



# Digital Design Management: A Hybrid Role for a Changing World

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**CM1431** In today's rapidly changing technology environment, "digital design" no longer means just CAD. It's also BIM, IT, analysis/design, and visualization...with a little bit of training, accounting, R&D, and diplomacy thrown in for good measure. One structural engineering firm has decided to recognize this growing overlap of disciplines with a role created specifically to address it: Digital Design Manager. Join Kate for a discussion of what digital design management (DDM) means to Robert Silman Associates, and how having this position in the company has improved communication, collaboration, and adoption of new technologies.

## Learning Objectives

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

- Evaluate potential areas of responsibility for a digital design manager
- Set relevant goals to help measure the contribution of a digital design manager
- Formulate strategies for dealing with end users, project managers, and senior executives
- Identify tools available to help with installation and licensing

## About the Speaker

Robert Silman Associates is a structural engineering firm with offices in New York, Boston, and DC. As the Digital Design Manager for the firm, Kate is responsible for coordinating procedures and standards for software used in the design process, including CAD, BIM, and design/analysis programs. Before rejoining RSA (where she also worked from 2003 to 2008), Kate was a Technical Marketing Manager for Autodesk, working on the AutoCAD family of products, specifically AutoCAD LT. She has over 10 years' experience with Autodesk products, and has been a highly-rated AU Speaker since her first AU in 2004.

## Introduction

This session is about what makes a Digital Design Manager. You might have this title already (or something similar), or you might aspire to it. This handout will cover the practicalities of the session: a sample DDM job description and goals, useful skills, and technological solutions.

## Defining a Digital Design Manager

Before you can do the job of a DDM, you need to know what that job is. Here's an example of some functions that you might include in your job description.

- Promote integrated workflows between design & documentation software
- Coordinate firm-wide training for new or upgraded design & documentation software and procedures
- Coordinate development of firm-wide graphics and modeling standards & procedures (including automated tools & reference manuals)
- Coordinate digital design orientation for new employees
- Provide support & troubleshooting for digital design software issues
- Install & configure digital design software
- Manage license and network tools for digital design software
- Act as vendor liaison for purchases, support, and training
- Develop software budgets (including purchase, upgrades, and training)
- Provide input for hardware budgets (workstations & plotters)
- Keep up with industry design technology trends & developments
- Attend user meetings, trainings, conferences, and other events as appropriate

These were generated for a DDM at a mid-size engineering firm. If your firm is larger or smaller, or multi-disciplinary, you may find other responsibilities to add or delegate. And if you're not sure what to put here, look around for issues in standard or workflow—see what you want to fix, and add that to the list.

## How much time does it take?

Digital Design Management, like any kind of project management, is hard to squeeze to your day if you haven't planned for it. DDM work isn't the same as engineering or CAD tasks. It requires a different mindset, and a different level of thought. Depending on your work mentality, switching between detail-oriented production work and big-picture planning can be difficult, so it's often best to set aside specific time dedicated to DDM.

It doesn't necessarily have to be a full-time role, though. Keeping 2 or so days a week to continue to use the software you manage can be a good way to stay current with the technology. Working with software is like speaking a foreign language—use it or lose it. If you don't practice with the programs, you'll get rusty. Sharing time between DDM and production (deadlines permitting) is a way to prevent talent atrophy while picking up necessary management skills.

## Goal-Setting

One of those skills is the ability to see the big picture—the 10,000-foot view of what’s going on at the firm. Setting big, ambitious, well-defined goals is a way to work your way down from a overarching, far-thinking outcome to the actual procedures that will help you get there.

### SMART GoalPOSTs

How do you write these goals? One framework is called a GoalPOST. A GoalPOST outlines the thinking behind a particular goal or project:

- **Position**
- **Opportunity**
- **Strategies**
- **Tactics**

Each element in the GoalPOST is shorthand for a question that you ask yourself—answering them will get you to your goal. Sometimes goals can be a little abstract, so let’s use a travel analogy to help explain. Say you’re planning a trip.

**Position: Where are you now?** You’re in Las Vegas. *What’s good about that? What’s not?*

**Opportunity: Where do you want to be?** San Francisco. *Why? What’s better about it?*

**Strategies: How could you get there?** Fly? Drive? Take the train? Bike? Walk?

**Tactics: How will you get there?** Book a commercial flight? Rent a car? Buy a bike?

The trip analogy isn’t perfect, because travel strategies are often mutually exclusive. You probably wouldn’t fly halfway to San Francisco and drive the rest. But it does help identify the difference between strategies and tactics—the trickiest part of goal setting.

The website [brandinsightblog.com](http://brandinsightblog.com) has an excellent description of strategies vs. tactics. (The whole blog is pretty good reading, for that matter, if you’re interested in marketing and branding). Per that site:

**A strategy is an idea... A conceptualization of how the goal could be achieved.**

**A tactic is an action you take to execute the strategy.**

In the travel analogy, the strategies were the methods of transportation. Once you pick one, you need tactics—a travel agent, frequent flier miles—to achieve the strategy.

Each Goal should also be SMART. This doesn’t mean “not stupid” (although that helps). It’s another acronym:

- **Specific**
- **Measurable**
- **Attainable**
- **Relevant**
- **Time-bound**

Here's how those break down:

- **Specific.** What exactly do you want to do? "Get better at BIM" is not specific. "Improved productivity by 50%" is.
- **Measurable.** How will you know when you achieve your goal? If you want to improve productivity, how do you measure that? Billable hours? Budget overruns?
- **Attainable.** Can you get there? Maybe a 50% increase in productivity isn't reasonable. Maybe a better target would be 15%. Don't set yourself up for failure.
- **Relevant.** Does this goal actually matter? Is productivity important, or are there better areas to focus your effort?
- **Time-bound.** Goals are meaningless without a due date. "Improve productivity by 15%" when? Next month? Six months? A year? Even if it's self-imposed, a deadline will give you incentives to accomplish your goals, or at least a time to check in and see how you're doing.

Here are two sample DDM GoalPOSTs:

***Optimize installation of new & upgraded software***

<b>P</b>	Design software installations on engineering and drafting workstations are currently done one at a time, meaning roll-outs take a lot of time and effort by the IT staff and installations that are not immediately needed are often put off. It also means that keeping track of which workstations have which software is a fairly major undertaking.
<b>O</b>	The technology exists to both create unattended installations packages for most of our preferred applications and to automatically install them on networked machines. By reducing the time and energy it takes to deploy a new or updated program, we can ensure that our critical software is up to date, free up our IT people to work on other tasks, and simplify our inventory and asset management.
<b>S</b>	<ul style="list-style-type: none"> <li>• Create silent install packages (deployments) for all eligible software</li> <li>• Coordinate with IT to implement unattended distribution of deployments</li> </ul>
<b>T</b>	<ul style="list-style-type: none"> <li>• Conduct a software inventory of all workstations</li> <li>• Identify which programs can be installed silently</li> <li>• Determine best methods for automatic installations</li> <li>• Schedule rollouts in advance with IT (avoiding ad hoc installations when possible)</li> </ul>

**Prepare recommendations for software packages for various design scenarios**

<b>P</b>	Currently our firm owns & uses a wide variety of software programs for designing structures and elements. Which particular package is used on a project appears to be primarily a matter of personal preference. This can result in a fractured design environment, where the product used is not necessarily the right tool for the job, but is “what’s always been used.”
<b>O</b>	If we can standardize on specific software for specific situations, we will be able to more easily share information between members of the design team (who may have different personal preferences). We will also be better able to purchase software that actually meets the needs of the task, whether it’s a simple retaining wall or a complex link between Revit and an analysis package.
<b>S</b>	<ul style="list-style-type: none"> <li>• Establish monthly software coordination meetings</li> <li>• Evaluate strengths &amp; weaknesses of software packages preferred by our engineers</li> <li>• Evaluate Revit linking capabilities of eligible software packages</li> </ul>
<b>T</b>	<ul style="list-style-type: none"> <li>• Identify key stakeholders in software decision-making</li> <li>• Poll staff on preferred programs</li> <li>• Create a document identifying software in use &amp; their best-use scenarios</li> </ul>

**Skill Building**

Whether you’re already a Digital Design Manager or want to be one, how can you be a *better* one? You need skills in a lot of different areas, and some of them are easier to acquire than others.

**Technical Skills**

These are the easy ones. You probably wouldn’t be in the CAD/IT/BIM industry if you weren’t technologically inclined. But you still need to keep up with the software you use. Here are some tactics you can use to acquire them.

- **Get training on the software.** This should go without saying, but you can’t support your colleagues if you don’t know at least the basics of the programs they use every day. Formal training is great if you have time/money, but if not, watch videos, read blogs, subscribe to newsletters—find all the information you can possibly collect.
- **If you can’t get training, know how to get help.** Your role will probably include user support if it doesn’t already. It’ll be okay if you don’t know the answers to all problems right away, but you’d better be able to find them. Gather up lists of user forums, communities, and knowledge bases that you can search for solutions. Make sure you know what kind of support you’re entitled to from subscription or maintenance contracts. And if all else fails, be an expert Googler.
- **Learn video & image editing.** Everybody knows a picture is worth a thousand words. (Although you wouldn’t guess that from this handout.) Basic video and image editing skills will go a long way towards making clear, helpful training materials. Techsmith offers a good suite of products for this: Camtasia, Snagit, and Jing. They’re robust enough that they can create the effects you need, and simple enough that it doesn’t take a degree in cinematography to use them.

### Soft Skills

Being a good Digital Design Manager requires good people skills, not just technical knowledge. It is a *management* role, after all. Even if you think you're only managing software, you're still part of a team, and leadership skills will be invaluable.

- **Take a public speaking class.** Part of your DDM role will probably involve some form of public speaking, whether it's relatively informal pitches to your manager about the new software you want to buy, or more structured training for your staff. (Or even AU presentations!) A presentation skills seminar will help you improve pacing, delivery, and presentation flow, and increase your comfort level when speaking to groups large or small.
- **Brush up on finances.** This could almost qualify as a technical topic, but since it's not software-specific, it ended up here. If it's been a while since you made a budget, do some research on it. Learn how to calculate returns on investment (ROI). Get to know your accounting department. Find out what kind of information they need to help them track purchases. Make sure you've got the approval process down cold—and know how long it takes. It'll help you plan ahead and get your requests in with plenty of time before your contract or trial software expires.
- **Keep reading.** Yes, this was on the technical list too, but it's equally invaluable here. Especially if you're new to a management role, you can't do better than reading what the experts have to say. Two great resources for CAD Management in general are Mark Kiker's blog at [www.caddmanager.com](http://www.caddmanager.com) and Robert Green's CAD Manager columns at [www.cadalyst.com](http://www.cadalyst.com)
- **Evaluate your leadership style.** Mark Kiker has an excellent series of articles on four leadership styles at [www.caddmanager.com/CMB/series/leadership-dispositions/](http://www.caddmanager.com/CMB/series/leadership-dispositions/). (If you're going to learn from the best, you can borrow from them too.) The entire series is worth a read to see if you have a natural tendency towards the Results, Improvement, Structure, or Expansion styles. No one of the four is better than the others; it's just important to know which way you tend to approach a problem, and to be aware of other approaches.
- **Ask questions, and listen to the answers.** If you're looking for inefficiencies or successes in your firm's workflow, your team probably knows about them already. Of course, you have to get them to tell you about it. Maybe you don't have a problem getting complainers to speak up. Sometimes teams fall into acceptance of problems, especially if it's a long-standing one. Poke around, and find out where the annoyances are.
- **Learn the difference between presenting solutions to users & to management.** If you want to introduce a new tool to your team, the sales pitches for the drafters and management are completely different. Drafters want to know how it works, what it does, what they have to learn to use it, and how it's going to make their lives better. Management wants to know how much it costs and how much time it will save or how it will improve the quality of your product. If you get those two groups mixed up, you probably won't get it approved. Robert Green has a good article about presenting to management. ([www.cadalyst.com/management/when-your-problem-user-is-management-14573](http://www.cadalyst.com/management/when-your-problem-user-is-management-14573)) His "tool worship" articles are also worth a read, about avoiding tunnel vision when it comes to implementing new software. Just like you can't always blame software for user issues (everybody's seen ID10T errors, right?), you can't expect software to fix issues either. ([www.cadalyst.com/management/dont-get-caught-tool-worship-trap-16114](http://www.cadalyst.com/management/dont-get-caught-tool-worship-trap-16114))

## Our Technology

Speaking of tool worship, let's talk about some of those tools. There are a wide variety of software programs out there to help you manage your software installations and improve team communications. Many of them discussed here are most appropriate for mid-size firms—large enough to require some in-depth IT solutions, but small enough not to support a full-time R&D department or custom applications. All programs are examples of current solutions; you may find others that fit your needs equally well.

*(Disclaimer: RSA has no affiliation with the software providers listed below except as a customer. All reviews are purely independent & from a user perspective. All brand and product names are trademarks or registered trademarks of the respective holder.)*

## Installation & Inventory

The specific features of your software portfolio aren't that important from an IT perspective—it's how the licenses are managed. The easiest ones to deal with have cloud-based or enterprise licensing. (It's always a good day when somebody else manages your license server.) The worst are standalone licenses, where you have to keep track of which machines have which programs installed. In the middle are packages using a regular license server. You still have to manage them yourself, but they can still be shared.

### **Goverlan™**

RSA uses Goverlan (<http://www.goverlan.com/#/Goverlan-Remote-Administration-Solution>) to manage our local software installations and inventory. It enables us to set up reports that identify which machines have which version of what software installed. It can start processes invisibly on individual machines, or run an MSI deployment on whole batches of computers at once. It can even uninstall software this way—although if you're going to do that, be sure no one's actually using it at the time.

Goverlan is definitely an IT solution, and if you have full- or part-time IT Managers you'll want them in on it too. They'll be able to take advantage of features that are outside the DDM scope, like network settings and account properties. Then you can stick to the "installed software" side.

Pros	Cons
<ul style="list-style-type: none"><li>• Automated, silent installations</li><li>• Remote uninstallations</li><li>• Inventory reports</li><li>• Organization of network resources</li></ul>	<ul style="list-style-type: none"><li>• Creating an MSI or EXE deployment requires input from the developer as well as Goverlan</li><li>• Cannot (yet) run processes on user logon. Someone must be logged on or the process will fail, and the reporting doesn't always make that clear.</li></ul>

## Communication

The Building Design & Construction industry is a collaborative environment. No one works on a project all by themselves, so teams need a way to communicate their thought processes. It's one thing to make a decision—it's another to remember it six months down the road.

### **Microsoft® OneNote® & Evernote®**

RSA's main tool for project communication is Microsoft OneNote. Every project gets a OneNote file, with tabs for Project Information, Project Management, Engineering, Drafting, and Coordination—plus whatever else is appropriate for the project. It helps keep track of engineering decisions, model techniques, links to documentations, and more. When somebody makes an engineering or modeling decision that might affect the rest of the team, it gets put in OneNote. That way, it can serve as a reference for decisions made over the course of the project. Sometimes even markups are handled in OneNote. PDFs are imported or linked in, and they can be checked off in the page when they're completed.

Another nice feature of OneNote is the ability to track changes. When you open a notebook, the tabs with changes are bolded, and when you go to that page you can see the specific changes highlighted and the initials of the person who made the edits.

OneNote is also RSA's current tool for managing CAD, BIM, and IT resources. We have tabs for standard procedures, in-house tips & tricks, useful blog articles, etc. Eventually this will be moved to an online document, but for right now it works pretty well as it is.

Some individuals use Evernote for personal note-taking and some collaborative record-keeping. It's not used officially in any project capacity, but it's another tool in the arsenal.

Pros	Cons
<ul style="list-style-type: none"><li>• Collaborative editing</li><li>• Centralized documentation</li><li>• OneNote is included with many Microsoft Office suites; Evernote is a free desktop &amp; mobile application</li></ul>	<ul style="list-style-type: none"><li>• OneNote does not offer notifications; you must open a notebook to see what has changed</li><li>• Setting editing permissions is not a simple process, although it can be done</li></ul>

### **Microsoft Lync®**

RSA acquired an Office 365™ subscription recently, primarily for the advantages of cloud-based email. But Office 365 has turned out to be one of those things that you sign up for because of one specific feature...only to discover many, many more that make it worth it.

Lync is one of these. It's primarily an instant-messaging service, and it automatically includes anyone in your Office 365 account in its database. You can use it on the web, or as a desktop client. RSA's subscription only includes Lync Basic, but even that has plenty of features. You can send files, share your screen, even have voice and video chats if you're set up with a headset.

Pros	Cons
<ul style="list-style-type: none"> <li>• IM communication across multiple office locations</li> <li>• Connection with Office 365 for photos and contact information</li> <li>• Voice &amp; video calls</li> <li>• Screen sharing &amp; remote control</li> <li>• File transfer</li> </ul>	<ul style="list-style-type: none"> <li>• No batch installations</li> <li>• No automatic population of contacts &amp; groups; each contact must be added one at a time on each account</li> <li>• No IMs with external contacts (although that might be considered a Pro in some environments)</li> </ul>

### **Microsoft SharePoint®**

SharePoint is another side benefit of Office 365. It wasn't part of the initial decision process for moving to Office 365, but it wasn't long before the possibilities became clear.

SharePoint has become our new intranet—also known as “The Source”. It has not only the standard office resources like a calendar, employee directory, and office manuals, but also engineering, project management, and documentation resources. These resource libraries have everything from official standards and guidelines to electronic publications to TeKIs. TeKIs are a Siliman specialty: “technical knowledge & information” articles written by engineers, drafters, and admins to share the experience they've gained working on projects or from personal research projects.

RSA is not currently keeping project-specific information on The Source. SharePoint is an excellent storage and collaboration tool, but it's not designed for AutoCAD, Revit, or engineering files. There are also far too many active projects at any given time to be able to manage them successfully as mini-websites. Project data may eventually move to the cloud, but right now a hybrid sever-cloud solution is working well.

Pros	Cons
<ul style="list-style-type: none"> <li>• Professional, polished, out-of-the-box site options</li> <li>• Many built-in tools &amp; resources</li> <li>• Extensive customization opportunities</li> <li>• Support from Microsoft</li> </ul>	<ul style="list-style-type: none"> <li>• Requires significant IT investment in time, knowledge, and training. (But what website doesn't?)</li> <li>• Can be complicated enough to justify outsourcing development and/or ongoing support.</li> </ul>

## **Conclusion**

As technology continues to grow and improve, Digital Design Management will become more and more important to firms of all sizes and in all industries. Expanding your own management and communication skills alongside your technological expertise will help you prepare to be a leader in your company for years to come.