Create, Edit, and Reuse a Journal in CAM
Macros vs. Journals vs. Application Programs

Macro
- Record and playback *keystrokes* in an interactive session
- Very specific to state of dialogs

Journal
- Record and playback *actions taken* in an interactive session
  - Records database changes, not keystrokes.
  - Quick and easy like a Macro
- Users can create and use Journals on-the-fly inside NX
- Immediate playback of Visual Basic
  - Use APIs to perform the equivalent operations as interactive UI
- No additional licensing – just for the functionality
- Useful as a starting point for a larger .NET or Java application

Application Program (Automation)
- Application professionally written in a development environment
- Can be signed, compiled, distributed
Demonstration

Record a Journal
• See what parameters we want to set
  • See what builders are required
• Play and discover limitations

Generalize the Journal
• Copy a boilerplate from the samples
• Generalize the selection
• Make it smarter – use formulas to set values
• Add some messaging
• Add some user input

Make the Journal easy to run
• Add it to the NX User Interface
What’s a Builder?

- Communicates with the part database
- Provides access to parameters

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<th>User Interface UI</th>
<th>Application Program Interface API</th>
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<td>User entry</td>
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Builder Hierarchy

Builders for every CAM object
- Operation, Tool, Program, Geometry, Method

Tool
- Used for demo because it’s easy :*)
- Only a few builders – mill, turn, wedm

Operation
- Has lots of different builders
  - Operation Type
    - Look at OntSelectionBoilerPlate.vb and Operation Types.txt
    - Modules – Non Cutting Moves, Avoidance, …
Where to look to learn more

• Record a journal and look at it
  • At least verify that API is available
• Samples in UGOPEN\SampleNXOpenApplications\.NET\CAM
  • Boilerplates to modify all or selected objects
• Samples in Symptom/Solution Database (uganswer)
  • For example, search “sample cam visual basic”
• GTAC Support Forums (bbs)
  • NX Languages
• NX Documentation
• If you’re stuck, call GTAC
UGOPEN Samples folder

- Found in UGOPEN\SampleNXOpenApplications\.NET\CAM
- Set flute length on selected tool
- Set Non Cutting Move parameter in all operations
- Set pocket adjust and cutcom registers – cycle all or selection
- Set corner parameters in all planar type milling operations
- Remove Holding Systems from all Pockets
- Assign geometry custom data based on attributes
- Create attributes from Excel spreadsheet (Tool tips)
- Rename multiple operations
- (more…)
New Sample: RenameOperationsOntSelection.vb

- Rename multiple operations
- Originally donated by a user
- Satisfies a common enhancement request
GTAC Symptom/Solution Information query tool *(formerly known as UGAnswer)*

http://support.industrysoftware.automation.siemens.com/gtac.shtml
GTAC Support Forums
(formerly known as the bbs)

- nx.languages
- nx.oop
NX Documentation

- When installing NX Documentation
- Turn on Programming Tools
- NXOPEN for .NET Reference Guide
- Good resource for professional programmers
Contact

Mark Rief
NX CAM Customer Success
Manufacturing Engineering Systems
10824 Hope Street
Cypress, CA 90630
Phone: +1 (714) 952-6467
E-mail: mark.rief@siemens.com

@markrief

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