



*ESRI DEVELOPER SUMMIT 2023*

# Widget Communication

# What is a widget?

<https://www.merriam-webster.com/dictionary/widget>

## widget noun

wid·get 'wi-jət

[Synonyms of widget >](#)

1 : **GADGET**

2 : an unnamed article considered for purposes of hypothetical example

3 : a small software application that is designed to provide a specific piece of information (such as news, weather, or traffic updates) or a specific function (such as taking notes or controlling another application) on demand

This resource allows anglers to see what advisories are in effect in specific waterways ... . The web page is optimized for mobile devices, with a *widget* that allows users to zoom to their exact location on the map with the press of a button.

— Chris Knauss

A *widget* might show you the weather forecast, or the latest baseball scores. There are *widgets* that show photographs you've stored online, or that cull images from the Daily Puppy Web site.

— Rob Walker

# Types of Widgets

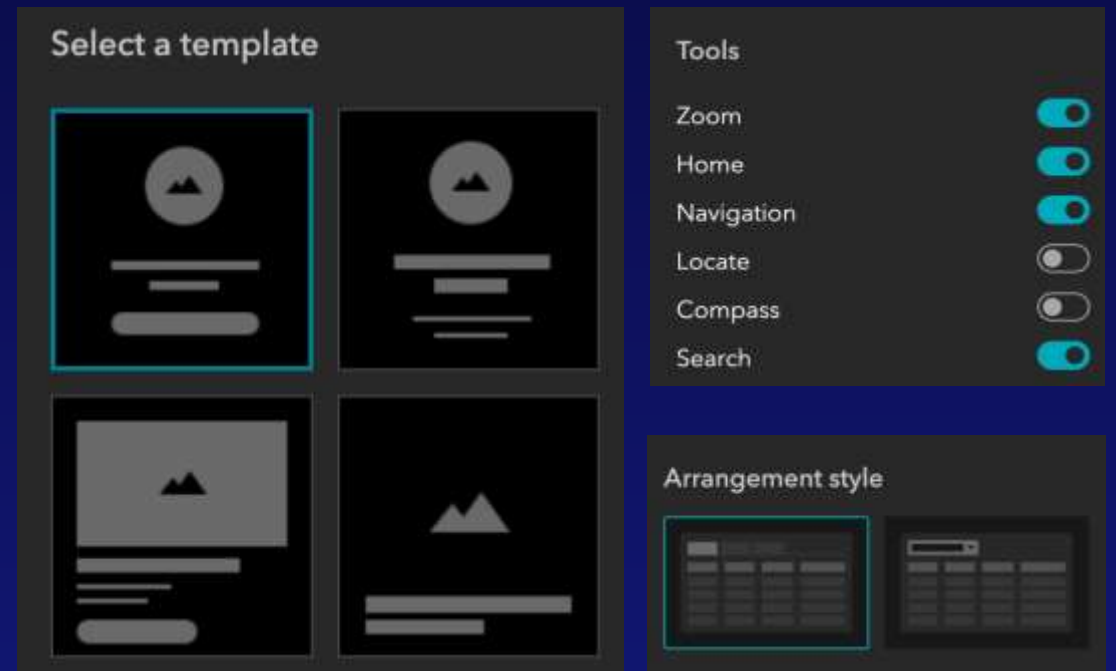
- Map centric
- Data centric
- Page elements
- Menu and toolbars
- Layout
- Section
- Custom (More on this tomorrow)





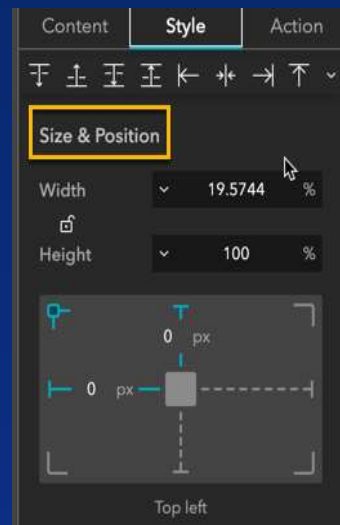
# Widget Content

- Select data
- Options
  - Tools, Modes, Templates

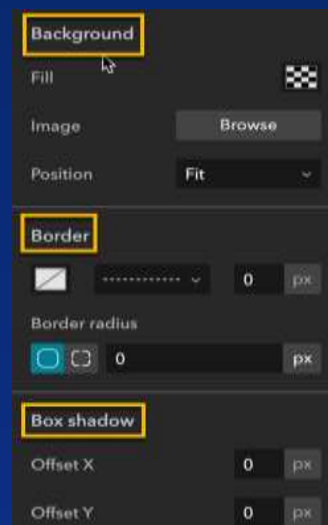


# Widget Style

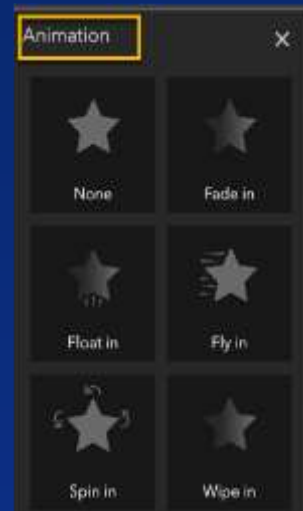
## Size & Position



## Background, Border & Box shadow

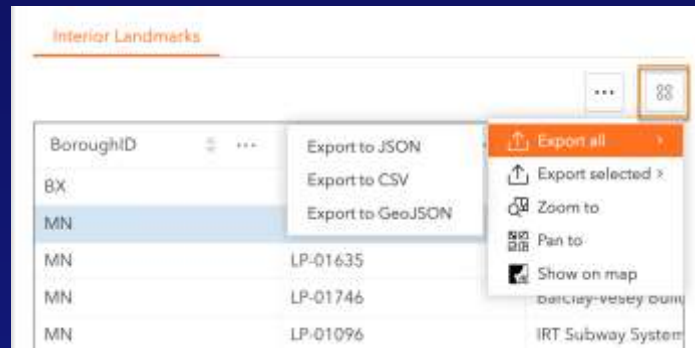


## Animation

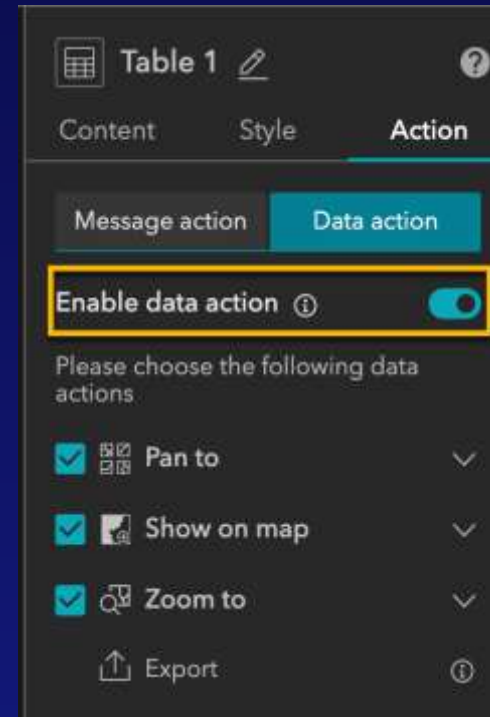


# Widget Actions

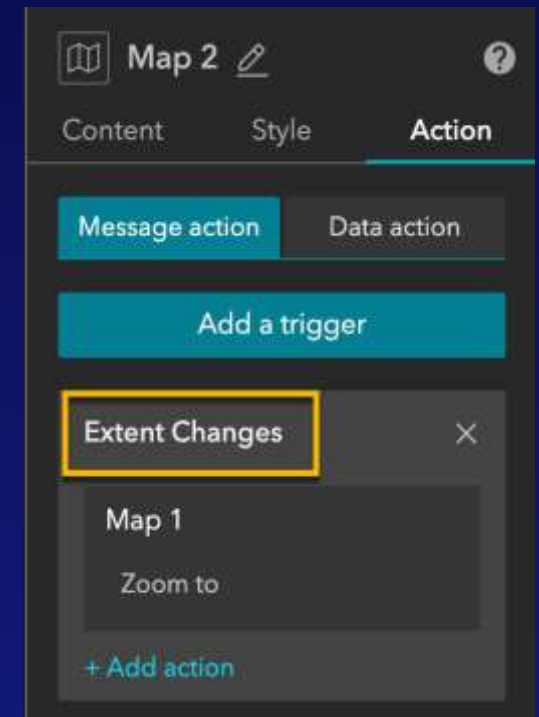
- How widgets communicate with one another
- Data action allows interaction from end users
- Message action applies automatically at runtime



## Data action



## Message action



# Message Actions

- A trigger broadcasts a message
- Targets listen to the message
- Actions by targets

Trigger	Target	Action
Extent Changes from Map 1	Map 2	<b>Zoom to</b> the same extent as Map 1
	Framework (data)	<b>Filter Data Records</b> For example, List 1 displays only features within the current map extent

# Demo

```
current_layer = QgsMapLayerRegistry.instance().mapLayersByName('DEM')[0]
view.setMapLayer(current_layer)
# If there were problems with the layer, we could use
# QgsMapLayerRegistry.instance().mapLayersByName('DEM')[0]
# to get the layer.
```

QGIS is a free and open source GIS software package that runs on a wide variety of platforms including Windows, Linux, and macOS. It is a powerful tool for creating, editing, and analyzing spatial data. For more information, visit the QGIS website at [www.qgis.org](http://www.qgis.org).



# Activity

45 minutes

- Create a new experience
- Add a data source or data sources to your experience
  - Web map we used in the demo, search online for “**DS2023 - Regional Offices**” or <https://arcgis-devlabs.maps.arcgis.com/home/item.html?id=fecde6493224443ba8b2c77b633dd482>
- Add map widget and connect it to your data source
- Add a couple map centric widgets to your app and wire them to the map
  - Legend, Map layers, coordinates, etc...
- Add a few Data centric widgets and wire them up with message and data actions
- \*\* Challenge
  - Have your widgets communicate over multiple pages



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