



ArcPad – An Introduction

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ArcPad Sessions at the UC

- **Demo Theatre**

- **Preparing and Deploying Data to ArcPad**
- **Using ArcPad in the Field**
- **Customizing ArcPad without code – today 4:30pm**
- **Customizing ArcPad with Jscript, Python and VBScript – today 5:30pm**
- **User Group Meeting – today – 6pm**
- **Survey123 – tomorrow – 10:30am**

Release Status

- **ArcPad 10.2.2**

- Recordset fixes (scripts that worked pre 10.2, now work again)
- SQLCE scripting errors fixed
- Photo workflow
- Check in
- Synchronization with feature services improvements
- Projection support matches ArcGIS 10.3
- Improvements to installer
 - Deployment manager now ran as administrator improving install of ArcPad to devices
 - Administrator install will mean subsequent users will no longer be prompted for registration code
- Expanded help for supported projections, ArcPad check in tool, status bar

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?**

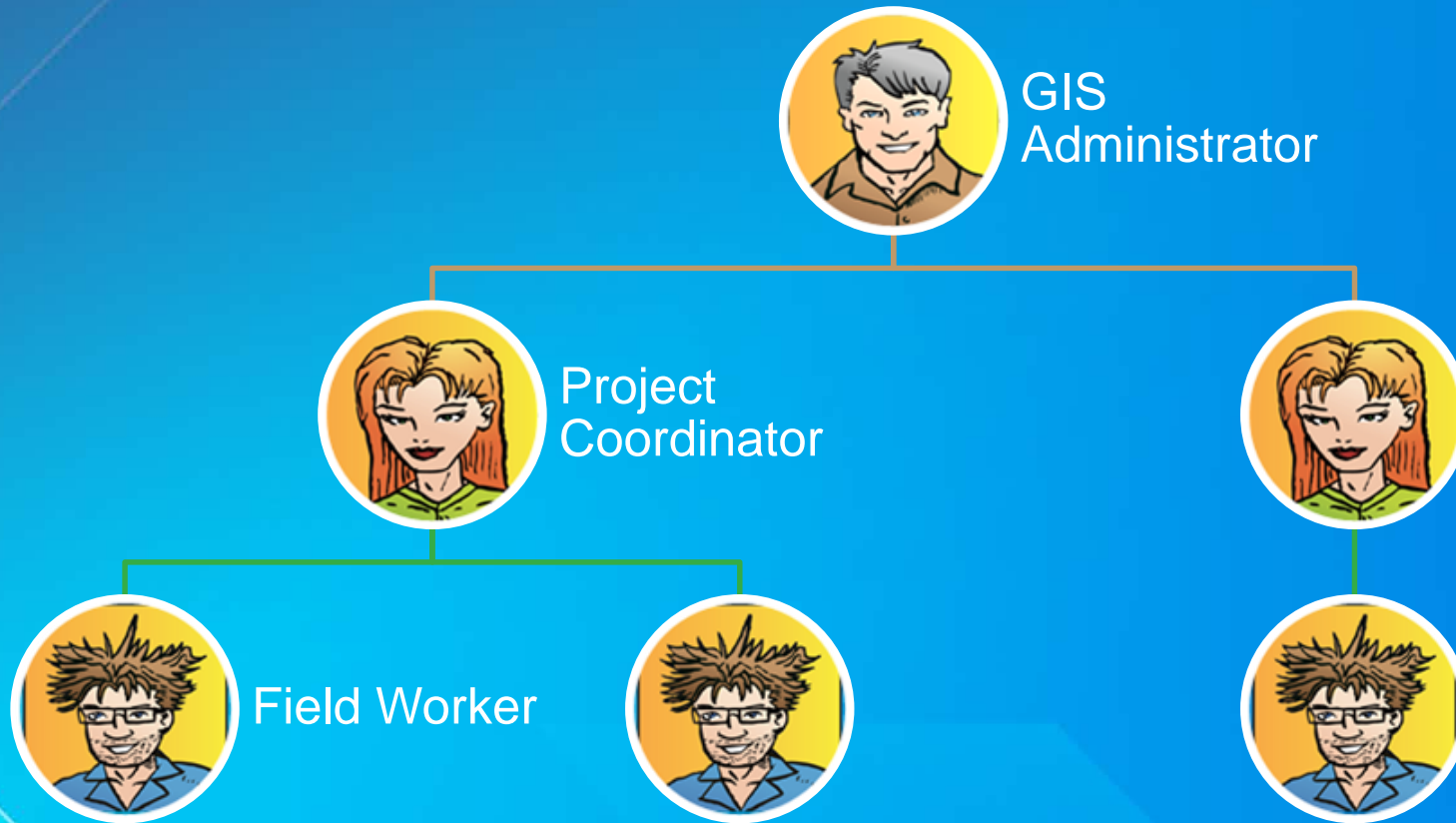
What is ArcPad?

- 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**

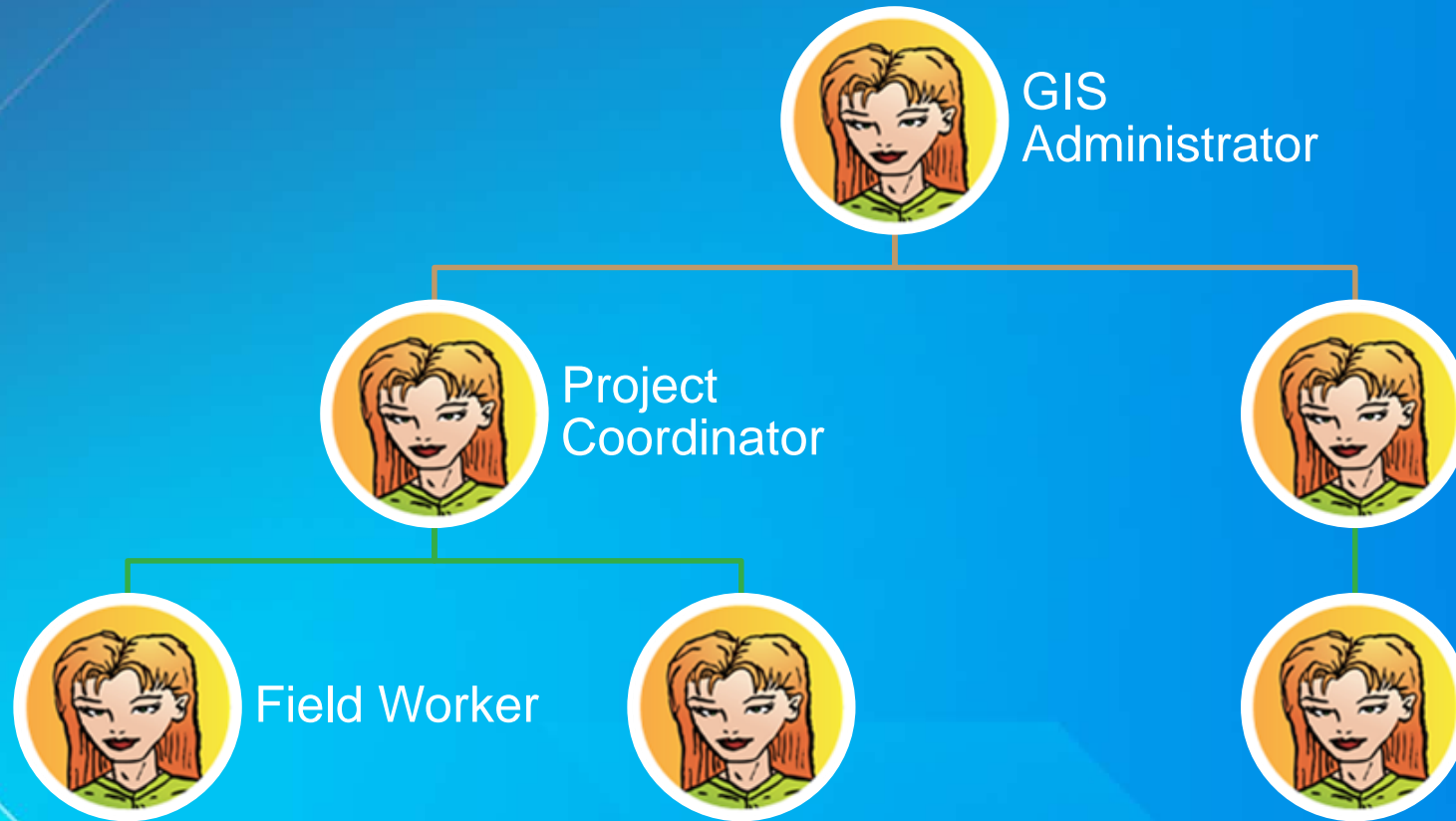
What can you do with ArcPad?



Who uses ArcPad?



Who uses ArcPad?







ArcPad Data Manager



ArcPad Data Manager Compatibility

- **ArcGIS 9.3.1**

- ArcPad 8 Data Manager is installed
- Limited to ArcPad 8 Data Manager features
- Can deploy to ArcPad 8 and ArcPad

- **ArcGIS 10/10.1/10.2**

- ArcPad 10 Data Manager is installed
- Can deploy to ArcPad 8, ArcPad 10, ArcPad 10.2

ArcPad Data Manager for ArcGIS Desktop

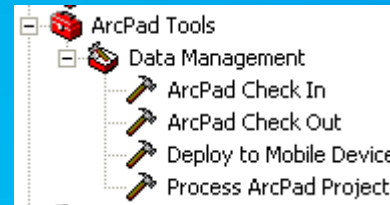
- Supports enterprise and local geodatabase workflows

- Includes

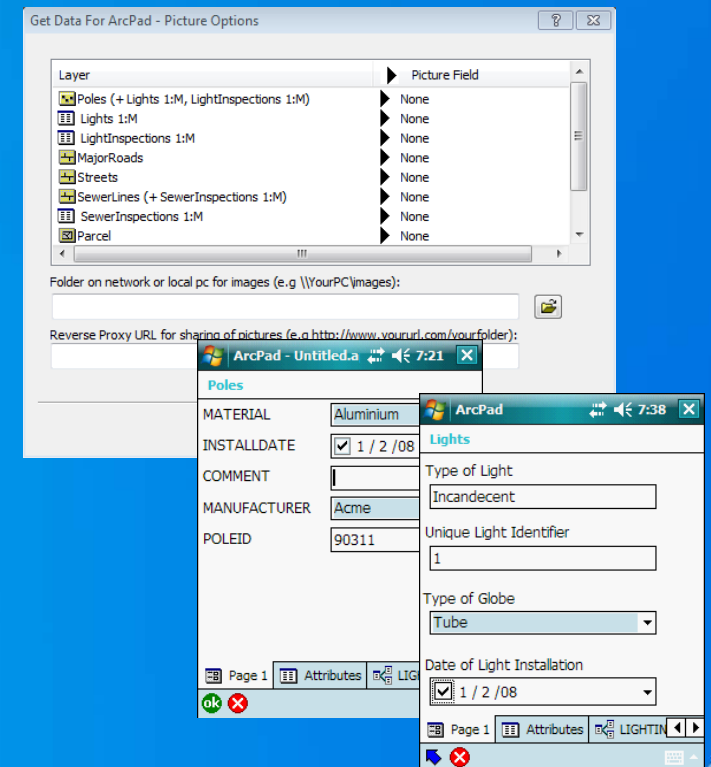
- ArcMap toolbar



- Tools for ArcToolbox



- Model Builder or Python to automate



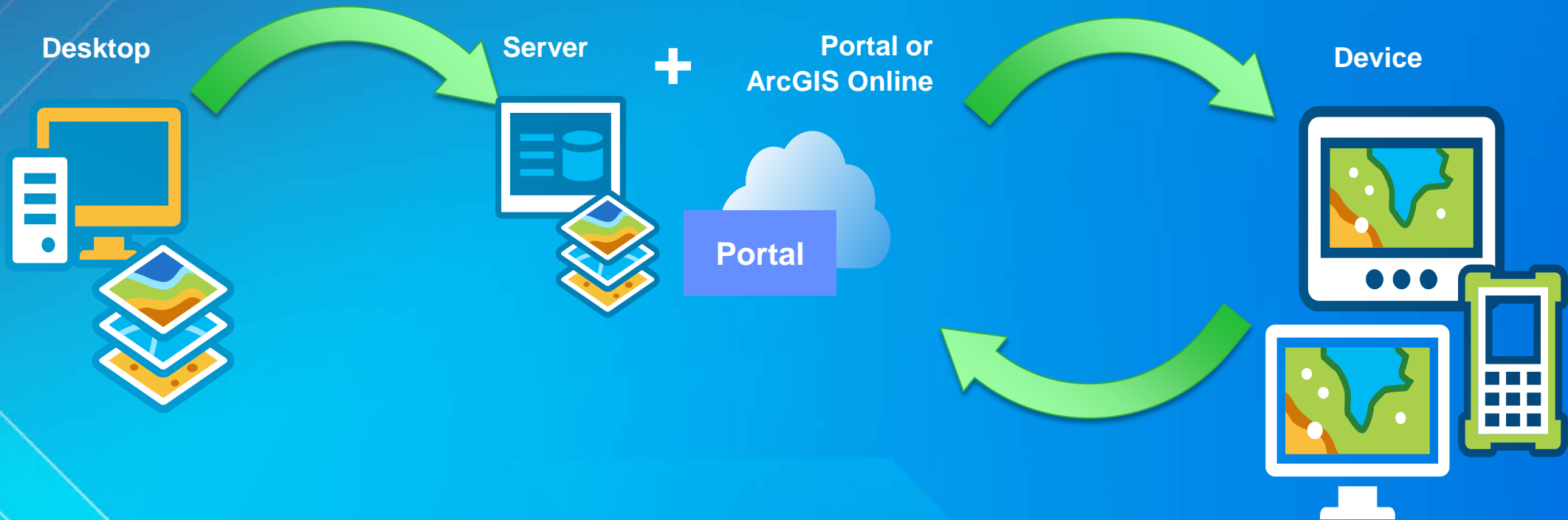
Get Data for ArcPad Demo



ArcGIS Server data sync

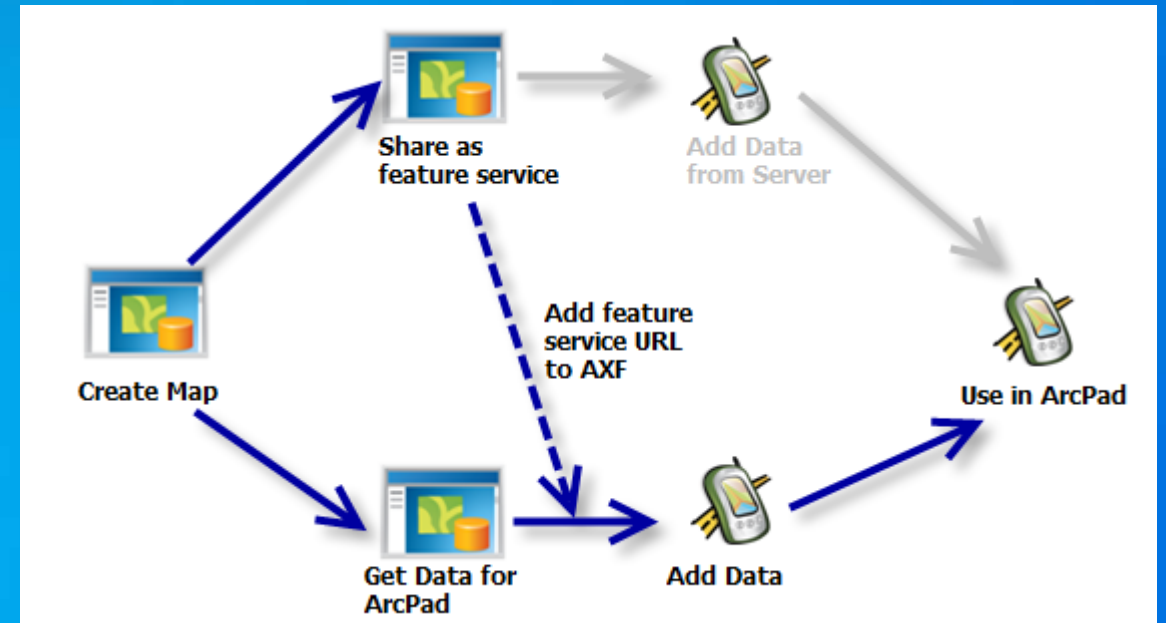


Feature service synchronization



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



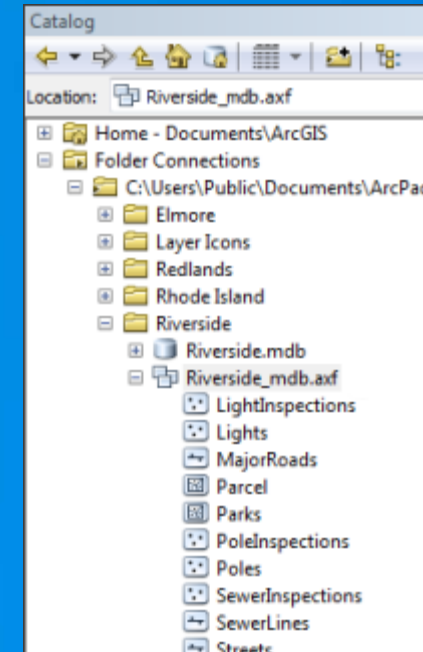
ArcGIS Server Feature Services

	ArcGIS Server 10.0	ArcGIS Server 10.1 and 10.2	Hosted feature services
Related tables	No	Yes	Yes
Map extent	Full	Map	Map
Editor tracking	No	Yes	Yes
Incremental download	No (always full download)	* Yes (With editor tracking only)	No
Incremental upload	Yes	Yes	Yes

AXF Reader for Data Interop

ArcPad AXF Reader

- View or import AXF data any other format
- Included in
 - ArcGIS 10.1 and 10.2 Data Interoperability Extension
 - FME Desktop 2011 SP4 (Windows 32-bit)
 - FME Desktop 2012 (Windows 32-bit)



ArcGIS Online



What is ArcGIS Online?

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

What can you do with ArcGIS Online?

Manage & store geospatial content
Collaborate across & beyond organizations

Find relevant & useful base maps, data, configurable GIS resources

Host feature service

What does this mean for ArcPad projects?

Upload zipped projects prepared locally using ArcGIS Desktop or ArcPad.

- templates
- projects

Selection of Esri hosted base maps available in ArcPad

Synchronize field edits with hosted feature services

Hardware choices



Devices were not all built equally

Windows Mobile



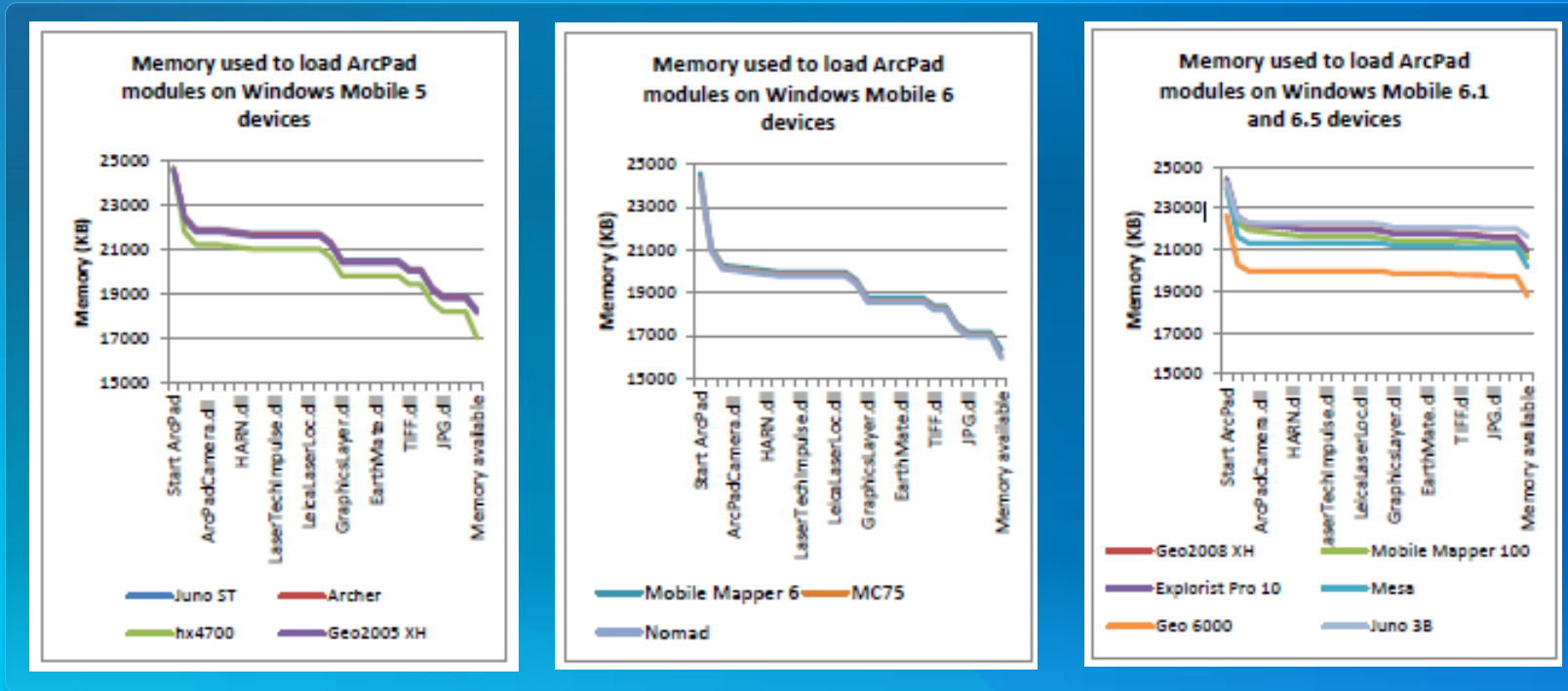
- Slower CPU
- Fixed memory
- ArcPad only uses 32MB of memory
- Screen resolution can impact on speed and memory
- No graphic CPU (GPU)
- Great battery life
- Usually internal GPS

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

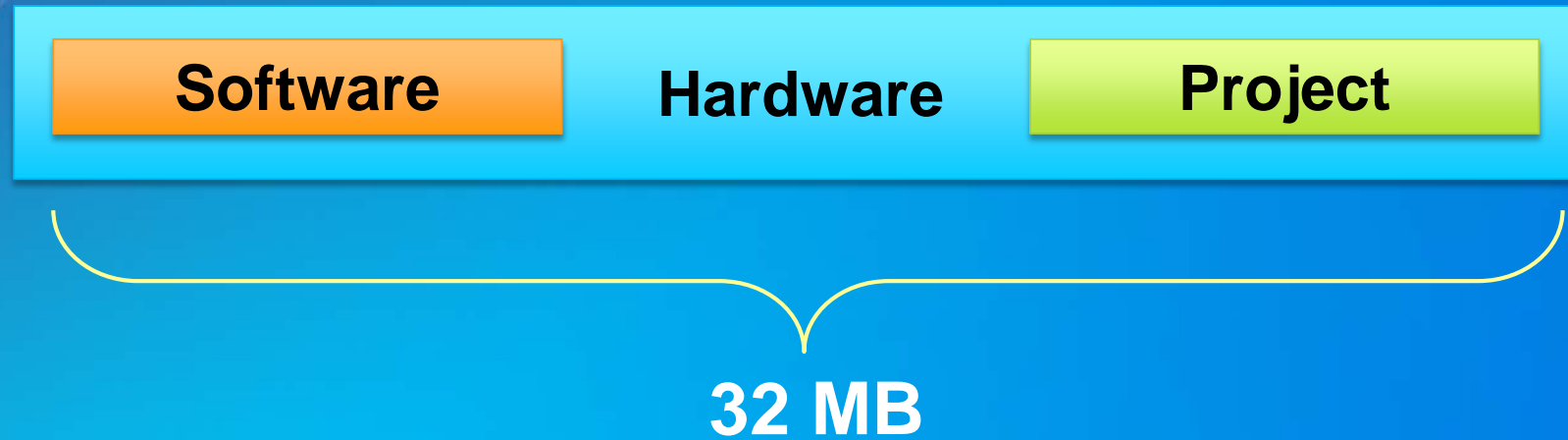


Windows Mobile 5

Windows Mobile 6

Windows Mobile 6.1 and 6.5

Memory used to Launch ArcPad



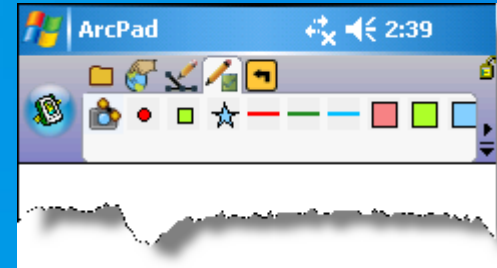
- 8MB to launch ArcPad
- 3-8MB to load DEFAULT ArcPad Modules
- 3-10MB to load ALL ArcPad Modules
- disabling modules mean more memory for projects

Rapid capture



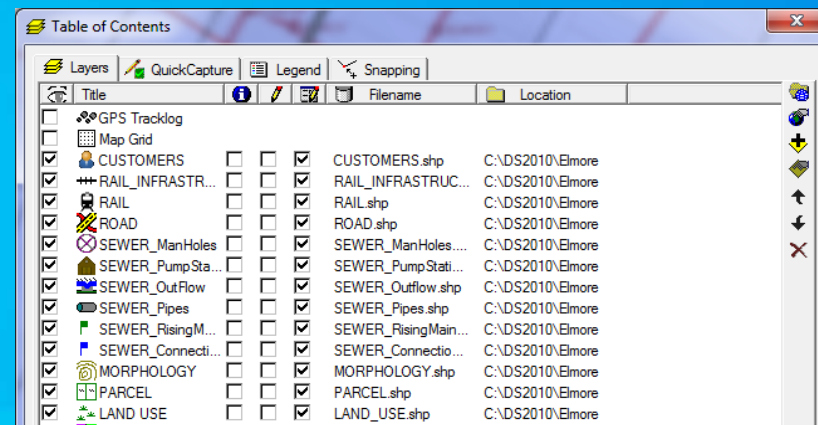
Quick Capture Toolbar

- **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




The screenshot shows the 'Table of Contents' window in ArcGIS, displaying a list of data layers. The window has a toolbar with 'Layers', 'QuickCapture', 'Legend', and 'Snapping' options. The table below lists the layers, their titles, filenames, and locations.

	Title		Filename	Location
<input type="checkbox"/>	GPS Tracklog			
<input type="checkbox"/>	Map Grid			
<input checked="" type="checkbox"/>	CUSTOMERS	<input type="checkbox"/>	CUSTOMERS.shp	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	RAIL_INFRASTR...	<input type="checkbox"/>	RAIL_INFRASTRUC...	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	RAIL	<input type="checkbox"/>	RAIL.shp	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	ROAD	<input type="checkbox"/>	ROAD.shp	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	SEWER_ManHoles	<input type="checkbox"/>	SEWER_ManHoles...	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	SEWER_PumpSta...	<input type="checkbox"/>	SEWER_PumpStati...	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	SEWER_OutFlow	<input type="checkbox"/>	SEWER_Outflow.shp	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	SEWER_Pipes	<input type="checkbox"/>	SEWER_Pipes.shp	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	SEWER_RisingM...	<input type="checkbox"/>	SEWER_RisingMain...	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	SEWER_Connecti...	<input type="checkbox"/>	SEWER_Connectio...	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	MORPHOLOGY	<input type="checkbox"/>	MORPHOLOGY.shp	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	PARCEL	<input type="checkbox"/>	PARCEL.shp	C:\ADS2010\Elmore
<input checked="" type="checkbox"/>	LAND USE	<input type="checkbox"/>	LAND_USE.shp	C:\ADS2010\Elmore

Repeat Attributes

- Button is on edit form
- set for each feature type collection



The screenshot shows a software window titled "Redlands" with a "Trees" form. The form contains the following fields and controls:

- Tree ID Number:
- Date Visited: 7 / 4 / 12
- House Number:
- Street Name:
- Owner Class:
- General Site Information:

At the bottom of the form, there are two tabs: "Site Details" and "Tree Information". Below the tabs are three buttons: "ok", a red "X" button, and a green arrow button.

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

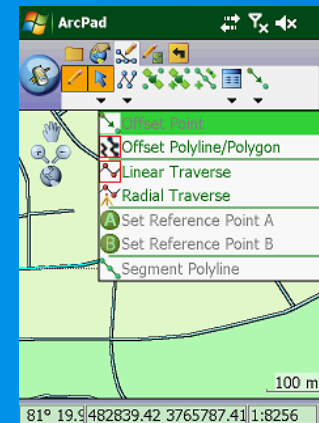
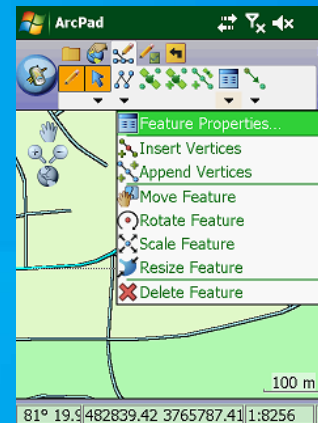
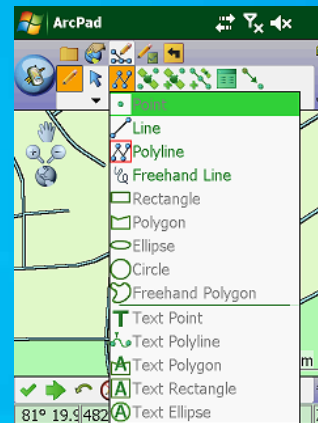
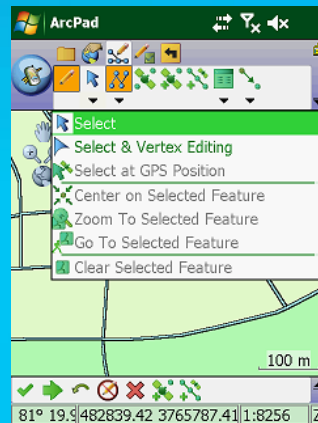
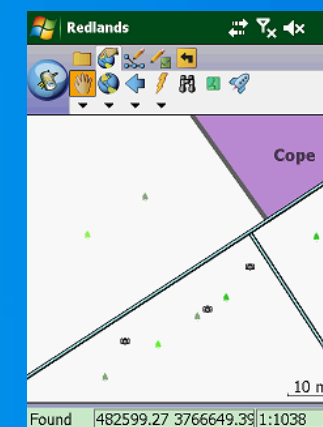
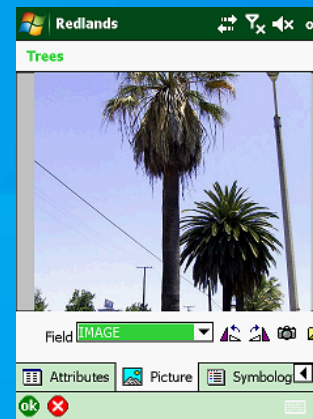
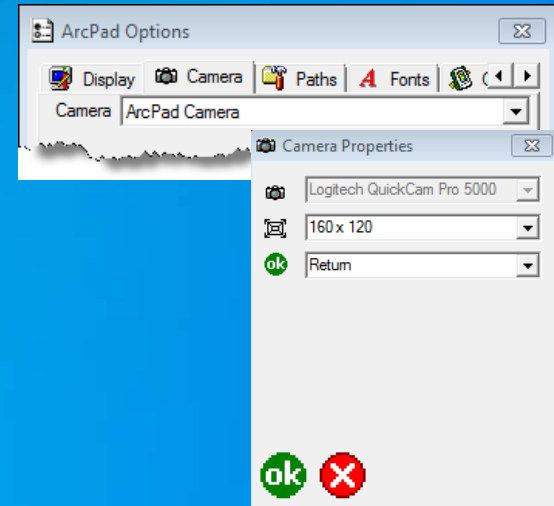


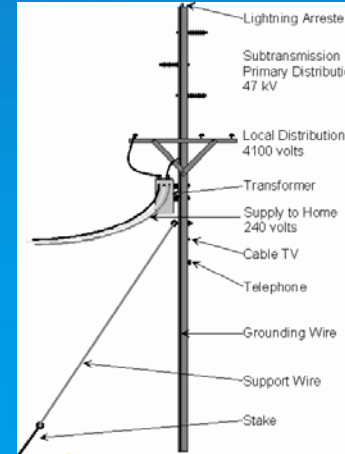
Photo and Camera Experience

- 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



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

Photos and related records Demo

Customization

The background features a complex geometric pattern. The left side is dominated by a blue gradient with overlapping, semi-transparent polygonal shapes. On the right side, there are several overlapping shapes in shades of purple and yellow, creating a layered, 3D effect. The overall composition is modern and abstract.

Common areas of customization

- **Toolbars**

- modify existing toolbars
- create new toolbars and tools

- **Forms**

- modify existing forms
- Create new forms

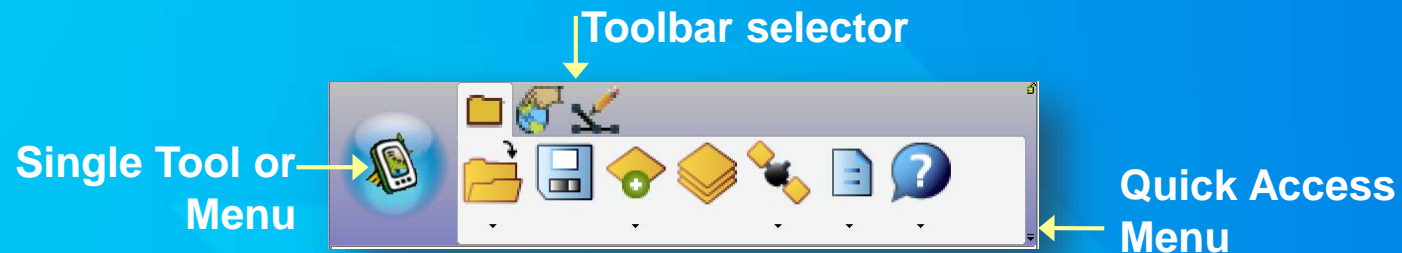
- **Projects**

- Modify ArcPad preference and configuration files
- Create ArcPad Apps

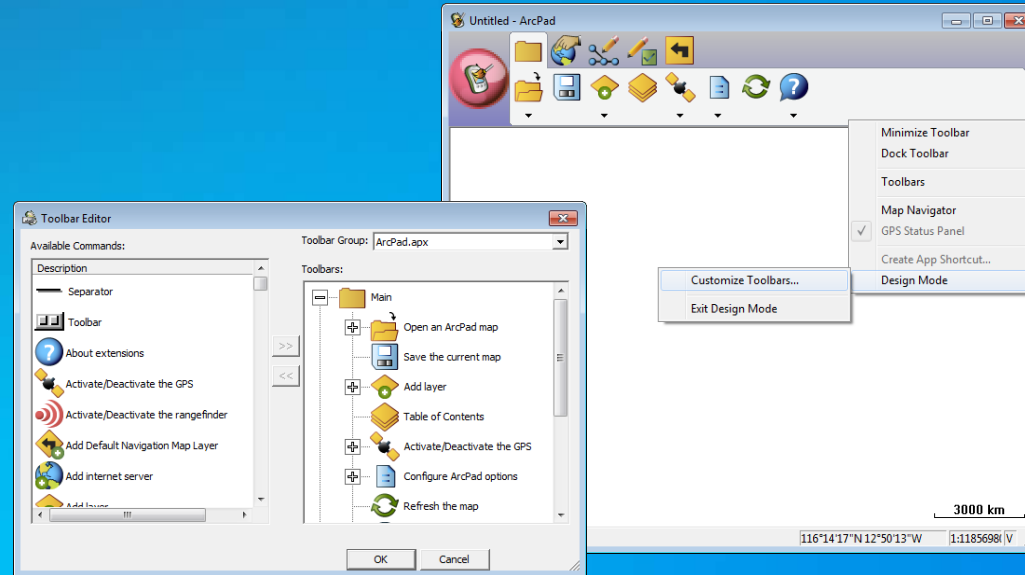
Toolbar customization

- **Favourites 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



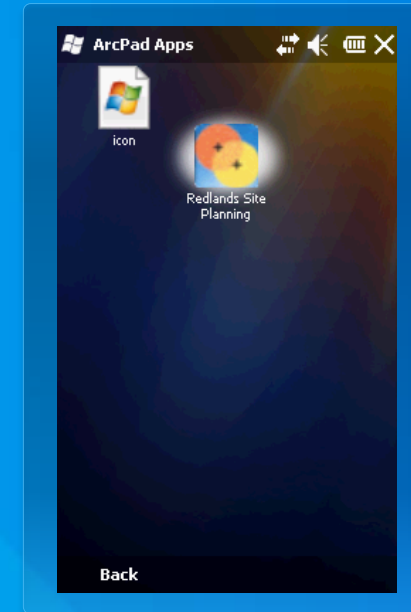
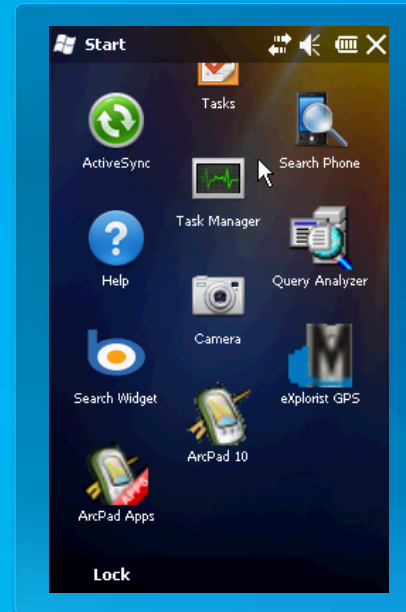
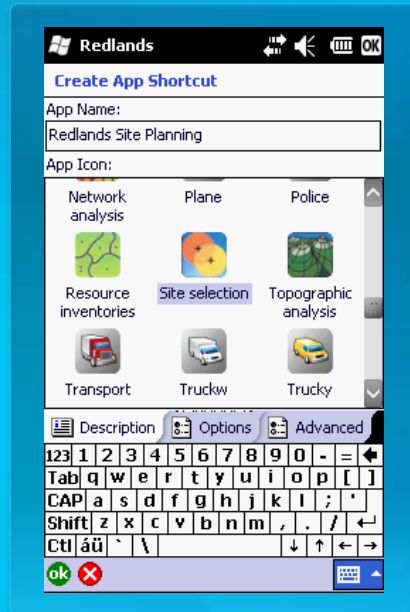
Creating a custom toolbar

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



Steps to make an App



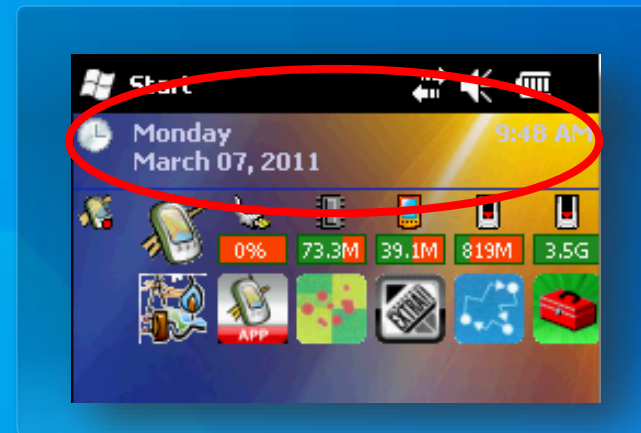
- **Step 1 – Prepare map**
- **Step 2 – Design a toolbar (customisation)**
- **Step 3 – Create an App shortcut**
- **Step 4 – Deploy**

ArcPad Today

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



Before



After



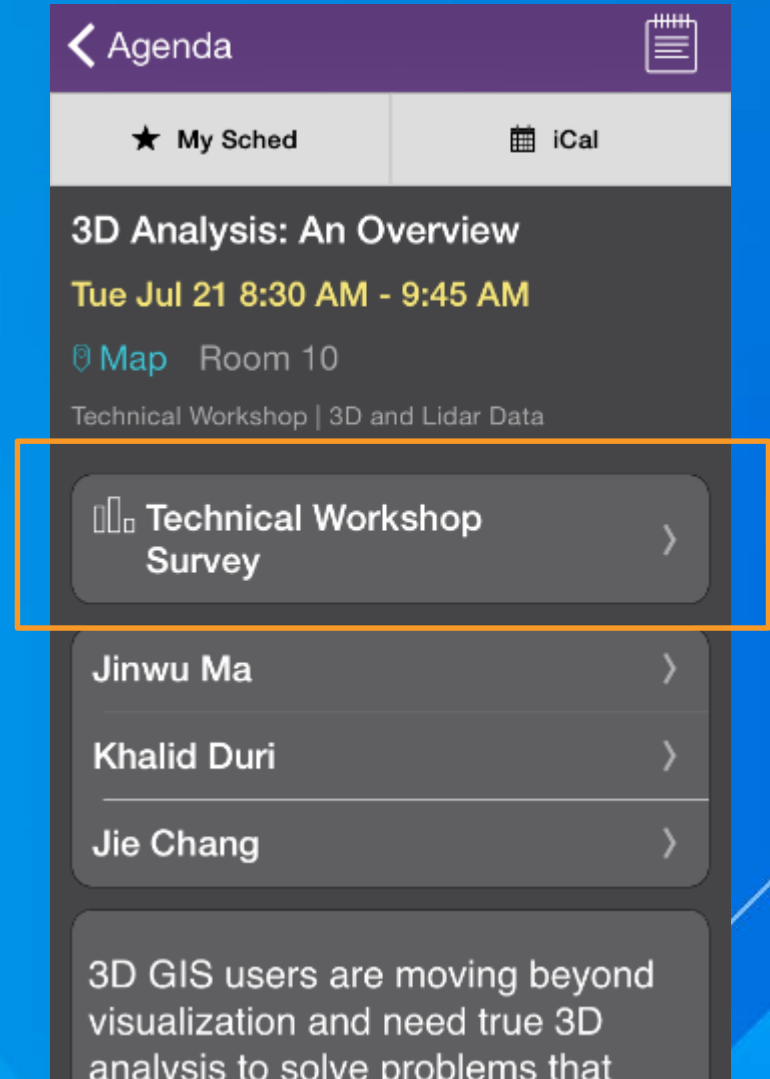
Creating an ArcPad shortcut demo

What can you do with ArcPad?



Thank you...

- Please fill out the session survey in your mobile app
- Select [enter session title here] in the Mobile App
 - Use the Search Feature to quickly find this title
- Click “Technical Workshop Survey”
- Answer a few short questions and enter any comments





Understanding our world.