



2022 ESRI USER CONFERENCE

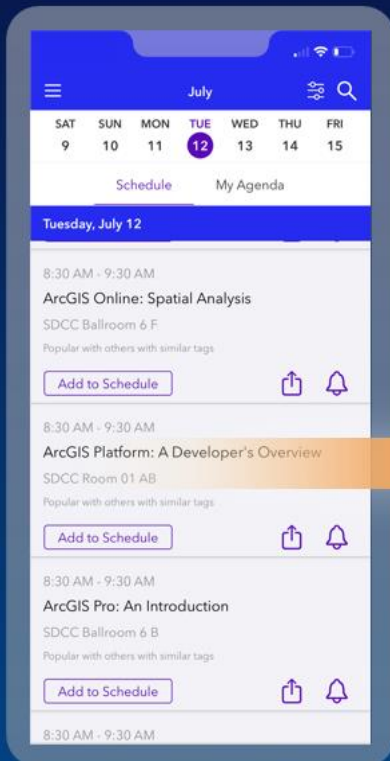
ArcGIS API for JavaScript: Web Editing

Heather Gonzago, Jose Banuelos, and Larry Young

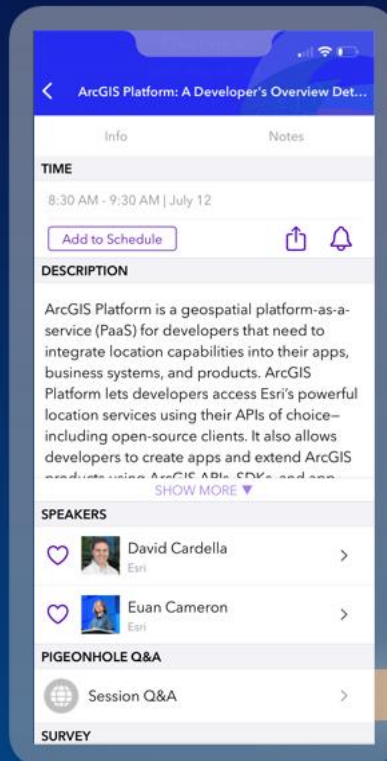
In-Person Digital Q&A Tool

for Technical Workshop, Demo Theater and User Presentation Sessions

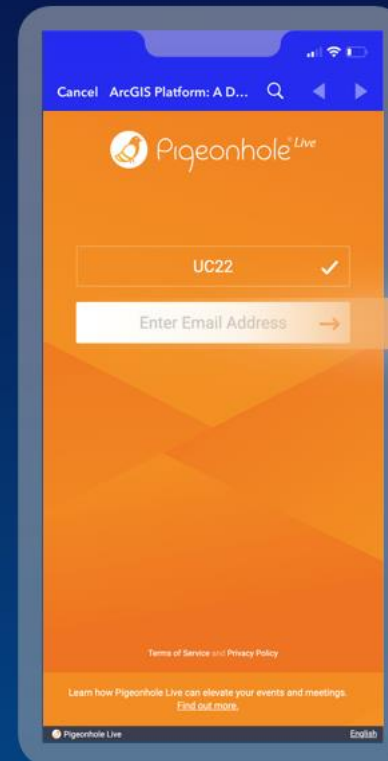
Select your session



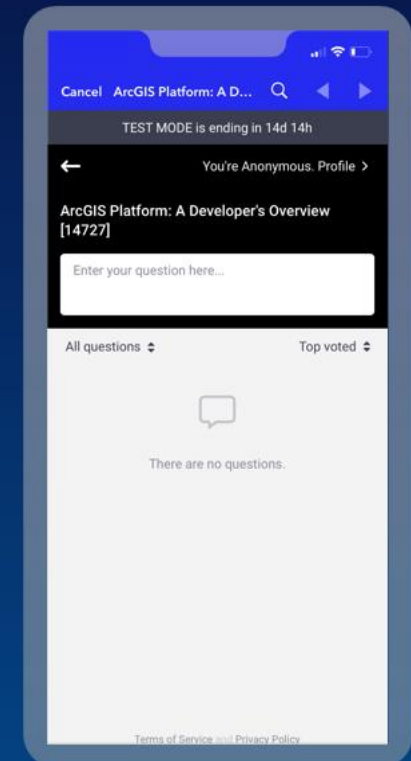
Click on the Pigeonhole Session Q&A link



Enter the email address used when registering



Start asking questions!



The background features a dark blue base with several overlapping, wavy, semi-transparent bands. A prominent band in the upper half transitions from orange to yellow and is filled with a pattern of small, light-yellow squares. Below this, there are darker bands with abstract patterns, including a purple band with light-purple circles and a blue band with a white street map grid. The overall composition is dynamic and layered.

Slides available at
<https://links.esri.com/UC22-web-editing>

Session Agenda

- What are you looking for when editing?
- What's currently out there?
- Goals for Web Editing with JavaScript API
- Workflows and Examples

What are you looking for when editing?

- Historically the approach has been targeted apps
 - Addressing specific workflows
 - Simplicity – bottom line is make it easy for end user
 - Organizations struggling to maintain trained staff, so simple becoming even more important
- Getting some requests that are more generic (i.e., just give us everything)
 - Complete ArcGIS Online based solution for managing parcels, utilities, addresses, etc.
 - Organizations looking for easier deployment options. Don't want to have to update software on every machine
- Organizations also looking to go all in on cloud
 - Everything in ArcGIS Online
 - All view, query, editing and analysis through web (and sometimes mobile) applications

What are you looking for when editing?

- Users are looking for:
 - Usability for non-GIS people
 - Add features with minimal clicks
 - Add multiple features with a single sketch
 - Snapping
 - Configured on back end with fewer options for end user
 - Auto-closure of polygons (don't let me create slivers/gaps)
 - Create polygon for whole area and then chop up instead of adding the pieces one by one and hope you don't get gaps
 - Edit related records
 - Copy/paste for simplicity of creating new features
 - Split and Merge tools with attribute update
 - Attribute rule/Field expression capabilities

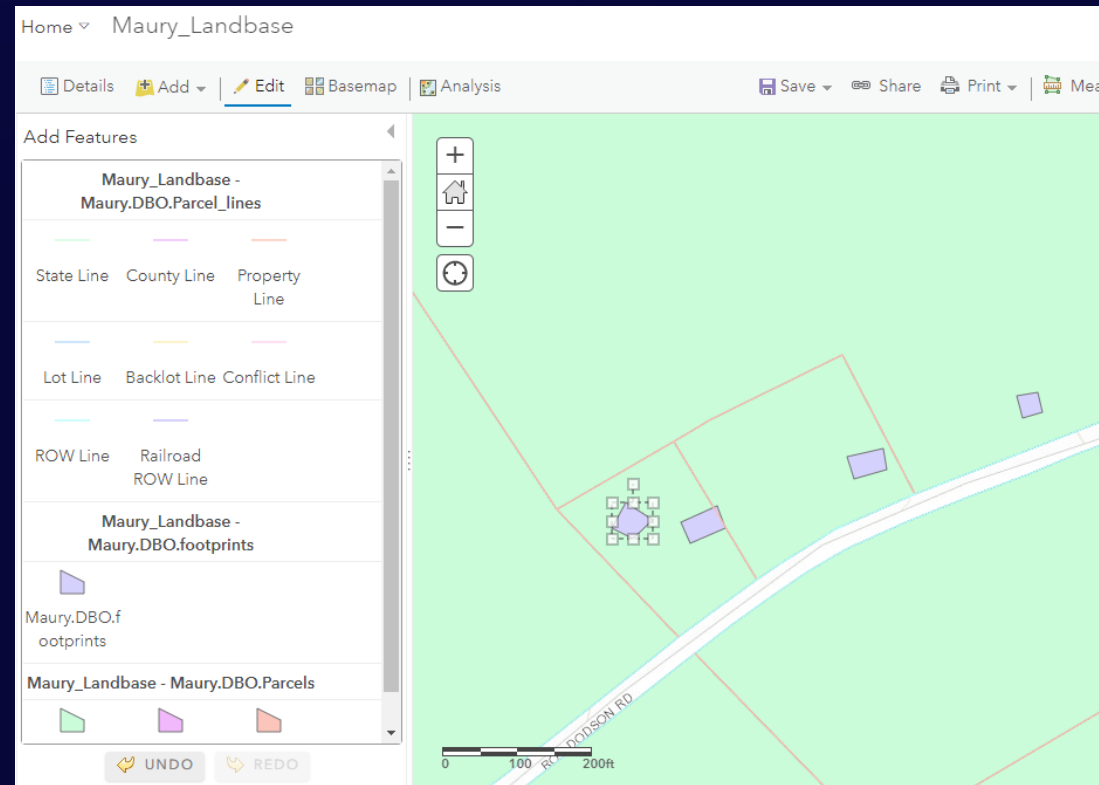
What are you looking for when editing?

- What do you want?
 - Targeted apps or everything?
 - Applications or widgets?
 - Configuration at back end or by end user?
 - Task frameworks or sets of tools/widgets?

What's currently out there?

- Classic Map Viewer Editor

- Add features
- Edit attributes
- Add/update attachments



What's currently out there?

- Editor Widgets for Web App Builder
 - Edit widget
 - Specify editable layers
 - Add features via templates
 - Snapping
 - Smart Editor widget
 - Configure editable fields
 - Automatically calculate fields
 - Global attribute values (set once and apply to all new features)

The screenshot displays two overlapping windows from the Web App Builder interface. The background window is the 'Smart Editor' for a feature template, showing preset values for 'Lifecycle Status' (In Service), 'Install Date' (Current), 'Material' (Ductile Iron - DIP), and 'Diameter' (6"). The foreground window is a 'Select features to copy' dialog. It contains a red warning message: 'Creating multiple features using this functionality will save all the new features immediately. Field matching is not supported when creating a new multi-part feature.' Below the message, there are three checked items: 'Lateral (2/2)' with sub-items 'Residential' and 'Residential', and 'Collector Main (1/1)'. At the bottom, there are four buttons: 'Create Features', 'Create 1 Multi-...', 'Apply Field Matching' (which is highlighted with a green border), and 'Cancel'.

☒ Use preset values (new features only)

Lifecycle Status
In Service

Install Date
Current

Material
Ductile Iron - DIP

Diameter
6"

Select features to copy
Creating multiple features using this functionality will save all the new features immediately. Field matching is not supported when creating a new multi-part feature.

☒ Lateral (2/2)

- ☒ Residential
- ☒ Residential

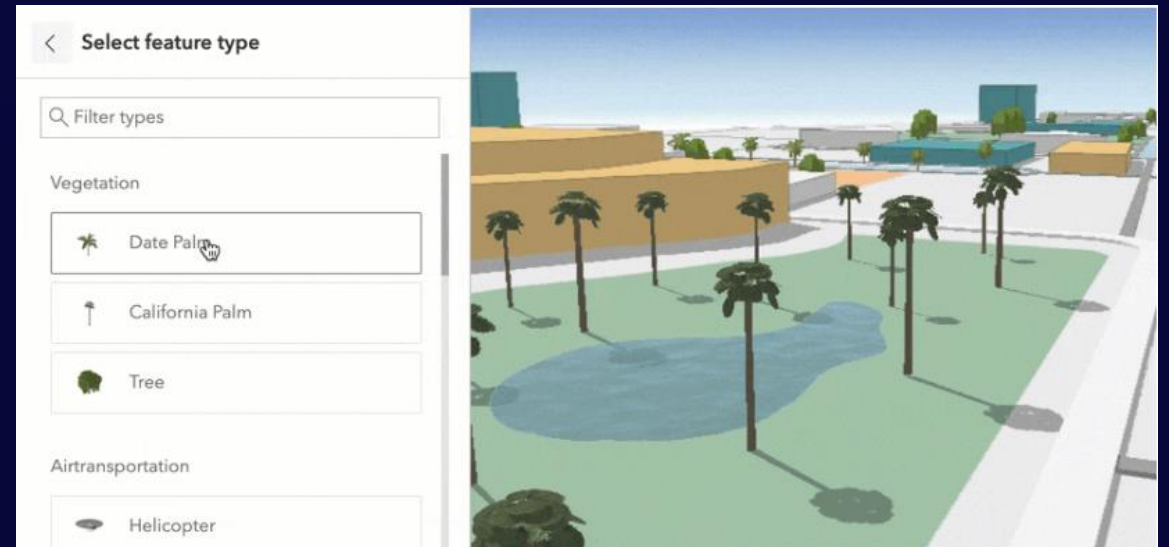
☒ Collector Main (1/1)

Create Features Create 1 Multi-... **Apply Field Matching** Cancel

What's currently out there?

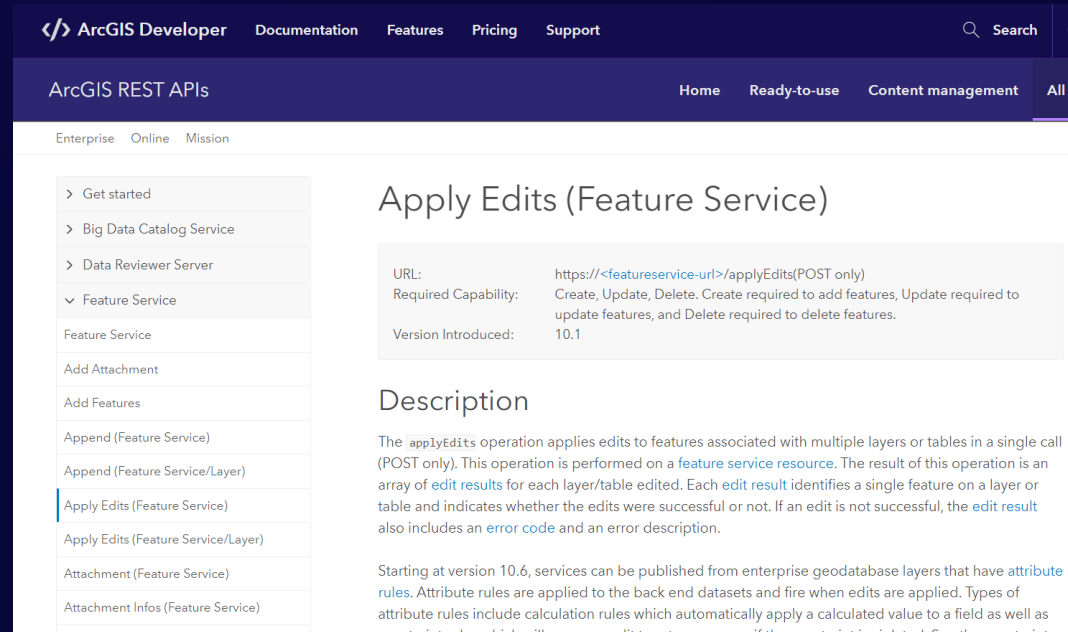
- SceneViewer Editor

- Work with 2D and 3D features
- Move, scale, and rotate geometries, as well as edit vertices
- Configurable attribute editing (choose fields to edit, arrange in groups, etc.)



What's currently out there?

- REST API



The screenshot shows the ArcGIS Developer REST API documentation page for the 'Apply Edits (Feature Service)' endpoint. The page has a dark blue header with navigation links: ArcGIS Developer, Documentation, Features, Pricing, and Support. A search bar is located on the right. Below the header, there's a sub-header 'ArcGIS REST APIs' with tabs for Home, Ready-to-use, Content management, and All services. The main content area is divided into a left sidebar and a main panel. The sidebar lists various API endpoints, with 'Apply Edits (Feature Service)' highlighted. The main panel displays the title 'Apply Edits (Feature Service)' and a table with the following information:

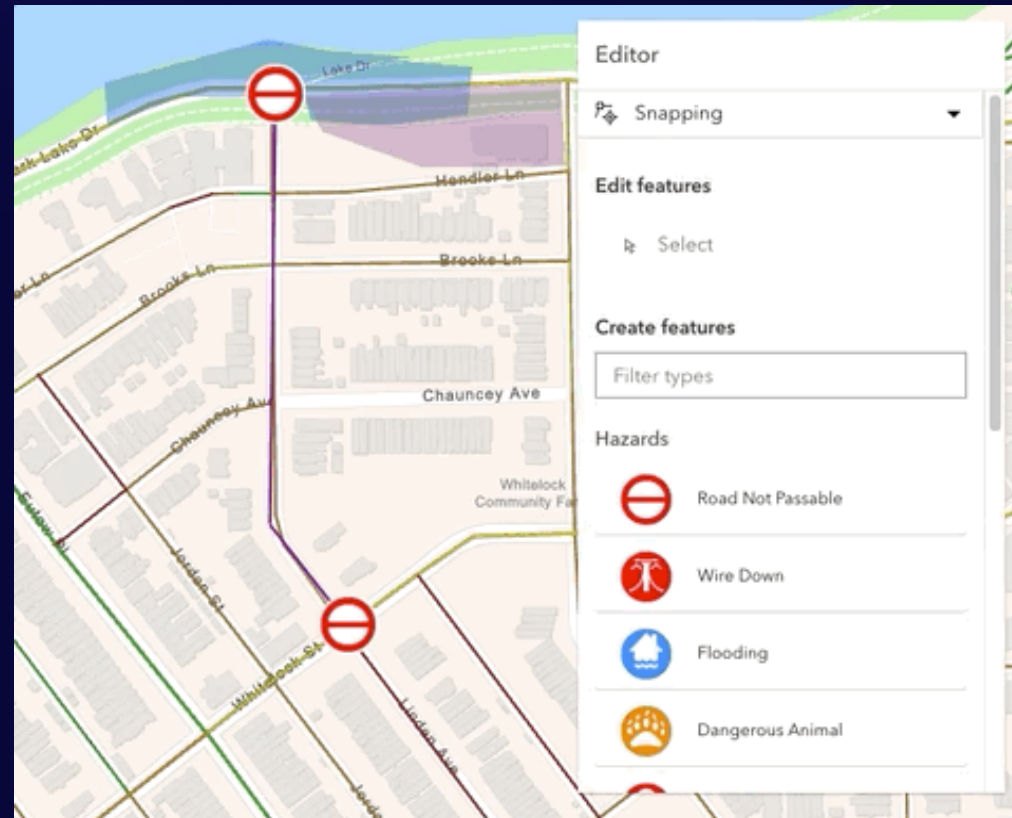
URL:	<code>https://<featureservice-url>/applyEdits</code> (POST only)
Required Capability:	Create, Update, Delete. Create required to add features, Update required to update features, and Delete required to delete features.
Version Introduced:	10.1

Below the table, there's a 'Description' section. It explains that the `applyEdits` operation applies edits to features associated with multiple layers or tables in a single call (POST only). The result is an array of `edit results` for each layer/table edited. Each `edit result` identifies a single feature on a layer or table and indicates whether the edits were successful or not. If an edit is not successful, the `edit result` also includes an `error code` and an error description.

Starting at version 10.6, services can be published from enterprise geodatabase layers that have `attribute rules`. Attribute rules are applied to the back end datasets and fire when edits are applied. Types of attribute rules include calculation rules which automatically apply a calculated value to a field as well as constraint rules which will cause an edit to return an error if the constraint is violated. See the constraint

What's currently out there?

- REST API
- ArcGIS JavaScript API
 - `FeatureLayer.applyEdits()`
 - Editor widget!



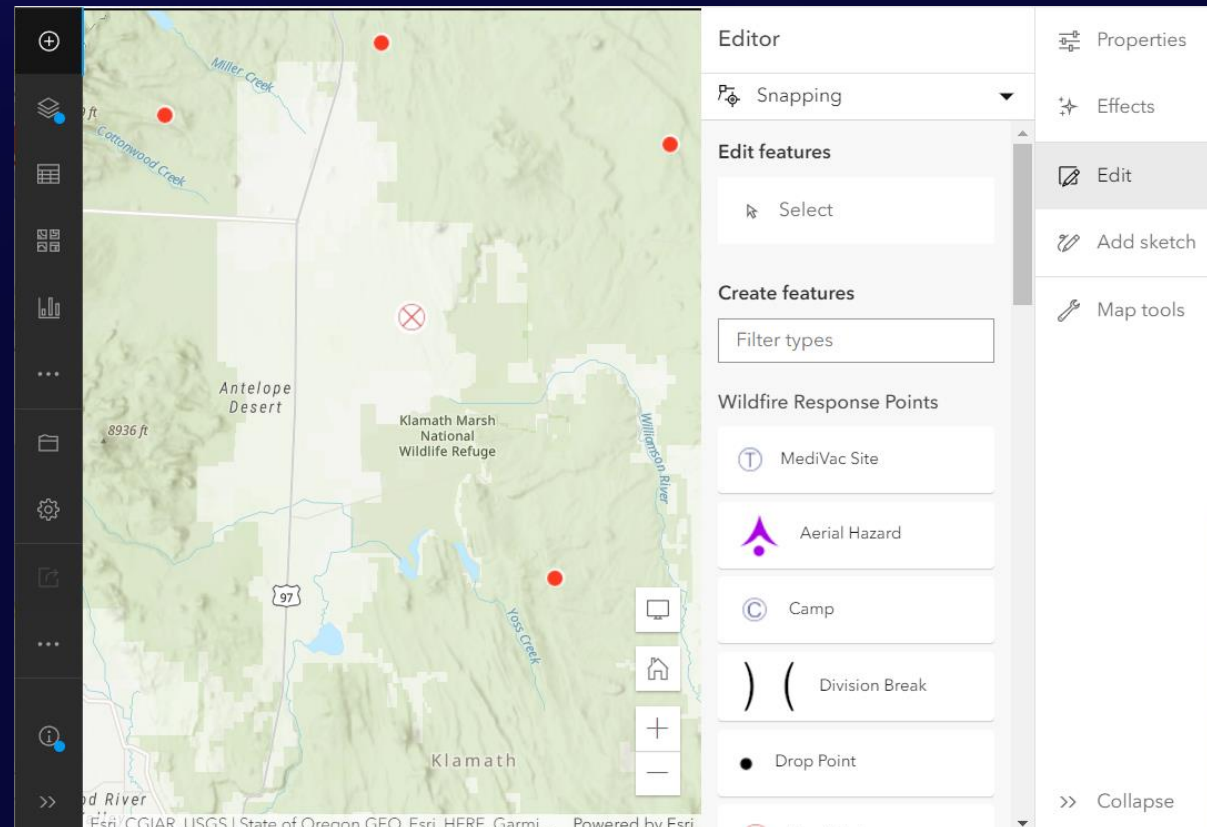
What's currently out there?

- REST API
- ArcGIS JavaScript API
 - `FeatureLayer.applyEdits()`
 - Editor widget!
- Experience Builder



What's currently out there?

- REST API
- ArcGIS JavaScript API
 - `FeatureLayer.applyEdits()`
 - Editor widget!
- Experience Builder
- Map Viewer




What's currently out there?

- Solutions

- Utility Management solutions (Stormwater, Water, and Electric Distribution)
- Parcel Management solution
- Park Asset Management

- Partner/Distributor Apps

- ArcGIS Marketplace
 - Search for “editing” or “web editing”



Parcel Drafter

This solution can be used to enter metes and bounds descriptions, verify deeds and documents, and confirm survey information prior to submission.

[Learn more →](#)

Goals for Web Editing and JavaScript API

Configurable Editing Capabilities

- There is a need for a configurable editing experience
 - Apps (Viewer, more?), widgets (Experience Builder and API), and API capabilities where users can configure focused editing experiences
 - Supports a configurable task-based workflow
- Framework to support advanced editing workflows for utility networks, parcel fabrics, geodatabase topologies, etc.

Goals for Web Editing and JavaScript API

2nd half of 2022

- Rule based snapping
- Version Management experience
- Undo/Redo
- Async support for form fields using Arcade expressions , ie. \$featureSet support
- Tooltip feedback integration
- Better support for server-side Attribute Rules
 - Updating other layers based on an edit from the client

Goals for Web Editing and JavaScript API

Long Term

- Support for curves
 - Display and editing
- Display Filters on SubtypeGroupLayers
- Batch attribute editing
- Group and Preset feature templates
 - Create multiple features at one time
- Dimensions & Annotations
- Editing related records
- Support for auto save while editing
- Planar Topology and shared edge editing
 - Rubberband style editing where moving one features moves other features

Goals for Web Editing and JavaScript API

Long Term

- Integrated Utility Network Editing
 - Associations
 - Creating associations
 - Structural attachments
 - Connectivity associations
 - Containment associations
 - Tools for building Utility network topology (validation) and tracing
 - Tools for validating subnetworks
- Editing of Parcel Fabric

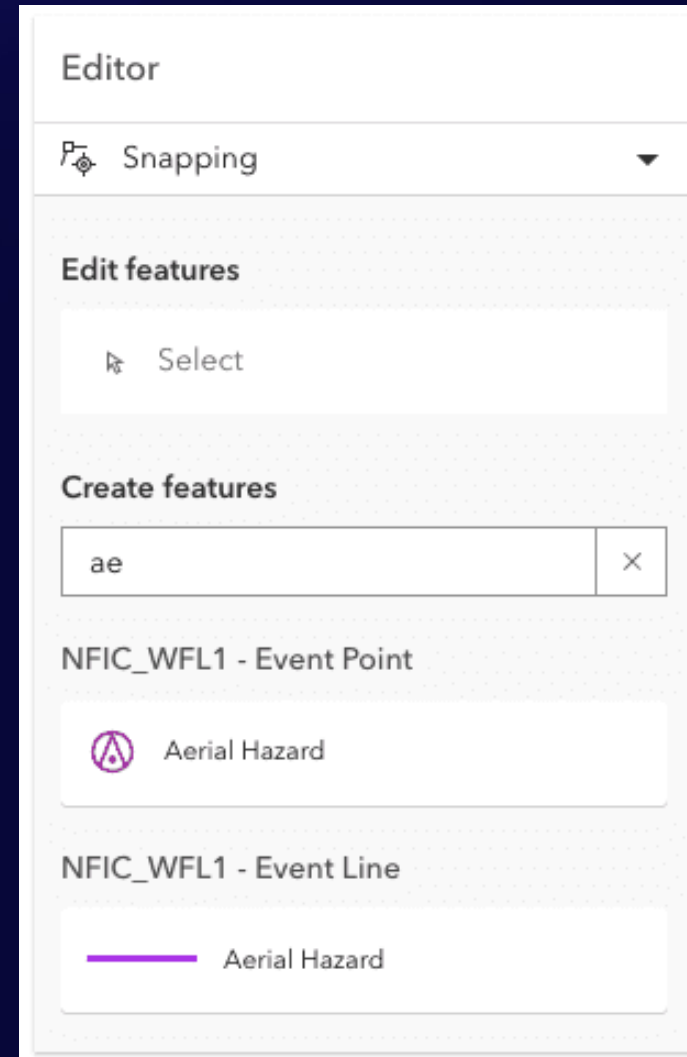
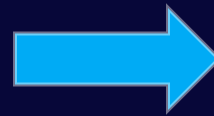
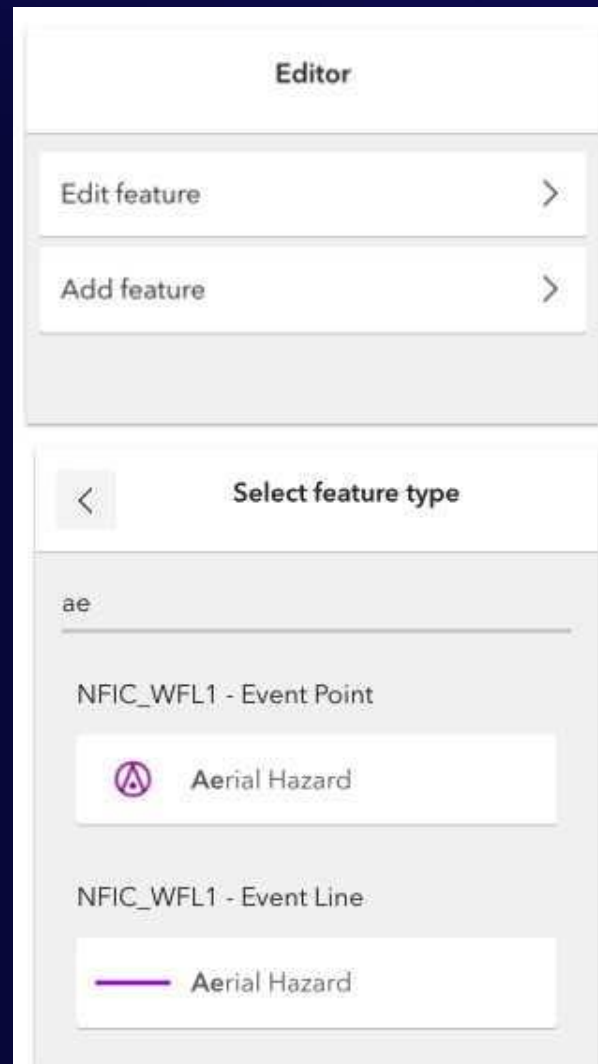
JavaScript API Workflows and Examples



Where to begin?

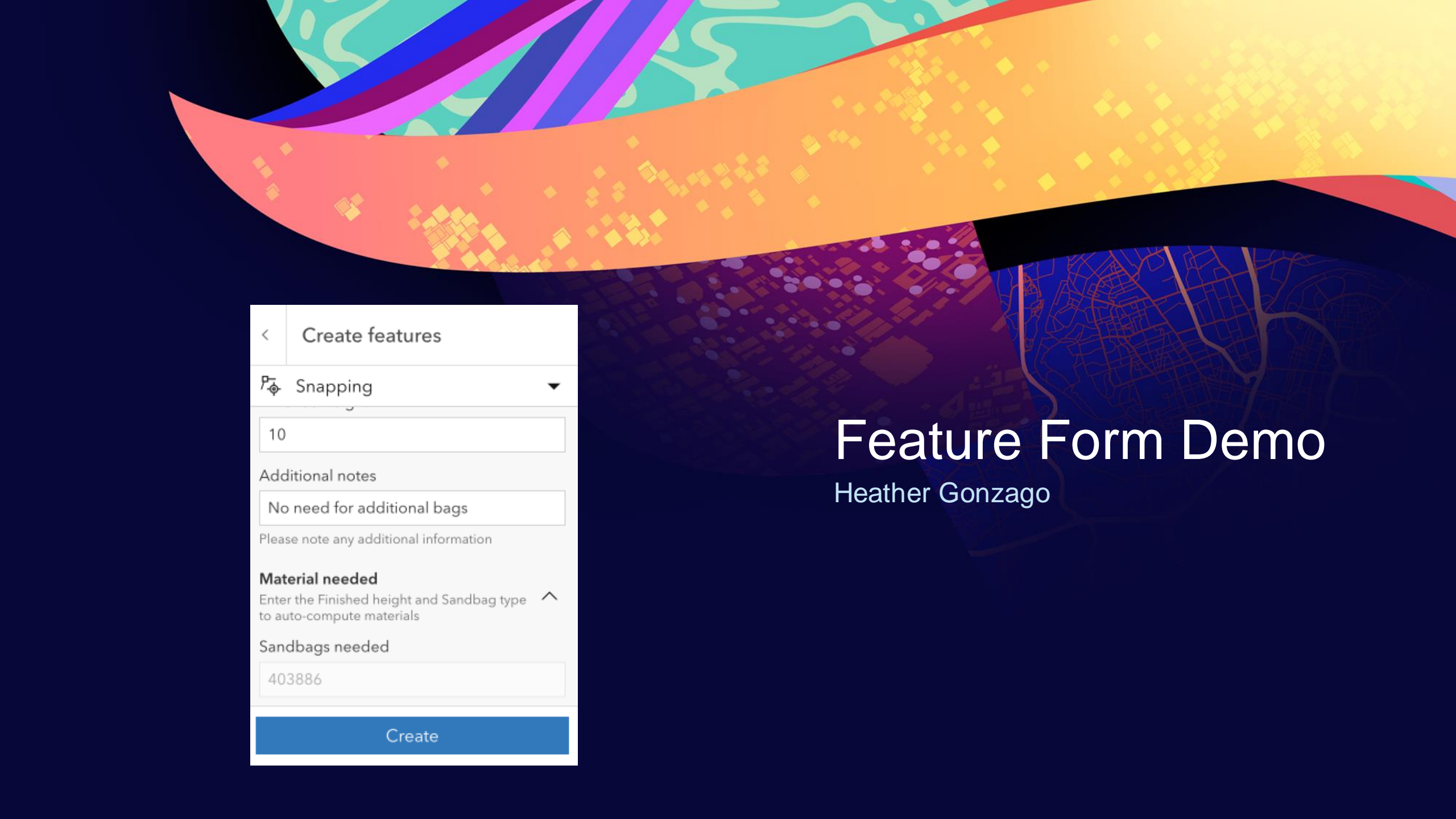
- New to the API or just need a refresher?
- SDK documentation
 - Release notes
 - API reference
 - Samples

Updated Editor UI with additional capabilities



Feature Form

- Displays attributes of a feature
- Configure input fields for attribute editing
- Format via the FormTemplate
- Support for calculated Arcade expressions
 - Field visibility displays attributes of a feature.
 - Required expressions
 - Field value expressions
- Configure form in webmap and read automatically
- Configure form in saved layer and read automatically



< Create features

Snapping

10

Additional notes

No need for additional bags

Please note any additional information

Material needed

Enter the Finished height and Sandbag type to auto-compute materials

Sandbags needed

403886

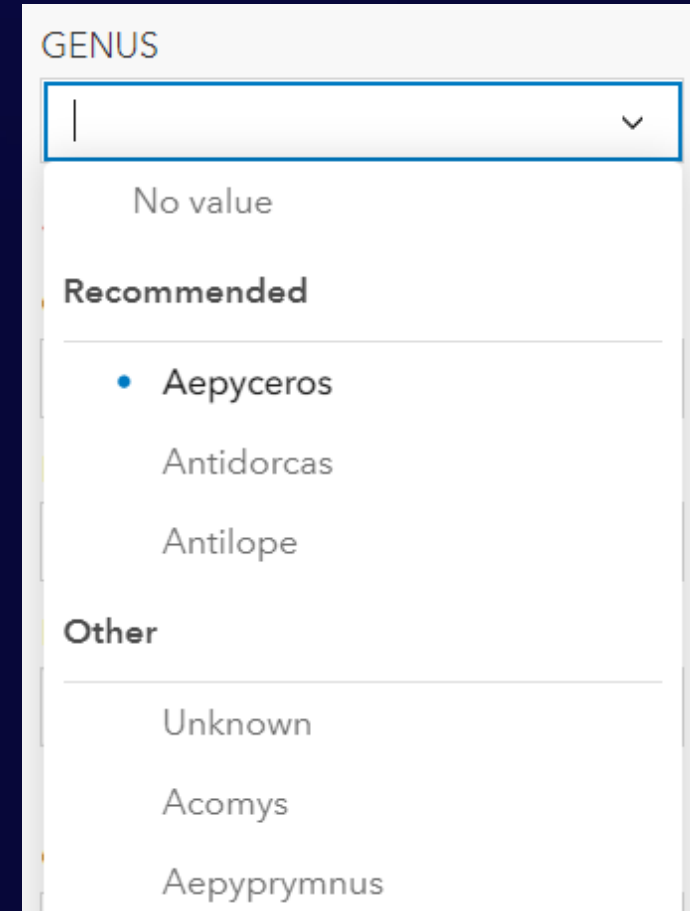
Create

Feature Form Demo

Heather Gonzago

Contingent Values

- A field value becomes dependent on the values in one or more other fields.
- Restrict the list of valid inputs
- Helps preserve data integrity



The image shows a screenshot of a web form with a dropdown menu labeled 'GENUS'. The dropdown is open, displaying a list of options. The first option is 'No value'. Below it is a section header 'Recommended' followed by three options: 'Aepyceros' (which is selected with a blue dot), 'Antidorcas', and 'Antilope'. Below this is another section header 'Other' followed by three options: 'Unknown', 'Acomys', and 'Aepyprymnus'.

GENUS

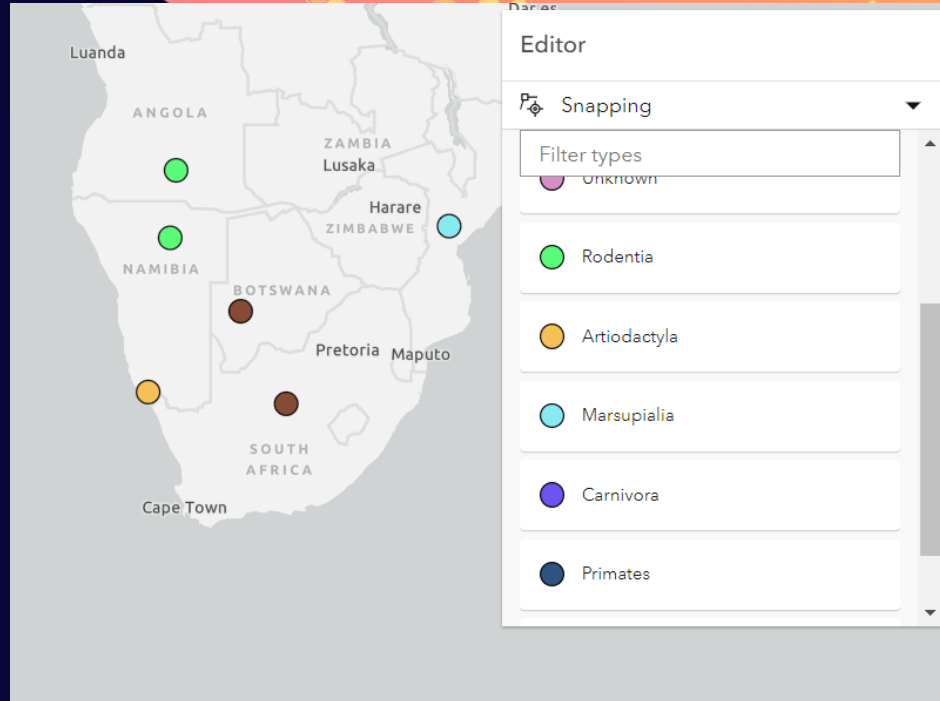
No value

Recommended

- Aepyceros
- Antidorcas
- Antilope

Other

- Unknown
- Acomys
- Aepyprymnus

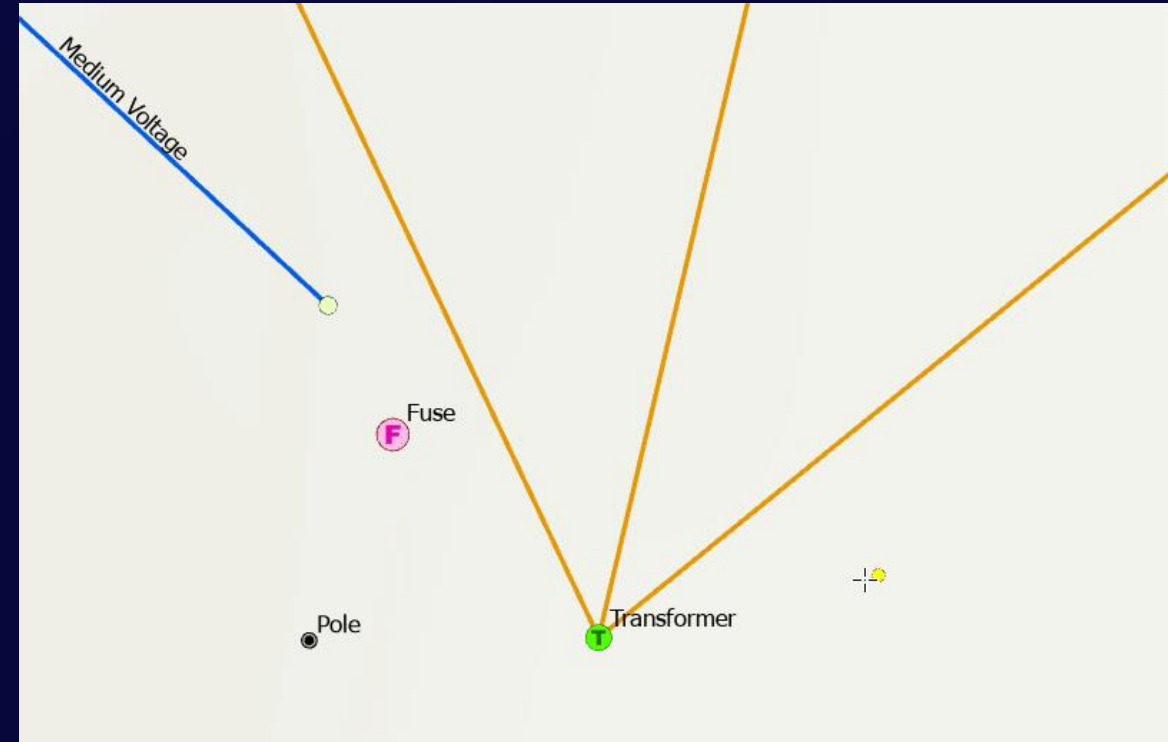


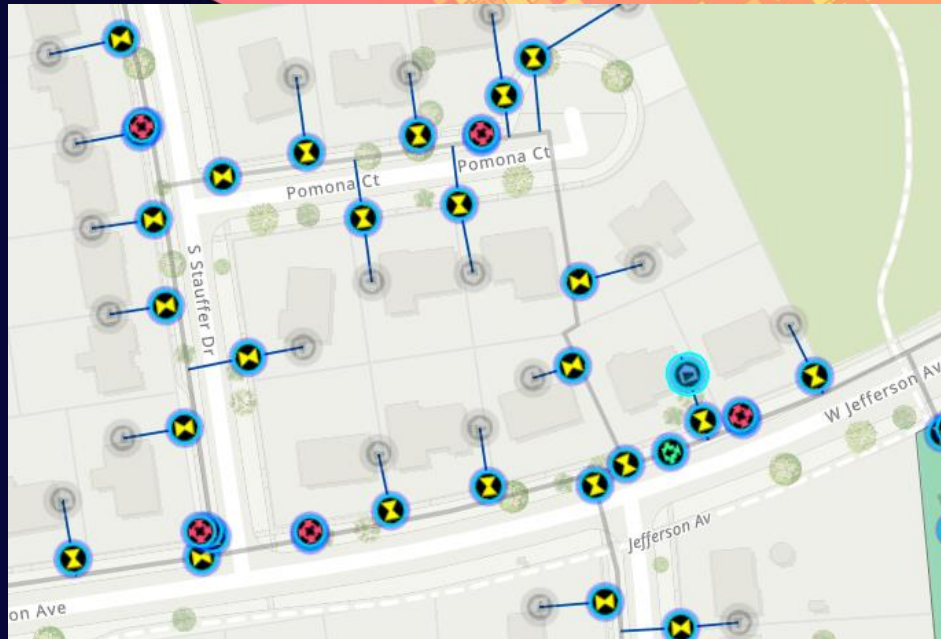
Contingent Values Demo

Jose Banuelos

Network Snapping Rules

- Connectivity rules define which features can be geometrically coincident or associated.
- There are three types of connectivity rules:
 - Junction-junction
 - Junction-edge
 - Edge-junction-edge





Network Snapping Rules with Editor Demo

Jose Banuelos

Q & A

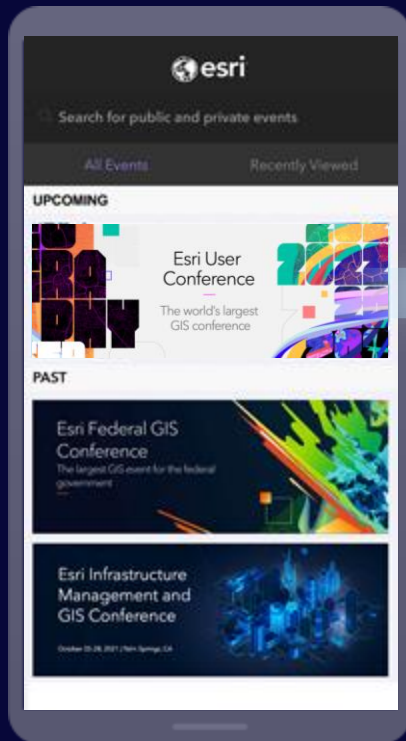


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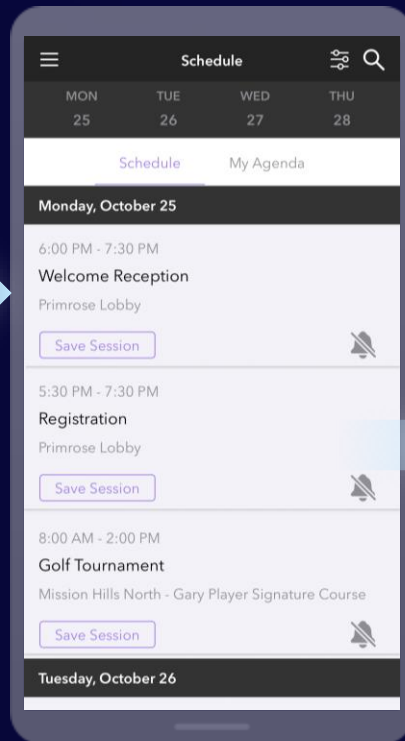
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Please Share Your Feedback in the App

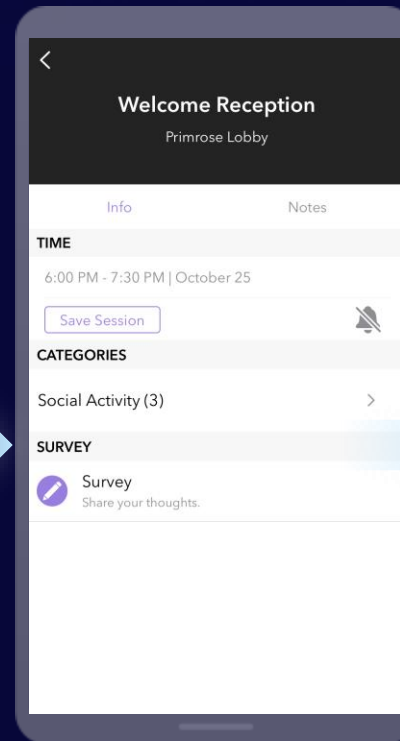
Download the Esri Events app and find your event



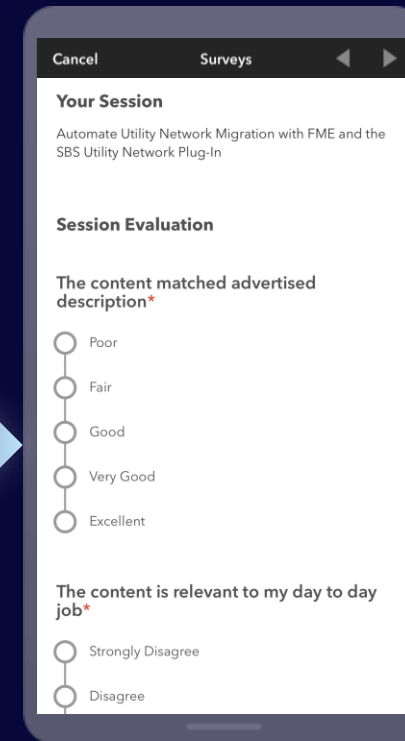
Select the session you attended



Scroll down to "Survey"



Log in to access the survey





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