GstarCAD 2024 vs DraftSight 2023

GstarCAD 2024

GstarCAD

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GstarCAD 2024 VS DraftSight 2023

With accelerated performance, enhanced compatibility and elevated user experience, GstarCAD 2024 takes design productivity to new heights. Experience our optimized operation speed and quality, enjoy the expanded compatibility for more file formats and APIs, and discover a new level of design satisfaction with upgraded Dynamic Input tool and adjustable viewports, etc.

1. Comprehensive Evaluation

● **Compatibility**

GstarCAD 2024 is not only compatible with all versions of AutoCAD data such as DWG formats, fonts, hatch, and linestyles, but also can load the FAS, DBX and VLX file formats that DraftSight does not support.

● **Performance**

Higher performance plays an important role in GstarCAD. GstarCAD not only constantly provides users with more useful functions, but also delivers great performance in both 2D and 3D operations. GstarCAD is especially outstanding in dealing with the big size drawings that contain a large number of entities. The basic operations, such as move, copy, rotate, scale and so on are significantly enhanced to boost the working efficiency of designers.

● **Functionalities**

DraftSight 2023 releases two new features, Dataextraction and Cycling Selection which are already supported by GstarCAD. What's more, GstarCAD continuously improves and develops new features to increase productivity.

● **User Experience**

DraftSight uses the tree structure with the complex hierarchy which is difficult to use. GstarCAD brings you a better user experience in many aspects.

2. Compatibility Comparison

The main compatible file formats and application development interface comparison:

Item	GstarCAD 2024	DraftSight 2023
2.5-2018 DWG/DXF	√	√
Template file DWT	√	√
Standard file DWS	√	√
Interface file CUI/CUIX	√	√
Old menu file MNU	√	√
Sheet set file DST	√	√
Hatch file PAT	√	√
Font file SHX	√	√
Linetype file LIN	√	√
Print style file CTB	√	√
Import WMF	√	×
Export WMF	√	√
Import/Export SAT	√	√
Import 3DS	√	×
Import PDF	√	√
Import DGN	√	√
Import /Export DWF/DWFX	√	×
Import IFC	√	×
Import SVG	√	√
Export STL	√	√
Export EMF	√	√
DWF underlay	√	×
DGN underlay	√	√
PDF underlay	√	√
STEP/IGES Files	√	×
Load LISP program	√	√
Load FAS program	√	×
Load DBX program	√	×
Load VLX program	√	×
VBA develop interface	√	×
Class ARX develop interface	√	×
.net develop interface	√	×

3. Performance Comparison

The performance of common-use operations like "OPEN", "SAVE", "MOVE", "UNDO", "REDO", "MIRROR", "CTRL＋C", "PAST" are faster than DraftSight 2023.

The chart below provides an overview of the the performance. We build an operation speed comparison of the basic features between GstarCAD and DraftSight. To make sure the data validation, same operations will be tested twice and get the average value.

Operation Time Comparison between GstarCAD 2024 and DraftSight 2023 (Unit: Second)

Testing environment:

WIN11 Professional 64bit; 16G storage; CPU: 11th Gen Intel(R) Core(TM) i5-11400 @ 2.60GHz 2.59 GHz;

Graphic Card: Intel(R) UHD Graphics 730

Drawing size:

- We tested other operations with two 48MB and 114MB drawings, and got the average time.
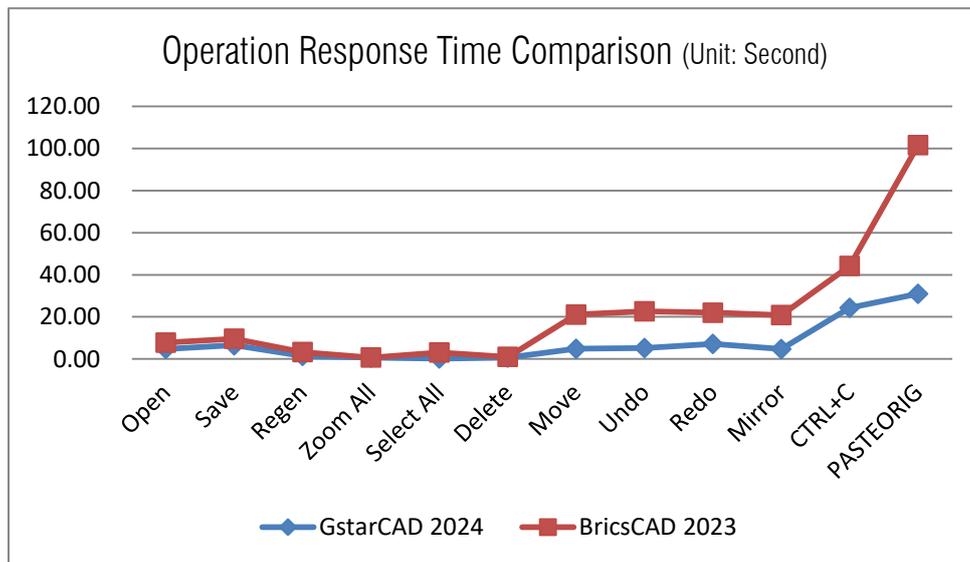
It's obvious that GstarCAD 2024 is faster than DraftSight. For some of the frequently used commands such as "OPEN", "SAVE", "REGEN", "ZOOM", "SELECT", "DELETE", GstarCAD is a little faster than DraftSight 2023, But "MOVE", "UNDO", "REDO", "MIRROR", "CTRL＋C", "PAST" are significantly faster than DraftSight 2023.

From the comparison data above, we get the conclusion that GstarCAD provides a better performance to enhance your working speed.

4. Features Comparison

Although, DraftSight 2023 released some new features such as Dimassociate, Hatch ribbon, Selection sycling, Data extraction and so on, most of them are already supported by GstarCAD. In addition, DraftSight 2023 doesn't support some important features such as navigation cube, merge layout, sync viewports, system variable monitor, collaboration, etc.

While GstarCAD 2024 offers more practical features according to user needs. With nearly a hundred more functions than DraftSight 2023, GstarCAD has obvious advantages.

What's more, the interface and functional details of DraftSight 2023 still have a big gap with GstarCAD.

4.1. Key Functions Comparison Table between GstarCAD 2024 and DraftSight 2023

Features	GstarCAD	DraftSight	Description
3DFORBIT	√	×	Rotates the view in 3D space with constraining roll.
AutoCAD Tool Palettes Import Tool	√	×	Import AutoCAD® customized Tool palettes in the WINDOWS Start menu easily.
ADDSELECTED command	√	×	Creates a new object of the same type and general properties as a selected object with different geometric values.
ATTIPEDIT	√	√	Edits the attribute text in the block attribute in-place.
Break Point Check (CLOSELINE)	√	×	Marks unclosed endpoints among selected lines, polylines or arcs, and close them immediately.
CLIPIT	√	×	Clips images, xrefs, wipeout, or specified parts of block objects using circles, arcs, ellipses, or text as boundaries.
Convert Command	√	×	Optimizes 2D polyline and associated hatches in early versions.
Constraint	×	√	Supports geometric and dimensional constraint.
CONVTOMESH	√	×	Converts eligible 3D objects into meshes.
CONVTONURBS	√	×	Converts 3D solids and surfaces into NURBS surfaces.
CONVTOSOLID	√	×	Converts eligible objects into 3D

			entities.
CONVTOSURFACE	√	×	Converts eligible objects into 3D surfaces.
COPYLINK	√	√	Copies the current view to the Clipboard for linking to other OLE applications.
Draw order by color (CDORDER)	√	×	Arranges the drawing order of selected objects by their color number.
Data Extraction (DATAEXTRACTION)	√	√	Extracts drawing data.
Data Link (DATALINK)	√	×	Displays the "Data Link Manager" dialog box.
Digital Signature	√	×	Attaches a digital signature to a drawing.
DWG Convert	√	×	Converts drawing format version for selected drawing files.
Dynamic Block Create and Edit (BEDIT)	√	√	Supports creating or editing viewing the dynamic block by adding parameters, actions or visibility.
Fast Select (FASTSEL command)	√	×	Selects the object that touches the specified object.
Layer Merge (LAYMRG)	√	×	Merges specified layer to target layer and delete previous one.
Layer Translator (LAYTRANS)	√	×	Changes the current layer to specified layer standard.
Layer Walk (LAYWALK)	√	×	Displays objects on selected layers and hides objects on other layers.
Merge Layout (LAYOUTMERGE)	√	×	Two or more layouts in one drawing can be merged into a specified layout.
Make Shape (MKSHAPE)	√	×	Creates a shape definition based on selected objects.
Mtext supports Superscript, Subscript...	√	×	Mtext supports Superscript, Subscript...
Navigation Cube	√	×	The viewing direction can be adjusted

(NAVICUBE)			through various visual controls such as the cube model, compass, tool buttons, etc.
Password Protection	√	×	Sets password for specified drawing file to lock it.
Point Cloud Attach	√	×	Inserts a point cloud scan (RCS) or project file (RCP) into the current drawing.
POLYSOLID	√	√	Creates 3D solid in the shape of a wall or series of walls.
Quick Properties	√	×	A set of objects properties displayed through the Properties Palette which allows you to customize.
Reverse	√	×	Reverses the vertices of selected lines, polylines, splines, and helixes.
RTEXT	√	×	Displays the content of a text file or the calculation results of a DIESEL expression in the drawing.
Section Plane	√	×	Creates sections of 3D object by creating section planes.
Security	√	×	Displays "Security" dialog box. Sets the system security monitoring level, and displays or deletes the current trusted publisher certificate.
Superhatch (SUPERHATCH)	√	×	Fills an enclosed area or selected objects with a hatch pattern, solid fill or gradient hatch.
SURFOFFSET	√	×	Creates a parallel surface at a specified distance from the original surface.
Synchronize Viewports (VPSYNC)	√	×	Synchronizes one or more layout viewports to a master layout viewport to have the exact locations matched up.
System Variable Monitor (SYSVARMONITOR)	√	×	Monitors system variables in the list and sends notifications to alert users when system variables and the reported preferred values change.
Text Align / Text Match	√	×	Aligns multiple text objects vertically, horizontally, or obliquely. Matches both text and Mtext attributes text, such as color, font, height, alignment, angle, and matches the content and layer.
Viewport Scale	√	×	Displays the scale of the current viewport or of a selected layout

(VPSCALE)			viewport.
Visual Styles Manager	√	×	Creates and modifies visual styles.
VPMAX	√	×	Expands the current layout viewport to fill the entire screen and switch to Model space for editing.
WorkSpace command	√	×	Creates, modifies, and saves workspaces and makes a workspace current.

From the commonly used functions comparison table above, you can see GstarCAD 2024 provides richer functions than DraftSight 2023.

4.2. GstarCAD Innovative Features

GstarCAD has customized a large number of unique functions according to user needs.

The innovative features of GstarCAD:

GstarCAD Innovative Features

Features	Description
Align Tool (ALIGNTOOL)	Allows you to align the selected objects along the X or Y axis coordinates.
ACAD Tool Palettes Import Tool	Import AutoCAD© customized Tool palettes in the WINDOWS Start menu easily.
Area Sum (AREASUM)	Displays the current closed region value and area sum sequence in command line.
Area Table (AREATABLE)	Dimensions and counts the area of an enclosed object and exports the result to a table in the current drawing area.
Arrange Tool (ARRANGETOOL)	Aligns multiple objects left, right, top, bottom, center, vertical or laterally.
Attribute Increment (ATTINC)	Attributes values increment automatically or manually according to specified method.
Auto Layer (AUTOLAYER)	Customizes and predefines the associated layer of a command to streamline drafting workflow.
AUTOXLSTABLE	Allows to insert excel, and static block quantity, area and length and auto update the data according to the changes of the object.
Barcode (BARCODE)	Allows inserting the barcode to objects to corresponding paper documents and electronic drawing file.
Batch Print(BP)	Batch prints the drawing frames by pages.
Batch Purge (BATPURGE)	Batch purges the redundant blocks, layers, linetype, dimensions and text, etc in drawings.
Block Break (BLOCKBREAK)	Allows you to wipeout or break an object that is overlapped by a reference block.
Break Object (BREAKOBJECT)	Breaks the intersected lines and allows you to set the gap value.
CAD table to EXCEL (GC_CTE)	Converts sheets, composed by line/Spline and text/Mtext in CAD, to EXCEL.
Change Base (CHANGEBASE)	Modifies the base point position of the block.
Change Text (CHANGETEXT)	Modifies several texts simultaneously.
CIRCLE(C) Parameter	CIRCLE(C) parameter; Draws multiple concentric circles with one radius.
Collaboration	The GstarCAD Collaboration Tool is an embedded plugin available for

	GstarCAD platform aimed to help CAD designers work together among a single referenced drawing file at the same time, control drawing revisions and manage medium, big or complex projects with ease and reliability, reducing communication barriers across different industries.
Define Layout Viewport from Model Space(M2LVPORT)	Creates a viewport on layout space by selecting objects in the model space.
Dimension Coordinate (DIMCORD)	Marks X, Y coordinate values of the point.
Distance from Endpoint Snap	Allows to sap a certain distance from any endpoint of objects and the distance value can be modified at status bar at any time.
Divide Segments Snap	Allows snap the divided segment points of objects and the divided segment number can be modified at any time.
Export Coordinate (COEXPORT)	Exports the coordinate of the picking point to txt or xls files.
FILLET(I) Invert Parameter	Creates a reverse fillet by this option.
Frame Automatically (FRAMEAR)	Automatically searches for the frame, calculates according to the frame size, and arranges multiple drawings on a large-format drawing reasonably.
Free Scale (FREESCALE)	Scales an object without restrictions under three modes; Non-Uniform, Rectangle and Free.
Freeze Other Layer (LAYFRZOTHER)	Freezes other layers except the layer where the selected object is located.
Graphic Compare (OCMP)	Compares graphic of two groups of objects or two files.
GstarCAD tools (12 functions)	Allows you to quickly draw the industry drawings with GstarCAD tools
Import HPGL/2 (IMPORTHPGL)	Imports a PLT files.
Get Selection by Block Name (GETBLKSEL)	Multi-selects objects with the same name in specified area.
Get Selection by Object Type (GETENTSEL)	Multi-selects objects with the same entity type in specified area.
Get Selection by Layer (GETLAYSEL)	Selects all the objects in specified layer and specified region at one time.
Get Selection by Color (GETCOLSEL)	Quick selects the objects with the same color.
Get Selection by Object/Layer (GETENTLAYSEL)	Selects entities by entity type and layer.
Get Selection by Object/Color (GETENTCOLSEL)	Selects entities by entity type and color.
Get Selection by Layer/Color (GETLAYCOLSEL)	Selects entities by color and layer.

Dimension Coordinate Position (HCZZBD)	Dimensions the coordinate position.
Layer Draw Order (LAYDRAWORDER)	Changes the order of the layers by bringing to front or sending to back.
Lock Other Layers (LAYLCKOTHER)	Locks other layers except the layer where the selected object is located.
Layer Unlock All (LAYULKALL)	Unlocks all layers.
Off Other Layers (LAYOFFOTHER)	Turns off other layers except the layer where the selected object is located.
Magnifier (MAGNIFIER)	Views a specific area of your drawing as a magnifier with the capability of snap points without performing zoom in/out on big drawings.
OFFSET(B) Both Sides	Offsets to both side, no need to operate twice.
Outline (OUTLINE)	Generates the outline by clicking the closed region.
Pline Boolean (GC_BOOLOP)	Operates the closed pline with union, intersection and subtraction.
Print PLT(PRINTPLT)	Prints the generated PLT file.
QR Code(QRCODE)	Extracts data or inputs data to generate QRcode which can be scanned by mobile device to obtain data.
Rapid Distance (RAPIDDIST)	Measures distance and angle between 2D objects along X, Y axis rapidly by moving mouse.
RECTANGLE(O) Parameter	RECTANGLE(O) parameter, Draws an rotate rectangle with (O)option
Region Scale (REGSCALE)	Selects a region of a drawing to be cut and copied to a new location.
ROTATE(Multiple)Parameter	Copies many objects with different rotate angles, or draw circles array.
Shortcut Customization (CUSTACC)	Customizes the shortcut key.
Spline to Pline (Sptpl)	Converts spline to polyline according to the accuracy (number of segments of the arc) that the user assigns.
Statistics Summation (KLL01)	Sums up the selected text or Mtext.
Symmetric Draw	Directly draws symmetrical shapes, it can omit the operation of the mirror.
Text Incremental Copy (GC_dztext)	Accomplishes kinds of incremental methods for text.
Text Align (TEXTALIGN)	Aligns text along X or Y coordinates, or along a line of specific direction.
Text Match (TEXTMATCH)	Matches both text and Mtext attributes in the current drawing, avoiding select and edit text attributes one by one.

Text Online (TEXTONLINE)	Distributes the text uniformly along a selected spline, polyline or arc. It can also create text online quickly for multiple curves.
Total Length (MEASUREGEOM)	Inquire total length of the selected lines.
WIPEOUT (supports circle and arc)	Generates wipeout by clicking circle or a pline object contains arcs.
……	

Besides developing plenty of innovative features, GstarCAD has improved the basic operations in order to simplify the operation steps. For example, Adds the angle parameter to line and spline, when drawing an object, you can not only set the value between object and X axis, but also set the angle parameter between the selected line and the previous line; Adds the concentric circle and rotated rectangle; Adds multiple copies in rotate command, realize the copy rotate and circle array; Adds divided by segment and distance from endpoint, layout by path, etc. to accomplish the liner array. Supports invert fillet option in fillet command which is welcomed by designers.

The innovative features enhance your drawing efficiency greatly.

4.3. Function Detail Comparison

GstarCAD 2024 not only offers more commands than DraftSight 2023, it is also better in the details of interfaces and some functions. The following is a comparison of important functions.

- Hatch, Trim, Extend Preview

GstarCAD supports preview effects when trimming, extending and hatching, which can help users judge the correctness of the operation.
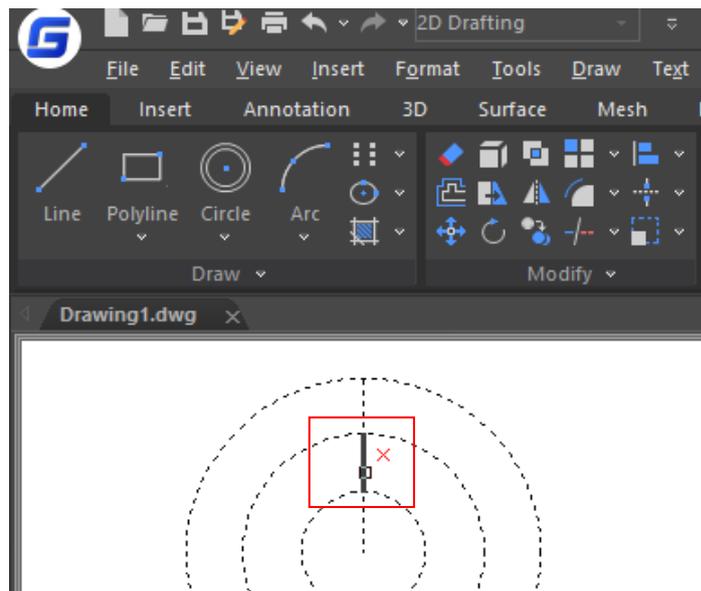
DraftSight does not support preview effects.
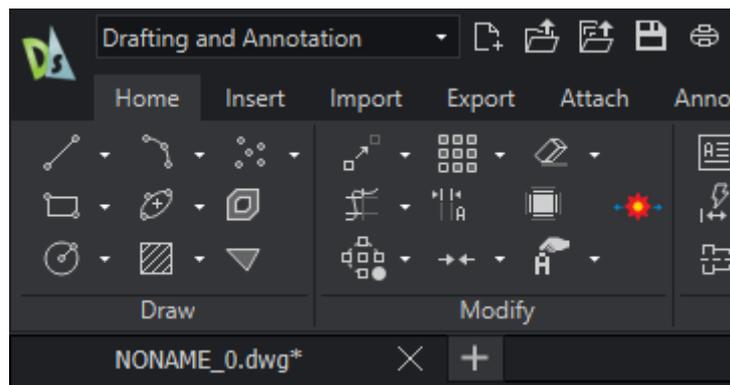
- **Line**

GstarCAD can set the reference angle or included angle with the reference object or the previous section when setting the angle.
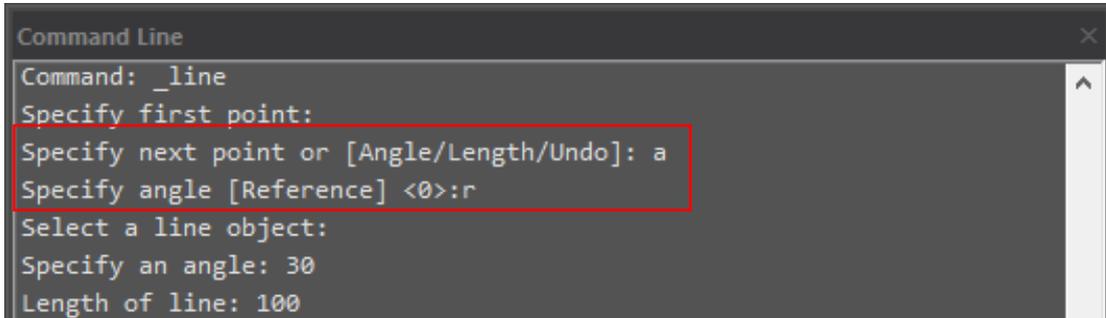
DraftSight can only input the angle relative to the positive X axis
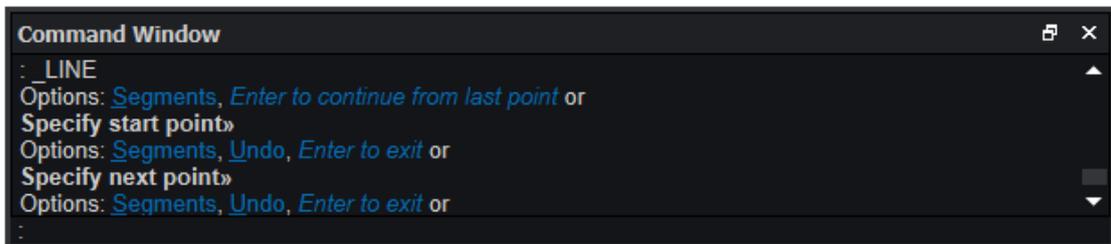
- **Circle**

GstarCAD converts arcs to circles, multiple circles, and multiple concentric circles at one time. However, DraftSight only supports the basic options.
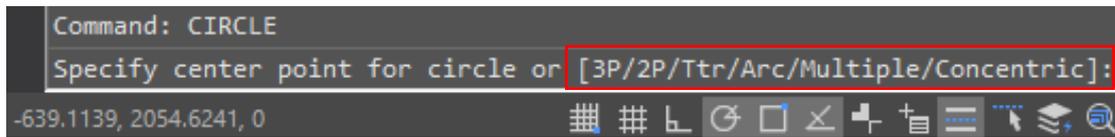
GstarCAD
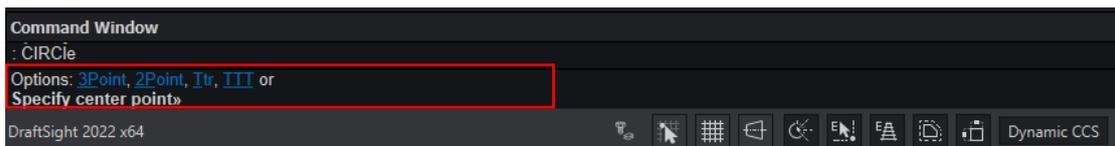
DraftSight

- Fillet

In GstarCAD, you can create the normal fillet and reverse fillet.
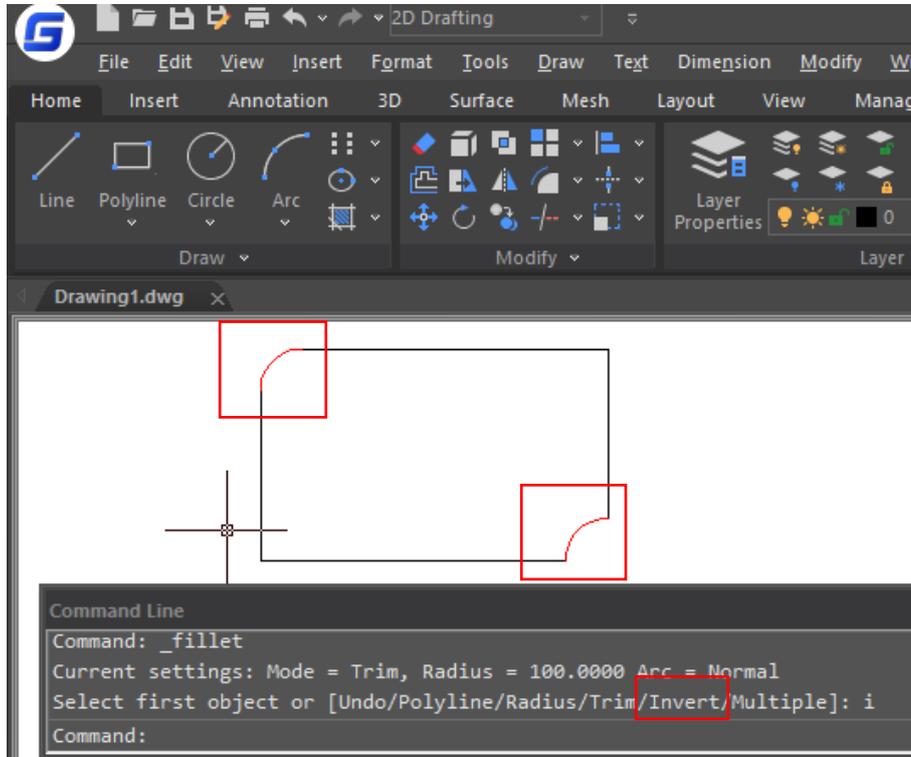
DraftSight only supports the normal fillet.
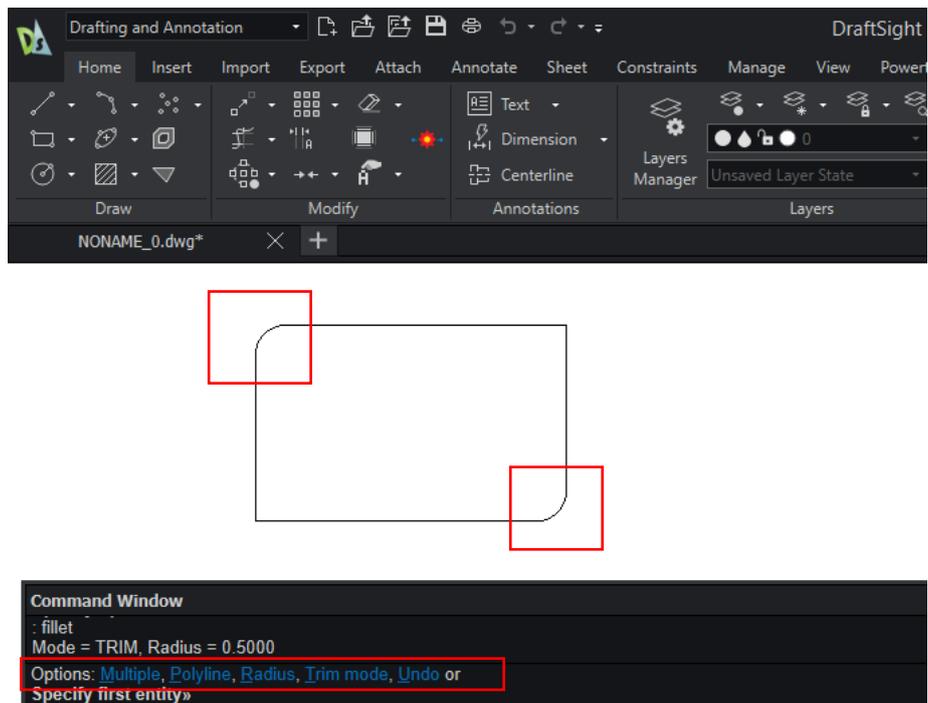
- **Rotate**

GstarCAD supports multiple copies, you can input multiple angle copies while rotating, or generate a circular array.
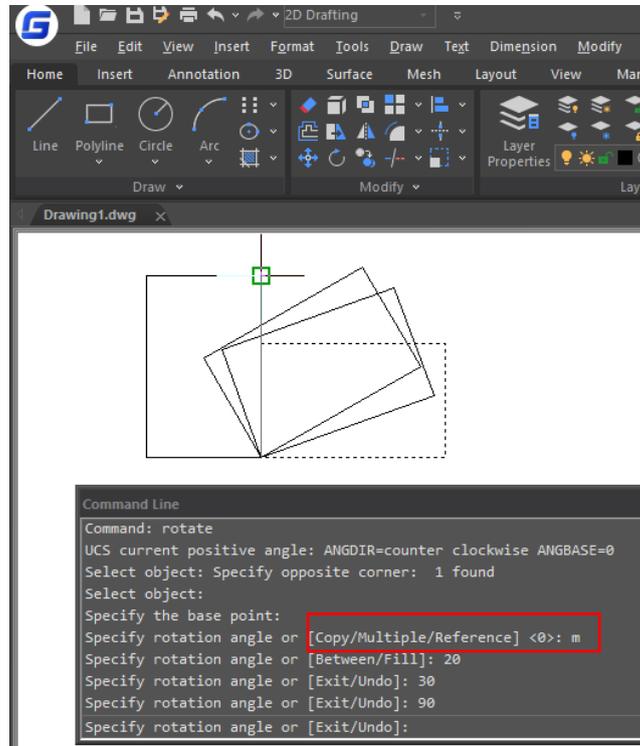
DraftSight does not support multiple copies when executing rotate.
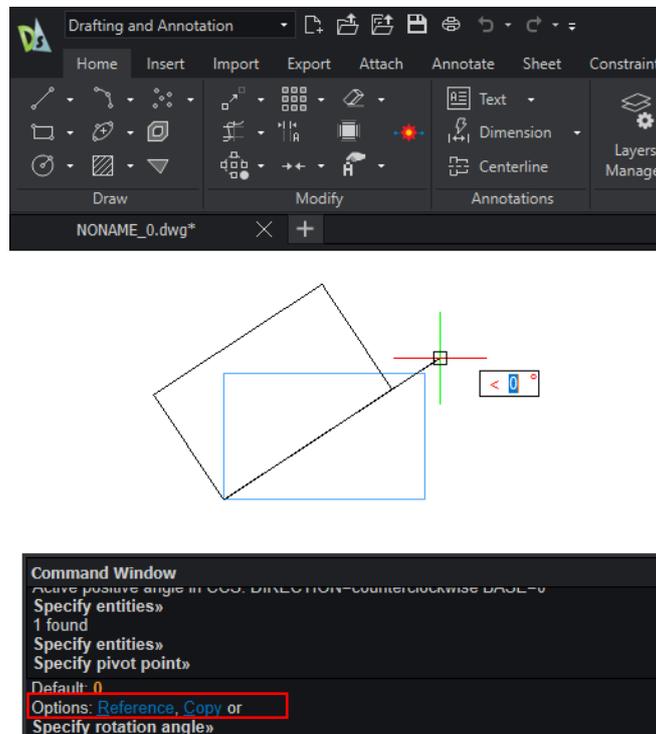
- **Copy**

GstarCAD provides three array modes for copy command: measure, divide and path which can be copied

along a straight line or curve.

GstarCAD

DraftSight only supports the array along a straight line.

DraftSight

- Mtext

GstarCAD lists the frequently used options in text editor, which are easy to identify. GstarCAD also supports functions such as columns, spelling check, superscript and subscript, match text formatting in Mtext, the paragraph dialog box and other options are also richer.
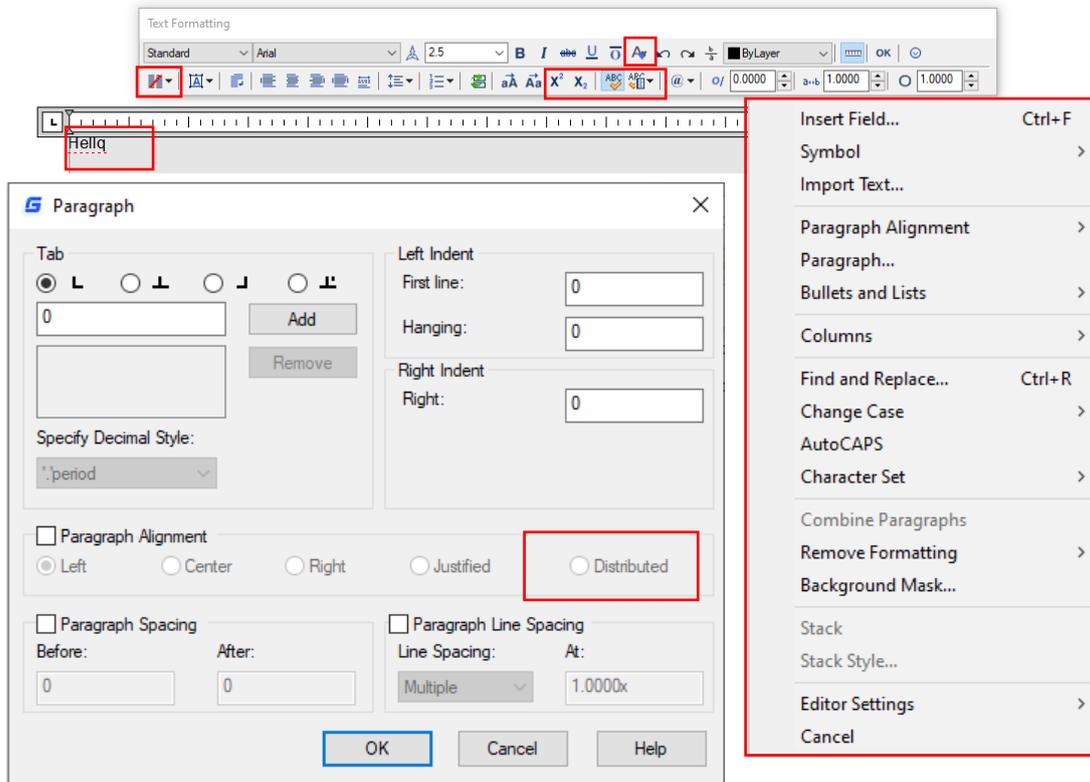
DraftSight not only lacks many important functions, but also hides the frequently used text options. You have to do more clicks to find them out.
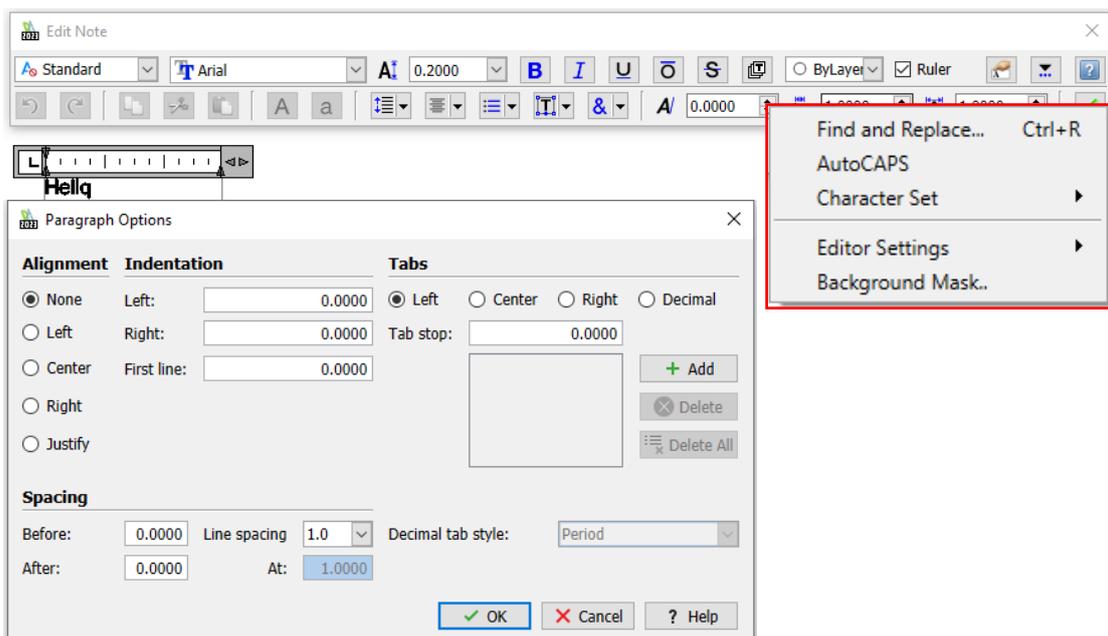
- **Layout Viewport Settings**

GstarCAD supports visual styles in Viewports dialog box.
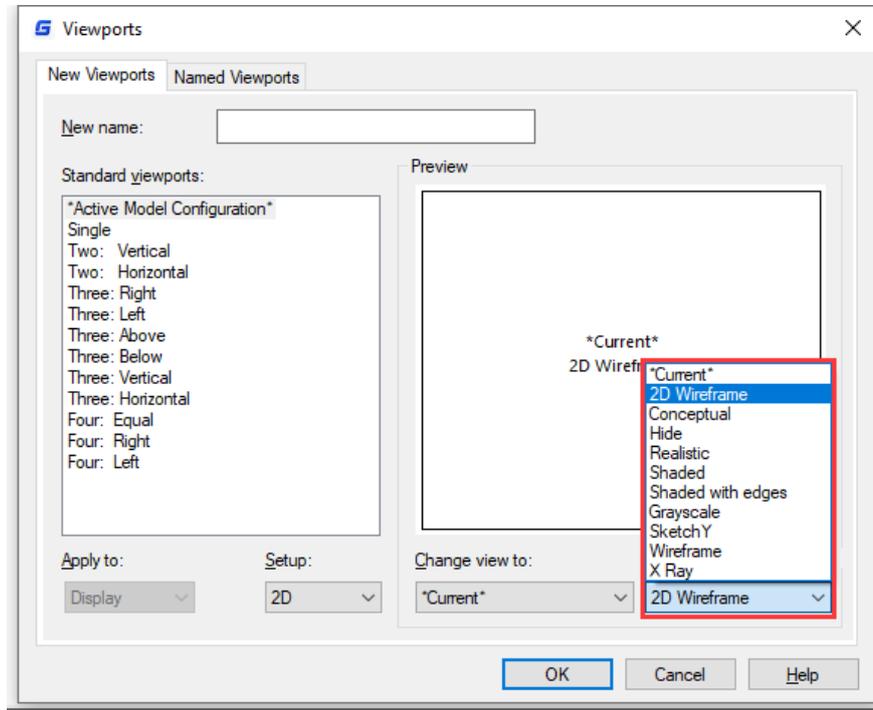
DraftSight does not support visual styles in Viewports dialog box.
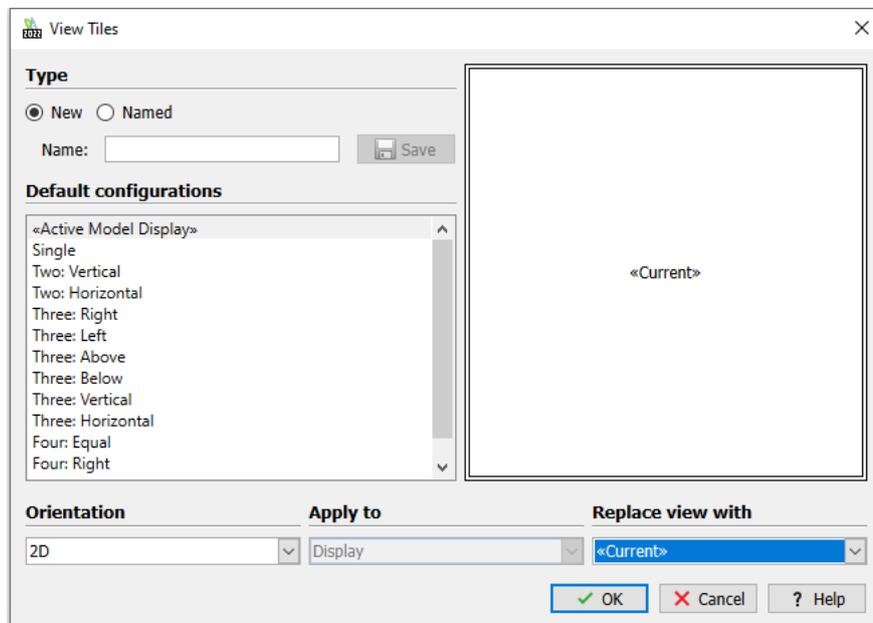
- **Layer Properties Manager**

GstarCAD provides functions such as layer setting and refresh. The layer settings dialog box includes the setting of new layer notification, isolation layer and dialog settings.
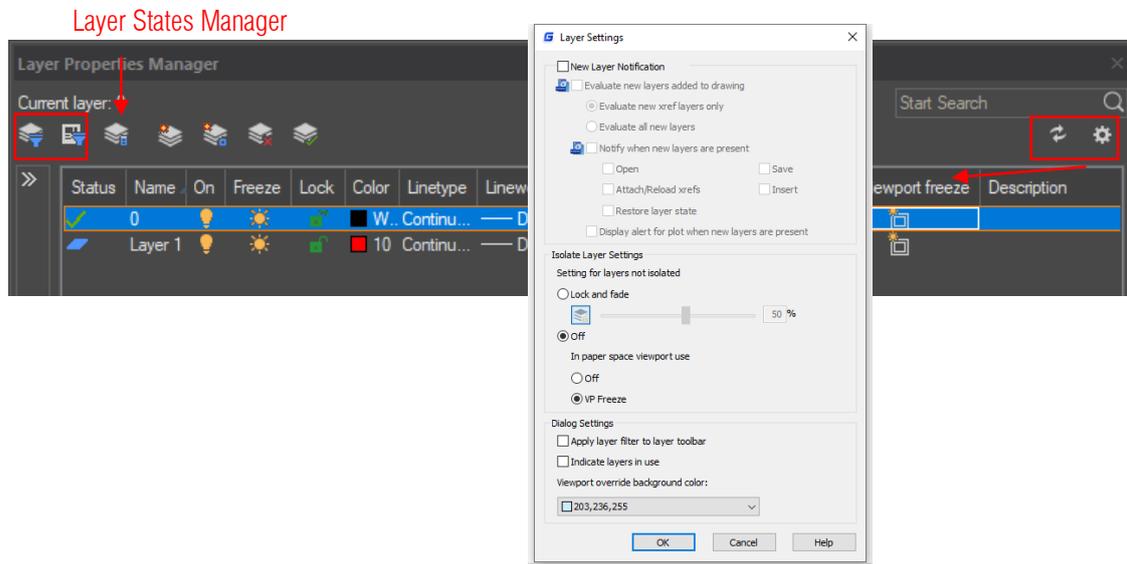
GstarCAD

DraftSight does not support refresh and layer settings.
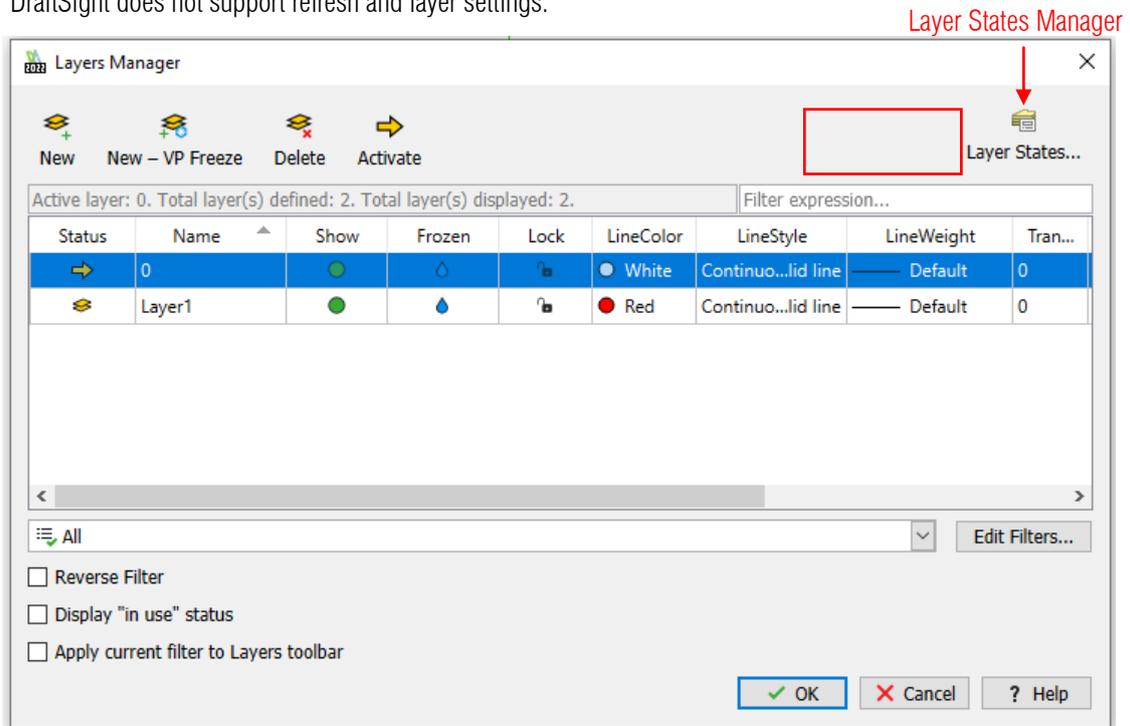
- **Snap Options**

GstarCAD supports Distance from Endpoint and Divide Segments.
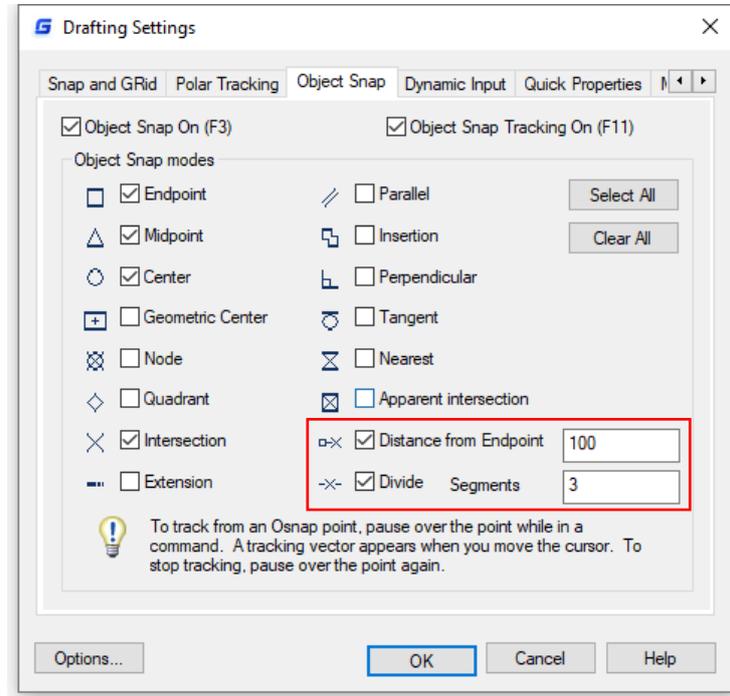
DraftSight only provides conventional snap methods with the complex Hierarchy.
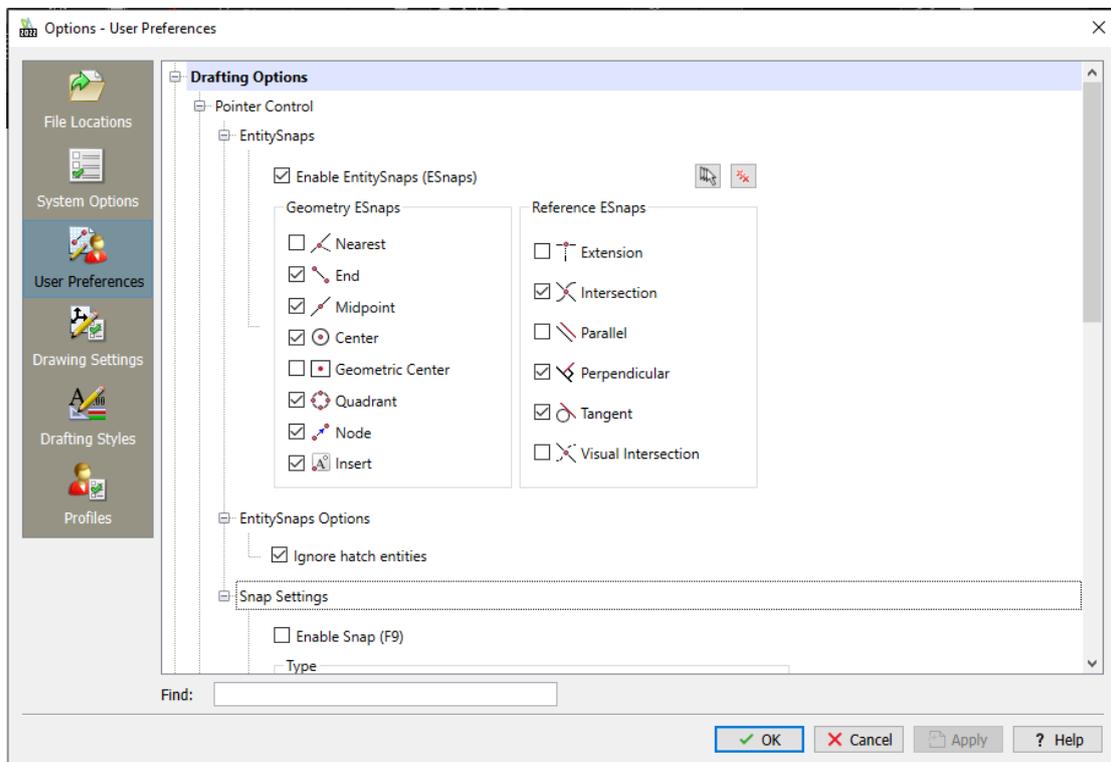
● Measure

In addition to measuring conventional distance, radius, angle, GstarCAD also supports measuring the volume, total area and total length.

DraftSight doesn't support the practical measure options such as measure volume, sum area and total length.
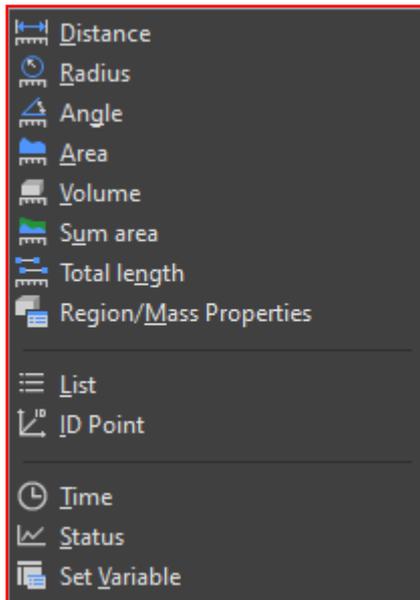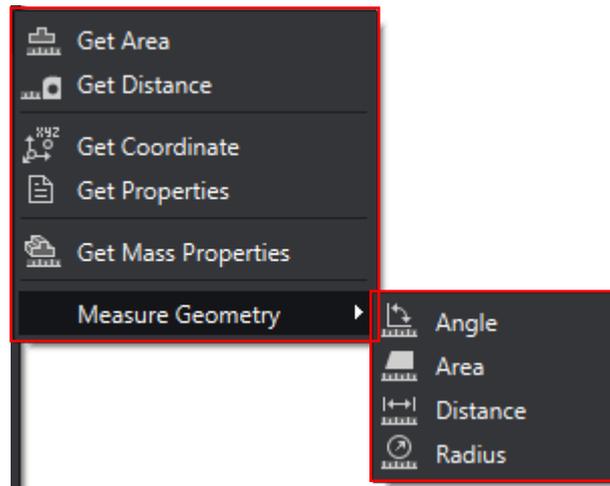
GstarCAD   DraftSight

● Revcloud

GstarCAD can control the revision cloud grip numbers for the rectangle and polygon through the REVCLOUDGRIPS system variable, making it easier to draw and edit regular revision clouds.
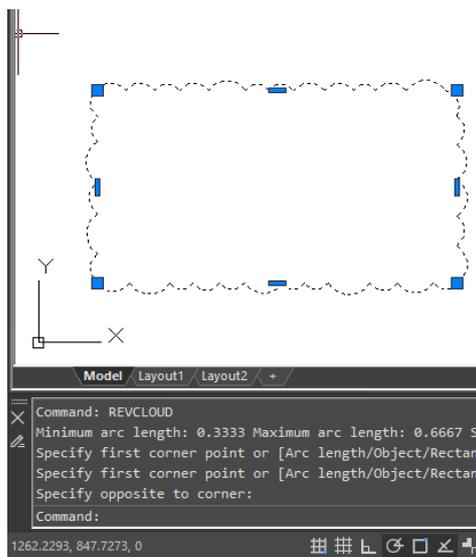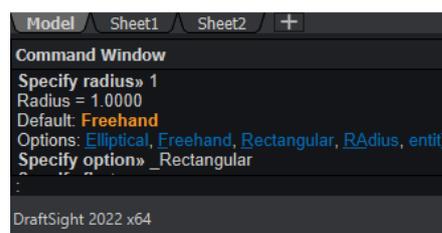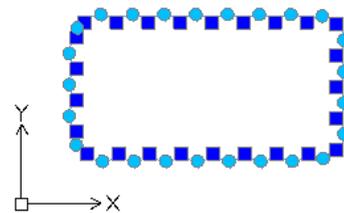
GstarCAD   DraftSight

- Hatch edit in context menu

GstarCAD supports Set Origin and Set Boundary for hatch objects. The Set Origin controls the starting

location of hatch pattern generation for a selected hatch. Set Boundary redefines a selected hatch to confirm

to a different closed boundary.
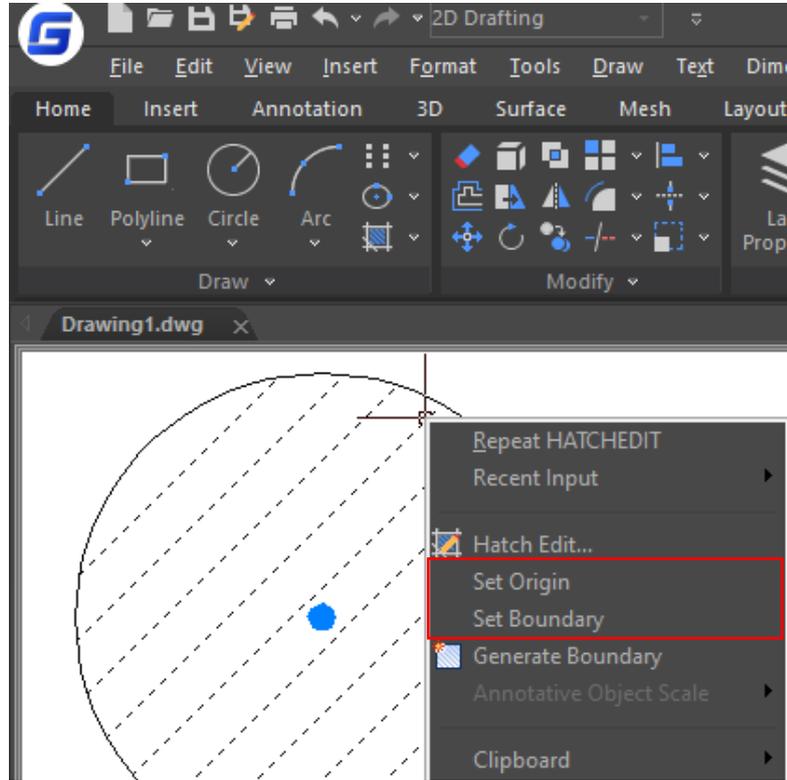
DraftSight does not support Set Origin and Set Boundary.
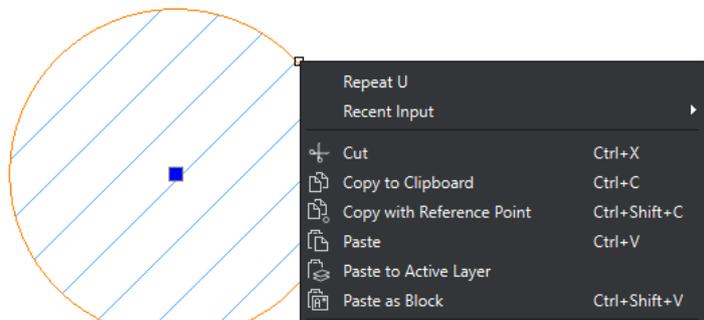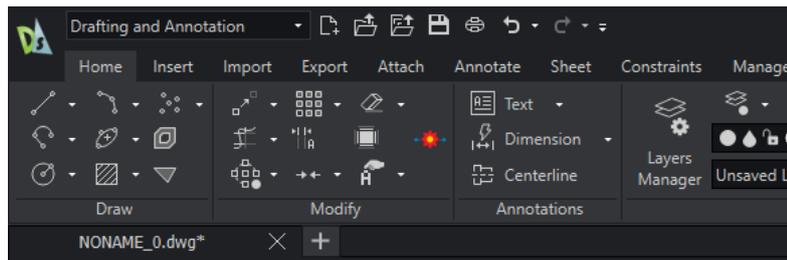
- **The Grips for Hatch**

There are grips for hatched objects in GstarCAD, you can drag the hatch grips to edit the hatch.
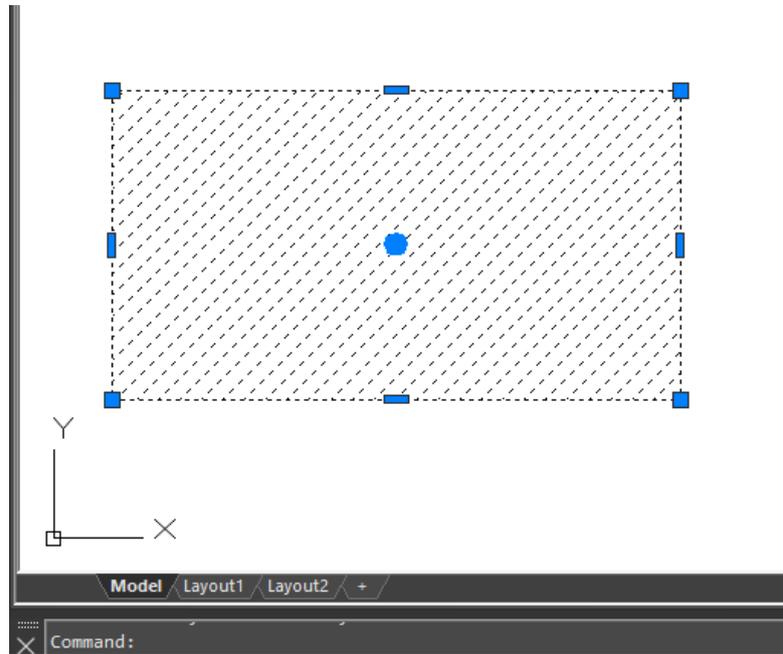
GstarCAD

DraftSight does not support the grips for hatch.
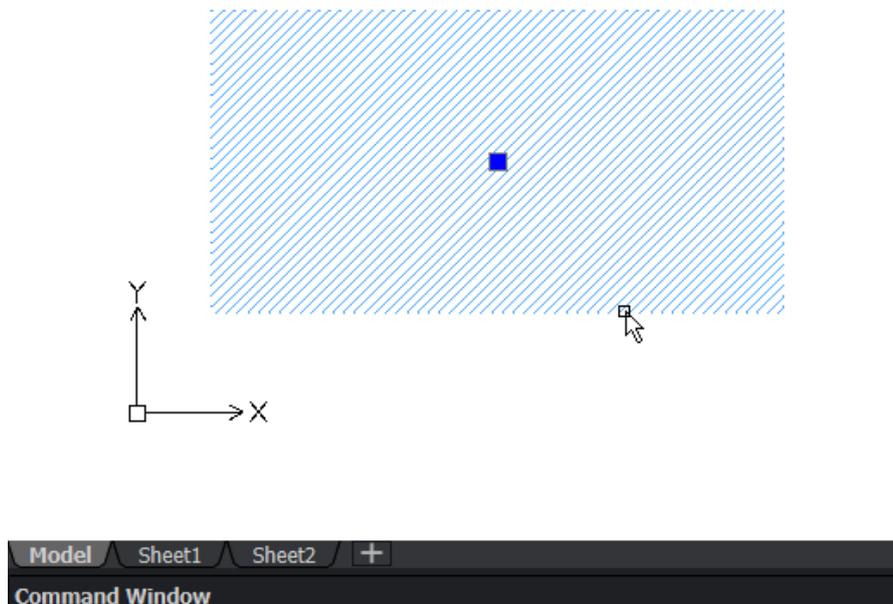
DraftSight

- Color Books

GstarCAD not only supports index and turn color, but also support color books.
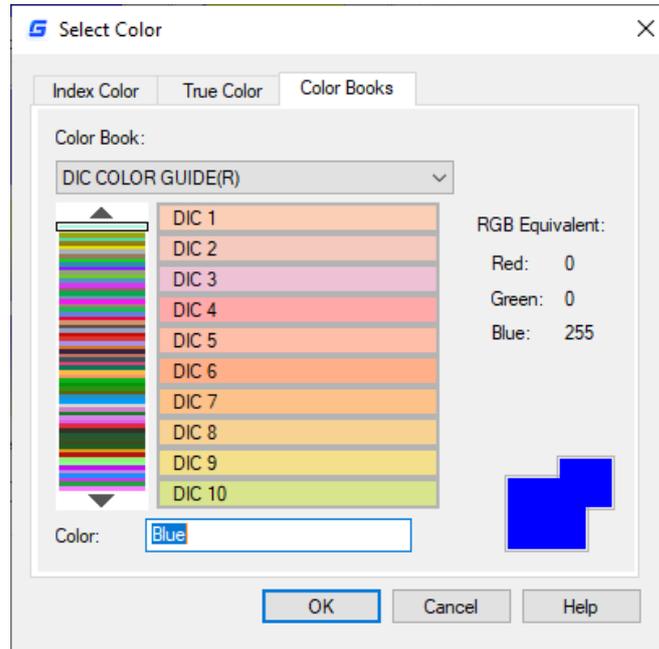
DraftSight does not support color books.
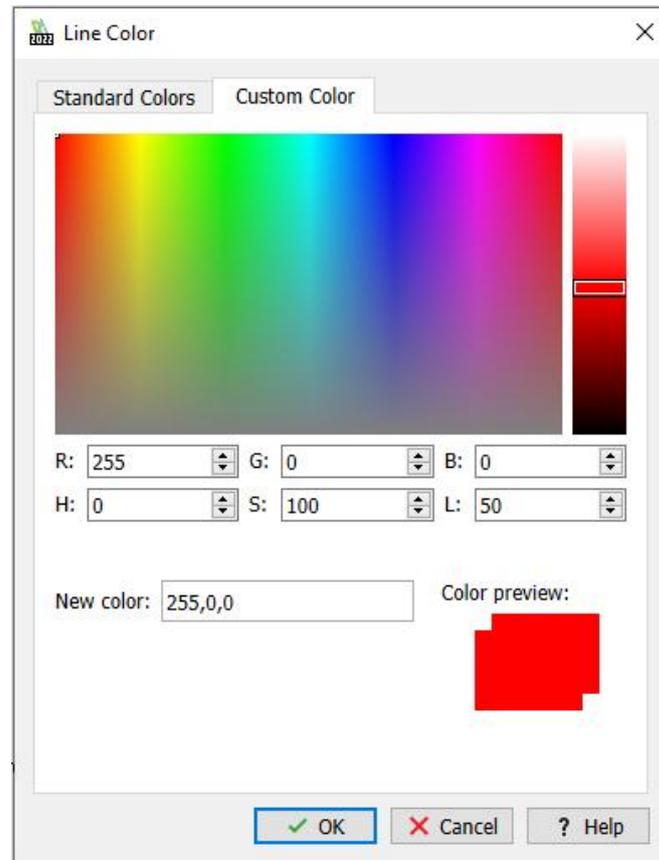
- Drawing Compare

In GstarCAD, the Drawing Compare enhances collaboration by using color-coded displays to show items on a drawing that have been changed, added, or deleted by other members of the design team. Changes to items such as styles, block attribute, object of block can also be tracked. The function makes it convenient for users to locate the changed parts. The program opens the two drawing and analyzes the differences between two drawings automatically. Then the differences will be marked with different colors.
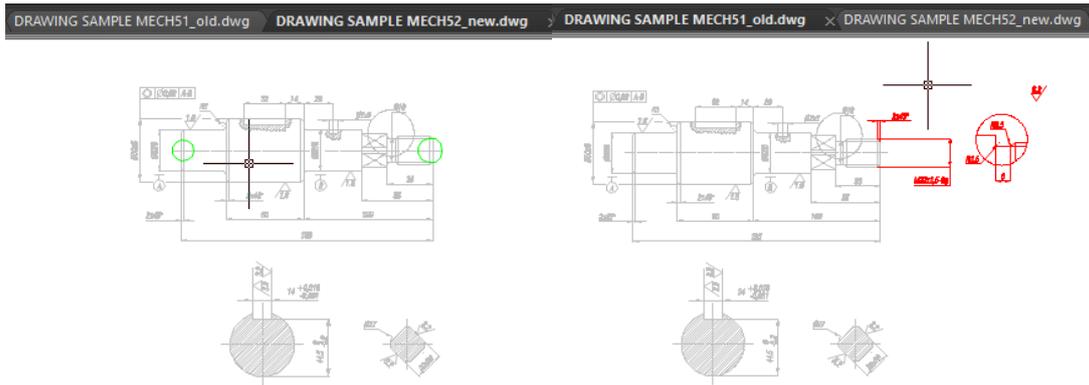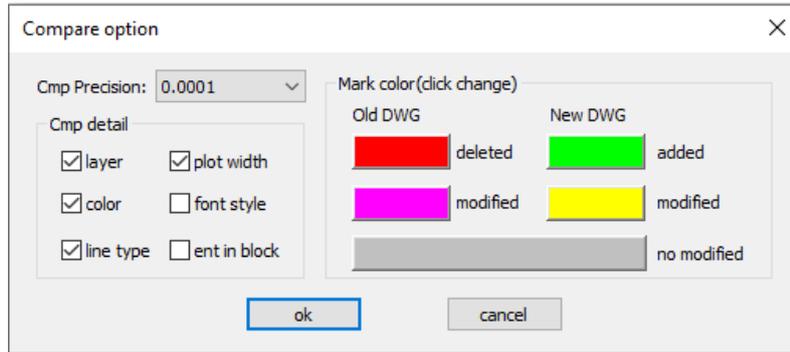
In DraftSight, the drawings are shown in the Draw Compare dialog box, the differences are saved with bmp format with the incorrect result.
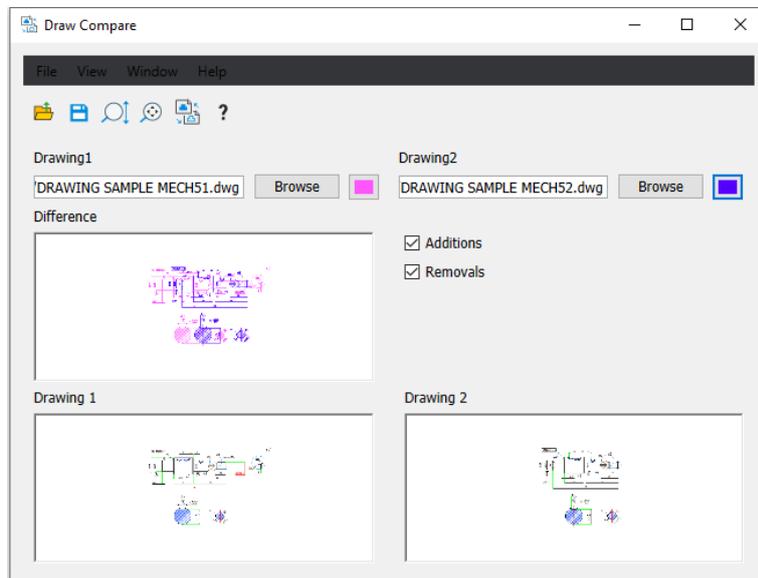
- Spelling check

GstarCAD supports the spelling check when inputting the text; it also can check the entire drawing or the specified text, even the current or layout space. It gives you more suggestions after checking.
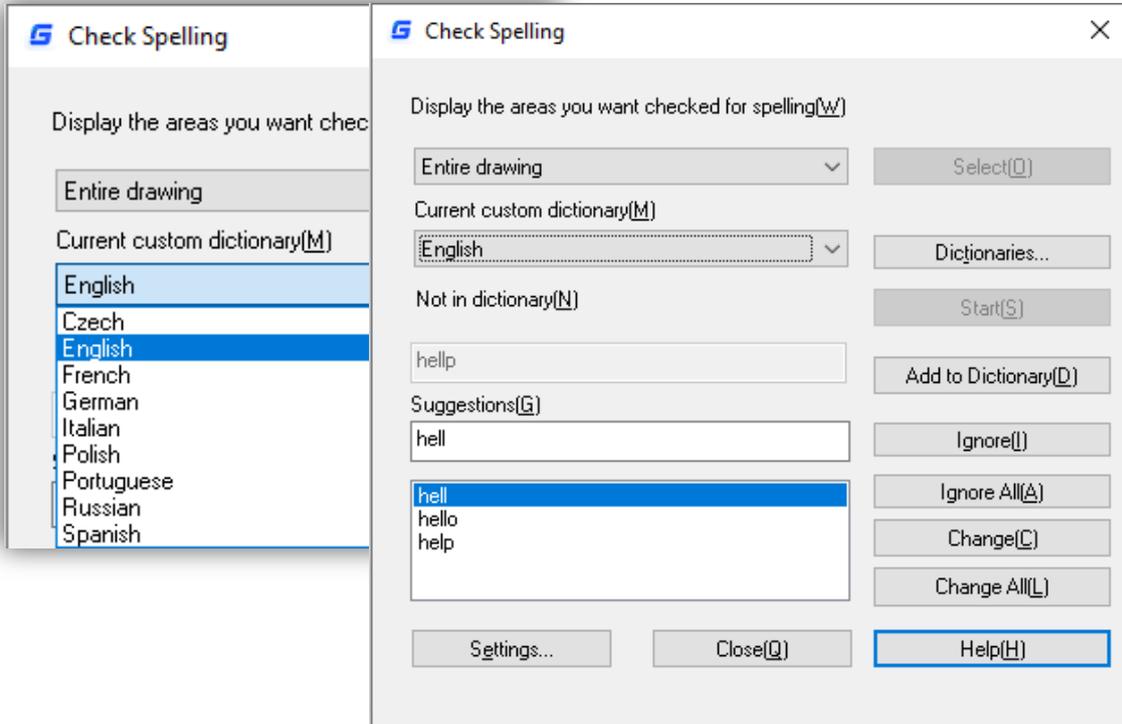
DraftSight does not support spelling check when inputting the text, you have to input the SPELLCHECK command to check the spelling for the selected objects. DraftSight doesn't support check spelling for the entire drawing. Furthermore, only English dictionary is supported (US English, Australia English and UK English), and less suggestion given.
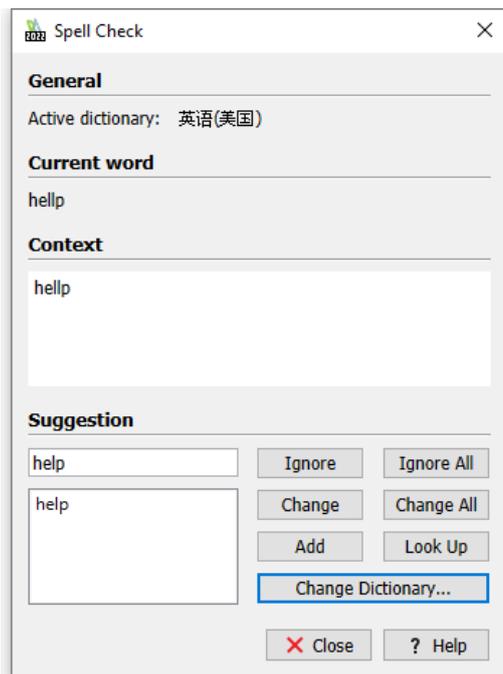
- **Dimension Polygon Center**

GstarCAD supports the option Polygon(P) in DIMCENTER command to mark the center of polygons.
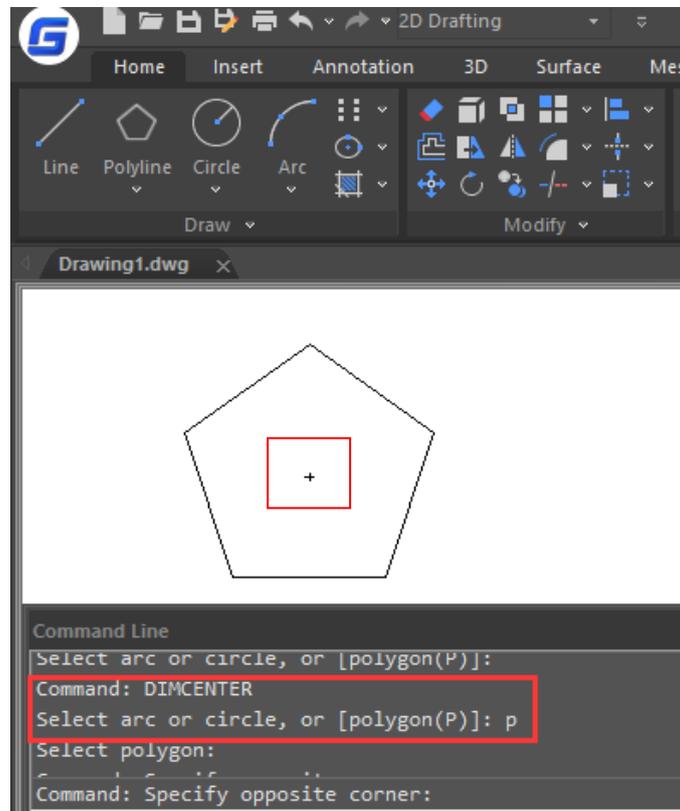
While DraftSight only supports dimension center of arc and circle, dimension polygon is not available.
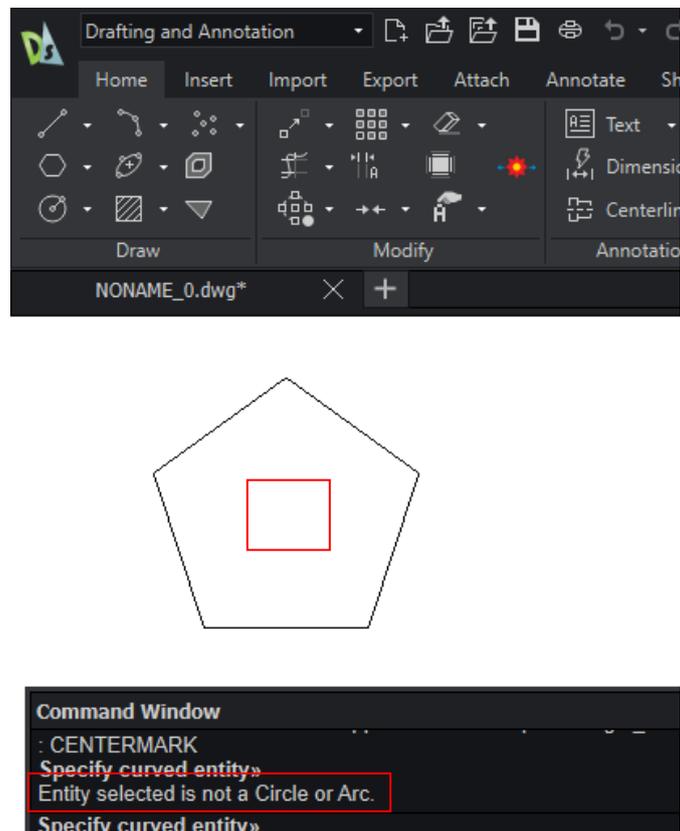
- **Stretch Dimension Group**

GstarCAD supports the "Stretch Dimension Group" option which allows adjusting dimensions that share same grips with each other as a whole.
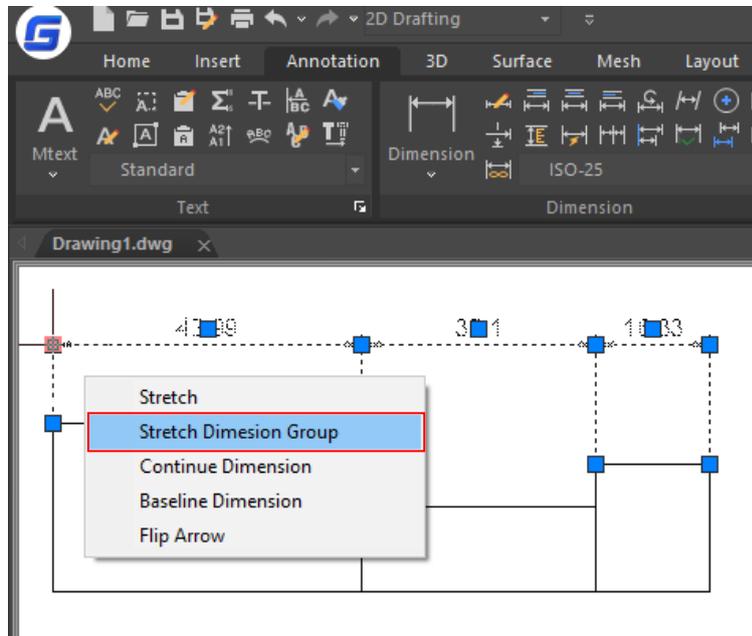
In DraftSight 2023, you have to stretch such dimensions one by one, which wastes your design time. What is more, DraftSight does not support to edit the dimension text by double clicking directly.
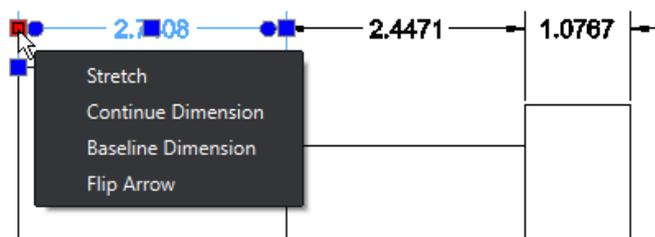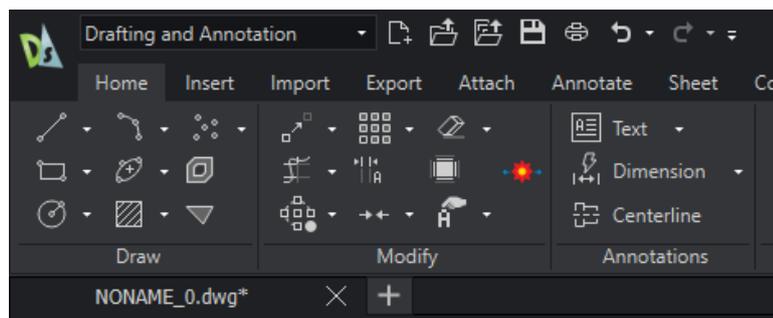
- **DWF Attach**

GstarCAD supports DWF file attachment. When you attach a DWF or DWFx file as an underlay, you link that

referenced file to the current drawing. Any changes to the referenced file are displayed in the current drawing

when it is opened or reloaded.
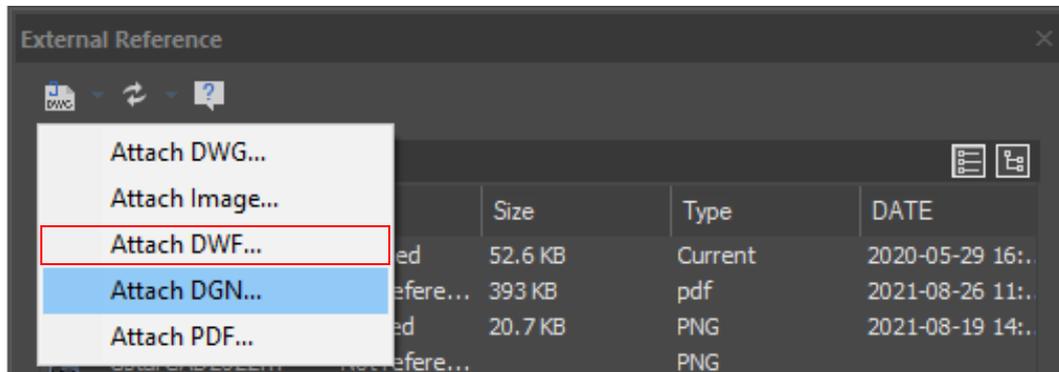
GstarCAD

However, DraftSight does not support DWF file attachment.
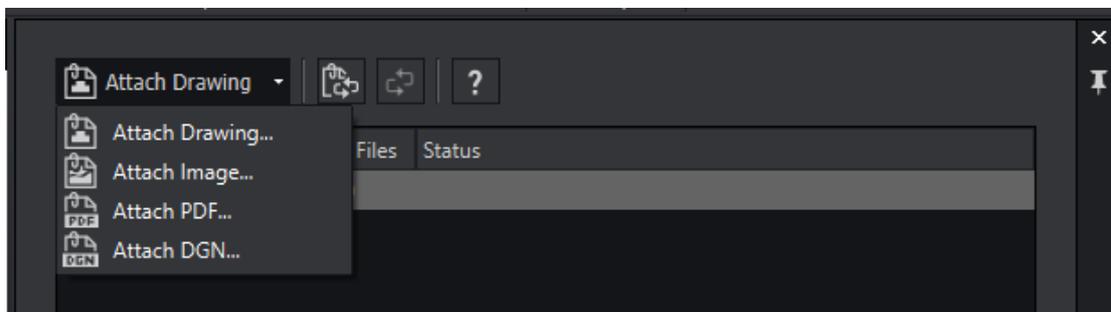
DraftSight

- Dynamic Input

When creating and editing objects in GstarCAD 2024, data such as length, angle, radius, etc., are displayed in the form of dimensions, which are dynamically changing as the mouse cursor is being moved. With the help of the independent Pointer Input boxes, you are now able to input dimension data and execute design operations more efficiently. Dynamic Prompts List is displayed vertically by default, which allows you to see all the prompts at once and simplifies drawing operations.
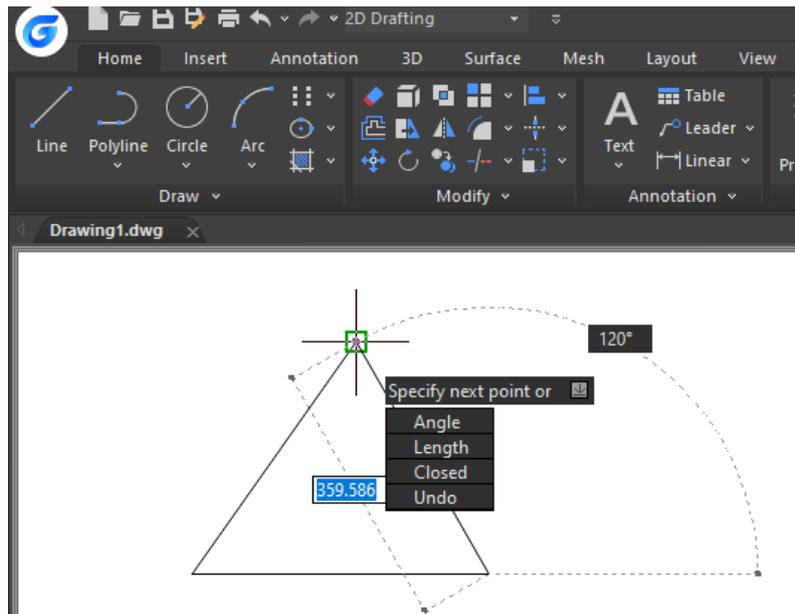
Draftsight doesn't support dynamic input.
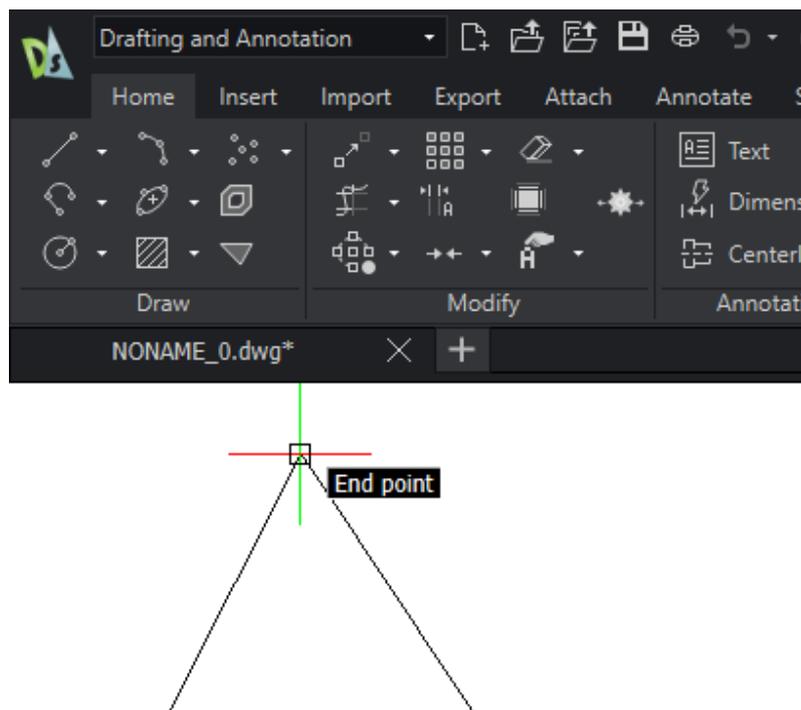
● Function Arrangement

The command panel of GstarCAD arranges the position of the buttons according to their frequency of use. And the command icons are ACAD alike and easy to identify.


The icons in DraftSight are hard to identify and the arrangement of the icons is a mass.
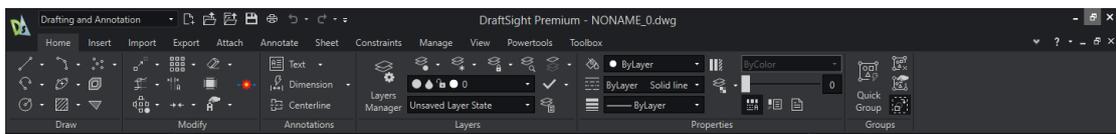
5. User Experience

- Interface

GstarCAD offers you a concise and familiar interface. It provides 6 color themes in total, and the combination of attractive color themes and icon designs creates a most comfortable work environment for you.

Interface switching in GstarCAD is simple and you can see the effect without closing the software. It's also available to display and rearrange elements like the toolbars, display the command bar, switch between workspaces, change the interface themes, customize your own interface and enable the status bar and menu bar.
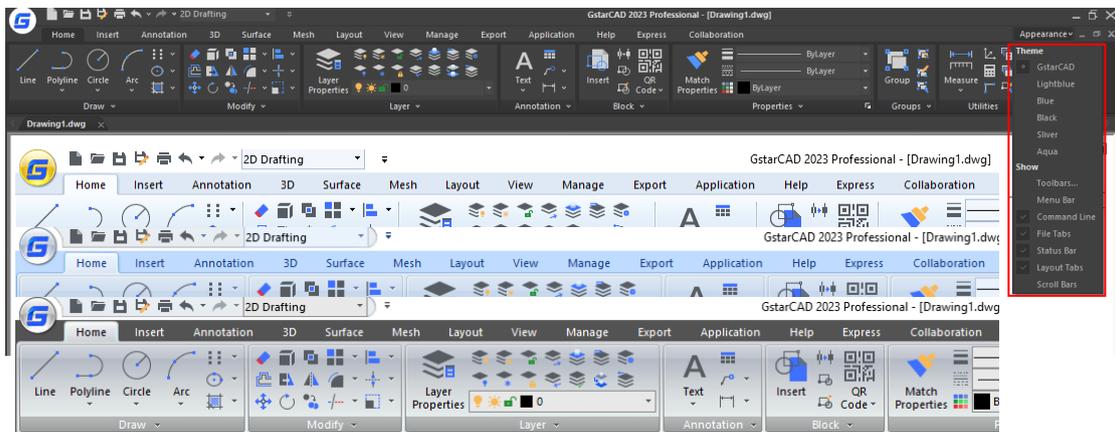
DraftSight does not support as many interface color themes as GstarCAD, it offers the light and dark interface themes. You have to restart DraftSight to make the color theme activated.
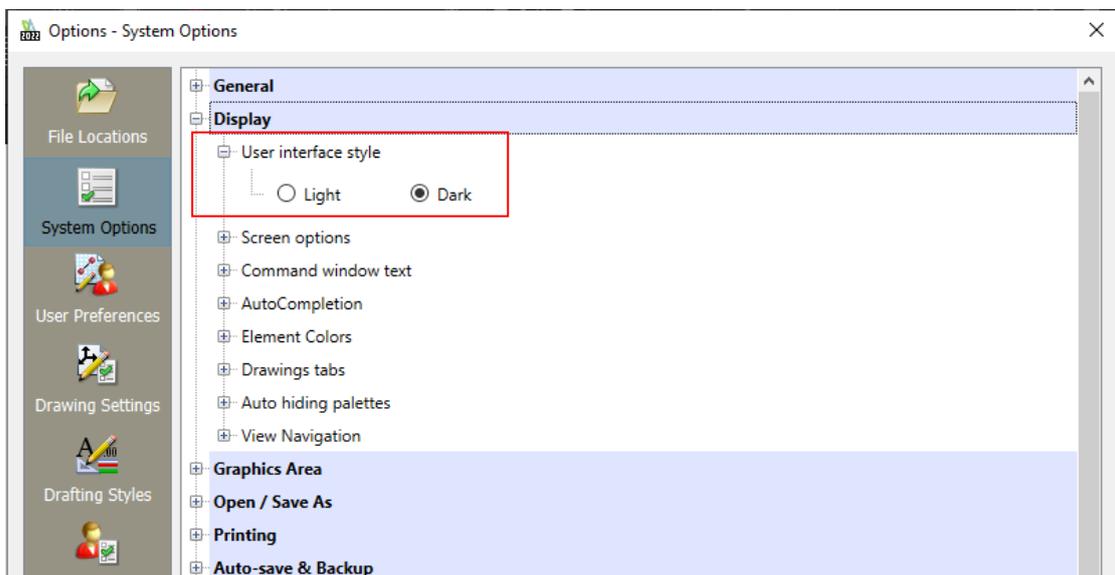
- **Structure**

GstarCAD provides you a concise and user friendly interface, DraftSight still uses the traditional tree structure with the complex hierarchy, time consuming to find the options.
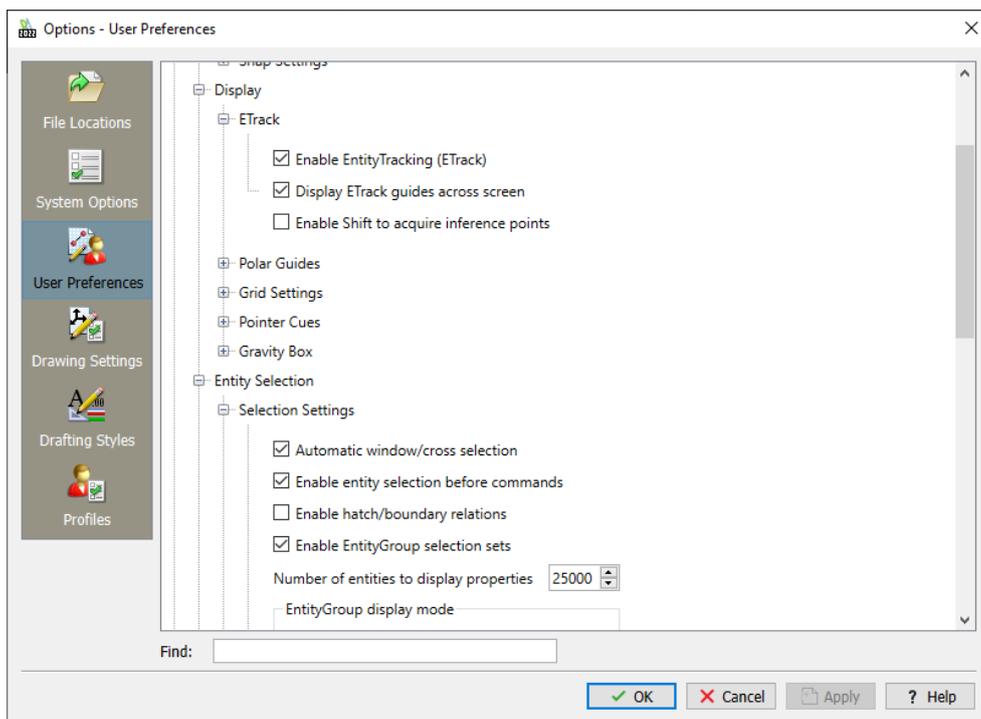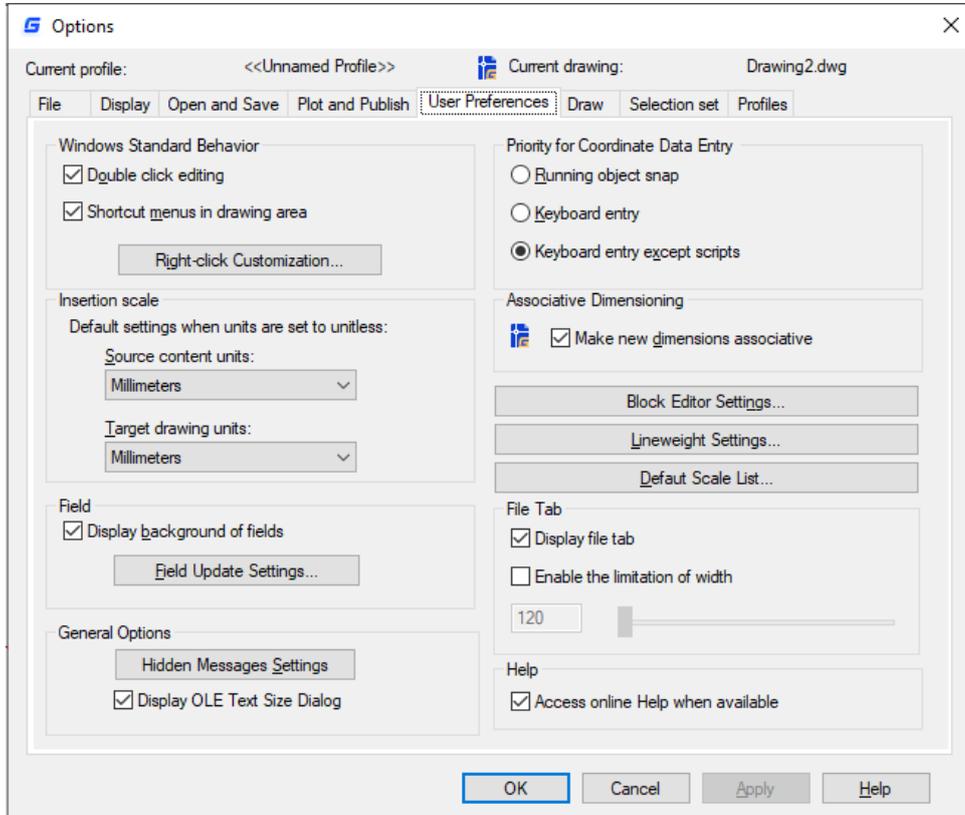
● Quick Access Toolbar

In GstarCAD, the commands displayed in the quick access toolbar can be customized directly in the drop-down menu and more commands can be added, also can be set to display below the ribbon or minimize the ribbon. The quick access toolbar can also be displayed in the traditional classic interface to facilitate switching between workspaces.
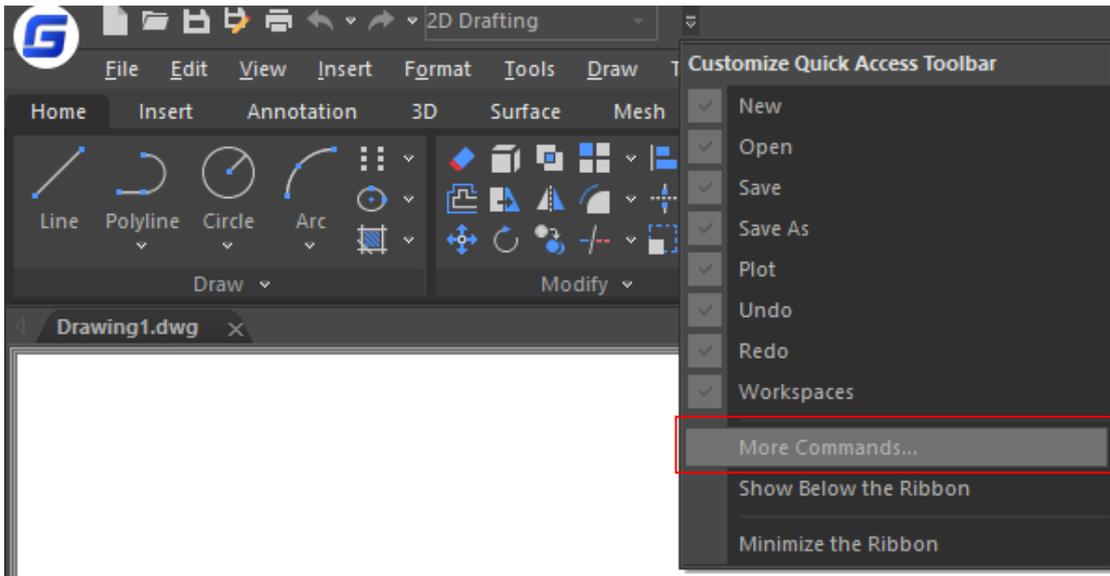
The quick access toolbar of DraftSight does not provide customization functions, what you can choose only the listed options and it does not support the ribbon display options.
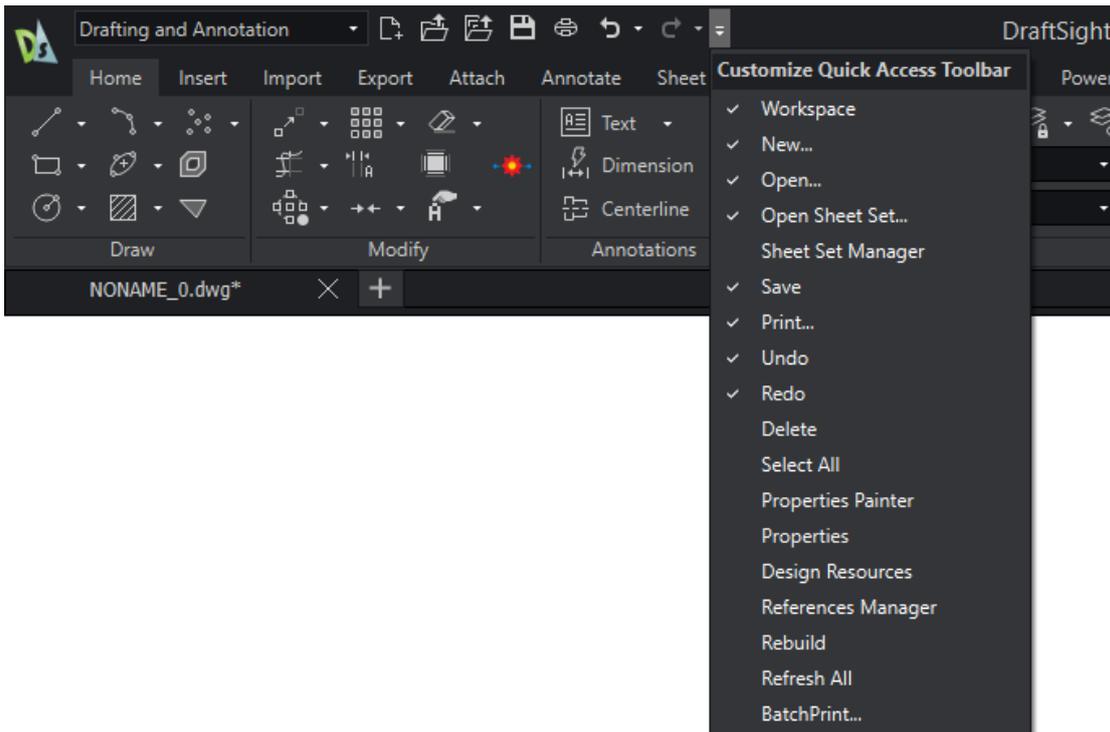
● **Context Menu for Polar Tracking**

GstarCAD provides commonly used polar axis incremental angles in the right-click menu, and users can

directly select them in the menu without opening the draft setting dialog box.

However, you have to open the Draft Settings dialog box to choose options or set the incremental angles in

DraftSight.
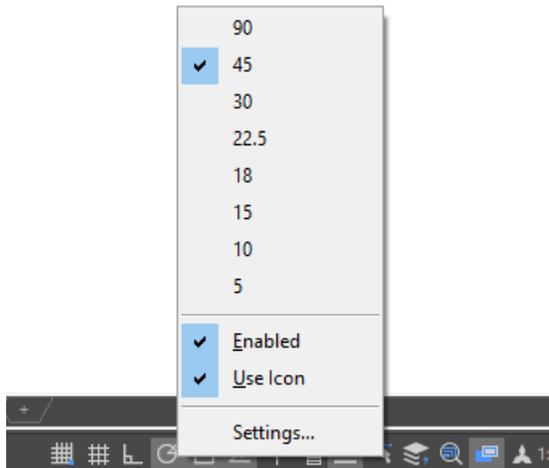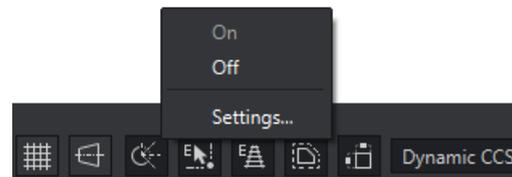
GstarCAD   DraftSight

● **Text Display mode on Status bar**

GstarCAD not only supports the icon display on the status bar, but also supports text display, you can choose

any display method according to your preference.

GstarCAD

DraftSight only supports the icon display on the status bar.
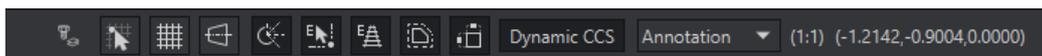
DraftSight

6. Conclusion

Through the above comparison, we can make the following conclusions: GstarCAD 2024 is far advantageous in terms of compatibility, functionality, user experience and so on. Compared with DraftSight 2023, GstarCAD is a better choice.

GstarCAD 2024

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