CAD Management Tips and Tricks from the Trenches

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CM301-1

To be a great CAD manager you need to be on top of everything from technology to training to standards to IT and even finance. In this class Robert will share a variety of tips, tricks, resources and techniques that he's used personally and collected from other CAD managers over the years. We'll start with some technical tips you can use to deal with network issues, speed software debugging, and control your installation from a central network location. We'll then move into some useful software utilities for managing everything from user review documents, skills assessment, progress tracking, financial justifications and even recording your own videos! To close out the session we'll talk about motivating users, standards compliance and how to get everyone in your company to see how valuable the CAD manager's position really is. The delivery will be quick and the tips will be diverse in nature so everyone is sure to get a couple of great ideas they can use from this class.

About the Speaker:

Robert is head of the Robert Green Consulting Group and a 13-year veteran speaker at Autodesk University. You've likely read his work in *Cadalyst* magazine, where he authors the CAD Manager column, or in his bi-monthly *CAD Manager's Newsletter.* He holds a degree in Mechanical Engineering from the Georgia Institute of Technology and gained his CAD skills from 21 years of AutoCAD, MicroStation, and MCAD software usage. Since starting his own company in 1991, Robert has performed consulting and teaching duties for private clients and throughout the U.S. and Canada.

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Autodesk

Tip: Write down what you're doing

Want to truly understand why you have the problems you do? Want to make things better? Well there's no better way to start than by writing down what you're doing and what your key problems are. It seems like the process of actually thinking about what you're doing on a daily basis brings on revelations about how to do things better.

Another benefit to this is that you'll be able to show your boss all the stuff you do at review time and demonstrate why you're so valuable.

Tip: View things from your boss's perspective

Don't think: Wow I want rid of this old, cranky plotter.

Do think: What is the business and productivity reason for buying a new plotter.

The latter thought process actually gives you a chance to get a new plotter while the former just sounds like griping.

Tip: Money talks

Want to make changes in your CAD environment? Want to change software? Want to get new hardware? Find a business reason for making the change that will save money and you're golden.

Don't say: Inventor is really cool, we should be using it.

Do say: We can go from concept to shop floor tooling on our typical parts in 6 hours with Inventor versus 10 hours with AutoCAD. Thus saving $240 per part at our standard $60/hour rate.

Tip: Assess EVERYTHING

Question everything. Look under rocks for better ways to do things. Challenge bad practices by suggesting better ways to do things.

Ask: "Why" a lot

Ask: "Why not" whenever you're not asking "why"

Tip: Tackle the problems, ignore the minutia

Got a problem that impacts all your users on a daily basis? Tackle that first!

Got an annoying little problem that vexes you but doesn't really affect anyone else? Put that at the bottom of the list.

When you tackle the big problems you improve efficiency a lot more than harping on the little things.

Tip: Set realistic expectations

Does your boss think you'll go from AutoCAD 2005 to Revit in 3 days? That's an example of unrealistic expectations that you can never live up to. Shatter these misconceptions and replace them with achievable timeframes that you can meet. Remember: If you don't set realistic expectations nobody else will – certainly not the marketing guys!

Tip: Report to your management

How else will they know what you're up to? How else will they understand your value? How else will they know how to help you? Your management isn't clairvoyant, nor do they understand CAD as well as you do. If you want them to understand you and help you must tell them via reporting. Ideally reporting is a combination of written and verbal methods but any reporting is far better than none.

Tip: Strive for simple

The noted computer scientist Dan Bricklin was quoted as saying, "Users aren't stupid, they're busy!" So true!

Want to get your users to follow standards better or follow project guidelines better? Make those standards and guidelines easy to read and follow. Consider using video recordings to personalize training timeframes. Strive for convenience, simplicity and ease of comprehension in anything you do.

Remember how you felt when you first learned a concept and strive to communicate in a way that made sense to you the first time.

Tip: Save money

Always be on the lookout for savings opportunities. When you find one tell your management and make the change. Want to change the tone of the relationship with your management? Try saving them some money and watch it change.

Tip: Train small, train often

Don't: Train your users once a year in one, long, boring four day chunk

Do: Train your users once a month (or twice a month) at lunch and learns or short, focused sessions.

Short training sessions delivered often builds a culture of training and gets people in the habit of learning.

Tip: Encourage self learning

Speaking of training, anything you can do to help people learn on their own is good for the company and helps you out as well.

Buy books, purchase DVD based learning materials, get magazine subscriptions and lend all the materials to anyone motivated enough to use them. It's hard to find good, motivated people but when you do make it EASY for them to self learn.

Reward motivation with resources!

Tip: Challenge power users

Have some good power users that are chomping at the bit for challenging work? Have them teach a lunch and learn, let them manage a CAD standards project; let them conduct a project kickoff meeting, etc. My point is that CAD managers can utilize power users to leverage themselves yet rarely do so.

Tip: Confront problem users

Problem users are the "anti-power-user" in your workplace because they take too much of your CAD management time. When people won't follow standards or ignore you they're costing the company money. Go to management if you have to, be stern with the problem user if you have to, but CONFRONT the problem – don't let it fester.

Festering problem users leave a wake of problems and ill will behind them that negatively impact your workplace. Your job as a manager is to deal with them. In fact, the way you deal with problem users has more to do with your success than how you deal with power users!

Tip: Delegate!

You can't do it all, nor should you. Your management doesn't care who wrote the program, they care that it works and saves money. Are you better off doing little because "you don't have time" or are you better off achieving a lot by delegating tasks to others, your reseller, or a consultant? Delegate!

Remember that you get the credit when the work is done no matter who did the work!

Tip: Manage to meet deadlines

Your management wants CAD work to go out on budget and on time. They don't much care why a project is late; they just know it is late, right? So if you manage your day to day tasks in a way that gives you the best chance to hit deadlines you'll have the best possible reputation with your management.

Have an impossible deadline? Go to your management and explain why it is impossible and ask for their advice and help. You may be surprised at how helpful they are when they understand the problems you're having. Anyway, it can't hurt to communicate the problem can it?

Tip: Be cautious with 3D implementations

Many great CAD managers have suffered because they underestimated the complexity of rolling out 3D systems. Remember that you're RADICALLY changing how users work and that you're taking away their 2D security blanket. Underestimate this reality and you're in for rough sledding!

Really take the time to PLAN your 3D implementation, benchmark everything and test how well your users will accept the change. Proceed cautiously and set realistic goals/expectations so you won't have to tell your boss why you're so far behind!

Tip: Make IT your ally

A good relationship with IT can make CAD management easier because you're more likely to get the hardware, network configurations and deployment help you need. A poor relationship with IT can lead to problems!

Try reaching out to IT and explain that you want to build a close working relationship. Explain your concerns and offer to help them as much as you can in return for the help they'll extend to you. At the very least you'll have fewer IT problems as a result. Typically though, you'll educate IT about CAD and they'll help you run your CAD installation better. That's a win-win scenario that makes everyone's life easier.

Tip: Slow, steady, methodical

CAD management isn't a sprint, it is super marathon. The CAD managers I've seen who expected to get everything done in 6 months always wind up burned out and unhappy. Conversely, the CAD manager who makes a plan, works the plan and stays the course over time always gets good results and isn't often frustrated.

Be patient and keep at it and you'll always do better.

Tip: Beef up your speaking skills

Get comfortable with PowerPoint and practice your public speaking because speaking well to management, to users, to vendors, to customers, always gains you respect. Enough said.

Tip: Learn management speak

As long as you're speaking better, learn the language of management speak and watch your presentations take on a whole new tone.

Hint: Start listening to the way managers talk about problems and not their vocabulary. If you don't understand what they're saying ask for clarification later. Simply say, "I found what you were talking about interesting but there were a few concepts I didn't get." As you start to comprehend how the managers in your company interact and speak you can start to speak their language in meetings and gain a whole new level of respect.

Hint: Strive to become the technical person who understands management and you're on the right track.

Tip: Beef up your programming

Know nothing about customization? Learn some basic CUI concepts in AutoCAD.

Know a little about LISP? Learn some more.

What to learn .NET? Take a course in it.

The bottom line is CAD managers that can program have a lot more options available in their skill set. The market is rewarding programming skills more and more (read that $$) so why not become more programmatically aware and tap into the demand. You'll be more marketable for sure.

Trick: The Fake Network Drive

How can we modify and adapt our tools when everything is live on the network? How do we keep from messing things up? Enter the fake network drive trick using an old favorite – DOS SUBST.

First, you must disconnect from your CAD network drive.

Now make a fake network drive like this:

```
C:\>subst z: c:\z_
```

It'll act just like your normal drive. You won't have to reconfigure your CAD program. You won't have to change any profiles. Your AutoCAD palettes will work without pathing complications. You don't have to mess with live files on the network or worry about making mistakes this way.

When done just delete the fake drive like this:
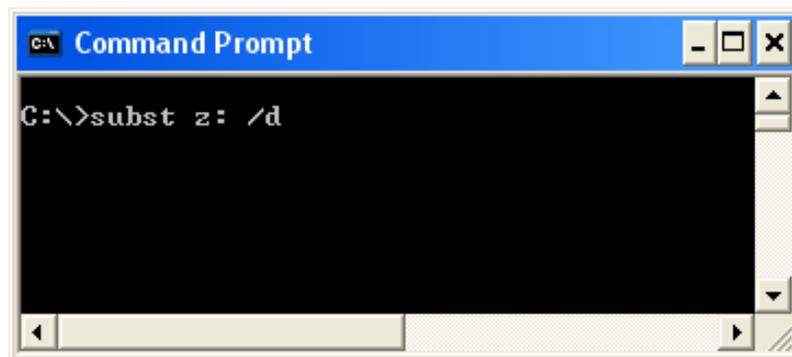
```
C:\>subst z: /d
```

Finally, reconnect to network drive, copy edited files to network – done!

Trick: Fast for users, cheap for management

Want to make a change in your standards to automate the setup of all your standard drawings? Having trouble selling the concept? Use a two pronged approach:

Tell your users they'll get their drawings done and plotted faster.

Tell you boss that you're cutting man hours to save money.

Both are true, but selling the idea is much more effective when users see "faster" and your boss sees "cheaper" right?

Cool Utilities

Using cool utilities always beats brute force right? Here are some of the tools I use all the time to help get results for my clients:

Batch Standards Checker

It comes with AutoCAD, is free, and makes examining DWG files for layer, dimension style, text style and linetyping compliance no matter where the DWG came from. This is a great way to triage any DWG files you need to send or inspect for basic standards problems.

Quick ROI Worksheet

Free for you at my web site: www.cad-manager.com/tools

Helps you quantify tasks and compute basic ROI's.

AutoTest Pro

A fantastic tool for composing and delivering your own multiple choice tests.

Cost is $39. Find it at: www.academix.com

Registry Booster

A very powerful registry cleaner and restoring tool that makes it very easy to completely uninstall software to eliminate pesky registry conflicts. I use this all the time for my test and development machines to eliminate all the digital garbage that stacks up during all the test installs I perform.

Cost is $29. Find it at: www.Uniblue.com/RegistryBooster

Snag It

The best screen capture tool I've ever used because it can capture menus, dialog boxes and other screen scenarios that Prt-Scr can't.

Cost is $39. Find it at: www.TechSmith.com

Camtasia Studio

The best audio/video capture tool I've ever used. It makes recording video presentations a snap and greatly simplifies deploying your recordings in a variety of formats.

Cost is $319. Find it at: www.TechSmith.com

Acrobat Professional

For delivery of written documentation there's no better tool.

Cost varies. Find it at your office supply store or favorite computer software retailer.

PKZip/WinZip Pro (using passwords)

Everybody knows about PKZip but have you taken advantage of using ZIP files encoded with passwords to gain extra security. Get a registered version of PKZip and explore the passwording and self extraction options to truly take advantage of this tool.

Cost is $49. Find it at: www.WinZip.com

A Bonus for Everyone

I'll post all my tips and tricks at a new section of my web site which you can find here:

www.cad-manager.com/tricks

I'd love to receive any tips you'd like to share and will keep the tricks page updated so check back often. Email any tips to me at rgreen@cad-manager.com.

Want the PowerPoint?

I'll be happy to send you a copy of the session PowerPoint presentation. Just send an email to me at **rgreen@cad-manager.com** and be sure to put **CM301 - PowerPoint** in the subject line so I'll know which class you attended.

I'll send out PDF captures of the PowerPoint files upon my return to Atlanta.

Reference Materials

You can find a wide range of information on CAD management and business metrics at my web site - **www.CAD-Manager.com**.

For a complete guide to a wide variety of CAD management topics including IT, personnel management, software configuration tips and much more, you may want to check out my new book: *Expert CAD Management – The Complete Guide*

To learn more please visit:

www.cad-manager.com/book