Introduction to Web AppBuilder for ArcGIS: JavaScript Apps Made Easy

Jianxia Song & Derek Law

July 21, 2015
Agenda

- Product overview
- Web AppBuilder for ArcGIS tour
- What’s New – July 2015 ArcGIS Online update
- Customization
- Community and Resources
- Summary
The ArcGIS Platform enables Web GIS

Enabling GIS Everywhere

Available in the Cloud . . .

. . . and On-Premises

Simple
Integrated
Open
Creating web apps with ArcGIS
ArcGIS Web Application Templates

ArcGIS Online and Portal for ArcGIS

Make a Web Application

Click a template’s thumbnail to preview it or click its link to download it to your computer or publish it to the web.

Web Map

Publish

Publish

Publish

Publish

Publish

Publish

Publish

Publish

Publish

Publish

Publish

Publish

Publish
HTML 5 Viewer needed

It seems like HTML 5 is going to be one of the leading (if not the leading) GIS web development platforms. Flex and Silverlight APIs, however, have their respective Viewers created. They allow for easy and rapid creation of sophisticated web applications. There is nothing similar for JavaScript API and HTML 5, while there are legions of GIS users who are not very well versed in programming. Can ESRI look into catering to this users too, with respect to HTML 5?

Tags: HTML 5, Viewer, Web, Development

JavaScript API Builder

Create a JavaScript API Application Builder like those created for the Flex and Silverlight APIs.

Tags:

2 Comments | Posted by: TONIFAIRBANKS to ArcGIS Server, Local Government, Web Apps and APIs May 10, 2012
Web AppBuilder for ArcGIS

Create new web apps without programming

30+ widgets
Web AppBuilder for ArcGIS

- Functionality within ArcGIS Online and Portal for ArcGIS
  - ArcGIS Online since Dec 2014
  - Portal for ArcGIS in 10.3 and later
- Enables new apps to be created without coding
  - Interactive WYSIWYG user experience
  - Runs on any device, in a web browser
- Fully integrated with the ArcGIS Platform
- Built with ArcGIS API for JavaScript and HTML 5 technology
- Extensible
2 Options to Work with Web AppBuilder

1. **Within ArcGIS Online or Portal for ArcGIS**
   - Embedded in the web site
   - Activate from the map viewer or My Contents

2. **Developer Edition**
   - Separate download and installed locally
   - Sign into ArcGIS Online or Portal for ArcGIS
   - Support for custom widgets and themes

- Both offer the same “builder” user experience, same capabilities
Web AppBuilder for ArcGIS - Live Sites Showcase

This group contains a collection of live web apps that were built using Web AppBuilder for ArcGIS. The intent is to showcase the many different use cases that Web AppBuilder for ArcGIS can address, as well as more.

Tags

Web AppBuilder for ArcGIS Live Sites Showcase
By the Numbers …

- # of apps made in ArcGIS Online: 10,000+
- Pre-UC Survey: 70% are using it now

- Very active user community on GeoNet
  - Web AppBuilder for ArcGIS
    - 8th most active
  - Web AppBuilder Custom Widgets
    - 6th most active

- Custom widgets by the community: over 2000+ downloads
Workflow for Creating a new App

1. Create new app
2. Pick style
3. Select map
4. Add widgets
5. Configure attributes
6. Preview and publish
Demo

Web AppBuilder Tour
Available Widgets

- **Widget**: a chunk of code that can be added in a modular fashion; provides functionality
- **30+ available**: enable core web mapping application capabilities
Some Notable Widgets

- Navigation
- Query
- Search
- Geocoding
- Editing
- Geoprocessing
- Printing
- Legend
- Layer List
- Overview Map
- Attribute
- HeaderController
Deploy Apps on Any Device
Leverage your organization’s Utility Services

- ArcGIS Online or Portal for ArcGIS
- Organization settings panel
Web Apps from Web AppBuilder

- Apps are hosted in ArcGIS Online or Portal for ArcGIS
- Become items in App author’s My Contents
- Option to download source code for the app from Item Details page
  - Customize web app
  - Host in your own web server
Web AppBuilder for ArcGIS

July 2015 Update

What’s new?
5 New Themes

- Billboard
- Box
- Dart
- Jewelry Box
- Launchpad

Custom look and feel
5 New Widgets

Search widget
Stream widget
Summary widget
Incident Analysis widget
GeoLookup widget

More functionality
Other enhancements

- Option to have widgets already “opened” when the web app starts up
- Support for uploading data for use in a GP service which has upload capability in the Geoprocessing widget
- Configurable context menus in the Layer List widget
- Interactive +/- zoom control in the map display with Zoom Slider widget
- Better responsive support in the Foldable and Tab themes
- Configure the sorting rules for query results in the Query widget
- Support Image Service Vector Layer and Image Service Layer
Export Web Apps as New Templates

- Leverage Web AppBuilder to create new templates which can be used in the ArcGIS Online/Portal for ArcGIS map viewer

- **Workflow**
  - Select *Export As Template* option
  - Set configurable parameters
  - Generates a new template item
  - Add to a group
  - Select group for the Map > Web App Templates option
Demo

Create New Templates
Web AppBuilder for ArcGIS

Customization
2 Tiers of Customization

- **Enabling custom functionality – Configurator**
  - Add custom widgets to your apps
  - Non-developer

- **Extending custom functionality – Developer**
  - Create new widgets from scratch
  - Programmer
Using Custom Widgets/Themes in Your Apps

• Workflow
  - Download the source code for the app
  - Apply customizations as desired
  - Host in your own web server

• [Link](http://doc.arcgis.com/en/web-appbuilder/manage-apps/deploy-app-online.htm)
Demo

Adding Custom Widgets
GeoNet: Custom Widgets shared by Community
https://geonet.esri.com/groups/web-app-builder-custom-widgets

• Mixture of enhanced and brand new widgets
• Approx. 20+ widgets
• Some supporting docs
GitHub: Esri Solutions Team – Custom Widgets

https://github.com/Esri/solutions-webappbuilder-widgets

- Widgets for specific workflows
- Samples
Web AppBuilder Developer Edition
Developers.ArcGIS.com/web-appbuilder

- **Download and install locally**
  - Sign into ArcGIS Online or Portal for ArcGIS
  - Same “builder” user experience as embedded Web AppBuilder
  - Work with custom widgets and themes

- Provides extensibility framework for apps
- Leverages ArcGIS API for JavaScript
- Create web apps on your own computer
Web AppBuilder for ArcGIS Components

GUI Builder

Widgets
Themes

Stem App

Web App
config
**Widget**
- HTML/JavaScript/CSS (appearance)
- Specific task (functionality)
- Configuration in JSON
- Localization support
- Builder configuration UI

**Theme**
- HTML/JavaScript/CSS
- Layout
- Branding
- Widget panel and behavior
- Style (color, etc.)
- Default widgets
Demo

Using WAB Developer Edition

Import an App into Developer Edition

Enable a custom widget in “builder”
Web AppBuilder for ArcGIS

Community and Resources
GeoNet – Esri Community

- 2 places for Web AppBuilder user community

- Both are very active
- Top GeoNet contributors post in these forums/places


• Created, owned, and maintained by the community
• Rebecca Strauch
Road Ahead

  - Will have the July update functionality

- Support for 3D web scenes
- Support saving app state
- Enable client-side workflows
  - E.g., result from one widget can be input into another widget

*Not final – Content subject to change
Web AppBuilder for ArcGIS Resources

- **Online help documentation**

- **Developer Edition help documentation**
  https://developers.arcgis.com/web-appbuilder/guide/xt-welcome.htm

- **Esri Live Training Seminar:** *Get Started with Web AppBuilder for ArcGIS* (60 mins)

- **Esri Web course:** *Creating Web Applications Using Templates and Web AppBuilder for ArcGIS* (2-4 hours)
Summary

- Product overview
- Web AppBuilder for ArcGIS tour
- What’s New – July 2015 ArcGIS Online update
- Customization
- Community and Resources
- Summary
Thank you…

- Please fill out the session survey in your mobile app
- Select **Introduction to Web AppBuilder** in the Mobile App
  - Use the Search Feature to quickly find this title
- Click “Technical Workshop Survey”
- Answer a few short questions and enter any comments
Other Web AppBuilder Sessions at UC

- **Web AppBuilder for ArcGIS: Build your first widget in 15 minutes**
  - Tues 3:30pm – 4:15pm  Demo Theater 11 – Developer

- **Web AppBuilder for ArcGIS: designing apps using custom themes**
  - Tues 5:30pm – 6:15pm  Demo Theater 11 – Developer

- **Web AppBuilder deployment patterns**
  - Wed 5:30pm – 6:15pm  Demo Theater 8 – Online GIS
  - Thurs 12:30pm – 1:15pm  Demo Theater 8 – Online GIS