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
Amir (Customer)
• Every user does things differently

Jason thinks… Technical Support
• No best practice
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
Amir (Customer)
• Don’t people know how to read a manual?

Jason thinks… Technical Support
• Dynamic help that follows your steps
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Amir (Customer)
  • Our organization is special

Heard that before…

Jason thinks… Technical Support
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

1. Locate Work Area
   - By address or Subdivision name

2. Select Subdivision
   - Copy the Subdivision name

3. Create New Buildings
   - Make sure they don't overlap

4. Attribute New buildings
   - Paste the subdivision name, populate attributes

5. 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**”
Demo: Creating a Task

• Jason – please share your screen
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
Insert a new Task Item

- A project might contain zero to many TASK ITEMS that are stored in the APRX file
- Use Insert tab → Task Item

- Use ‘Save Project’ to save task modifications
- Use ‘Package Project’ to share with a project
Create Tasks & Steps

- Create a task
- Create steps
- Group tasks
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- 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
Step Life Cycle

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

When Step Starts
Command Execution
When Exiting

Automatic (visible / hidden)

Behaviors
Auto Run
Auto Proceed
Manual
Skip

Next Step
Auto Run
Auto Proceed
Manual
Next Step
Manual
General – Step Behavior

- Manual – 2 mouse clicks
- Auto Run / Auto proceed – 1 mouse click
- Automatic – no mouse clicks
Demo: Sharing a task & Task History
Sharing tasks

- Best method: as a project package

OR between projects:
- A task item can be shared via a task file
  - .esritasks file
- A task file can be imported into a project
- A task item is an AGOL item and can be shared via email
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’)

![Image of tasks with shortcuts: Alt + S, Alt + X, Alt + C]
• 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 chance!
  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
• As a task author I can share a local task item as an online item.
• Later I can update the online item →
• Notify users to update their local task item
• Online task item relies on permission user’s level
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 Geodata / SDK island:
  - Christine Leslie
  - Narelle Chedzey
  - Jason Camerano
  - Amir Bar-Maor
Technical Workshops

- **ArcGIS Pro Tasks Tips and Tricks**
  - Tue 7/11/2017, 11:00 AM - 11:30 AM, Tech Theater 17 Exhibit Hall A

- **ArcGIS Pro Tasks: An Introduction**
  - Tue 7/11/2017, 03:15 PM - 04:30 PM, Ballroom 06 B

- **ArcGIS Pro Tasks: An Introduction**
  - Wed 7/12/2017, 08:30 AM - 09:45 AM, Hilton - Sapphire Ballroom M/N

- **ArcGIS Pro Tasks Tips and Tricks**
  - Thu 7/13/2017, 11:00 AM - 11:30 AM, Tech Theater 17 Exhibit Hall A
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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