

The Best of AutoCAD®: 2007–2010

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Have you implemented all of the valuable enhancements from each of the last four releases? Do you even remember if you evaluated each release? Ever wonder if there is a function or tool in AutoCAD that you are not using that could save you time and money? The answer is probably a resounding NO, NO, and YES! This class will demonstrate the top three to five new and improved user enhancements for each AutoCAD release starting with AutoCAD 2007 through this year's release of AutoCAD 2010.



About the Speaker:

I have worked for Autodesk since 1998 currently as a Platform Technology Evangelist for the AutoCAD & Platform Products Division which includes the world famous AutoCAD product. As an avid Autodesk software user since 1989, I am a current user of many Autodesk products. I used many of the Autodesk products as a customer prior to joining Autodesk in 1998. Previously a mechanical designer involved in various large projects. Some of the design and construction projects in his past are AISC major steel bridges, hydroelectric, structural steel, process piping, large heat exchangers and ASME pressure vessels even the mechanical design of a self contained and self powered commercial submarine. Featured as a "bleeding edge" customer during the AutoCAD R14 Design Your World Live broadcast in May 1997, and also included on the AutoCAD R14 demo CD-ROM.

I spend much of my time speaking with Autodesk customers and traveling to meet with them around the world and take their feedback and suggestions back to the product development teams.

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This class will benefit all AutoCAD users, regardless of the industry they work in and whether they have worked on every release or only a few of them

This class will demonstrate the top three to five new and improved user enhancements for each AutoCAD release starting with AutoCAD 2007 through this year's release of AutoCAD 2010.

3 Questions:

1. Have you implemented all of the valuable enhancements from each of the last four releases?
2. Do you even remember if you evaluated each release?
3. Ever wonder if there is a function or tool in AutoCAD that you are not using that could save you time and money?

The answer is probably NO, NO, and YES!

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AutoCAD History

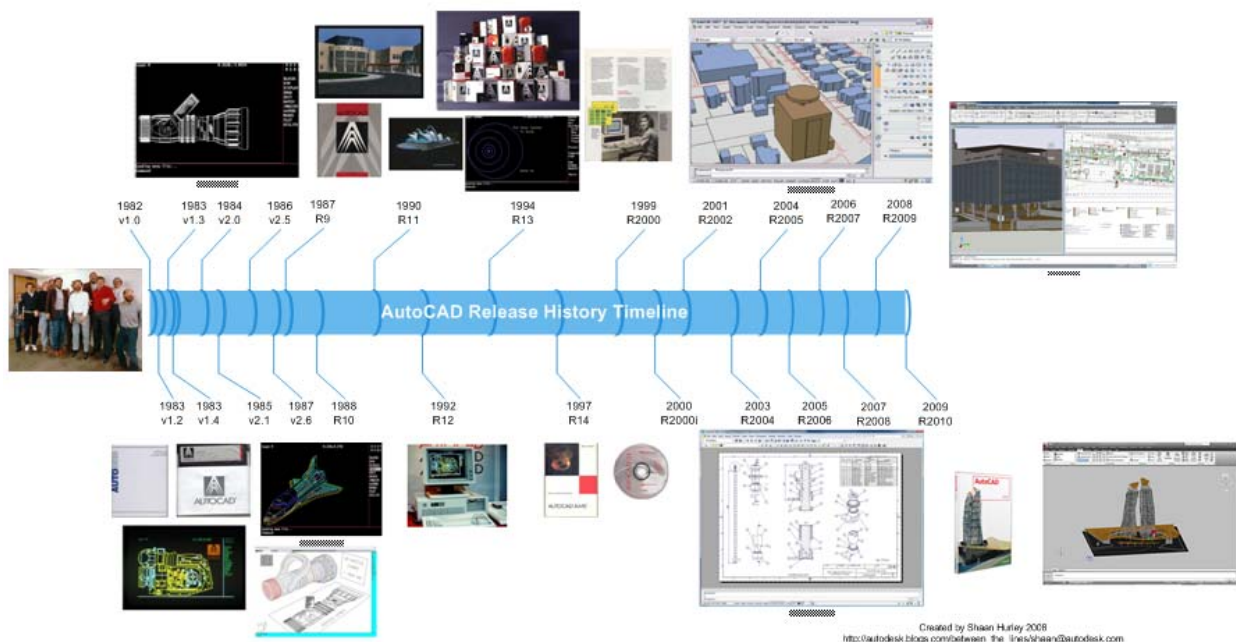
We cannot really begin a discussion about the benefits of AutoCAD without a quick overview of how far AutoCAD has come with user requests and technology improvements.

AutoCAD made its first debut publicly in Las Vegas at COMDEX in November 1982, 27 years ago. The location was just down the strip in what used to be the MGM Grand and is now Bally's.

AutoCAD has come a long way in 27 years.

One thing is for sure, AutoCAD never stood still, nor should you. If you have competitors in your industry using the latest releases of products and implementing the timesaving and productivity increasing features you will be working harder to compete. You have to grab the bull by the horns and upgrade. Perhaps not every release but you do need to upgrade to benefit from new features and perhaps the support of hardware and Operating Systems.

I have been the unofficial Autodesk historian and still run all releases back to AutoCAD 2.18 on my laptop. I hope you are not still running 2.18, R12, R14, or even AutoCAD 2000 today although they were great releases you would be missing out on many of the new features of AutoCAD.



So let's see how we can take the best of AutoCAD 2007 through today's AutoCAD 2010 and discover some new features and tricks and get some increases in your productivity.

AutoCAD 2007

Shaan's Best of AutoCAD 2007 Features

- 3D features with dynamic display incl. Press-Pull
- Dynamic UCS DUCS
- Visual Styles
- Camera & walk-through 3DWALK
- Flatten 3D using the new FLATSHOT
- New render engine mental ray
- Plot to PDF
- DWF Underlay
- Express Tools Integration
- External References dialog

AutoCAD 2007 Customer Requests “The Frosting”

- The Sheet Set Manager has been updated to enable you to select multiple. Sheets and then drag them to a new location or subset within the sheet list.
- The Mtext editor has been updated to support the Shift+Tab key combination as a method for removing one level of nesting from a numbered or bulleted list.
- AutoCAD functionality automatically removes old drawing recovery files.
- When you insert a block, the Properties Palette displays block properties enabling you to edit some values, such as color and layer, upon insertion.
- When you create a lookup table with multiple input properties, Allow Reverse Lookup is automatically enabled.
- All the layer tools that were previously part of Express Tools have been integrated into the AutoCAD software core and can be found in the Format menu.

- Change Space. The CHSPACE tool that was previously part of the Express Tools has been integrated into core AutoCAD and can be found in the Modify menu.
- Palette windows have been updated to allow AutoHide while docked. In addition, if you stack docked tool palettes with AutoHide turned on, the active palette will temporarily unhide to the full height of the display.
- Object fields have been updated enabling you to select objects between Paperspace and Modelspace. In addition, LISP variables are supported in fields.
- The table formula function has been updated to recognize a comma as a period.
- When you enter an unacceptable value in a tooltip, the value automatically highlights enabling you to reenter the value.
- CUI functionality has been updated enabling you to drag and drop from the command list onto tool palettes. Additionally, a new Double Click Actions node has been added to the CUI enabling you to customize the double-click behavior of objects.
- You can regain valuable screen space by hiding layout and model tabs. When you select this option by right-clicking over the model or layout tabs, the tabs are removed and new model and layout are automatically displayed on the status bar.
- You can use the buttons to set a layout current and switch between the current layout and Model space.

AutoCAD 2008

Shaan's Best of AutoCAD 2008 Features

- Workspaces
- Multiple Mtext Columns
- Inverse Xclip
- DGN
- Data Links/Extraction with Microsoft Excel
- Annotation Scaling
- Multileaders
- Multiline Attributes
- Layer Properties by Viewport
- Set By Layer
- Photometric Lighting, Sun & Sky, Luminaires
- Realistic Material Preview

AutoCAD 2008 Customer Requests “The Frosting”

- Windows Vista Support
- Viewport Layer Freeze
- Auto DWF Publish
- Ability to change multiple copy default
- Easier Way to add layouts to Sheet set manager
- Manipulating Layout tabs
- Publish and plotting - homogenous plot file
- Tool Tips for Dynamic Block grips
- Activate palette when object is hovering over a tab
- Support overriding tool icons in Palettes

- Ability to redefine blocks through tool palettes
- Tool palettes command line access
- Materials enhancements
- Trim Fence Option changes
- SSM reverse publishing order
- Command line render support
- Tool palettes: saving tool order
- Osnap to 3D solid while it is dragged
- DWF Underlay – Layer Support
- Perspective horizon updates
- Layer Isolate Command by dimming
- Recover for Xrefs RECOVERALL
- Dimensions: multiline text and alternate units
- Multiple Leaders
- Table Enhancements
- Insert blocks and text in the same table cell
- Spell Check Improvements
- Paragraph Spacing in Mtext
- Independent LT scale per viewport
- Leader text to scale when dimscale changes
- Separate Lt scale control in layout
- Layer states and viewports-display differently
- Table formats: number, currency, excel formats
- Autofill cells along rows or columns
- Allow new layer notification in Xrefs
- Spell check dimension
- Automatic DIMDLI

AutoCAD 2009

Shaan's Best of AutoCAD 2009 Features

- Bi-directional data exchange with Excel
- Action Recorder
- Xref Boundary Editing with Grips
- ShowMotion
- Quick View Layouts and Drawings
- ViewCube & SteeringWheel
- Modeless Layer Manager
- In-place Spell Check
- User interface “The Ribbon” & Tooltips QAT
- Menu Browser

AutoCAD 2009 Customer requests “The Frosting”

- Table spanning enhancements
- Table formats: currency, excel formats
- Multi line attributes
- Autofill cells along rows or columns
- Insert blocks and text in same cell
- Spell check improvements
- Paragraph spacing in MTEXT
- Fade entities layer color except current layer
- Isolate command by dimming
- Independent LTScale per viewport
- Manipulating layouts
- Dynamic linetype
- Dimensions multi-line text and alternative units
- Hide crossing dimension lines
- Inverse Xclip
- Layer states and viewports – display differently
- Publish and plotting – homogenous plot file
- Tool tips for dynamic blocks
- Allow new layer notification in Xref
- Spell check dimensions

- Automatic DIMDLI
- SSM reverse publish order
- Perspective horizon work
- Easier way to add layouts to SSM
- Ability to change multiple copy default
- Activate palettes when object is hovering
- Support overriding tool icons in palettes
- Ability to redefine blocks through tool palettes
- Tool palettes command line access
- Tool palettes: saving tool order
- Command line render support
- Osnap to 3D solid while it is dragged
- Recover for Xref
- Trim fence option fix

AutoCAD 2010

With a recent study by independent research firm Cambashi. They studied various levels of AutoCAD users on AutoCAD 2007 then had them do the same tasks on AutoCAD 2010. The result was up to 50% faster.

Shaan's Best of AutoCAD 2010 Features

- New 3D Mesh objects support Sub-d modeling for conceptual and Free-Form design
- Parametric Drawing with Geometric and Dimensional Constraints
- Hatch Boundary Gap detection
- Purge Zero Length Lines
- PDF Underlay and PDF Output enhancements
- Faster, Smarter, Contextual, and Better ribbon
- Color Selection from Layer Pulldown Menu
- Viewport Rotation AUGI Wishlist #5
- 3D Printing

AutoCAD 2010 Customer requests "The Frosting"

Dynamic Blocks

- Easier to author dynamic blocks
- Easier to understand and later edit authored behavior
- More flexible and powerful dynamic blocks with Constraint Parameters
- Test block without exiting Block Editor
- More compelling authoring environment

Deployment

- Added the ability for a CAD Manager to create Advanced User Profiles
- Dynamic paths in the registry
- All user-customizable support files should be installed to Roaming AppData by default
- Allow choice for support content location

Performance

- Improved graphics fidelity, stability and performance through GS Architectural projects

- Unified precision and temporary graphics for a consistent user experience in 2D and 3D
- Layer Manager Performance improvements

Hatch

- Red Circles indicating areas where invalid boundary were detected for area being hatched
- Stretchable, resizable hatching using grips
- Improvements to hatching large coordinate objects
- Performance increase

External References

- The ability to attach PDF's as underlays (including OSnap capability to the PDF file)
- Inverse X-Clip for all reference files (Image, DGN, DWF, DWG, PDF)
- Reference files Fading/Dimming (XDWGFADECTL)
- Show but don't print the frame of reference files capability
- General Reference commands on Ribbon for Attach, Clip and Adjust
- XREF: XCLIPFRAME (2 displayed not plotted)

Printing and Publishing

- Improved PDF publishing including reduced file size
- True type fonts
- Ability to print file with PDF quick export to single or multi-sheet PDFs from Ribbon Panel
- Improvements to the Publish Dialog box
- Performance improvements when publishing to DWF and DWFx with layer information

Misc. Design Enhancements

- MEASURE: Enhanced Measurement Tools
- QUICK VIEW: Model Space Thumbnail Cache
- PEDIT - Reverse Polylines
- SPLINE: Convert SPLINE to PLINE
- Rotating a Viewport Rotates the View in the Viewport
- Quick Properties: Palette Close Issue
- Spell Check: Add Undo Button in Check Spelling Dialog
- ETRANSMIT- Added option to include unloaded references
- PURGE: Erase unreferenced unnamed objects
- Color dialog improvements
- Ability to change color from swatch in layer drop down list in Ribbon
- Ctrl+Click a pline to select just a portion of it
- Polylines can now be sub-selected i.e. segments of plines (also called as sub objects) can be sub selected using CTRL key
- Users can sub select the segments of Polylines during 2D editing commands such as move, rotate etc.
- STLOUT: Ability to select multiple solids
- Find and Replace Usability Enhancements
- Display Model and Layout tabs by default
- Add Preview Checkbox to Insert table
- Enabled Attsync; batman; eattedit; Refclose; RefEdit; -Refedit; refeditname; reset; xclip; xfadectl; xopen; xrefnotify in AutoCAD LT 2010
- Command line and GUI effect name for -3dconfig command now match

- Allow an option to have all horizontal dimensions read left to right and vertical dimensions read bottom to top
- Additions to the CER log: list of stuck modules
- Expose Bind type in eTransmit
- Provide an API to specify that the current drawing being eTransmitted should be opened in the Editor
- Support for Geographic Location in AutoCAD Xref Attach and Insert
- Redo support in RealDWG API
- Better ACA Object support and visual fidelity with export layout
- Introduce a new protocol extension that refedit checkin() can use to determine if a particular object type should get the swapid processing.
- Plot components cleanup
- Allowed an option to have all horizontal dimensions read left to right and vertical dimensions read bottom to top
- The dimension object will support dimension less than 1m with the prefix of "0." Or ".".
- Mechanism to allow for vertical Publish add-ons to demand load along with publish
- Exposed bind type in eTransmit
- Provided an API to generate a Thumbnail on a side database
- Provide an API to specify that the current drawing being eTransmitted should be opened in the Editor
- Layer Manager Performance improvements
- Support for Geographic Location in AutoCAD Xref Attach and Insert
- Pedit and JOIN command enhancements
- Turn on SSE2 Instructions
- CUI image editing updates
- CUI performance increase
- Added Ribbon tab for Express tools
- -SPLINE: Convert SPLINE to PLINE (Splinedit)
- PEDIT - Reverse Polylines (Pedit)

3D Enhancements

- Enhanced Section Plans (can now generate one layer in block per layer in drawing)
- Point filters (for Vertices, faces or points)
- 3D Gizmo improvements
- Added the new Scale Gizmo
- Right click brings up all gizmo options for Rotate, move and Scale
- Align Gizmo to World USC, Current USC or face of an object
- Ability to relocate Gizmo
- Larger graphical representation of the Rotate, Move and Scale gizmos
- Conversion of polyface mesh coming from 3ds max and Image Modeler into solids (via converting them into a level 0 SubD mesh first).

Ribbon Enhancements

- 3 rows of icons
- Sticky panels
- Improved performance
- Introduction of Contextual tabs

- Express Tools on the ribbon

MLeader Enhancements

- Per Segment Leader Properties
- Multileader attachment updates

Sheet Set Manager Updates

- Sheet and Subset Level Publish Control Improvements
- Insert Sheet list table updates

Action Recorder Updates

- Fix tooltip when using key and new task dialog
- Changes to Request User Input & User Message task dialogs
- Insert Macro (Set Base point)
- Action Macro Manager

MText Enhancements

- MText column default
- Change Mtext corner grips to match table corner grips

Seek Integration

- Ability to upload drawings or blocks to Seek

Tool Palettes

One of the features that have been in AutoCAD for a number of releases that can improve your productive with little investment other than time is the AutoCAD Tool Palettes.

One excellent use is you can set the object default properties so for example a block would be inserted on a default layer at a default scale you had setup and distributed to your team. Tool Palettes can even be set to roll up and roll out and docked to eliminate the concern of used screen real-estate.

You can place blocks, dimension Styles, LISP and customization, material settings, text styles, tables, and more on Tool Palettes making them organized content pages. Create Tool Palettes by drag n' drop content from the Windows Explorer or the DesignCenter.

To paraphrase a top rated AutoCAD trainer Matt Murphy and what he mentions during his excellent Tool Palette classes at AUGI CAD Camps and Autodesk University "you can have your Tool Palette point to a network location or the ancestral blocks (blocks that have existed forever) and you can give it a nice name instead of PT3X3ED-SM.DWG and having to find where it is located".

Don't just take my word ask fellow AutoCAD users who are using it now. I have heard over and over "why isn't Autodesk promoting this excellent AutoCAD gem of a feature and its value and power to users of AutoCAD to reduce clicks and errors. Some have even mentioned the ROI increasing and standards management benefit of using the AutoCAD Tool Palettes to help others follow CAD Standards by setting up standard based, discipline, and project Tool Palettes thus reducing error or standards compliance rework.

Tool Palettes Rock!

Do you have the right flavor of AutoCAD?

Over the years, we have tailored AutoCAD to meet the specific needs of many of these industries. Going with products based on AutoCAD tailored to specific industries can improve your productivity while leveraging your existing knowledge and experience of AutoCAD.

If you are doing process piping then AutoCAD Plant 3D can greatly increase your productivity beyond that of the base AutoCAD. www.autodesk.com/autocadplant3d

If you are doing architectural design consider AutoCAD Architecture.
www.autodesk.com/autocadarchitecture

If you are doing MEP for building mechanical, electrical, and plumbing design consider AutoCAD MEP. www.autodesk.com/autocadmep

If you are doing 2D mechanical design consider AutoCAD Mechanical.
www.autodesk.com/autocadmechanical

If you are doing electrical design consider AutoCAD Electrical.
www.autodesk.com/autocadelectrical

If you are doing GIS & mapping consider AutoCAD Map 3D. www.autodesk.com/autocadmap

If you are doing civil design then consider AutoCAD Civil 3D. www.autodesk.com/autocadcivil

...with many industries' "*there's an AutoCAD for that*".

AutoCAD Resources

- AutoCAD Product Page www.autodesk.com/autocad
- AutoCAD Resource Center <http://resources.autodesk.com/autocad/>
- AutoCAD Support & Knowledge Base <http://www.autodesk.com/support>
- AutoCAD Exchange www.autocad.autodesk.com
- Autodesk Discussion Forums
www.autodesk.com/discussions
- AUGI www.augi.com
- Autodesk Blogs <http://blogs.autodesk.com>
- My Blog <http://autodesk.blogs.com>
- My Email shaan@autodesk.com
- AutoCAD Release Matrix
<http://usa.autodesk.com/adsk/servlet/pc/compare/index?siteID=123112&id=13779317>
Easier to go to www.autodesk.com/autocad then Select the compare releases link
- Lynn Allen's AutoCAD 2010 Tips Booklet
http://lynn.blogs.com/ACAD10_tips_r4_final_COMP.PDF
- AutoCAD Command & System Variable Map <http://www.hyperpics.com/>