



Web AppBuilder for ArcGIS: Advanced Development Tools and Techniques

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ESRIURL.COM/WABTOOLS2019

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Agenda

- Web AppBuilder as a Framework
- Web AppBuilder Widget Generator
- Web AppBuilder - Builds
- Best Practices
- Q & A

Web AppBuilder

Theme

Scene

Widget

Attribute

Billboard Theme

Box Theme

Dart Theme

Foldable Theme

Jewelry Box Theme

Launchpad Theme

Tab Theme

Style

Layout

Launch

Saved

eye alt 25,512.55 Kilometers

Earthstar Geographics | Source: USGS, NGA, NASA, CGIAR, GEBCO, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen and the GIS User Community

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3D App with Web AppBuilder for ArcGIS

+ Esri World Geocoder

-

Home

Search

Zoom In

Zoom Out

3D View

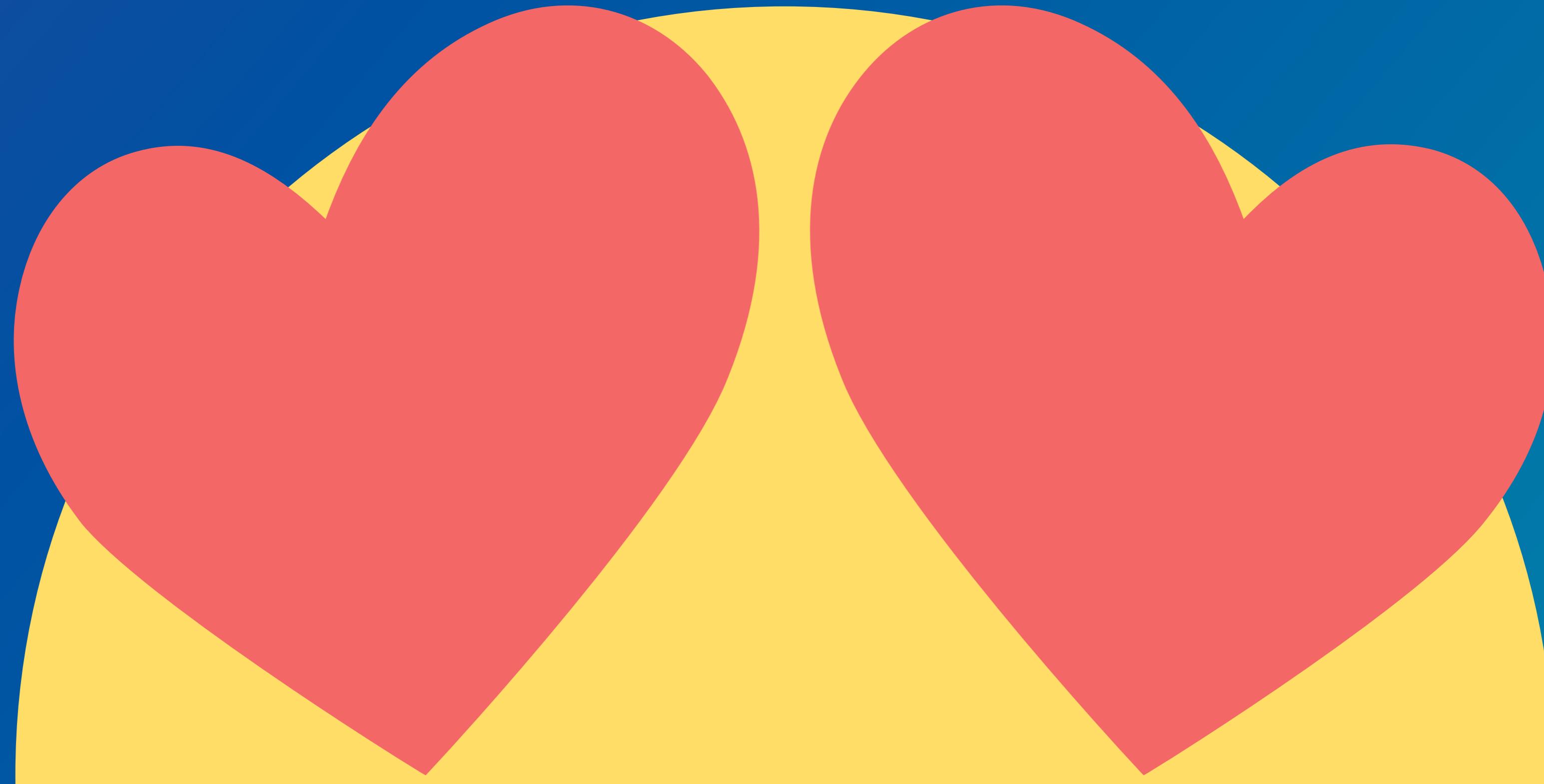
2D View

Eye Altitude

Eye Altitude 25,512.55 Kilometers

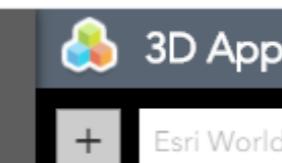
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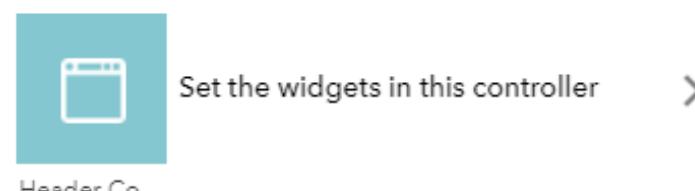




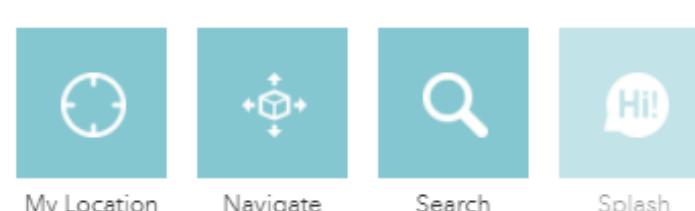




+ Esri World Geocoder



Header Co...



Zoom Slider

Launch

Saved

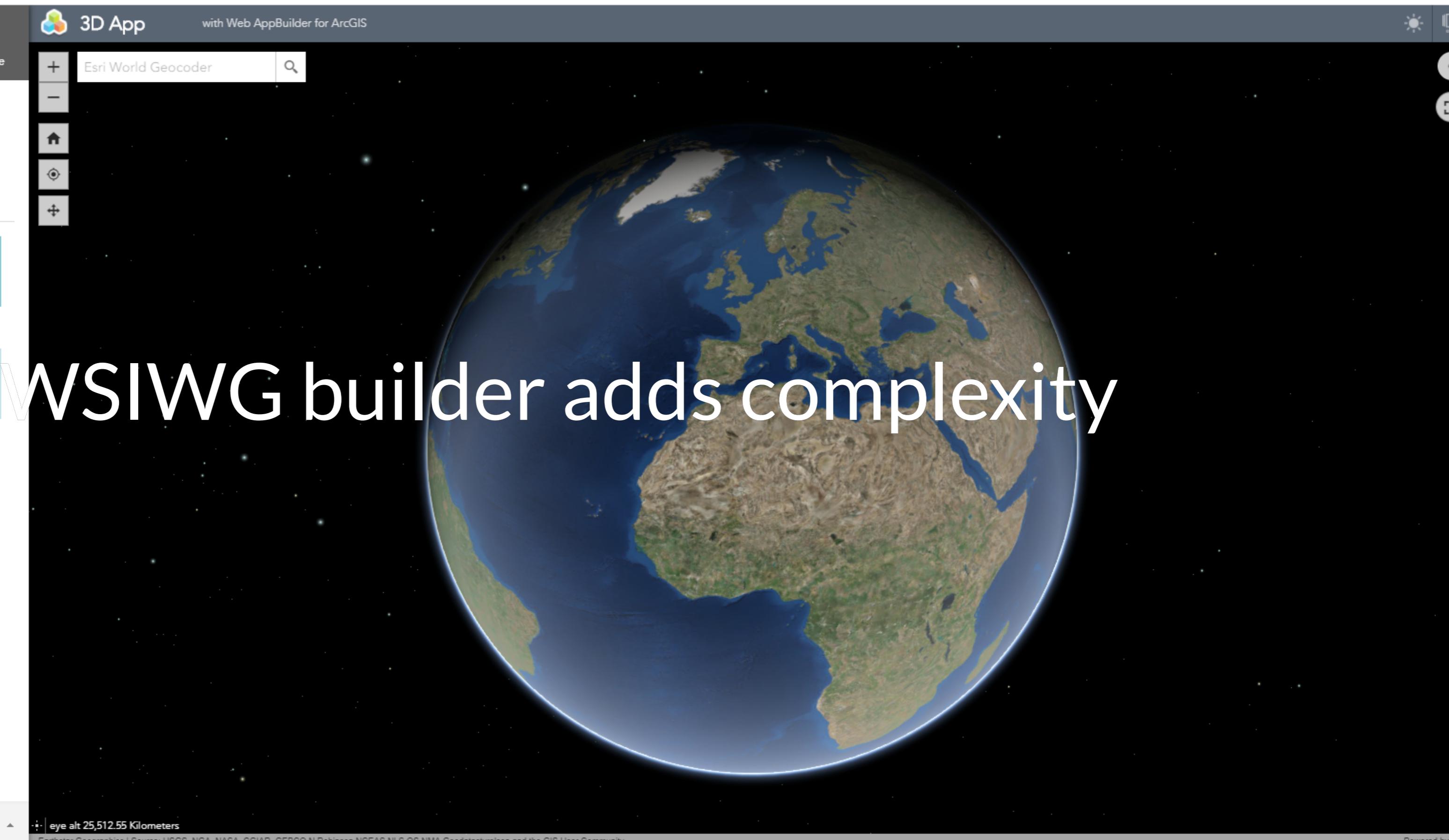
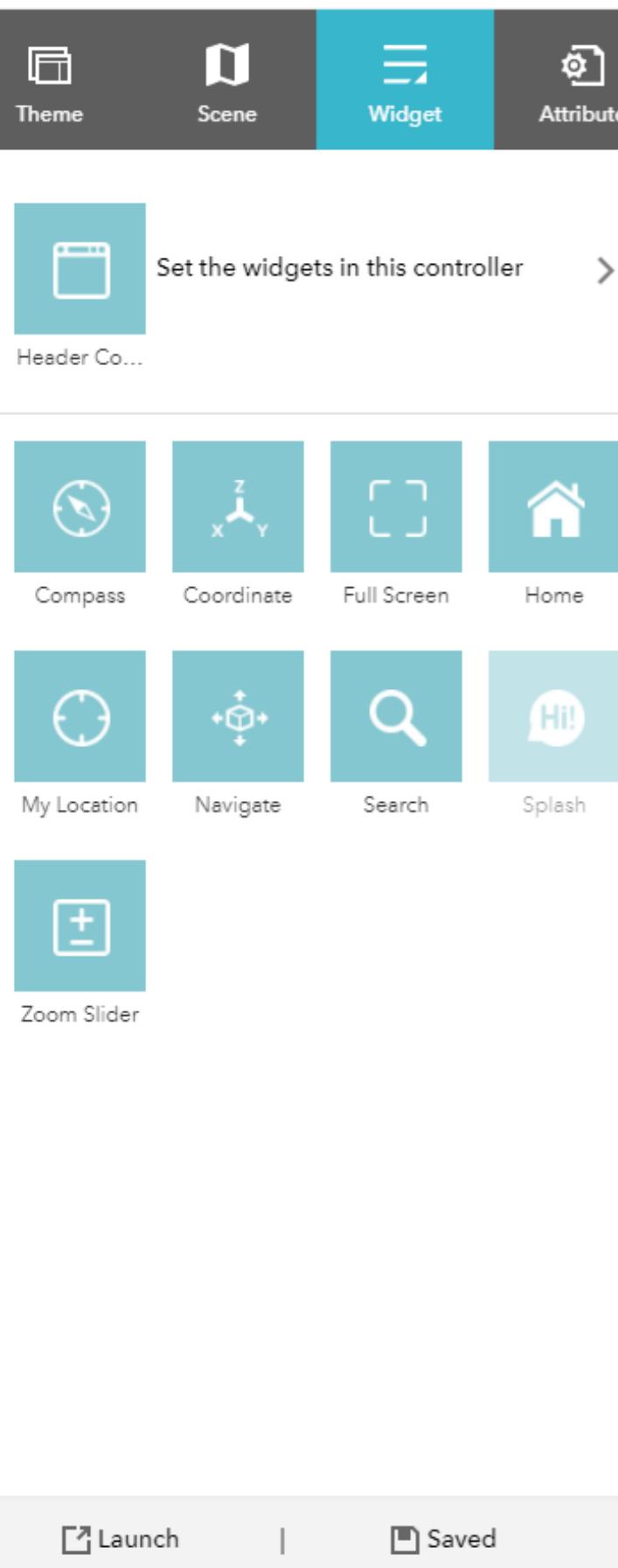
eye alt 25,512.55 Kilometers

Earthstar Geographics | Source: USGS, NGA, NASA, CGIAR, GEBCO, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen and the GIS User Community

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Builder experience is powerful





A woman with dark, curly hair is shown from the chest up. She has her right hand resting against her forehead, with her fingers partially hidden in her hair. Her expression is one of concern or distress. She is wearing a light-colored t-shirt with a graphic design on it. The design features several black and red icons, including what look like wrenches, pliers, and other mechanical symbols. The background is plain white.

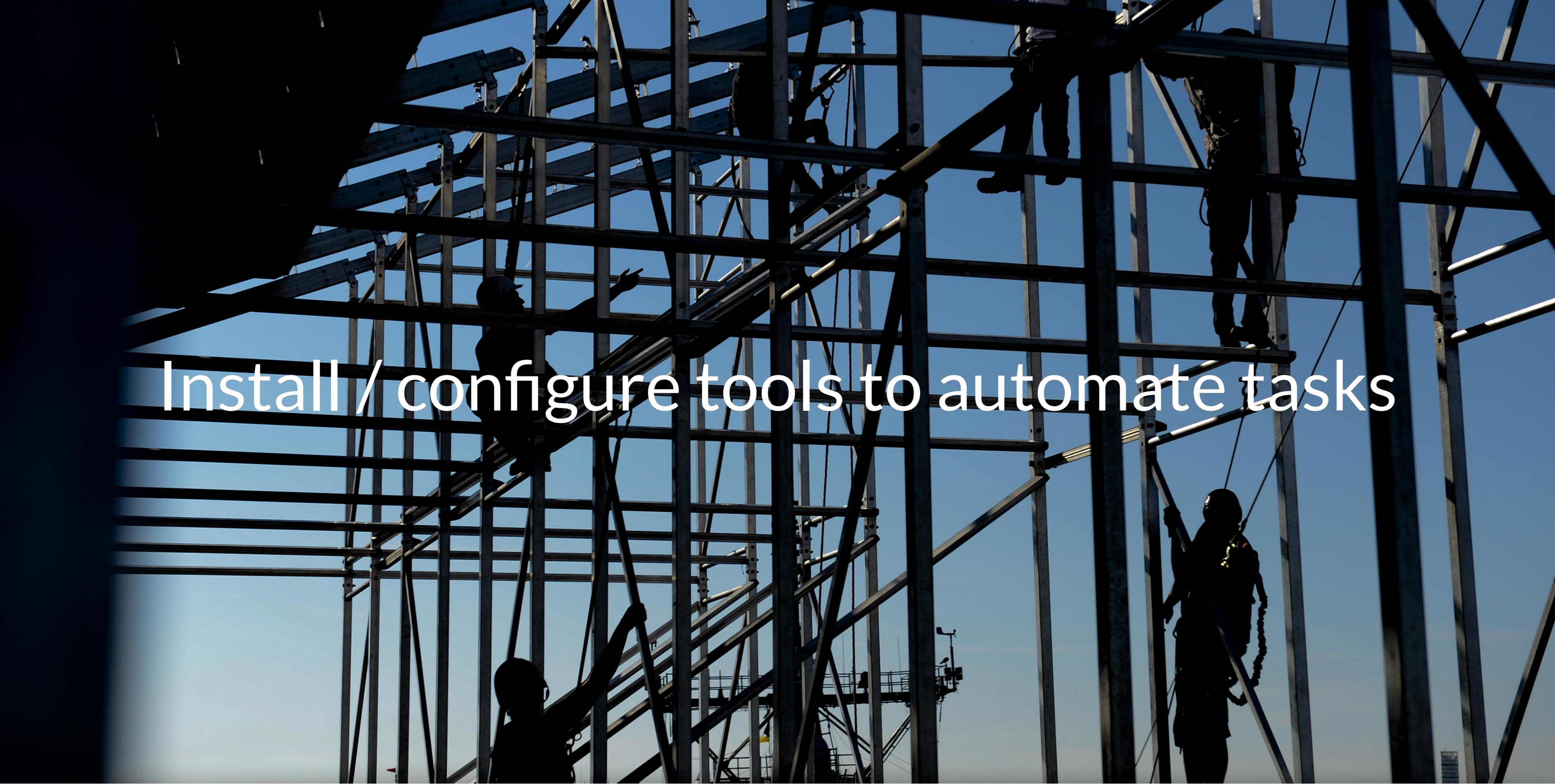
Easy for configurators = harder for developers

A photograph showing the dark silhouettes of several construction workers against a bright blue sky. They are working on a large-scale steel structure, likely a bridge or industrial building. One worker in the center-left is pointing upwards towards the top of the frame. Another worker is visible on the right side, and others are partially visible in the background. The steel beams form a complex grid pattern.

Generators automate this extra work for us

A photograph showing the dark silhouettes of several construction workers against a bright blue sky. They are working on a large-scale steel framework, likely for a building or bridge. One worker in the center-left is pointing upwards, while others are positioned at various heights on the structure. The steel beams form a complex grid pattern.

Scaffold out boilerplate code

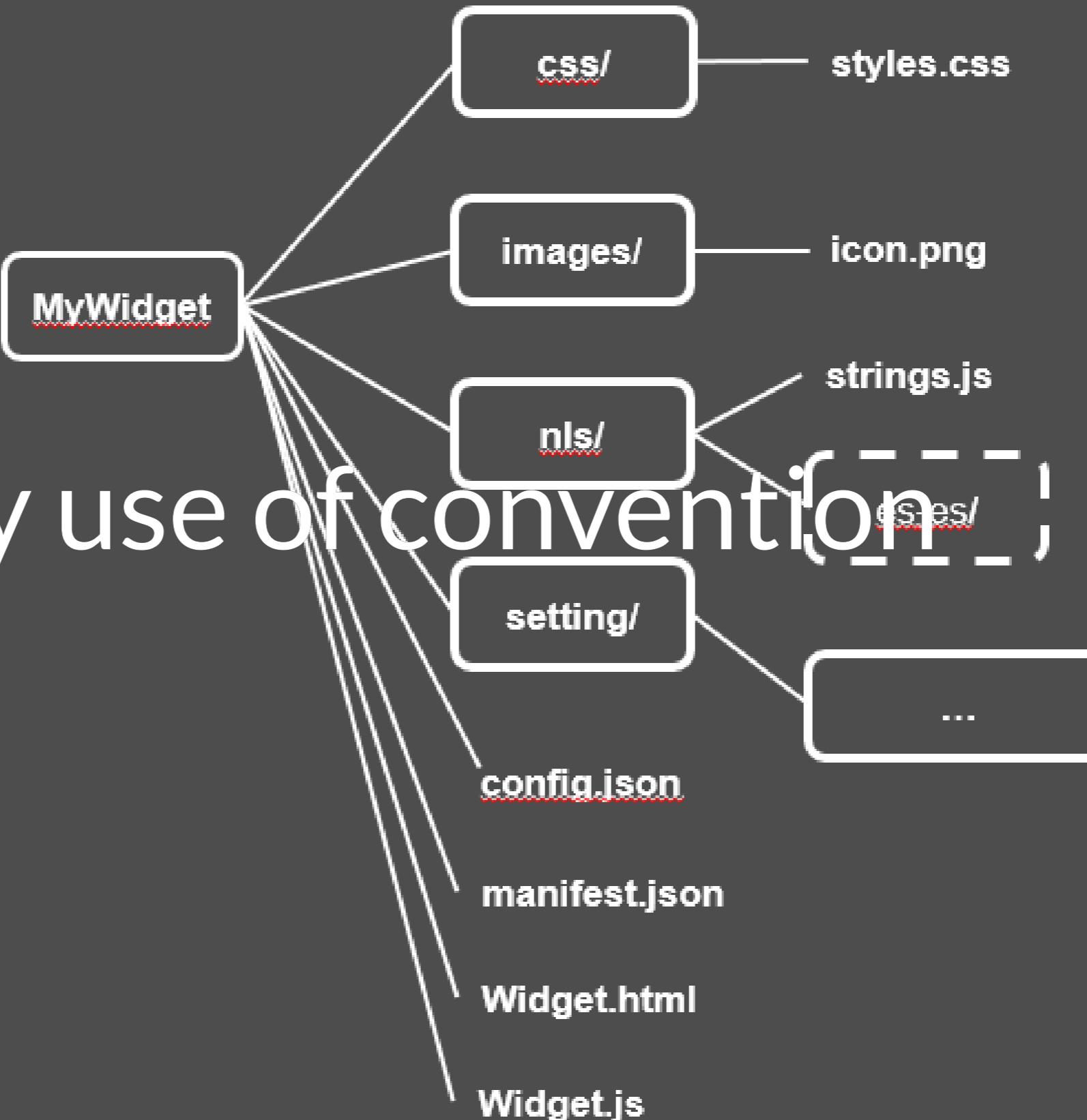
A photograph showing the dark silhouettes of several construction workers against a bright blue sky. They are working on a large-scale steel framework, likely for a bridge or industrial building. One worker is visible on the left, reaching up towards the top of the frame. Another worker is on the right, standing on a horizontal beam. A third worker is further down on the right side. The steel beams form a complex grid structure against the clear sky.

Install / configure tools to automate tasks

Web AppBuilder is a Framework



Heavy use of convention



```
λ yo esri-appbuilder-js
```



Welcome to the ArcGIS
Web AppBuilder
generator!

yo esri-appbuilder-js

```
These generators should be run in the root folder of your project.  
? Type of widget(s) to be generated: 2D  
? Web AppBuilder install root: C:\Users\gavi6895\Documents\Projects  
? Web AppBuilder application: 6  
? Would you like to use SASS for CSS preprocessing? Yes  
  create .editorconfig  
  create .babelrc
```

Installs tools to transpile and copy to WAB folder

yo esri-appbuilder-js



```
These generators should be run in the root folder of your project.  
Type of widget(s) to be generated: 2D  
deb AppBuilder install root: C:\Users\gavi6895\Documents\Projects\  
deb AppBuilder application: 6  
Would you like to use SASS for CSS preprocessing? Yes  
create .editorconfig  
create .babelrc
```

Subgenerator to scaffold out widget files

In 2018

- Bug Fixes
- TypeScript improvements

Demo

Build for Production

<https://github.com/gbochenek/esri-wab-build>

Demo





Best Practices

Become a WAB All Star

Source Control

Save your code



Only save your code



Test Your Code



...but its hard, and I don't have time



...but its hard, and I don't have time

- Write tests before features

...but its hard, and I don't have time

- Write tests before features
- Estimate test writing as part of your design process

...but its hard, and I don't have time

- Write tests before features
- Estimate test writing as part of your design process
- Start small

...but its hard, and I don't have time

- Write tests before features
- Estimate test writing as part of your design process
- Start small
- Only test your code

Wrapping Your Widgets

- More Portability
- Better Tests
- Easier Tests
- More Sanity

Demo

<https://github.com/gbochenek/wab-test-example>

Related Talks

Friday

- ArcGIS API for JavaScript: Tips and Tricks for Developing and Debugging Apps
 - Primrose B, 10am
- Web Editing with the ArcGIS API for JavaScript
 - Primrose A, 1pm

Recording

- Web AppBuilder for ArcGIS: A Deep Dive into Enterprise Deployment

Resources

- Widget Generator: <https://github.com/Esri/generator-esri-appbuilder-js>
- Build Tool: <https://github.com/gbochenek/esri-wab-build>
- Unit Testing Example: <https://github.com/gbochenek/wab-test-example>

Resources

- Finding Great Widgets
 - Geonet: Web AppBuilder Custom Widgets Group
 - WAB Widget Search
 - ArcGIS CodeSharing
- Documentation, Download, and Support:
 - developers.arcgis.com/web-appbuilder
 - developers.arcgis.com/javascript

Thank You! Any Questions?

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gbochenek@esri.com - @bosshenek  

These slides, sample code, and links are at:
esriurl.com/wabtools2019

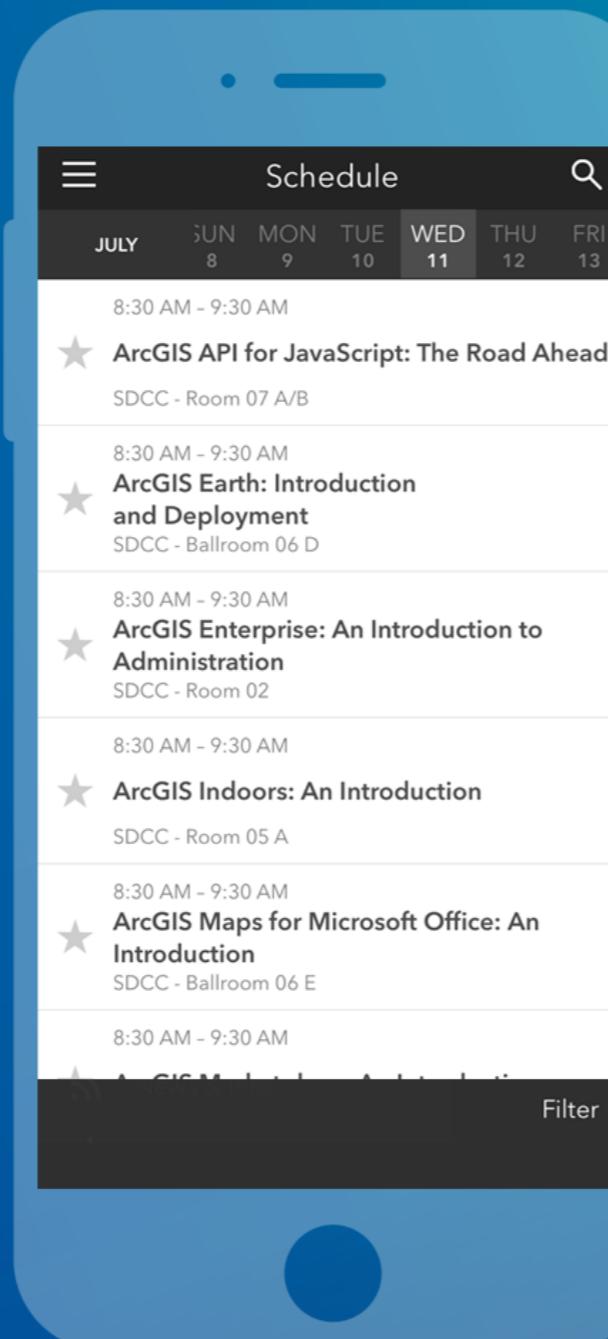
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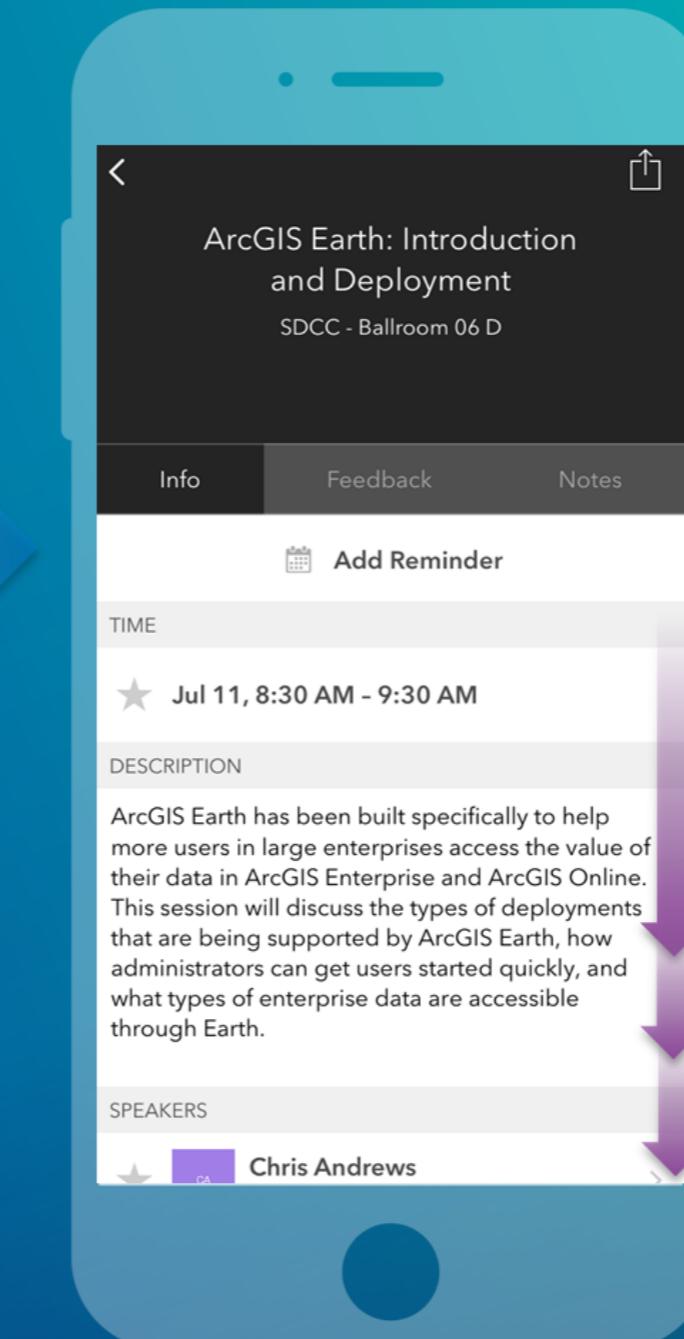
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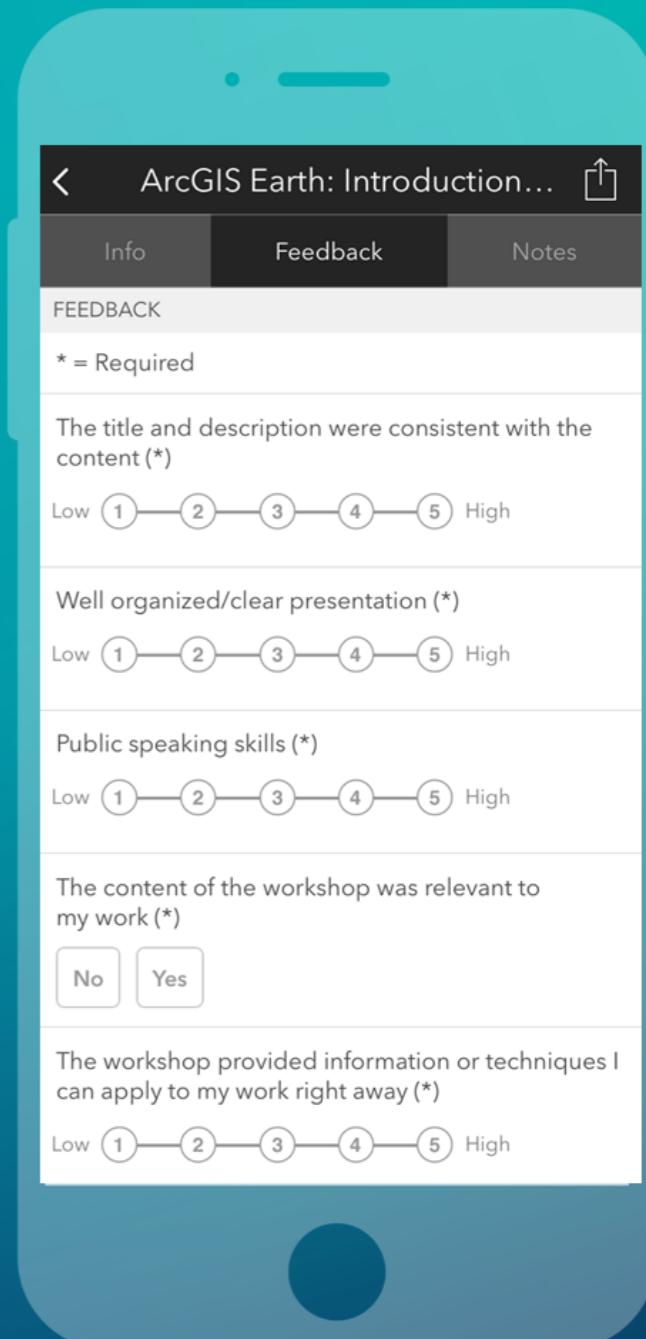
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