ArcGIS Apps for the Field

Daniel Wickens
Agenda

- ArcGIS Field Apps. An overview
  - Workforce for ArcGIS
  - Survey123 for ArcGIS
  - Collector for ArcGIS
  - Operations Dashboard for ArcGIS

- Demonstration

- Open Q&A
Field GIS

Taking GIS Beyond the Office

- Configurable apps
- Connecting the field with the enterprise
- Built on top of the ArcGIS Platform
Common Use Cases

- Hydrant Inspections
- Map Change Requests
- Joint Use Surveys
- Damage Assessments
- Water Quality Inspections
- Permit Inspections
- Sign Inventory
- Streetlight Inventory
- Guardrail Inspections
- Census Surveys
- Mosquito Abatement
- Well Inspections
- Meter replacement program
- Meter Inspections
- GCP Collection
- Leak Surveys
- Debris Reporting
- Valve Inspections
- DUI Checkpoint
- SCAT collection
- Trail mapping
- Park and trail viewer
- Parcel mapping
- Tree-trimming
- Pigging operations
- Invasive Species Mapping
- Aquatic surveys
Optimize Field Operations with ArcGIS

- Operations Dashboard for ArcGIS
- Explorer for ArcGIS
- Drone2Map for ArcGIS
- Survey123 for ArcGIS
- Collector for ArcGIS
- ArcGIS Pro
- Workforce for ArcGIS
- Navigator for ArcGIS

Field Operations
An overview of
ArcGIS apps for the Field
Workforce for ArcGIS
Coordinate field work

Plan, coordinate field work

Location Awareness

Optimize field operations
Workforce for ArcGIS

Integrate ArcGIS Apps to streamline field workflows

• Manage To-Do list, report location and work status
• Navigate directly to your work
• Capture and update data:
  • Map: Collector for ArcGIS
  • Form: Survey123 for ArcGIS
• Complete field work
Utilities Kinston, Ontario, Canada

- 15,000 customers
- 4 field crews of two
- 5300 gas meter inspections
Puerto Rico Vector Control Unit

- Use Workforce and Survey123 to control vector borne diseases zika, chikungunya and dengue.
- Workforce projects for
  - Trap Deployment
  - Vector Surveillance and trap maintenance
  - Vector Control and education
Workforce for ArcGIS Demo
Navigator for ArcGIS

Get your field workforce where it needs to be

Leverage your own map (search, route, display)

Create routes honoring your specific vehicle type

Work offline - maps are on your device
Custom Navigation Maps

Enhance existing maps or build your own from scratch

Customize the Map
- Search (geocode locators)
- Route (network dataset)
- Display (basemap)

ArcGIS Pro

ArcGIS Online
or
ArcGIS Enterprise

Package*

Download

Share

Copy

Navigator

*Requires Network Analyst extension
Home Delivered Meals (HDM) program

“Navigator has given us a lot more flexibility. Any driver can deliver to any route.” Alan Knudsen

Optimized Routing Delivers Efficiency in Atlantic County, New Jersey

For any fieldworker or delivery driver, managing a day’s work spread over multiple stop locations can be tedious and difficult. It’s often hard to know the best order for visiting the day’s many destinations, and it’s tough to determine the quickest routes to take.

In Atlantic County, New Jersey, this problem was presented to Matthew Duffy, a geographic information system (GIS) specialist for the Atlantic County Office of Geographic Information Services (ACOGIS), who implemented Navigator.

There were a number of requirements for setting up a Navigator solution for HDM. First, because the people served by the program often become attached to the drivers who deliver the meals, Knudsen and his team needed as much consistency as possible in driver route assignments. They also needed a routing solution in place for times that regular drivers are unavailable. Furthermore, the team needed a solution for when new routes are implemented in one of the county’s municipalities—two
Explorer for ArcGIS
Your maps in your mobile device

Your maps anywhere
Access information while disconnected
Sketch, annotate, and communicate

Available on the
Google play
App Store
J.D. Irving
Timber resource monitoring

View detailed information about assets while flying over

Mounted in harvesters to show where to work
County of San Diego
Transportation planning and maintenance

Search for specific signs, traffic lights, culverts

Locate assets once on-site using compass mode

Launch work-order system
FDNY
Access city-wide information in real time

View safety information about buildings
ArcGIS Pro Publisher Extension
Your Pro maps, mobile friendly, for everyone to use

Create offline maps for everyone

View in Explorer or your branded app

Available in ArcGIS Pro
Explorer for ArcGIS Demo
Collector for ArcGIS

Map Centric Data Collection

- Web Maps
- Works offline
- High accuracy GPS
High Accuracy Data Collection

Differential Corrections

Sub-meter accuracy
Oldham County Water District

High Accuracy Data Collection

- Accurately map assets
- Integrated Workflow
  - In the field
  - In the back office

“Installing each meter used to cost us approximately $211.91 in labor and fuel. With the high-accuracy mobile GIS workflow, the cost per meter went down to $111.19.”

— Kenny Ratliff, GIS Manager, Oldham County Water District of Kentucky
Wildfire Damage Assessment
Tree Inventory

2011 treating 500 trees
2017 treating 32,000 trees
What’s coming (Aurora 2018)

- Better maps
  - Labels, Advanced symbology
  - Vector basemaps
- High Accuracy
  - Support Z values
- New user experience
  - Map/Form experience
- Offline
  - Pre-planned workflows
- Smarter forms
  - More input types (Barcodes, QR codes)
  - Arcade expressions

Collector (Aurora) Planned Release Dates: iOS Q4 2018, Android Q4 2018/Q1 2019
Survey123 for ArcGIS
Form Centric Data Collection

Simple data collection experience

Web & Native / Desktop & Devices

End to end data collection workflow
Design Smart Forms
Survey123 Web Designer and Connect

- **Web Designer**
  - WYSIWYG from your web browser
  - Easy to get started

- **Survey123 Connect**
  - Design with XLSForms
  - Downloadable app
  - Advanced features
Survey123 apps

Web app and Field (native) app

- **Survey123 web app**
  - Nothing to install
  - Runs on your browser
  - Online surveys

- **Survey123 Field app**
  - iOS, Android, Windows, Mac
  - Works offline and online
  - Add and Update features
  - Sensors and advanced features
Analyze Survey results
Custom Reports, Trends, Visualization….

• Ready to use Reporting tools
  • Understand data submission patterns
  • Create detailed survey reports
  • Aggregate survey data
  • Selectively download data
Field Data Collection

City of Adelaide
Building Inspections

Iowa DOT – Material Sampling

Oakville, ON – Fire Alarm Inspections
American Red Cross

- Field Damage Assessments
- ArcGIS Enterprise
- Thousands users

- Boost Field Productivity
- Reduces errors
- Real time decisions

Disaster Assessment – As Easy As 1-2-3

It will cut in half the time it takes us to complete the assessment.

Red Cross Disaster Assessment teams are part of the first step in the recovery process. They visit neighborhoods and homes immediately after a disaster to assess and verify the level of damage incurred. The Red Cross and its partners—like FEMA and the United Way—use this information to provide financial aid and other resources. It often takes one to two weeks to visit every home, gather and enter the information and distribute it to everyone who needs it to begin providing aid. It’s vital that this process is done to make sure families get the help they need and that donor and taxpayer dollars are used wisely.

After the record flooding that occurred in Louisiana, Disaster Assessment is being done in a new way—a way that will make it faster and easier. Disaster Assessment now has an application and Red Cross teams are using it to get help to clients in a matter of days, not weeks. Survey123 allows the teams to enter information on the spot—not fill out forms that
Crowdsourcing/Citizen Science

AZ Water Watch
Arizona Department of Environmental Quality

Striped Bass Cooperative Angler Logbook
New York Department of Environmental Conservation

Flood Online Damage Citizen Report
Frederick County
Survey123 for ArcGIS Demo
Operations Dashboard for ArcGIS

Supporting Decision Making at a Glance

Monitor real-time operations

Key data indicators

Unattended and Interactive
Assignments

15
To Do

27
Completed

1
Declined

Hydrants Inspected

9

Details

Hydrant_Inspection

Pressure (PSI): 124.00
Facility ID: 527993
Inspector:
Chains Req'd?: No
Paint Req'd?: No
Marker Req'd?: No
Lubrication Req'd?: No
Stamped?: No
Greased?: No
Drain?: No
NOTES
Patterns of Use

ArcGIS apps for the Field
Enhance workflows by pairing apps

Collect and Monitor

Operations Dashboard
Survey123
Collector

Forms + Maps

Survey123
Explorer

Prepare - Field

Collector
Pro
Navigator
Explorer

Third Party Integrations

Custom App
Enhance workflows by pairing apps

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Questions?