

Esri Federal GIS Conference

February 22–24, 2012 | Washington, D.C.

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ArcGIS SDK for Windows Phone and ArcGIS for SharePoint

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ArcGIS for SharePoint

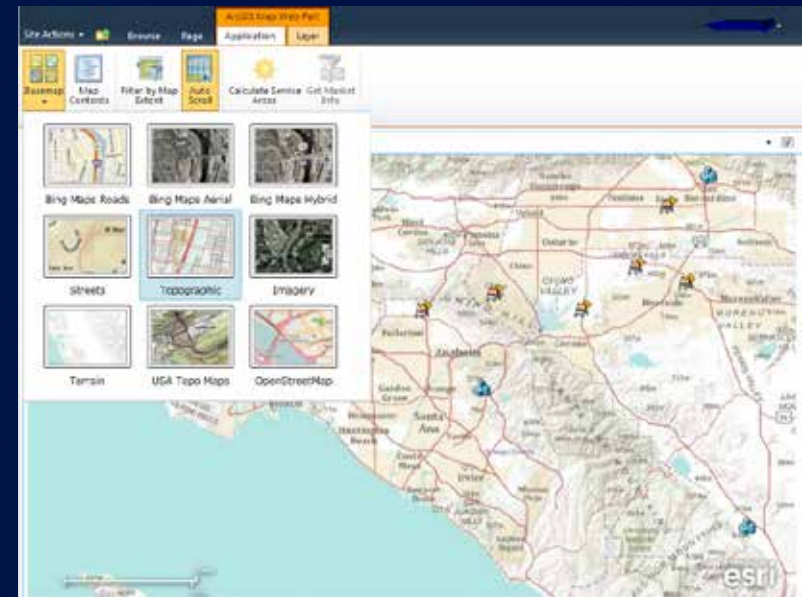


Agenda

- **Welcome / Introductions**
- **ArcGIS for SharePoint**
- **Demo**
 - **Working with the product**
- **Road map**

ArcGIS for SharePoint

- **Rich, Configurable mapping for SharePoint**
 - Create rich, interactive SharePoint sites quickly and easily
 - Familiar User Experience to both SharePoint and ArcGIS users
 - Configurable Out of the Box tools
 - Extensible



What can you do with ArcGIS for SharePoint

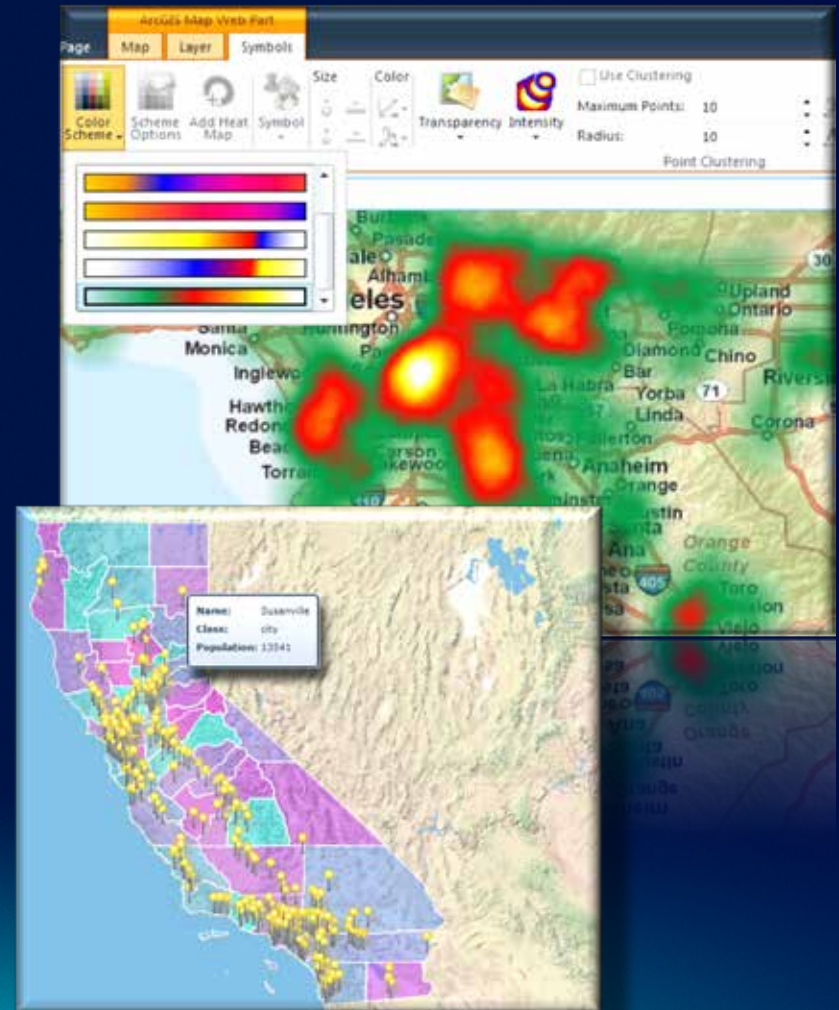
- **Visualize your data in new ways**
 - Mashup your data with ArcGIS Services
- **Spatially enable your SharePoint data**
 - Match addresses to a location on the map
- **Create Purpose-specific solutions**
 - Leverage SharePoint permissions for access
- **Perform analysis with your data**
- **Much, Much, more...**



Visualize your data in new ways

ArcGIS Map Web Part

- Rich display of your data using an Interactive Map
 - ArcGIS Services
 - ArcGIS.COM
 - WebMaps
 - Spatial Data Services
 - SharePoint Lists
- Interactively configure symbology



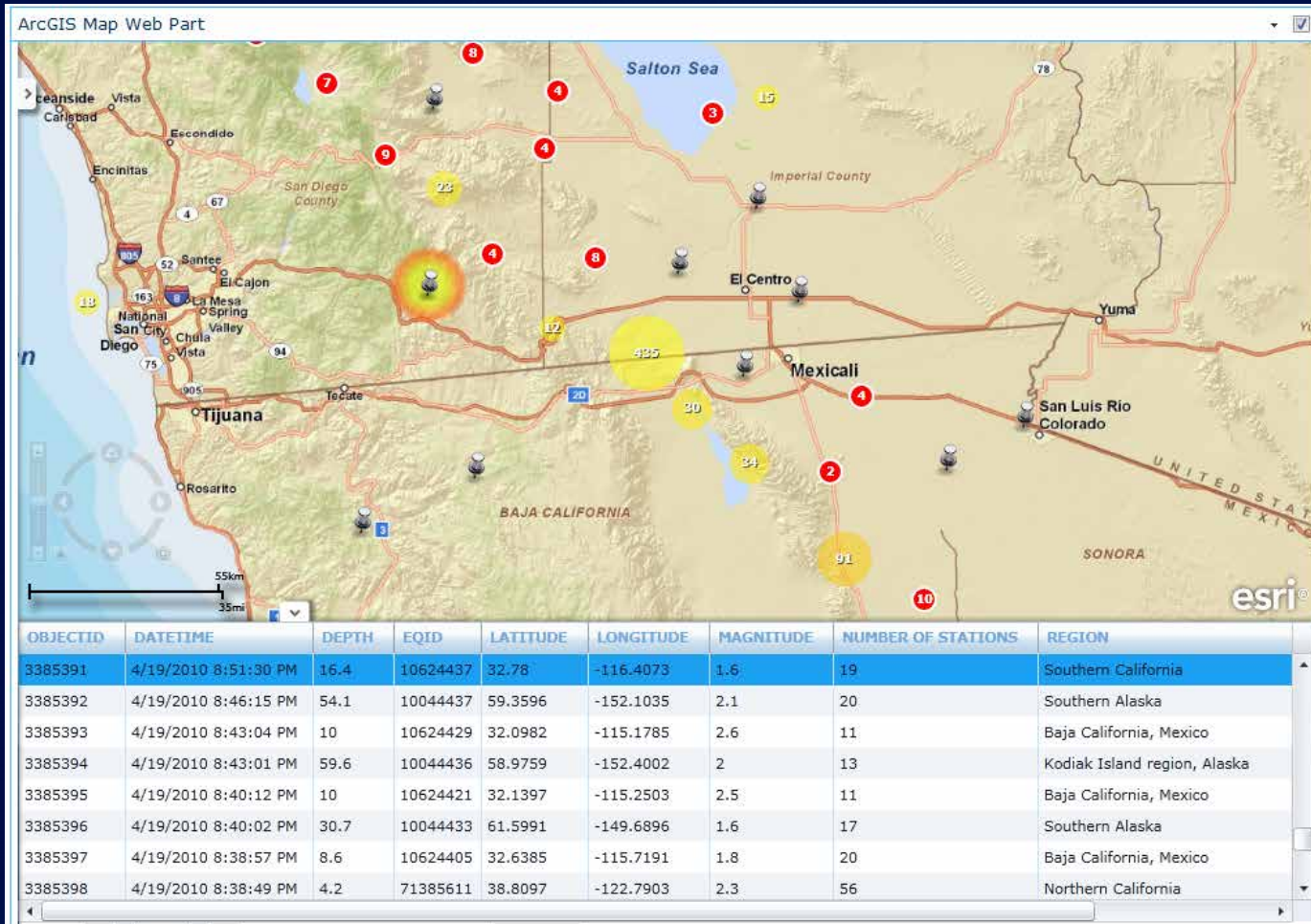
Review: Data Content in a Map

Common design pattern

- **Base Maps**
 - Geographic frame of reference
 - Contain static data
- **Operational layers**
 - Information overlays that end users interact with
 - Contain dynamic data
- **Operational layers display on top of Base Maps**



ArcGIS Map Web Part – View Data in Table



Spatially enable your SharePoint Data

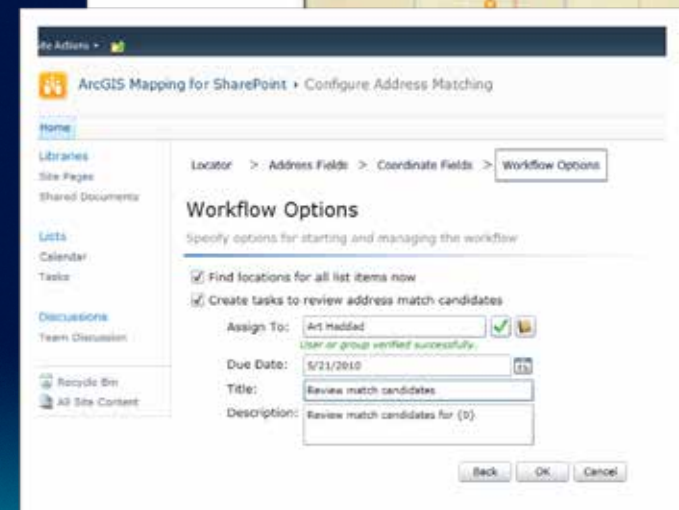
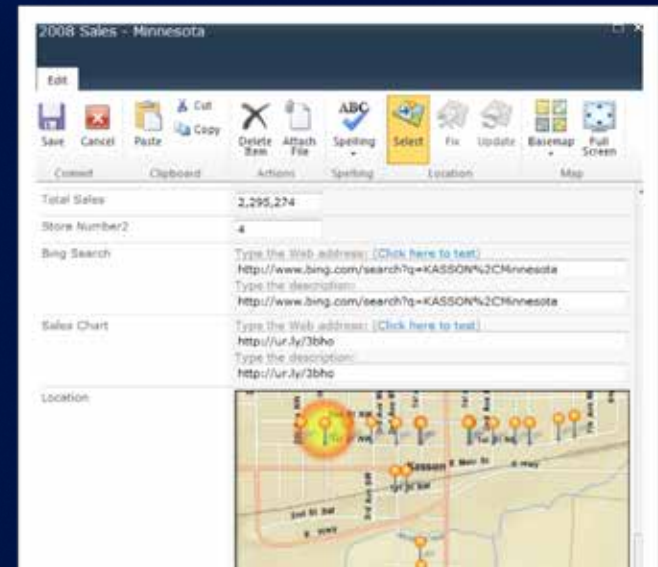
Geocoding Workflow

- Find the geographic coordinates of addresses stored in SharePoint lists
- SharePoint workflow
 - provides an experience that will be familiar to many SharePoint users

The image shows two overlapping screenshots from a SharePoint interface. The background screenshot is the 'Workflow Options' dialog box, which is used to configure a workflow. It has a breadcrumb trail: 'Locator > Address Fields > Coordinate Fields > Map Options > Workflow Options'. The title is 'Workflow Options' and the subtitle is 'Specify options for starting and managing the workflow'. There are two checked checkboxes: 'Find locations for all list items now' and 'Create tasks to review address match candidates'. Below these are fields for 'Assign To:' (System Account), 'Due Date:' (6/28/2010), 'Title:' (Review address match candidates), and 'Description:' (Review match candidates for {0}). At the bottom are 'Back', 'OK', and 'Cancel' buttons. The foreground screenshot is a 'Workflow Settings' menu. It has a breadcrumb trail: 'Workflow Settings > Workflow Settings'. The menu items are: 'Add a Workflow' (highlighted with a red border), 'Create a Workflow in SharePoint Designer', and 'Create a Reusable Workflow in SharePoint Designer'.

Geocoding Workflow

- **Configurable Locators**
- **Automated geocoding**
 - when a list item is changed or added.
- **Interactively select the best address candidate match**
 - using the Location Field
- **Track the status of candidate selection**



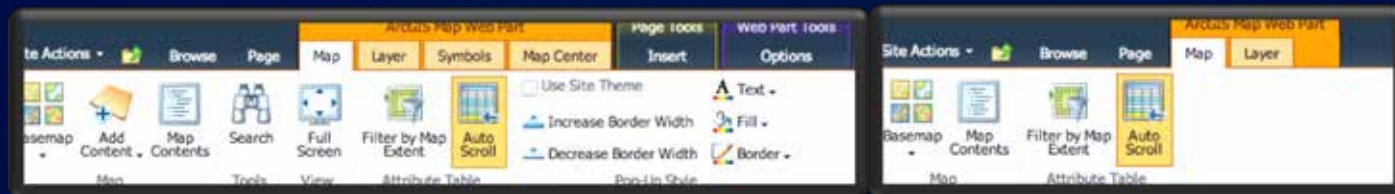
Working with maps in SharePoint



Create Purpose-specific solutions

WYSIWYG Design time and Configurable Ribbon

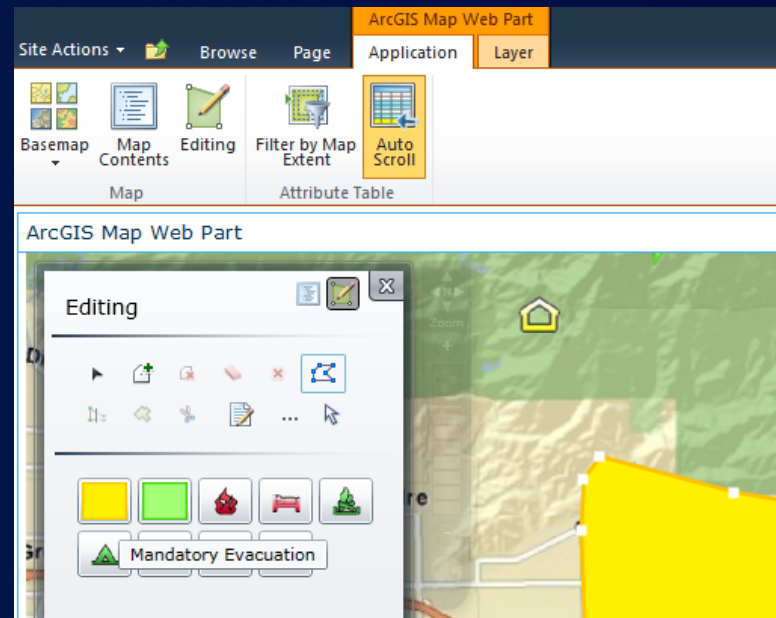
- Clean distinction between Design-time and Run-time
 - Designer, User
- Designers can now configure Items on SharePoint's Ribbon
 - Limit access to tools, map configuration, and ribbon elements
- Users are limited access to what Designers allow



Out of the Box Tools



- **Editing**
- **Search**
- **Selection**
- **Map Contents with Legend**
 - Contents, Layer List
 - Legend modes
 - Ability to specify layers
- **Configurable Controls**
- **More...**



Perform Analysis on your data

Using ArcGIS Geoprocessing

- **Geoprocessing**
 - **Work with simple to advanced capabilities using ArcGIS**
 - **On-Premise using ArcGIS for Server**
 - **In the Cloud with ArcGIS.COM**

Adding more...

Extending ArcGIS for SharePoint

- **Add-Ins: Extensibility points**
 - **Tools: Button on the ribbon**
 - **Behaviors: Hook to events on the Map, etc**
- **Create Add-Ins using the ArcGIS API for Silverlight**
- **Share Add-Ins with Silverlight Viewer**
- **Samples on the Interactive SDK**
 - **More to come.**



Administration



SharePoint on Suchness ▶ Site Settings

SharePoint on Suchness

Libraries

Site Pages

Shared Documents

Drop Off Library

WebPart

Lists

Calendar

Tasks

My List

My Contacts

Discussions

Team Discussion

Recycle Bin

All Site Content



Users and Permissions

People and groups

Site permissions

Site collection administrators



Galleries

Site columns

Site content types

Web parts

List templates

Master pages and page layouts

Themes

Solutions



Site Administration

Regional settings

Site libraries and lists

User alerts

RSS

Search and offline availability

Sites and workspaces

Workflows

Workflow settings

Related Links scope settings

Content Organizer Settings

Content Organizer Rules

Site output cache

Term store management

Searchable columns

Content and structure

Content and structure logs



Look and Feel

Welcome Page

Title, description, and icon

Master page

Page layouts and site templates

Tree view

Site theme

Navigation



Site Actions

Manage site features

Reset to site definition

Delete this site

Site Web Analytics reports

Site Collection Web Analytics reports



ArcGIS for SharePoint Administration

Basemaps

Connections

Geometry Service

Locators

Symbols

Extensions



Hold and eDiscovery

Hold Reports

Holds

Discover and hold content

Road Map

- **V2.1.1 – Released in January**
 - Resource Center download

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ArcGIS Runtime SDK for Windows Phone



Agenda

- **API overview**
 - Getting started
 - API capabilities
- **Patterns and practices**
- **Deploying apps**
- **API release schedule**



ArcGIS API for Windows Phone

- **Powerful Windows Phone Mapping API**
- **Designed for the Windows Phone**
- **Full Touch/Gesture support**
- **Use [ArcGIS Server/Online](#), Bing Maps services**
- **Integrates with Microsoft development environments**



Requirements

- **Windows Phone Developer Tools**

- **Microsoft Visual Studio 2010**
- **Expression Blend 4**
- **Deployment Utility**
- **Emulator**
- **From [App Hub](#)**



- **Windows Phone**

- **Vista and Windows 7 operating systems**

Libraries



- **ESRI.ArcGIS.Client.dll**
 - Map, ArcGIS Service Layers, Graphics, Geometry, Symbols
- **ESRI.ArcGIS.Client.Bing.dll**
 - Adds support for using Bing layers and services
- **ESRI.ArcGIS.Client.WebMap.dll**
 - Read & process WebMap 1.2
- **ESRI.ArcGIS.Client.Toolkit.dll***
 - Common set of controls for map interaction
- **ESRI.ArcGIS.Client.Toolkit.DataSources.dll***
 - Common set of data sources

*CodePlex URL: <http://esrisilverlight.codeplex.com>

Capabilities

- **Visualization with Map control**
- **Editing**
- **Tasks**
 - **Query, Find, Identify, Address Locator, Geometry, Geoprocessing, Route**
- **Consume geospatial services**
 - **ArcGIS.com**
 - **ArcGIS Server**
 - **Bing Maps**

Getting Started

- Resource Center
 - **Interactive SDK**
 - **Documentation**
 - **Samples**
 - **Application**

Patterns and Practices



Patterns & Practices

- **Metro design**
- **Effective use of data**
- **Map Tips**
- **Legend**
- **Editing**
- **Using the Phone's GPS**

Metro Design

Themes

**Static
resources**

**Page
Anatomy**

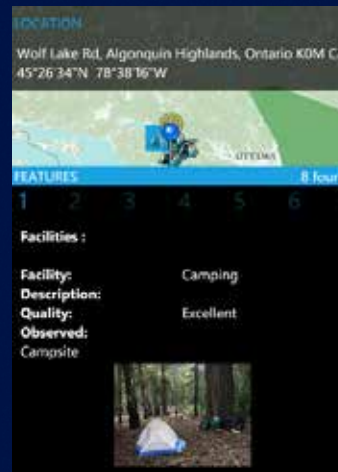
**Animations
&
Transitions**

**Device
Form
Factor**

**Execution
Model**

Effective Use of Data

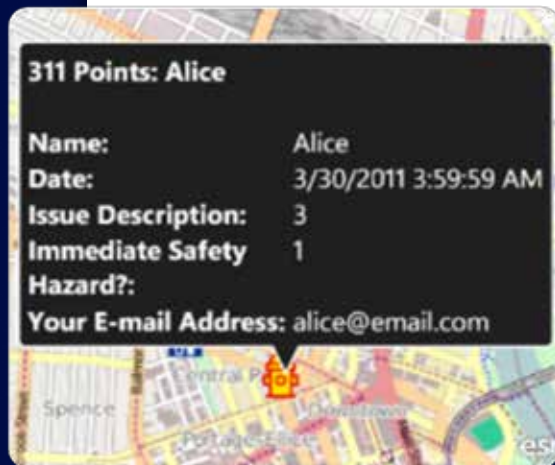
- Screen size
- Finger size
- Data transfer cost



```
<esri:GraphicsLayer ID="MyGraphicsLayer"  
    Renderer="{StaticResource MySimpleRenderer}">  
    <esri:GraphicsLayer.Clusterer>  
        <esri:SimpleClusterer  
            Radius="15"  
            Gradient="{StaticResource BlueGradient}" />  
    </esri:GraphicsLayer.Clusterer>  
</esri:GraphicsLayer>
```

Map Tips

- **ESRI.ArcGIS.Client.Toolkit.InfoWindow**
- **Bind ContentTemplate to Popup if defined**

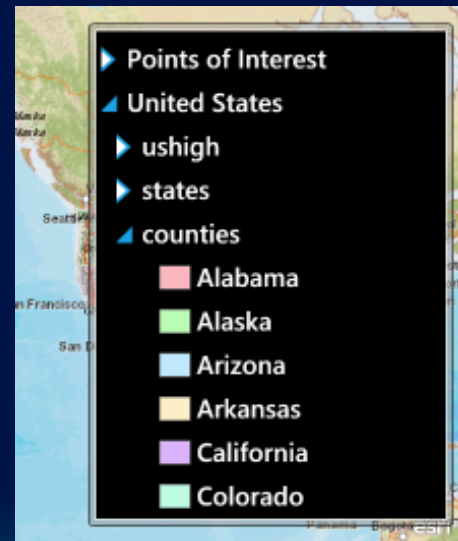
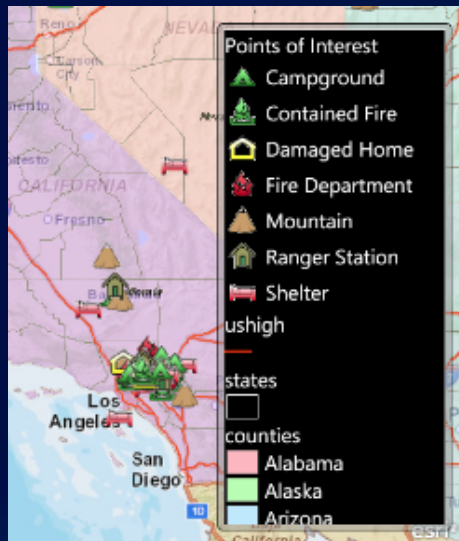


```
<esriToolkit:InfoWindow x:Name="myInfoWindow"  
Map="{Binding ElementName=myMap}"  
Background="{StaticResource PhoneChromeBrush}"  
BorderBrush="{StaticResource PhoneForegroundBrush}"  
ContentTemplate="{StaticResource defaultAttributes}"  
BorderThickness="2" />
```

```
public DataTemplate DefaultTemplate { get; set; }  
DataTemplate RetrievePopupTemplate(GraphicsLayer lyr)  
{  
    var template = lyr.GetValue(Document.PopupTemplateProperty)  
        as DataTemplate;  
  
    return template ?? DefaultTemplate;  
}
```

Legend

```
<esriToolkit:Legend Map="{Binding ElementName=MyMap}"  
  LayerIDs="Points of Interest, United States"  
  LayerItemsMode="Flat"  
  BorderThickness="0" />
```



Editing

- **Editor Commands**

- **Select, Add, EditVertices, Delete, etc.**

```
Editor editor = new Editor();
editor.Map = myMap;
editor.LayerIDs = new string[] { "myEditTargetLayer" };
if (editor.Add.CanExecute(10100)) // feature type id
    editor.Add.Execute(10100);
```

- **Interactive editing experience to support touch devices**

- **Attribute editing**

- **TextBox InputScope**
- **DateTime & ListPicker controls**



Using the phone's GPS

- **GPS + WiFi + Cellular radio**
- **User of the phone controls app access to GPS**
- **System.Device.Location.GeoCoordinateWatcher**
- **ESRI.ArcGIS.Client.Toolkit.DataSources.GpsLayer**
- **Testing: [Windows Phone GPS Emulator \(Microsoft\)](#)**
- **Consider: power consumption**

```
<esriToolkitDS:GpsLayer ID="GPSLayer" />
```



Deployment



Deploying your ArcGIS app

- Read [ESRI's licensing agreement](#)
- Include [attribution](#)
- Fill out deployment questionnaire & email it to arcgis4windowsphone@esri.com
- [Publish](#) to Windows Phone Marketplace
 - Or publish to developer phones with Windows Phone deployment utility

Publishing to the Marketplace



Road Ahead

- **2.4 API – Released January**
- **3.0 API – Coming around 10.1 release**



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