Customizing the User Interface Through the CUI Editor

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The Customize User Interface editor is the main gateway for customizing the AutoCAD software user interface. Customizing the AutoCAD interface helps streamline the design process and enforce company standards.

In this white paper, you learn how to use key features of the Customize User Interface (CUI) editor. It starts by demonstrating how to create a command. Next, it shows how to assign the command to different user interface (UI) elements. Then you see how to manage the display of UI elements with Workspaces. Last, it shows how to use the Transfer tab of the CUI editor to import customization from previous releases.

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CUSTOMIZING THE USER INTERFACE THROUGH THE CUI EDITOR
Understanding the Layout of the Customize Tab of the CUI Editor

The Customize tab of the CUI editor consists of four main panes. Following is an overview of these panes and their functionality.

**Customizations In Pane**

Use the Customizations In pane to navigate the user interface elements of the loaded customization files. In this pane you create new user interface elements such as workspaces, toolbars, menus, shortcut keys, and so on.

Along the top of the pane are tools for loading partial customization files, saving changes to the loaded customization files, and controlling which user interface elements are displayed in the tree view. Use the drop-down list to open a CUI file, which loads the partial customization file and specifies which CUI files are displayed in the tree view.

The tree view in the lower part of the pane is where you create new user interface elements such as toolbars and buttons. Along with creating elements in the tree view, you also specify the order in which menu items and toolbar buttons appear.

Once you have created a new custom command in the Command List pane, you drag it onto a user interface element to create the association between the element and the command.

**Command List Pane**

Use the Command List pane to create and modify both custom and standard commands that are part of the loaded customization files. Use the New button on this pane to create a custom command before associating it to a user interface element such as a toolbar or menu.

Along the top of the pane is a drop-down list containing categories that determine which commands are shown in the Command list box below it. By selecting a category from the list, you can make locating a specific command easier. The list box in the lower part of the pane displays the loaded commands, the image that is associated with each command, and the customization file that contains each command.
Properties Pane
The Properties pane is a part of what is called the Dynamic pane. The Dynamic pane, which runs the whole length of the right side of the CUI editor, changes based on what type of item is selected in either the Customizations In or Command List pane.

The Properties pane is dynamic too, as it displays the properties specific to the type of item selected. The following image displays the properties of a command selected in the Command List pane. If the command is added to a menu, some of the values for these properties may be different.

The Name property that is used as the caption for the menu item can be different from the name assigned to the command. As you progress through the step-by-step instructions in this white paper, you use different variations of the Properties pane.

Button Image Pane
The Button Image pane, also part of the Dynamic pane, is used to create custom images and associate standard images with a command. The CUI editor displays the associated image with both a toolbar button and a menu item in a pull-down menu. The image associated with a command is displayed in the center of the pane. Clicking this button displays the Button Editor dialog box, just as in previous releases of AutoCAD software. Along the left side of the pane are three buttons. Use these buttons when assigning one of the standard images from the list along the right side of the pane. These three options correspond to combinations of assigning a Small, Large, or both sizes to the selected command. As you learn the different elements and work with Workspaces, you use many of the other Dynamic panes in the CUI editor.

Now that you have a general overview of each of the four main panes of the CUI editor, you next create a custom command.
U

Custom commands can easily be created to add functionality to both menus and toolbars, and any command can be assigned to a shortcut key. The following sections show you how to implement these capabilities. Creating a Command

Commands are used to button or select an item from a menu. The following steps demonstrate how to create anew command for creating a rectangular revision cloud.

1. Start the Customize User Interface editor by choosing Tools menu. As an alternative, enter CUI at the command line.

2. Creation of a new command with the default name “Command1.” If a command with that name already exists, AutoCAD automatically assigns the next anumber so that the name is unique.

3. Two new panes are displayed on the right side of the CUI editor, the Button pane and Properties pane.

4. the command’s function. Change the Name, Description, and Macro fields in Properties pane to match the following value

   places the cursor over a toolbar button or the caption of a menu item. Change the value for the Name field to Draw Rectangular Revcloud.

   The value in the Description field is displayed on the status bar to give the user an idea of what the tool is used for. The description is displayed when the user places the cursor over a toolbar button or a menu item. Change the value for the Description property to Creates a Rectangular Revision Cloud.

   The value in the Macro field is what gets executed each time the toolbar button, menu item, or key combination is used. Change the value for the Macro field to ^C^C._RECTANG\_REVCL;_L;.

   The Element ID is provided by default. Unless this field must have a specific value because it will be referenced programmatically, you do not need to change it.

5. The Name and Description fields should now be bold. This signifies that a change has been made to a field(s) and the changes need to be saved. Click the Apply button at the bottom of the CUI dialog box.

6. Click OK to accept all changes and exit the CUI editor.

   The value that you assigned to the Macro field of the command enables you to create a rectangle in the drawing based on two specified points. After the rectangle has been created, the Revision Cloud command starts. The Object command option is used to convert the rectangle into a revision clou.

   4. Using the User Interface editor, you can learn more about creating a macro, open the AutoCAD help file, click the Search tab, and search for “assigning a Command to a Menu” and “creating a Command to a Menu” in the Windows-based applications. AutoCAD ed. Start the Customize User Interface editor, and activate the Customize tab. Right-click the Menus item, and choose New Menu. To edit an existing menu, select it 4. A new 1 is added under the Menus item. By default AutoCAD ed. As with creating a command, the Properties pane allows for defining the menu, changes need to be saved. Click the Apply button at the bottom of the CUI dialog box.

   7. Click OK to accept all changes and exit the CUI editor.

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   7. Click OK to accept all changes and exit the CUI editor.
used to select the rectangle. Tand in the Type in Word(s) to Search For field, type Create Macros. Click the List Topics button located just below the text box, and then double-click the topic Create Macros–Concepts in the list box. A Pull-down menus are common in Mic software is no different in this regard; it uses menus to organize commands based on functionality. In previous AutoCAD releases, many users found it difficult to customize menus because the customization took place outside the AutoCAD program and required special syntax. The following steps demonstrate how to create a new menu and assign a command to it.

1. Select the Menus item located in the Customizations In pane in the upper-left corner of the CUI dialog box.

2. Select the Menus item under the Menus item. A menu called Menu generates a unique name for the menu. The Properties pane is displayed with the properties associated to the new menu.

3. A submenu, or menu item. The new menu has some properties in common with a command: Name, Description, and Element ID.

   - The Name field is used for the caption when the menu is displayed along the top of the AutoCAD interface.

   - The Description field, which isn’t displayed anywhere in AutoCAD, is used to store information about the item, such as the purpose of the menu, the revision date, or who made the last update.

   - The Aliases field is assigned automatically with the next available number. Even though an alias is assigned automatically, it is a good idea to assign a unique value to prevent problems when transferring existing menus that might have the same aliases. To change the alias, click in the Aliases field. When the button with the

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ellipsis (…) appears, click it to display the Aliases dialog box. Click at the end of the last alias, and press Enter to start a new alias.

Since the new menu’s name is My Tools, type the value **MyTools** for the alias, and then click OK. You can assign additional aliases if you want by clicking the button with the ellipsis (…) located at the right end of the field. Aliases are required to access the menu programmatically and to give it a unique identity.

6. Select Draw Rectangular Revcloud from the list box in the Command List pane. Following are a couple of ways to make finding a command easier.

- Type the first letter (or first couple of letters) to navigate through the listing. Then scroll to the command of interest.
- Use the Categories drop-down list. Categories allow for finding commands by function or classification. To work with a command that you previously created, select Custom Commands from the Categories drop-down list. This lists all the commands that you have created in the CUI editor.

7. Once you have selected the Draw Rectangular Revcloud command, hold down the left mouse button over the command and drag it onto the new MyTools menu.

8. When you have positioned the command over the MyTools menu, release the left mouse button to add the command to the menu.

9. Click the Apply button to save the changes. If you click the title bar along the top of the CUI dialog box and drag the dialog box down, you see that the new menu is displayed next to the Help menu.

10. Select the Draw Rectangular Revcloud command from the MyTools menu. You should see the properties that you assigned to the command when you first created it. Since the command is associated with a menu, you need to add an ampersand to the command name so you can access it from the keyboard. In the Name field on the Properties pane, change the value to &Draw Rectangular Revcloud.

11. Click OK to accept the changes and exit the dialog box.

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2. Select Draw Rectangular Revcloud from the My Tools menu to test the macro. Insert a separator bar between menu items for grouping commands, choose Insert.
1. You can create flyouts under a menu the same way that you created a new menu. Instead of choosing New>Menu from the context-sensitive menu, you choose Sub-menu. If you want to insert Separator from the context-sensitive menu. The separator is inserted below the selected menu item. 

Assigning a Command to a Toolbar Like menus, toolbars are common in most Windows-based applications. AutoCAD software contains a variety of toolbars that are organized by functionality. Toolbars provide faster access to commands than do menus, but they take up space on your screen. To use toolbars efficiently, you must find a balance between the number of toolbars and the available drawing area. Unlike menus, in previous releases of AutoCAD software it was possible to customize toolbars within the application using the Customizecommand. The follow command to it.

1. Start the Customize User Interface editor, and activate the Customize tab. Right-click the Toolbars item in the Customization In pane, an

To edit an existing toolbar, select it under the Toolbars item. By default AutoCAD generates a unique name for the toolbar. ThProperties pane is displayed with the properties associated with the new toolbar. The new toolbar shares some properties wa menu:

**Name**

Change the value in the Name field to Tools. This is the na

the title bar of the toolbar when it is floating onscreen. The Description field, which isn’t displayed anywhere in might store information about the purpose of the toolbar, revision date, or who made the last update. Use the On by Default property to determine if the toolbar should be displayed. Tffects only th

CUSTOMIZING THE USER INTERFACE THROUGH THE CUI EDITOR 8 8 the toolbar is arranged onscreen when it is ed aded into AutoCAD software. ws that the tools should be on when 5. ane. ols the toolbar. ane above the Properties 8. g box. d flyouts on a toolbar, right-click the toolbar, and choose e menu. The separator bar is inserted below the image not only on a toolbar button, but also next to an item must be 2. vcloud from the list box. ick log box. It select the Grid check box to disp watches along the right side to choose which color to use when selecting pixels to create the image.
is subsequently managed by either the user’s AutoCAD profile or the current Workspace. The Orientation field determines how
 initially loaded into AutoCAD. The Orientation field can be one of five values: Floating, Top, Bottom, Left, or Right.
  ■ The Default Location fields are used to determine where the toolbar is to be docked or floating after being lo
  ■ The Rows field determines the number of ro

the toolbar is floating.
  ■ Add the alias MyTools to the Aliases field. Select Draw Rectangular Revcloud from the list
  box in the Command List p

6. Hold down the left mouse button over the command and drag it onto the new My Tools toolbar. Release the left mouse button to add
the command to

7. Under Toolbars, select the My Tools toolbar. A Preview p

 pane gives you a general idea of what the toolbar looks like. Click OK to accept the changes and
 exit the dialo

9. Select Draw Rectangular Revcloud from the My Tools toolbar. It should work just like it did when you tested it from the My Tools
 menu. You can create flyouts on a toolbar by dragging an existing toolbar onto another toolbar. If you want to group buttons an

Insert Separator from the context-sensitiv
selected toolbar item. Associating an Image to a Command AutoCAD 2006 can display an

on a menu. To display an image on a toolbar button or next to a menu item, it

associated to the command.

1. Start the Customize User Interface editor, and activate the Customize tab. In the Command
 List pane, select Draw Rectangular Re

3. In the Button Image pane, select one of the images from the list on the right. Then click the Edit button to display the Button Editor dia
 on Editor dialog box to reset the image space, and lay the grid. 5. Select the pencil tool at the
top of the Button Editor dialog box. Use the color s4. Click the Clear button in the
BuCUSTOMIZING THE USER INTERFACE THROUGH THE CUI EDITOR
6. Color the squares in the Button Editor dialog box to match those in the image at the left.

7. Click SaveAs. The Create File dialog box is displayed.

8. In the File Name field enter RECTANG-REV CLOUD. Browse to the folder C:\Documents and Settings\<user name>\My Documents. Normally, you save the images with the customization file. The default location for the acad.cui file is C:\Documents and Settings\<user name>\Application Data\Autodesk\AutoCAD 2006\R16.2\enu\support. Click the Save button.

9. Click Close to exit the Button Editor dialog box.

10. Select the Small image field in the Properties pane. A Browse button is displayed at the right end of the field. Click the button with the ellipsis (…) to display the Select Image File dialog box. Select the rectang_revcloud.bmp file that you created in step 8. Click Open.

11. Repeat step 10 for the Large image.

12. Click OK to accept the changes and exit the CUI dialog box. Notice that the icon on the toolbar has been updated. What about the command on the MyTools menu? The image is associated there as well because the relationship between the command and the UI elements is maintained as links and not as static values.

The previous steps took you through the process of creating a custom image, which you will most likely do when creating new commands. You can use one of the standard images located along the right side of the Button Image pane, too. To do this, choose one of the three options: Large, Small, or Both. These options are directly related to the Small image and Large image properties of the command. Once you have selected the property or properties to assign to the image, select the image from the list on the right side. The image name is then assigned to the field(s) that corresponds to the option you selected before picking the image.

**Assigning a Command to a Shortcut**

Create a toolbar button or menu item. Shortkeys are located under the Keyboard Shortcuts node in the Customization pane. When the Keyboards Shoris selected, the Shortcuts pane is displayed. This pane displays all the shortcut keys and temporary overrides defined in the main and enterprise customization files, along with any files that have been loaded as partials. It is possible to sort the keyboard shortcuts in the Shortcut pane by clicking the Name, CUSTOMIZING THE USER INTERFACE THROUGH THE CUI EDITOR.
Keys, Type, and Source columns along the top of the pane. Use the pane to identify whether a key combination is already assigned to an item; use the Keys field to assign a key combination to a new item as an alternative to using the Key(s) property in the Properties pane. The Shortcuts pane also allows for copying all the keyboard shortcsthe clipboard for pasting into an external document and printing. Follow these steps to create a new shortcut key: 1. Start the Customize User

2. In the Customizations In pane, click the plus (+) sign next to Keyboard Sho

3. In the Command List pane, select Draw Rectangular Revcloud from the list box.

4. Drag the command onto the Shortcut Keys item under the Keyboard Shortcut item.

Release the mouse button to add the command. The Properties pane and the properties of the com

the Properties pane, follow these steps to assign a key combination to the Key(s) field. In the Properties pane, select the Key(s) field. Because you can’t edit the field

directly, click the button with the ellipsis (…) at the right end of the field to display the Shortcut Keys dialog box. Click the left mouse button over the Press N
to the field so you can assign the key combination to execute the macro assigned to the command. Press the Ctrl key
appears in the field.

- Click Assign, and then click OK.
- Click OK to accept the changes and exit the CUI dialog box.

6. Test the shortcut key by holding down the Ctrl key and then pressing the I key. The macro assigned to the command will run.

Organizing the User Interface with Workspaces

Workspaces are one of the new features in AutoCAD 2006 for organizing the elements of the UI that are to be displayed onscreen. The elements that are controllable through a Workspace are toolbars, pull-down menus, and dockable windows. You can create and manage workspaces through the CUI and the Workspace toolbar. The following sections discuss how to use each of these methods. There is also a command called Workspace, but it won’t be discussed in this white paper. If you want to know how to use the Workspace command, see the AutoCAD help file.

Working with Workspaces in the CUI Editor

The CUI editor provides the greatest control over the way workspaces can be created and managed. Workspaces are saved in the CUI file and can be shared with others who use the CUI file. The following steps demonstrate how menus, toolbars, and dockable windows can be controlled through a Workspace.

1. Start the Customize User Interface editor, and activate the Customize tab.

2. Select the Workspaces item located in the Customizations In pane. Right-click the Workspaces item, and choose New>Workspace. To edit an existing Workspace, select it under the 10

CUSTOMIZING THE USER INTERFACE THROUGH THE CUI EDITOR 11 cion. By default
4. perties with other UI elements. The properties his is the name that 1 d to store 1 ith the Model Space 1 /Layout Tabs field controls whether the layout tabs are on, off, or are

- Menu interface is on, r using the current 5. The pane use a Workspace is the Workspace Contents 6. If all the toolbars or menus are to be part of the Workspace, select the box next to the • Menus ion n 0 Window
A new Workspace called Workspace1 is added to the Workspaces section in AutoCAD. The Properties and WorkspaceContents panes are displayed. The new Workspace shares some properties that it has in common are Name and Description. Change the value in the Name field to My Workspace. The Name field appears in the CUI under the Workspaces item, in the Workspaces flyout on the Window menu, the drop-down list on the Workspaces toolbar, and in the Workspace Settings dialog box (WSSETTINGS command). The Description field, which isn’t displayed anywhere in AutoCAD, is used to store information about the item. You might store information about the purpose of the Workspace, revision date, or who made the last update. The Start On field controls whether a drawing is displayed when the Workspace is applied. The Start On field is used to control whether the current setting when the Workspace is applied is active (Model), last used Layout tab active (Layout), or just the last used tab in general. The Mode setting when the Workspace is applied. The Screen Menus field controls whether the legacy Screen Menus are displayed. The Scroll Bars field controls whether the scrollbars are on, off, or using the current setting when the Workspace is applied.

Click the Customize Workspace button to define which toolbars and menus are to be part of the Workspace. The Customizations In pane changes to show which toolbars and menus are available. If you want to display only some of the toolbars or menus, click the plus (+) sign next to the main item and select the item(s) of interest. Select the following items:

- Toolbars
- Dimens
- File
- Modify
- Help
- My Tools
- Draw
- Dimensio
- Modify
- MyTools