



AC333-3: "I am a Mac and a PC": AutoCAD® for Windows® and Mac® – We Both Speak AutoLISP® and Command Line

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AC333-3: "I am a Mac and a PC": AutoCAD® for Windows® and Mac® – We Both Speak AutoLISP® and Command Line

About the Speaker:

Shaan has been a passionate user of AutoCAD®, first as a customer and now as a technology evangelist for over 18 years. He has been with Autodesk since 1998 and currently works with the AutoCAD family of products. Shaan was trained as a mechanical designer and has used many of the Autodesk® products as a customer prior to joining Autodesk. When not blogging, Shaan spends most of his time speaking with customers and gathering feedback and suggestions, which help shape future product development.

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In this class, you will learn about AutoCAD for Mac as well as the differences between AutoCAD for Windows and AutoCAD for Mac. I will be showing some of the common AutoCAD workflows and how they apply to AutoCAD for Mac specifically.

I am truly excited that Autodesk has developed and brought to market a Mac native version of AutoCAD. It has been a couple years in the making and has taken a monumental effort of going through several million lines of code and OS platform specific dependencies. Just because Apple switched to the Intel processor a few years back did not mean that there was a magical switch to get Intel based applications built for other operating systems up and running on Mac OS X; otherwise, you can be sure Autodesk would have used that option a few years ago.

I am really an agnostic OS platform person, in that I don't really care about which OS I am using as long as it runs the applications I use to complete the tasks I need to perform. I am excited that there is now a choice of the platform when running AutoCAD. Users can make the decision themselves instead of using a platform solely because an application they rely on is only available on that one. Choice is good! I do hope you are attending this class because your platform of choice is the Mac or perhaps you want to see what is on the other side of the platform fence.

AutoCAD for Mac was designed and developed for the Mac and AutoCAD user in equal amounts to hit the delicate balance of still being AutoCAD, yet the look and feel of a native Mac experience.

The first native Mac version of AutoCAD for Mac was developed for smaller customers, not the large enterprise. Autodesk looked at what was the most important features required by these Small to Medium sized Businesses "SMB" users. While not all features are included, some just did not make sense for the first release or relied on platform specific technology. There are also some features in AutoCAD for Mac that are not in the AutoCAD for Windows version. We will not be debating which platform is better or "cooler" as that is left to your own preference as it should be.

If you are worried that Autodesk has finally gotten rid of the Command line, then you can rest easy now and I won't torture you until later in this class.

The long loved AutoCAD Command line is included in AutoCAD for Mac.

Hardware and System Requirements

The most common questions I am asked is about hardware support. From those that already own a Mac *"is their system sufficient to run AutoCAD for Mac"*, and from those without a Mac is *"what Mac hardware should I get to be able to run AutoCAD for Mac"*.

The General Rule of Thumb is any Mac computer released after January 1, 2009 from the Mac Mini to the awesome powered Mac Pro workstations.



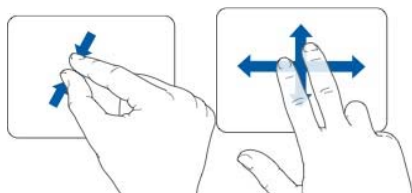
The most powerful machine is the Mac Pro all the way on the right, if you work on large drawings or complex 3D, this is the system you should be looking at.

The least capable system is the Mac mini. I have ran AutoCAD for Mac on the Mac mini but the performance is limited due to hardware and sufficient for mainly 2D drawing but the Mac mini is only \$600 and a great entry point to a Mac.

In the middle and what I use is the MacBook Pro. This is a powerful laptop and sufficient for most 2D and 3D in AutoCAD for Mac. I use the 15" MacBook Pro with the enhanced graphics and matte screen as opposed to the glossy but that is just my personal preference.

AutoCAD for Mac supports input devices like the Standard Apple mouse, Apple Magic Mouse, Apple Magic Trackpad and even IBM standard mice (2 buttons with or without a wheel) you may use on your PC.

Best of all, AutoCAD for Mac supports finger gestures using the Trackpad and Magic Mouse.
<http://support.apple.com/kb/HT3211>



Apple Mac OS X 101

Let's get you sounding like a veteran Mac OS X user by going over some terminology and user interface elements. OS X is pronounced "Mac OS Ten".

OSX Interface



Keys to Success

The keyboard on a Mac is a little bit different from a PC. The biggest will be getting used to using the Command key instead of Control for your most common commands, such as copy, paste, etc. Delete also works differently.

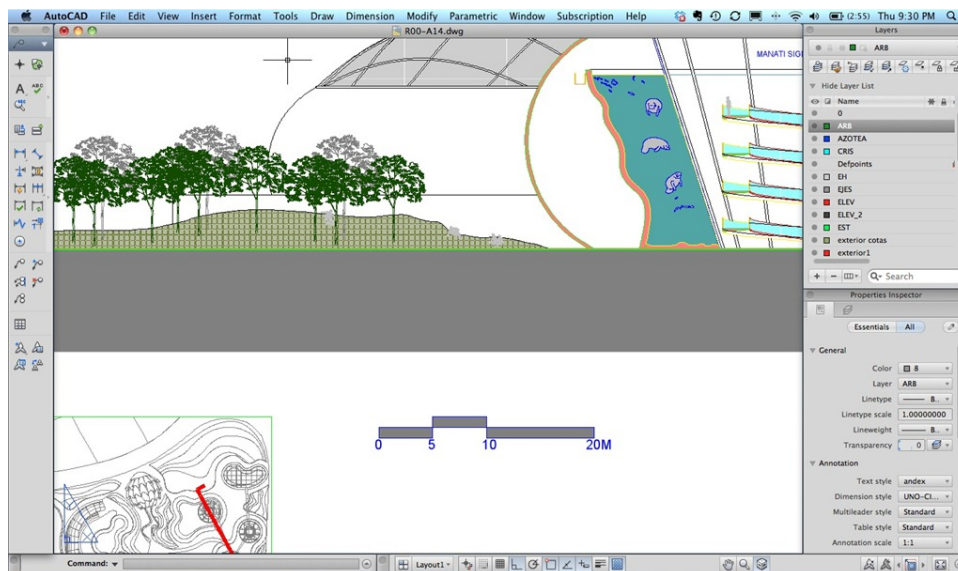
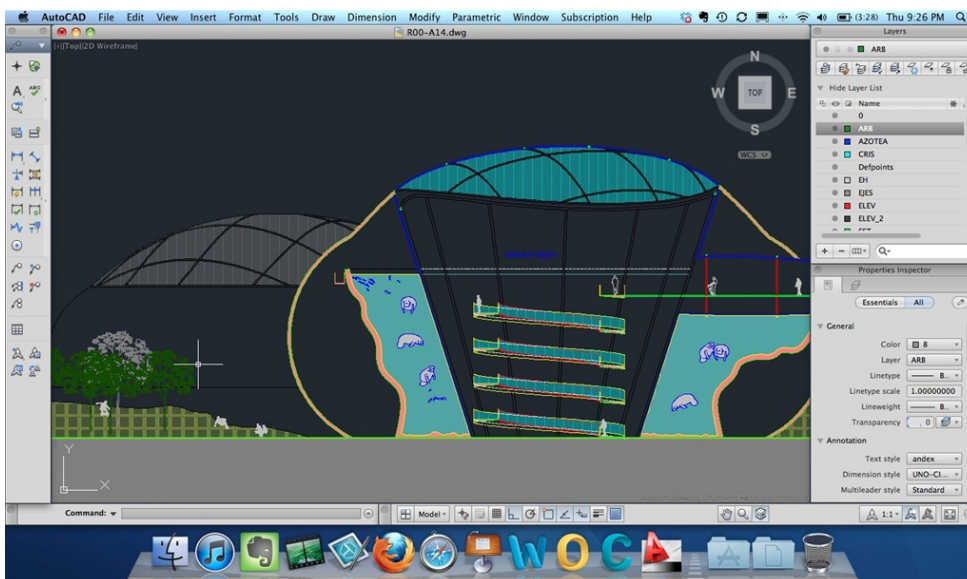


AutoCAD for Mac User Interface “UI”

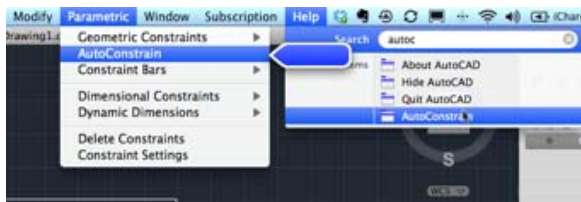
Let’s take a look at AutoCAD for Mac UI as that is the first thing you are faced with after launching AutoCAD for Mac.

AutoCAD for Mac was designed from the ground up and not a port of AutoCAD for Windows running on Mac OS X. Both AutoCAD and Mac users were consulted throughout the design and development process to make sure that while it was using the standard Mac features and workflows, that it was still AutoCAD under the hood.

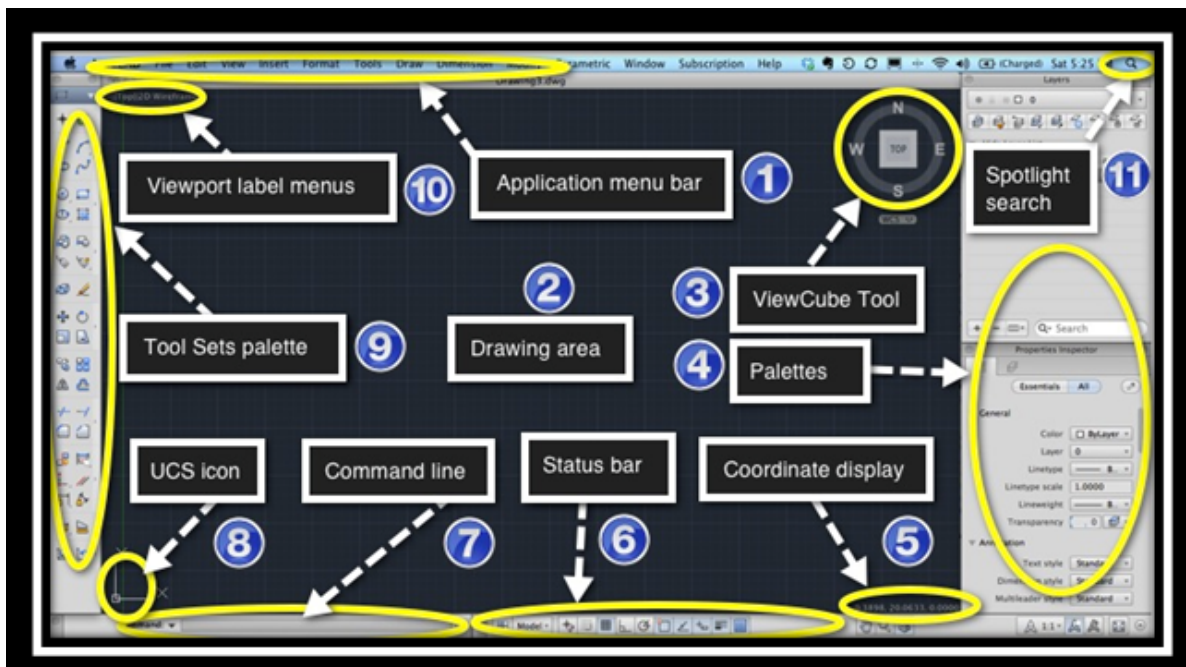
The graphical interface of AutoCAD for Mac takes full advantage of Mac OS X features including the different aspect ratio of the display so vertical palettes were used.



In my experience after meeting with AutoCAD users all over the world, the AutoCAD for Windows users take less than a few minutes to get off the ground and running with AutoCAD for Mac. This is not only due to the intuitive UI, some familiar AutoCAD interface features, but also the Command line support. Even in the Command line, you can use the familiar behaviors such as arrow up or down to navigate recent commands or press Tab to show matching command names such as entering “D” and then tabbing through all commands and system variables that start with “D”. You can also use the Help menu to locate commands that are not as frequently used. Clicking a command in the search results shows where it is located on the menu bar with a pointer to highlight its location.



AutoCAD for Mac Terminology



- 1. Application menu bar
- 2. Drawing area
- 3. ViewCube tool
- 4. Palettes
- 5. Coordinate display
- 6. Status bar
- 7. Command line
- 8. UCS icon
- 9. Tool Sets palette
- 10. Viewport label menus (also known as Viewport controls)
- 11. Spotlight search

Mac OS X Finder Window

Mac OS X has a feature known as Finder, which is similar to Windows Explorer on the Windows platform. In Finder there is a mode named Cover flow. Cover Flow allows you to visually scroll through preview images of documents similar to scrolling through album art on iTunes. You can view AutoCAD for Mac drawing previews using Cover Flow. I must say Cover Flow is awesome and gets Oohs and Ahhs from other OS users. Spotlight search is a seriously helpful and well implemented Mac OS X feature and AutoCAD for Mac uses it throughout the product from the main application menu to the Application Preferences dialog. Just use $\text{⌘}+\text{Spacebar}$ to search for drawings and more.

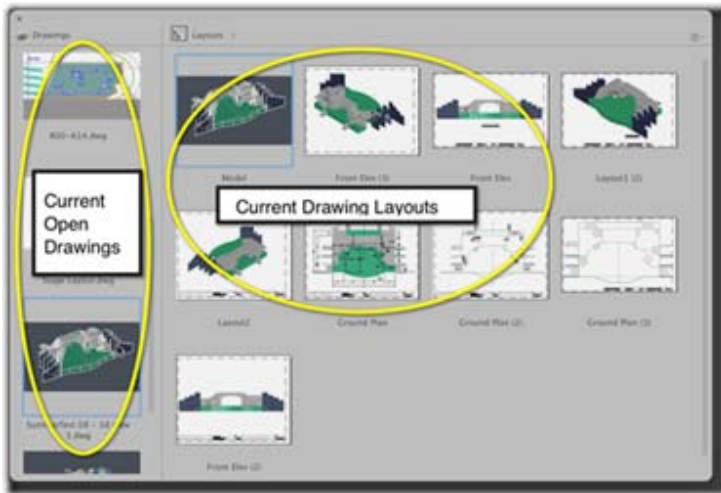


1. Spotlight search
2. Filename
3. Cover Flow scrollbar
4. Cover flow splitter to adjust preview size
5. Filename list
6. Directory > Active folder
7. Places sidebar item
8. Cover Flow pane toggle
9. Drawing (DWG) file preview

Now let's look at some of the features and workflows in AutoCAD for Mac

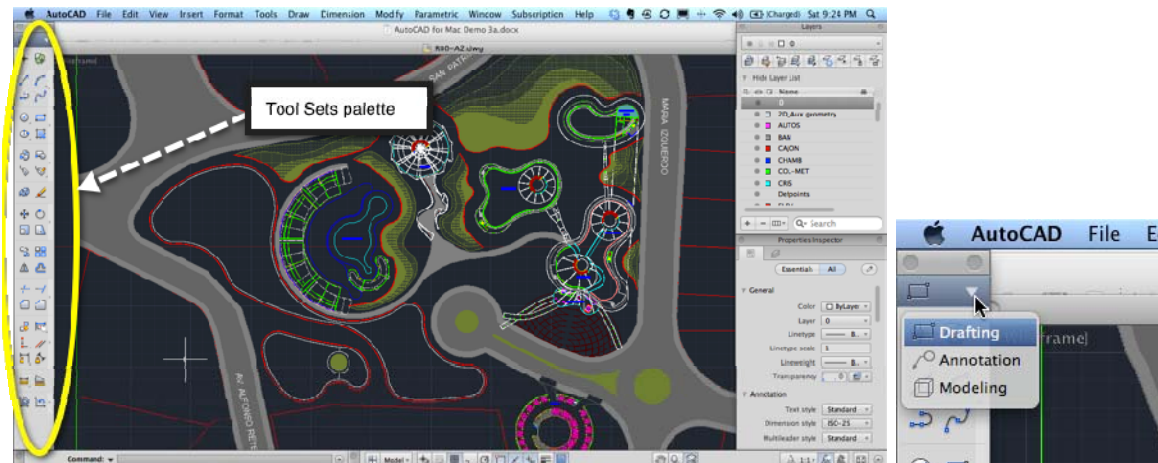
QuickView

I did not take the alphabetical route to features and just started at one of my favorite AutoCAD for Mac specific features, QuickView. This is not the same as the QuickView in AutoCAD for Windows. This is a real sweet spot in AutoCAD for Mac. You can see and visually scroll through all open drawings and their Layouts.



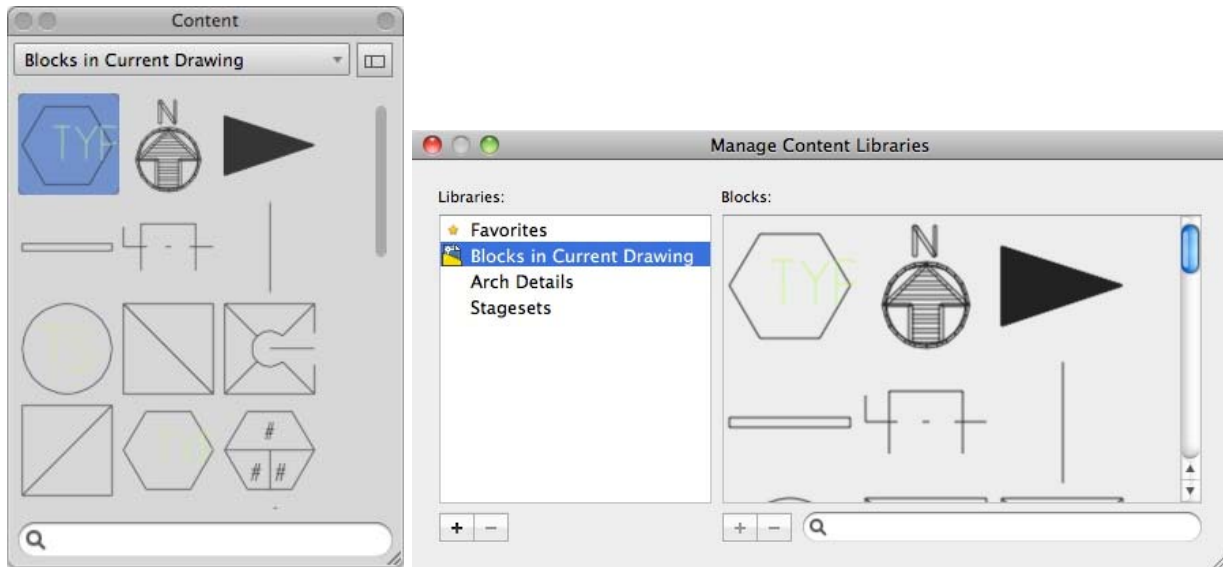
Tool Sets Palette ☞

The Tool Sets palette is like a vertical toolbar menu. You can change the tool sets at the top of the palette from Drafting, Annotation, and Modeling for the task you are doing.



Content Palette ¶2

The Content palette allows you to visually browse block definitions in the current drawing and insert them into the current drawing. You can also manage blocks from drawings as favorites much like the Design Center. The Content palette can be used to create libraries of blocks from drawing files; each block in a library is represented by a single drawing file.



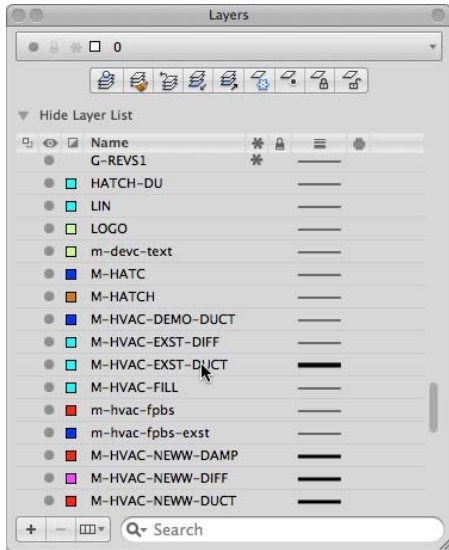
Command Line ¶3

The much loved AutoCAD Command line is right here (well left here because it is on the left side) at the bottom of the UI in case you need it or you can hide it if you like. It functions much like the AutoCAD for Windows version allowing you to pound out commands in blazing speed including your command aliases. The command line can be expanded but there is no F2 Text window option.



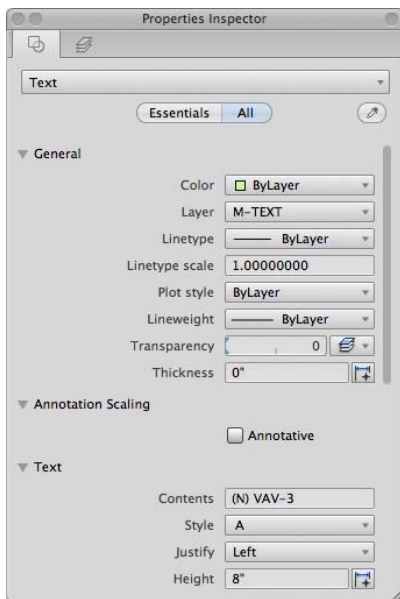
Layers Palette

The Layers palette is quite a bit different than you may be used to in AutoCAD for Windows. While most of the same abilities are there, it has been Mac'ified (if that is a word).



Properties Inspector Palette

The Properties Inspector is where you do most everything from changing objects to editing layer properties to controlling visual styles and rendering settings such as the sun. This type of palette is common in Mac applications and known as Inspector palettes.



Status Bar

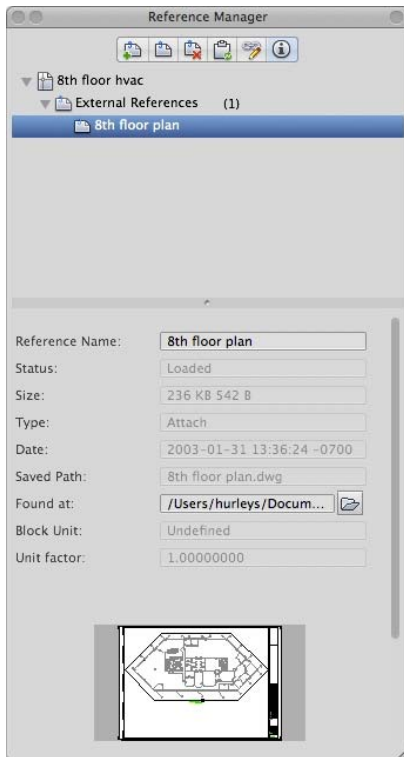
The status bar located below the drawing window is much like you are used to in the AutoCAD for


Windows. The status bar can be expanded to two lines or the default of one line. The expanded status bar reveals



Reference Manager Palette

The Reference Manager is a bit different than the External Reference Manager palette in AutoCAD for Windows.



If you are a minimalist AutoCAD user, you will appreciate  Clean Screen mode to get everything off your screen but the drawing window.

Now let's look at two typical AutoCAD 2D Workflow tasks

Dimensioning

This staple AutoCAD feature is as you would expect and no real differences.

Printing

Of course you would not have AutoCAD without being able to print the design. You can select Print from the File menu, QuickView, or press Command-P (⌘P) and prepare a print. The Print dialog is the standard Mac OS X version with some subtle differences. When printing from Model space, click Advanced to change plot styles, plot stamps, etc. Click Edit Page Setup to modify the current page setup. You can also select a different page setup in the current drawing or import one from a different drawing file.

Upload a file to AutoCAD WS

Within AutoCAD for Mac is an Upload Drawing Online option in the File menu that allows you to work with anyone anywhere. Uploaded drawing files can be viewed without AutoCAD for Mac using AutoCAD WS or AutoCAD WS Mobile. AutoCAD WS is a web based client that is accessible from a web browser, while AutoCAD WS Mobile is a native iOS application for the Apple® iPad™, iPhone®, and iPod touch®.

You can collaborate with customers and clients without needing to send paper drawings, be in the same room, or install something to be able to edit and markup DWG files. With the web based client, you can even share drawings and work with another person in real-time to edit, markup, or discuss a design.

And its FREE!



To sign-in or create an AutoCAD WS account, go to: <http://www.autocadws.com>
AutoCAD WS Mobile for iPad, iPhone, or iPod touch can be downloaded by visiting the App Store and performing a search on AutoCAD WS.

3D Workflow

You have most of the 3D creation and editing tools you have access to in AutoCAD for Windows such as meshes, solids, and surfaces. You also have favorites such as Presspull to easily create 3D geometry.

Visual Styles

You have the ability to change the way 3D geometry is displayed from a wireframe to hand drawn looking effects.

Bonus: You can access and quickly change the current Visual Styles from the Visual Style control in the upper-left corner of the drawing area unlike AutoCAD for Windows which does not have this feature.

Render

You have the Autodesk common material library and the same rendering engine as AutoCAD for Windows. So when you need that pretty rendered picture you access it in the menu bar, or you guessed it, just enter RENDER at the command line just like AutoCAD for Windows.

DWG

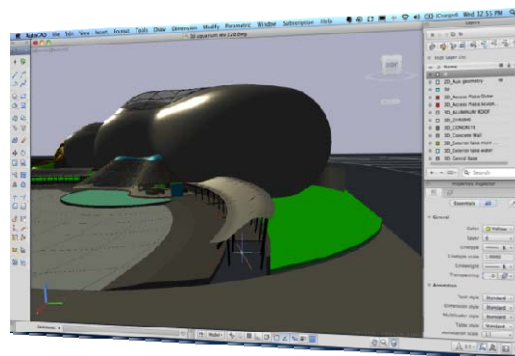
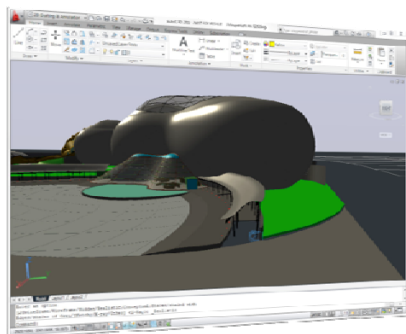
AutoCAD for Mac uses the same exact DWG file format as the AutoCAD for Windows as well as Autodesk applications that create and consume DWG files. 100% drawing file compatibility is maintained when sharing files; there is no difference. This allows you to work on the same files as other users in your office and not be concerned with translations of the files, it is AutoCAD after all.

You can open DWG files from 2.x which was released in 1983, making use of the millions of files that you or other Autodesk customers have created for past projects or received from customers and partners.

Customization

You can create custom scripts, linetypes, hatch patterns, and command aliases, as well as AutoLISP and ObjectARX applications for use with AutoCAD for Mac. However, there is no support for DCL or the Visual LISP components in AutoLISP. Some Technologies specific to Windows such as Visual Basic for Applications "VBA", OLE objects, and Windows Media® Audio, are not supported in AutoCAD for Mac nor make sense in a native Mac application.

AutoCAD for Windows and Mac Differences



As I mentioned early on:

"While not all features are included some just did not make sense for this first release or relied on platform specific technology. There are also some features in AutoCAD for Mac that are not in the AutoCAD for Windows version."

The most commonly used functionality of AutoCAD is included in AutoCAD for Mac. However, there are a few commands that are not included in this first release, including layer filters and groups, and layer states are limited; Sheet Set Manager; and DGN, PDF, and DWF™ underlay support. Since this first release of AutoCAD for Mac is designed for the SMB in mind, there is no network license support.

Some features are only in AutoCAD for Mac such as the enhanced QuickView, finger gestures, Cover Flow, Viewport label menus (or Viewport controls), and the 64-bit multi-threaded platform.

At the end of the day, most features are there and you can use a native Mac application with 100% DWG file support.

It is on the Mac and is AutoCAD.

Resources

AutoCAD for Mac Product page by Autodesk –
<http://www.autodesk.com/autocadformac>

AutoCAD for Mac 2011 Online Help Documentation by Autodesk –
<http://docs.autodesk.com/ACDMAC/2011/ENU/landing.html>

AutoCAD for Mac Documentation in PDF format for download –
<http://docs.autodesk.com/ACDMAC/2011/ENU/PDFs/PDF%20Documentation.htm>

AutoCAD for Mac Wiki by Autodesk –
http://wikihelp.autodesk.com/AutoCAD_for_Mac/enu/Community

Blogs:

Between the Lines with me Shaan Hurley – <http://autodesk.blogs.com>

MacACAD with Rick Graham – <http://macacad.com/>

Communities:

AutoCAD Exchange by Autodesk – <http://autocad.autodesk.com/>

Autodesk User Forums by Autodesk – <http://forums.autodesk.com/>

Facebook – <http://www.facebook.com/AutoCAD.3D>

AUGI Autodesk User Group International – <http://www.augi.com>

Autodesk University Online – <http://au.autodesk.com/>

Twitter

You can follow the @autocad (<http://www.twitter.com/autocad>) account or the hashtags #autocad #autocadformac