What’s new in ArcGIS QuickCapture

Johnathan Hasthorpe

2021 ESRI
DEVELOPER SUMMIT

Agenda

- Product overview
- Basic concepts
- Key features
- What’s new and what is coming…….
- Resources

Product overview

ArcGIS QuickCapture

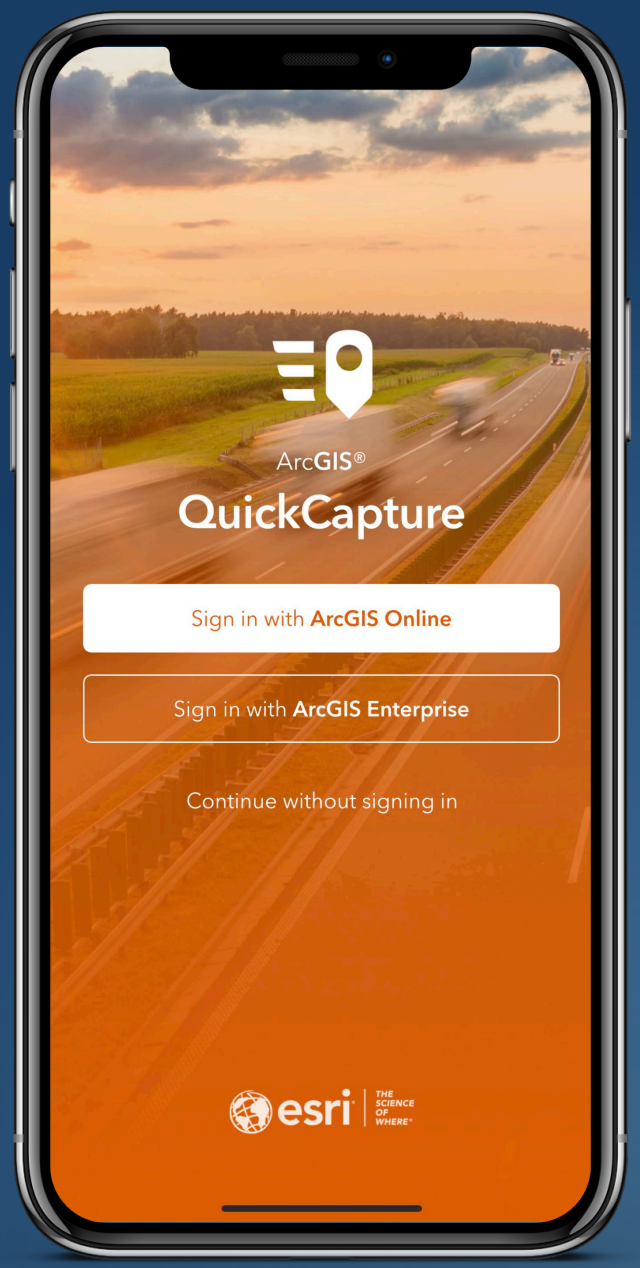
The rapid data collection app

- A ”big button” mobile app
- Simplest way to capture field observations
- At-speed & rapid data collection workflows

Maps

Surveys

Big Buttons!



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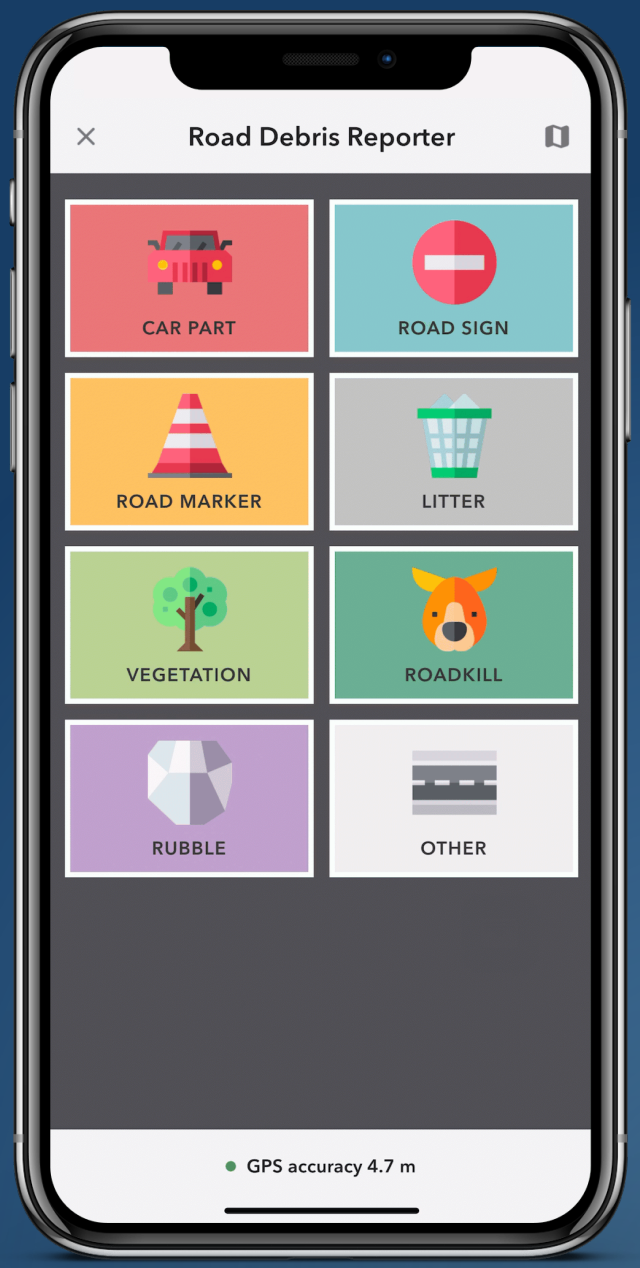

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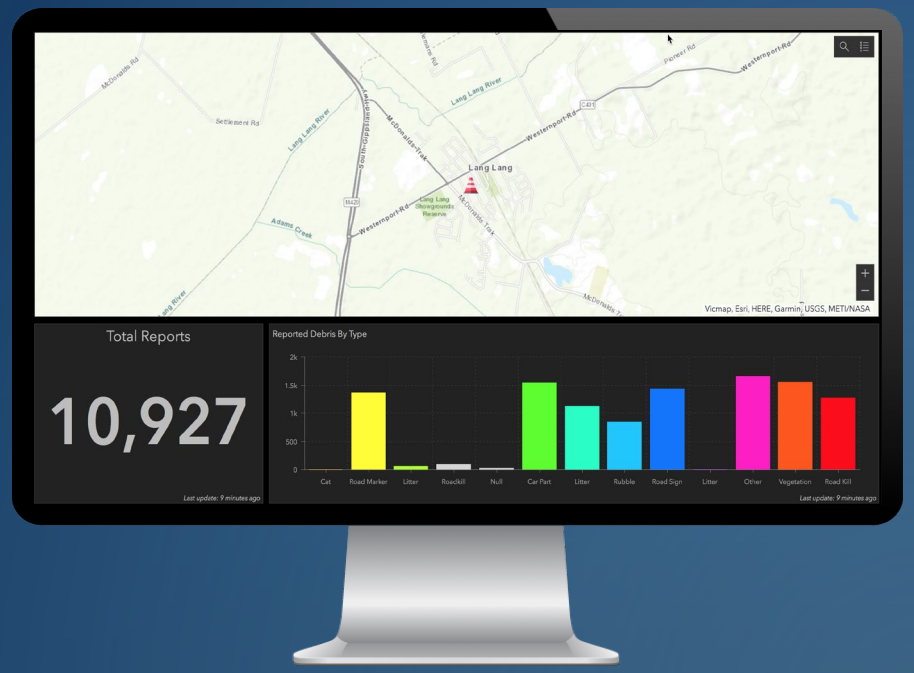

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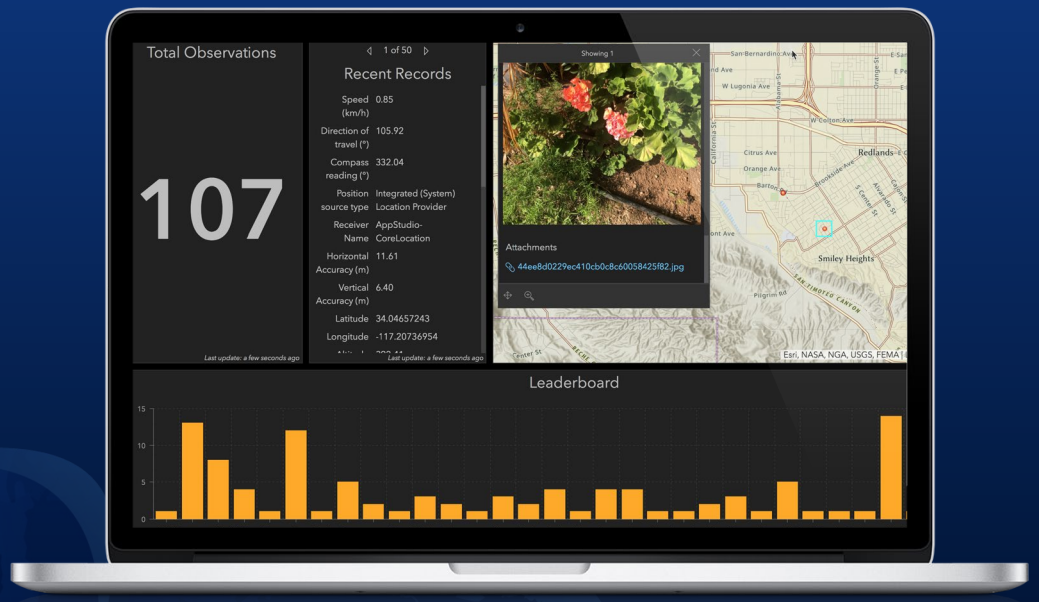

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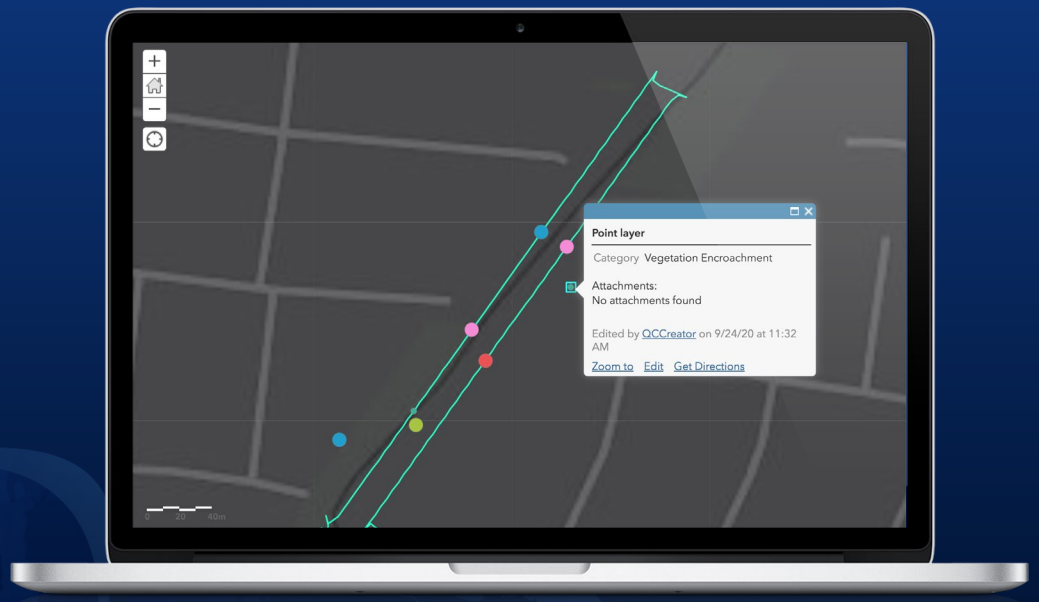
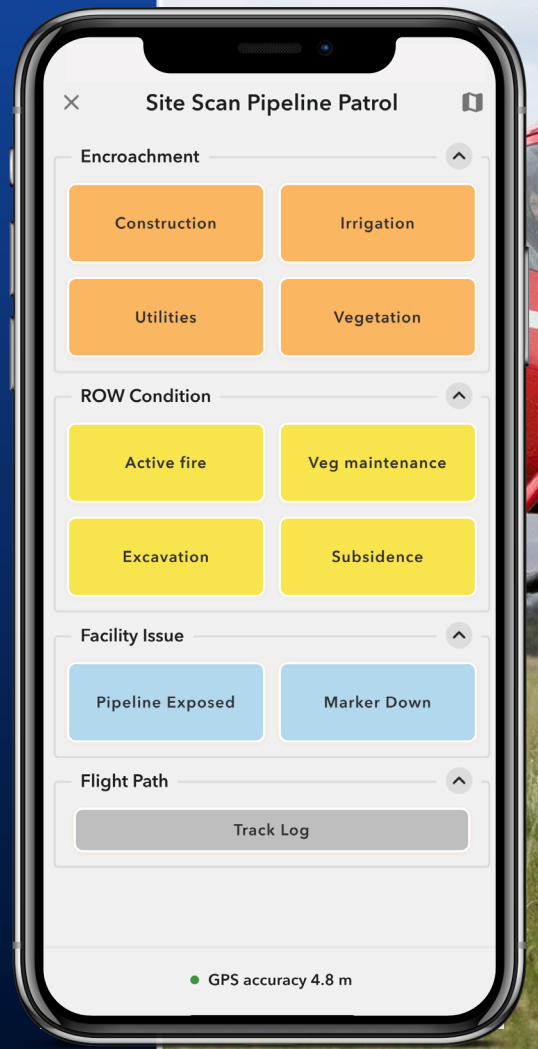




Real world use cases

- Agriculture - Crop scouting and precision agriculture
- Conservation - Noxious weeds mapping
- Emergency response – Windshield and rapid damage assessments
- Tourism – Mountain bike trail mapping
- Utilities - Pipeline and powerline patrols
- Transport – At speed data capture

QuickCapture Mobile and Designer

A big button mobile app build for mobile devices

- Cross platform
- Online and offline capabilities
- Works against ArcGIS Online and ArcGIS Enterprise

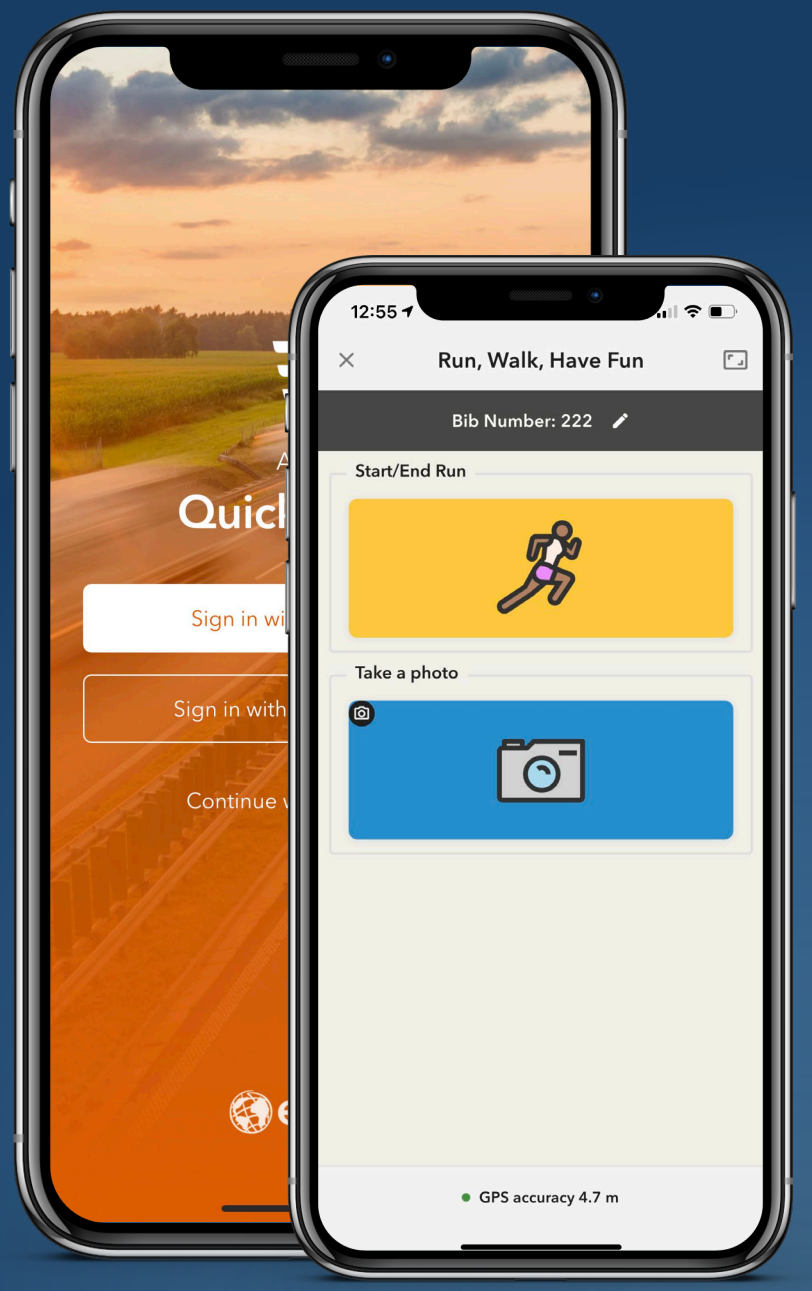
Web designer for authoring your QuickCapture projects

- Online version accessed through: www.arcgis.com/apps/quickcapture
- Bundled with ArcGIS Enterprise 10.8 (and higher)
- Online version works against 10.7.1 (and higher)

Download on the App Store

GET IT ON Google Play

Windows 10



ArcGIS QuickCapture in ArcGIS

Included with Field Workers, Creators and GIS Professionals at no additional cost
Optional add-on for Editor user types

Viewer
(not applicable)

Editor
(add-on)

Field Worker
(included)

Creator
(included)

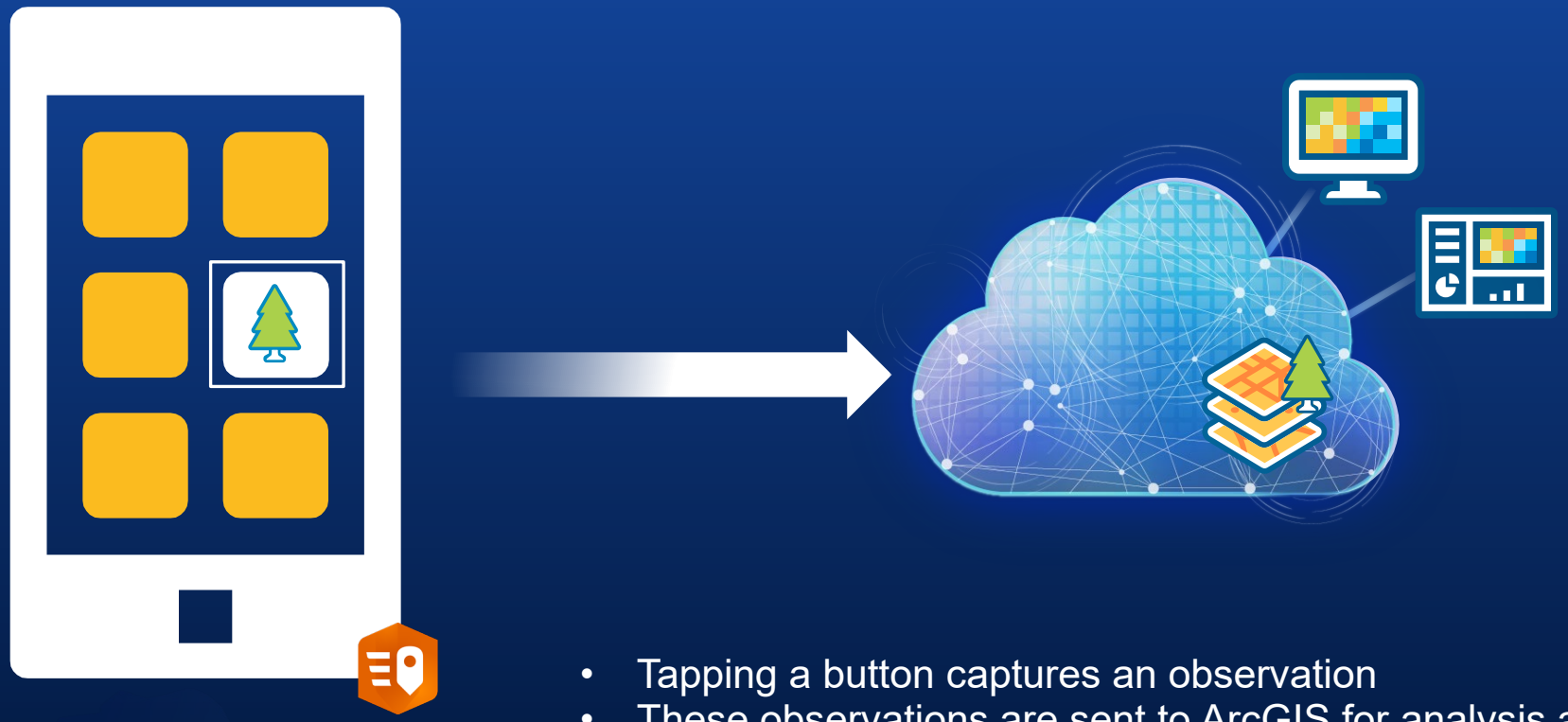
GIS Professional
(included)

The mobile app can also be used without an ArcGIS account, if a QuickCapture project is shared publicly to an ArcGIS Hub Premium organization.

Basic concepts

QuickCapture basics

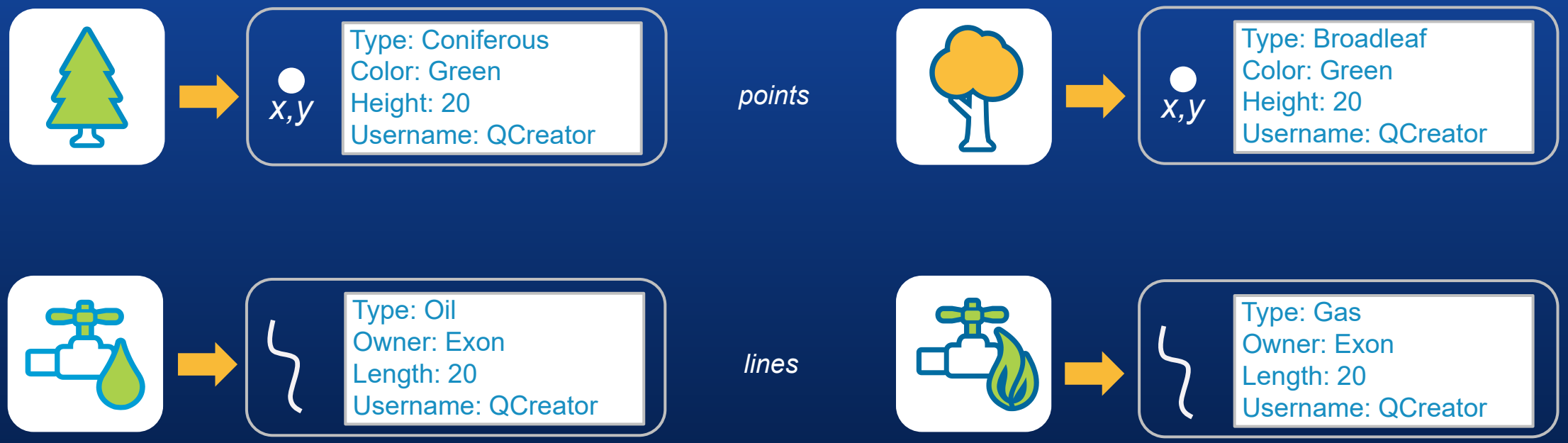
Capturing observations



- Tapping a button captures an observation
- These observations are sent to ArcGIS for analysis and display

QuickCapture basics

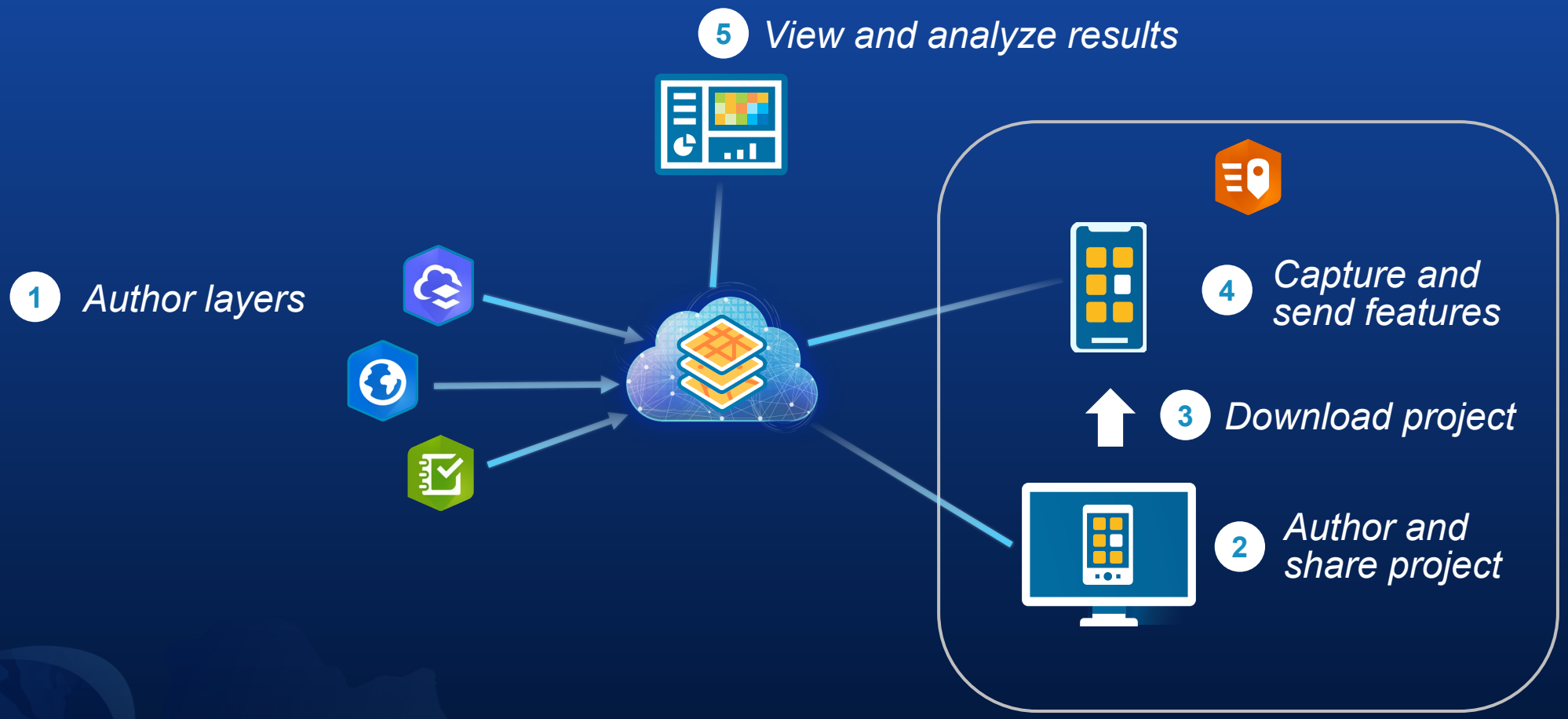
Capturing observations



- *Observations (features) are of different types*
- *Geometry and attributes determined the layer the button is targeting*
- *Captured values defined in the project (fixed, variable, user input)*

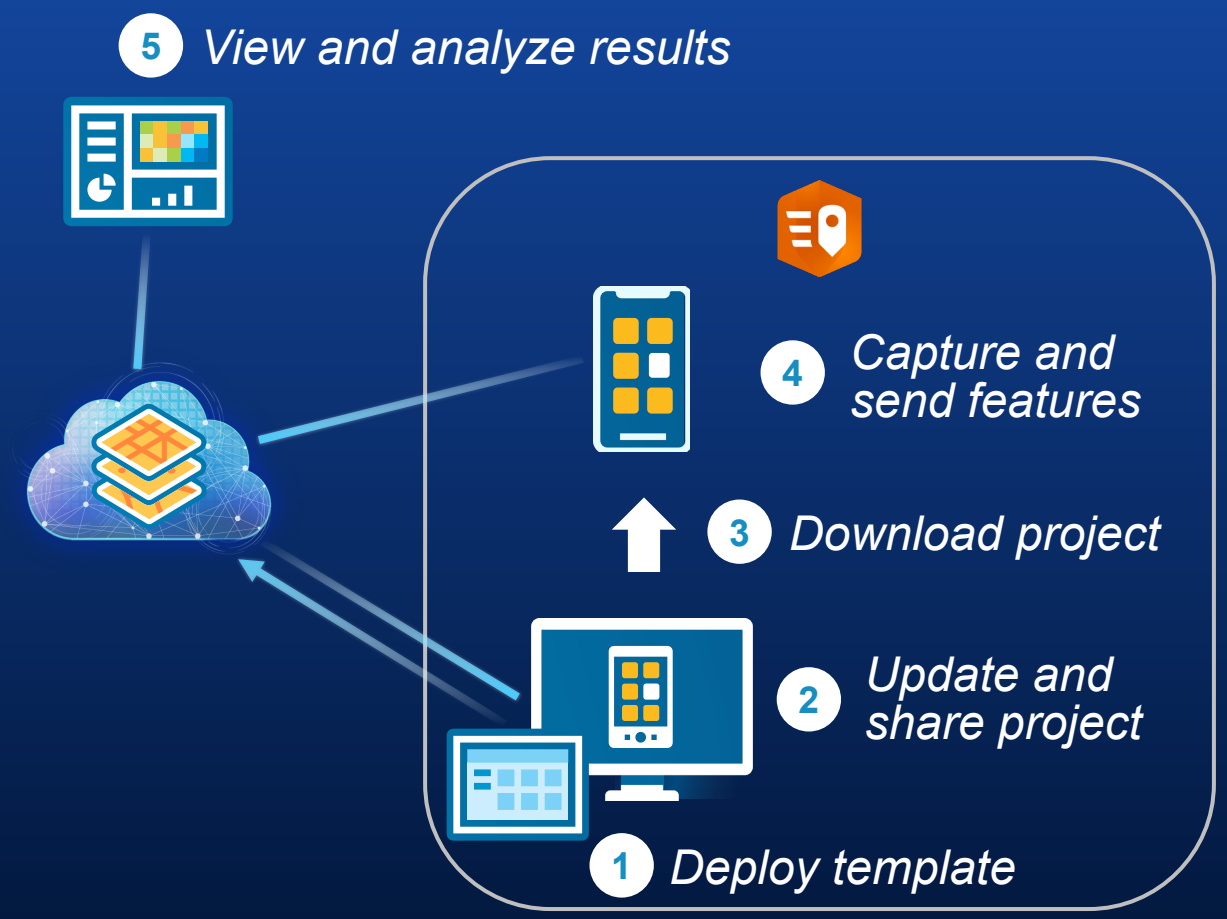
QuickCapture basics

Creating projects from existing layers



QuickCapture basics

Creating projects from templates



Demo

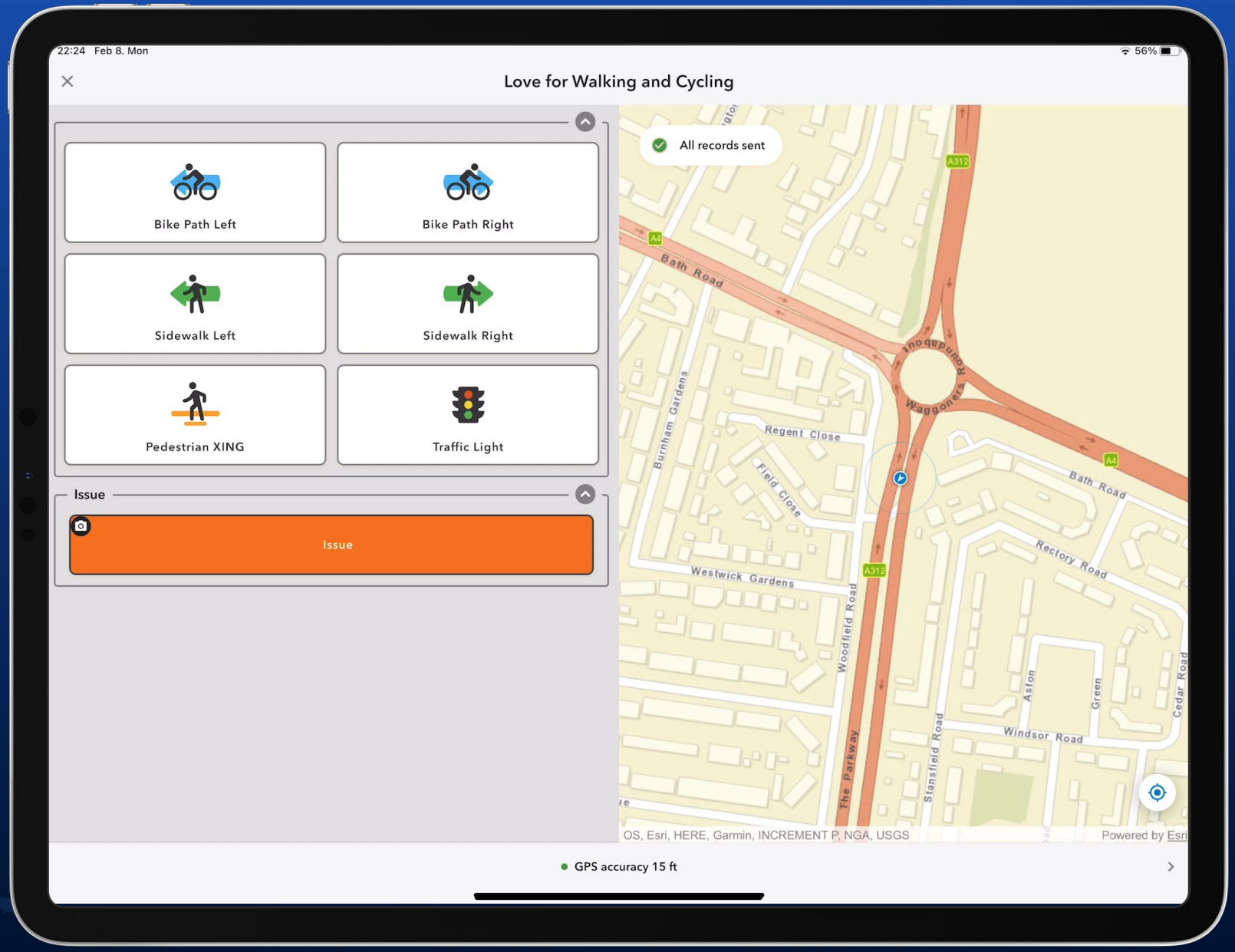
Designer overview

Key functionality

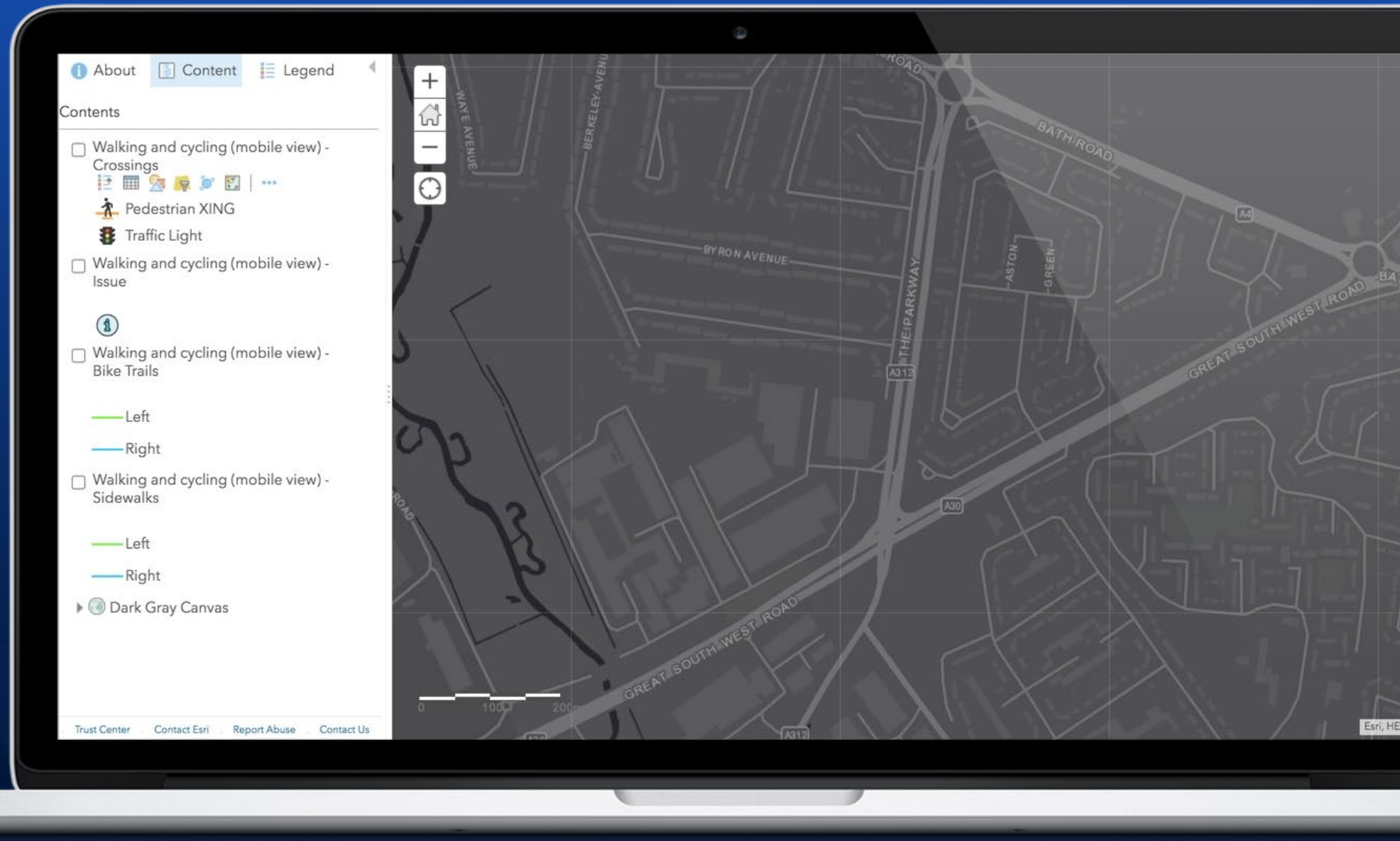
Nested Data Capture

Capture multiple observations at the same time:

- Bike trails on the right
- And bike trails on the left …
- And …..



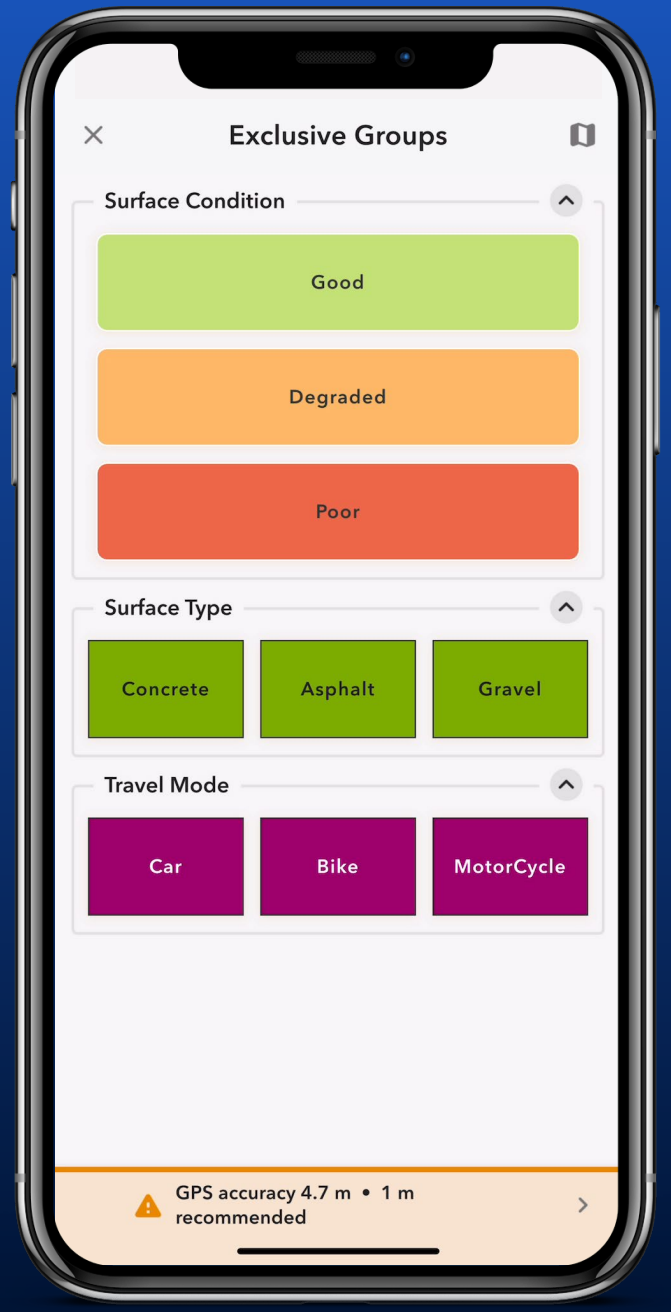
Nested Data Capture



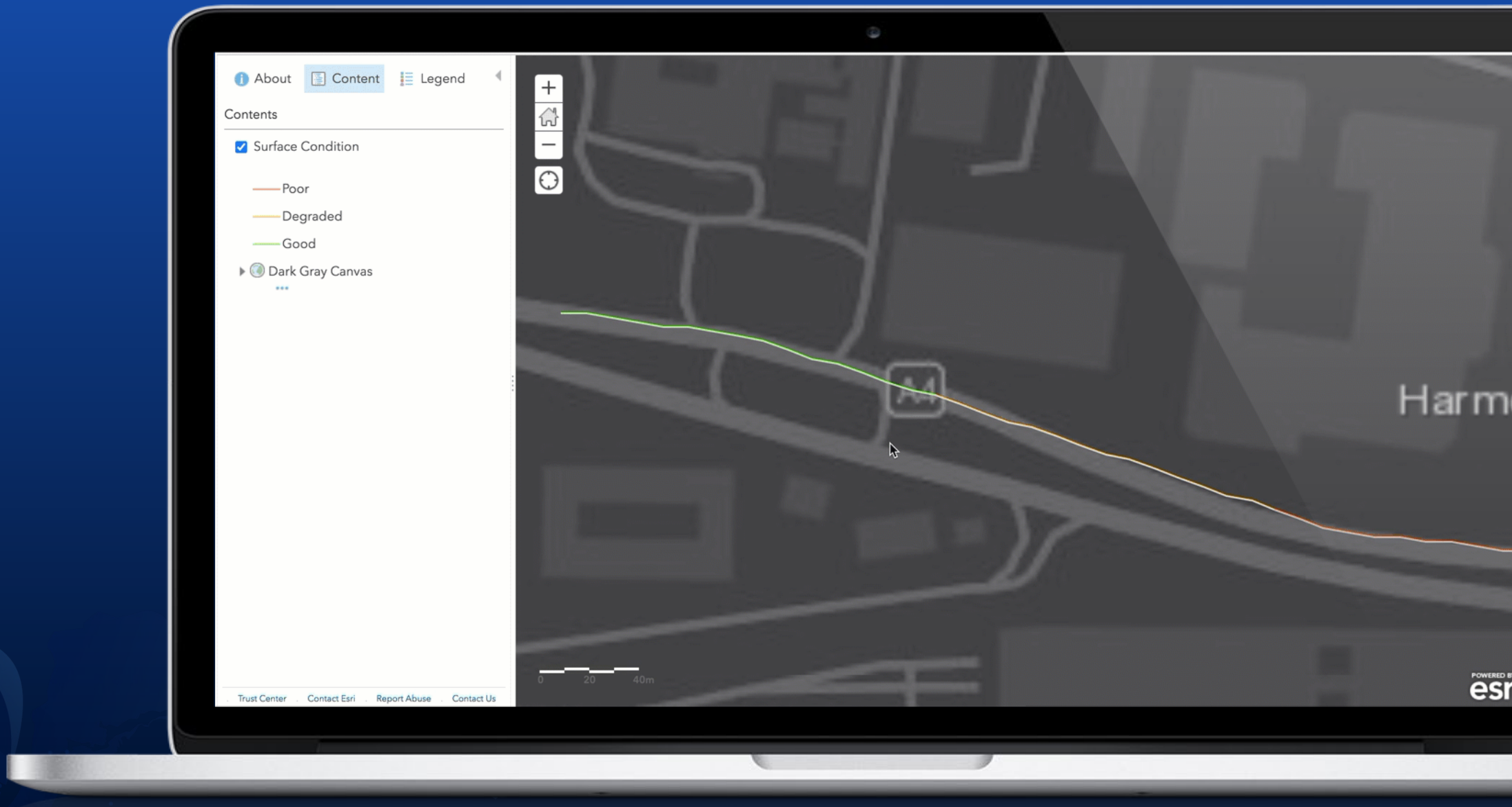
Exclusive Groups

Group buttons to capture data in a mutually exclusive way

- Pavement condition - good vs bad
- Surface material – asphalt vs concrete
- Trail difficulty - easy vs hard



Exclusive Groups

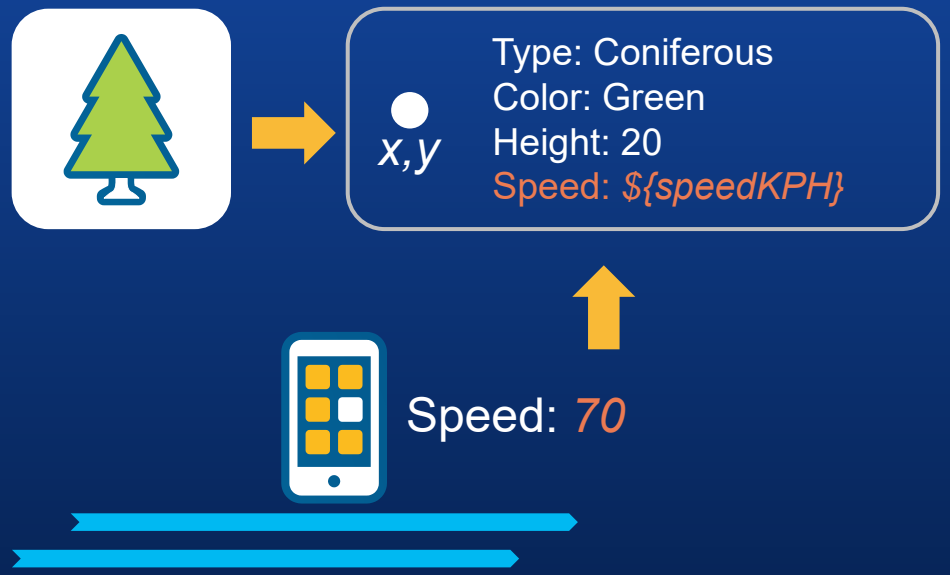


Device variables

Automatically capture attribute values when a button is pressed

- Speed
- Accuracy
- Capture time
- Signed in user
- And more……

Over 50 variables available



Device variables

Automatically capture attribute values when a button is pressed

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Over 50 variables available

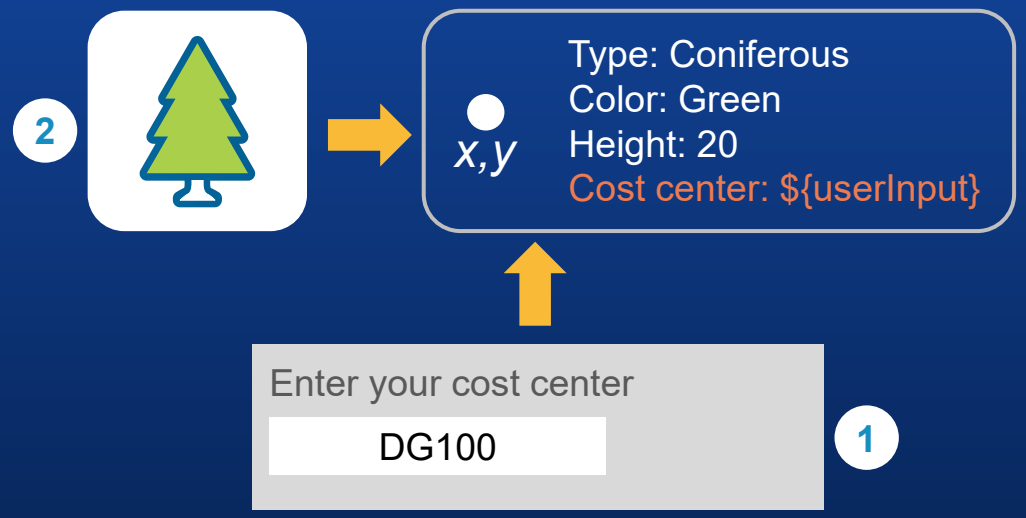
User inputs

User can input values for captured features

- When the project opens
- After a button is pressed

Input optional or required

Data validation supported



Project user input

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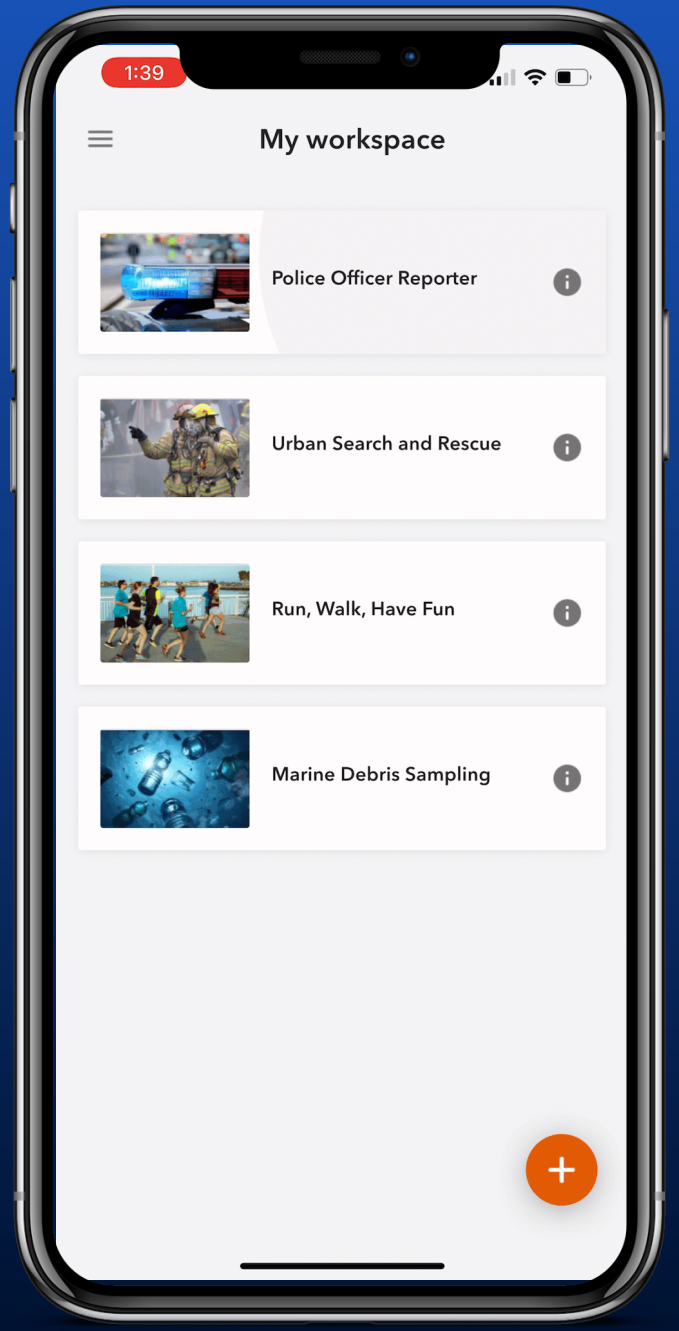

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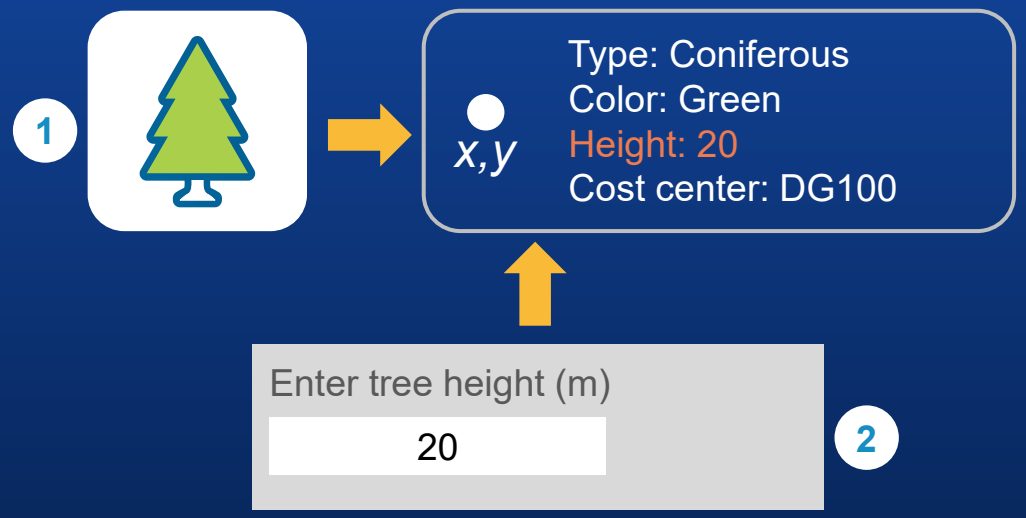


Button user input

User inputs

User can input values for captured features

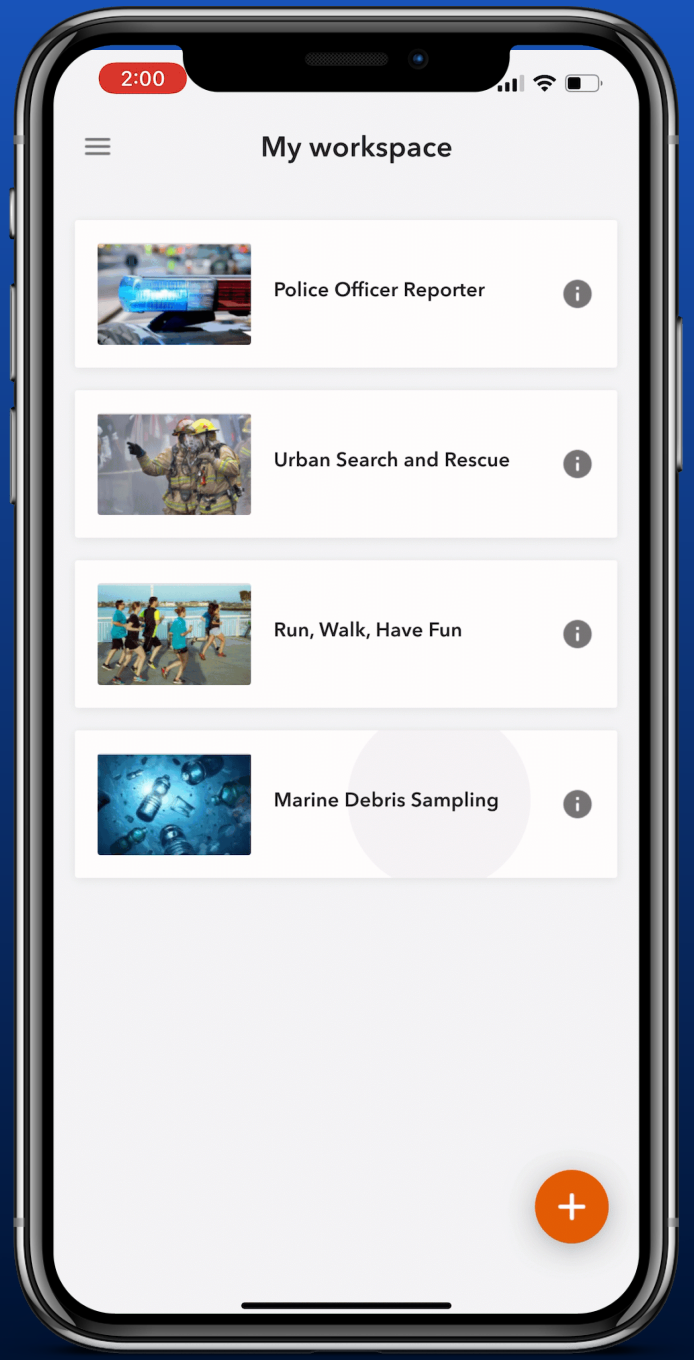
- When the project opens
- After a button is pressed

Input optional or required

Data validation supported

x,y

Type: Plastic Package
Count: 3



Link Buttons

Open a URL from a link button

- Resources (website, documents, etc.)
- Web apps (maps, dashboards, etc.)
- Native apps (Survey123, phone, etc.)

Button - Capture an observation

Link Button - Launch a URL

Link Buttons

Open a URL from a link button

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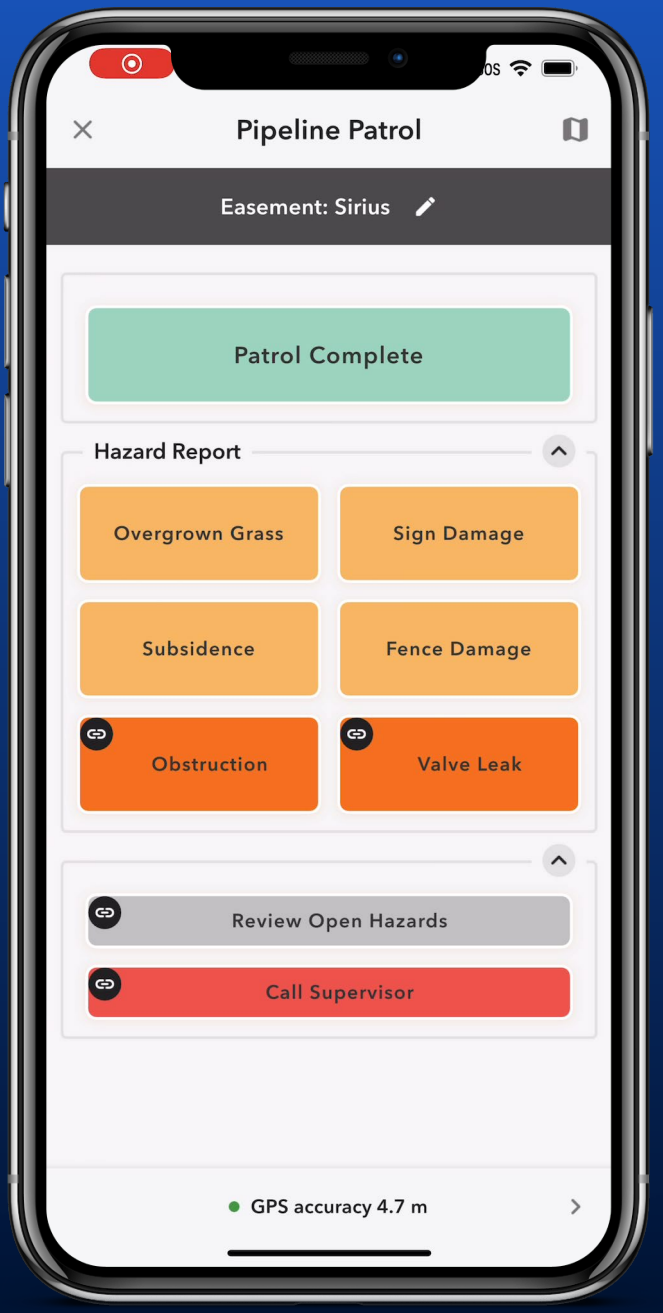


Link Buttons

- Many apps support URL parameters

  https://www.arcgis.com/home/webmap/viewer.html?center=34.0547155,-117.1961714

- Links buttons can populate them using variables and project user inputs

  https://www.arcgis.com/home/webmap/viewer.html?center=${latitude},${longitude}

- Link buttons to Survey123 forms to launch Surveys and populate questions

  arcgis-survey123://?itemID=2a41c332e24644ee895bbbd9b929773f&field:condition=damaged
  &field:capturetime=${captureTime}&field:username=${userInput:001}

Link Buttons

Phone and text messaging apps

- Email:

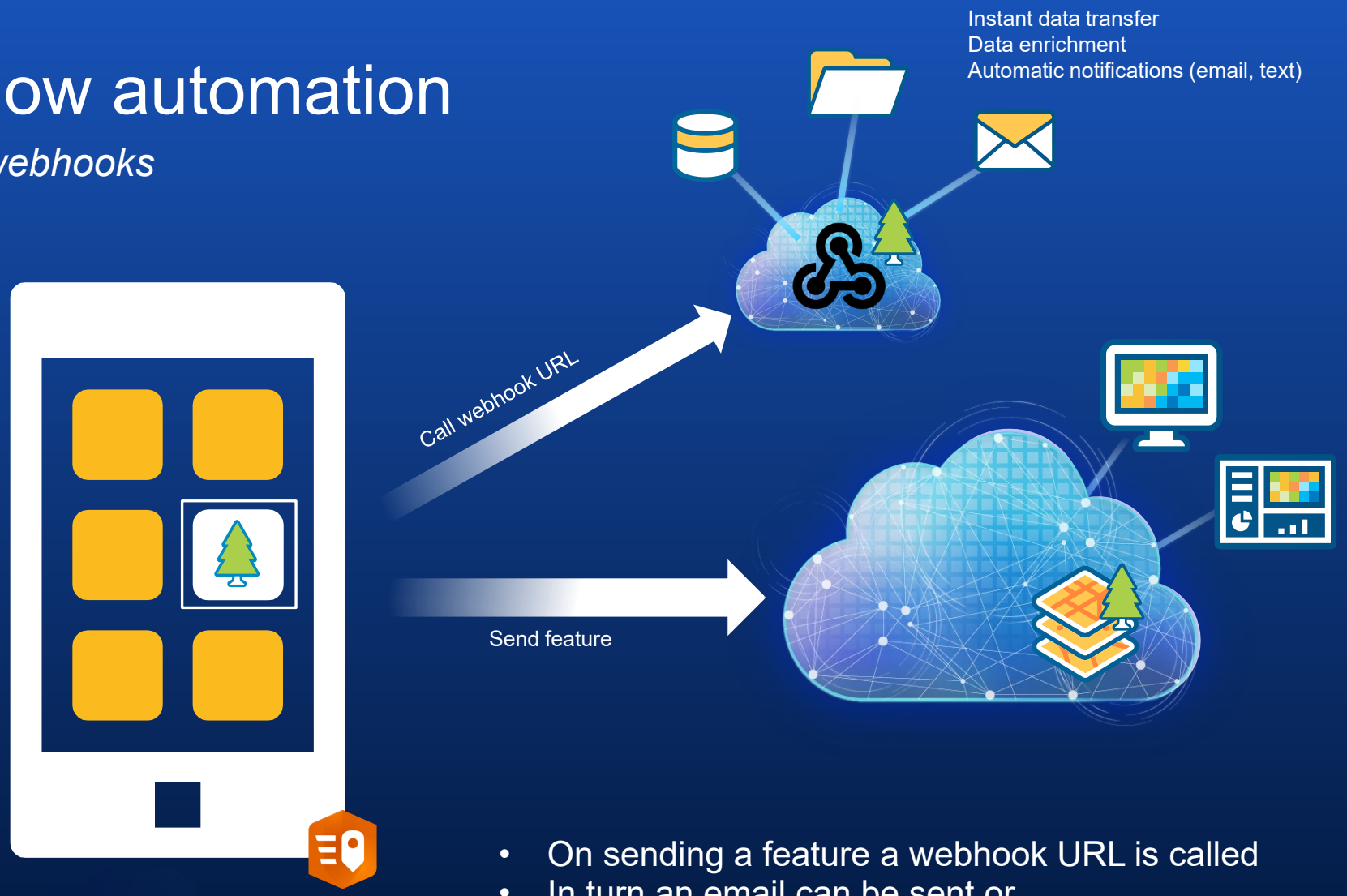
  mailto:sample@esri.com?subject=Fix%20the%20pipe&body=We%20really%20need%20to%20fix%20the%20pipe
- SMS:

  sms:0291920995
- SMS Android:

  sms:0291920995?body=We%20really%20need%20to%20fix%20the%20pipe)
- Phone: *tel:0291920995*

Workflow automation

Calling webhooks



- On sending a feature a webhook URL is called
- In turn an email can be sent or……

Workflow automation

Webhooks can be be configured in two ways:

1) In project settings

- Enter webhook URL
- Specify target layer
- Configure event data
- Save your project

2) By using the Integromat connector

- Access all your projects (and layers)
- Build your workflows
- No need to go to the designer

Offline and online maps

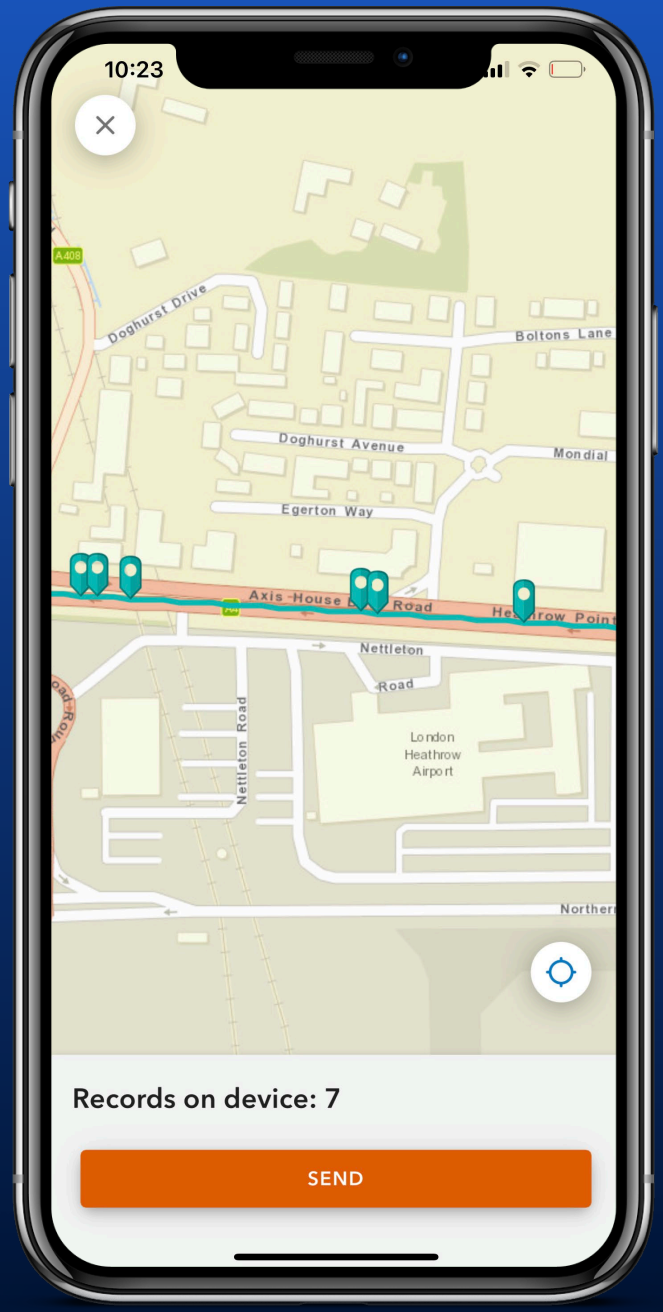
Each project has a map configured:

- Basemap (default is org basemap)
- Web map (with layers)
- Offline (mmpk, vtpk and tpk)

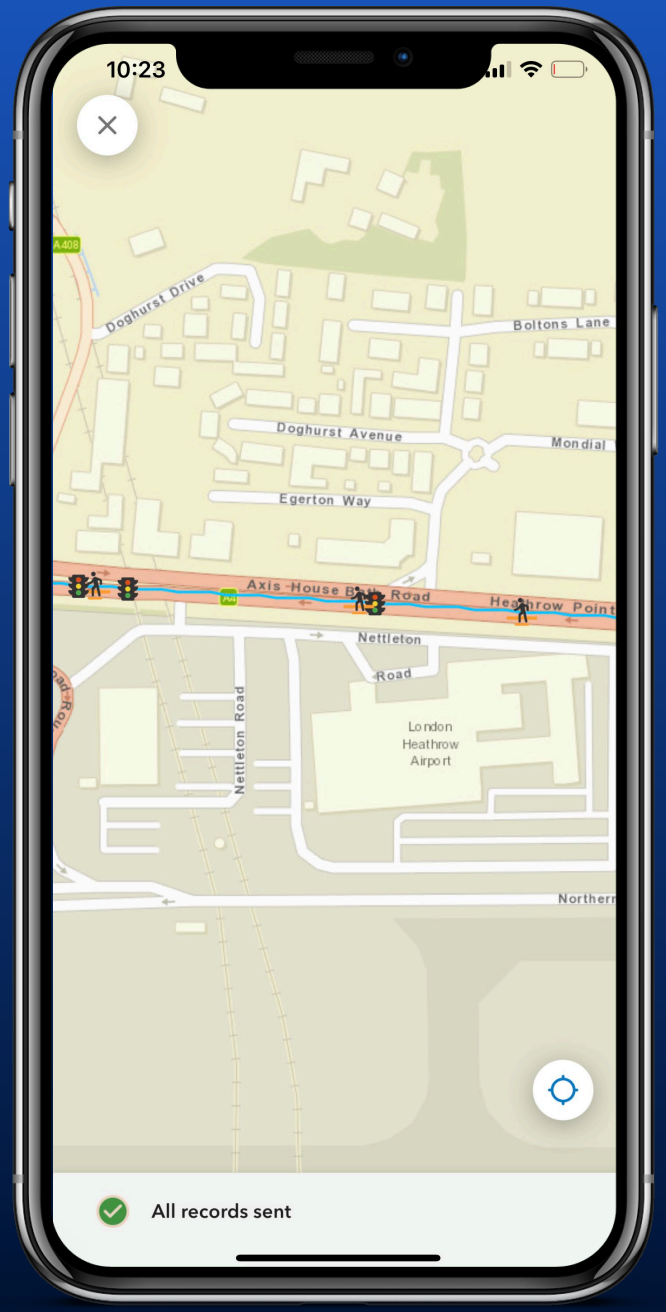
Used for:

- Reviewing data before sending
- Editing the location of captured features
- Viewing submitted features (if webmap contains project layers)

Split screen is a project setting



On device



Sent

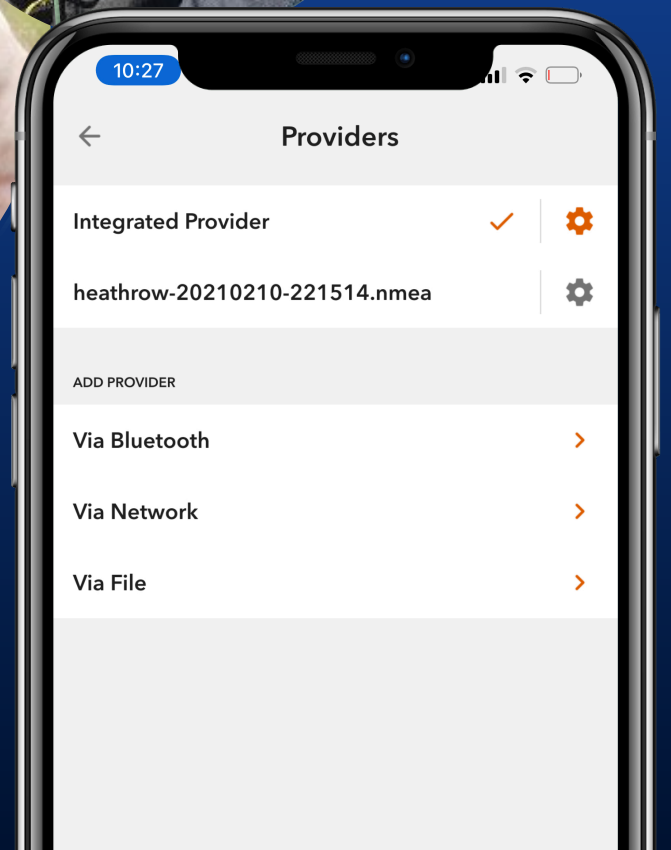
Provider options

Use external GNSS receiver for

- Increase accuracy
- Access to GNSS metadata
- Higher frequency data collection

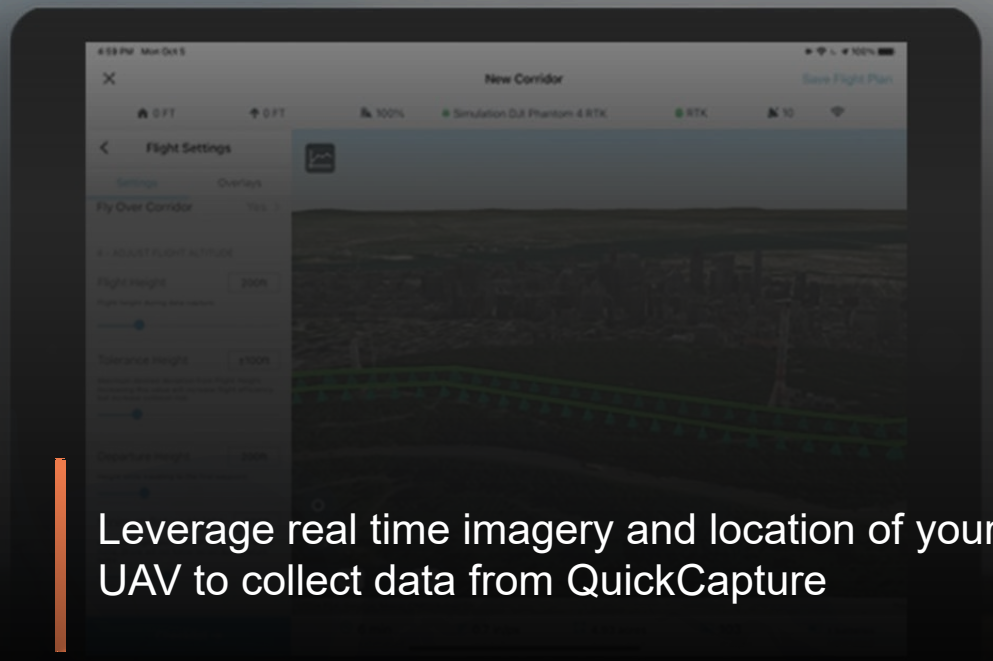
Use NMEA file for

- Simulations and demos
- Fixed locations (e.g. a site entrance)



Eyes in the Sky

Field data collection with Site Scan and QuickCapture



Leverage real time imagery and location of your UAV to collect data from QuickCapture

Quick field observations:

- Search & Rescue and Emergency response
- Powerline and pipeline inspections
- Agriculture

What is new

ArcGIS QuickCapture 1.8 in a nutshell

- Release across all supported platforms: iOS, Android and Windows
- December 10, 2020
- Same BIG button end user experience, more powerful
- Highlights:
    - More robust mobile app
    - More project configuration options
    - Better templates
    - Oriented Imagery (Beta)

← Projects

Templates

Search

FROM ORGANIZATION | FROM ESRI

Occupancy Counter

Count the number of individuals entering and exiting a given site with this ArcGIS QuickCapture template.

Run, Walk, Have Fun

Record and visualize your running or walking activities with this ArcGIS QuickCapture template.

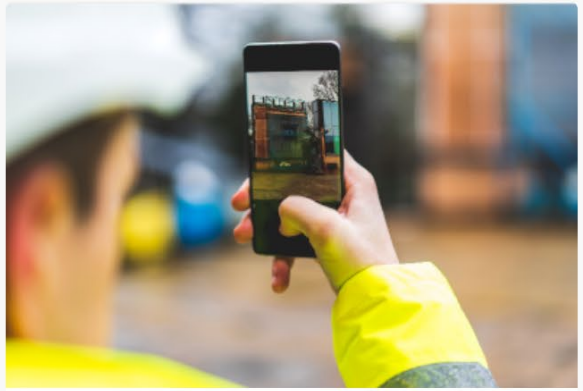
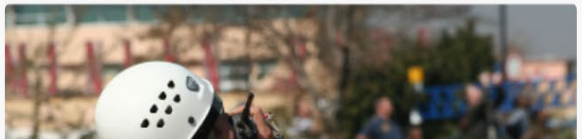


Photo Inspection

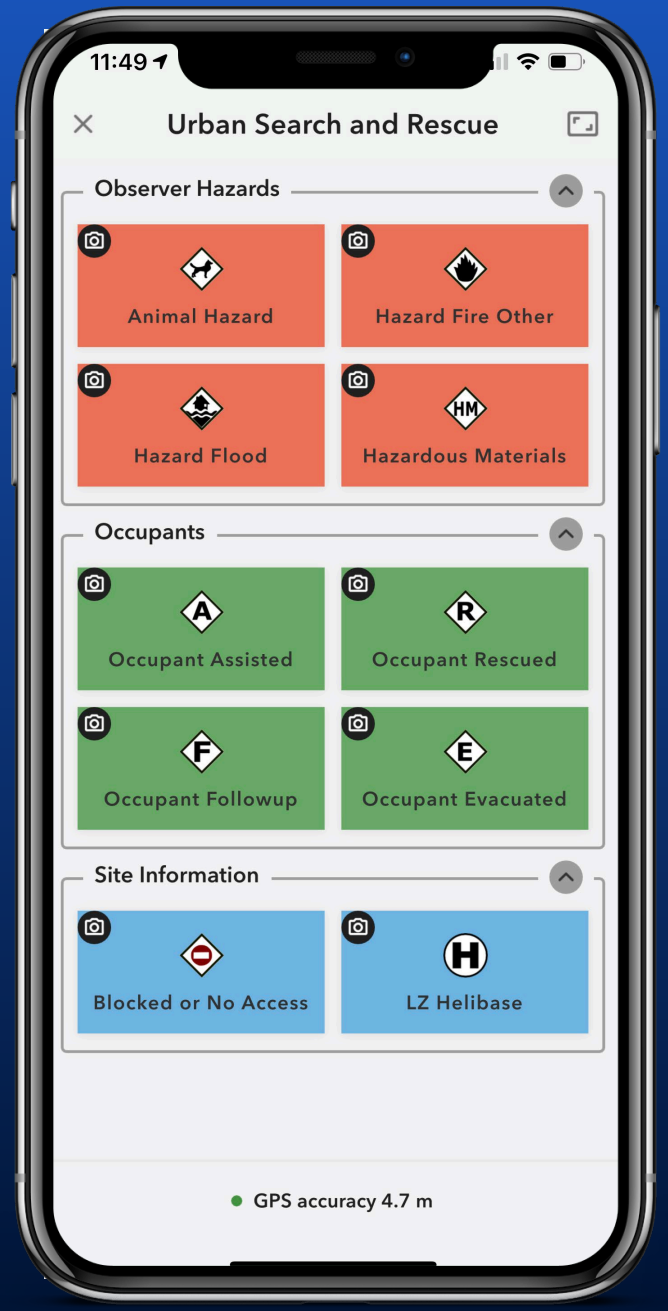
Perform photo-based inspections with this ArcGIS QuickCapture template.



WHITE SANDS
OPEN
LONG BEACH
OPEN
28 %
Capacity
Last update: a few seconds ago
PALM COVE
OPEN
65 %
Capacity
Last update: a few seconds ago
Occupancy Counter
Site name: Palm Cove
Entry (+1)
Exit (-1)
Launch Dashboard
Captured
Current occupancy
57
0
200
Last update: a few seconds ago
Current occupancy
196
0
300
Last update: a few seconds ago
Entries
72
Individuals
Last update: a few seconds ago
Exits
15
Individuals
Last update: a few seconds ago
Entries
286
Individuals
Last update: a few seconds ago
Exits
90
Individuals
Last update: a few seconds ago

Photos in QuickCapture

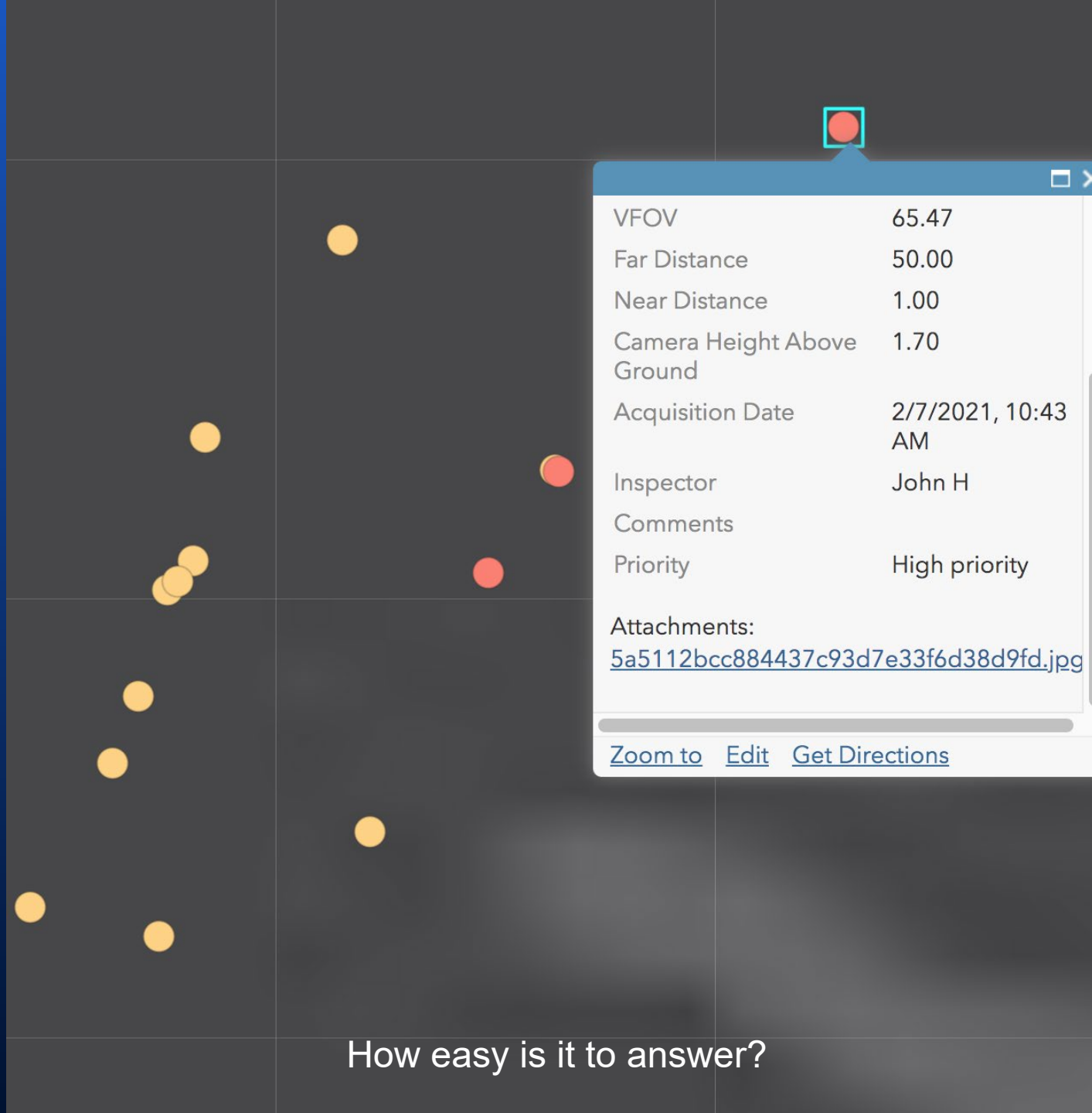
- Rapid capture of features and attachments
- Instantly categorized (by button)
- Many use cases:
  - Damage assessments
  - Asset inventory and inspections
  - Construction documentation
  - Code violation reports
  - Field observations



Photos in QuickCapture

Questions:

- What does this attachment show?
- What is/was the condition of this asset?
- How does what I see in the photo relate to what is on the ground?
- Do I have a picture of my asset from another perspective?



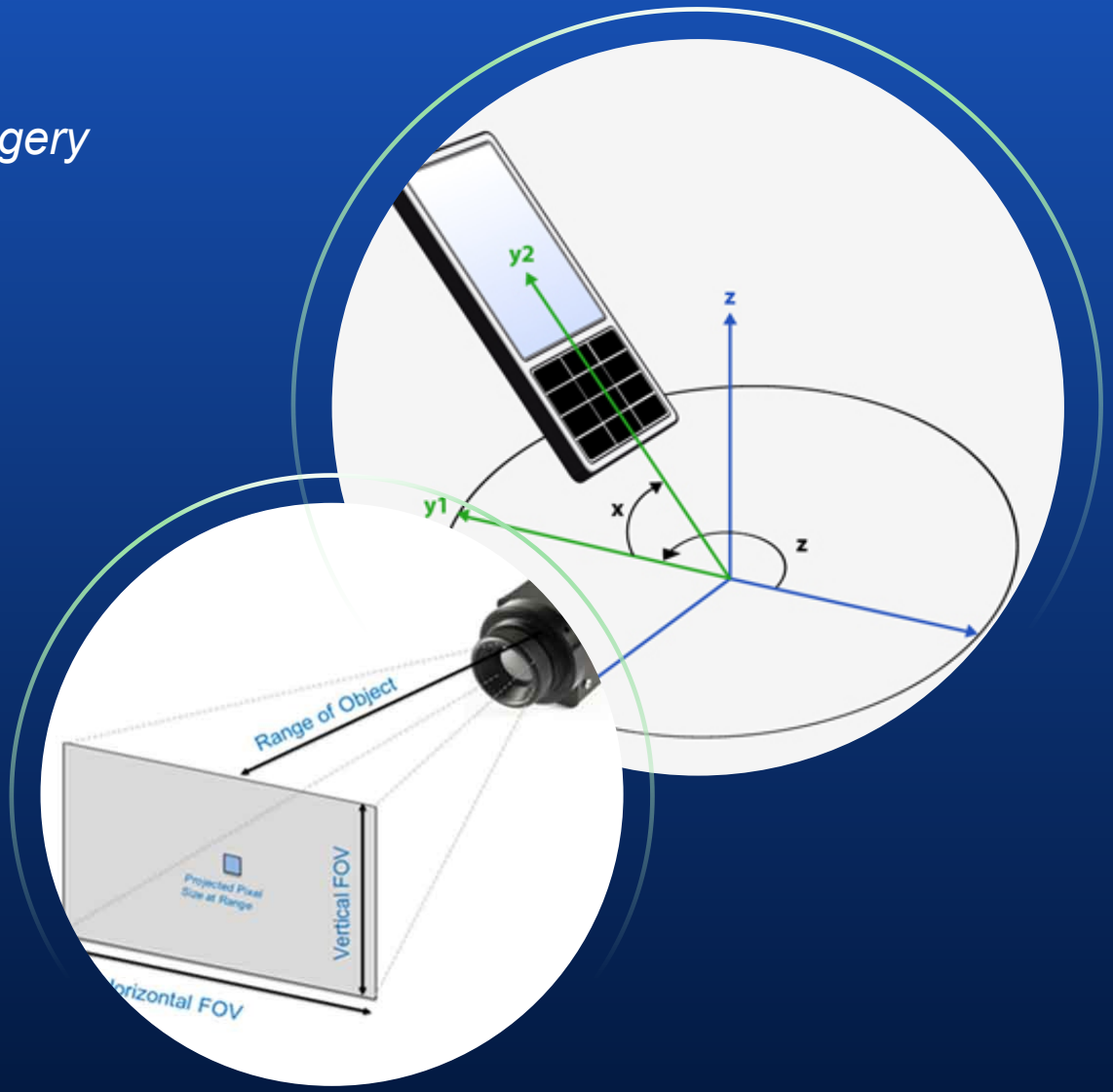
How easy is it to answer?

Oriented Imagery

Solution for viewing, mapping and managing oblique imagery

Photo properties that help us do more

- Photo X,Y
- Camera heading
- Camera pitch
- Camera roll
- Horizontal field of view
- Camera height above ground
- Acquisition date

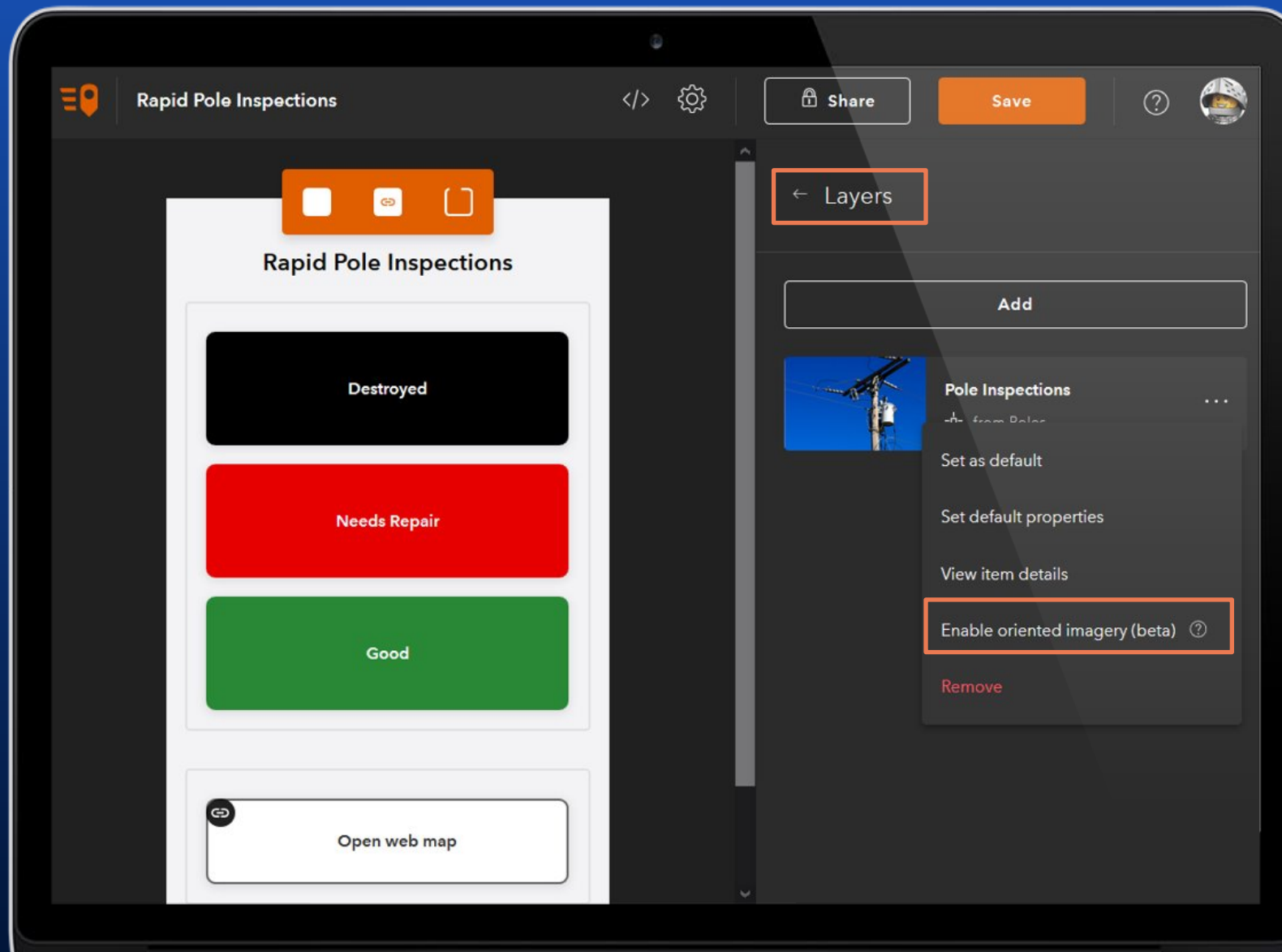


Demo

Oriented imagery

Enabling Oriented Imagery

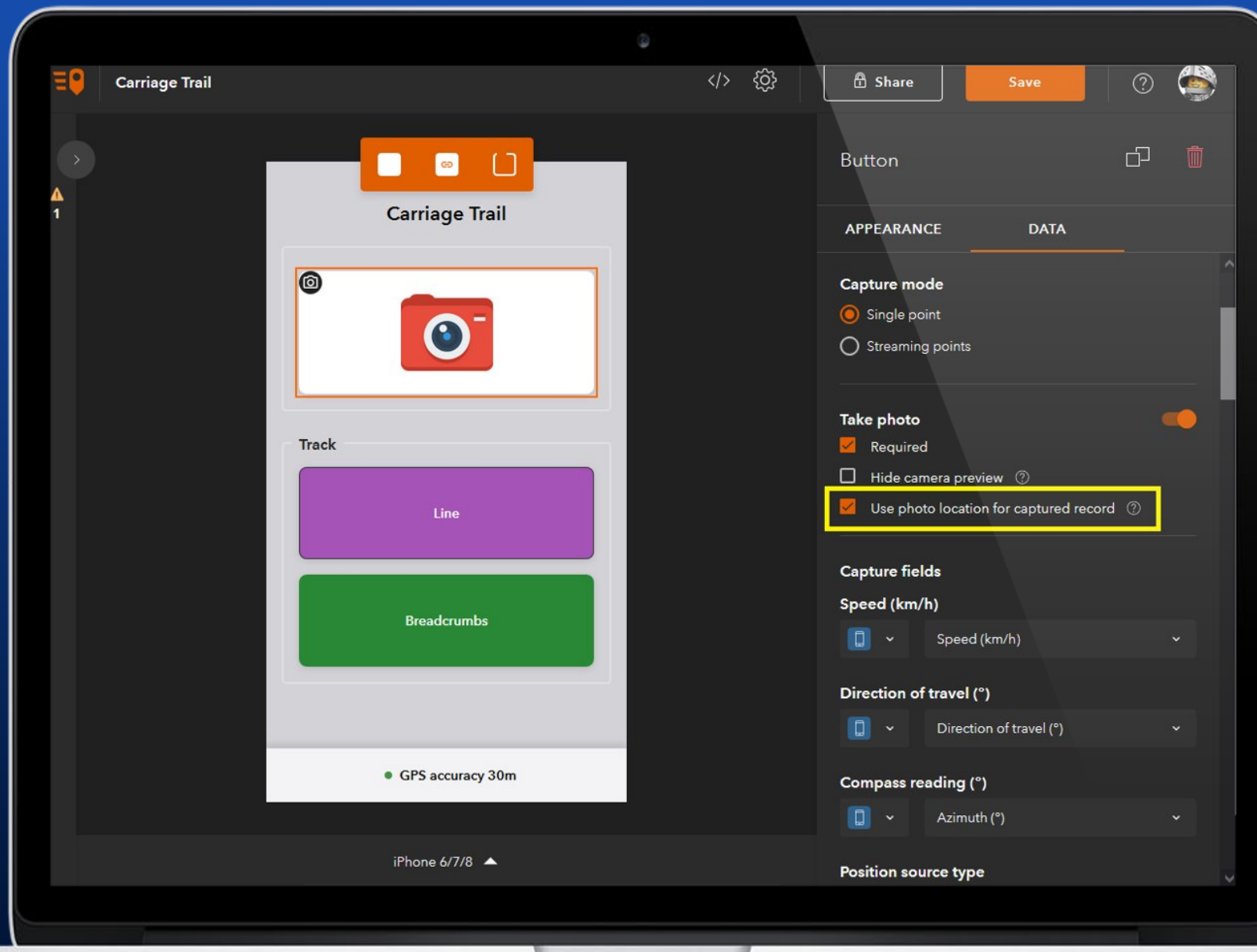
- Under project Settings – Layers
- Enable oriented imagery option:
  - Adds new fields
  - Maps device variables
  - Creates an Oriented Imagery Catalog item
  - Creates a link to a web viewer
- Only works on point layers (with attachments)
- SAVE your project!



Getting better results

Common sources of error

- Location of your device
  - Use external GNSS receiver
- Heading
  - Limit magnetic interference around the device
  - Set magnetic declination
- Pitch and roll
  - Take photos in portrait or landscape mode only
- Not using the location of your photo to set the location of the captured feature



What is next?

8-week release cycle

User-driven features

New concepts

2021

2020

2019

2.0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0

Organizational Settings
Integromat
drones
AI
Machine Learning
CarPlay
EXIF
AppConfig
Oriented Imagery
MDM
Peer to peer sharing
Power Automate
Geo Tagged Video
Recovery
Accessibility
PKI
Indoor Positioning
Deep Learning
UAV
Encryption at rest
Hands-free
Performance
webhook
Laser range finder
Web Designer
USNG
Button Groups
App Links
USNG & MGRS
Wearables
Crowd-sourcing
Photo Watermarks
Apple Watch
Automation
High Accuracy GNSS

Download on the App Store

GET IT ON Google Play

Windows 10

. . . Continued Focus on your work and your mission

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