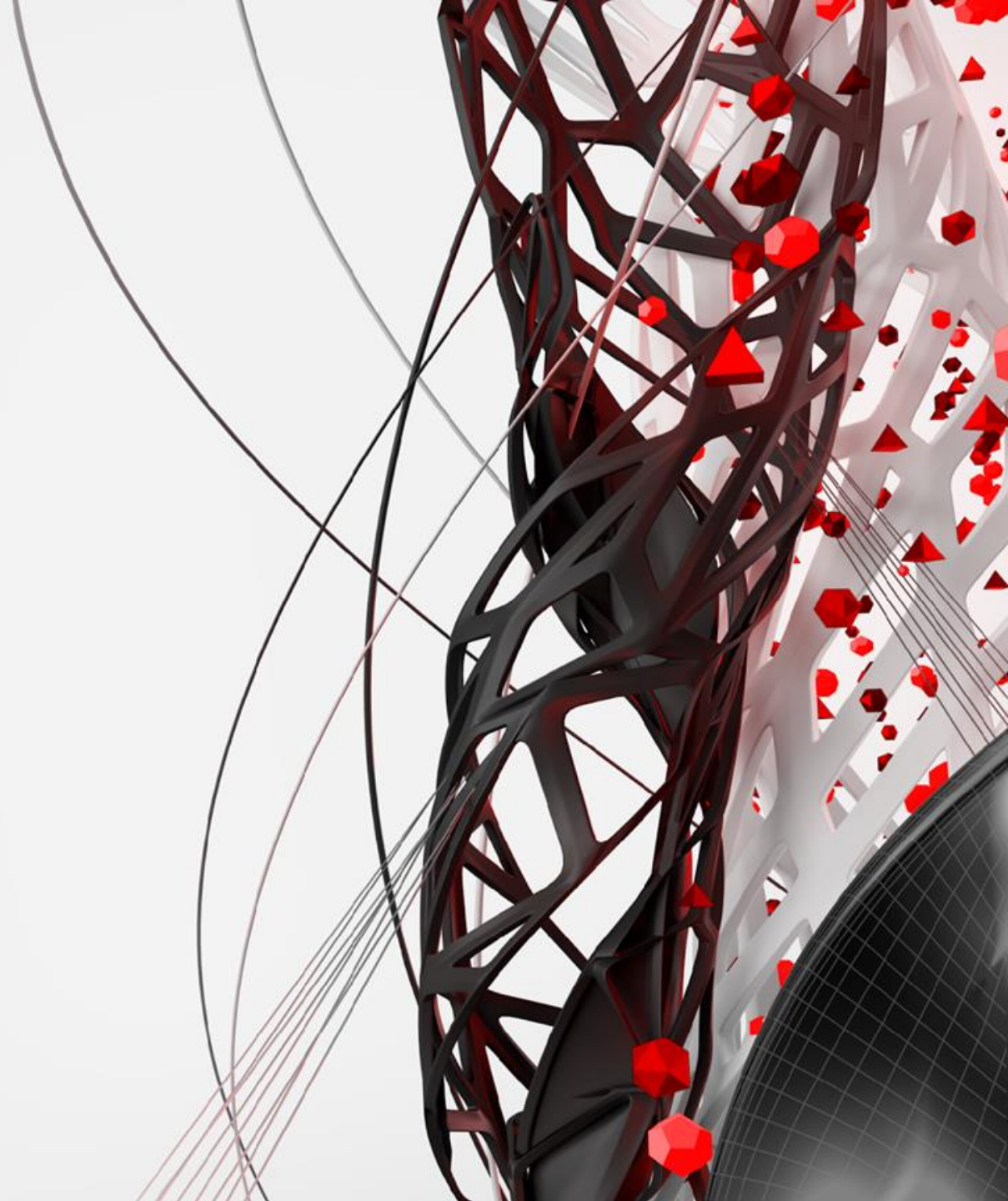




Mechanical New Features 2021R1: Bolt Tool ACT

Kaique Coutinho de Oliveira

SIMULATING THE FUTURE



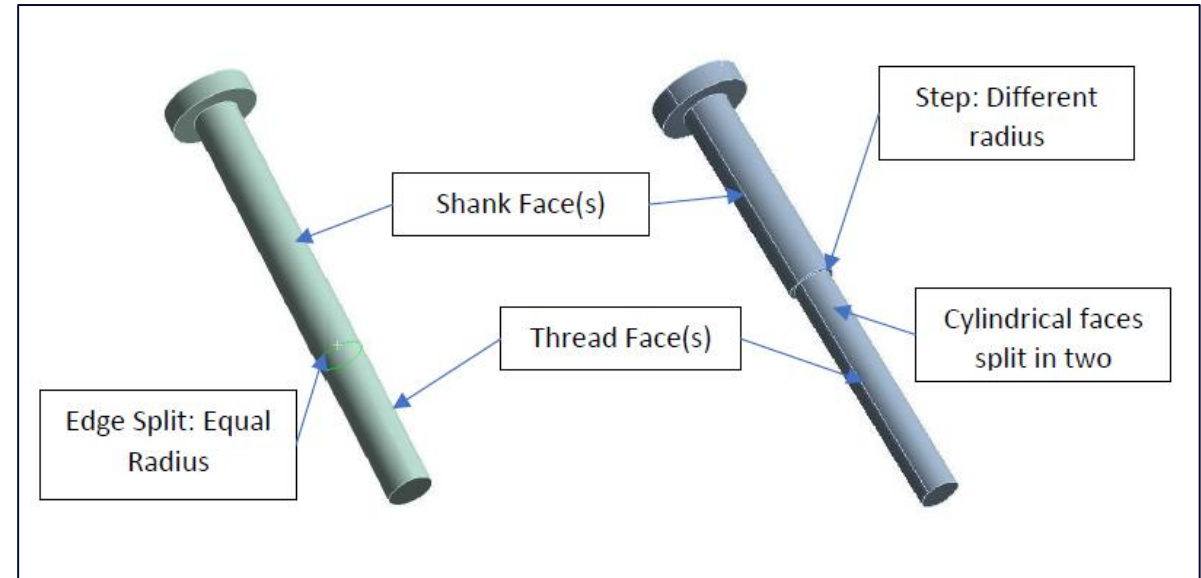
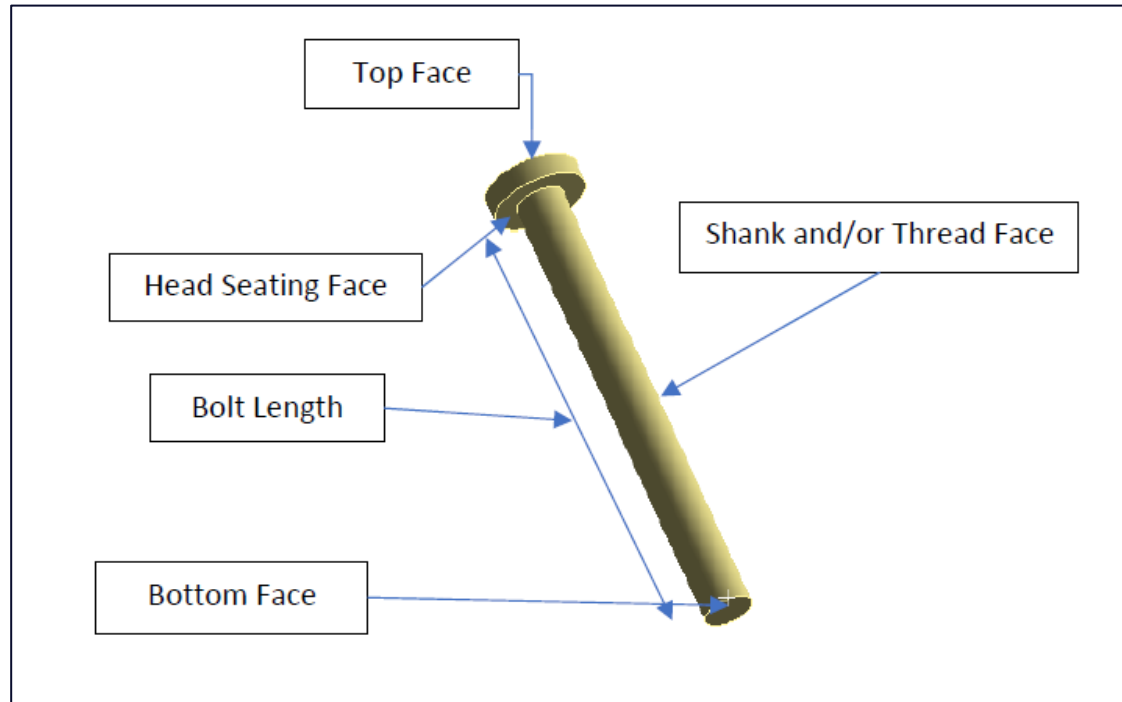
App Overview

<u>App Feature</u>	<u>Description</u>	<u>Implementation</u>	<u>User-Supplied Data</u>	<u>Automation Level</u>
Menu Ribbon Buttons	Menu buttons that provide helpers and quick actions	Mechanical	None	Semi
Wizard	Wizard guides and automates standard modeling needs	Mechanical	Basic Guided Inputs	Semi
Instance Manager & Part Library	Auto-recognition of geometry and grouping. Link to user-defined modeling routines in Mechanical via app UI.	Mechanical + ACT Objects	Python Standard Part method	Full
APDL Bolt	User-defined APDL modeling routines are linked to Mechanical coordinate systems	Mechanical + ACT Objects + APDL	APDL bolt modeling method	Full

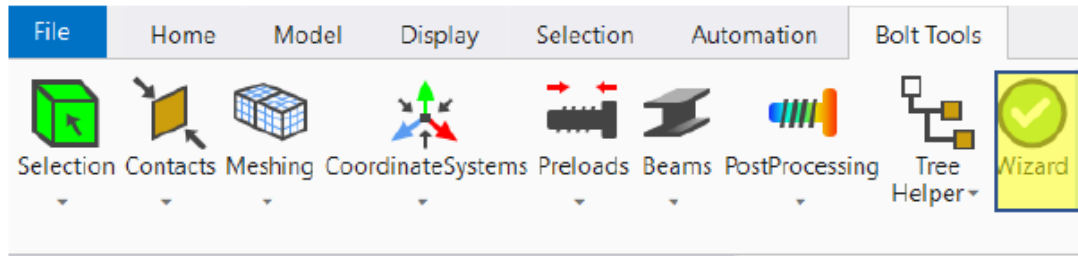
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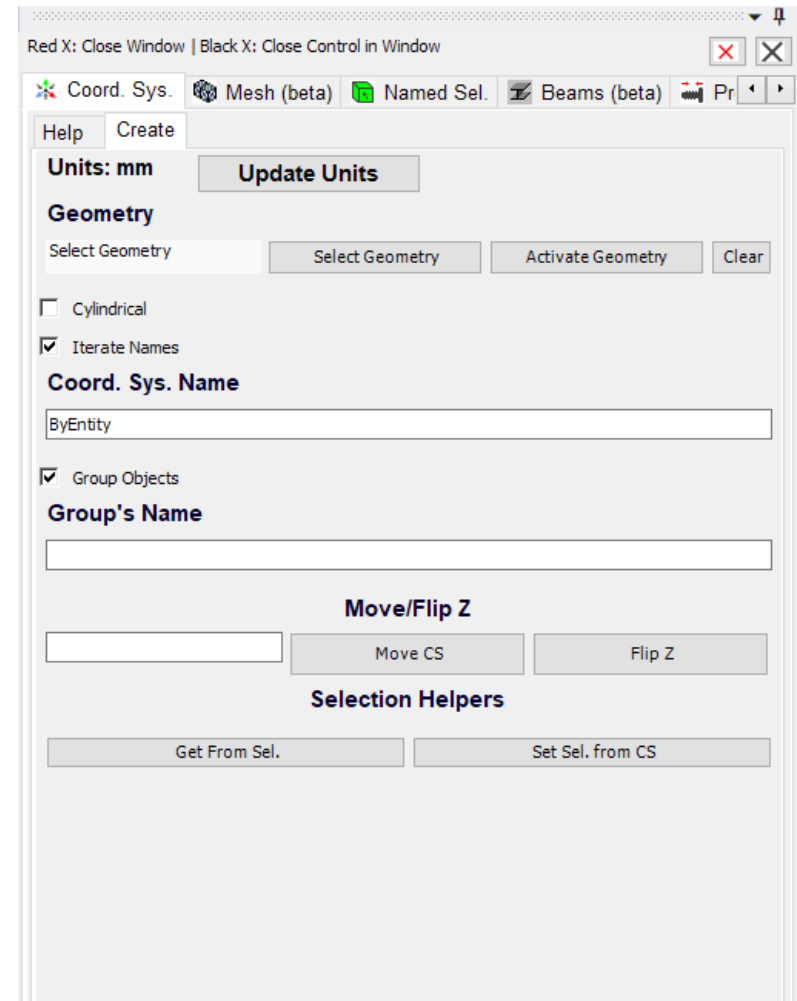
Bolt Geometry Recognition



Menu Buttons & Wizard

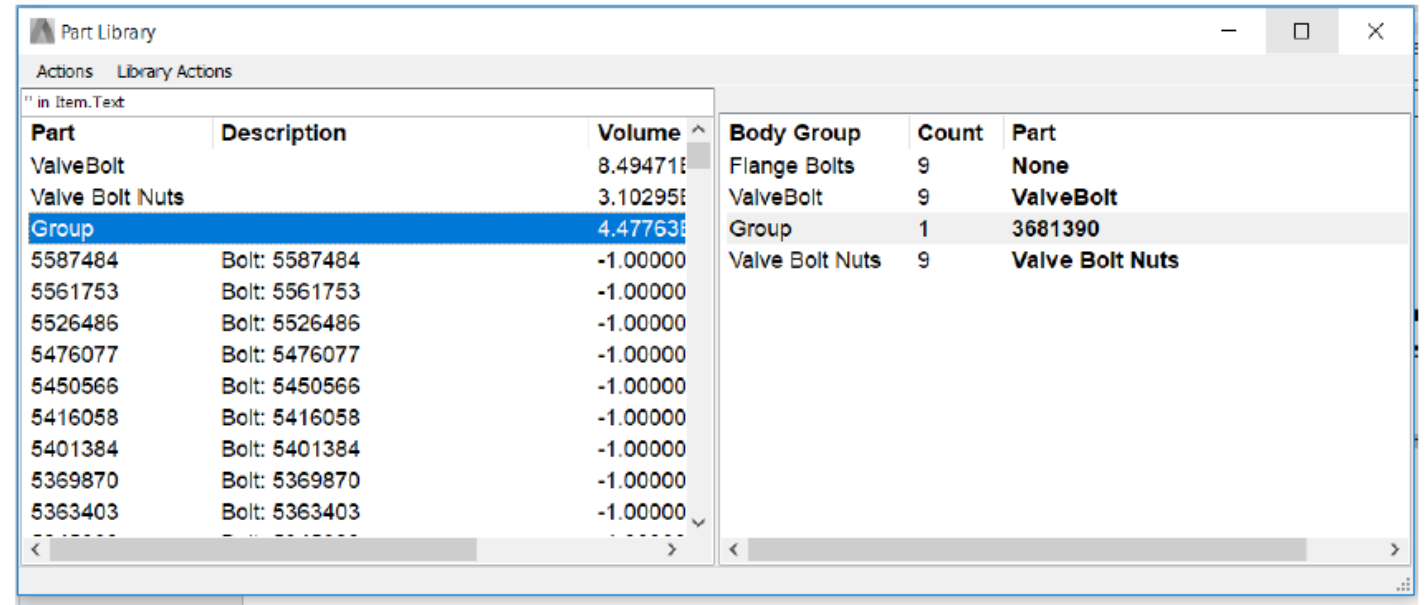


- Selection of strategic geometry entities
- Creation of mesh, contact, cs and preloads
- Solid to Beam conversion
- Easy to setup



Part Library

- User-defined routine
- Full automated process
- Python input files
- Requires advanced user



The screenshot shows the 'Part Library' application window. It contains two tables. The left table lists individual parts with their descriptions and volumes. The right table shows a summary of parts grouped by 'Body Group'.

Part	Description	Volume
ValveBolt		8.49471E
Valve Bolt Nuts		3.10295E
Group		4.47763E
5587484	Bolt: 5587484	-1.00000
5561753	Bolt: 5561753	-1.00000
5526486	Bolt: 5526486	-1.00000
5476077	Bolt: 5476077	-1.00000
5450566	Bolt: 5450566	-1.00000
5416058	Bolt: 5416058	-1.00000
5401384	Bolt: 5401384	-1.00000
5369870	Bolt: 5369870	-1.00000
5363403	Bolt: 5363403	-1.00000

Body Group	Count	Part
Flange Bolts	9	None
ValveBolt	9	ValveBolt
Group	1	3681390
Valve Bolt Nuts	9	Valve Bolt Nuts



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Open Discussion

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