

Navigator for ArcGIS

Get Where You Need To Be



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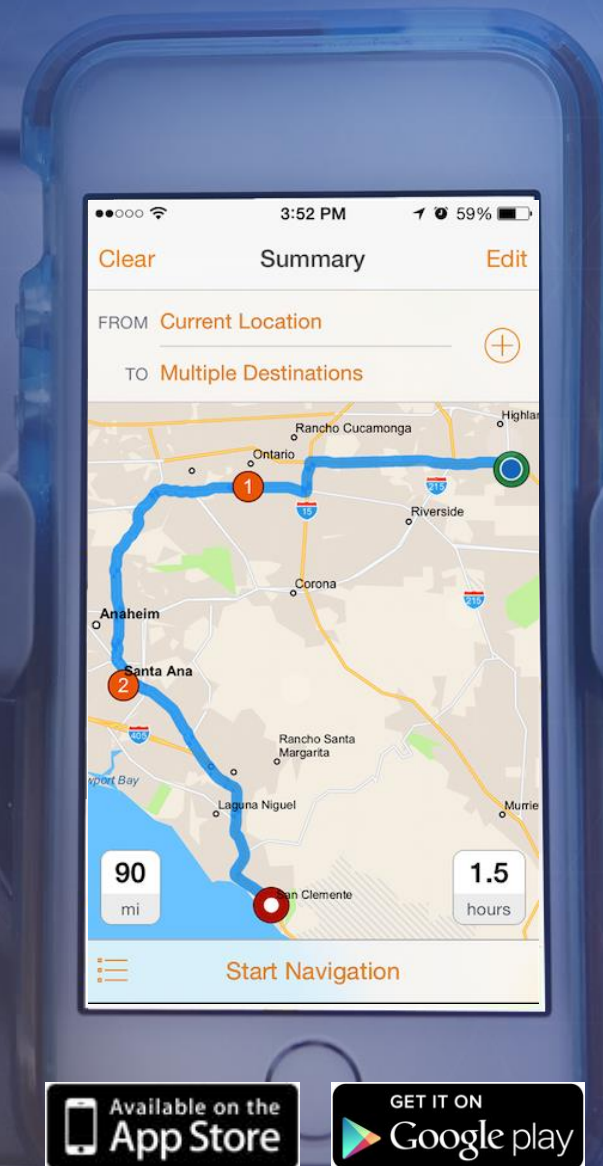




Navigator for ArcGIS

Get your field workforce where it needs to be

- **Custom data** (search, route, display)
- Fully **integrated** with other apps
- Advanced vehicle **travel modes**



What's New?

- Android in beta
- iOS 2.0
- Custom data
- Multi-stop optimization



Who is using Navigator?

- Natural Resources
- Utilities
- Government
- Commercial

"We are saving \$197,000 per year on mileage and inspectors' time by using ArcGIS"

Custom Data

Offline

Back-office Integration

County of Pima, AZ



THE ROUTE TO MORE EFFICIENT INSPECTIONS

A Conversation with Pima County Building and Site Development

Every morning, six inspectors leave their homes in Pima County, Arizona, to visit anywhere between five and sixteen houses or buildings. Before they go, each inspector downloads a route that's been strategically designed to account for the time it will take to drive to the site and perform the inspection. Pima County encompasses 9,000 square miles, much of it rural, and is home to nearly one million people. The Building and Site Development Division has made a public commitment to assist property owners and professionals in completing projects cost-effectively, safely, and sustainably. As part of that commitment—and to make sure the county is operating as efficiently as possible—the division started using Navigator for ArcGIS*, a mobile app from Esri that's part of ArcGIS* Online. Rich Franz-Under, Pima County's Green Building manager, shares the county's experience.

"We are saving \$197,000 per year on mileage and inspectors' time by using ArcGIS."

Rich Franz-Under
Pima County Green Building Manager

Technology Stack

- Navigator for ArcGIS
- ArcGIS Online
- ArcGIS for Desktop
- ArcGIS Network Analyst extension

Q How does it help you to be able to use custom data in your navigation app?

A There are two different fundamental problems with other mapping software. First, they are not current. Our inspectors work in brand-new housing divisions. Without our custom map layers, we can't route them to those areas. Second, sometimes mapping software has an address different from the official address, and it may send us to the wrong place. The county has the official address data we use for our records.

The Navigator for ArcGIS app works with our custom data. Before, we would have to convert addresses to latitude and longitude and then upload multiple stops. That takes up a lot of time every morning. With Navigator for ArcGIS, it's one click and they're ready to go.

Q What back-office analysis have you been able to integrate into the app?

A We analyzed how much time our staff spends performing inspections so we can determine estimated time of arrival (ETAs) for our clients. We used to spend about four staff hours every day answering the question, "When is my inspector going to be here?" Soon, ETAs will be provided via email to the homeowner the afternoon prior to the inspection. Homeowners will be able to manage their time better because they will have better information.

We use our analysis to create a better balance workload among those routes to the Navigator app. Now, inspectors average of 34 per day and saving mileage and

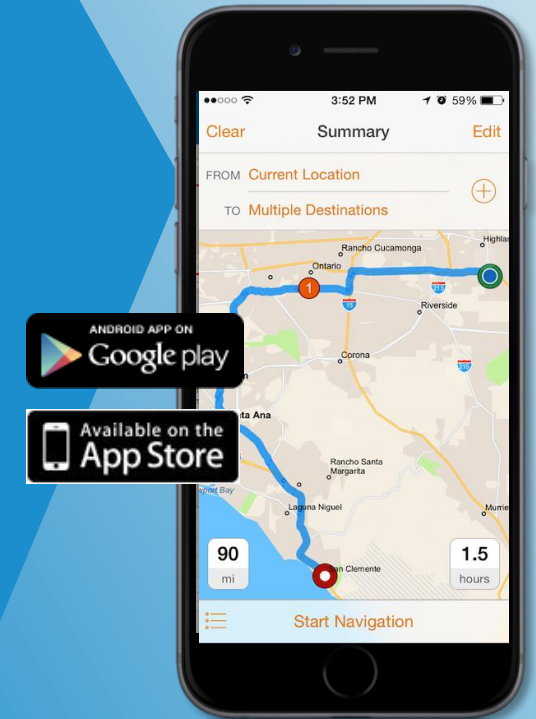
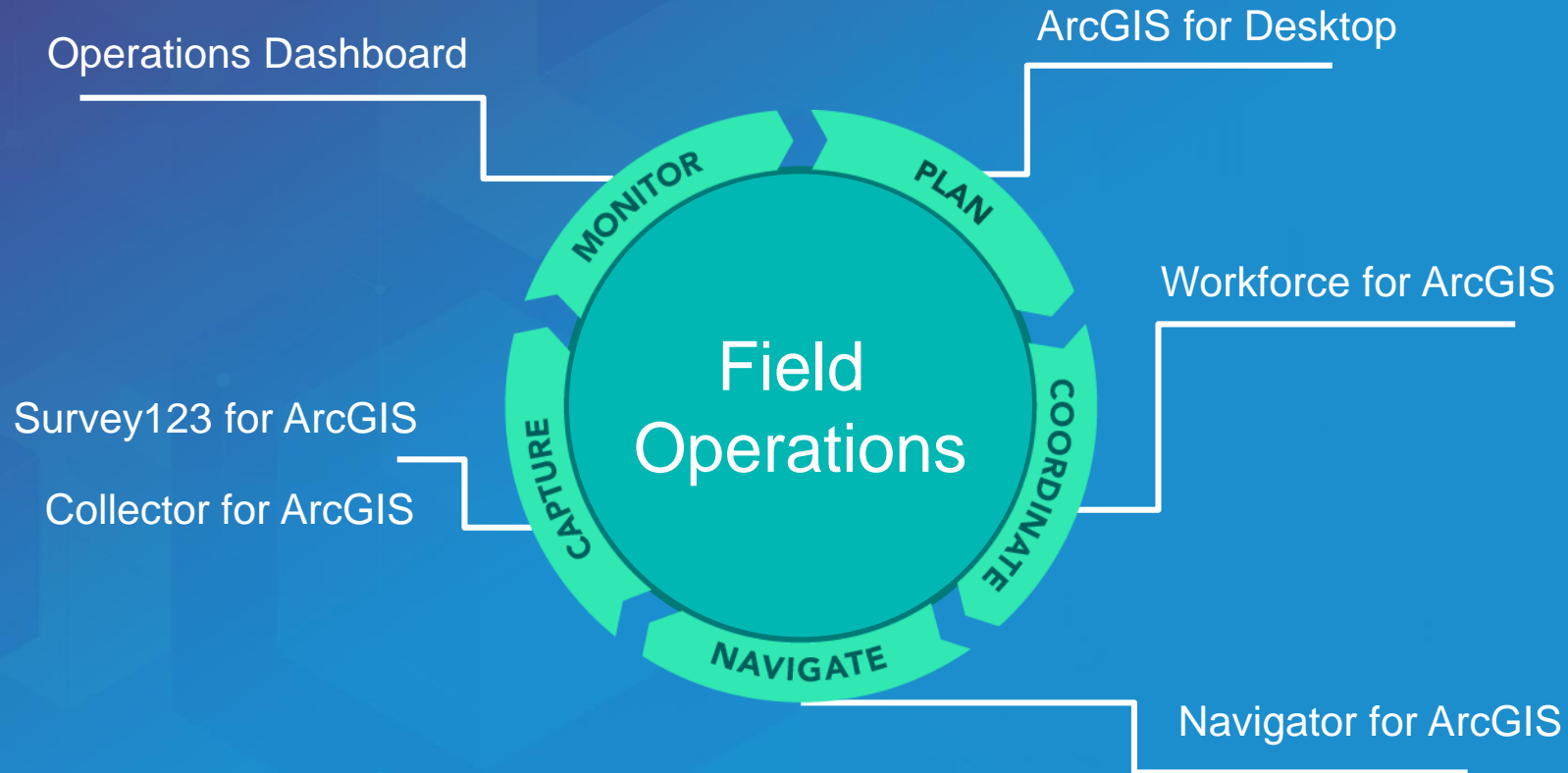
Q How does the ability to work offline change things for you and the inspectors?

A That is key. It's a big rural county, and there are areas without cell service. Inspectors need to be able to receive routing and directions in these areas. And they use a tool in the permitting system that has to work offline. When they get back online, the app has to be able to adjust to what happened, to sync with other systems. That is huge for us.

For more information, visit esri.com



Navigator for ArcGIS

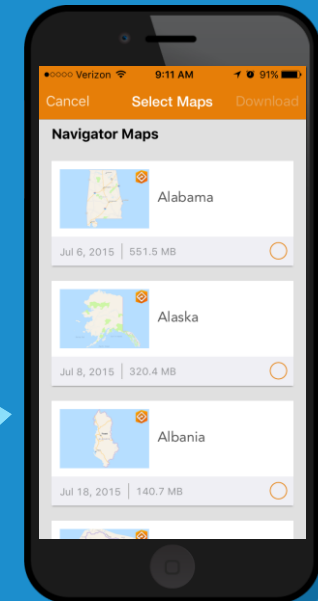


Navigator Maps

Download from **ArcGIS Online**

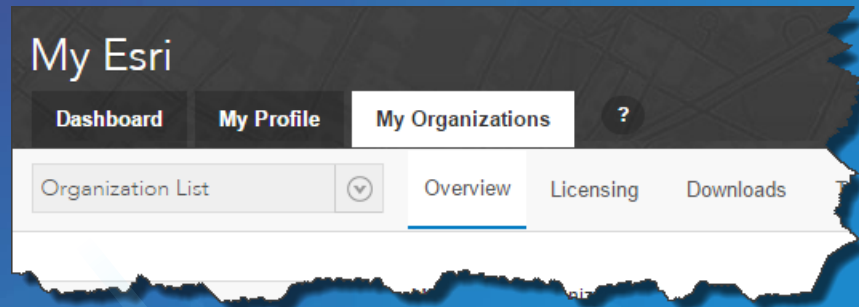


Download
to device



Navigator Maps

Download from **Portal for ArcGIS 10.4**



Download
license and maps



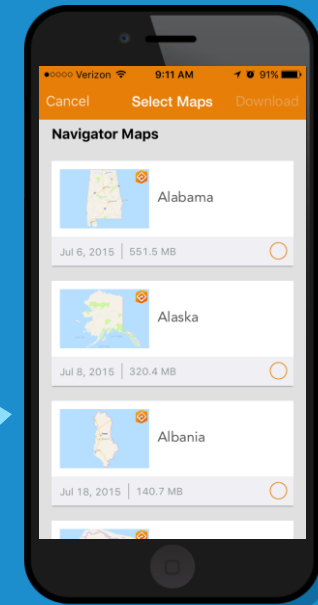
Portal Admin

Register with Portal



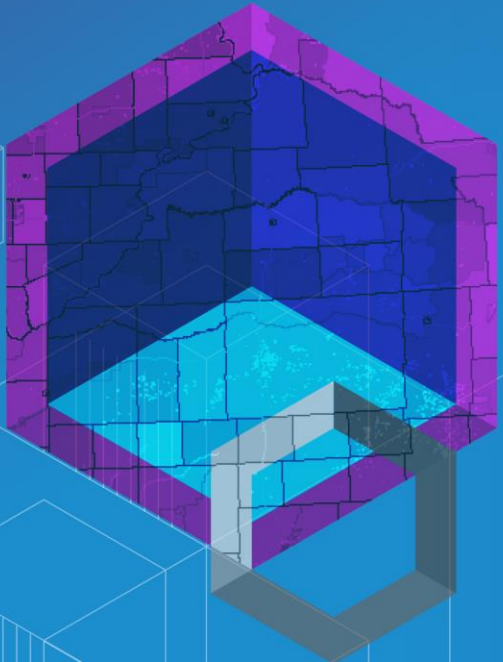
Portal for ArcGIS

Download
to device



Navigator Basics

DEMO



App Extensibility

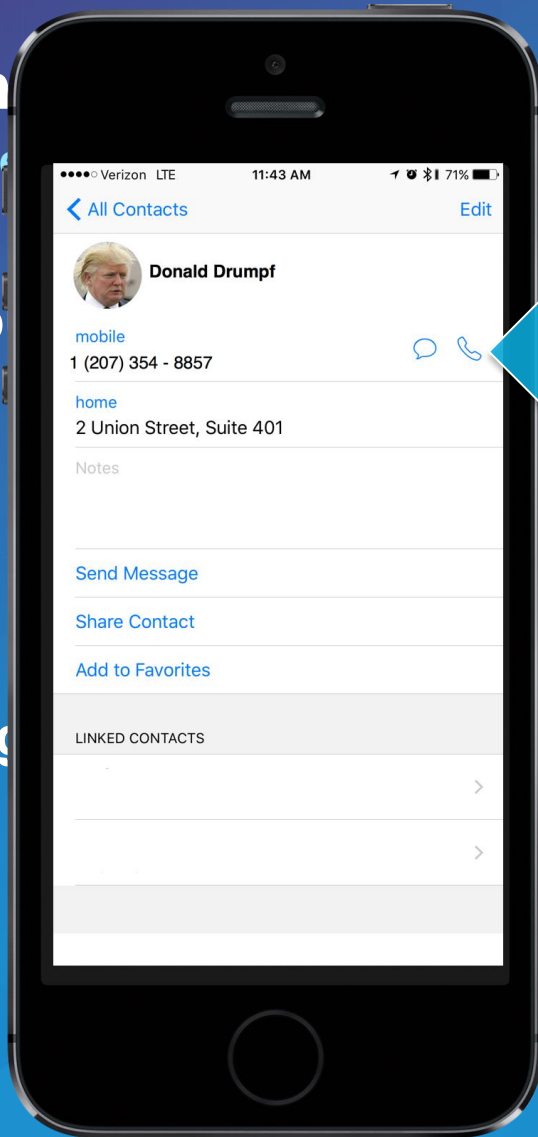
What is Scheme URL ?

- Simply put, a custom URL scheme is a method of invoking and passing state between applications
- in pretty common use today in many applications
- Annoying audience participation moment : Who has used an URL Scheme before?

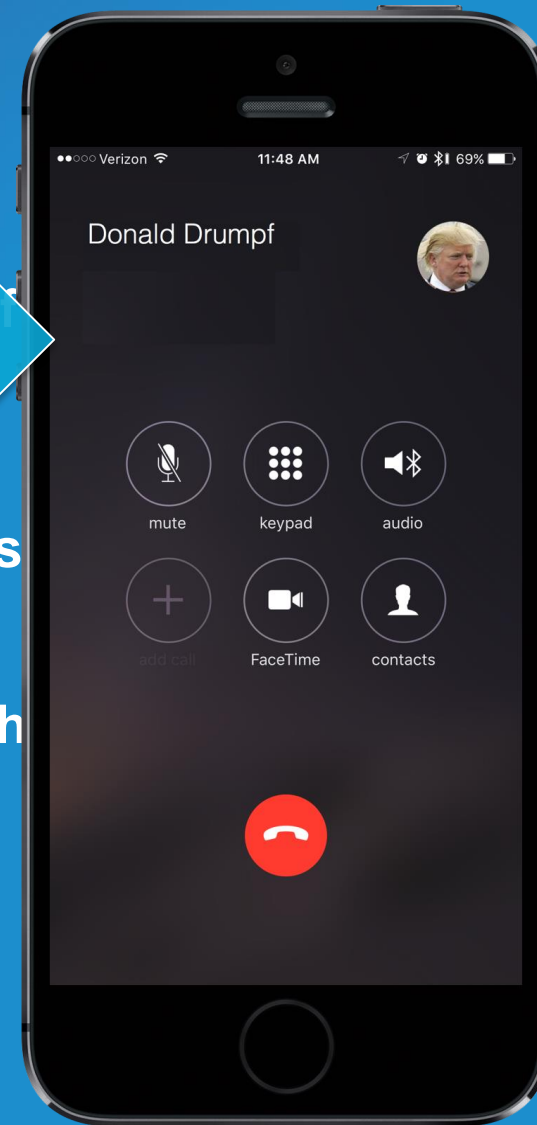
App Extension

What is Scheme

- Simply p
between
- in pretty
- Annoying



Contacts.app



Phone.app

App Link

many applications

on moment : Who h

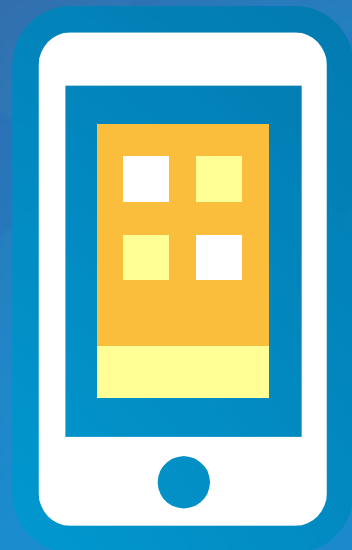
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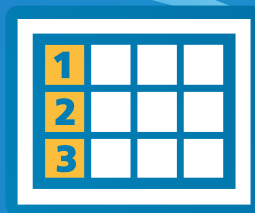
Navigator Integration

URL Scheme

Custom App

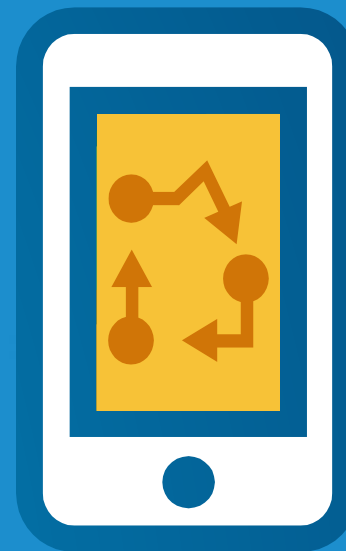


Stop list



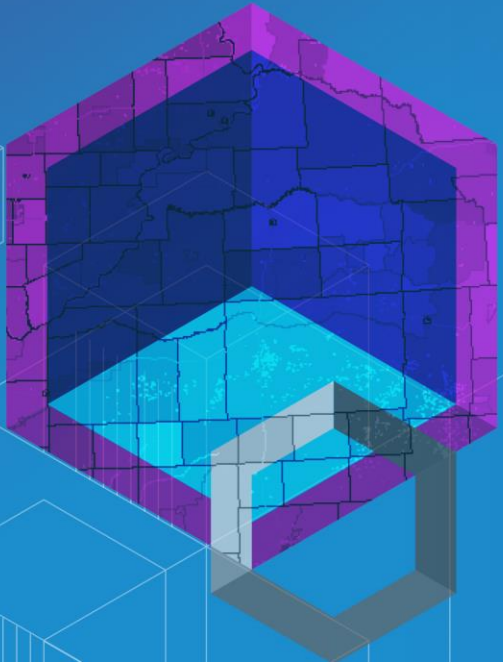
- Location or Address
- Stop Sequence
- Stop name

Navigator for ArcGIS



App Integration

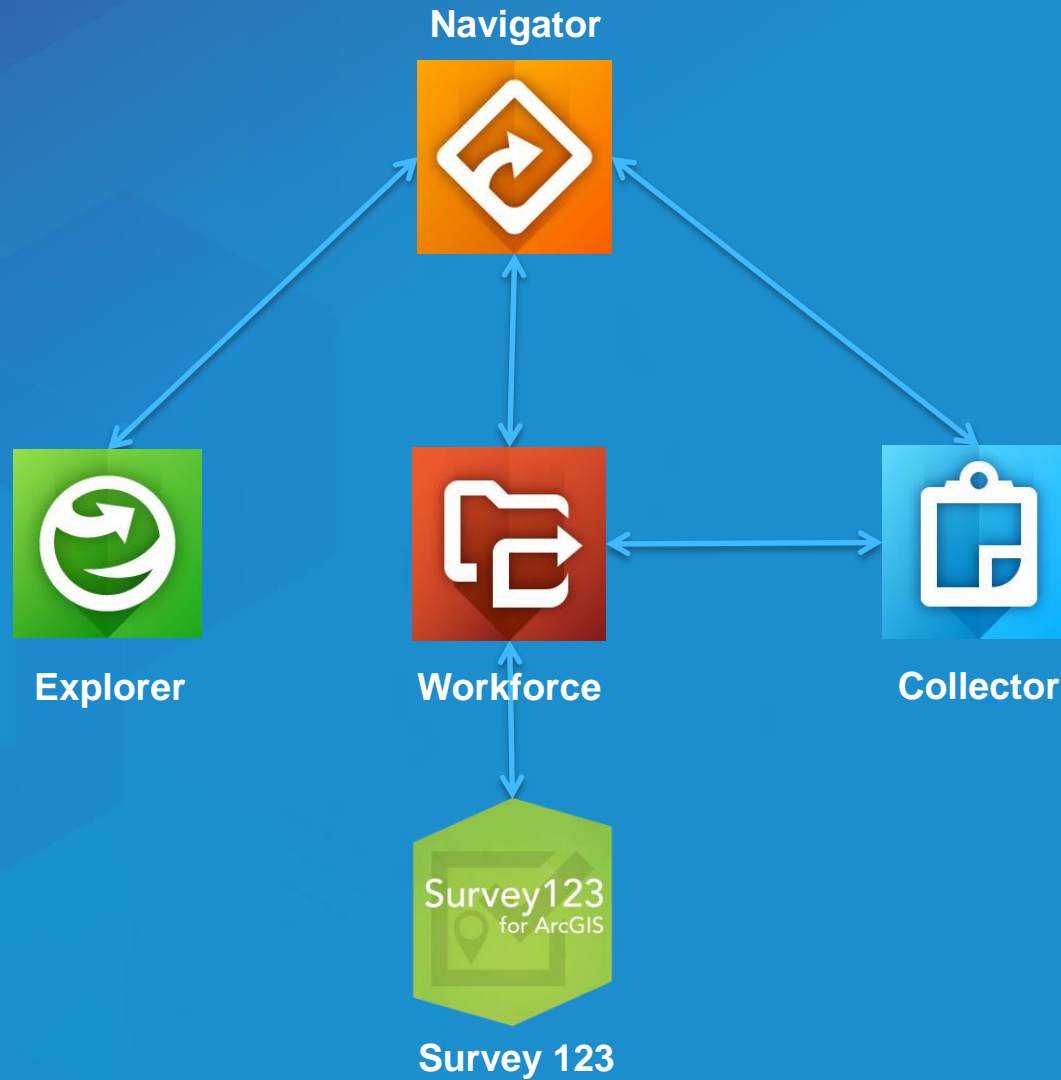
DEMO



So ... How Does it Work?



The inner app communication Ecosystem



The inner app communication Ecosystem

Not just Esri!



URL Scheme Structure

Basics (<https://github.com/esri/navigator-integration>)

1. Identifying information for the app being invoked. This is often referred to as the “Scheme”. Note that this is the same for the app on all platforms but is different than the AGOL App ID.
2. App specific data or parameters

1. 2. Data

Scheme

MyApp://?Parameters=Values

arcgis-navigator://?stop=271+Park+Ave,+Portland+ME&stopname=Hadlock+Field&stop=PWM&stopname=Portland+Jetport

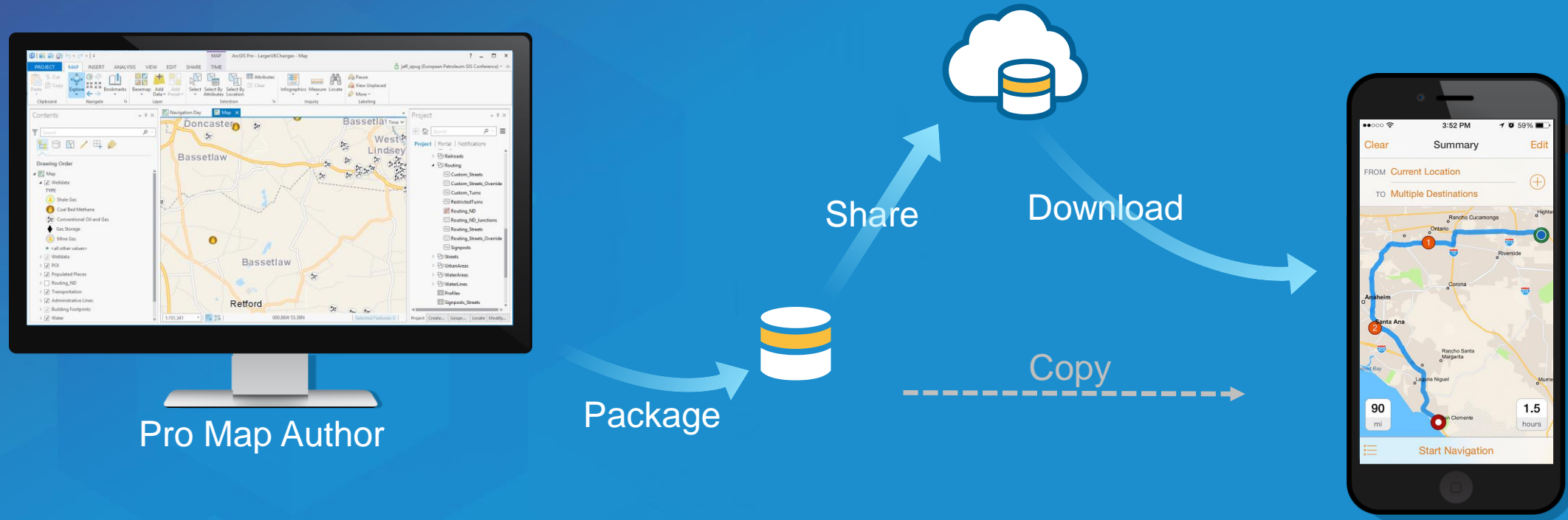
URL Scheme Structure

Parameters

Navigator's Supported Parameters:

- `start`
- `stop`
- `callback`
- `navigate`
- `optimize`
- `travelmode`

Custom Navigation Data



This workflow requires Navigator 2.0 and Pro 1.2

Customize Esri's Maps

Requires StreetMap Premium Desktop

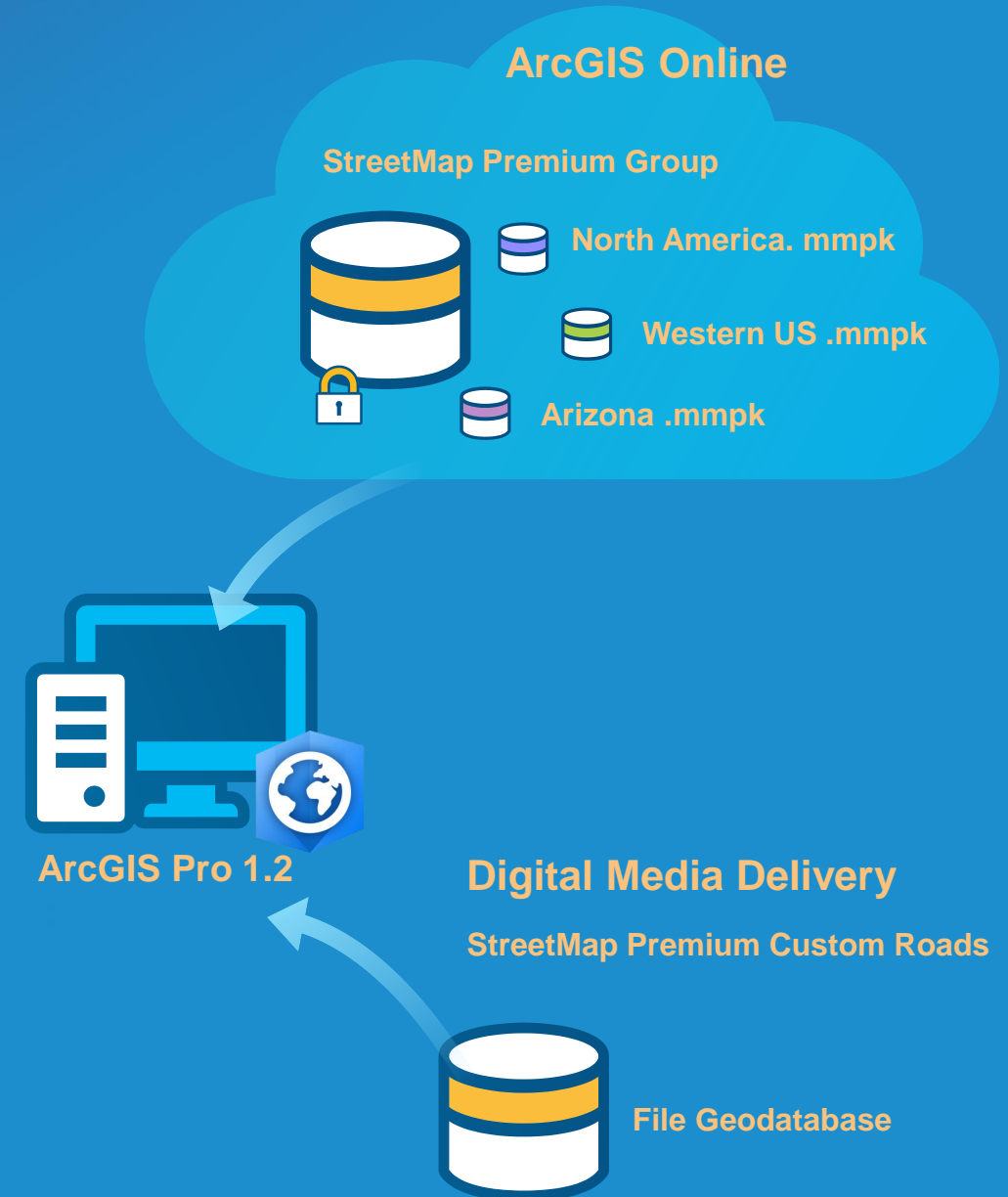
1. Modify the cartography
2. Add or remove locators
3. Customize travel modes
4. Replace the network with your own
5. Clip to an area of interest
6. Share with your organization



Customize Esri's Maps

Requires StreetMap Premium Desktop

1. Modify the cartography
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4. Replace the network with your own
5. Clip to an area of interest
6. Share with your organization
7. ***Add your own roads to the network dataset**
**requires file geodatabase of StreetMap Premium*



Mobile Map Package

.mmpk

- Supports display, geocoding, and routing
- Created in ArcGIS Pro
- Used in Pro, Navigator, and Runtime
- Faster, smaller, and easier to share

The screenshot shows the 'Geoprocessing' window in ArcGIS Pro, specifically the 'Create Mobile Map Package' tool. The interface includes a title bar with standard window controls, a back arrow, the tool name, and a help icon. Below the title bar are tabs for 'Parameters' and 'Environments'. The 'Parameters' tab is active, showing a list of input and output fields. Each field has a text input box and a yellow plus icon for adding data. The fields are: 'Input Map' (with a red 'x' icon), 'Output File' (with a red asterisk icon), 'Input Locator', 'Area of Interest', 'Extent' (with a dropdown menu set to 'Default'), 'Clip Features' (with an unchecked checkbox), 'Title', 'Summary', 'Description', 'Tags', 'Credits', and 'Use Limitations'. At the bottom right, there is a 'Run' button with a play icon.

Geoprocessing

Create Mobile Map Package

Parameters | Environments

Input Map

Output File

Input Locator

Area of Interest

Extent: Default

☐ Clip Features

Title

Summary

Description

Tags

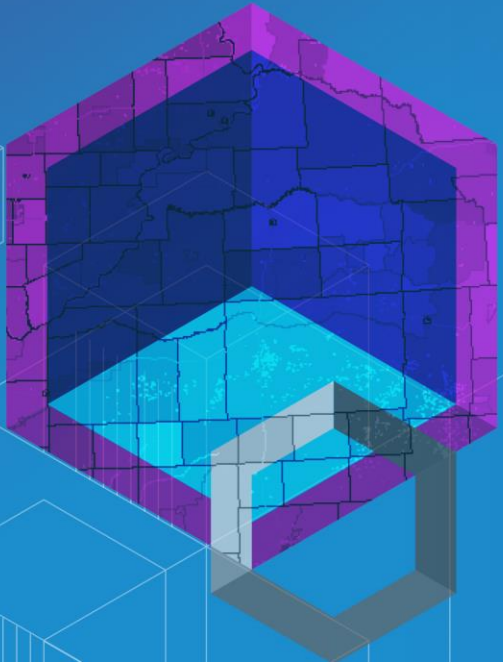
Credits

Use Limitations

Run

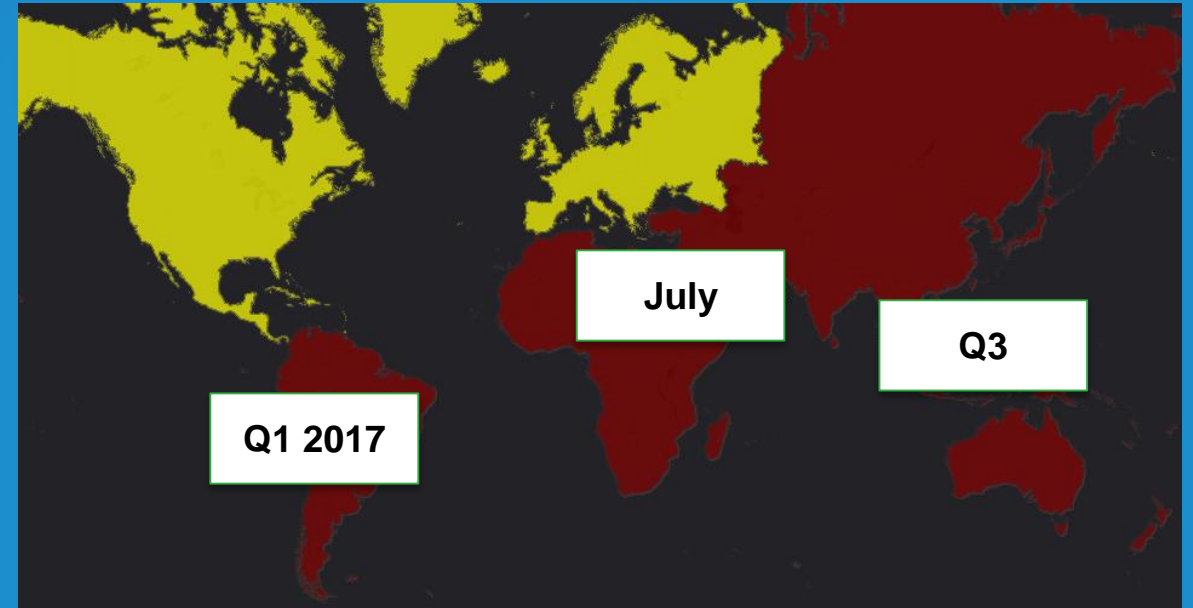
Custom Data

DEMO



Global Coverage by early 2017

- **Now: North America & Europe**
 - Country
 - Region
 - State / Province
- **What's coming:**
 - Middle East and Africa (planned for July)
 - Asia Pacific (planned Q3)
 - Latin America (planned Q1 2017)



What's Next for Navigator?

Route layers support workflows across ArcGIS

Connect to a **shared route** and follow route geometry

- Consistent across the organization
- Share quickly with planners and drivers
- Update easily when things change
- Authoritative routes **reduce data duplication**



Tech Workshops & Demo Theaters

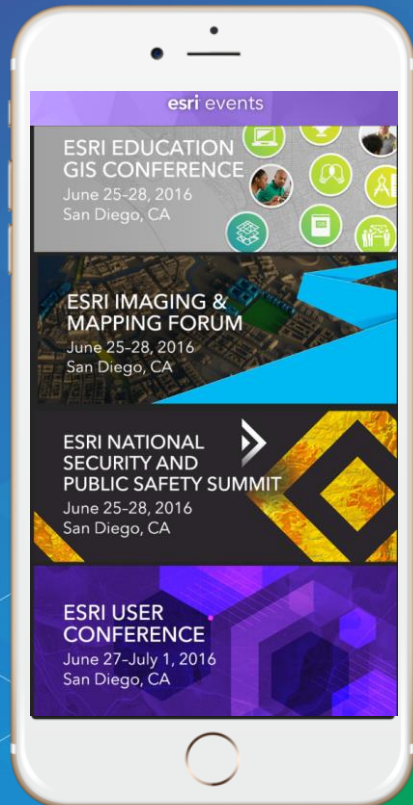
- **Packaging Network and Geocoding Data** for Navigator
 - Tues 5:00 – 5:30, Tech Theater 15 (Hall A)
 - Thurs 12:00 – 12:30, Tech Theater 15 (Hall A)
- Navigator: **Using Your Own Data** with Navigator for ArcGIS
 - Wed 4:30 – 5:15, Demo Theater 8 - Apps
- Optimizing **Field Operations** with ArcGIS Apps
 - Tues 1:30 – 2:45, Room 04
 - Thurs 8:30 – 9:45, Room 03

Stop by the Apps Island!

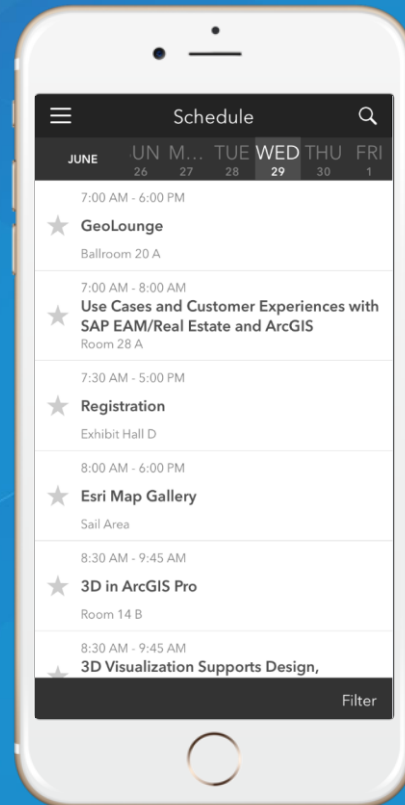
Please take our Survey

Your feedback allows us to help maintain high standards and to help presenters

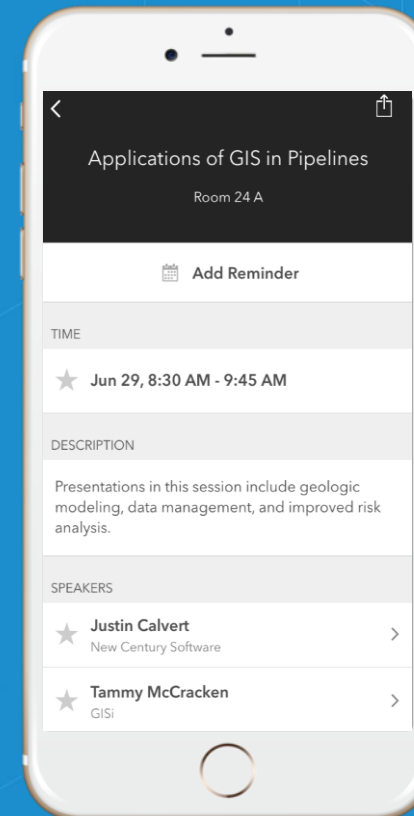
Find your event in the
Esri Events App



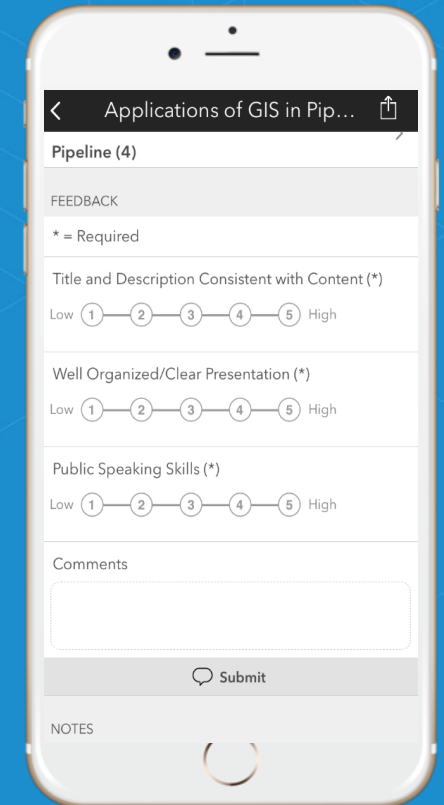
Find the session
you want to review



Scroll down to the
bottom of the session



Answer survey
questions and submit



Thanks & Questions

More Resources:

- Open Source GitHub repo for URL Scheme (Documentation and Sample Code)
 - <https://github.com/esri/navigator-integration>
- Product Information - <http://www.esri.com/products/navigator>
- Documentation - <http://doc.arcgis.com/en/navigator/>
- Forums - <https://geonet.esri.com/groups/navigator>