



ArcPad – An Introduction

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Technical Workshop

ArcPad Sessions at the UC

- **Demo Theatre**
 - **Preparing and Deploying Data to ArcPad**
 - **Using ArcPad in the Field**
 - **Customizing ArcPad without code – today 3:30pm, tomorrow 9:30am**
 - **Customizing ArcPad with Jscript, Python and VBScript – today 4:30pm**
- **User Group Meeting – today – 5:30pm**

Release Status

- **ArcPad 10.2**
 - **Direct support for feature services**
 - **Sharing ArcPad Projects from ArcGIS Online**
 - **Quick Fields**

The Road Ahead

- **Minor releases and critical fixes will continue for life of Windows Mobile**

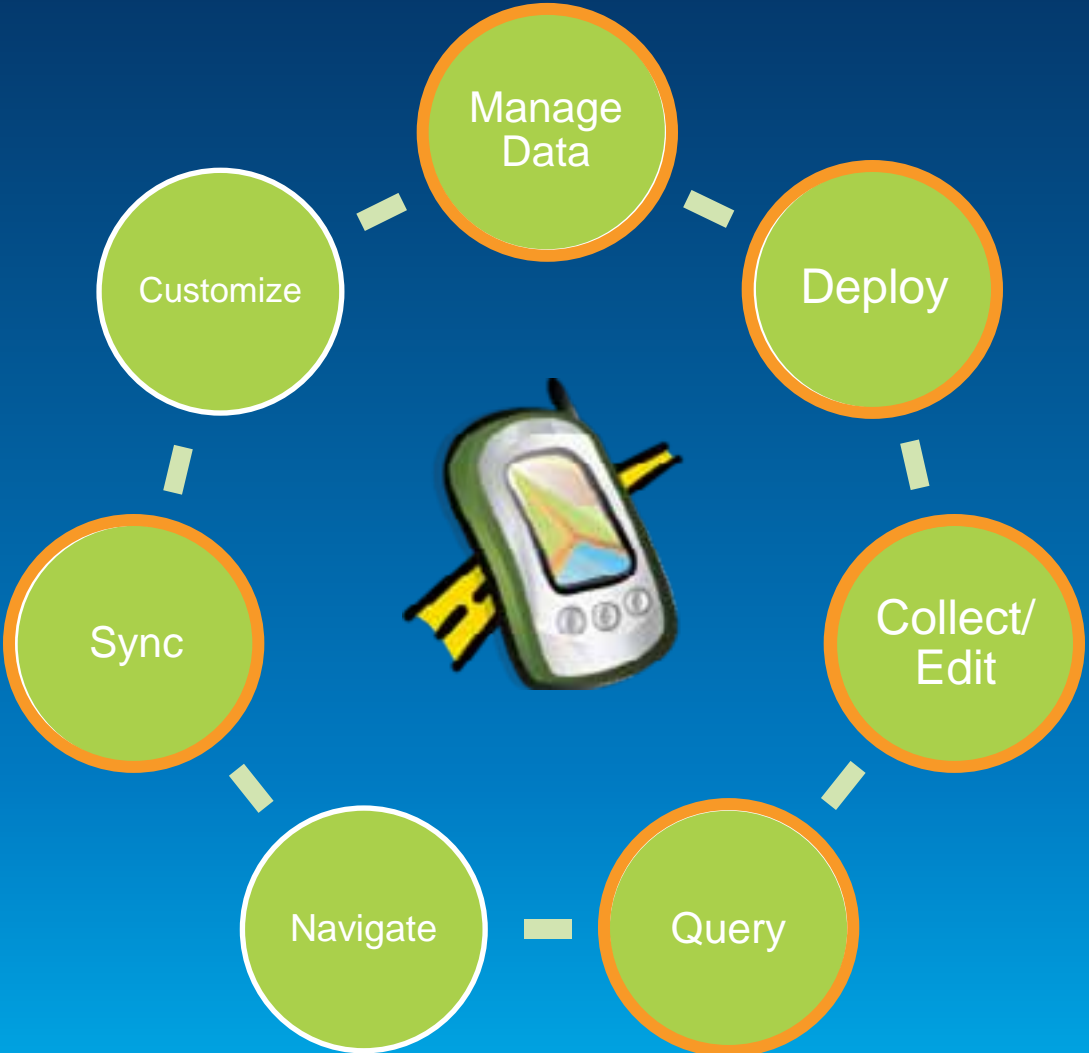
Session Outline

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

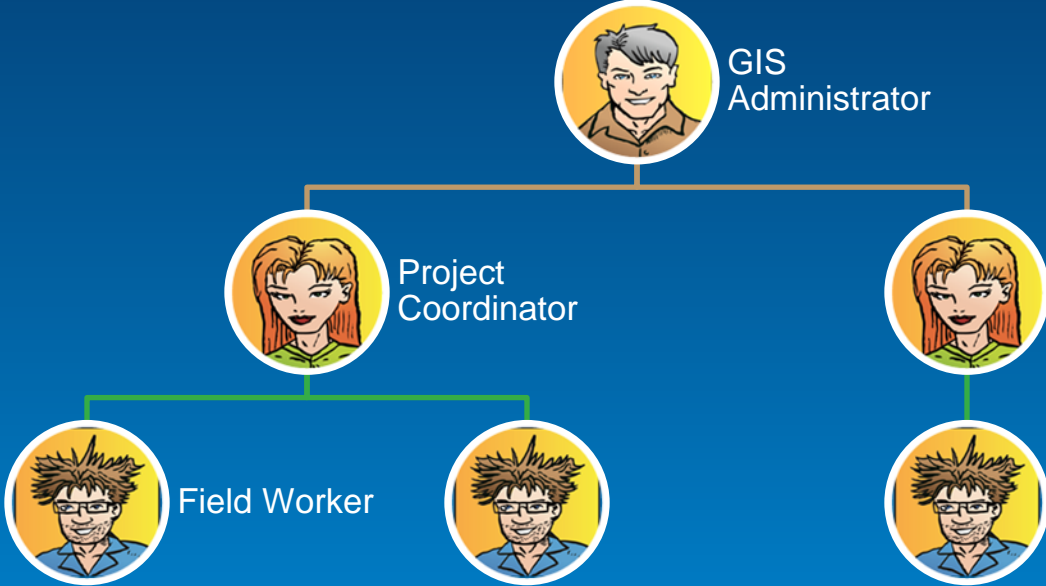
What is ArcPad?

- 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**

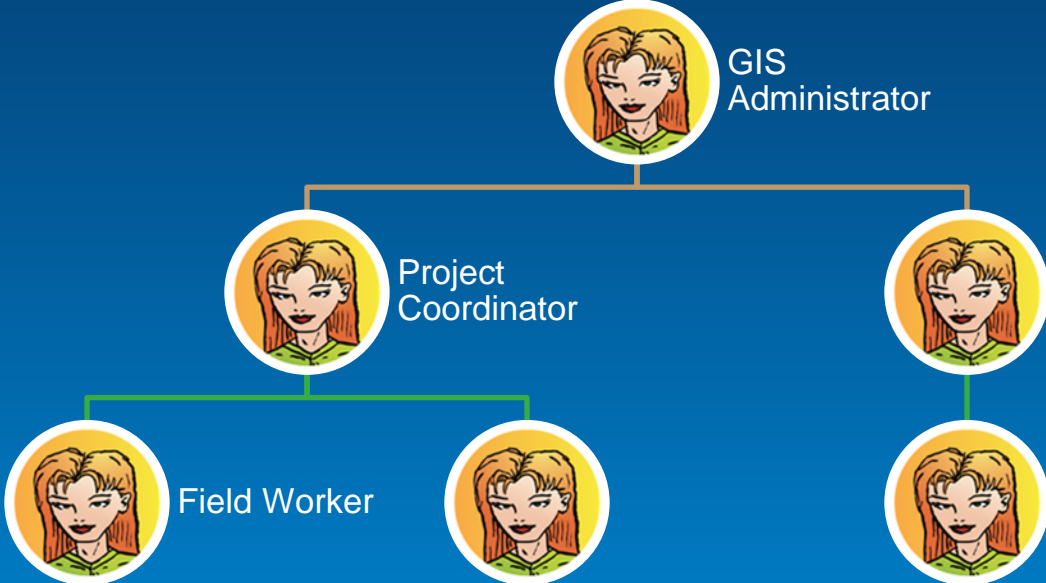
What can you do with ArcPad?



Who uses ArcPad?



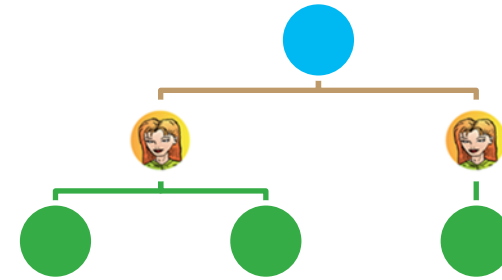
Who uses ArcPad?







ArcPad Data Manager

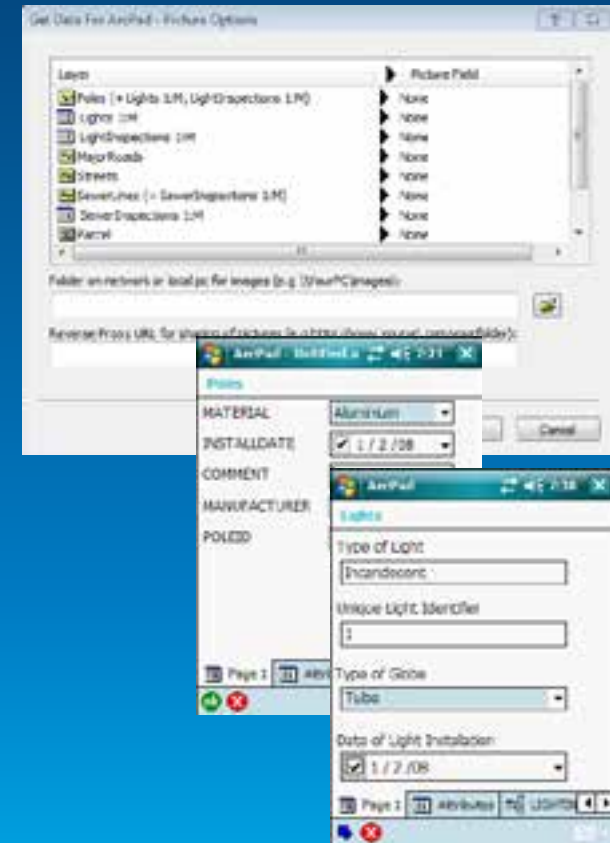
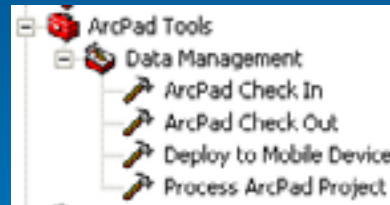


ArcPad Data Manager Compatibility

- **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

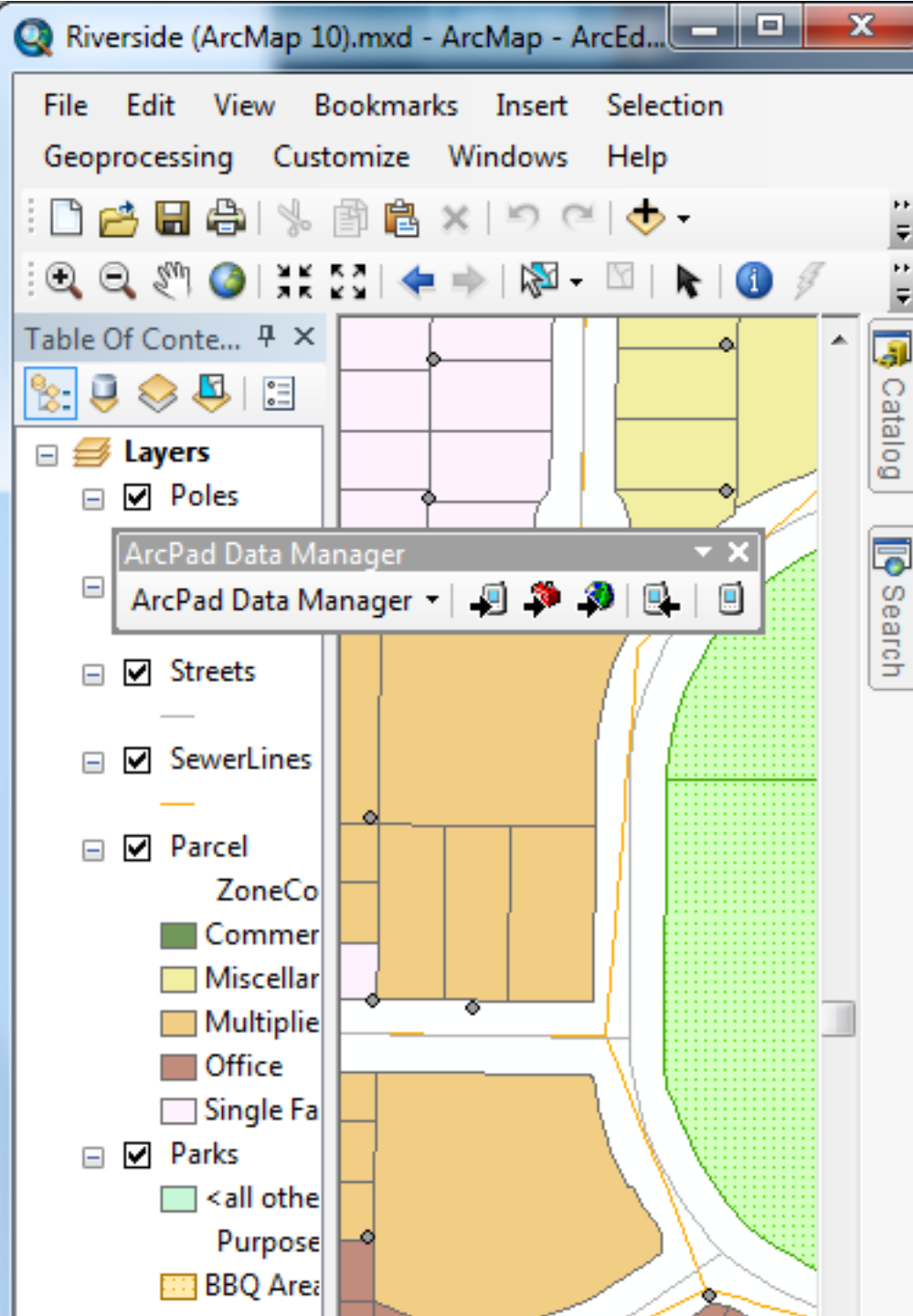
ArcPad Data Manager for ArcGIS Desktop

- Supports enterprise and local geodatabase workflows
- Includes
 - ArcMap toolbar
 - Tools for ArcToolbox
- Model Builder or Python to automate

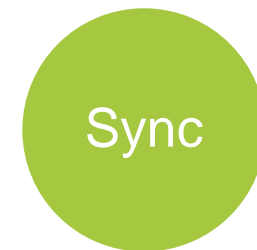
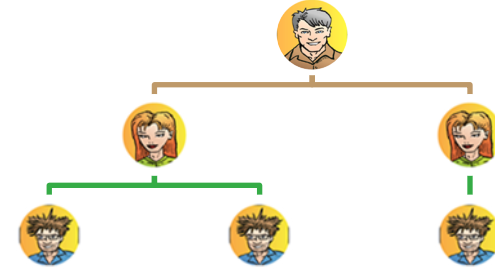


Demo

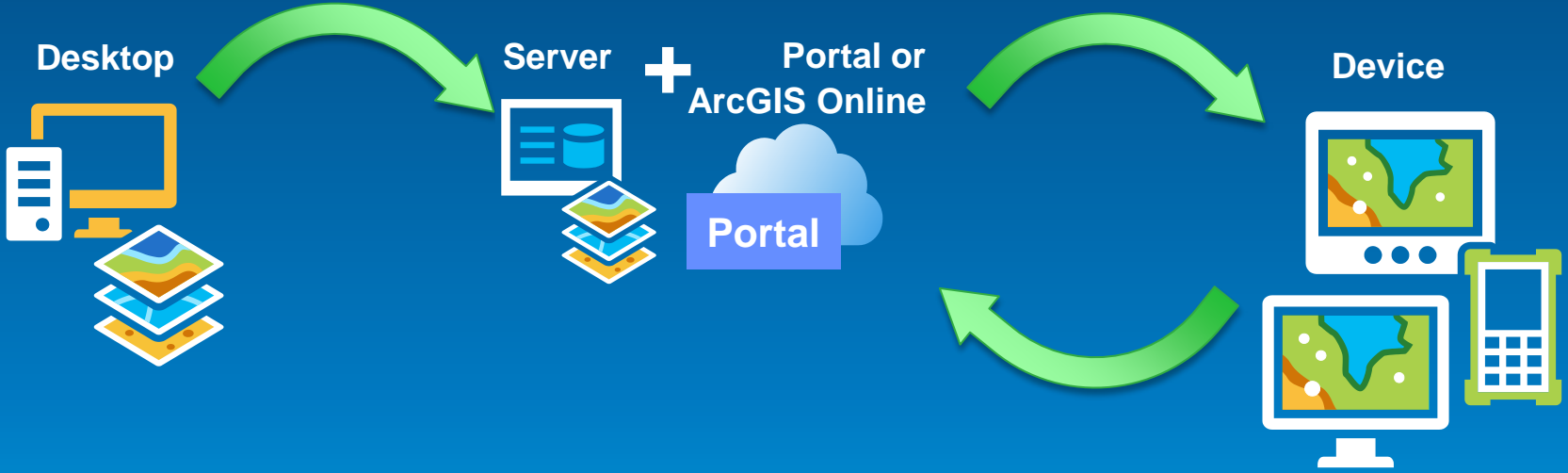
Get Data for ArcPad



ArcGIS Server data synchronisation

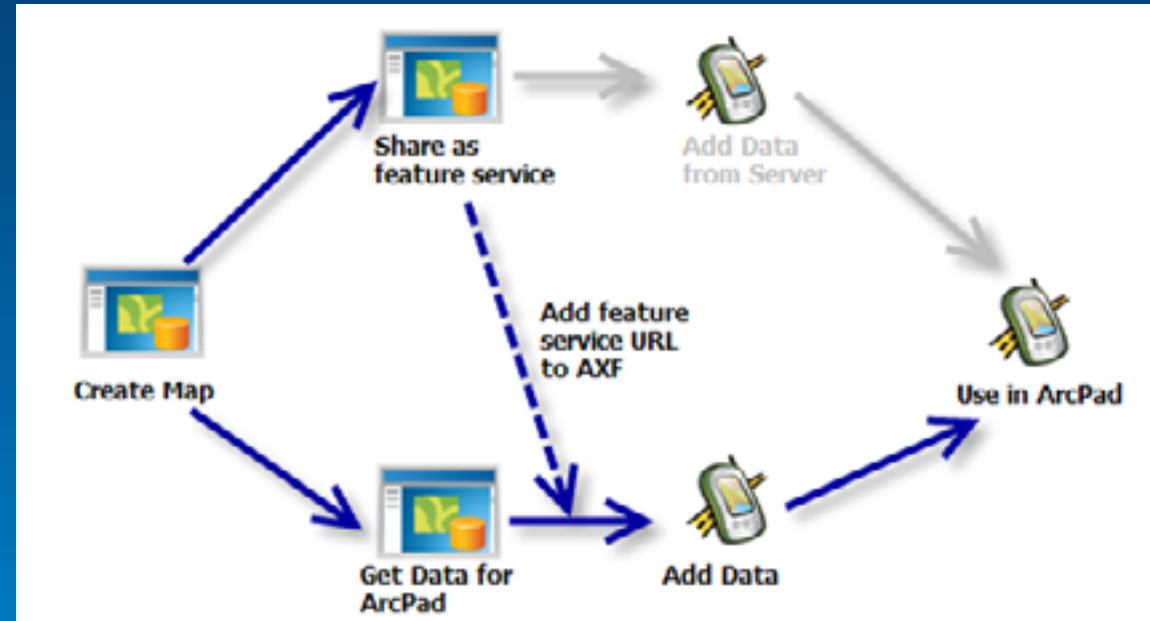


Feature service synchronization



Prepare for server synchronization

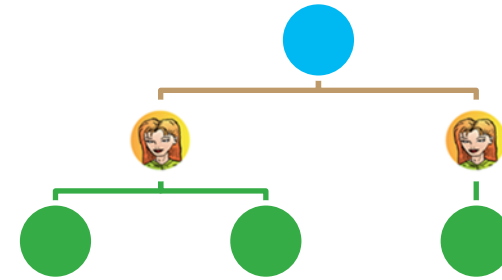
1. Create map in ArcGIS
2. Get Data for ArcPad
3. Share as feature service
4. Add feature service url to AXF
5. Either
 - a) Use as a template
 - b) Use AXF directly in ArcPad



ArcGIS Server Feature Services

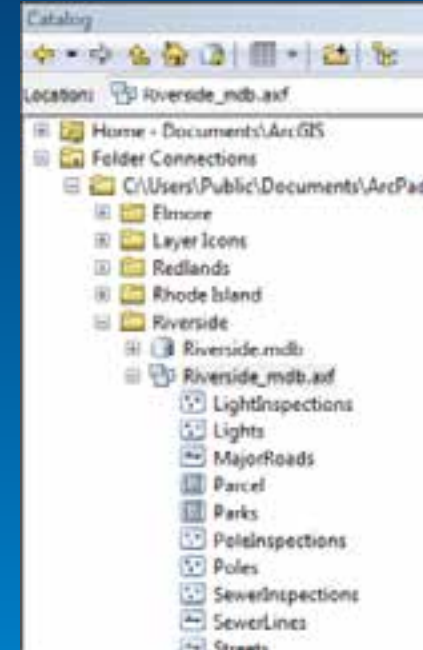
| | ArcGIS Server 10.0 | ArcGIS Server 10.1 and 10.2 | Hosted feature services |
|-----------------------------|---------------------------|------------------------------------|--------------------------------|
| Related tables | No | Yes | Yes |
| Map extent | Full | Map | Map |
| Editor tracking |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

AXF Reader for Data Interoperability

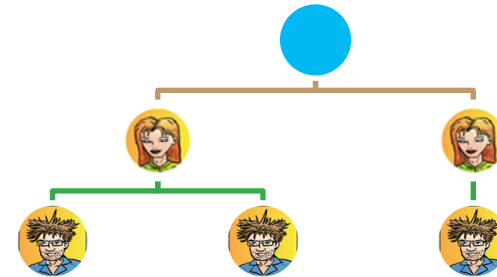


ArcPad AXF Reader

- **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



Manage
Data

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?

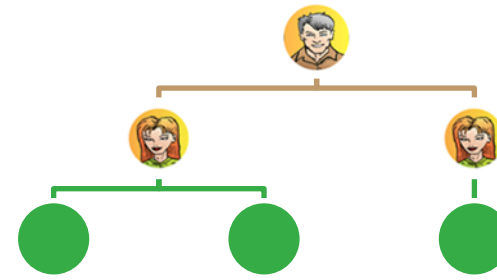
Upload zipped projects prepared locally using ArcGIS Desktop or ArcPad.

- 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



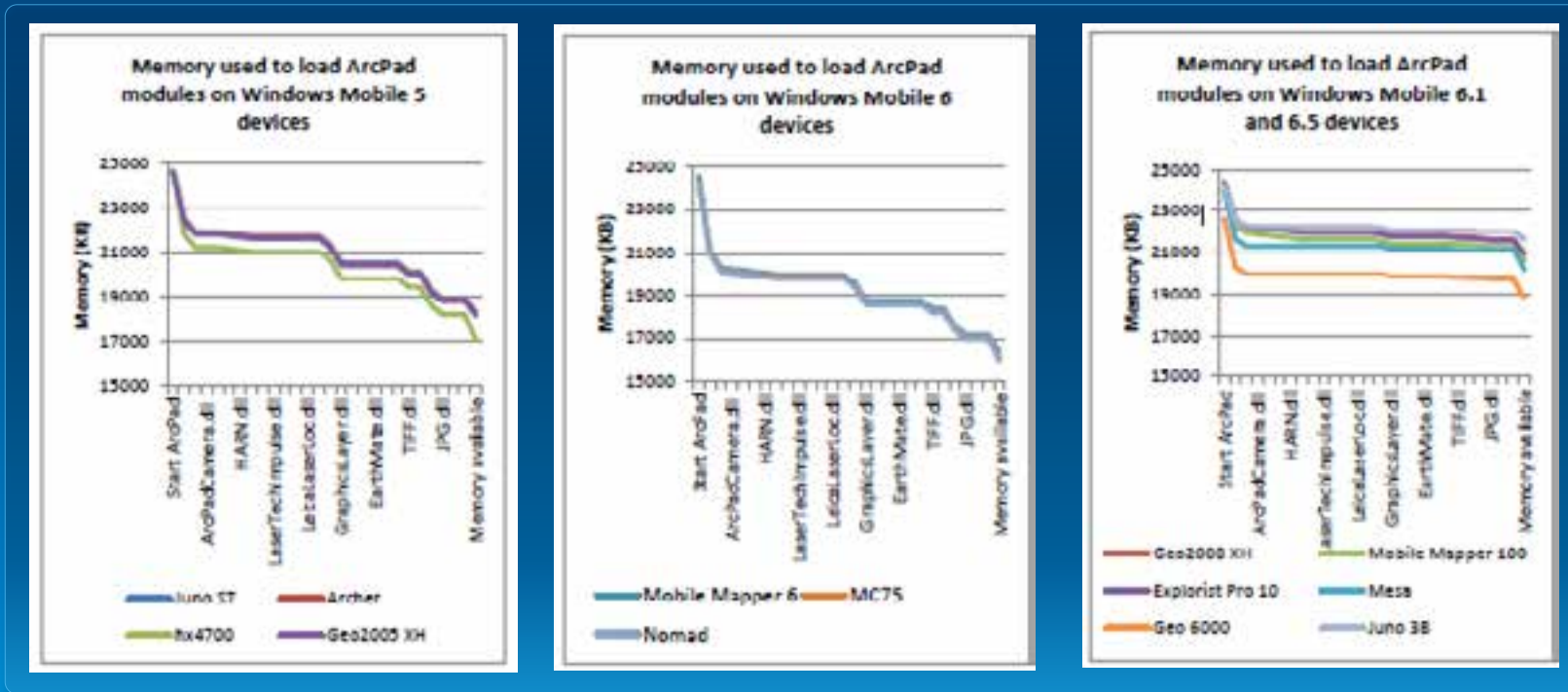
- Slower CPU
- Fixed memory
- ArcPad only uses 32MB of memory
- Screen resolution can impact on speed and memory
- No graphic CPU (GPU)
- Great battery life
- Usually internal GPS

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

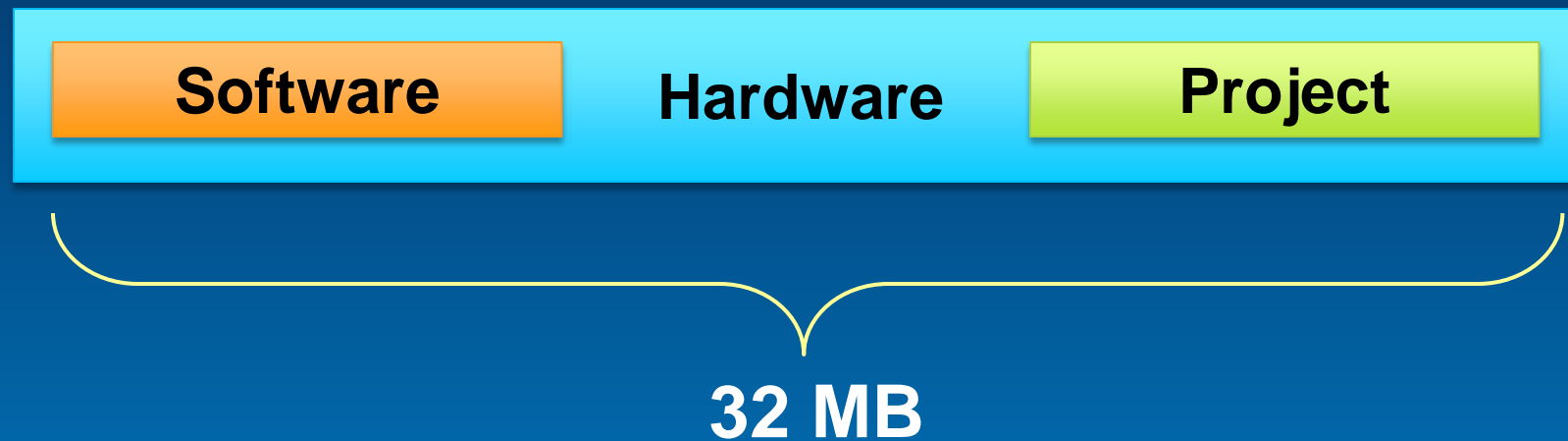


Windows Mobile 5

Windows Mobile 6

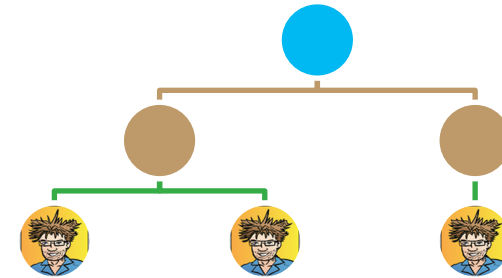
Windows Mobile 6.1 and 6.5

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



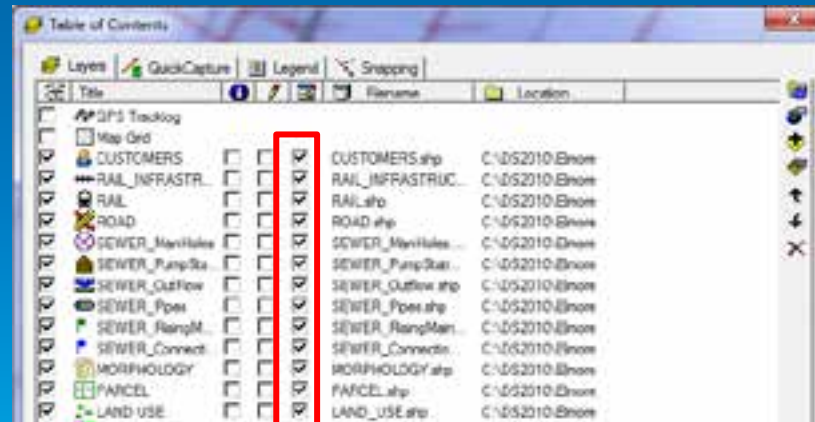
Quick Capture Toolbar

- **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



Repeat Attributes

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

The screenshot shows a mobile application window titled "Redlands" with a sub-header "Trees". The form contains the following fields:

- Tree ID Number: 4223
- Date Visited: 7/4/12 (checked)
- House Number: (empty)
- Street Name: (empty)
- Owner Class: (empty)
- General Site Information: (empty)

At the bottom of the form, there are two tabs: "Site Details" and "Tree Information". Below the tabs, there are three buttons: "ok", "cancel", and a "Repeat Attributes" button, which is circled in orange.

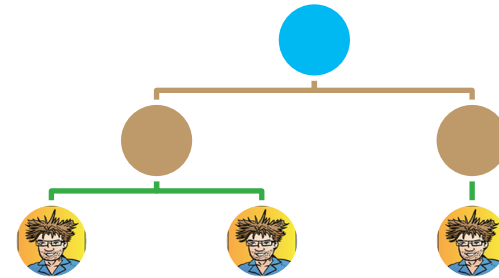
QuickFields

- **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**

Demo

Repeat attributes and Quick Fields

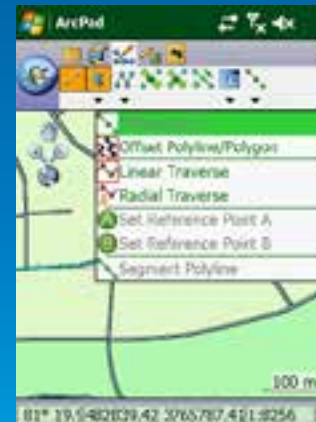
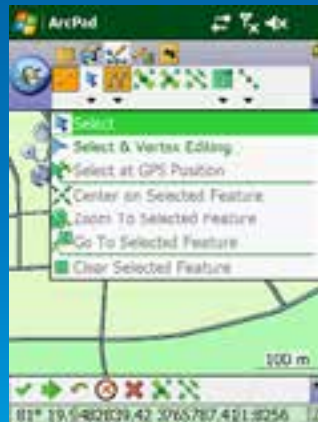
Rich data capture and editing



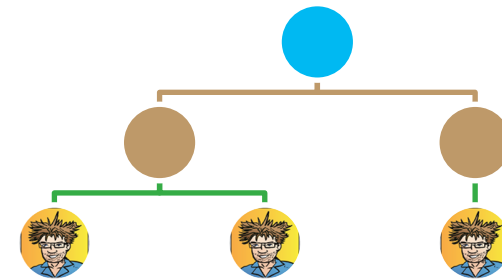
Collect
/Edit

Rich editing tools

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



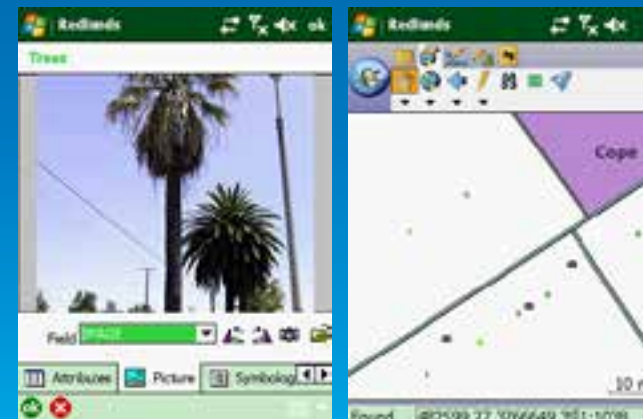
Working with photos



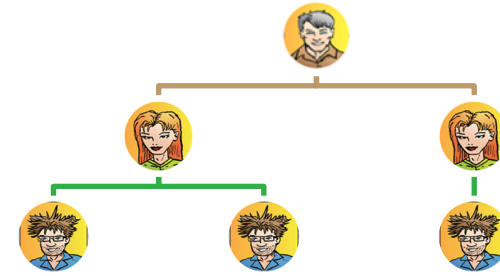
Collect
/Edit

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



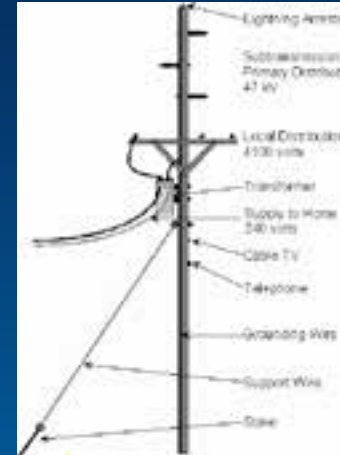
Working with related tables



Collect
/Edit

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 |

Demo

Photos and related records

Pole Inspection [X]

General | Inspection Details

Inspection ID

Inspection Date ▼

Inspector ▼

Lights [X]

Lights | LIGHTINSPEC ◀ ▶

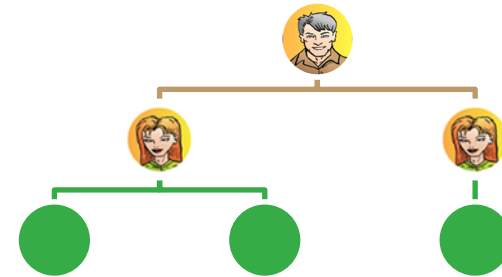
Light ID

Type ▼

GlobeType ▼

Install Date ▼

Customization



Common areas of customization

- **Toolbars**

- modify existing toolbars
- create new toolbars and tools

- **Forms**

- modify existing forms
- Create new forms

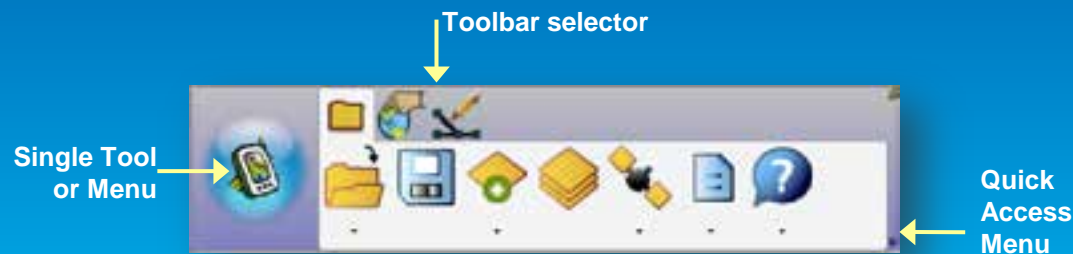
- **Projects**

- Modify ArcPad preference and configuration files
- Create ArcPad Apps

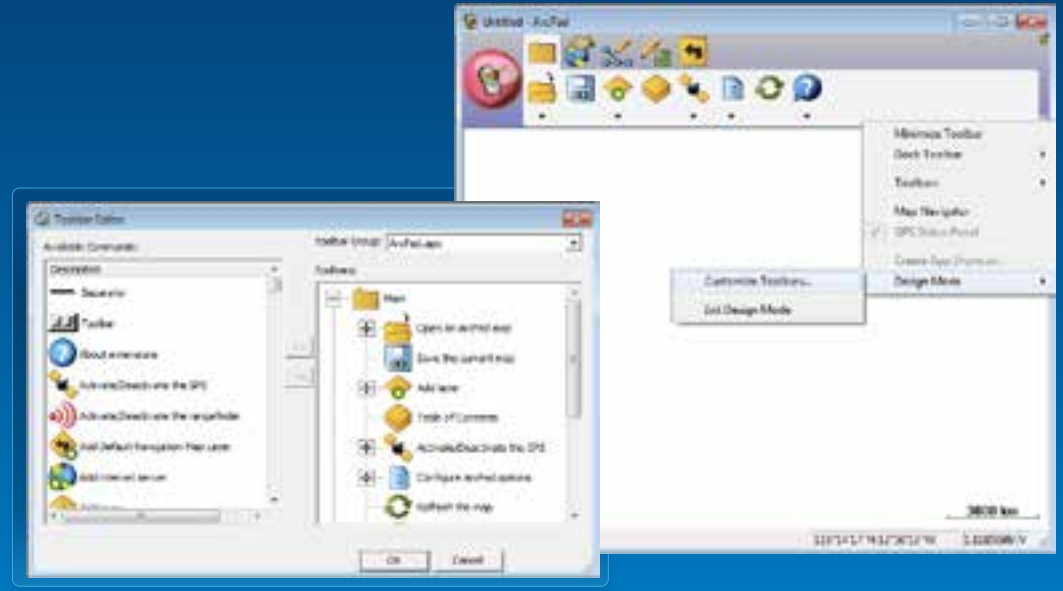
Toolbar customization

- 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

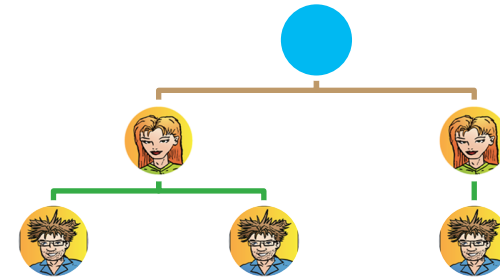


Tip: Delete ArcPad.apx to restore default toolbar configuration

Types of forms

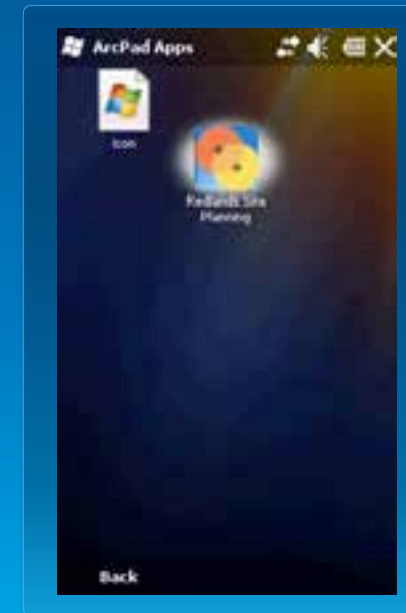
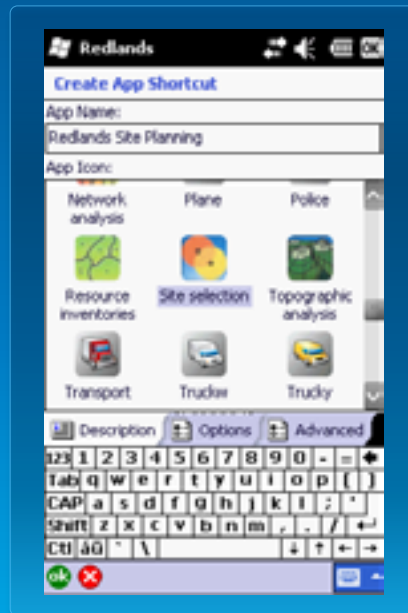
- **Edit**
 - Used for data capture and edit
- **Identify**
 - Used when identifying features.
 - If not present uses Edit form in read-only mode
- **Query**
 - Added to Find dialog
 - Search template, just fill in the boxes
- **“Other”**
 - Application specific forms

ArcPad Apps



Using App 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



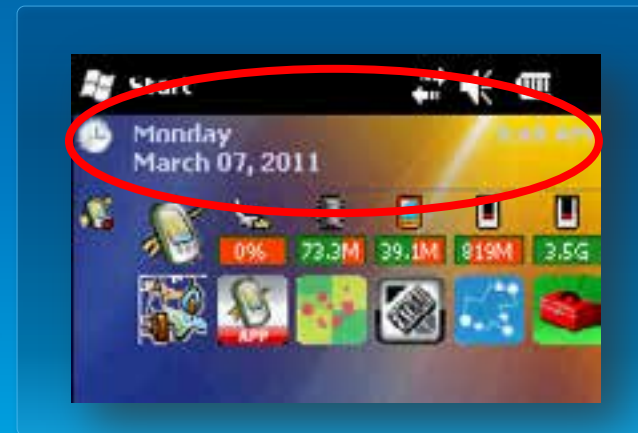
- Step 4 – Deploy

ArcPad Today

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



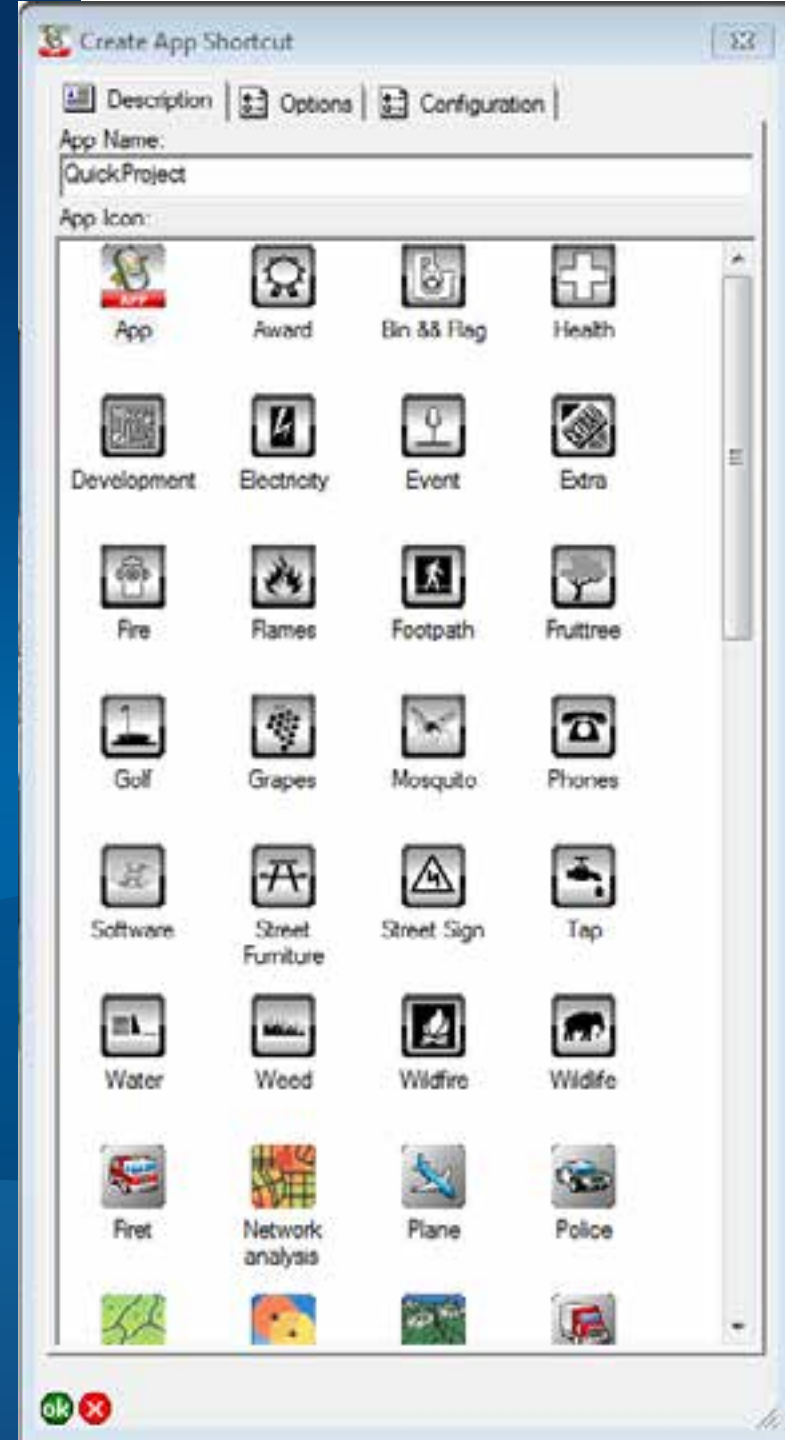
Before



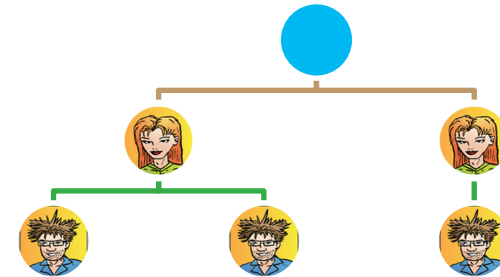
After

Demo

Creating an ArcPad App



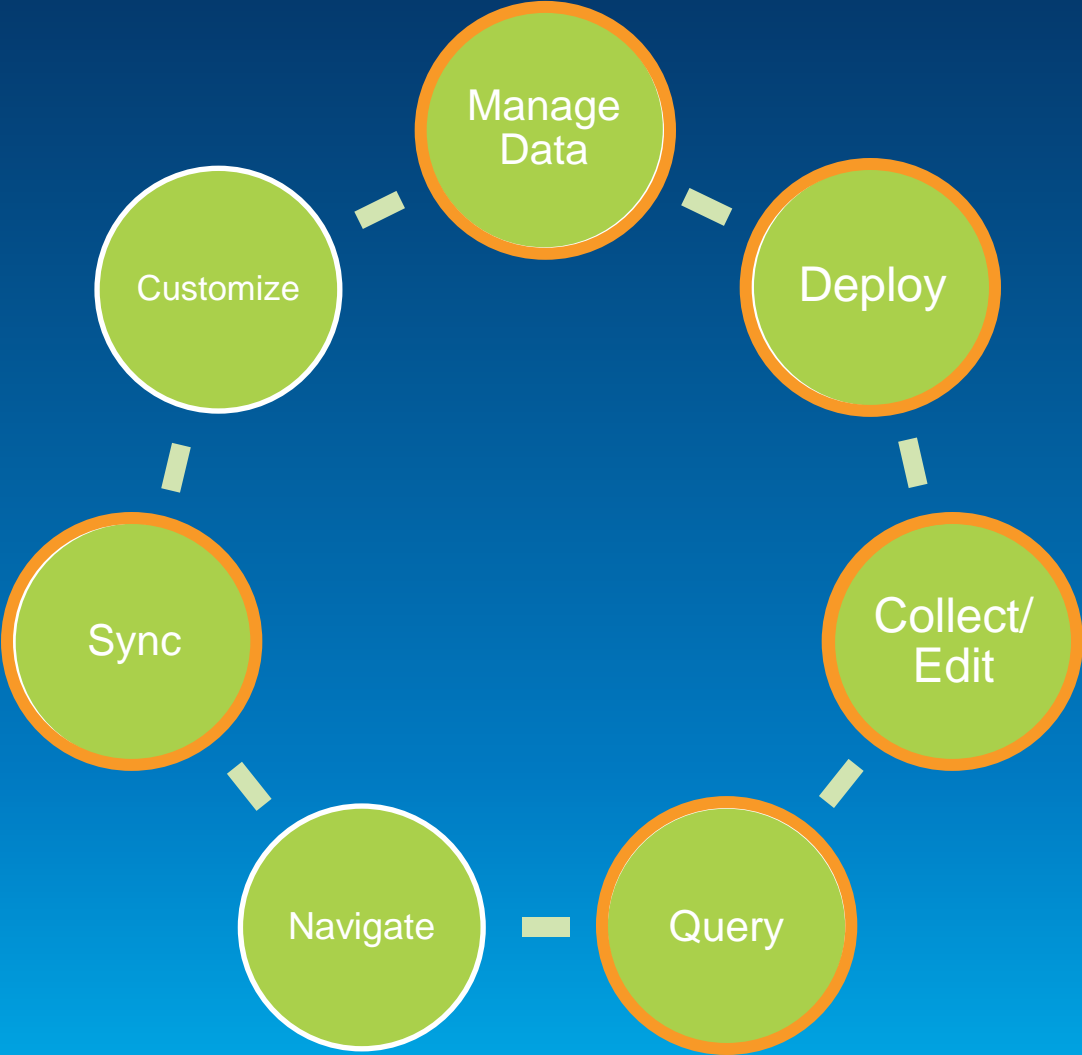
ArcGIS Online



Deploy your custom project

- **SD card / USB stick**
- **Active Sync**
- **ArcGIS Online**
 - **ArcPad Package – Project**
 - **ArcPad Package – Template**

What can you do with ArcPad?



Resources

Make your suggestions known

<http://ideas.arcgis.com/>

Resources

<http://resources.arcgis.com/en/communities/arcpad/>

Team blog

<http://arcpadteam.blogspot.com/>

Twitter

<http://twitter.com/ArcPadTeam>

Thank you...

- **Please fill out the session survey:**

Offering ID: 1413

Online – www.esri.com/ucsessionsurveys

Paper – pick up and put in drop box



Understanding our world.