Gaining Insights Using the GeoEvent Processor Server

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#spatiotemporal
The Paradigm

• Dynamic point assets intersecting a geofence
• Dynamic point assets intersecting a dynamic geofence
• Static assets being intersected with dynamic “geofences”
GeoFences

GeoFence

/ge-ə-fens/ (noun)

1. a virtual geographic boundary, defined by GPS or RFID technology, that enables software to trigger a response when a mobile device enters or leaves a particular area.
   "they could put up a geofence around the building, meaning your phone disables itself when you enter it"

verb

1. create a virtual geographic boundary around (an area) by means of GPS or RFID technology, enabling software to trigger a response when a mobile device enters or leaves the area.
   "the company has now geofenced the locations of 180,000 US schools"
Use Case

- SPC risk for static locations
  - Common use case
  - Allows for freedom to customize alert
Input Connector
SPC Risk for Individual Locations
Creating GeoEvent Service
GeoTagging the Input
GeoTagger

Processor Properties

Name: GeoTagger
Processor: GeoTagger
GeoFence(s): Home/.*
Spatial Operator: Contains Any
Geometry Field Name: GEOMETRY
GeoTag Field Name: GeoFence
GeoTag Format: Delimited Value
Include GeoFence Category in GeoTag: Yes
New GeoEvent Definition Name: SPC-GeoTagger

Ok  Cancel
Filtering GeoTagged Polygons
Filtering GeoTagged Polygons
Filtering by Attribute of Input
Filtering by Attribute of Input

Filter Properties

Name: MDT Severe Wx Risk

Definition: SPC SWODY1 'GeoEx'
Field: cat
Operator: =
Value: MDT
Filtering by Attribute of Input
Field Calculator – Replace Text
Field Calculator – Replace Text

Processor Properties

- **Name:** Replace MDT
- **Processor:** Field Calculator
- **Expression:** `replaceAll(cat,'MDT','Moderate risk of severe weather')`
- **Target Field:** New Field
- **New Field Name:** risk
- **New Field Type:** String
- **New Field Tag:** risk
- **New GeoEvent Definition Name:** FieldCalculator
Field Splitter
Field Splitter – split geofences
Field Enricher
Field Enricher

Processor Properties

- Name: Field Enricher
- Processor: Field Enricher (Feature Service)
- ArcGIS Server Connection: GISWEB Staging
- Folder: GeoFences
- Service: Internal_Test_Points (FeatureServer)
- Layer: Test Points (0)
- Feature Layer Join Field: objectid
- Target Fields: New Fields
- Enrichment Fields: name, email, phone
- Field Tags:
- New GeoEvent Definition Name: SPC-GeoFence_Enriched
- GeoEvent Join Field: GeoFence
- Cache Refresh Time Interval (Minutes): 1
- Maximum Cache Size: 1000

[Ok]
Output Connector
Output Connector
Summary

• Add GeoFence
• Add Service as input
  • Input can only be one layer if there are multiple in a map service
• GeoTagger – Adds a field to the polygon for the geofences (point assets) that were contained within the input polygon service
• Filter – only pass on polygons that intersect a GeoFence
• Filter – only pass on polygons that contain a specific attributed polygon (ie. MDT)
• Processor – Using Field Calculator, create new field and replace SPC abbreviation with our own message (readable rather than abbreviated and/or instructions)
• Processor - Field Splitter – If you have a polygon with GeoTags for multiple assets, this splits them into multiple messages for each asset in the GeoFence
  • Field Splitter is not included in default GeoEvent Server setup
• Processor – Field Enricher – Looks up information from the GeoFences and joins it to the message (name, email, phone)
• Output Connector – SMS
  • Could use other Output Connectors (eg. email)
Other similar applications

- Weather algorithm output polygons
- Custom Weather Alerts
- Radar data
- Temporarily restricted airspace
Questions?

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