Survey123 for ArcGIS

Mark Scott  mscott@esri.com

Spring NEARC | May-19 2020
Survey123 for ArcGIS
Location-aware smart forms for your organization

Intuitive user experience

Sophisticated data validation rules

Support data-driven decision making
Survey123 for ArcGIS
A complete form-centric system for your organization

1- Powerful smart form design tools

2- Desktop, web and mobile form-centric apps

3- Form-centric data visualization and analysis
Smart form design tools
Focused, intuitive and powerful smart form design

Create a New Survey

Using the web designer
- Get started quickly
- Best for simple surveys
- Author your survey graphically

Using Survey123 Connect
- Using a desktop application
- Full smart form capabilities
- Author through XLSForm spreadsheet

Get started
Survey123 web designer
Visually design smart forms from your web browser
Survey123 web
New: Groups and Pages

• Logically organize questions in your survey
  - Groups (Sections)
  - Pages

• Apply visibility rules to Groups

• Supported in the web and field apps
Survey123 web

New: Groups and Pages
Survey123 web
New: Choice Grids

• Compact multiple choice questions into a grid

• Accelerates data capture and simplifies form

• Supported in the web and field apps
Bentonville 311
connecting citizens to services

Bentonville 311 provides the citizens of Bentonville with a simple online single point of contact for every City department.

Bentonville 311 is not to be used for emergency situations as it is only monitored during business hours. For Emergencies, please dial 911.

The new Bentonville 311 system brings unprecedented levels of openness, innovation and accountability to the delivery of City services.

With the new Bentonville 311 online system, you can:
- Create a new service request
- Check the status of existing requests
- Snap a photo and submit it with a request to improve accuracy
- Receive email notification on service concern progress
- Provide feedback upon completion of your concern
Help fight crime with Richland Police Department's Voluntary Camera Partnership

News Release from the City of Richland Dec 6, 2019 Updated Dec 6, 2019

OWN A SECURITY CAMERA? JOIN THE RICHLAND VOLUNTARY CAMERA PARTNERSHIP AND HELP KEEP YOUR NEIGHBORHOOD SAFE.
Survey123 web

Other enhancements

- Prevent users from re-submitting a survey from their web browser
- Display a custom dialog when the survey is closed
- Custom themes
- Embed surveys within web applications
- URL query parameters
Survey123 web
Other enhancements

- Prevent users from re-submitting a survey from their web browser
- Display a custom dialog when the survey is closed
- Custom themes
- Embed surveys within web applications
- URL query parameters
Survey123 web
URL Query Parameters

- Auto-populate questions on load
- Hide/Show Theme, Title, Questions…
- Open survey is update or view-only mode
- Set the language of your survey

https://survey123.arcgis.com/share/<itemID>?field:inspector=Fernando&field:treetype=Oak

https://survey123.arcgis.com/share/<itemID>?mode=view&objectId=10
Resources: Query parameters in web forms

- Intro to Query Parameters: https://community.esri.com/groups/survey123/blog/2019/02/06/survey123-tricks-of-the-trade-web-form-url-parameters
- Editing records: https://community.esri.com/groups/survey123/blog/2019/05/24/survey123-tricks-of-the-trade-editing-records-in-a-web-form
Smart form design tools
Focused, intuitive and powerful smart form design

Create a New Survey

Using the web designer
- Get started quickly
- Best for simple surveys
- Author your survey graphically

Using Survey123 Connect
- Using a desktop application
- Full smart form capabilities
- Author through XLSForm spreadsheet

Get started
Survey123 Connect
A desktop tool to design sophisticated forms

- Desktop smart-form authoring tool
  - Mac OS
  - Windows

Design using XLSForm syntax

Preview designs and publish to ArcGIS
Resources: **Survey123 YouTube playlist** includes over 20 video-tutorials
Survey123 Connect

A few new enhancements in no particular order

- Grid Layouts, pages and groups
- Pictorial lists
- Polygons and Lines
- Photo Watermarks
- Range Questions
- Choice Grids
Grids, Pages and Groups

- Use pages and groups to improve form navigation
- Handle hundreds of questions
- Optimize real estate in your screen
<table>
<thead>
<tr>
<th>Location Map *</th>
</tr>
</thead>
<tbody>
<tr>
<td>34°3'N 117°12'W ± 55 m, 0 m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address *</th>
</tr>
</thead>
<tbody>
<tr>
<td>380 New York st</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>City *</th>
<th>State *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redlands</td>
<td>CA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Zip Code *</th>
<th>County *</th>
</tr>
</thead>
<tbody>
<tr>
<td>92373</td>
<td>USA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Full Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nearest Intersection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Resources: Grid Layouts

Pictorial lists

- Selectable images in your form
- Leverages SVG files
- Supports:
  - Single selections
  - Multiple selections
- XLSForm image-map appearance
Resources: Pictorial lists

Using the image-map appearance in Survey123

Starting with Survey123 3.6, the field app now supports a new appearance of image-map. This new appearance allows Scalable Vector Graphics (SVG) files to be rendered in your survey form and provides a clickable image for both select_one and select_multiple questions. Choose list selections can now be made by simply selecting different parts of the image. The image-map appearance is currently not supported in the Survey123 web app.

So what is an SVG? An SVG file is an XML-based vector image format for two-dimensional graphics, that has support for interactivity and animation. SVGs also have the ability to have raster image formats such as png and jpeg embedded within them.

The image-map appearance provides a powerful way to customize the UI of your survey without having to write a single line of code. This enables fast and intuitive data collection with the underlying user selections stored in the feature service. The ‘image-map Sample’ survey, available in Survey123 Connect.

Polygons and Lines

- Add and update polygons and lines
- Calculate lengths and areas
- Dynamically construct geometries
- XLSForm: geoshape and geotrace
Update existing features

Load existing buildings into the Inbox
Resources: Lines and Polygons

Photo Watermarks

- Watermark photos on the fly
- Date, Location, Comments…
- Configurable:
  - Position
  - Color
  - Size
There is truth in the saying a picture is worth a thousand words, but sometimes I wonder if that is enough, no pun intended, to give you the whole picture. Let's turn into that image the date and time when the photo was taken, the geographic coordinates of that location or some other critical information, and the value of that picture is now multiplied. That will make your photo be worth a few more than one thousand words, and most importantly, give you the whole picture.

Watermarking is an old, yet useful concept, allowing you to superimpose extra information on a photo.

In the Street Service Report survey example in the right side, you will appreciate that the photo taken from Survey123 automatically includes the Job ID as well as the date and time when the photo was taken. This information is part of the image; it is a photo watermark.

Watermarking is often used for two main reasons:

- To add critical information necessary to understand what is going on.
- To provide a simple way to link back to a certain instance.

https://community.esri.com/groups/survey123/blog/2019/08/08/survey123-tricks-of-the-trade-photo-watermarks
Other enhancements

- GNSS support
  - Bad Elf, Leica, Juniper Systems, Trimble…
- New Range question type
- Numbers and Calculator appearances
- Custom question height
- ...

Resources: Direct Connections to GNSS

https://community.esri.com/groups/survey123/blog/2019/03/05/direct-gnss-external-receiver-support-in-survey123-33
Beyond data collection

- Feature Reports
- Enterprise Integration via webhooks
- Developer story
Feature Reports

• Create high quality printable documents
• Configure your own templates
  • Using Microsoft Word
• Request reports:
  • On demand
  • Programmatically
• Outputs:
  • Docx
  • PDF (coming on January 14)
# Water Violation Report

<table>
<thead>
<tr>
<th>Submitted by:</th>
<th>$(Creator) on $(CreationDate format: &quot;MM/DD/YYYY h:mm A&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date &amp; Time of violation:</td>
<td>$(date and time of violation format: &quot;MM/DD/YYYY h:mm A&quot;)</td>
</tr>
<tr>
<td>Location</td>
<td>$(pos_location</td>
</tr>
<tr>
<td>Violations:</td>
<td>$(type_of_violation)</td>
</tr>
<tr>
<td>Comments:</td>
<td>$(comments)</td>
</tr>
<tr>
<td>Offender name:</td>
<td>$(name)</td>
</tr>
<tr>
<td>Offender email:</td>
<td>$(e-mail)</td>
</tr>
<tr>
<td>Offender present:</td>
<td>$(offender_present)</td>
</tr>
<tr>
<td>Location:</td>
<td>$(gps_location</td>
</tr>
<tr>
<td></td>
<td>$(photo</td>
</tr>
<tr>
<td>Signature:</td>
<td>$(signature</td>
</tr>
<tr>
<td>Household ID</td>
<td>Address</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>55534</td>
<td>Orange Blossom Trl</td>
</tr>
<tr>
<td>6667001</td>
<td>13 Friar Ln</td>
</tr>
</tbody>
</table>
Feature Reports

- Create high quality printable documents
- Configure your own templates
  - Using Microsoft Word
- Request reports:
  - On demand
  - Programmatically
- Outputs:
  - Docx
  - PDF (coming on January 14)
Resources: Feature Reports

https://community.esri.com/groups/survey123/blog/2019/07/23/understanding-survey123-feature-reports
Workflow automation with webhooks

- Integrate with hundreds of apps and services
  - Office 365
  - Payment services
  - Databases
  - Social media
  - Google Cloud…
- No code required
- Out of the box
- Instant
Workflow automation with webhooks
Start by clicking here and select the first module for your scenario.
Resources: Workflow automation

- Automating email notifications with Survey123 (Live Training Seminar):
  - [https://www.esri.com/training/catalog/5c392a12dd8b97414e076ae8/automate-e-mail-notifications-with-survey123-for-arcgis/](https://www.esri.com/training/catalog/5c392a12dd8b97414e076ae8/automate-e-mail-notifications-with-survey123-for-arcgis/)
- Survey123 webhooks with Integromat intro: [https://www.youtube.com/watch?v=Uo5N7aEvNNQ](https://www.youtube.com/watch?v=Uo5N7aEvNNQ)
- Creating Survey123 feature reports with Integromat: [https://www.youtube.com/watch?v=a7pABoinPIM](https://www.youtube.com/watch?v=a7pABoinPIM)
- Microsoft Power Automate:
Survey123 for developers

• **Today:**
  - Survey123 field app available with AppStudio for ArcGIS.
  - Create your own Survey123 app and deploy.

• **Coming up:**
  - **Web Form JS API:**
    - A simple JavaScript API for developers to embed, style and interact with web forms within a web application
  - **Custom JS functions for your smart forms:**
    - Invoke your own JS functions within a form (field and web apps)
    - Only available for logged-in users
  - **Survey123 field app extensibility model**
    - Build Survey123 add-ins
    - Deploy using the ArcGIS security model
ArcGIS Survey123

2020 Roadmap

**Early 2020**
- PDF support in Feature Reports
- Line and Polygon support in Designer
- FedRAMP boundary compliance
- AppConfig (portalURL)
- Survey123 webform JS API
- Survey update notifications
- Survey123 VPAT

**UC**
- Website and REST API on-premises setup (Windows)
- Extensibility Framework (Tech Preview)
- Better webforms: Rank, random choices and grid-theme
- Publish option to update domains
- Map enhancements (VTPK, MMPK, WebMap)
- Web accessibility improvements (WCAG)

**Post-UC**
- Extensibility Framework
- Location-aware webforms
- Create survey from template (Designer)
- Better lists: Performance and dynamic lists
- Images in Inbox

*All roadmap items are subject to change*
Esri Boston’s Hub: https://go.esri.com/bostonhub

Esri is pioneering ArcGIS, the world’s most powerful mapping and analytics software.
Sign Up and Follow Esri Boston

Sign up and follow Esri Boston to receive updates on local events and GIS stories from around Boston.
Q & A

mscott@esri.com

Will collect questions from the chat that we did not get to.
3:45
Wrap Up / Final Q&A
From Paul Rooney

How to get the final materials