

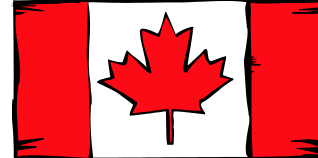
# Extending ArcGIS for Desktop: Python and .NET Add-Ins in a Nutshell

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Jason Pardy, Voyager Search

Northwest GIS 2014 Conference, Lynnwood, WA  
October 15, 2014

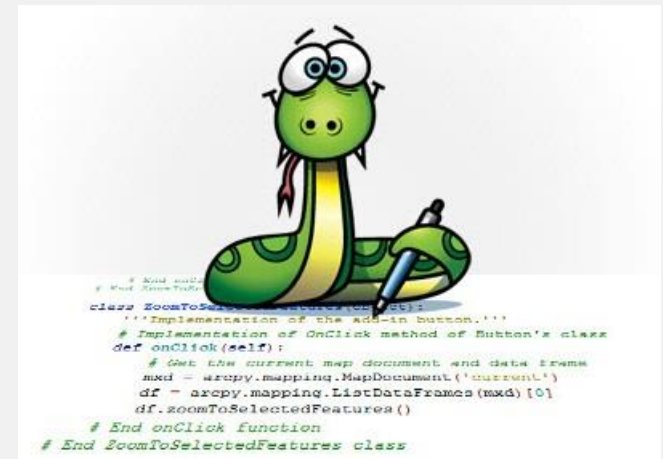
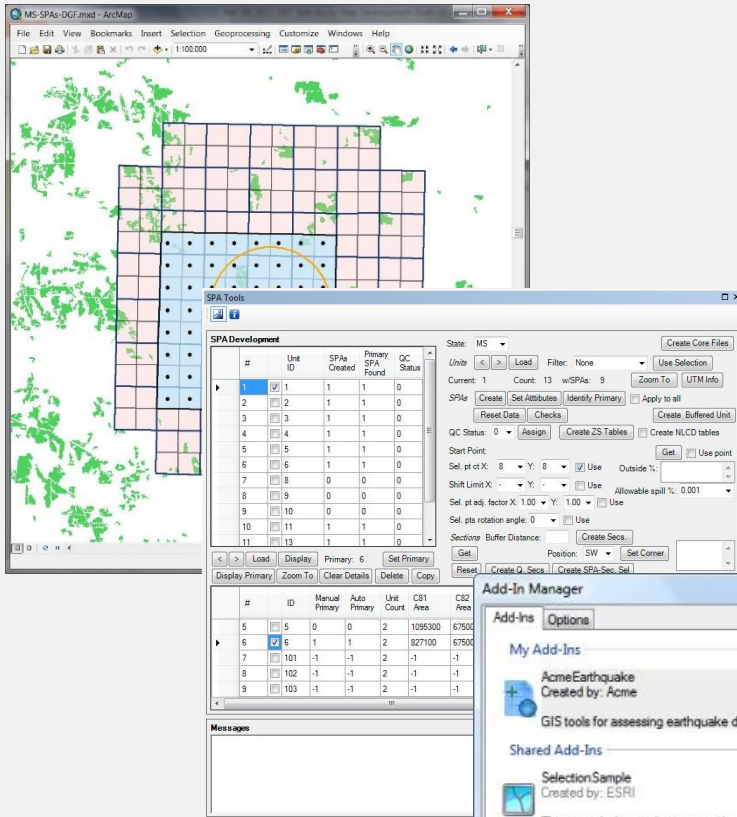
# Who are We?



- A Brit and a Canadian
- ~38 combined years of GIS experience
  - David: 15+ years consulting experience & 7 years in academia
  - Jason: 3+ years consulting & 13 years in software development at Esri

# Why Develop Add-Ins?

- Streamline capabilities
- Develop new tools and processes
- Increase efficiency
- Maximize the value of your investment in GIS technology



# Goal

- Provide an overview of how to create two tools
- Both tools do the same thing:  
Return the lat/long value of the point that was clicked in ArcMap as a string that you can enter into Google or Bing Maps or use elsewhere

“122 21 39.55W 47 45 45.75N”

- Tool 1: Python add-in
  - Esri Python add-in wizard (add-in assistant)
  - PyScripter
- Tool 2: .NET (C#) add-in  
Visual Studio 2012 Express



Key point: give you a flavor of the possibilities and the value of the approaches

# Demos



## Welcome to GISPD.com

Our mission is to support GIS professionals by providing informative resources on our website, organizing and participating in professional gatherings and conducting training events.

### Events

**OCT** Opening the Door to Open Source GIS  
**15** Session at the 2014 Northwest GIS Conference  
**2014** David Howes, David Howes, LLC & Matt Stevenson, CORE GIS  
📍 Lynnwood Convention Center, Lynnwood, WA

**OCT** Extending ArcGIS for Desktop: Python and .NET Add-ins in a Nutshell  
**15** Presentation at the 2014 Northwest GIS Conference  
**2014** David Howes, David Howes, LLC & Jason Pardy, NewfoundGEO Consulting  
📍 Lynnwood Convention Center, Lynnwood, WA

[All events >](#)

# Resources



# Learning Python

- New user:
  - <https://docs.python.org/2/tutorial/>
  - Learning Python, 5th Edition Paperback (by Mark Lutz)
- Existing Experience:
  - Core Python Applications Programming (3rd Edition)  
(by Wesley Chun)
- There are hundreds of good resources, blogs, etc. online  
E.g., <http://pymotw.com/2/>



# Python IDEs

- PyScripter

<https://code.google.com/p/pyscripiter/>

- PyCharm

<http://www.jetbrains.com/pycharm/>

# Python Add-Ins Help

- ArcGIS for Professionals - Python

<http://pro.arcgis.com/en/analysis/python/>

Add-in wizard at foot of page

- Python add-ins guide book

[http://resources.arcgis.com/en/help/main/10.2/#/What is a Python add in/014p00000025000000/](http://resources.arcgis.com/en/help/main/10.2/#/What%20is%20a%20Python%20add%20in/014p00000025000000/)

# ArcGIS Add-Ins - Conceptual Help

- Developing with ArcGIS

[http://resources.arcgis.com/en/help/arcobjects-net/conceptualhelp/index.html#/Developing with ArcGIS/0001000001ww000000/](http://resources.arcgis.com/en/help/arcobjects-net/conceptualhelp/index.html#/Developing_with_ArcGIS/0001000001ww000000/)

Where add-ins fit in the scheme of customization options

- Building add-ins for ArcGIS for Desktop

[http://resources.arcgis.com/en/help/arcobjects-net/conceptualhelp/index.html#/Building add ins for ArcGIS for Desktop/0001000000w2000000/](http://resources.arcgis.com/en/help/arcobjects-net/conceptualhelp/index.html#/Building_add_ins_for_ArcGIS_for_Desktop/0001000000w2000000/)

Note considerations for development framework

# ArcGIS Add-Ins - Component Help

- Desktop.Addins overview

[http://help.arcgis.com/en/sdk/10.0/arcobjects\\_net/componenthelp/index.html#/Overview/001v00000266000000/](http://help.arcgis.com/en/sdk/10.0/arcobjects_net/componenthelp/index.html#/Overview/001v00000266000000/)

- ESRI.ArcGIS.Desktop.AddIns namespace

[http://help.arcgis.com/en/sdk/10.0/arcobjects\\_net/componenthelp/index.html#/ESRI\\_ArcGIS\\_Desktop\\_AddIns\\_Namespace/001v0000011z000000/](http://help.arcgis.com/en/sdk/10.0/arcobjects_net/componenthelp/index.html#/ESRI_ArcGIS_Desktop_AddIns_Namespace/001v0000011z000000/)

# Visual Studio

- Visual Studio home page  
<http://www.visualstudio.com/>
- Visual Studio 2012 Express download page  
<http://www.microsoft.com/en-us/download/details.aspx?id=34673>
  - 30-day trial
  - Register to extend

Thanks for Coming