Extending ArcGIS Maps for SharePoint

Quan Tang
Scott Ball
Agenda
Extending ArcGIS Maps for SharePoint

- ArcGIS platform overview
- ArcGIS + SharePoint = Better together
- ArcGIS Maps for SharePoint overview
- Extending ArcGIS Maps for SharePoint
  - Anatomy of an extension pack
  - How to create an extension pack
  - How to add an extension pack to Maps for SharePoint
- Sneak peek: document geotagging and searching
ArcGIS Maps for SharePoint
Geo-enable your SharePoint documents, lists and workflows

Share GIS info on SharePoint sites
Find geotagged documents quickly
Geocode SharePoint lists
ArcGIS platform overview
Extending ArcGIS Maps for SharePoint
ArcGIS
An integrated Web GIS

Web GIS
Any device Anywhere
Web Maps
Web Scenes
Layers
Distributed Services

Desktop (Files) -> Server (Databases)
ArcGIS + SharePoint = Better together
Extending ArcGIS Maps for SharePoint
Common implementation patterns
Ways we see customers use SharePoint

- web hosting (internal or external)
- team collaboration site
- document management
ArcGIS content

Your SharePoint team site or web page

Your geoenabled SharePoint lists
SharePoint refresher
Ways customers use SharePoint

- web hosting (internal or external)
- team collaboration site
- document management

NEW
SharePoint plus ArcGIS

Organization Chart
ArcGIS Maps for SharePoint overview
Extending ArcGIS Maps for SharePoint
ArcGIS Maps for SharePoint
Geoenables SharePoint in 5 ways

Visualization (front-end)
- Maps Web Part
- Location Field
- Extensibility

Workflows (back-end)
- Locate Workflow (lists)
- Connect Workflow (external DB’s)

Connected Content and Services (including ArcGIS)
Extending ArcGIS Maps for SharePoint
Extensibility Technology

- Familiar & Non-Disruptive
  - Dojo
  - ArcGIS JavaScript API
What Are You Extending?

Main menu
Map contents toolbar
Layer menu
Select tools
Popup tools
Extension Points

• Tools
  - User-driven
  - Functionality initiated by user action
  - E.g. when a button on a toolbar is clicked

• Behaviors
  - Event-driven
  - Functionality triggered by events
  - E.g. when the map is clicked

• Picture Marker Sets
  - Custom symbols for point data
  - E.g. your organization’s custom symbols
Extension Packs

- Extension Pack – folder which contains:
  - Manifest
    - List of tools, behaviors and picture marker symbols
  - Tools
  - Behaviors
  - Picture Marker Sets
  - Supporting files
Tools

- Functionality associated with a button on a toolbar/menu
  - E.g. when a button on a toolbar is clicked
Behaviors

- Functionality invoked when an event occurs
  - E.g. when the map is clicked

```
Behavior
  description
  label
  destroy()
  execute()
  initialize(app)
  on()
  toJSON()
  onError

EventManager
  eventName
  target

LayerBehavior
  layer: String | esri/Layer

MapBehavior
  map: esri/Map
```
Creating a Behavior

- Dojo Class Inheriting from _Behavior or a Subclass

```javascript
define(['dojo/_base/declare', 'esriMaps/extensions/behaviors/_MapBehavior'], function(declare, _MapBehavior) {
    // Create a behavior by inheriting MapBehavior class
    return declare(_MapBehavior, {
        // Since this behavior is a _MapBehavior,
        // the target is the map in the application
        // The execute() function will trigger
        // on a map 'click' event
        eventName: 'click',

        execute: function() {
            // Called when someone clicks on the map
            alert('Map was clicked!');
        }
    });
});
```
Creating Picture Marker Sets

- Symbolize your data using custom symbols
- Images such as pngs, jpsgs and urls to an image

Define properties such as:
- type
- url
- width
- height
- xoffset
- yoffset
Picture Marker Sets

```json
[
  {
    type: "esriPMS",
    url: "esriSymbols/symbols/esriCustom/esriglobe.png",
    width: 20,
    height: 20,
    xoffset: 0,
    yoffset: 0
  },
  {
    type: "esriPMS",
    url: "https://yoururlhere.com/yourgraphic.jpg",
    width: 20,
    height: 20,
    xoffset: 0,
    yoffset: 0
  }
]
```
Creating the Manifest

• List of Tools, Behaviors and Picture Marker Sets in the Extension Pack
  • E.g. your organization’s custom symbols

```json
{
  "name": "AlertExtension",
  "description": "This extension pack contains a custom tool that will display a message.",
  "tools": [{
    "name": "MyTool",
    "location": "./extensions/AlertTool.js",
    "label": "Alert Tool",
    "tooltip": "Display an alert",
    "description": "A custom tool that displays a message when the tool is clicked."
  }],
  "behaviors": [{
    "name": "MyBehavior",
    "location": "./extensions/AlertBehavior.js",
    "label": "Alert Behavior",
    "description": "A custom behavior that displays a message on map click event."
  }]
  "pictureMarkerSets": [{
    "label": {
      "nls_location": "/symbols/nls/Symbols",
      "nls_property": "displayLabel_Alert"
    },
    "location": "/symbols/Alert.json.txt",
    "thumbnailUrl": "/thumbnail.png"
  }]
}``
Upload Extension Packs: 3 Options

- Upload
- Link From SharePoint
- Link From Address

Esri Maps Extension Packs
Add extension packs

- Redfin search
- Three Sets Extension
- Constrain map extent behavior

Select Extension Pack Folder
Current Location: RedfinSearch at http://darab/sites/dara/Shared Documents/RedfinSearch

Add extension pack from address
Url: https://m40365-public.sharepoint.com/Extensions/RedfinSearch
Upload Extension Packs: 3 Options

Esri Maps Extension Packs

Add extension packs ▼

- Redfin search
- Three Sets Extension
- Constrain map extent behavior

Esri Maps Extension Packs

Extension Packs » Three Sets Extension

Description

This package offers a selection of tools and behaviors that will allow you to extend Esri Maps for SharePoint 4.0. CustomExtension package was built with the sole purpose of demonstration at Esri’s User Conference 2014. We would like to encourage you to visit Esri Maps for SharePoint (here) where you can read more about our product, download our setups, browse through our extensive help documentation, and reach out to us and ask questions via our forum at any time!!

The tools and behaviors in this extension package will allow you to:

- Incorporate additional location analytics via Get Infographics tool
- Locate potential store rental facilities via Redfin tool
- Enable bi-directional communication between Esri Maps Web Part and Excel spreadsheets
- Constrain Esri Maps Web Part extent to the San Diego area.

We also wanted to demonstrate to you that you can provide interactive extension pack descriptions that have hyperlinks, images, and even embedded tutorials.

Create Web Maps and Collaborate in Microsoft SharePoint with Maps for Office Plugin
Extensibility demo
Document geotagging and searching

Sneak peek!
Key features
ArcGIS Maps for SharePoint 5.0

Geosearch
- Search for tags by clicking features on the map
- Uses native SharePoint search engine
- Provides familiar SharePoint experiences:
  - Document preview
  - Refiners for document type, author, last modified date

Geotagging
- Use feature layers from ArcGIS
- Use documents and folders from SharePoint
- Authors define an attribute from the layer to be tagged to the documents
- Users can tag documents to features
- Tags are native SharePoint technology
Geotagging and Geosearch demo
What’s coming next

**Coming soon**
- Geo-tag SharePoint documents to map features
- Find documents tagged to map features

**Mid-term**
- Sharing improvements
- UX enhancements
- Bug fixes

*Subject to change*