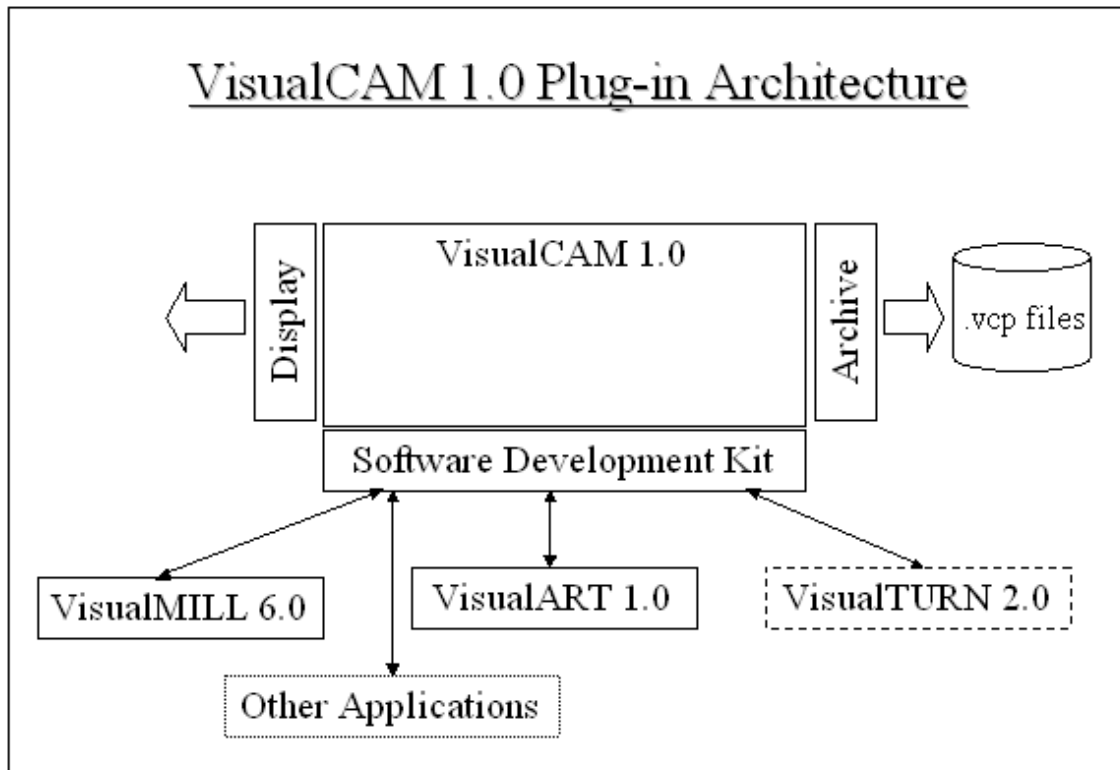# MecSoft Corporation

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What's New In VisualCAM 1.0 & VisualMILL 6.0

The VisualMILL 6.0 product architecture been completely revamped from that of its predecessor VisualMILL 5.0. The main reasons for this change is the restructuring of the CAD section of VisualMILL 5.0 into a separate application called VisualCAM 1.0. This was done so that VisualCAM could be used as a host application to host various plug-ins such as VisualMILL. VisualMILL now can be loaded and unloaded from VisualCAM 1.0 on demand. In addition to this, new versions of VisualMILL can be released independently of VisualCAM thereby simplifying the delivery of updates to VisualMILL customers. This new architecture is presented below:
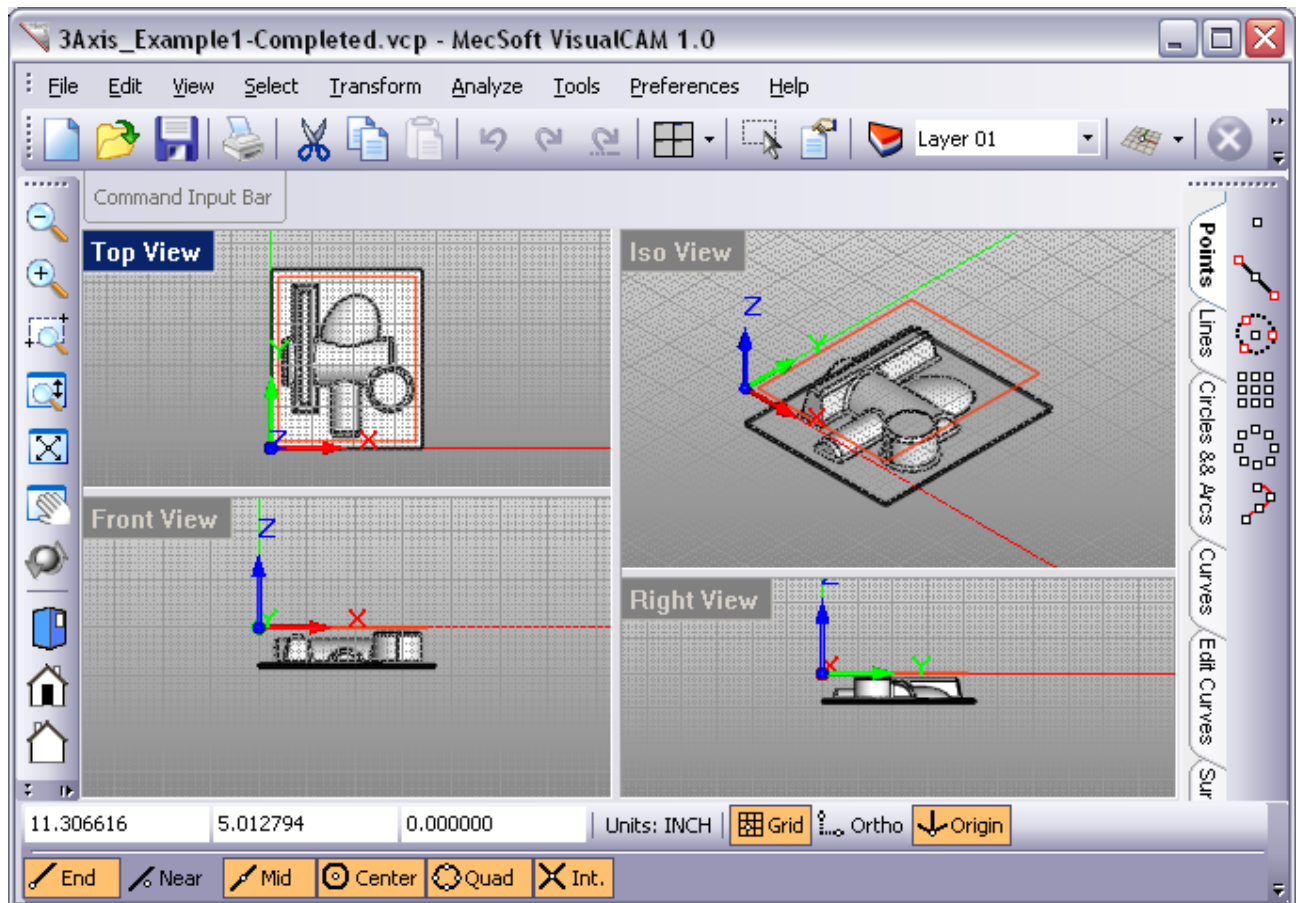

VisualCAM 1.0 Plug-in Architecture

In addition to the product architecture changes quite a few changes have been made to VisualCAM and VisualMILL. These changes include completely new features, enhancements to existing features and bug fixes.   In addition, there have been some changes to the way the user interacts with VisualCAM and VisualMILL. These changes are outlined below.

What's New In VisualCAM 1.0

This section outlines the changes that have been made to VisualCAM, the base platform of VisualMILL 6.0.

User-Interface
- User interface has been updated to have a more modern look
- Multiple themes for user interface including, Windows XP, Office 2003 and Office 2005
- New file browse button has been added
- File preview bitmap has been added to file open dialogs

Display
- New display engine for faster rendering of shaded models
- Multiple viewports
- New hidden line display mode added
- New Perspective display mode added
- Gradient background display has been added

File Translators
- STEP translator has been added
- Solidworks translator has been added. (This is an extra cost item that is not included in the base module of VisualCAM 1.0)

- All existing translators have been updated

Construction Aids
- Viewport specific construction grid added
- New Near point snap added
- New Intersection point snap added
- Viewport specific construction grid added
- Construction grid with major and minor lines added
- Shaded coordinate triad display added

Selection
- Rectangle selection now available without having to explicitly select command
- New selection methods using filters have been added

Curve Modeling Tools
- Text command has been updated to add kerning
- New text on curve command has been added
- New curve smoothing command has been added
- New curve break command has been added
- New curve reduce command has been added

Solid Modeling Tools
- New solid modeling tools to build solid primitives such as box, sphere, cone, cylinder and torus have been added
- Additional solid modeling tools such as rectangular tube, circular tube, extrude solid and revolve solid have been added
- Solid Boolean operations such as Unite, Subtract and Intersect have been added

Dimensioning Tools
- New dimensioning tools such as linear, radial and diameter dimensions have been added
- New annotation tools such as leader lines and labels have been added

Plug-ins
- New application plug-in architecture and manager has been introduced. This will help in the rapid development and deployment of new products
- New file translator plug-in architecture and manager has been introduced. This will help in rapid development and delivery of new file translators
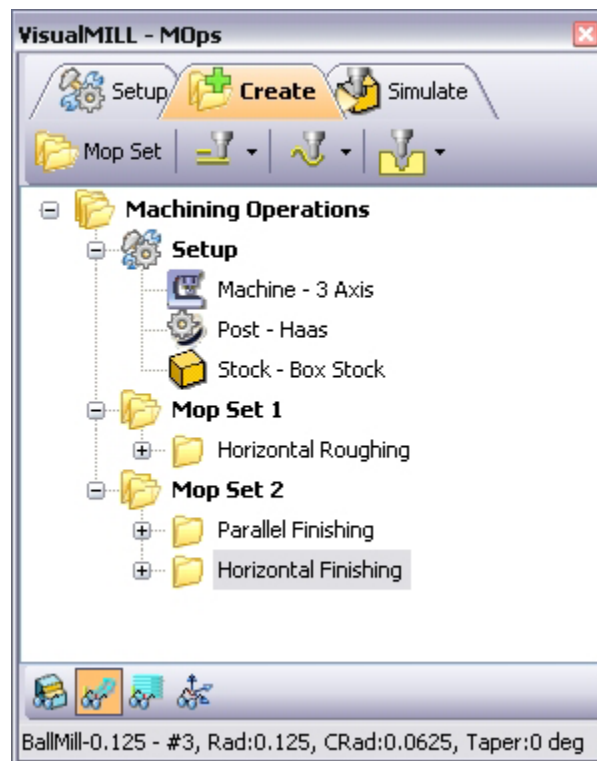
What's New In VisualMILL 6.0
This section outlines the changes that have been made to VisualMILL 6.0.

Major New Enhancements
- Shop Documentation. Users can now create HTML based shop documentation from VisualMILL part files.
- Features on 3D part can be selected as machining geometry without having to explicitly create curves. This increases productivity for 2-1/2 axis machining operations significantly
- All 3 Axis toolpath methods now machine only visible geometry. Users can turn off the visibility of geometry using the layer manager if it is desired to exclude them from being considered during toolpath computations

User-Interface Enhancements
- Fresh new look
- New interface for the browser. This is shown below:

- Setup, Create, and Simulate. Tabs can be docked and rearranged independently for more efficiency and control

Machining Operations
- Machining geometry, Tool and parameters can be selected inside a machining operation decreasing button pokes and increasing productivity.
- Flat area features from the 3D model can be selected as machining features
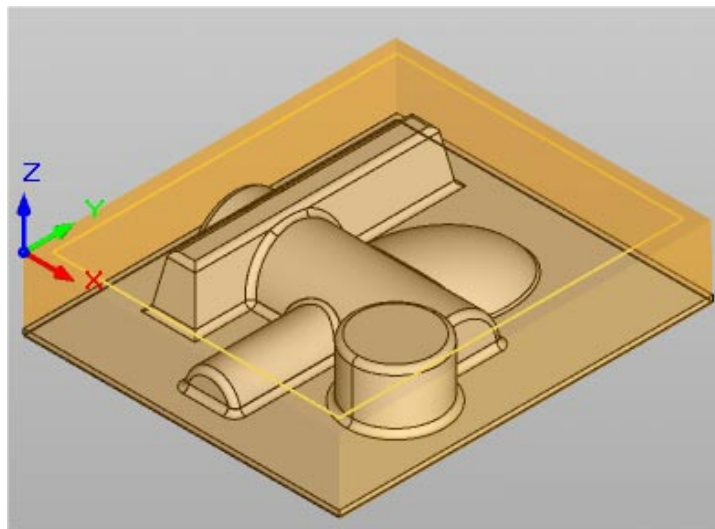- Improved region selection tools

- Tool geometry information can be viewed inside of machining operations

Tool Enhancements
- Select Tools from Library (Drag –n- Drop tools from a library)
- New tool type entries for V-Bits, Chamfer tool and Taper tools.
- Tool preview in the graphics viewport after creating/editing a tool
- Feeds/Speed can be set to tool or can be loaded from table.
- Load Feeds/Speeds can be launched inside of Set Feeds/Speeds.

Stock Enhancements
- Stock geometry can be displayed with the part model.
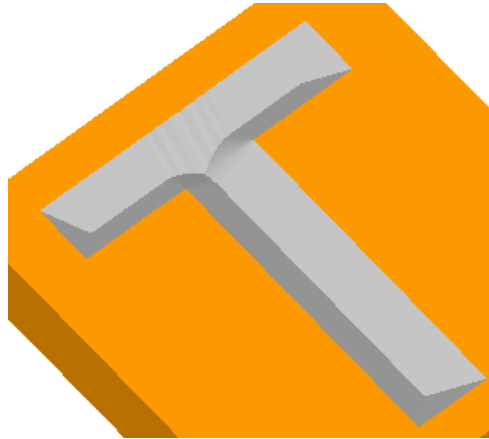- Stock transparency of stock models can be varied as shown below
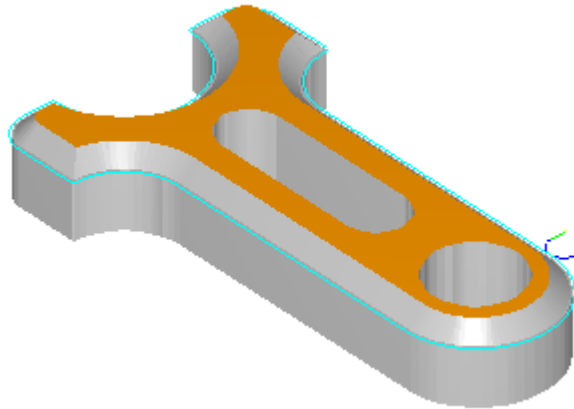

2-1/2 Axis Methods Enhancements
- New V Carve Roughing method where a roughing cutter automatically compensates for V-carve tapered bit has been introduced.
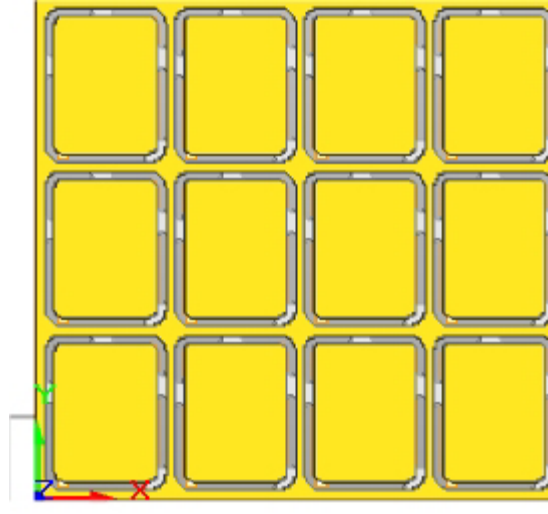
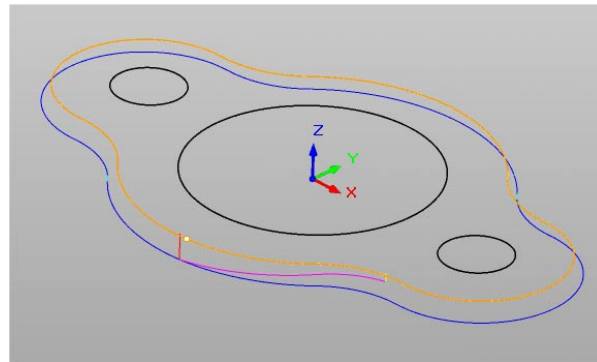- New V Carving method separated out of Engraving

- New Chamfering method has been introduced

- Engraving method has been simplified
- Sorting features for 2.5 axis Profiling & Hole Pocketing
- Facing toolpaths have been enhanced to maximize material removal.
- Facing entry/exits have been consolidated and streamlined
- Pocketing entry/exits have been consolidated and streamlined. New 3D ramp exit method has been added.
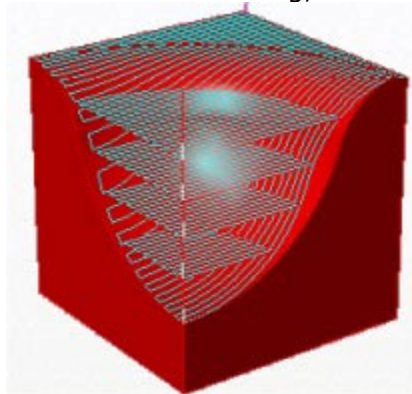- Now it is possible to create Tabs / Bridges for 2.5 axis Profile operations. This is shown below:

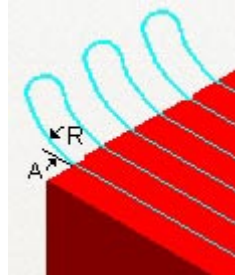- Along path 3D Entry for Profiling has been introduced. This is shown below:

3 Axis Enhancements
- Spiral and Radial Machining have been introduced in the entry level VisualMILL product
- New Z containment for Parallel finishing, Radial and Spiral Machining
- Multiple step-down cuts for Parallel finishing, Radial and Spiral Machining

- Straight, linear, Radial cut connections with high-speed loops between cut connections for all finishing methods has been introduced

- Along path 3D Entry for 3 axis Horizontal Finishing

Post-processor Features
- Post Processor setup and post processing made easier.
- Additional posts have been introduced

DNC
- New version of one port DNC from Multi-DNC corporation included with the software
- Toolpath analyzer and g-code editor has been updated

Miscellaneous
- New tutorials have been created for VisualMILL 6.0
- On-line help has been revised completely