An introduction to ArcGIS Desktop Add-ins

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Feedback link:  www.esri.com/sessionevals
ArcGIS Desktop Add-Ins

A new way to customize and extend ArcGIS Desktop applications.

- Easier to build
- Easy to share
- More secure
- Support for .NET, Java, and Python
Supported Add-In Types

- Buttons
- Tools
- Combo Boxes
- Multi-Items
- Menus
- Context Menus
- Toolbars
- Tool Palettes
- Dockable Windows
- Application Extensions
- Editor Extensions
- Editor Construction Tools (10.1)
- Server Object Extensions (10.1)
Supported Development Environments for Add-Ins

- Visual Studio 2008 / 2010
- Visual C# 2008 / 2010 Express Edition
- Eclipse IDE for Java Developers

Supports .NET 3.5 & 4.0
Quick Demo – Example Add-In
Add-In File Anatomy

Add-In File (zipped folder)

Assemblies/JARs/Scripts

XML Metadata

Resources
Anatomy - Declarative Aspects

- ID
- Target
- Author
- Version
- Component
- Web
- Designer
- Caption
- ToolTip
- Help
<AddIn language="CLR"
library="SampleAddIn.dll"
namespace="AddInSample">
  <ArcMap>
    <Commands>
      <Button id="ACME_AddInSample_Button1"
        class="ArcGISAddin1"
        tip="Add-in command tooltip."
        message="Add-in command generated by..."
        caption="My Button"
        category="Add-In Controls"
        image="Images\Blue.png" />
    </Commands>
  </ArcMap>
</AddIn>
public class SimpleButton : Button
{
    protected override void OnClick()
    {
        MessageBox.Show("Hello World");
    }
}
namespace ArcMapClassLibrary1
{
    /// <summary>
    /// Summary description for Command1.
    /// </summary>
    [Guid("d8f38ef-96f7-456b-9162-42d36f7a9e57")]
    [ClassInterface(ClassInterfaceType.None)]
    [ProgId("ArcMapClassLibrary1.Command1")]
    public sealed class Command1 : BaseCommand
    {
        #region COM Registration Function(s)
        [ComRegisterFunction()]
        [ComVisible(false)]
        static void RegisterFunction(Type registerType)
        {
            // Required for ArcGIS Component Category Registrar support
            ArcGISCategoryRegistration(registerType);
            
            // TODO: Add any COM registration code here
            
        }
        
        [ComUnregisterFunction()]
        [ComVisible(false)]
        static void UnregisterFunction(Type registerType)
        {
            // Required for ArcGIS Component Category Registrar support
            ArcGISCategoryUnregistration(registerType);
            
            // TODO: Add any COM unregistration code here
            
        }
        
        #endregion
    }
}
Anatomy – Resources & Localization
Add-In File Discovery & Sharing

• Add-In files are automatically discovered in well-known folders and incorporated into the Desktop applications at runtime.

  - Well-known folders are located:
    - Under the user’s document folder (default)
      - e.g. C:\Users\<username>\Documents\ArcGIS\AddIns\Desktop10.0
    - On network shares within the enterprise
Add-In File Discovery & Sharing

- Administered network shares
- Simplifies Updates
Managing Add-Ins - Installation Utility

- Double-click “Install”
- Customize - Add From File
- XCOPY
- Security
Managing Add-Ins – Add-In Manager Dialog

- Shows detailed information on all installed Add-Ins
- Deleting Add-Ins
- Mine vs. Shared
Managing Add-Ins – Sharing & Security

- Custom search folders
- Security Settings
Managing Add-Ins – Administrator Security Settings

• Security Codes
  0 - Load all.
  1 - Load signed only.
  2 - Load ESRI only.
  3 - Load from administrator folders only.
  4 - Do not Load any Add-Ins.

• Admin Registry Keys
  - HKLM \ SOFTWARE \ ESRI \ Desktop10.0 \ Settings
    - BlockAddIns
    - AdminAddInLock
  - HKLM \ SOFTWARE \ ESRI \ Desktop10.0 \ Settings \ AddInFolders
Digitally Signing Add-Ins

- ESRISignAddin Utility
- Trust
  - Source Traceability
- Validity
  - Tampering
Add-In Limitations

• More restrictive set of extensibility points

• Limited ability to expose your own API

• Registration Limitations:
  - Can’t register COM objects
  - Can’t register assemblies in the GAC
Demo – Managing Add-Ins