

# Extending Esri Survey123 to Develop a Comprehensive GIS Solution

**Daniel Hunter**  
Senior GIS Analyst

**Esri International User Conference**  
**San Diego, California**  
**July 11, 2017**



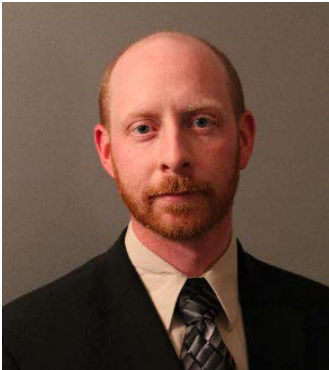
**Gannett Fleming**

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# About the Author

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- Daniel Hunter



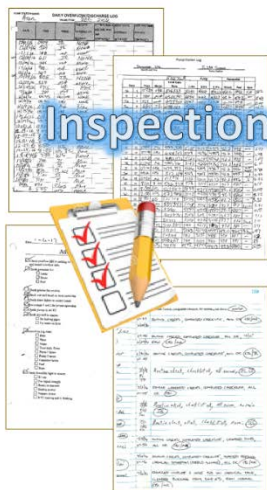
Senior GIS Analyst in Gannett Fleming's Earth Sciences Division, develops innovative desktop, mobile and web based GIS solutions for the engineering industry.



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# Outline

- Introduction
- Technology
- Collecting
- Reporting
- Improvements
- Time Savings
- Examples
- Questions



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# Introduction

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- With the abundance of field collection applications now available the question is no longer how to collect information but rather how to communicate the results. If results are not presented quickly, clearly or with considerable time savings their value is lost. Automating the process to access Esri Survey123 results from the web, running post-processing routines at regularly scheduled intervals and standardizing the report generation we demonstrate how these efficiencies can be achieved.



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# Technology

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- Hardware
  - Mobile Devices
- Software
  - Esri ArcGIS Suite
- Cloud
  - Amazon Web Services
  - ArcGIS Online
- Automation
  - Python
- Web
  - html / css / javascript



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- XLS Form
- Standardize
- Normalize
- Default Value
- Calculation
- Relevant Clause
- Pull Data
- Choice Filter
- Pick List
- Custom URL
- Submission URL

```
pulldata('CT Streets', 'FromStreet', 'StreetDescription', ${UniqueStreetID})
```

$$\text{int}(\text{\$Rutting})+\text{int}(\text{\$Corrugation})+\text{int}(\text{\$Raveling})+\text{int}(\text{\$Shoving})+\text{int}(\text{\$Potholes})$$


- Automatic
- Reproducible
- Scheduled
- Quality Control
- Notifications
- Hardcopy (pdf)
- Dynamic (web)
- Checklists (excel)
- Web Applications
- Understand Needs



# Fuel Tank Inspection

- Fuel Tank Inspection
- 3 Separate Surveys
- Web App Gallery
- Web Resources
- Collaboration
- Reports
- Checklists
- Metrics

The screenshot displays the 'MDSHA Tank Inspection Project Resources' web application. The header features the Gannett Fleming logo and the tagline 'Excellence Delivered As Promised'. The main content area is titled 'MDSHA Tank Inspection Project Resources' and includes a sub-header 'This web site includes a list of project related resources used by Gannett Fleming to perform the 2015/2017 Tank Inspections'. Below this is a search bar labeled 'Get an App' and a table with columns for 'Date', 'Title', 'Type', 'Rating', 'Avg. Rating', 'Comments', and 'Views'. The table lists several resources, including 'MDSHA Tank Inspection Photo Report', 'MDSHA Tank Inspection Summary Web Page', 'Completed Inspections', 'Project Schedule', and 'Tank Inspection Reviewer - How To Video'. Each resource entry includes a thumbnail image, a title, a description, and a 'Download' link. On the right side of the application, there is a sidebar with a group description: 'A group designed to manage all content associated with the Maryland State Highway Administration tank inspections.'

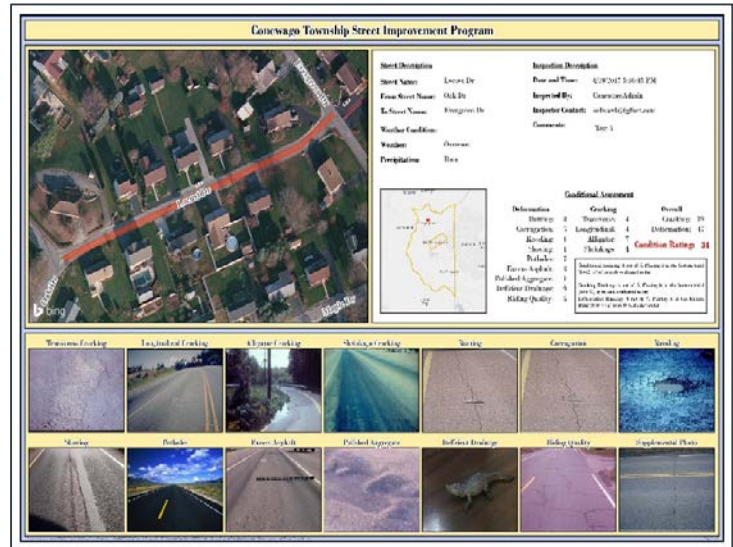


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# Street Inspection

- Street Inspection
- 500+ Streets
- Custom URL
- Pdf Reports
- Web map
- Standardized Inventory



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# Pump Station Inspection

- Pump Station Inspection
- 6 Sanitary Sewer Pump Inspections
- Previous Day Executive Summary
- Ongoing Results
- Reporting capabilities
- Staff Accountability
- Time Reduction



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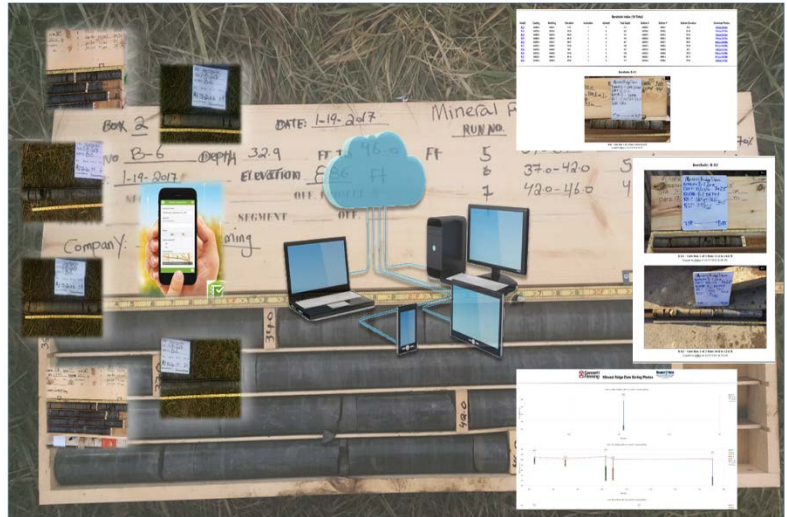
# Home Inspection

- Home Inspections
- 400 homes
- 4 Separate Surveys
  - Interior
  - Exterior
  - Coversheets
  - Dam
- After the fact
- Cost and Time savings



# Geotechnical Logging

- Geotechnical Data Logging
- Repetitive task
- Multi Project
- Standardized Inputs
- Standardized Outputs
- Pull Data
- Interoperability



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# Improvements

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- Updating NOT Inserting data
- Updating feature services
- Real-time checks against previous surveys
- XLS Forms Location
- Time Out Issues



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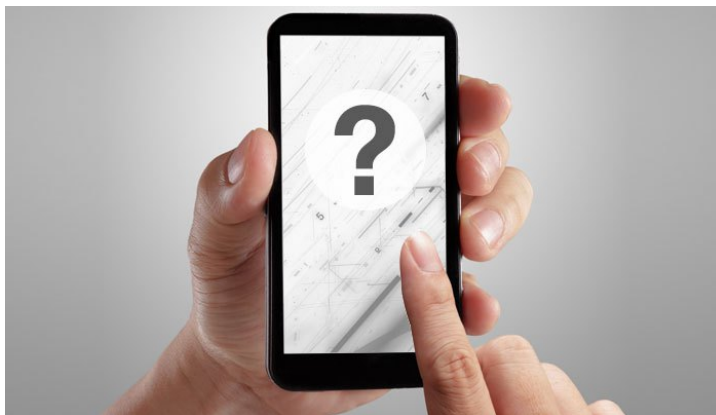
# Questions

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Daniel Hunter  
Senior GIS Analyst

207 Senate Avenue  
Camp Hill, Pennsylvania 17011-2316

[dhunter@gfnet.com](mailto:dhunter@gfnet.com)



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# Links

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- Fuel Tank Inspection
  - <http://geodecisions.maps.arcgis.com/apps/PublicGallery/index.html?appid=161059950b9a41c2a9bd0453e57c68c7>
- Street Inspection
  - [https://s3.amazonaws.com/gf-gis.com/djhunter/2017\\_Esri\\_UC/CTSIP.pdf](https://s3.amazonaws.com/gf-gis.com/djhunter/2017_Esri_UC/CTSIP.pdf)
- Pump Station Inspection
  - [https://s3.amazonaws.com/gf-gis.com/Projects/CampHillBoro/PumpStationInspection/CHPSI\\_PreviousDayInspection.html](https://s3.amazonaws.com/gf-gis.com/Projects/CampHillBoro/PumpStationInspection/CHPSI_PreviousDayInspection.html)
  - [https://s3.amazonaws.com/gf-gis.com/Projects/CampHillBoro/PumpStationInspection/CH\\_PumpStationInspections.htm](https://s3.amazonaws.com/gf-gis.com/Projects/CampHillBoro/PumpStationInspection/CH_PumpStationInspections.htm)
- Home Inspections
  - [https://s3.amazonaws.com/gf-gis.com/djhunter/2017\\_Esri\\_UC/D091\\_12720\\_West\\_Bank.pdf](https://s3.amazonaws.com/gf-gis.com/djhunter/2017_Esri_UC/D091_12720_West_Bank.pdf)
- Geotechnical Data Logging
  - [http://gf-gis.com/Projects/MineralRidgeDam/CoreLogging/Mineral%20Ridge%20Dam\\_CorePhotos.html](http://gf-gis.com/Projects/MineralRidgeDam/CoreLogging/Mineral%20Ridge%20Dam_CorePhotos.html)



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