ArcGIS Pro Tasks: An Introduction

- Jason Camerano
- Amir Bar-Maor
Live Call With Esri Technical Support

- Esri Technical support: Jason
- Customer: Amir

Warning: there is a test in the end of the presentation
Live Call With Esri Technical Support

Amir (Customer)
- Every user does things differently

Jason thinks... Technical Support
- No best practice
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Amir (Customer)
- People make mistakes

Jason thinks… Technical Support
- No quality assurance
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Amir (Customer)
- Mistakes cost $$$

Jason thinks... Technical Support
- Catch errors as they happen
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Amir (Customer)
- Complaints updates take “too long”

Jason thinks... Technical Support
- No metrics
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Amir (Customer)
- Training new employees takes a long time until they become productive

Jason thinks… Technical Support
- Transfer business knowledge
- Learn how to use the software

Doesn’t seem to like new employees
I hope he doesn’t find out I’m a new employee
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Amir (Customer)
- Don’t people know how to read a manual?

Jason thinks… Technical Support
- Dynamic help that follows your steps
Amir (Customer)

- Our organization is special

Jason thinks… Technical Support

Heard that before…
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Amir (Customer)

• Technology changes fast
• I remember my first GIS course on ArcInfo…

Jason thinks… Technical Support

• 1996… I was a toddler
Create New Building Workflow

Locate Work Area
• By address or Subdivision name

Select Subdivision
• Copy the Subdivision name

Create New Buildings
• Make sure they don't overlap

Attribute New buildings
• Paste the subdivision name, populate attributes

Save Edits
• Never forget to save edits
Demo: Help needed!
Jason – please share your screen
What is a task?

- **Sequential** steps that guide you through a **repeatable** workflow
- **Tasks:**
  - Used to **guide** and share knowledge
  - Are **interactive**
  - Improve **efficiency**
  - Improve **quality**
- Tasks use your (business) language
- Tasks are configurable

“The right tool in the right time”
Design a task

- Know your business and workflows
- Repeatable workflows
- Know your project:
  - Maps
  - Layers
  - Tools
  - Add Ins
- Know your users:
  - Roles
  - License level / extensions
  - Permissions
  - Environment
Task Step

General
- Instructions
- Behavior

Actions
- Command / Get Attribute
- Geoprocessing
- Selection
- Copy / Calculate Attributes
- Verification

View
- Open / close Map Views / Layout
- Active Map
- Link Views

Content
- Layer:
  - Visibility
  - Selectable
  - Editable
  - Snappable
  - Select Layer
  - Labels
- Snapping Management
General – Step Behavior

- Manual – 2 mouse clicks
- Auto Run / Auto proceed – 1 mouse click
- Automatic – no mouse clicks
Step Life Cycle

Apply Map & Layer Setting
Action: Selection
Copy, Calculate
Action: Command / Geoprocessing Tool
Action: Selection
Copy, Calculate, Verification
Action: Selection
Copy, Calculate, Verification

When Step Starts
Command Execution
When Exiting

Automatic (visible / hidden)

Behaviors
Auto Run
Auto Proceed
Manual
Skip

Next Step
Run
Auto Proceed
Manual
Skip
Demo: Creating a Task

Jason – please share your screen
Live Call With Esri Technical Support

- Esri Technical support: Jason
- Customer: Amir
- Reminder: don’t forget the test
Create New Building Workflow – Simplified version

Locate Work Area
- By address or Subdivision name

Select Subdivision
- Copy the Subdivision name

Create New Building
- Make sure they don’t overlap

Attribute New building
- Paste the subdivision name, populate attributes

Save Edits
- Never forget to save edits
Create New Building Workflow – Real version

1. Get Work Order ID
2. Keep Time Record
3. Locate Work Area
   - By address or Subdivision name
4. Select Subdivision
   - Copy the Subdivision name
5. Create New Buildings
   - Make sure they don’t overlap
6. Validate Geodatabase Topology
7. Fix Errors
8. Move Features
9. Validate Geodatabase Topology
10. Attribute New building
    - Paste the subdivision name, populate attributes
11. Save Edits
    - Never forget to save edits
12. Review and Fix Attribution Errors
13. Write End Time
Common User Errors

- Forget to attribute some of the attributes
- Wrong attribution, like mistype of the subdivision name
- Select the wrong features
- Forget which features were they created in the work order
- Time reporting is a challenge (coffee breaks, emails...)
Demo: Enhanced Task

Jason – please share your screen
Demo: Sharing a task & Task History
Sharing tasks

• Best method: as a project package

• Shared to your ArcGIS Online account

• Shared as an .esriTaskFile

• Tasks can be copied and pasted between Task Items and Projects
Task History (metrics)

- Optional project Settings (project options)
- Measures duration of each task; idle time is filtered
- Great to visualize with charts
When NOT to use Tasks?

- A workflow that takes very long time
- Task resources keep changing frequently: maps, layers, Geoprocessing tools
- Micro Management tool
- Does not replace Geoprocessing models:
  - Geoprocessing is used for automation
  - Tasks are interactive
Tips & Tricks

• Global shortcuts:
  - Alt X – RUN (‘eXecute’)
  - Alt C – NEXT STEP (‘Countinue’)
  - Alt S – SKIP (‘Skip’)

Alt + S
Alt + X
Alt + C
Tips & Tricks

• When a task fails…
  - Check if the command is enabled
  - Commands are contextual

  - In this example: calling the select command without an active map view
Tips & Tricks

• Close panes.
• Don’t “buddy-up” the task pane with other panes
• Can I run other commands while running a task?
  - Answer: Yes
• Leave nothing to change! your users might:
  - Close maps
  - Turn layers off
  - Clear selection
  - Unselect a layer
  - …
Tips & Tricks

- Dock the task pane and task designer side by side
- Record commands is easier and more reliable
Tips & Tricks

- Capture map view state (contents)
Tips & Tricks

• Use ‘Optional’ step behavior during design (Skip)
• Copy paste steps between tasks, or tasks between task items
• Advanced ‘If-Than’ logic → use Geoprocessing scripts/models as a step
Tips & Tricks

- Configuration Vs. Customization: consider tasks before writing Add Ins
- Tasks have SDK
- Create tasks that save time & improve quality
Quiz

True ✓ or False? ❌

• Tasks are available in every license level ✓
• Tasks replace Geoprocessing models ❌
• Tasks can be shared between projects ✓
• The best way to share a task item is to package it in a project package ✓
• Manual behavior is the most efficient step behavior ❌
• Tasks are fan-task-tic! ✓
Summary - Tasks Improve Efficiency

- Reduce learning curve time
- Open the right tool at the right time
- Open the right map & layer settings
- Reduce mouse clicks
- Reduce clutter (panes, ribbons, etc.)
- Selection management (save, load, clear)
- Attribution: get, copy & calculate actions
- Prevent mistakes: verification action
- Open a tool set: palette
Summary - Tasks Share Knowledge

• Define best practice workflows
  - Multiple ways to do the same workflow
  - Reduce confusion
  - Improve quality & Consistency

• Guide
  - Dynamic help / instructions
  - Link to additional resources
  - Use your (business) language

• Share
  - Export a ‘Task Item’ to a ‘Task File’
  - Upload task file to ArcGIS Online
Want to learn more?

• Software help documentation
  - Tasks in ArcGIS Pro

• Training:
  - Create and Share ArcGIS Pro Tasks (60 minutes, free)
  - Automating Workflows Using ArcGIS Pro Tasks (3 hours)

• Videos: esri / YouTube
Join the Task Force

• Contribute your ideas:
  - Geonet ideas: https://geonet.esri.com/community/arcgis-ideas

• Visit us at the ArcGIS Pro Island:
  - Christine Leslie
  - Jason Camerano
  - Amir Bar-Maor
  - Narelle Chedzey
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Use of Tasks for 3D Analysis Workflows
Use of Tasks for Military Workflows
Use of Tasks for Indoor Routing Workflows
Use of Tasks for Zoning Design Workflows