ArcPad – An Introduction

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ArcPad Sessions at the UC

- **Demo Theatre**
  - **Using Mobile Devices with ArcPad and ArcGIS – Now – Tech Support Demo Theatre 09**
  - **Preparing and Deploying Data to ArcPad – 2:30pm Tues - Apps Demo Theatre 12**

Release Status

- **ArcPad 10.2.4**
  - **Better handling of z values when synchronizing line and polygon features.**
  - **NTv2 transformations now supported.**

SHA-1 Certificate Support Deprecated

- **Secured feature services and ArcPad Packages hosted in ArcGIS Online will continue to be available to users on devices that support SHA-2 certificates. This security type is available on Windows (XP, 7, 8.1, 10) and Windows Embedded HandHeld 6.5 devices that have been patched by the manufacturer.**
- **Devices with operating systems older than Windows Embedded HandHeld 6.5 cannot be patched. Devices that only support SHA-1 certificates, can only be supported by ArcGIS Online until November 2016 and will need to run ArcPad 10.2.3 as of December 2015.**
- **This is an industry wide action to improve internet security. The following article describes Microsoft's position. https://support.microsoft.com/en-us/kb/2986556. Esri has made contact with many hardware manufacturers who already provide, or are working on SHA-2 patches for Windows Embedded HandHeld 6.5 models. If you have questions about the availability of the SHA-2 patch for your Windows Embedded Handheld 6.5 device we encourage you to contact the manufacturer.**

The Road Ahead

- **Stable and mature**
- **Minor releases and critical fixes only**

Session Outline

- **What is ArcPad?**
- **What can you do with ArcPad?**
- **Who uses ArcPad?**

What is ArcPad?

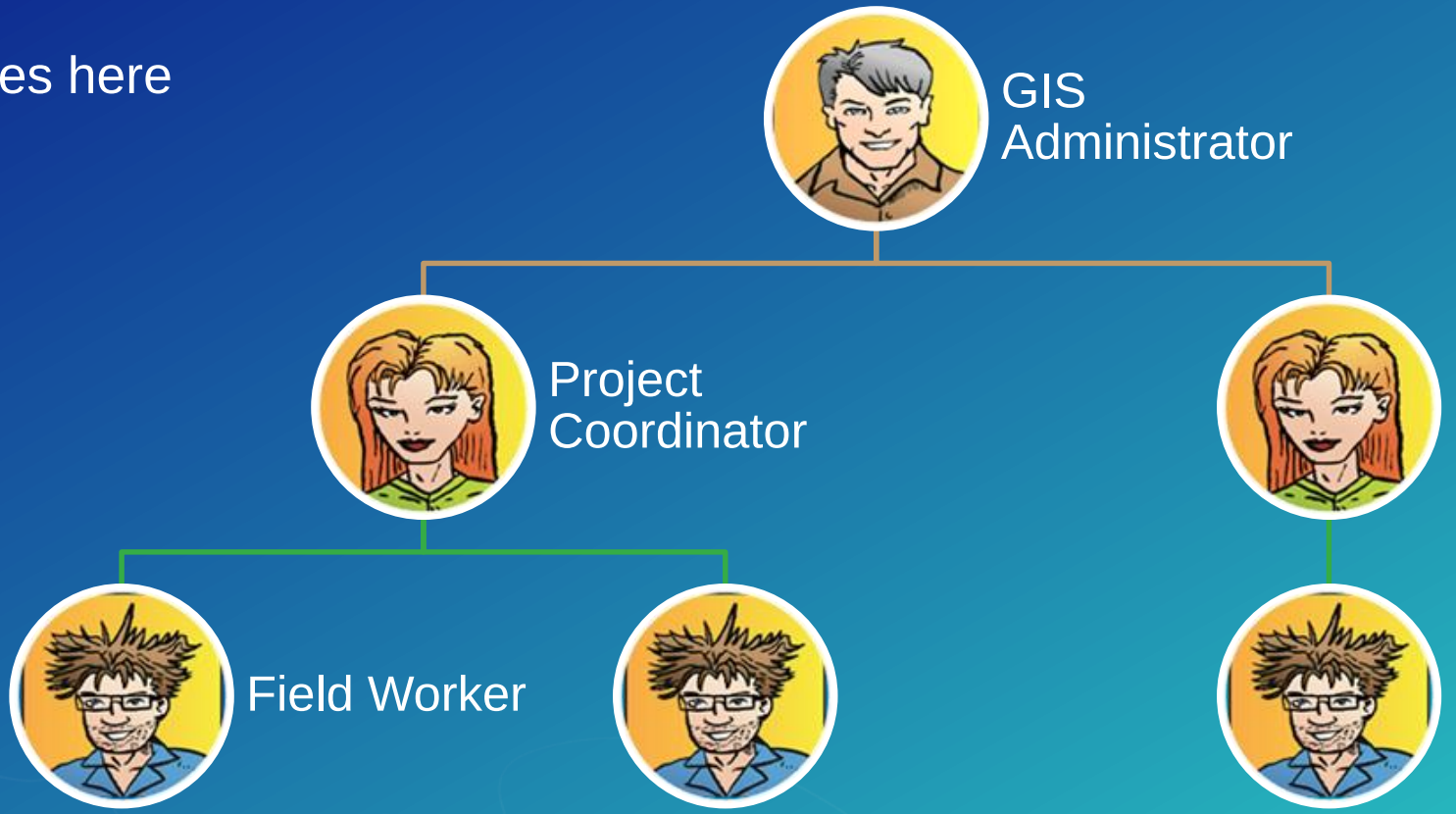
- A single product that covers a wide range of customer mobile GIS requirements
- Is the ‘do-all’ companion product to the foundation apps, that ensures they remain focused.
- Can be white labelled (or OEM’ed) so that you can brand it as your own.
- Supports traditional disconnected in-field workflows that include the creation and management of projects, data and customization, as well as online workflows.
- Empowers customers and partners to incorporate business logic, custom user interfaces and specialised functionality into their projects – with
  - Configuration without code, and or
  - Scripting, and or
  - Building extensions

What can you do with ArcPad?

Text goes here

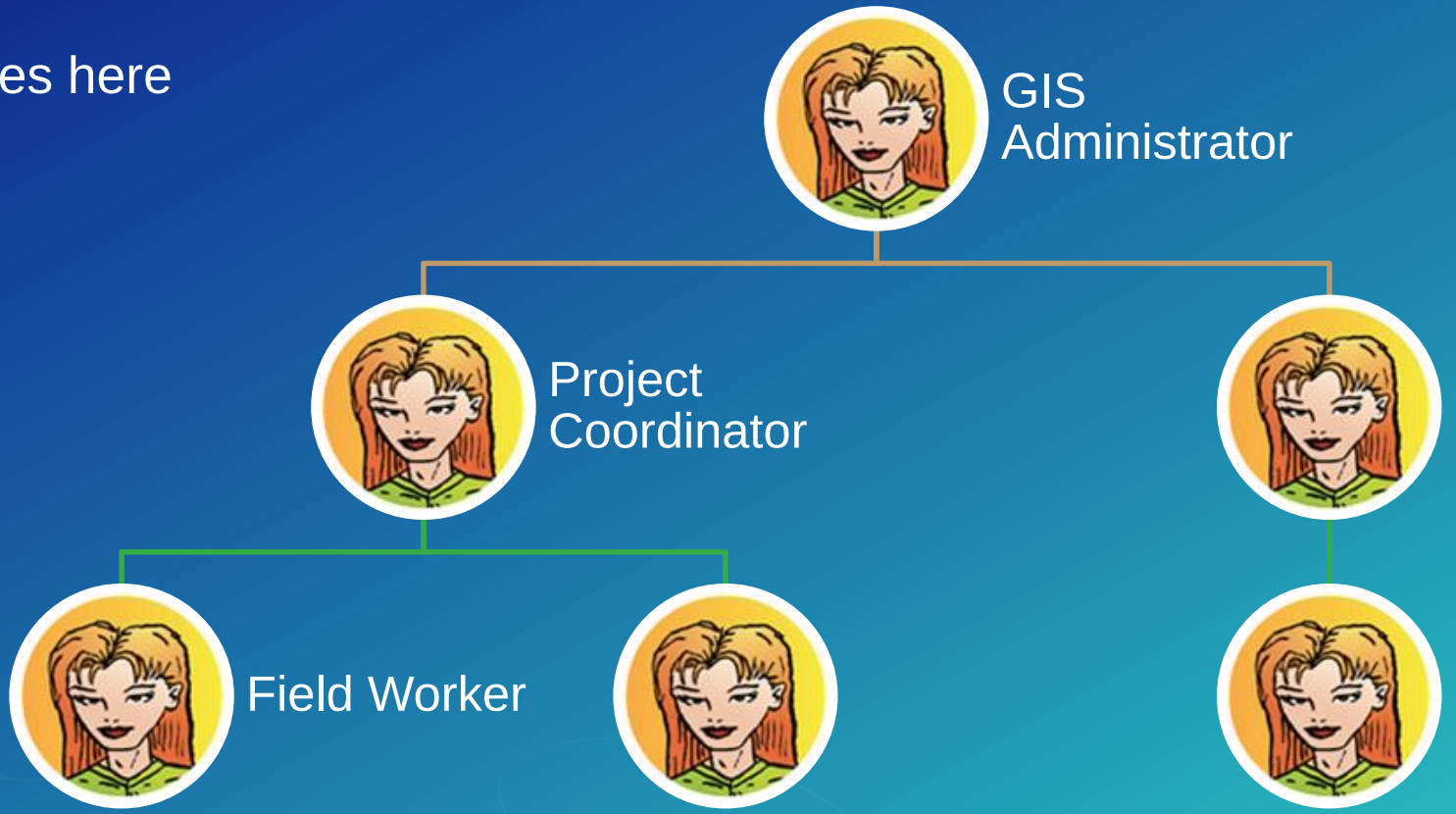
Who uses ArcPad?

Text goes here



Who uses ArcPad?

Text goes here



Motion Computing
Caltrop - ArcPad
ArcPad
Maximum PDOP has been exceeded
10:43 AM
23/12/2010

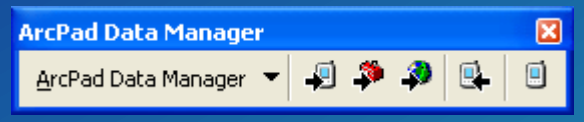
ArcPad Data Manager

ArcPad Data Manager Compatibility

- **ArcGIS 10 and later**
  - **ArcPad 10 Data Manager is installed**
  - **Can deploy to ArcPad 10.2 (and ArcPad 8, ArcPad 10)**

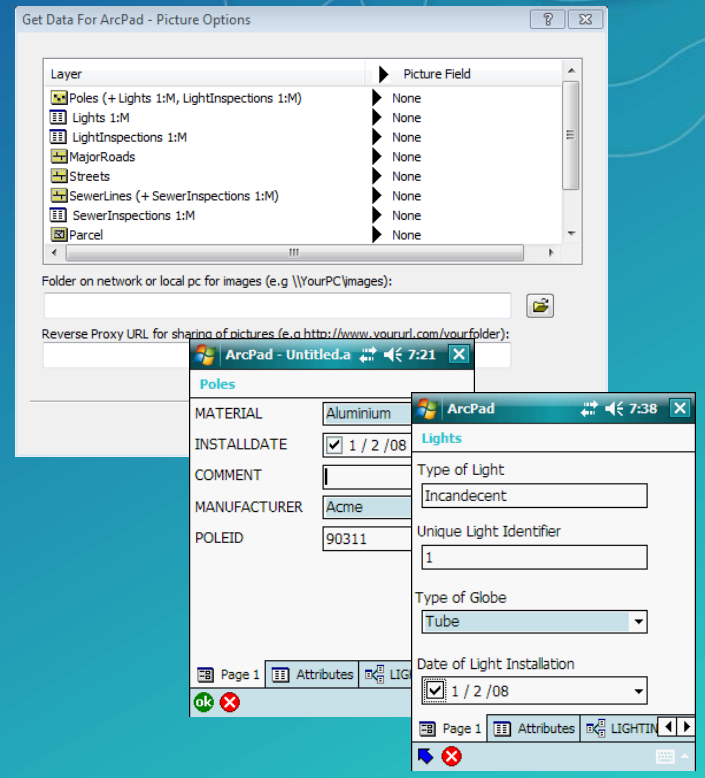
ArcPad Data Manager for ArcGIS Desktop

- **Supports enterprise and local geodatabase workflows**
- **Includes**
  - **ArcMap toolbar**



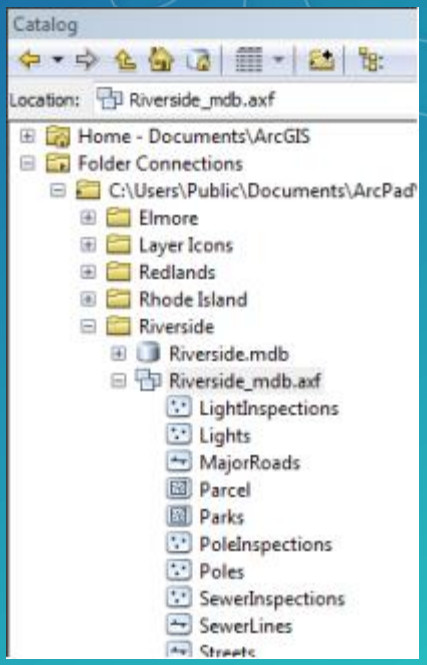
  - **Tools for ArcToolbox (can use in ArcGIS Pro)**

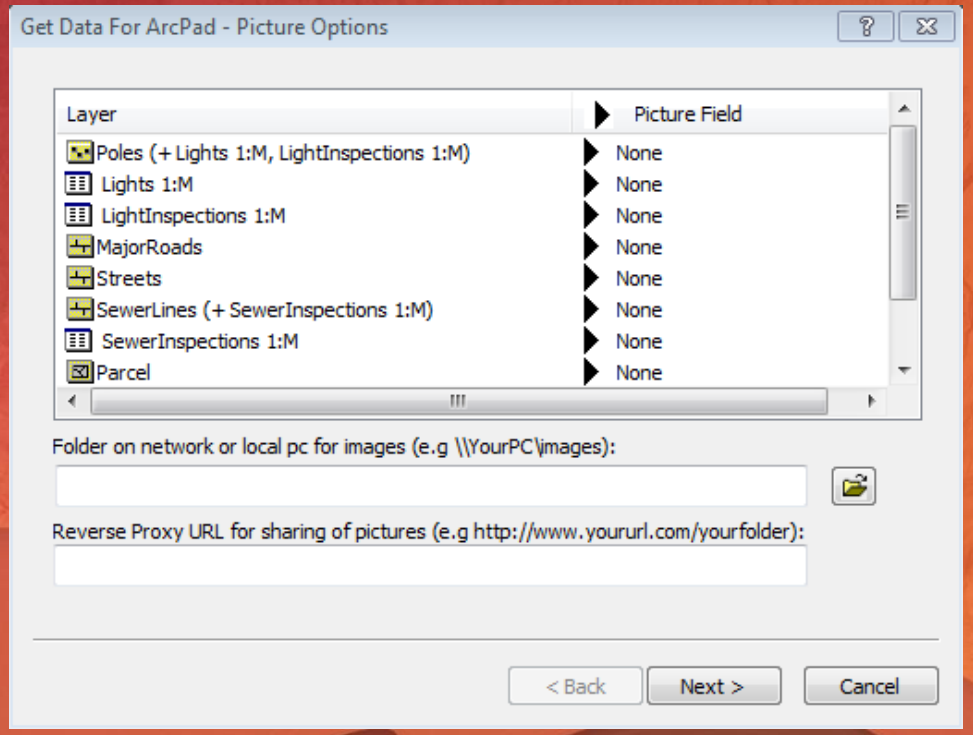
- **Model Builder or Python to automate**



ArcPad AXF Reader

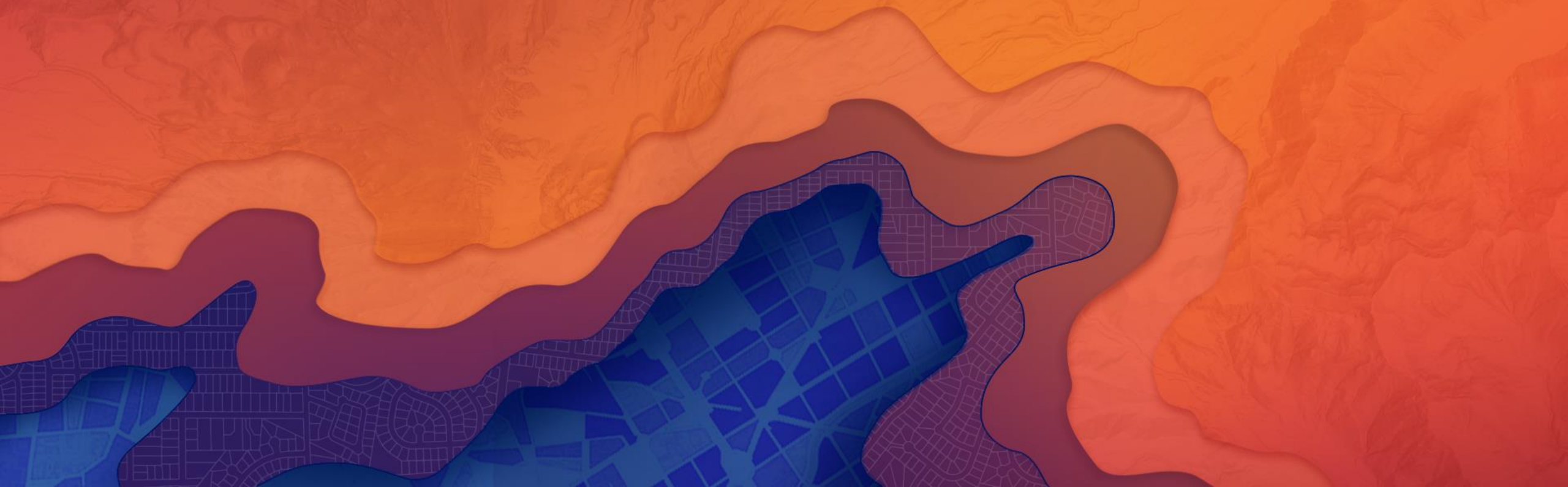
- **View or import AXF data any other format**
- **Included in**
  - **ArcGIS 10.1 and later Data Interoperability Extension**
  - **FME Desktop 2011 SP4 (Windows 32-bit)**
  - **FME Desktop 2012 (Windows 32-bit)**



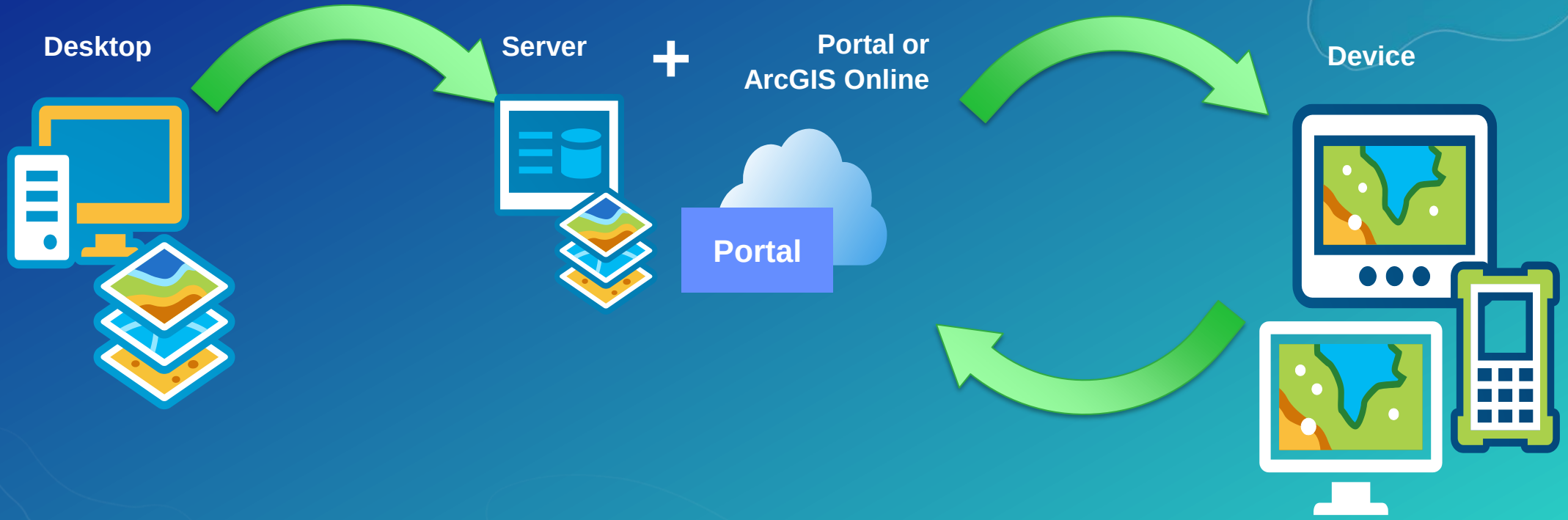


Get Data for ArcPad Demo

ArcGIS Server Data Sync

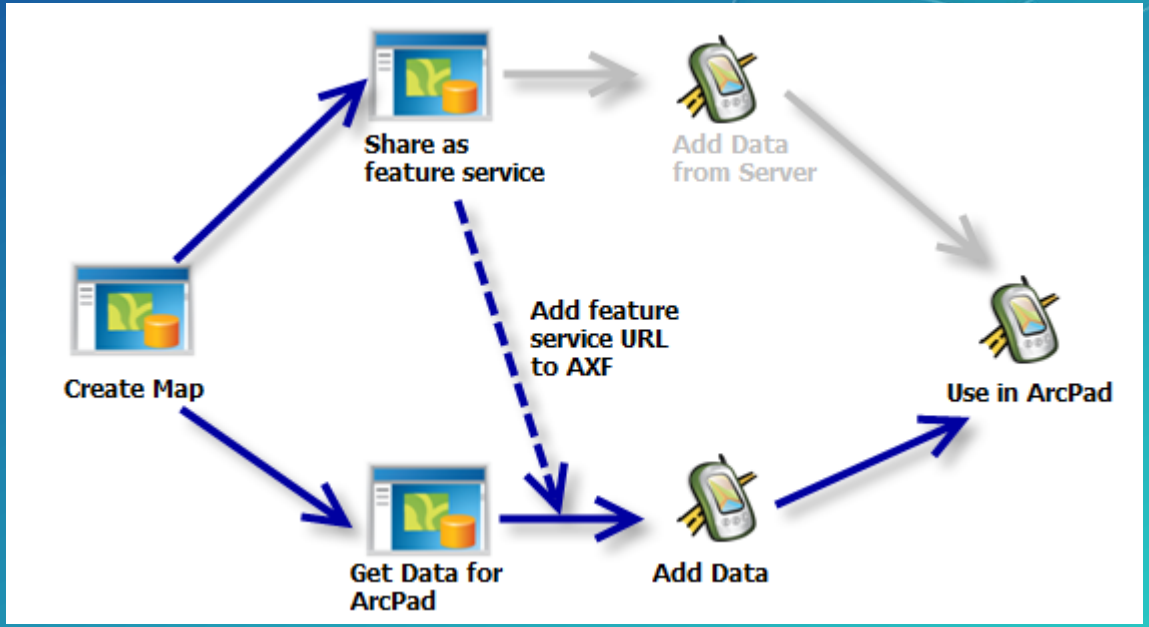


Feature Service Synchronization



Prepare for Server Synchronization

1. **Create map in ArcGIS**
2. **Get Data for ArcPad**
3. **Share as feature service**
4. **Add feature service URL to AXF**
5. **Either**
   a) **Use as a template**
   b) **Use AXF directly in ArcPad**



ArcGIS Server Feature Services

	ArcGIS Server 10.1 and later	Hosted Feature Services
Related tables	Yes	Yes
Map extent	Map	Map
Editor tracking	Yes	Yes
Incremental download	* Yes (with Editor Tracking only)	No
Incremental upload	Yes	Yes

Feature Service Sync Demo

ArcGIS Online

What is ArcGIS Online?

- **Cloud based content management system for your geographic information**

What can you do with ArcGIS Online?	What does this mean for ArcPad projects?
Manage & store geospatial content **Collaborate across & beyond organizations**	Upload zipped projects prepared locally using ArcGIS Desktop or ArcPad. • templates • projects
Find relevant & useful base maps, data, configurable GIS resources	Selection of Esri hosted base maps available in ArcPad
Host feature service	Synchronize field edits with hosted feature services

Hardware Choices

Devices are not all built equally

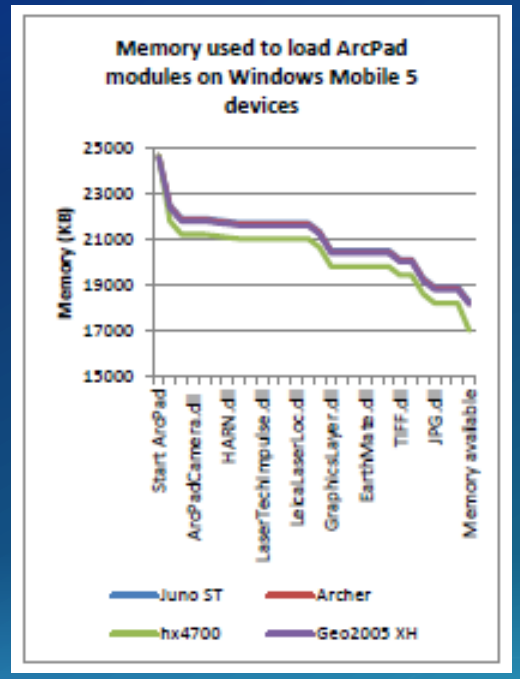
Windows Mobile

- Slower CPU
- Fixed memory
- ArcPad only uses 32MB of memory
- Screen resolution can impact on speed and memory
- No graphic CPU (GPU)
- Great battery life
- Usually internal GPS

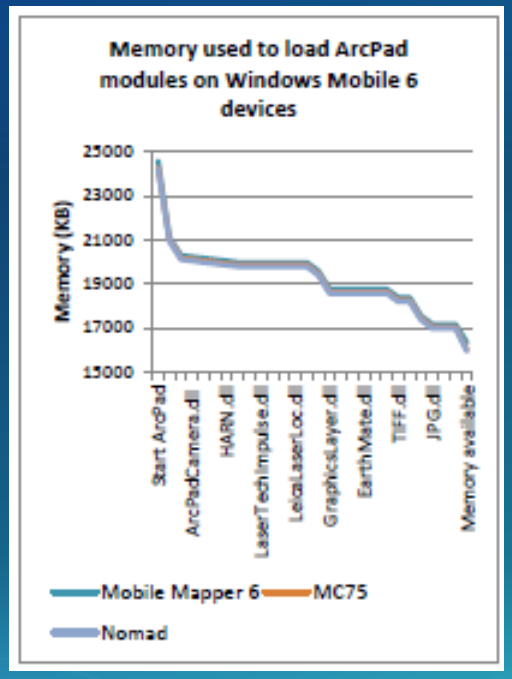
Windows PC

- Fast CPU
- Virtual memory (Limited by disk space)
- ArcPad can use all memory
- Screen resolution has minimal impact
- Very fast graphics (GPU)
- Sad battery life
- Outdoor screen?

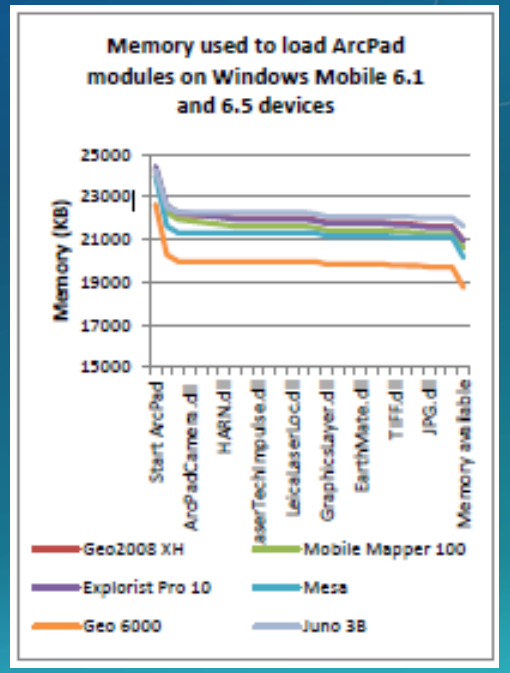
Memory management between different versions of Windows Mobile



Windows Mobile 5



Windows Mobile 6



Windows Mobile 6.1 and 6.5

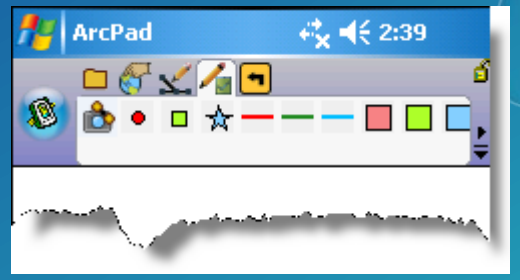
Memory used to launch ArcPad

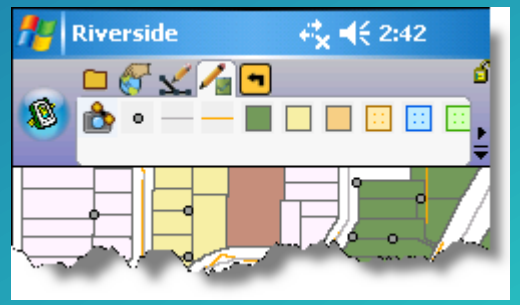
- 8MB to launch ArcPad
- 3-8MB to load DEFAULT ArcPad Modules
- 3-10MB to load ALL ArcPad Modules
- Disabling modules mean more memory for projects

Rapid Capture

Quick Capture Toolbar

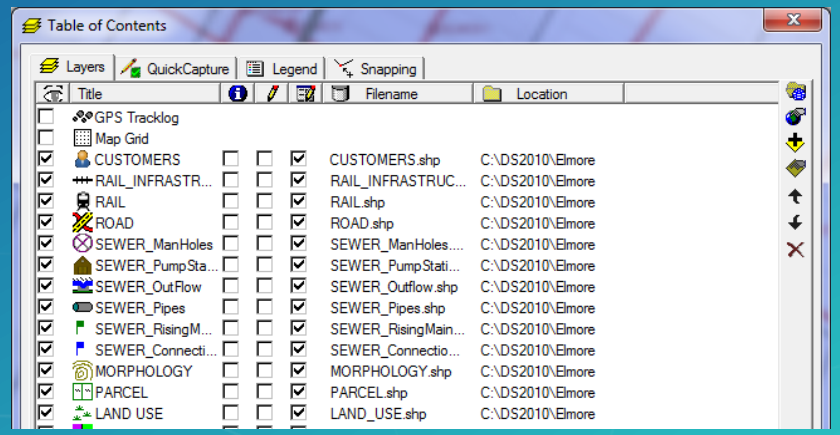
- **Dynamic toolbar**
  - **Map Legend Driven**
- **Configure in Table of Contents**
- **Quick Photo capture**
  - **Geotagged, or**
  - **Tap on Map**





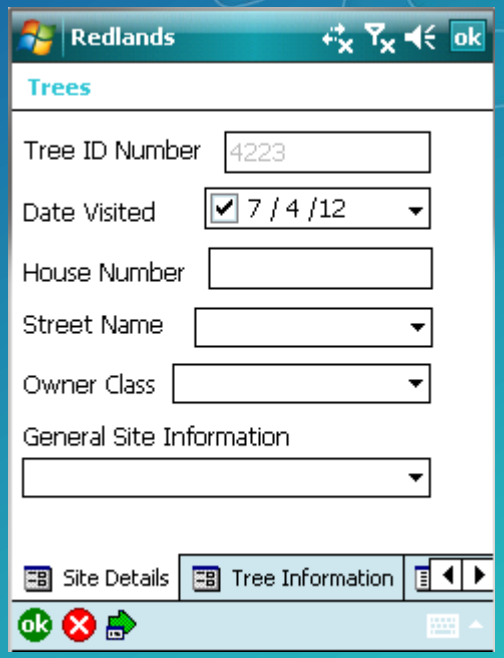
Rapid Capture Data Forms

- **Enables 1-Click Data Entry**
- **Optionally turn off form**
- **Attribute filled in by Quick Capture tool**
- **Force form to be ‘required’ in ArcPad Studio**



Repeat Attributes

- **Button is on edit form**
- **Set for each feature type collection**

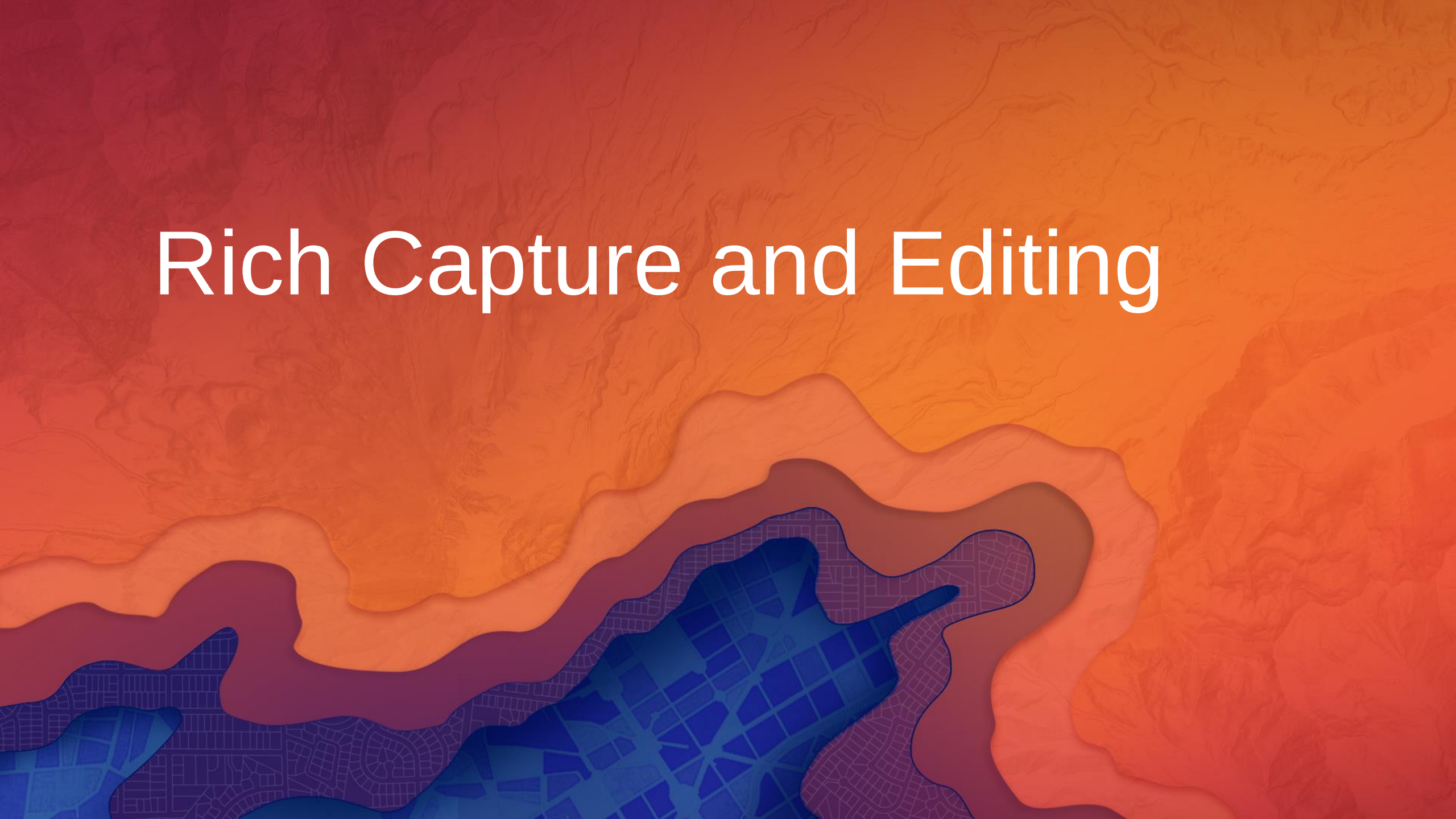


QuickFields

- **Define how attributes are automatically populate**
- **Build definition with an expression**
- **Common expressions supplied in a JScript file**
- **Covers (almost) all the automatic field questions**
- **You can add your own by**
  1) **Write your script**
  2) **Add to QuickField_Functions.xml**

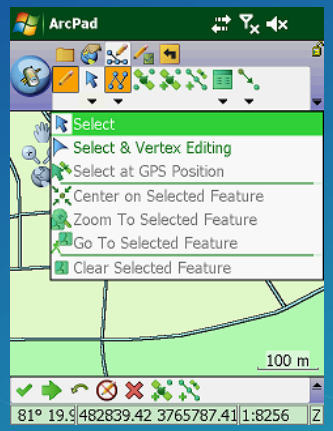
Repeat Attributes and Quick Fields Demo

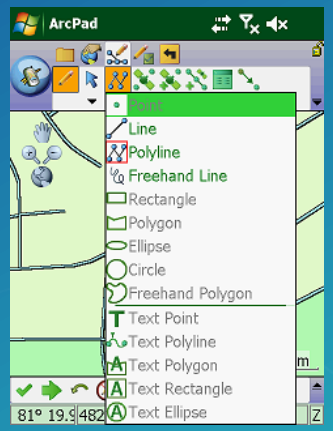
Rich Capture and Editing

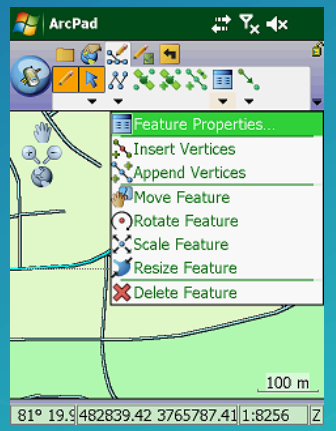


Rich Editing Tools

- **Insert, append, move vertices**
- **Move, rotate, scale, resize features**
- **Snapping**
- **Undo**
- **Offsets**
- **Segmented line features**







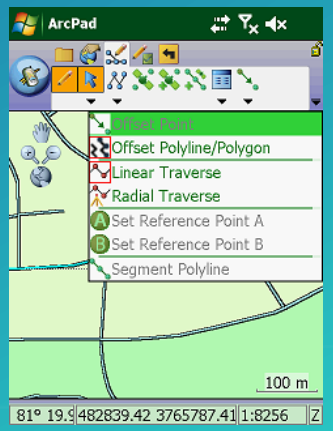
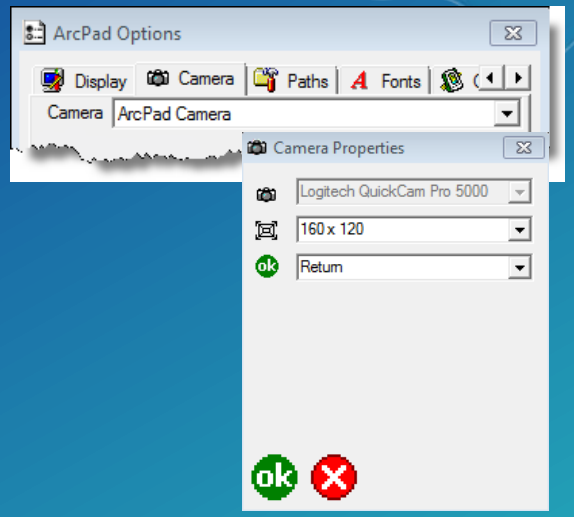
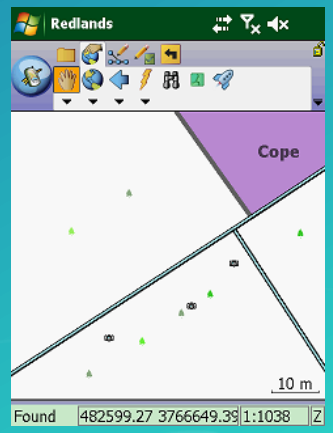


Photo and Camera Experience

- **Capture in photo layer, or as**
- **Feature attribute**
  - **Photo fields nominated at check out mean photos ‘checked in’ with data**
  - **Photos page supported in related table eg: use for 1- Many photos**

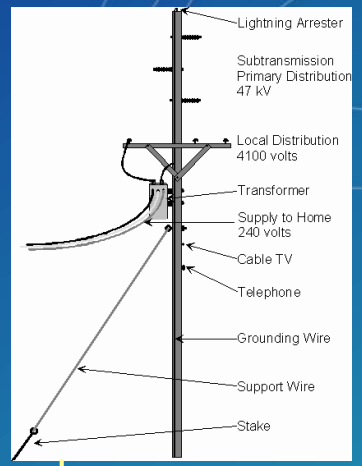
- **New camera module added at 10.2.3 for Windows devices**





Related Tables

- **1 to many relationships**
  - **Each feature can support multiple sets of attributes in separate tables**
- **Forms generated ArcPad Data Manager can be customized**



PoleID	Type	Built
123	Wood	8-Oct-99
124	Steel	5-Jul-87
125	Wood	7-Jun-99

PoleID	Insulator #	Type
123	1	200kv
123	2	400kv
123	3	200kv

PoleID	Insulator#	Inspector	Date
123	1	Jian	1-Jan-00
123	1	Elvin	5-Feb-04
123	1	Craig	10-Jun-06

Customization

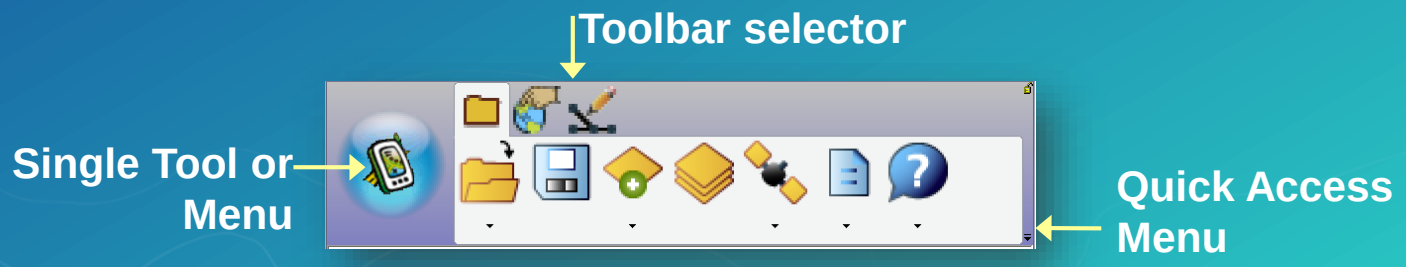
Common Areas of Customization

- **Toolbars**
  - Modify existing toolbars
  - Create new toolbars and tools
- **Forms**
  - Modify existing forms
  - Create new forms
- **Projects (Apps)**
  - Modify ArcPad preference and configuration files
  - Create ArcPad Apps

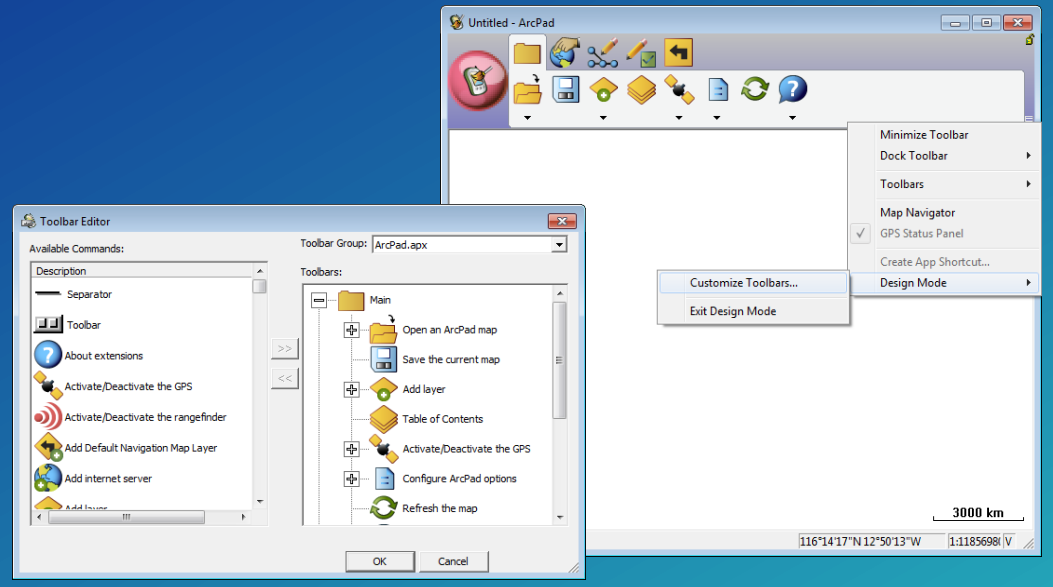
Toolbar Customization

- **Favorites Toolbar**
- **Add/remove tools from ArcPad toolbars**
- **Create your own toolbars containing ArcPad tools for different projects.**

When you want a custom toolbar,	you should store your toolbars in,
for all projects	ArcPadFavorites.apx
or appended tools upon the default toolbars for one project	ArcPad.apm
or appended tools upon the default toolbars for many projects	Applet.apa
or appended tools upon the default toolbars for all projects	ArcPad.apx



Toolbar Editor in ArcPad



Tip: Delete ArcPad.apx to restore default toolbar configuration

Types of forms

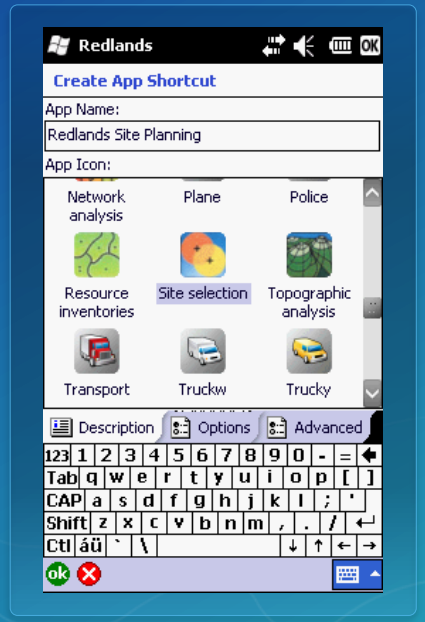
- **Edit**
  - **Used for data capture and edit**
- **Identify**
  - **Used when identifying features.**
  - **If not present uses Edit form in read-only mode**
- **Query**
  - **Added to Find dialog**
  - **Search template, just fill in the boxes**
- **“Other”**
  - **Application specific forms**

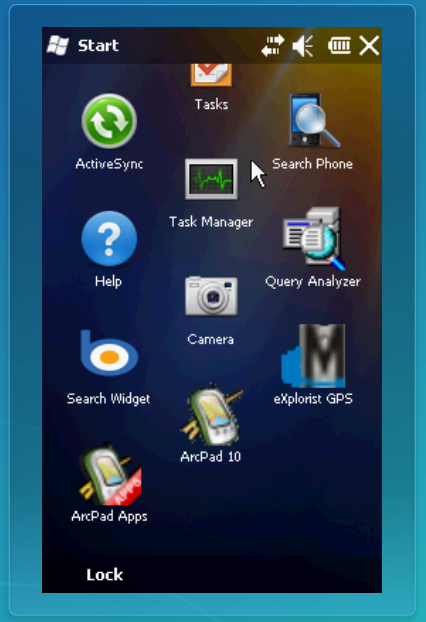
Create a Custom Toolbar Demo

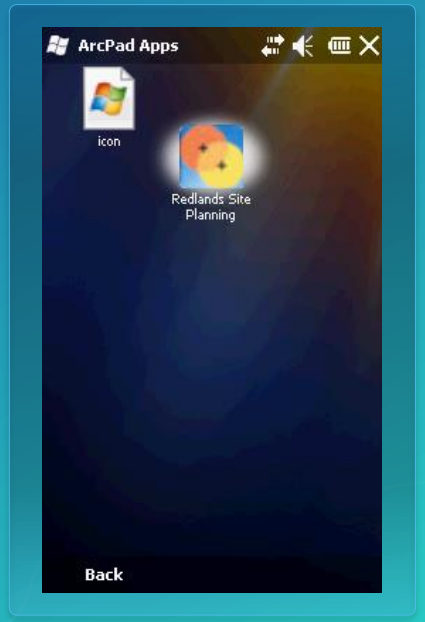
ArcPad Shortcuts

Using Shortcuts

- **Organize your ArcPad projects**
- **Launch ArcPad with your customization settings**
- **Integrated with ArcPad Today screen**







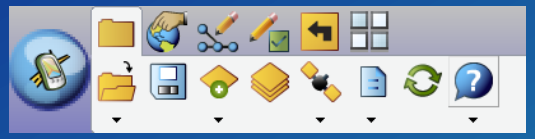
What is an ArcPad App?

- **A project focused solution built with and used by ArcPad**

Customizations

Steps to Make an App

- **Step 1 – Prepare map**



- **Step 2 – Design a toolbar (customisation)**

- **Step 3 – Create an App shortcut**

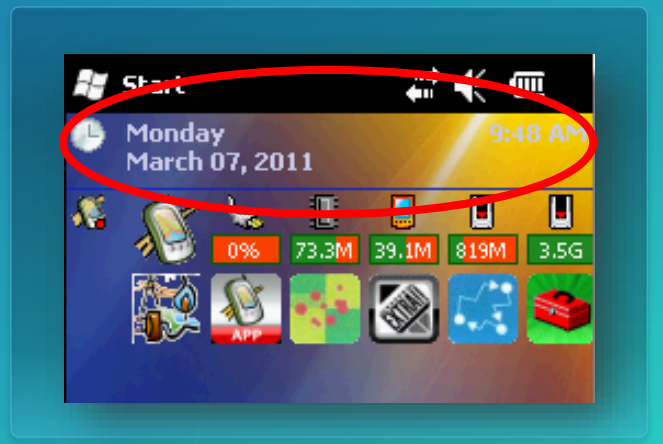
- **Step 4 – Deploy**

ArcPad Today

- **Magically looks for App shortcuts on your device or storage cards**

Before

After



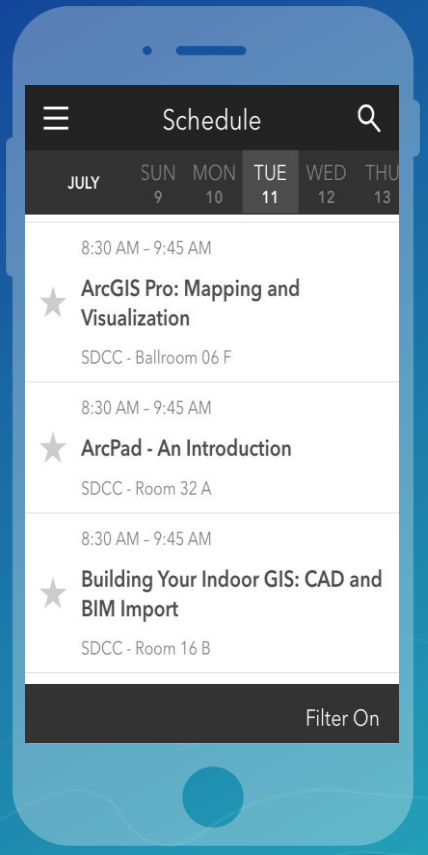
Creating an ArcPad Shortcut Demo

What can you do with ArcPad?

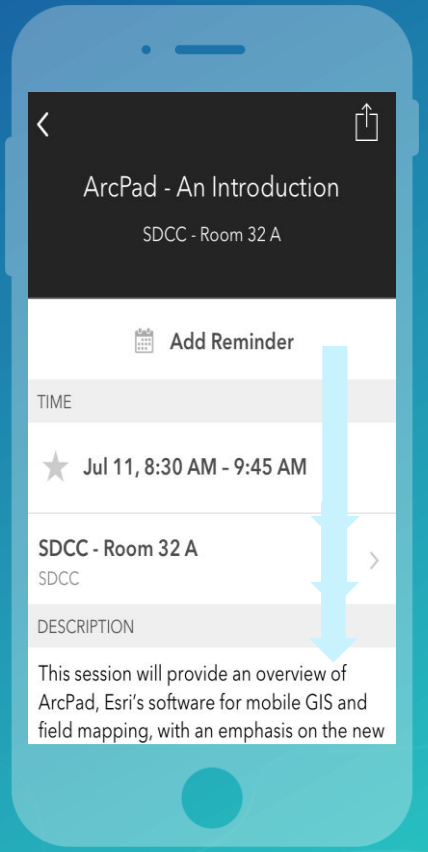
Please Take Our Survey on the **Esri Events App!**

Download the Esri Events app and find your event

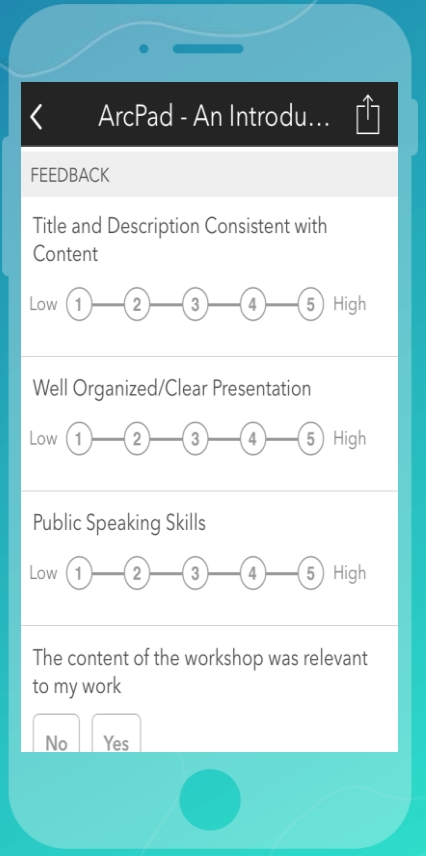
Select the session you attended



Scroll down to find the survey



Complete Answers and Select "Submit"



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SCIENCE
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WHERE