**Summary and Usage:**

***Written in Python 3.7 for ArcGIS Pro 2.9. Should be compatible with Pro 3.X, but is not tested yet.***

This tool is meant to provide an all-in-one solution to exporting photo attachments on ArcGIS Pro, providing the option of exporting the photos, creating photopoints, or both.

It is designed with the intention of being very forgiving.

* Photos can be exported with 10 different naming formats, all of which are flexible barring the underscores.
* It will run regardless of whether the Attachment Relationship is based on OBJECTID or GLOBALID.
* Field input is not case-sensitive.
* The tool only uses the standard modules installed with ArcGIS Pro.

Users can either batch export across one or more GDBs or can pick and choose Feature Classes a la carte across multiple GDBs.

* All Photo Point files are named with their source GDB.
* If more than one GDB is represented in the data entered, a folder will be created for each GDB. Otherwise, the first folder level will be the Feature Class.
* Any data that does not match Naming Field 1 will be ignored. Data which does not match either Naming Field 2 or the Manual Numbering Field will be named only using Naming Field 1.
* Any Feature Classes without attachment tables will be ignored and listed. If the table has an empty attachments table, it will effectively be ignored without comment.
* Attachments without a file type in ATT\_NAME will have the correct format guessed at, and default to .txt if nothing sticks.
* Illegal characters are removed from file names and replaced with hyphens.
  + This may create formatting anomalies, e.g. if a feature is named “ALKA’s Trail Sign”, the output will be “ALKA-s Trail Sign”.
  + If the name ends up starting or ending with a hyphen, said hyphen will be removed.
* Domain values are supported and toggled on by default. In the event of an invalid code in the domain, the code will be returned instead.
  + Users can choose between exporting only images or all attachments, as well as whether to name the non-images in a similar way. (This does not apply to Hosted feature classes.)

There is limited support for using Arcade Expressions when exporting Feature Classes that are present in your map.

* Expressions can be called in NameField1 with the syntax “expression/[expressionName]” or just “expression/”, which will grab the first expression in the list of expressions.
  + Like Fields, any Feature Classes without that expression will be ignored and listed.
  + This input is not case-sensitive.
* Expressions are unavailable if exporting across a GDB as well as any Hosted feature class.
* This allows much greater control over the output naming.
* Due to caching issues with ArcGIS Pro, use of Arcade expressions may cause errors if exporting more than one feature class at a time.
  + Specifically, the expression will not be evaluated past the first feature class in the list if the tool has already been run in this session on those feature classes.
  + Restart Pro if you need to export the same feature classes multiple times

If exporting from a Survey123 survey, you may prefer to only export the attachment name.

* Since you can preconfigure attachment names in S123 (as of June 2022), you may prefer to just use one that you’ve already formatted.
* Enter “survey/” (case-insentive) in NameField1 to export using only the Attachment name.

Overwrite protection is provided as a choice for exporting photos and is baked into the photopoint feature classes.

* Photos are renamed: FileA.jpg, FileA\_Copy1.jpg, FileA\_Copy2.jpg
* Photo point protection is provided by naming each file after the source GDB, as well as numbering them in the event there is more than one.
  + FileA\_ExampleGDB.shp, FileA\_ExampleGDB\_Copy1.shp
  + Photo points are made for each photo in a given folder, meaning that if you decided to protect your photos from being overwritten, a point will be made for each copy, as well as the original.

Watermarking can be toggled on, allowing placement of dynamic and static text in nine different places on the photo.

* Text placed in the same spot will be added to a new line in a first-come, first-served order.
* There is nothing protecting the text from drawing over text in other positions should they overlap.
* Dynamic text at this time includes GPS direction, coordinates (Lat/Long, system unknown), the date/time the photo was taken, and the information used to name the photo. Static text is completely user-directed.
* All text will be white Arial Bold with a black outline and scale proportionally with the photograph.
* If there is an issue with watermarking files determined to be images, the correct file type will be given for the user to correct. This should only occur when the extension does not match the true file type.
  + This does not apply to Hosted feature classes.

General tips:

* Photos taken in Survey123 have much more accurate location and direction information compared to Field Maps.
  + Survey123 photos have direction information accurate within about 10°, while Field Maps can be off by a whole 180°.
* Exporting Hosted Features is not recommended. It is slower and has less functionality than just downloading to local and exporting from there.

Safe Parameter defaults:

|  |  |
| --- | --- |
| **Parameter** | **Safe defaults** |
| “GDBs or Feature Classes” | “GDBs”  “Feature Classes” |
| “Output Location” | Any valid folder or GDB |
| “Photo Directory” | Any valid folder |
| “Create Photo Points?” | "Export Photos and Create Photo Points"  “Export Photos Only" "Create Photo Points Only" |
| “Overwrite Photos?” | "Yes-- Overwrite any photos of the same names."  "No-- Create copies of any photos with the same names." |
| “Field Name 1” | Any field in the feature class  Arcade expressions using “expression/[expression]” or “expression/” |
| “Field Name 2” | Any field in the feature class |
| “Manual Numbering (Attachment Table)” | Any field in the attachment table |
| “Descriptor Word 1”  “Descriptor Word 2”  “Numbering Descriptor” | Any value |
| “Group by Names in this Field?” | "Yes-- Split into multiple folders"  "No-- One folder per Feature Class" |
| “ManuToggle” “Use\_Value\_not\_Code”  “Watermark Toggle”  “Export Non-Photos”  “Name Non-Photos” | “true” |
| “Watermark (Dynamic)”  “Watermark (Static)” | {Row1 Col1} {Row1 Col2}; {Row 2 Col1} {Row2 Col2}:… |

**Credits:**Alfred Baldenweck (ALKA), original script by Scott Kichman (BLM), with technical guidance from Rocky Rudolph (CHIS)  
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Overwrite Protection for photos is taken almost directly from Uri Gilad (UGILAD@ESRIAUSTRALIA.COM.AU)'s set of Exporting toolboxes (January 2021), found here: <https://community.esri.com/t5/arcgis-pro-blog/export-attachments-toolbox/ba-p/1022018>