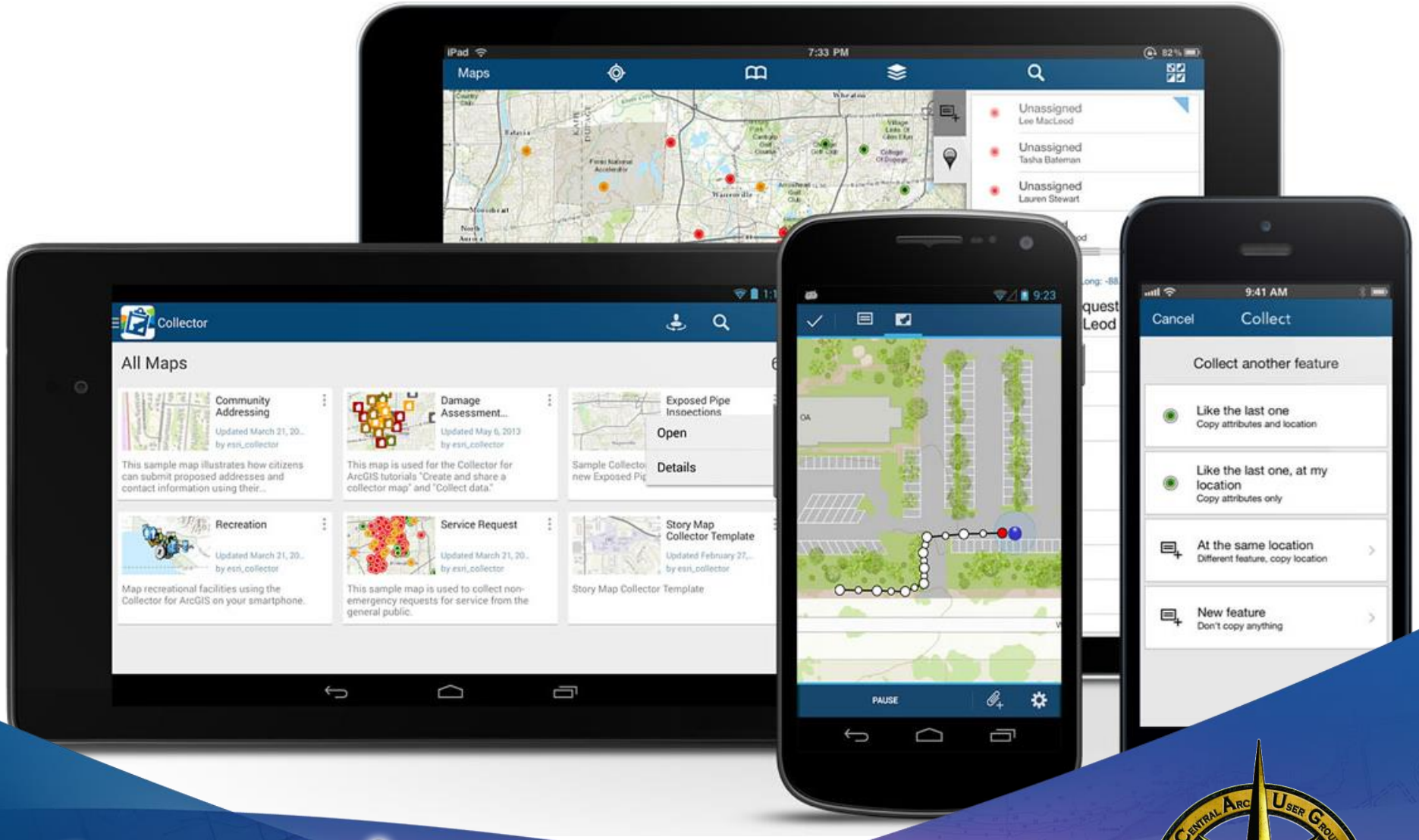


esri

South Central Arc User Group
Oklahoma
Est. 1990

ArcGIS Mobile Solutions

OKSCAUG User Group Meeting
Edmond, OK
26 Feb 2014

Mike Beavers
Solution Engineer
mbeavers@esri.com

Agenda

ArcGIS – The Platform for Mobile GIS

Users of Mobile Technology

Benefits of Mobile Solutions

Mobile Options

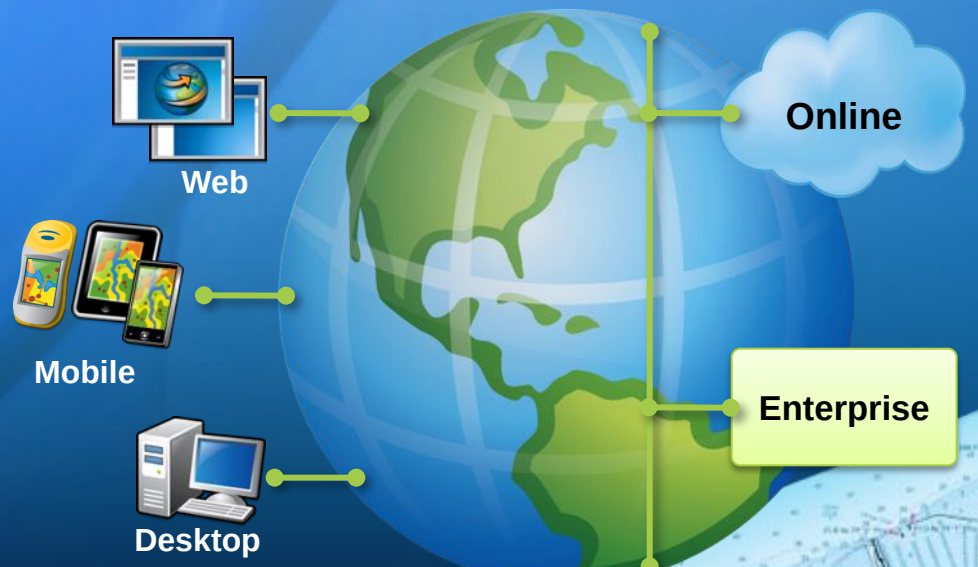
Making Your Data Mobile

Hands On – Using Mobile Apps

Q & A

ArcGIS Platform

- For Organizations to leverage the geographic approach
- Everyone can use it at any time, anywhere
- Combines building blocks and components that deliver geospatial capabilities
- An ecosystem for …
  - Users
  - Partners
  - Vendors
  - Developers
  - Citizens / Public
  - Other GIS platforms



ArcGIS Online (AGO)

Create and Share Intelligent Web Maps & Apps

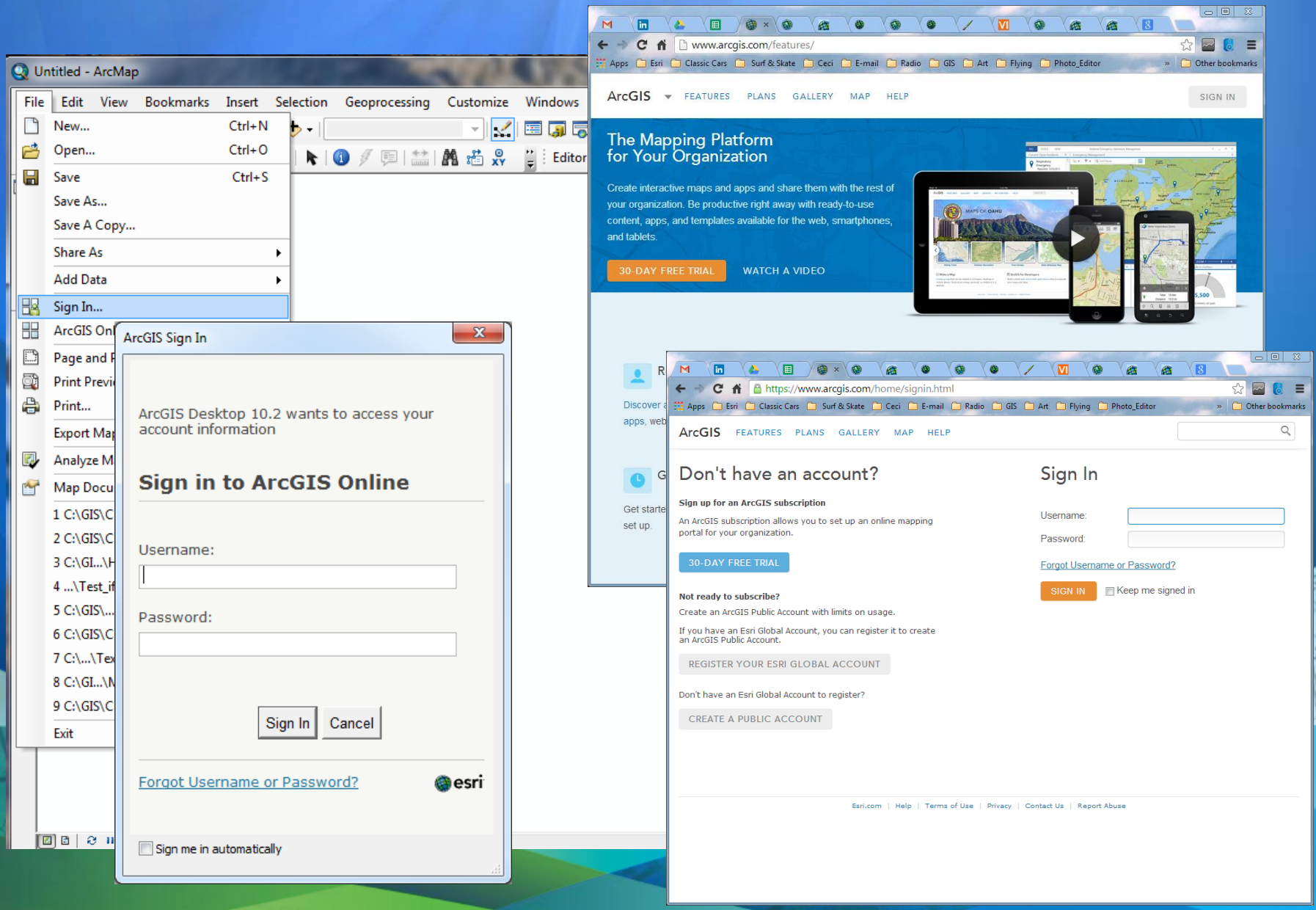
Publishing Data to AGO

- ArcGIS Desktop Publishing
  - Shapefiles & Geodatabases with Domains
  - Hosted Feature Services
  - ArcGIS Server
- Publish an Excel CSV with Headers
- Make a Web Map
- Map a Web App

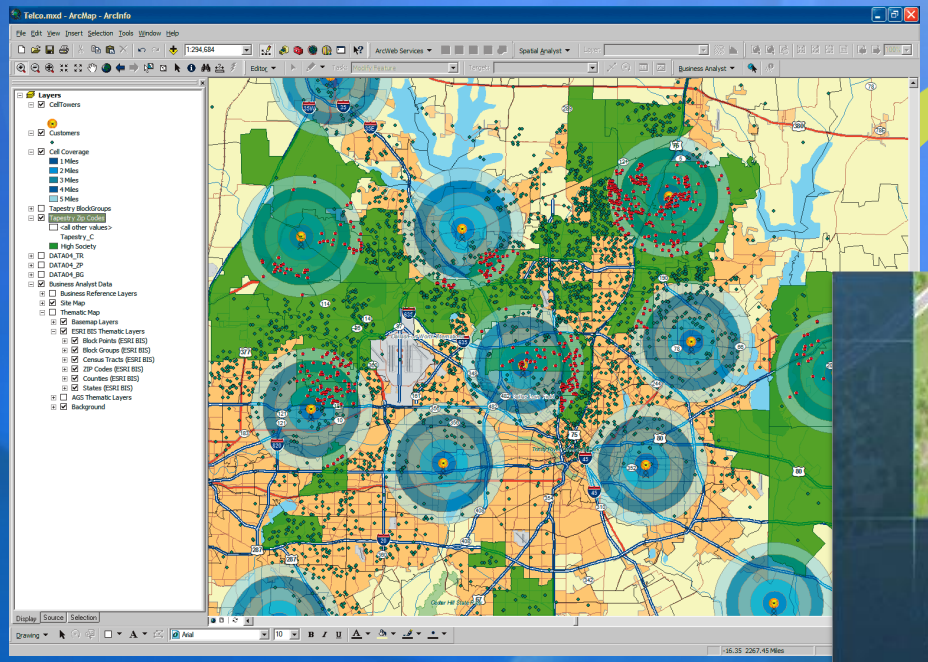
Making Your Data Mobile

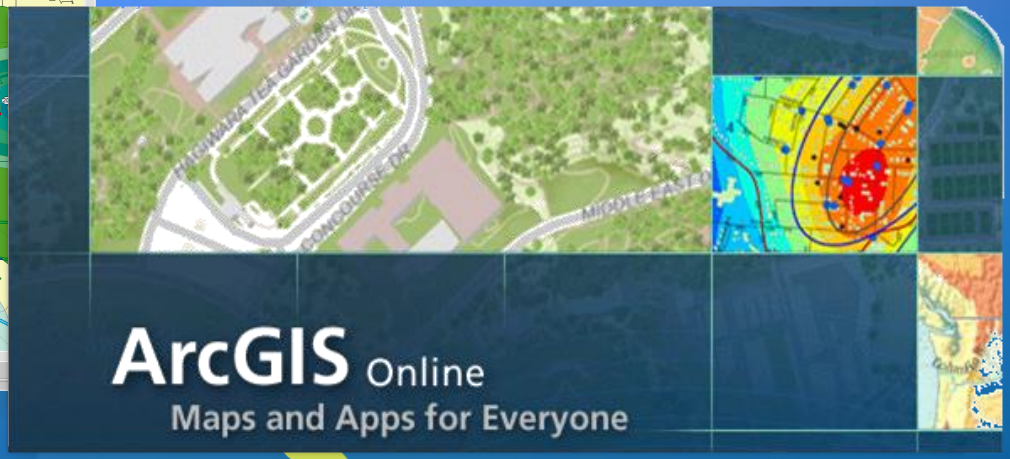
Taking Your GIS into the Field

Publishing Data to AGO



Desktop ↔ AGO ↔ Mobile GIS





Goals for a Mobile Solution

Devices
Handheld GPS
Laptop
Phone
Tablet

Connectivity
Sometimes
Always
Never

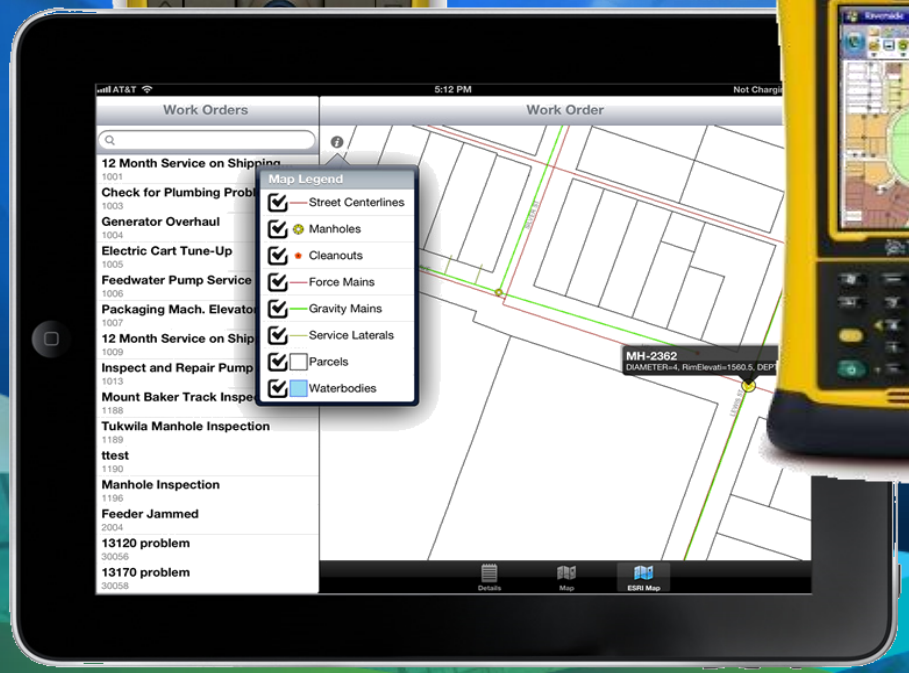
Functionality
Lightweight
Easy-to-Use
Focused
Secure

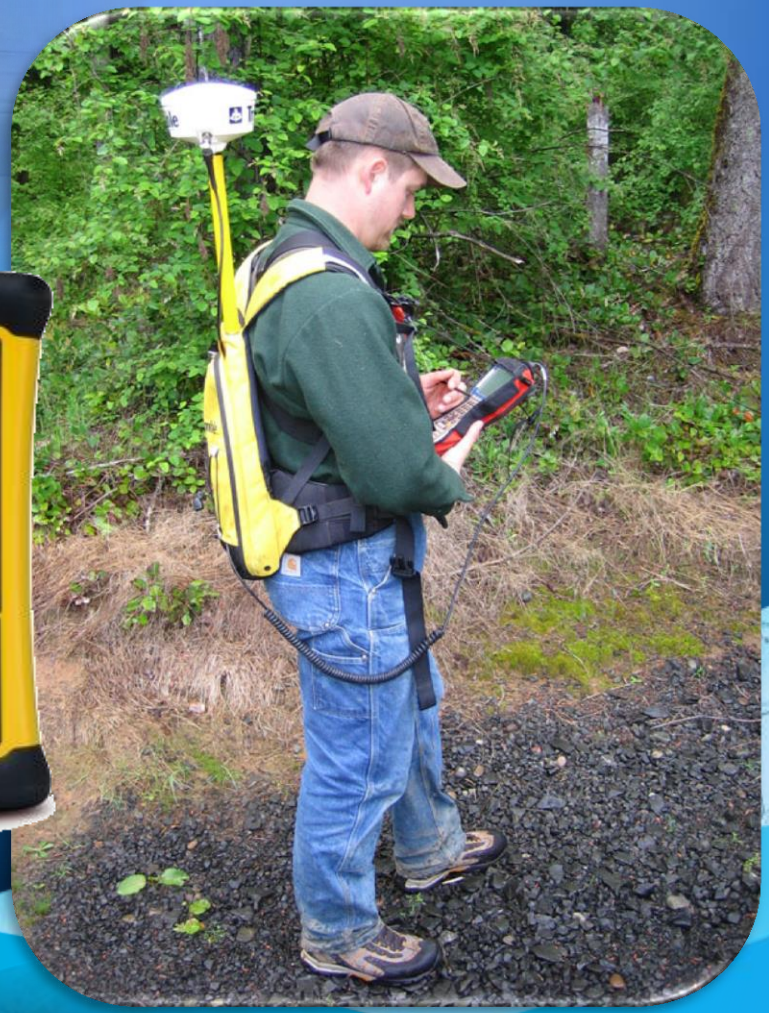
Platforms
Windows Mobile
Windows OS
Apple iOS
Android

Tools
Camera / Video
Range Finder
GPS

Mobile Devices

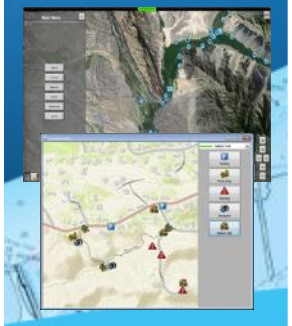
Hardware drives your decisions





ArcGIS Mobile Platform Options

Windows Mobile	Windows	Windows Phone	Apple iOS	Android	Linux
Apps	Apps	Apps	Apps	Apps	ArcGIS Runtime
ArcGIS Mobile	ArcGIS Desktop	ArcGIS App	ArcGIS App Collector	ArcGIS App	Engine
ArcPad	ArcGIS Mobile			Collector	
	ArcPad				
	Dashboard				
.NET	WPF, Java	XAML	Objective-C	Java	Java, C++



2 Main Mobile Use Cases

- Every-Day Uses
- Field Data Collection & Editing

Benefits of Field Editing Solutions

Rapid Data Collection

- Inspect Assets & Record Events
- Real-time Data Collection

Improve Efficiency and Accuracy

- Use of Data Entry Forms
- Precise GPS Locations
- Routing & Drive Times

Seamless Da ration

- Synch

ArcGIS Mobile Applications Options

- ArcGIS for Windows Mobile
- ArcPad
- ArcGIS Online
  - ArcGIS App
  - Collector
  - Dashboard

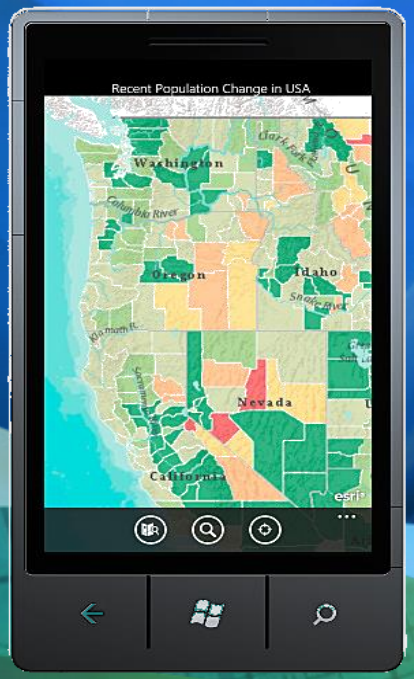
ArcGIS Mobile Applications Options

- **ArcGIS for Windows Mobile**
  - ArcPad
  - ArcGIS Online
    - ArcGIS App
    - Collector
    - Dashboard

ArcGIS for Windows Mobile *

- Easy-to-Use, Ready-to-Deploy, Focused, Mobile Apps
- Works in a Connected or Disconnected Environment
- Collect, Edit, and Update GIS/GPS Data in Real-time
- Fully Configurable

*Users typically need little training



*Windows Mobile Handhelds & Windows 7/8 Tablets & Laptops

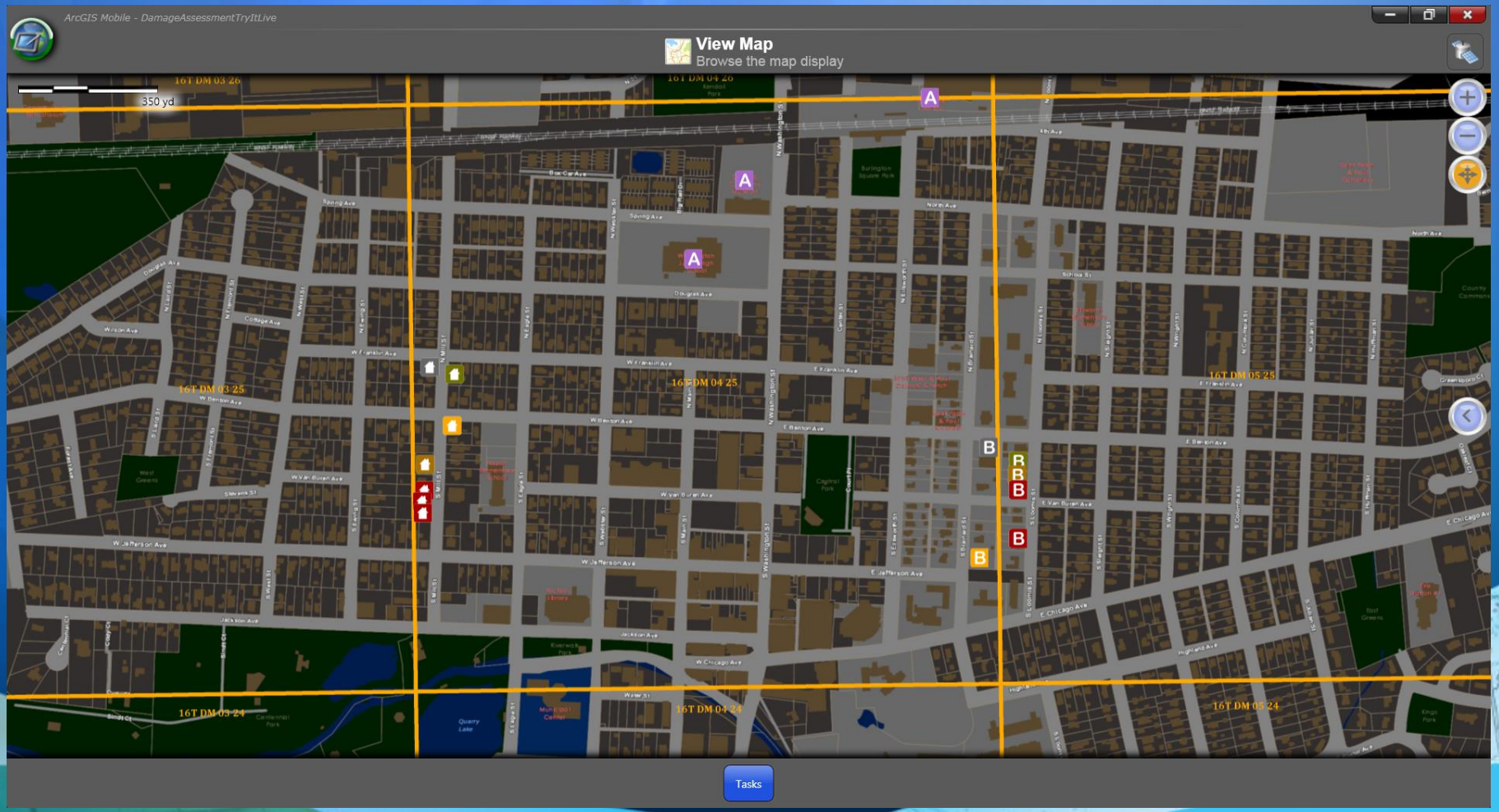
ArcGIS for Windows Mobile

Rapid Deployment during the BP Gulf Oil Spill

"The Gulf oil spill, which began April 20, 2010 when BP's Deepwater Horizon drilling rig exploded, set the stage for the largest implementation of mobile GIS technology in history,"
Tom Patterson – Esri .

In order to track the spill and cleanup efforts, BP distributed 300 handhelds to government, military and commercial teams with little or no GIS experience.

ArcGIS for Windows Mobile Sample



ArcGIS Mobile Applications Options

- ArcGIS for Windows Mobile
- **ArcPad**
- ArcGIS Online
  - ArcGIS App
  - Collector
  - Dashboard

ArcPad

- High-Accuracy GPS
- Fully Disconnected Tools
- Capture, Edit and Display
  Data & Images
- Customizable Field Data Collection

*User typically needs GIS/GPS Training

ArcGIS Mobile Applications Options

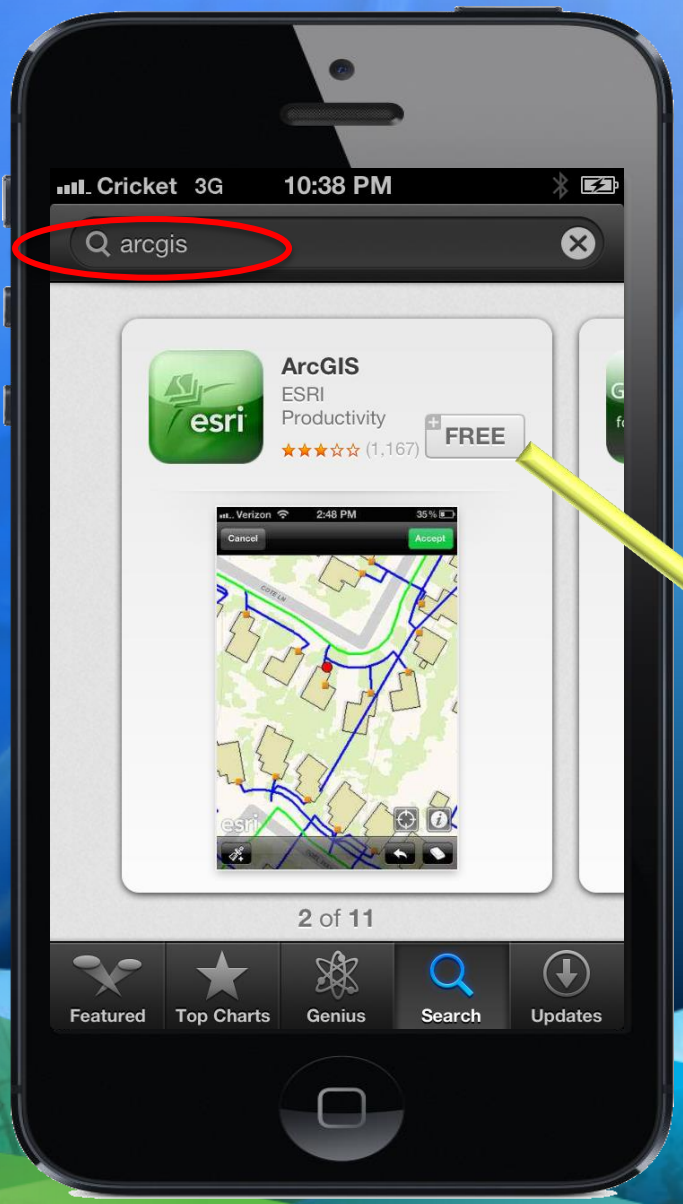
- ArcGIS for Windows Mobile
- ArcPad
- **ArcGIS Online - SaaS**
  - **ArcGIS App**
    - Collector
    - Dashboard

ArcGIS App - "The Green App"

- Free – To View Public Webmaps
- Links to Your AGO Account
  - Publish Custom Maps
  - Add, Edit and Delete: Points, Lines & Polygons
  - Share Web Maps & Apps with Groups

Download & Install the ArcGIS App

iPhone, Android Phone devices



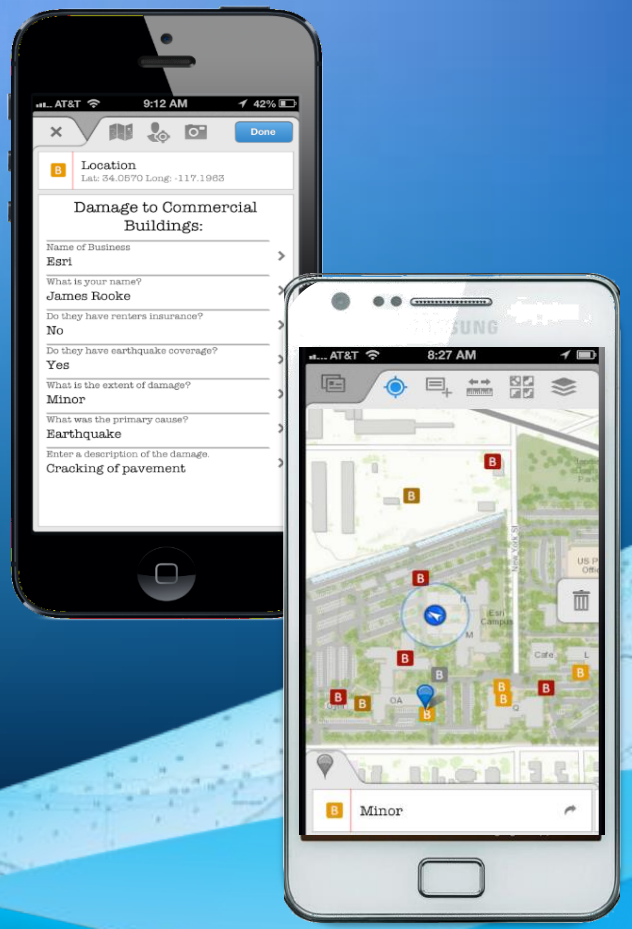
Demo the ArcGIS App

ArcGIS Mobile Applications Options

- ArcGIS for Windows Mobile
- ArcPad
- **ArcGIS Online - SaaS**
  - ArcGIS App
  - **Collector**
  - Dashboard

Collector

- Available on iPhone and Android phones
- Targets Field Data Collection
- Free to download and use
- Integrated into the ArcGIS platform
- Configurable using ArcGIS Online and Portal for ArcGIS



iOS & Android Devices

What You Can Do With Collector

- **Find**

Find places and points of interest around you

Get driving directions to places and to your features

- **Measure**

Calculate distance and area on the map

Enable Location Tracking to record your location

- **View**

Open bookmarked locations

Switch basemaps

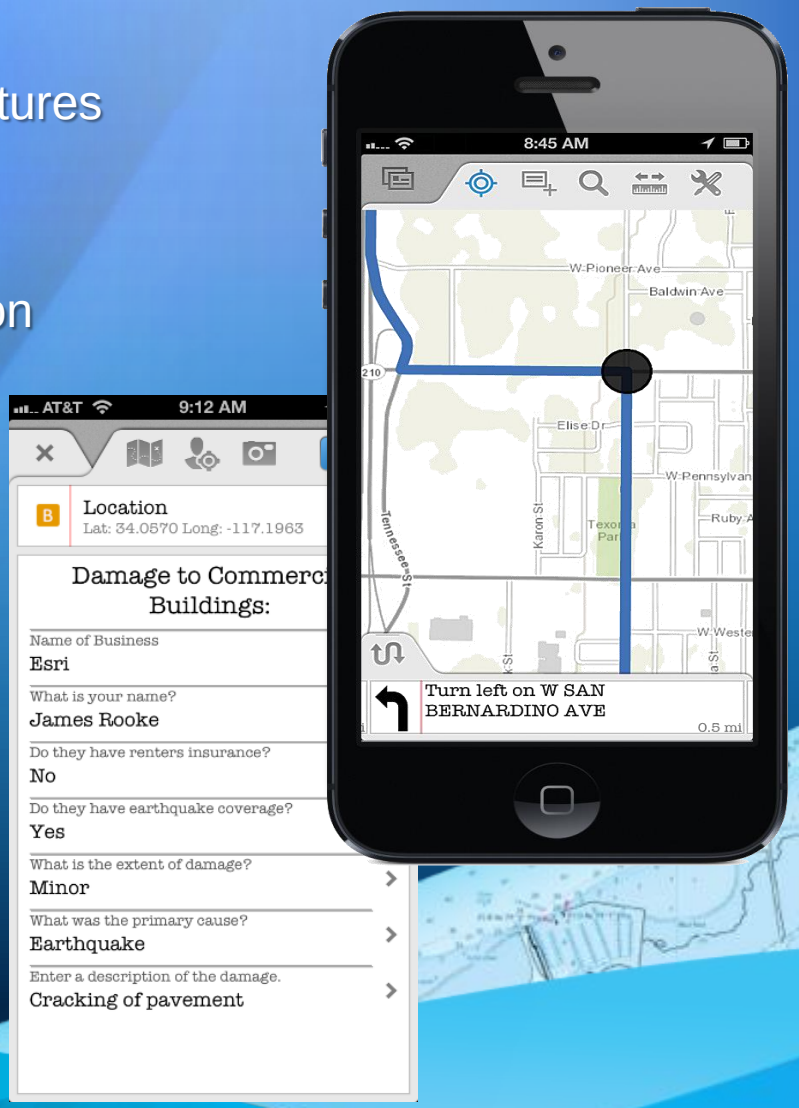
Turn on/off map layers

- **Collect**

Capture & Edit features using the map or GPS

Complete intelligent data entry forms

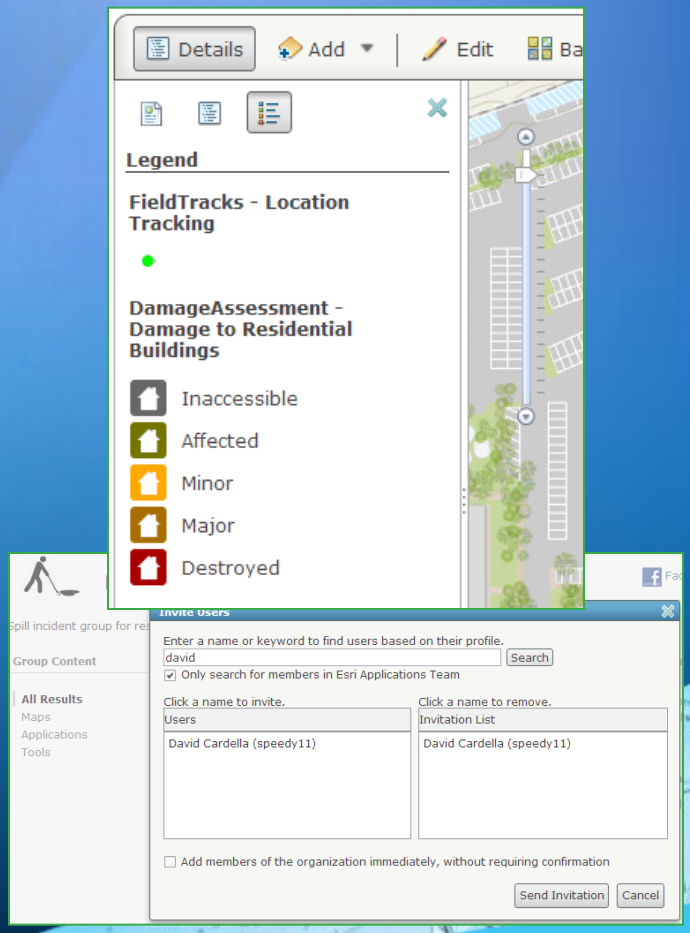
Attach photos



Disconnected Editing Coming Soon!

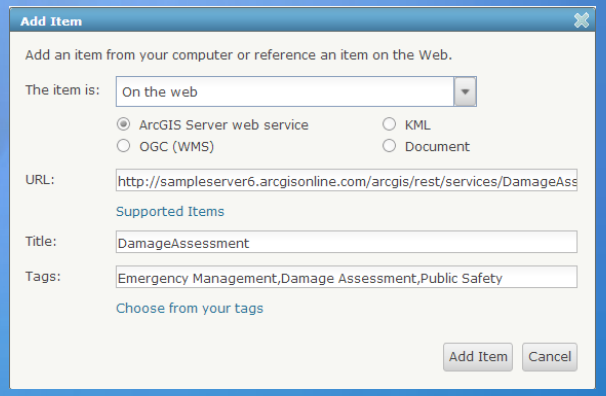
Creating a map in AGO for data collection

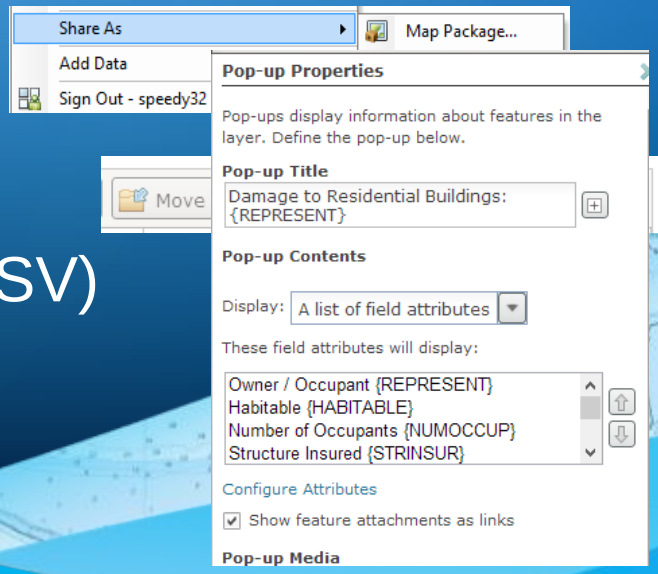
- Publishing
  - Point, Line and Polygon feature service layer (editable)
  - Location Tracking layer (optional)
- Sharing
  - Share maps with Groups
  - Create Named Users for each Field Worker
  - Invite Field Workers into Groups



Feature Services

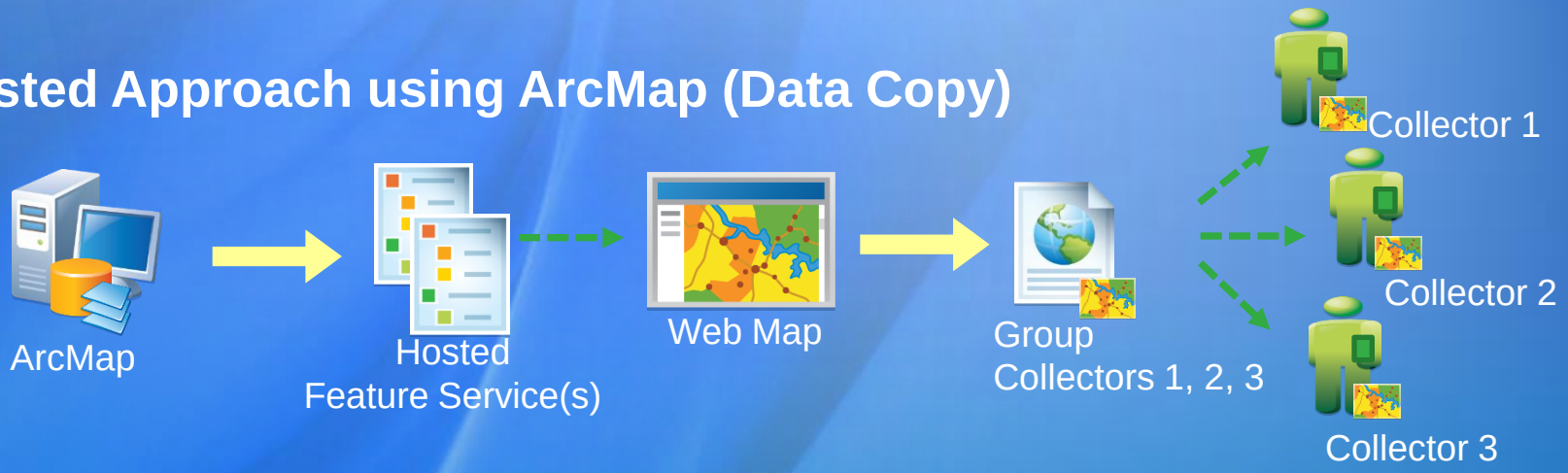
- Supported Types
  - ArcGIS Online (Hosted)
  - ArcGIS Server (On Site)
  - Must include an editable layers
- Ways to create one:
  - Publish from ArcMap
  - Reference from ArcGIS Server
  - Create using ArcGIS Online
    - Create Service
    - From existing content (SHP, CSV)
- Configure Popups and fields



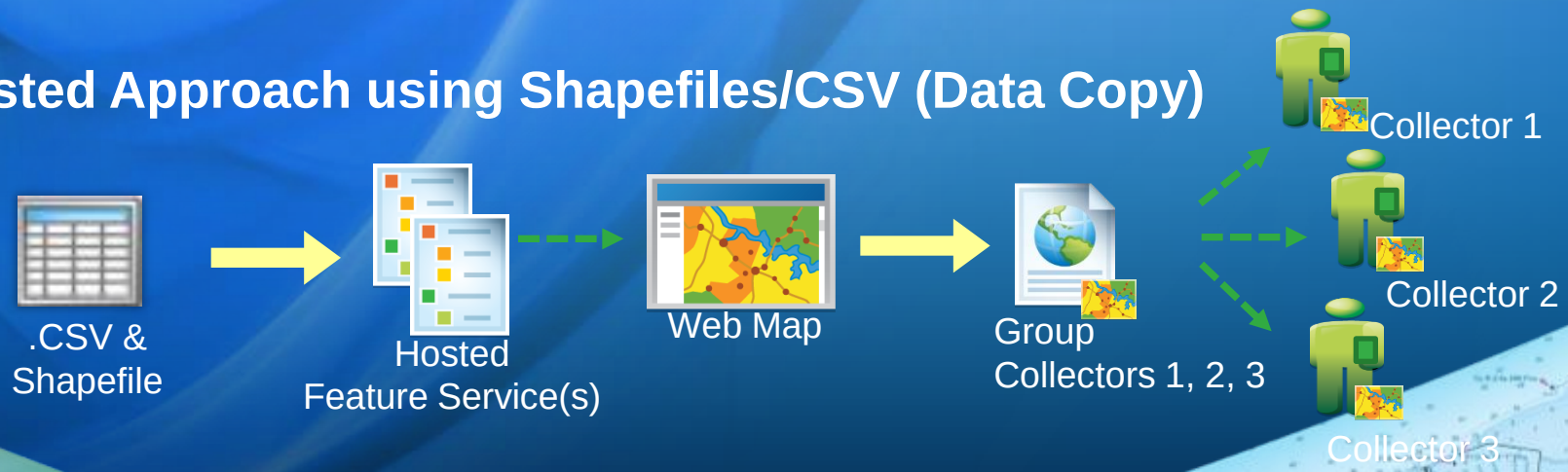


Publishing Workflows

Hosted Approach using ArcMap (Data Copy)

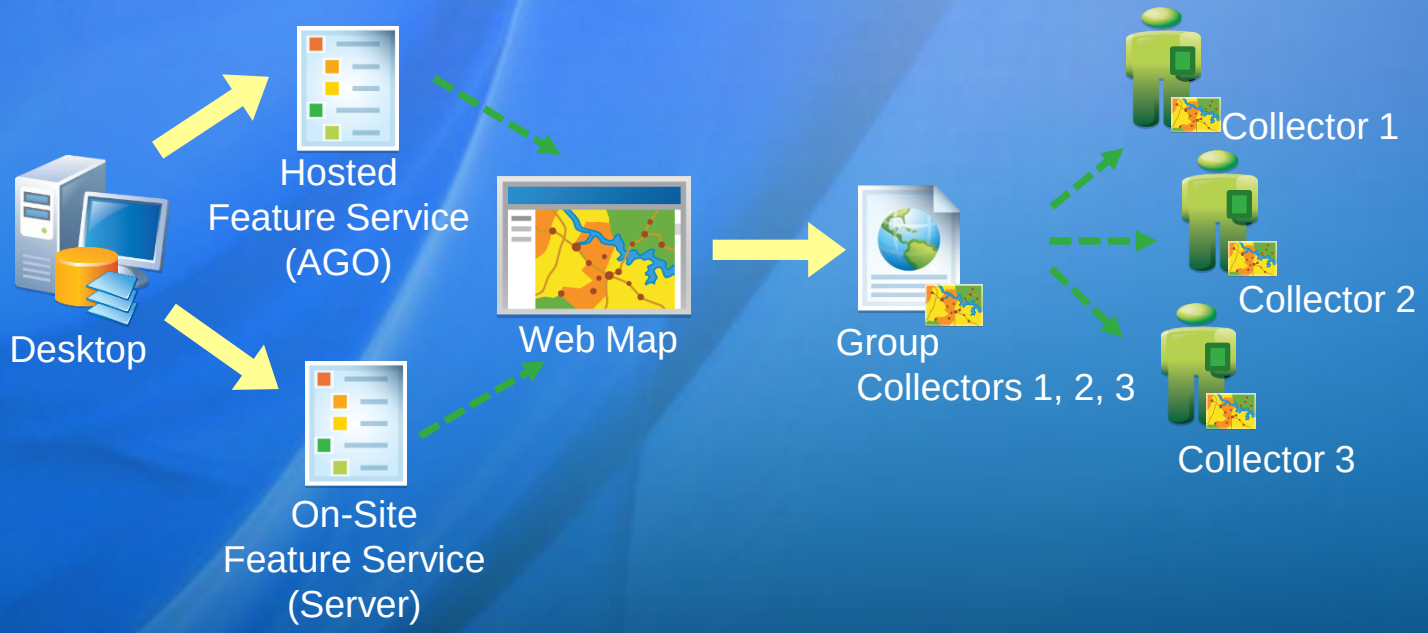


Hosted Approach using Shapefiles/CSV (Data Copy)



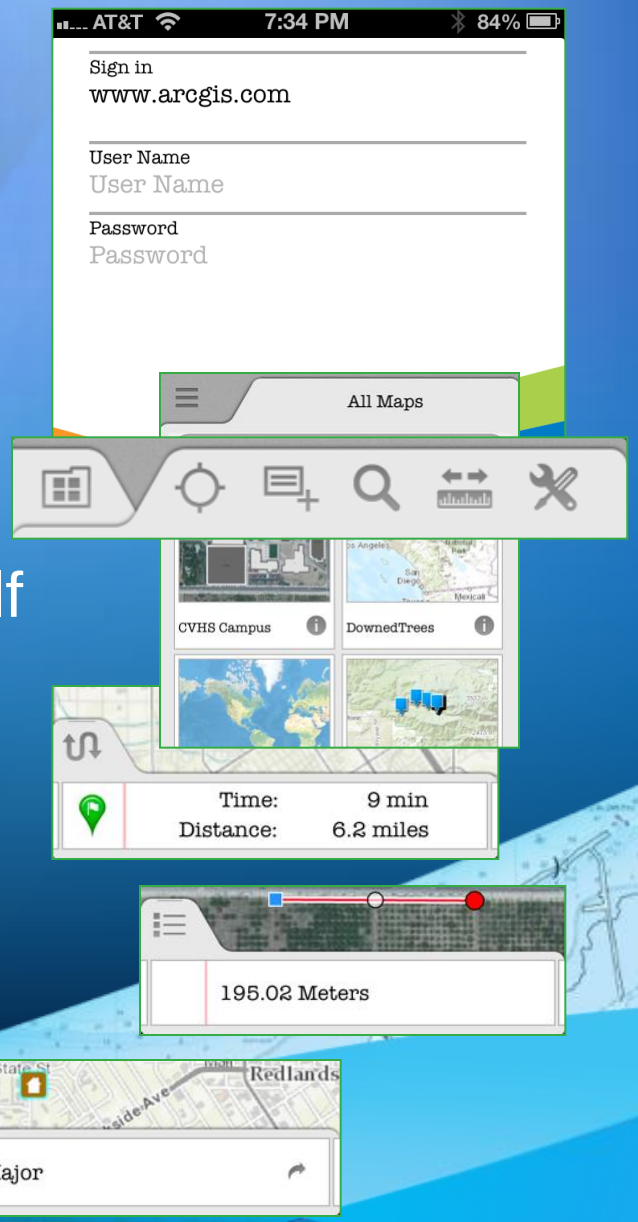
Publishing Workflows

Hybrid Approach (Data Reference)



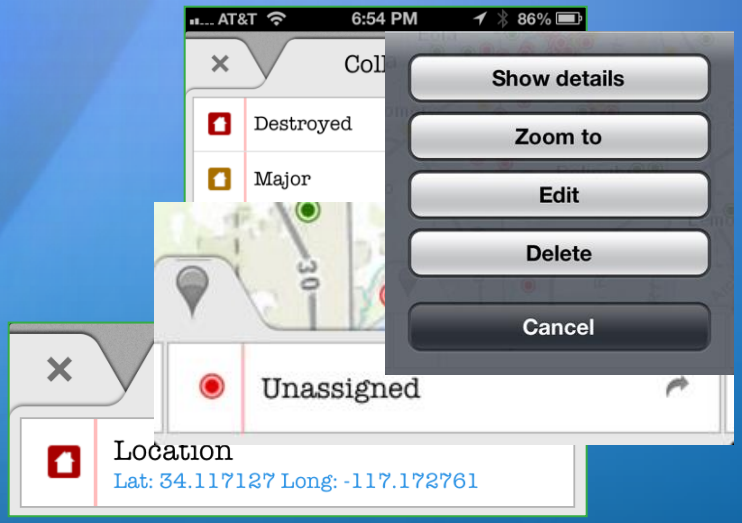
Getting Started with Collector

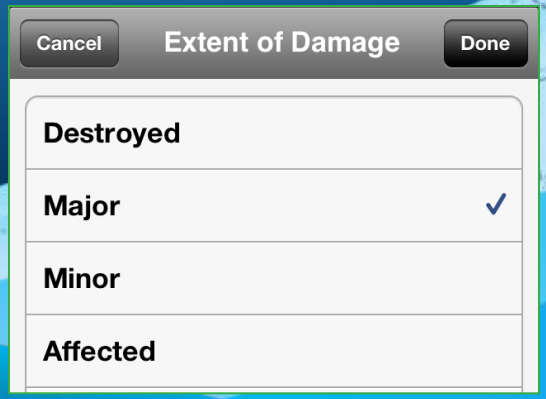
- Logging in (User Identity)
  - Required for use
  - Find maps shared for collection
- Finding your work location
  - Use GPS to find where you are
  - Search Places and Addresses
  - Get directions to navigate yourself
- Exploring the map
  - Tap on the map to learn more
  - Measure distances and area
  - Manage layers and basemaps



Collecting and updating data

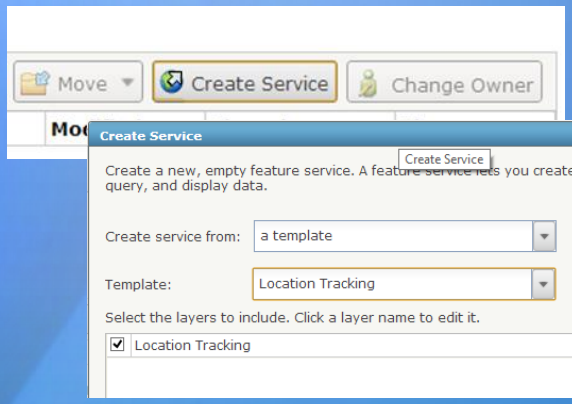
- Choosing what you collect
  - Tap Collect and choose what you want to collect
- Choosing what you update
  - Tap on a feature and then edit it
- Set the location
  - Use your current location
  - Using the map
- Complete the form
  - Tap a field and set its value (Domains)
  - Tap the camera and take a photo/video

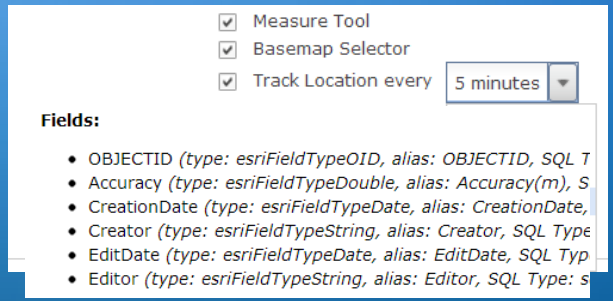




Location Tracking Service

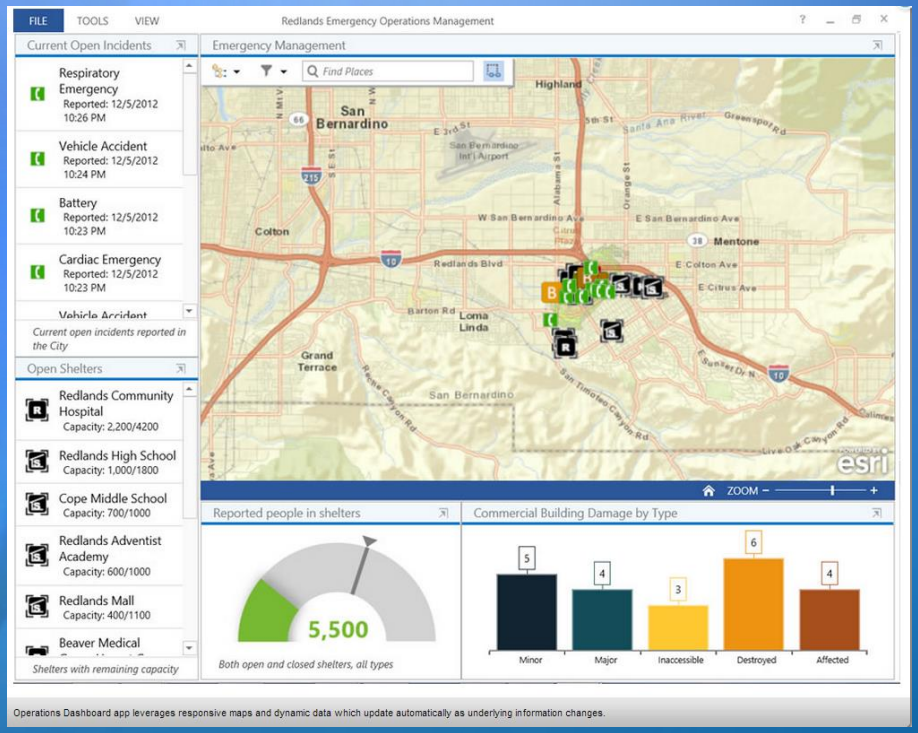
- Hosted Feature Service only!
- Create one or more per field team
- Add to web map and configure capture interval
- Schema automatically captures:
  - Accuracy – GPS accuracy in meters
  - Creator – username for named user account
  - Creation Date – Date/Time at point of creation





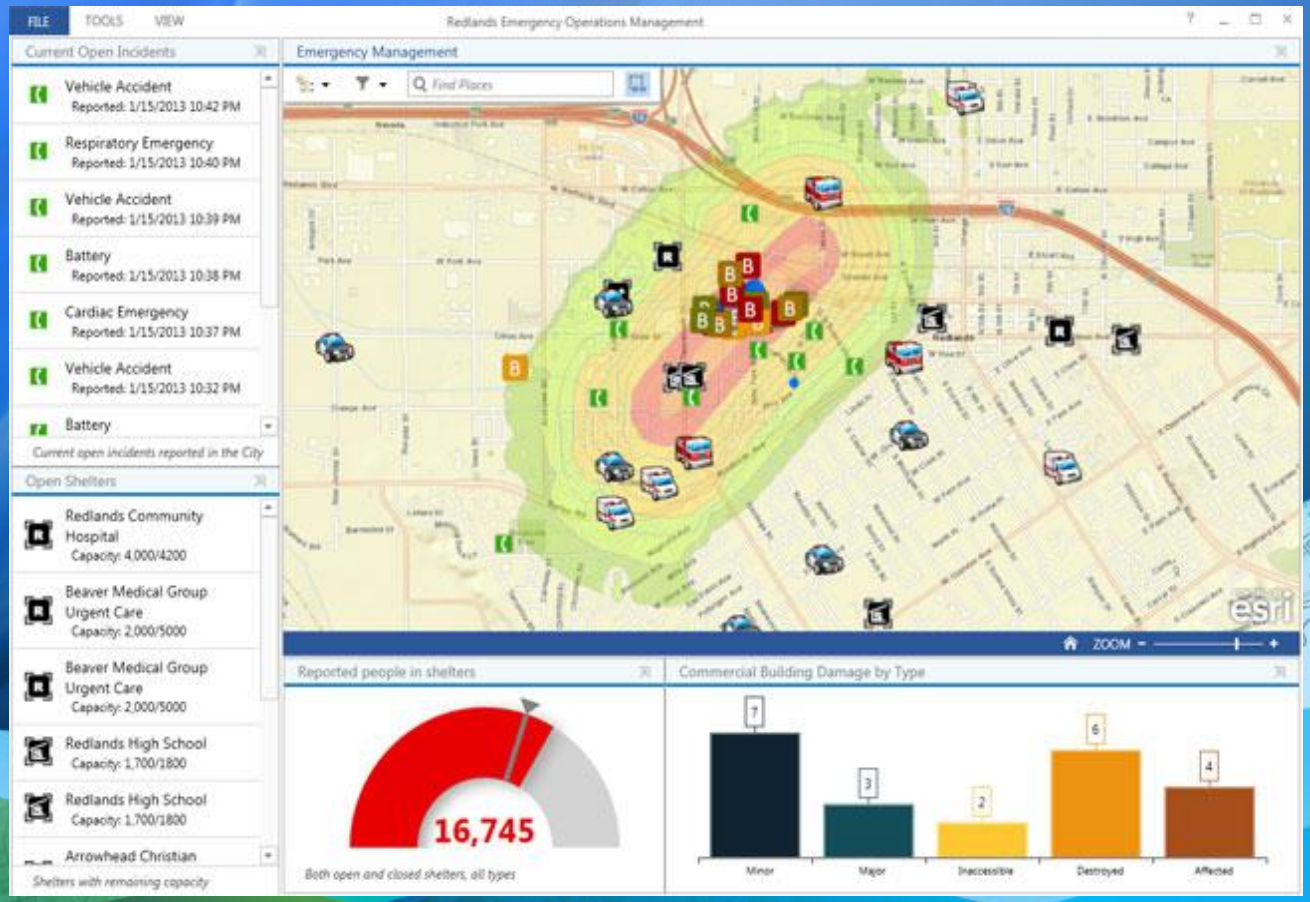
ArcGIS Mobile Applications Options

- ArcGIS for Windows Mobile
- ArcPad
- **ArcGIS Online**
  - **ArcGIS App**
  - **Collector**
  - **Dashboard**



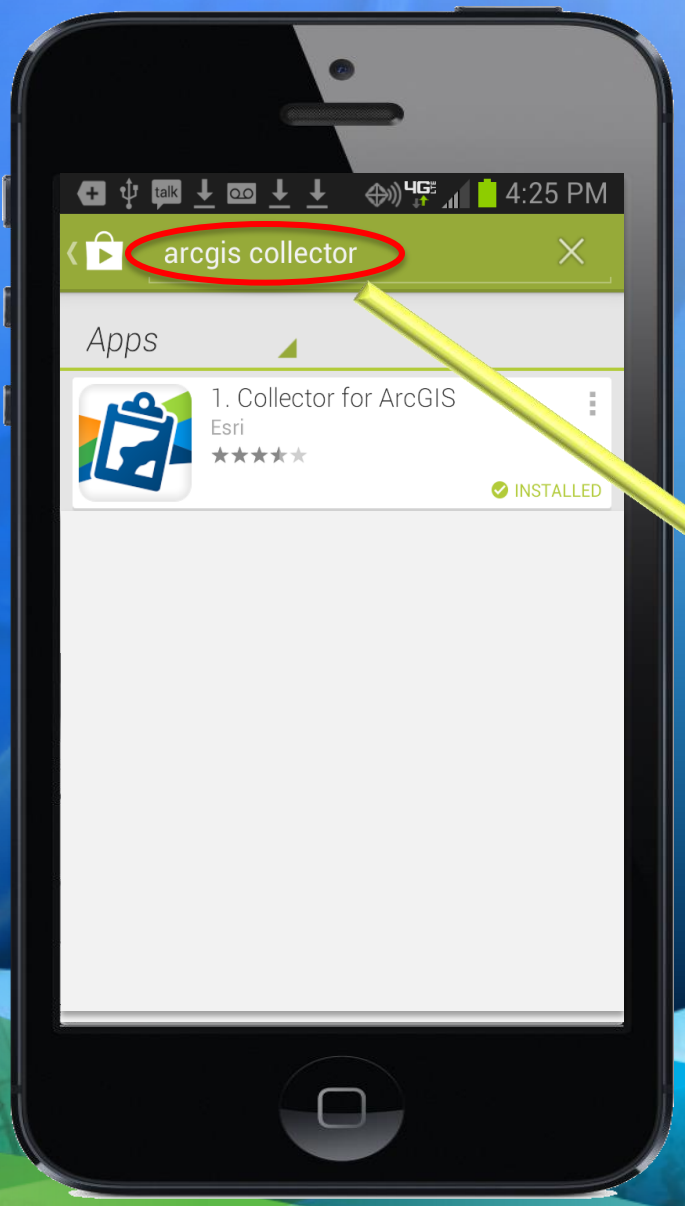
Operations Dashboard

- Gives “Executive View” on Laptops, Touch-screen Devices
- Monitor Day-to-day Operations or Specific Events
- Role-based Access, Configurable
- Widgets
  - Histograms
  - Bar Charts
  - Indicators
  - Gauges
  - Details
  - Lists

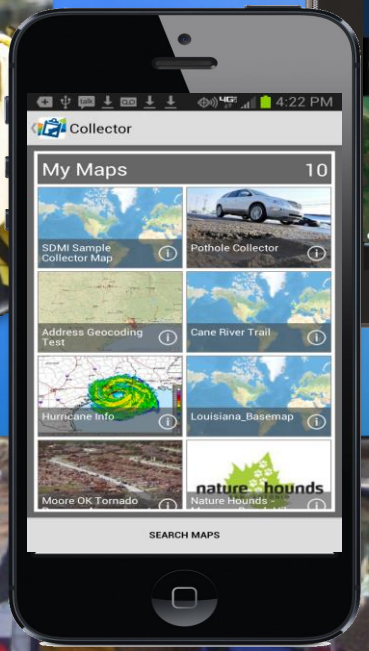


Download & Install Collector

iPhone & Android Devices



Collector & Dashboard Demo



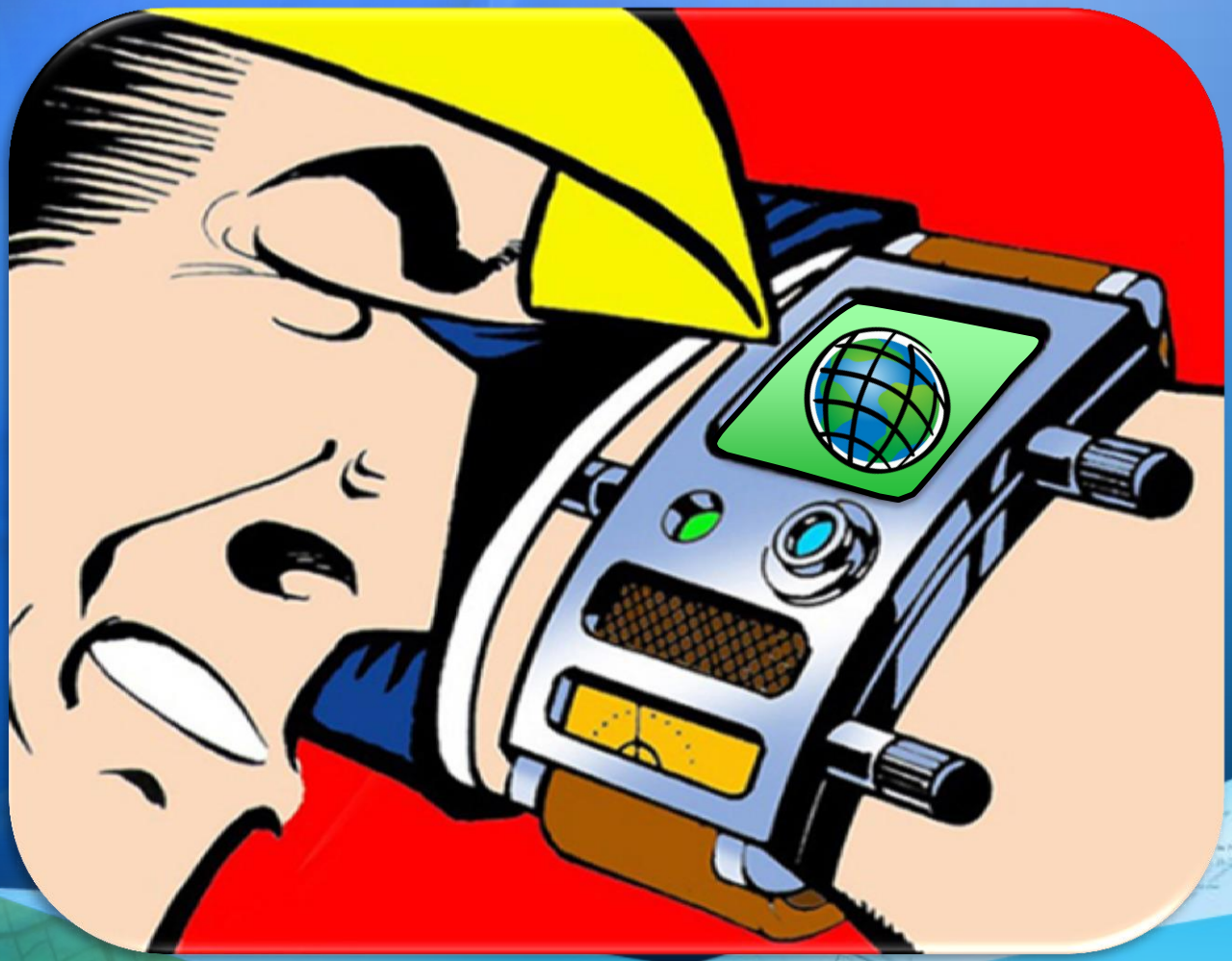
SCAUG

MARCH 10 - 14, 2014

THE WOODLANDS

Texas

Questions?



Understanding Our World

esri