SCRITPING 101

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MANGER-FTG SERVICES

APPLIED SOFTWARE

WHAT IS A SCRIPT

- A script is a .COD file that resides within your database structure, typically within your “Scripts” folder?

WHAT DOES A SCRIPT DO? WHY WOULD I RUN A SCRIPT?

- A script can do many things, but to summarize it…….
- A script makes mass changes to ITM files.
- These changes could be as simple as placing a note on 100 pieces to avoid clicking individually
- These changes could be as complex as changing connectors, materials, or even construction of pieces based off of connectors or additional variables.

HOW DO I RUN A SCRIPT?

- There are SEVERAL ways to run scripts and based off of which software platform you are using, executing the script will vary.

RUNNING IN CADMEP?

- Executescript within your command line.
- You will be prompted to select which script (.COD File) you wish to run/execute.
- You will then be prompted to select which items you want your script to run across.
- Additional way/route in CADmep is to setup a process that will execute a script.
- Setupprocess in your command line.
- Create a process called anything you desire, execute the script checkbox, select which script.

RUNNING ESTMEP?

- File→Open Script→Select which script (.COD) file you wish to run.
- It will open in the script editor window. Select Start/Continue Debugging.
- On Items tab, not 3D Viewer, you can highlight all the components you wish to have a script run against, right click→Execute Script.
- Browse to the .COD file you wish to run, and select open. Script will run across selction.
- Create a process called anything you desire, execute the script checkbox, select which script.

RUNNING CAMDUCT?

- Window→Scripting→ Select which script (.COD) file you wish to run.
- It will open in the script editor window. Select Start/Continue Debugging.
- On Items tab, not 3D Viewer, you can highlight all the components you wish to have a script run against, right click→Execute Script.
- Browse to the .COD file you wish to run, and select open. Script will run across selction.
- Create a process called anything you desire, execute the script checkbox, select which script.

WHERE/HOW DO I BUILD A SCRIPT?

- There are SEVERAL ways to build scripts and based off of which software platform you are using, creation will vary.
- Little secret!!! I don’t use any of the FAB Products to build my scripts

CAD

There really isn't an easy way to get into the script editor.

- Have a dummy script that ALWAYS errors, run it, and you'll get the editor!

- The script editor within the products just doesn't cut it….

CAM&EST

File→Open Script be aware if you don't have any you can't get into the editor.

- Window→Scripting. You can instantly start writing a new script or open a existing script from the editor

NOTEPAD!!!!!

- You can also use basic notepad.
- It will save as a .TXT file
- User must manually rename to .COD

- We like avoiding extra steps! Not adding them

THE GRAND DADDY OF THEM ALL!!!!! NOTEPAD ++

- The best suggestion is to download notepad ++…. This is a friendly text editor making editing scripts easy.
- Download addins for coding coloring, file comparisons etc.
- Great program
- Will let you save as .COD, no renaming required.

WHAT CAN I SCRIPT

- The better question is what CAN'T you script. Although somethings are off limits, not all are.

Similar to Visual Basic

- The keywords and syntax are almost identical to visual basic – all common keywords like if, then, else, function, endif, while, loop, select, for, next are supported in the same way that visual basic does

WHAT CAN I SCRIPT--- LIST OF ITEM PROPERTIES

NUMBER	String	Yes	Yes	Item Number Field
CID	Number	Yes	Yes	Custom Id Field
DIMS	Number	Yes	No	Number of Dimensions
DIM[]	Object	Yes	No	Access Indexed Dimension
OPTIONS	Number	Yes	No	Number of Options
OPTION[]	Object	Yes	No	Access Indexed Option
CONNECTORS	Number	Yes	No	Number of Connectors
CONNECTOR[]	Object	Yes	No	Access Indexed Connector
SEAMS	Number	Yes	No	Number of Seams
SEAM[]	Object	Yes	No	Access Indexed Seam
LIBRARY	String	Yes	Yes	Fitting Library
SPECIFICATION	String	Yes	Yes	Specification Name
SERVICE	String	Yes	Yes	Service Name
MATERIAL	String	Yes	Yes	Material Name
GAUGE	Number	Yes	Yes	Gauge Thickness, if you write to the Gauge, the Lock is set.
ORDER	String	Yes	Yes	Order Number Field
PALLET	String	Yes	Yes	Pallet Field
DATABASEID	String	Yes	Yes	Database Id
CUSTOMDATA[]	Various	Yes	Yes	Custom Data (by String or Index)
ALIAS	String	Yes	Yes	Alias Field
NOTES	String	Yes	Yes	Notes Field
STATUS	String	Yes	Yes	Current Status Name
DESCRIPTION	String	Yes	Yes	Item Description, Product Name
FILENAME	String	Yes	Yes	File Name (?????.itm)
PATH	String	Yes	Yes	Location on disk of Item (including trailing '/')
GAUGELOCK	True/False	Yes	Yes	Gauge Locked, True if Locked or to Lock
INSULATION	String	Yes	No	Insulation Material Name
INSGAUGE	Number	Yes	No	Insulation Gauge
BITMAP	String	Yes	Yes	The item's bitmap filename
SERVICETYPE	String	Yes	No	Service Type of Item (including service index)

WHAT CAN I SCRIPT----- LIST OF METHODS

- Update→Have heard it will catalog your piece be cautious!
- Update→ Make sure you place it in the right location/time during your script process.
- Mainly noted/seen with oversized pieces

Name	Return Value	Parameters	Description
UPDATE	True/False	None	Re develop and Update the item with any changes to dims etc. Returns False if the changes invalidate the item.
LOAD	True/False	Filename: string	Load the item from disk
SAVE	True/False	Filename:	Save the item to disk

WHAT CAN I SCRIPT----- ITEM PATTERN DIMENSIONS

Name	Type	Read	Write	Description
Value	String or Number	Yes	Yes	Dim value (eg. 600,90,"Auto")
NumValue	Number	Yes	No	Actual Value Used (even if auto)
Name	String	Yes	No	Dim Description, eg. "length"
Locked	True/False	Yes	Yes	Dim Locked Flag
Annotation	String	Yes	No	Annotation as on takeoff, eg. A
Status	String	Yes	No	Input, Display, NotUsed etc

WHAT CAN I SCRIPT---- PATTERN OPTIONS

Name	Type	Read	Write	Description
Value	String or Number	Yes	Yes	Value (eg. Yes, 12, True, ”Auto”)
Name	String	Yes	No	Description, eg. “2 Parts”
Locked	True/False	Yes	Yes	Locked Flag
Status	String	Yes	No	Input, Hidden

WHAT CAN I SCRIPT------- SEAMS

Name	Type	Read	Write	Description
Value	String	Yes	Yes	Seam Name
Locked	True/False	Yes	Yes	Seam Lock Flag

WHAT CAN I SCRIPT------- CONNECTORS

Name	Type	Read	Write	Description
Value	String	Yes	Yes	Connector Name
Type	String	Yes	No	Connector Library
Locked	True/False	Yes	Yes	Connector Lock Flag

SUGGESTIONS FOR SCRIPT BUILDING?

Layout what your current problem is

- How do you fix it manually?
- What are the final results? What did those changes achieve?
- Why did/do we script it?
- Literally write it out on paper in steps.

Problem: We need our TDC Square to rounds to be 4 pieces, but S&D to remain 2 pieces.

- The problem is with 1 particular item, SQRNDS (Keep the focus here with the script, use it to select…. Select item.cid case 8)
- There are 2 changes needed based off of connection (IF IF IF IF IF)
- TDC results in option “# of parts” to be 4 (THEN….. IF THIS THEN)
- S&D Results in option “# of parts” to be 2. (THEN….. IF THIS THEN)
- Grab all square to rounds, and if the connector is TDF then I need 4 parts, but if it is S&D then I need 2 parts.

- Select item.cid case 8
- If item.connector[1].value = “TDC” then
- Item.option[“Cross Break”].value = “4” AND
- ITEM.OPTION[“Seam Position”].value = “Corner”
- Else if
- Item.connector[1].value = “S&D” then
- Item.option[“Cross Break”].value = 2 and
- ITEM.OPTION[“Seam Position”].value = “notch”
- End if
- End select

HOW DO I TROUBLESHOOT A SCRIPT? MEET DEBUG

Anything that can be scripted or manipulated through a script can be debugged

- What is a debug?
- A debug will tell you the value for a given parameter.
- How do I define a parameter?
- By creating a variable local to the procedure →DIM
- DIM will store/retain that value throughout the scripts cycle

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- DIM MEP FORCE = ITEM.DIM[1].VALUE
- DEBUG MEP FORCE

THINGS TO BE AWARE OF WHILE DEBUGGING

Unless you have a selection, it will run across every item in your job

- Ensure you are in a dummy job/environment. Don’t test a script on a live model, test it, ensure it works, then run it on the model.
- You can’t select anything and then do a debug
- Any stored variable cannot contain a space

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- DIM MEPFORCE = ITEM.DIM[1].VALUE
- DEBUG MEPFORCE

SCRIPT YOUR SCRIPTS

Have your Script run several scripts .

- Run"C:\Users\gtice\Dropbox\ASTI\Software\Fabrication\Scripts\Garrett\Example.COD"
- Run"C:\Users\gtice\Dropbox\ASTI\Software\Fabrication\Scripts\Garrett\Script 2.cod"

THANK YOU FOR ATTENDING OUR CLASS!

PLEASE FILL OUT THE SURVEY FOR THIS SESSION IN THE APP.

GO TO "MY SCHEDULE" → SELECT THIS SESSION → SCROLL DOWN TO "SESSION SURVEY"