Developing Python Add-ins for ArcGIS for Desktop

Jason Pardy, Chris Fox
What are add-ins?

- **New model for ArcGIS Desktop application customization**
  - Collection of tools on a toolbar
  - Perform action in response to application event
- **Easy to build, install, and share**
  - No Component Object Model (COM) registration
  - Loaded from well-known folders
  - Authored in .NET, Java, or Python (10.1)
Why use Python?

- Python makes add-ins easier
  - No DLLs
  - No compiling
  - No ArcObjects
  - Less code
Supported add-in types

- Buttons and tools
- Toolbars
- Tool palettes
- Combo boxes
- Menus
- Extensions

- Dockable windows are not supported
- No custom UI support
Using Python add-ins
Python Add-In Wizard

- Wizard simplifies the development of add-ins
  - Define project settings
  - Define add-in content
- The wizard generates the add-in project

- Download from arcgis.com
  - Launch from addin_assistant.exe in bin folder
Add business logic

- Python script defines behavior of add-in
- Edit the Python script in the install folder
Make and install add-in

- Run makeaddin.py to create .esriaddin file
Make and install add-in

- Run `makeaddin.py` to create `.esriaddin` file
- Double-click `.esriaddin` to open installation utility
- Installer copies add-in file to default add-in folder
Pythonaddins module

- Includes functions for supporting Python add-ins
  - Get selected layer or data frame
  - Open geoprocessing tool
  - Open and Save dialog boxes
  - Message box
Creating Python add-ins
Debugging add-ins

- **Missing buttons indicate syntax error**
  - Use IDE to check syntax
- **Use print statements**
  - Information printed to Python window
- **Exceptions printed to Python window**
Sharing add-ins

- Easily shared
  - Upload to ArcGIS.com
  - Sent via e-mail
- Installed by copying to a well-known folder
  - Un-installed by removing from folder
  - Update by overwriting original add-in
- Designate additional well-known folders
  - Place on local file share
- Digitally sign add-ins
  - Load add-ins from trusted provider only
Test and share Python add-ins
For more information

- **Help**
  - *ArcGIS Desktop Python Add-ins Guide Book*

- **Web training**
  - *Basics of Python (for ArcGIS 10)*
  - *Python Scripting for Map Automation in ArcGIS 10*

- **Instructor-led training**
  - *Introduction to Geoprocessing Scripts Using Python (10.0)*