



CUIX Zen – Customizing the CUI

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AC3274 The ability to tailor the menu system in Autodesk® AutoCAD® software to automate commands or to create a personal workspace has always been the product's forte. Back in the day, we could easily modify the menu system with a text editor. Things change. The AutoCAD Custom User Interface File (CUIX) is a tad more complex and can be daunting to even a seasoned AutoCAD veteran. In this class, you learn how to add commands to AutoCAD, creating new tabs and panels for your workspace. You learn to add a custom partial menu to the main customization file and how to incorporate the enterprise CUIX.

Learning Objectives

At the end of this class, you will be able to:

- Add partial menus and enhance workspaces
- Work with custom commands
- Customize the Ribbon
- Setup an Enterprise CUIX

About the Speaker

Employed at Autodesk as a Frontline Technical Support Specialist, Volker has been working with AutoCAD since 1991 (that's R10 in CAD Speak). Working for various Autodesk Resellers since 1997, Volker has had extensive experience troubleshooting and supporting Autodesk products. In addition to having a background in CAD drafting and Management, Volker has instructed basic to advanced AutoCAD technical classes including sessions at AUGI CAD Camp and Autodesk University.

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Introduction

AutoCAD has always had a very customizable interface which allowed users to modify their workspace through customization; this could be done through coding or tailoring the toolbars and menus or a combination of both in order to have the most commonly used tools readily available.

Prior to AutoCAD 2006 one would customize the menu system using a text editor which meant that one had to type the code, then compile the menu. If a mistake was made, the user would need to modify the menu and recompile it again. This process changed with the introduction of the CUI (Customized User Interface) in AutoCAD 2006. Autodesk changed the menu format from a text format to an XML (Extensible Markup Language) format which provided a GUI (Graphical User Interface) which let users modify the menu system within AutoCAD and immediately apply and see the changes. With AutoCAD 2010, Autodesk introduced the CUIX in AutoCAD. The CUIX is still the CUI; the difference is that the CUIX was designed for faster loading of the menu system by splitting the content of the CUI and the Ribbon components introduced in AutoCAD 2009 into several files, yet containing them all in one compressed container.

All that being said; many users will argue that it was simpler to modify the menu system using a text editor. There are pros and cons for both systems; the intent of this lecture is to give you a glossy overview of how easy it can be to customize the user interface for both the workgroup as well as the individual AutoCAD user. To be blunt, one could spend a day talking about all the nuances, components, tweaks and troubleshooting techniques; since this is only an hour long lecture, the handout is designed to give you step by step guides for creating and adding partial menus, creating your own custom commands for your menu, applying those commands to the Ribbon and finally creating a read-only Enterprise menu which cannot be modified.

Be sure to download the PowerPoint of the presentation which will have additional content.

Getting started

It's a good idea to backup settings before beginning any customization as well as afterwards. The following quick topics cover some of the ways you can do this by exporting the AutoCAD profile as well as all other settings such as custom support paths and files. Additionally; when working with profiles you may wish to create Startup switches which will allow you to easily launch AutoCAD with a specific profile among other settings.

To Create or Copy the Profile

In AutoCAD change to an alternate user profile, you can do this as follows:

1. At the Command Line, type Options
2. In the Options dialog, select the Profiles tab
3. In the Profiles tab, select the current profile (there may only be one)
4. Click "Add to List" (This allows you to make a copy)
5. Give the copy a unique name and click Apply and Close
6. Select the newly created profile, Click Set Current
7. Click Reset
8. Click Apply
9. Click OK.

To Export a profile

In AutoCAD Export the user profile, you can do this as follows:

1. At the Command Line, type Options
2. In the Options dialog, select the Profiles tab
3. In the Profiles tab, select the current profile (there may only be one)
4. Select "Export"
5. Give the file a unique name and browse to a preferred location (such as a backup drive)
6. Select Save
7. Select OK to exit Options

To Import a profile

In AutoCAD Export the user profile, you can do this as follows:

1. At the Command Line, type Options
2. In the Options dialog, select the Profiles tab
3. In the Profiles tab, select Import
4. Browse to the saved registry file (profilename.arg)
5. Select Open
6. Select the newly imported profile, Select Set Current
7. Click Apply
8. Click OK.

Exporting and importing custom settings

Export your settings to a file in case you need to reinstall in the future. This export does not back up the application only your settings but it can be a time saver.

Export your settings:

Windows Start Menu ->> All Programs ->> Autodesk ->> AutoCAD 2014 ->> Migrate Custom Settings ->> Export AutoCAD 2014 Settings.

Importing your settings:

Windows Start Menu ->> All Programs ->> Autodesk ->> AutoCAD 2014 ->> Migrate Custom Settings ->> Import AutoCAD 2014 Settings.

How to Add a Startup switch

To add switch settings to the shortcut properties, you need to change the command line text associated with the icon or shortcut.

To start the program with a command line switch:

1. Right-click the program icon on the Windows desktop. Click Properties.
2. In the AutoCAD Properties dialog box, on the Shortcut tab, in the Target box, edit the parameters for the switch using the following syntax:

```
"drive:\path\acad.exe" /product ACAD /language "en-US" ["drawing name"] [/switch "name"] [/switch "name"]
```

For complete information, see the Autodesk technical document TS22957, [How-to: Startup Switches](#)

Adding AutoCAD Profiles

A profile is a collection of user settings for AutoCAD or another Autodesk product. Profiles are not used by all products. When you specify a profile on the Specify User Preferences page during the deployment process, it ensures a standard configuration for all computers that use that deployment to install the product.

Profiles can contain configuration settings for almost anything that is not a drawing-based system variable. For example, a profile can contain support paths, grip settings, and print settings. Profiles are created on the Profiles tab of the product's Options dialog box. (Excerpt from the Autodesk Network Administrators Guide)

1. Type OPTIONS at the command line
2. In the Options dialog set the Profiles tab current
3. In the Profiles tab select the current profile, then select "Add to List..."
4. Name the profile "AU2013E"
5. Select "Set Current"
6. Select "Add to List..."
7. Name the profile "AU2013M"
8. Set the AU2013M profile current.
9. Select "Apply" and "Close" to exit the Options dialog

Working with partial menus

About Creating and Loading a Partial Customization (CUIX) File

Loading and using a partial CUIX file allows you to create and modify most user interface elements in a separate CUIX file without changing the customization in the main CUIX file.

You can create a partial CUIX file to store your user interface customization with the Transfer tab of the Customize User Interface (CUI) Editor. After a CUIX file is created, it can be loaded or unloaded from the Customize tab in the Customize User Interface (CUI) Editor. You can also load and unload CUIX files with the CUILOAD and CUIUNLOAD commands from the Command prompt. The order in which partial CUIX files appear under the Partial Customization Files node in the Customize User Interface (CUI) Editor determines the order they are loaded in to the program. You can rearrange the hierarchy of the items to change the load order.

Commands and user interface elements can be added to the main CUIX file or a partial CUIX file that is loaded with the main CUIX file, but not the enterprise CUIX file. Before adding commands to a partial CUIX file, the partial CUIX file must be set as the working CUIX from the Customization Files drop-down list on the Customize tab of the Customize User Interface (CUI) Editor.

When a partial CUIX file is loaded, any workspaces defined in the file cannot be used. However, you could transfer a workspace defined in a partial CUIX file to the main CUIX file and then set it current. (AutoCAD Help Documentation)

Creating a new partial menu

1. Open the CUI (Customize User Interface) Editor
2. If necessary, expand the dialog selecting the button on the lower right corner.
3. Switch to "Transfer" tab
4. Under "Customizations in New File", select, "Create new customization file".
5. Save the file to your desired location and name it "AU2013". The CUIX extension is added automatically.
6. In the left pane select the newly created AU2013.CUIX from the drop down list.
7. Expand some of the branches by clicking on the + symbol. The CUIX is empty with the exception of placeholders.
8. The CUIX has been created but it has not been loaded.

Loading the partial menu

1. In the CUI editor switch to the "Customize" tab
2. In the top left pane, under "Customizations in All Files", scroll down and expand "Partial Customization Files" to view the partially loaded CUIX files.
3. Select and Right-Mouse click "Partial Customization Files", then select "Load partial customization file".
4. Browse to the folder where AU2013.CUIX is located, select the file and select "Open".

5. The partial menu will now appear in the Tree View pane.
6. Select "Apply" in the CUI editor to save your work.

Working with custom commands

There are numerous way to create custom commands. In this lecture I'm using simple macros. When using macros (as well as more complex coding), syntax is everything. This lecture is not about working with macros although they are being introduced; therefore I would encourage you to check out the AutoCAD Help documentation for additional information. The section About Command Macros will give you an overview of [macro basics](#).

Adding custom commands to the partial menu

1. In the "Customize" tab select the "All Customization Files" drop down list and set the AU2013.CUIX current.
2. The "Command List:" pane in the lower left corner of the CUI editor is now empty.
3. Next to the "All Commands Only" drop down select "Create a New Command".
4. In the "Properties" pane on the right, populate the fields as follows:
 - Name: Revision Cloud - Object
 - Description: Revision Cloud on Rev layer w/Object Rectangle
 - Extended Help File: <blank>
 - Command Display Name: RVC
 - Macro: ^C^C^C(setvar "clayer" "revcloud");Rectang;\Revcloud;S;C;O;\;
 - Tags: Revcloud,Revision,Cloud
 - Images (Small and Large): RVC.BMP
 - Select "Apply"
5. In the "Command List:" select "Custom Commands" from the drop down list to view the new command.
6. Note: The new command and that it resides in the "AU2013.cuix"
7. Repeat the procedure for the following command (**verify that AU2013.cuix is current**):
 - a. ENDPOINT MIDPOINT QUADRANT NODE
 - Name: END MID QUA NOD
 - Description: ENDpoint, MIDpoint, QUAdrant and NODe = OSMODE 27
 - Extended Help File: <blank>
 - Command Display Name: EMQN
 - Macro: 'Osmode;27
 - Tags: OSMODE,OSNAP
 - Images (Small and Large): OS27.BMP
 - Select "Apply"
 - In the "Command List:" select "Custom Commands" from the drop down list to view the new command.
 -
 - b. ENDPOINT MIDPOINT CENTER NODE
 - Name: END MID CEN NOD
 - Description: ENDpoint, MIDpoint, CENter and NODe = OSMODE 15

- Extended Help File: <blank>
- Command Display Name: EMCN
- Macro: 'Osmode;15
- Tags: OSMODE,OSNAP
- Images (Small and Large): OS15.BMP
- Select "Apply"
- In the "Command List:" select "Custom Commands" from the drop down list to view the new command.

Working with the Ribbon

The Ribbon has a fairly nested structure. The process for adding a command to a panel includes several steps regardless of whether you are using a custom or internal AutoCAD command. First one must create a Tab, then create a panel. Commands need to be added to the panel and the panel needs to be added to the Ribbon tab.

Adding Ribbon tabs and panels

1. In the "Customize" tab select the "All Customization Files" drop down list and set the AU2013.cuix current.
2. Expand the "Ribbon" branch
3. Select the "Tabs" branch
4. Right-Mouse Click and select "New Tab"
5. Name the tab "AU2013 Custom"
6. Select the "Panels" branch
7. Right-Mouse Click and select "New Panel"
8. Name the panel "AU2013 Annotate"
9. Repeat the process to create a panel named "AU2013 OSNAP"
10. Select "Apply" in the CUI editor to save changes

Adding commands to the new panels

1. If necessary set the "AU2013.cuix" current
2. Select a command and drag it to the appropriate panel, dropping it in "Row 1"
3. Add "Revision Cloud - Object" to the "AU2013 Annotate" panel
4. Add "END MID QUA NOD" and "END MID CEN NOD" to the "AU2013 OSNAP" panel
5. Select "Revision Cloud - Object" and in the "Properties" pane and change "Button Style" to "SmallWithText"
6. Repeat for the remaining custom commands
7. Select "Apply" in the CUI editor to save changes
8. Add a second row to the "AU2013 OSNAP" panel
9. Drag one of the AutoCAD commands such as DSETTINGS and drop it on the new row
10. Note the panel preview
11. Drag and drop both panels to the "AU2013 Custom" tab
12. Select "Apply" in the CUI editor to save changes
13. The CUI editor may close to update the Workspace settings.

Adding the partial menu to your Workspace

1. In the "Customize" tab select the "All Customization Files" drop down list and set the ACAD.cuix current.
2. Select the "Workspaces" branch and select "Drafting & Annotation"
3. Right-Mouse click and select "Duplicate"
4. Rename the Workspace "AU2013 Drafting & Annotation" (Click to edit)
5. Right-Mouse click "AU2013 Drafting & Annotation" and select "Set Current"
6. Right-Mouse click "AU2013 Drafting & Annotation" and select "Set Default"
7. Select "Apply" in the CUI editor to save changes
8. The CUI editor will close to update the Workspace settings
9. Launch the CUI editor
10. Verify that ACAD.cuix is the current customization file in the "Customize" tab
11. Select the Workspace "AU2013 Drafting & Annotation"
12. Note the top right pane in the CUI editor, "Workspace Contents"
13. Select "Customize Workspace"
14. In the "Customizations in All Files" pane expand the "Partial Customization Files" branch
15. Expand the "AU2013" branch
16. Expand the "Ribbon" branch
17. Expand the "Tabs" branch
18. Select the checkbox next to "AU2013 Custom"
19. Select "Apply" in the CUI editor to save changes
20. The CUI editor will close to update the Workspace settings
21. Note that the custom tab has been added to the Ribbon
22. Select "AU2013" and set the tab current, note the two panels.
23. Note that only one command appears on the "AU2013 OSNAP" panel, this is to demonstrate the second row which was added. Select the down arrow next to the panel title. Note the location of second command.

About Workspace Customization

Workspaces control the display of sets of user interface elements, and they are typically organized by function or workflow.

You can create and manage workspaces from the user interface with the WSSAVE command or Customize User Interface (CUI) Editor. Customization options for workspaces include:

- Creating a new workspace
- Setting a workspace current or as the default workspace
- Changing the display properties for palettes
- Display ribbon tabs and the Quick Access toolbar
- Display pull-down menus and toolbars

Modifying the Workspace

Some settings are easier to change through the User Interface (UI), for example I prefer to have the Properties palette docked to the left and open. Additionally, I like to see what is happening on my Command Line. I'll make those changes and save them the UI using the WSSAVE command.

1. Type WSSAVE at the command line.
2. Select "AU2013 Drafting & Annotation" from the "Save Workspace" dialog dropdown to save the workspace.
3. Once the workspace is saved type WSSETTINGS to open the "Workspace Settings" dialog.
4. In the dropdown list you can set "My Workspace = "AU2013 Drafting & Annotation" to make it the default. This is an alternative to the same function which was used in the CUI editor.
5. Verify that "Do not save changes to workspace" is selected.
6. Select OK
7. Test the workspace by switching back and forth between AU 2013 Workspace and one of the others.

Working with the Enterprise CUIX

The Enterprise CUI is intended for a workgroup environment. The intent is for a CAD manager to customize the CUI according to the organizations standards, once customized the cui as an Enterprise file is read only. Any CUI can be made an Enterprise CUI.

Adding an Enterprise CUIX

1. Type OPTIONS at the command line
2. In the Profiles tab set the AU2013E profile current.
3. Switch to the Files tab
4. In the tree view pane scroll to, and expand "Customization Files" by selecting the (+) plus symbol to the left, then expand "Main Customization File" and "Enterprise Customization File".
5. Expand "Main Customization File"
6. Select and "Left Mouse click (or press F2 Key) to edit.
7. Copy the existing path pointing to the acad.cuix to the Windows Clipboard.
8. Browse to the location of your AUSER2013.cuix and select it.
9. Select "Open".
10. AUSER2013 will now appear as the Main Customization File.
11. Select and "Left Mouse click (or press F2 Key) to edit the pointer (.) for the Enterprise CUI. The "." Indicates "None".
12. Paste the previously copied path pointing to the acad.cuix. (or browse to its location and select it)
13. Select Apply
14. Select Close

Tailoring the User workspace with an Enterprise CUI

Because the Enterprise and its partial menus are read-only we will copy the Enterprise workspace to the AUSER2013.cuix which can then be modified.

1. Open the CUI editor
2. In the "Customization in All Files" panel
3. Locate "ACAD (Enterprise - read-only)
4. Select the workspace "AU2013 Drafting & Annotation"
5. Right-Mouse click and select Copy
6. Scroll up to AUSER2013
7. Select "Workspaces"
8. Right-Mouse click and select Paste
9. The Workspace is added to the AUSER2013 cui
10. Rename the Workspace to differentiate it from the original
11. Right-Mouse click the workspace to set it current
12. Right-Mouse click the workspace to set it as default
13. Select Apply to update the CUI.
14. Now that this workspace has been added; in addition to the Enterprise tools the user is able to customize items of their choosing.

Conclusion

AutoCAD is most powerful when customized for the end-user as well as the organizations standards. As you have seen this was a fairly straight forward process. Keep in mind that when applying this to your organization or if you are customizing a single seat of AutoCAD, that there are many external factors to account for. Always backup configurations and test in a non-production environment.