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CAD Manager's Newsletter
STRATEGIES AND SOLUTIONS FOR THE REAL WORLD
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Build an Efficient CAD Team

Don't let renegade users hold your team back. If you have users making constant errors, find out how to make it their problem to fix

We've all been annoyed by repetitive problems, right? Users not following standards, pressure from project managers urging us to cut corners, improper filing of files, etc. It often seems like CAD managers are doomed to live with the constant annoyance of these problems with no way out. Or, are we?

In this edition of *The CAD Manager's Newsletter,* I'll share an approach I've used for the last 11 years that was inspired by two very clever authors. The method seeks to reflect the annoyance of fixing problems back onto those who cause them until it becomes easier for them to just do the job right in the first place. Here goes.

Image source: boygostockphoto/stock.adobe.com.

Annoyance Transfer

Back in 2013, I read an article in the *Wall Street Journal* by Ray Fishman and Tim Sullivan (authors of the book *The Org: The Underlying Logic of the Office*) that advocated the use of annoyance as a management strategy to improve quality. While the focus of their article wasn't CAD — rather it was about a problematic web site — their story made me think about what a profound motivator eliminating annoyance can be and how it could be used to bring standards violators and other CAD troublemakers into line.

The core concept Fishman and Sullivan advocate is to channel the annoying consequences of errors to the person who caused the error, rather than dealing with the error yourself. The best contextual example cited was a travel web site that used customer annoyance to improve the usability of their site. How did they do it? They put the phone number of the web development team as the technical support contact prominently on the web site so the web development team got all the calls from frustrated customers. In this scenario, the customer's annoyance becomes the web development team's annoyance and darned if it didn't get action!

Brilliant, right? As I thought more about the idea of using annoyance to manage CAD, I came up with an idea I call *annoyance transfer*. Like the travel web site case above, I'm going to make the people who cause CAD problems fix their own mess via clever use of diagnostic and management tools.

Annoying Standards Problems and Causes

Most CAD managers can describe where they experience annoying problems in their day-to-day duties and I'm betting you're no exception. So, I'll now ask you to create a list of these problems while asking yourself these diagnostic questions:

- What problems are due to not following standards?
- What problems are due to departmental barriers?
- What problems are caused by careless users?
- What problems are caused by project managers ignoring standards?

The more I've done this exercise with clients, the more I've noticed that quality problems caused by users are typically motivated by a desire to avoid something they themselves perceive as annoying. What do I mean? Well, how about these examples:

- Could it be that users ignore standards so they don't have to read them?

- Might it be that users get done faster using older methods rather than new standards because they never have to change their own error prone methods?
- Do departments ignore communication with each other because it is a pain to make their information conform to other departments?
- Do users put files into wrong directories because they don't like your standard directory structure or simply due to the "we've always done it the other way" excuse?
- Do project managers tell you/others to ignore standards or best practices in the interest of "just getting it done" even though that approach causes more problems than it solves?

As you catalog the quality problems you experience, keep in mind the cause of those problems because we'll be using that information later. I think you'll see that most (if not all) the quality problems you experience are due to people in the organization choosing (consciously or not) to avoid using standard methods because they find them annoying. (There's that word again!)

Intervention Points and Contacts
Now that you know where the problems are and who is causing them, you can start to map out your intervention points. By intervention points, I mean the exact point in your work process where quality problems are discovered. The intervention contact is simply the person who discovers the problem. Here's an example:

Situation: A tooling designer (Allan) often ignores a standard procedure directing them to place the latest versions of a tooling drawings in a specific monitored folder that prepares the drawing for automated manufacturing. This causes the tooling machine operator (Larry) to stop, locate the drawing, and then manually prepare the drawing for manufacturing. This causes a costly (and annoying) problem for the machine operator and delays production.

Intervention point: The moment Larry discovers that Allan hasn't filed the drawing properly so the drawing hasn't been prepared for manufacturing.

Intervention contact: Larry.

Finding this sort of information requires some detective work and you'll need to ask good questions, but with persistence you'll find the actual cause of the problem and can begin to quantify the corrective action.

Basic Annoyance Transfer
Many times, I found I can get the person who created the problem to fix it without making a big fuss — let's call this *basic* annoyance transfer. Here's the process using Allan and Larry's situation from above as an example:

Communicate. "Allan, I've been helping Larry fix the drawing files you sent him for proper upload to the laser cutter. We've noticed that you're not following our standard DWG filing format and this is causing substantial rework and wasted time in Larry's department. Will you commit to following company standards so we can make this problem go away?"

Listen. Now if Allan says, "Yes, I'll fix my files," all you must do is check in periodically to make sure all remains fixed. On the other hand, if Allan says, "I can't follow the standard because of the following technical issues," you may have to investigate the problem and resolve any issues. But if Allan says something like, "No, I won't conform to the standard because my boss tells me not to," or, "No, that's a waste of my time," then you have a bigger problem to deal with — more on that shortly.

Document. Whatever the outcome of your conversation with Allan, you need to document the outcome. After all, you can't prove somebody is continuing to cause problems if you don't document the problems, right?

At this point you may have resolved the problem — which would be great! But, if other issues prevent resolving the problem, you'll need to go beyond basic annoyance transfer.

So, what do you do if the user says, "No, it's a waste of my time?". How do you get management's attention and support? Focus on the COST of rework. KEEP READING for Robert's how-to.

<<READ THE COLUMN >>

Tools & Resources

New Software from Siemens
Siemens Xcelerator portfolio brings new capabilities to Siemens' flagship product engineering software NX X and more. NX X is a cloud-based product engineering program allowing desktop installation or browser streaming via Amazon Web Services, with secure data management for collaboration, PLM capabilities with Teamcenter X software. NX X offers flexible and scalable licensing and works alongside Siemens' newly announced Zel X software. Based on the same architecture as NX, Zel X is Siemens' next generation browser-based engineering app that integrates with other Siemens Xcelerator solutions like NX, for streamlining manufacturing and shop-floor operations.
**Read more >>**

EPSON Technical Print Solutions
Epson showcased its advanced large-format GIS technical printing solutions at this year's ESRI User Conference. The SureColor T-Series printers on display included a PrecisionCore printhead, a Production Technical/GIS Printer, the SureColor T7770DM 44" multifunction printer featuring an integrated scanner that enables high-speed scanning and copying for wide-format maps, documents, images, and graphics. With all front operation and the smallest footprints in its class according to the company, the SureColor T7770DM can fit against a wall or back-to-back. Featuring dual-roll productivity, with the ability to accommodate two media sizes or

types. The company also showed off its SureColor T5470M 36" printer/scanner, plus productivity solutions for GIS users. **Read more >>**

Trimble Unity End-To-End Asset Lifecycle Management Software Suite
Trimble announced a new asset lifecycle management software suite called Trimble Unity. This suite enables owners of capital projects and public infrastructure to plan, design, build, operate, and maintain their assets using centralized data and connected digital workflows. Trimble Unity capabilities include: Trimble Unity Construct: A cloud-based construction project and program management capability that provides insights to improve process control and reduce cycle times. Trimble Unity Maintain: A GIS-centric enterprise asset management capability that streamlines work activity, planning and analysis to optimize resource allocation and infrastructure reinvestment. Trimble Unity Permit: A permitting, licensing and land management capability to help public and back-office operations manage permits, licenses, right-of-way, and code enforcement. Trimble Connect: A connected data environment (CDE) that unifies asset data in files, native file formats and 3D models to streamline accessibility and collaboration. Trimble Unity Field is a configurable mobile solution that provides a role-based, GIS-centric data collection and visualization experience for project management and long-term asset maintenance workflows. **Read more >>**
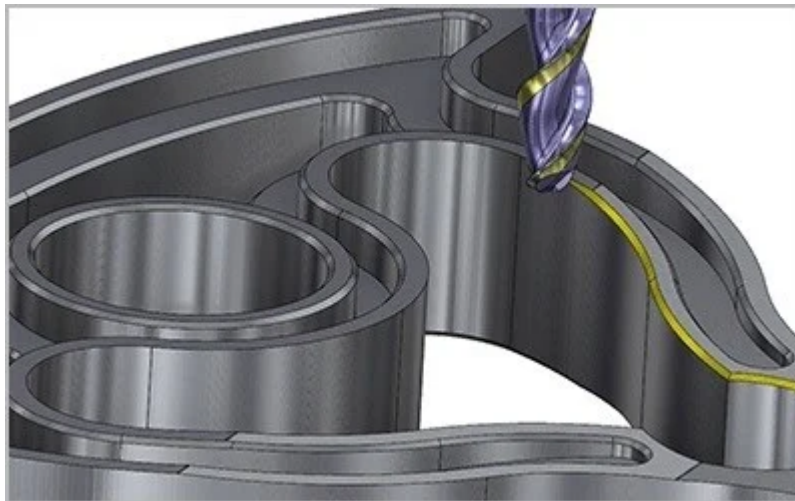
Mastercam 2025
Mastercam released Mastercam 2025. New tools include Mastercam Deburr, a solution for automated edge finishing the deburring process for Mastercam Mill, Mastercam Mill 3D, Mastercam Router, and Mastercam Mill-Turn. For users with Mastercam Multiaxis, the familiar simplified controls will help with transition. The program also introduces finish passes to 2D Dynamic Mill and Area Mill toolpaths. It includes mill-turn support for Y-axis turning so users can create toolpath planes with the correct tool orientation and spindle origin while taking advantage of the latest advances in Y-axis tool technology. The program also offers performance and security improvements, according to Mastercam.
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**ZWCAD MFG 2025: 2D CAD for Manufacturing**
ZWSOFT released ZWCAD MFG 2025, the latest version of its 2D CAD solution for the manufacturing sector. The program can be integrated into PLM systems. New features and enhancements in ZWCAD MFG 2025 include: import of AutoCAD Mechanical drawings from 2012 to 2018 version; includes built-in library with standards like ISO and DIN, and adds 14 national standards including JIS, IS, PN, KS, AFNOR, ANSI, BSI, EN, TCVN; and more. **Read More >>**

What's New at Cadalyst

AEC Solutions: Extraterrestrial Construction, Pt 1:
Moving from Concept to Reality

Plans to build on the Moon, Mars, and beyond are taking shape, and AEC professionals play key roles. While some construction methods are similar to those conducted on Earth, new approaches are needed. Find out how these issues are resulting in ongoing technological developments. *By Andrew G. Roe.* **Read more >>**
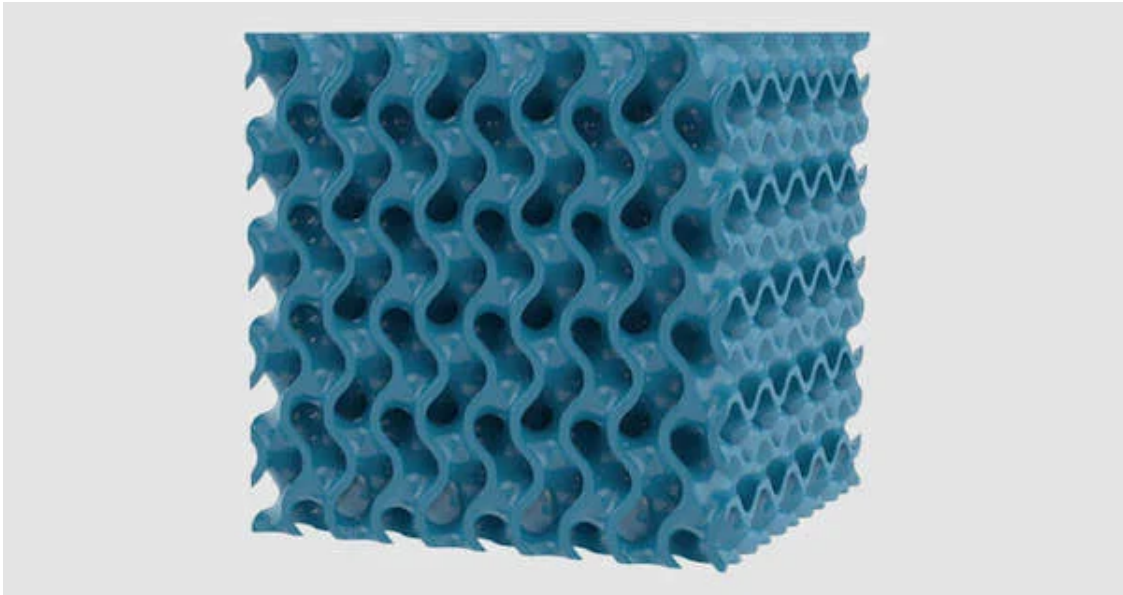
MCAD Solutions: Materials + 3D Printing + MCAD = Innovation Explosion

It's up to engineers to take advantage of the power within CAD and simulation tools that can lead to new design freedoms offered by AM and new materials. *By Cadalyst Staff* **Read more >>**

Siemens Brings XaaS Tools to the Manufacturing Team

New cloud services for design, simulation, operations, and PLM integrates manufacturing needs. *By Cadalyst Staff* **Read more >>**

CAD Cartoon

By Roger Penwill   Keep 'em Laughing!

Free Resources

Digital Transformation in Manufacturing

Innovation within manufacturing helps create a culture of continuous improvement to improve product quality and reduce waste, ultimately making companies more

successful.
Implementing a digital MES can help you drive innovation on your production floor.

Find out how a digital manufacturing execution system (MES) can transform your factory.

DOWNLOAD NOW

A CAD Manager's Guide to Switching to Vectorworks

Discover how one company moved its design firm to Vectorworks and how to manage converting existing resources into Vectorworks.

DOWNLOAD NOW
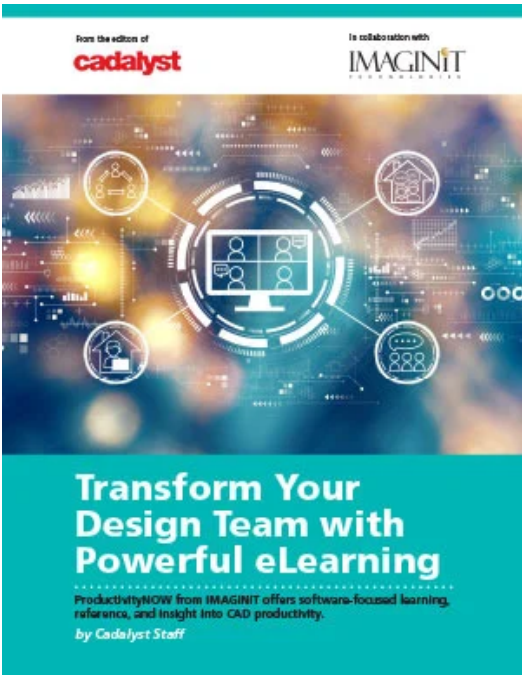
Transform Your Design Team with Powerful eLearning

Training your workforce continues to be one of the most important pillars to forming a strong and efficient team. The challenge becomes making sure your staff are using their design software to the best of their abilities and following your CAD standards. How do you build this foundation and continue to invest in your employees?

Find out how ProductivityNOW from IMAGINiT offers you software-focused learning, reference, and insight into CAD productivity. *By Cadalyst Staff*

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More Digital Design Solutions

Product Design

Building Design

Civil Engineering

Prototyping

Design Testing

Conceptual Design

Reality Capture

Drafting & 2D