have installed a full or evaluation edition of any Map Suite 3.0+ product. You will need to add the MapSuiteCore.DLL as a reference in the project.



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