

11th Annual AUGI Salary Survey

Thank you to the 2,778 members who took a couple of minutes out of their day to contribute to this favorite AUGI resource. Please keep an eye on *AUGI HotNews*, email blasts, and our social media channels next summer so you can participate, too!

Once again, your fellow AUGI members bring you a peek into work lives all over the world! Welcome to the 11th Annual run of your survey.

I hope you enjoy the new take on the Salary Survey. Please, feel free to suggest additional changes, after reading the FAQ on www.augi.com/surveys. This report should focus on what you want and need to know about what is going on in our industries right now.

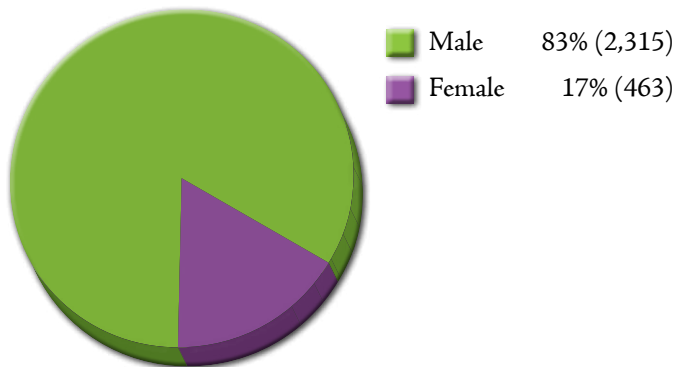
In addition to reviews of other industry surveys, many members provided input for the new questions and options, but, I would like to extend special thanks to Brian Myers and Frank Mayfield for their invaluable insight.

Take a peek at the average pay by various factors, and average them out for a good idea of what you could expect to make. Job seekers, take a look at the way that most respondents found their current roles. Management and Owners, take a look at the reasons why your top talent may be considering leaving your company.

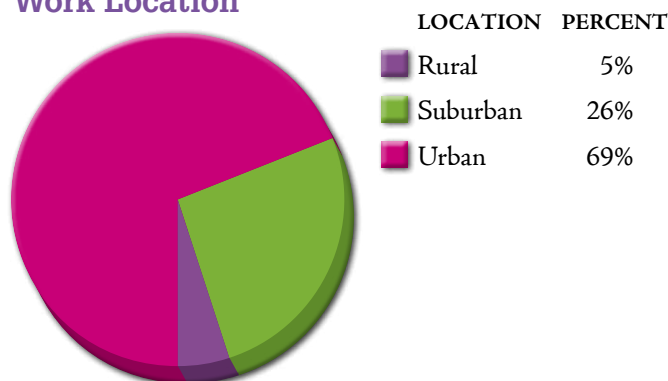
When asking for a raise, do not forget to gather as much support as possible. Check out Robert Green's annual CAD Manager's Survey, Indeed.com/Salary, the NACE Salary Calculator and any surveys specific to your specialties and industry.

See our podcasts for more tips on knowing, and demonstrating, your worth: <http://www.augi.com/publications/audio-video-content/>

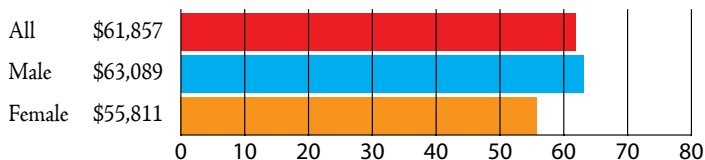
Employee Gender



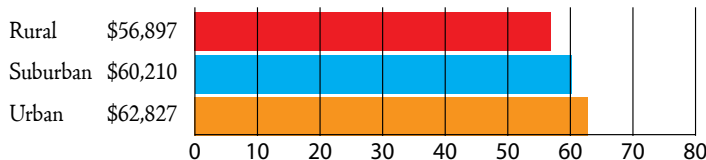
Work Location



Average Pay Per Gender

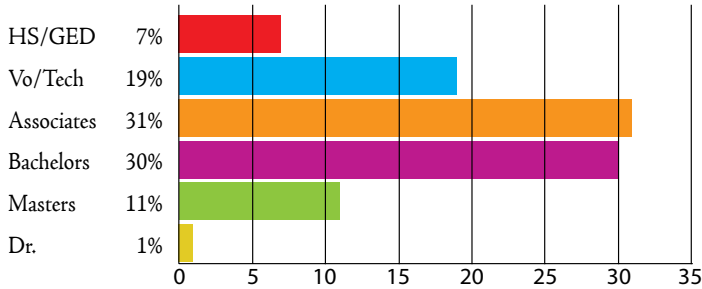


Average Pay By Work Location

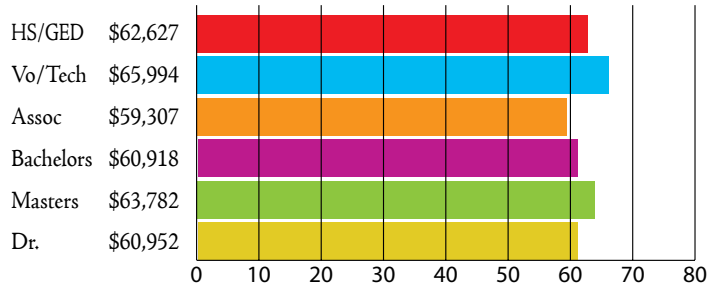


THE BASICS

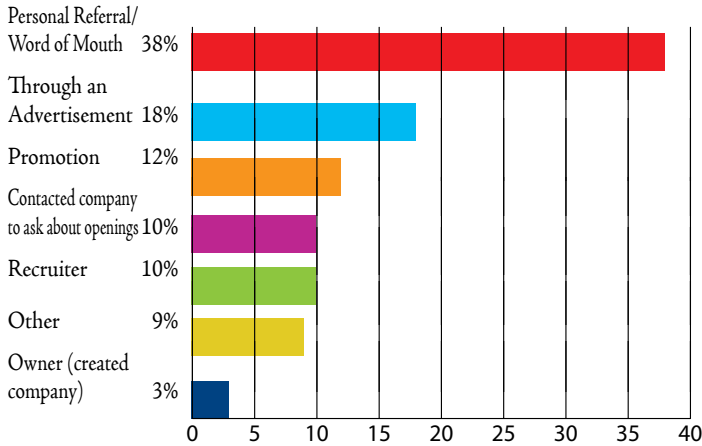
Education Level/Degree Attained



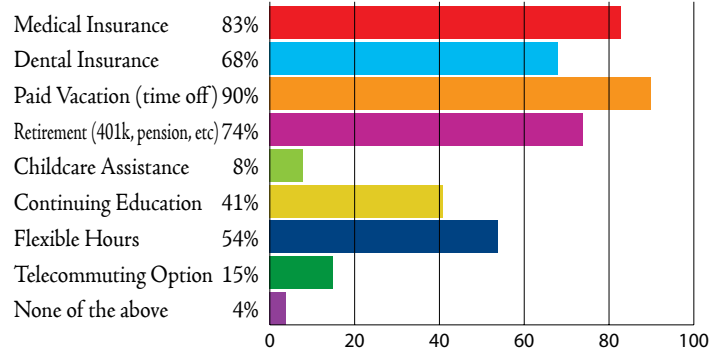
Average Pay By Education Level



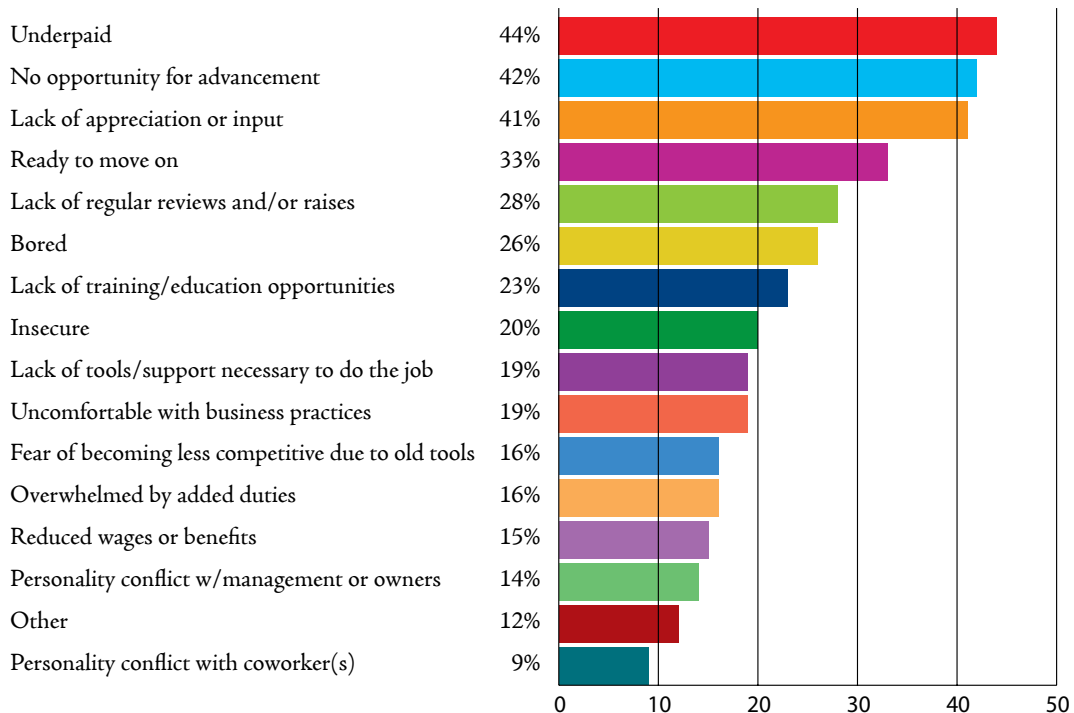
How Did You Find Your Current Role?



What Employee Benefits Are Available to You?



If You are Thinking about Quitting Your Job, What Factors Played a Role in Your Decision?



FAST STATS

Feelings of job satisfaction and security continue to dip downward, as they have every year since 2008.

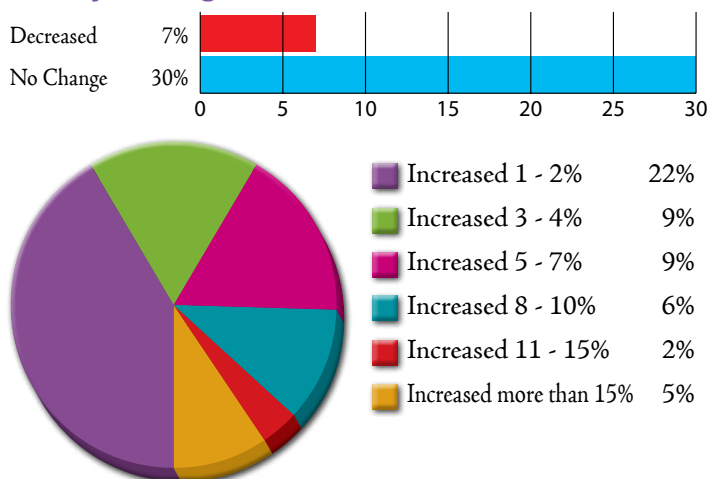
The average raise in 2011 was 5%, in 2012, the average rose to 6%.

More members are dealing with an increased workload in the same job.

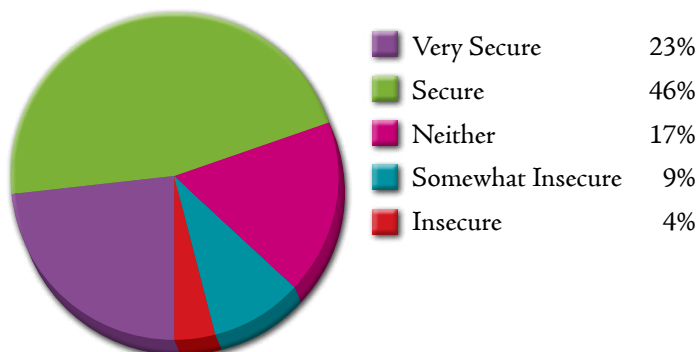
Feelings of Job Satisfaction



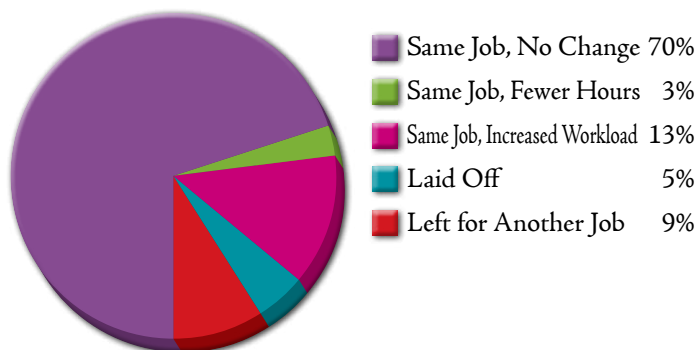
Salary Change This Year



Feelings of Job Security

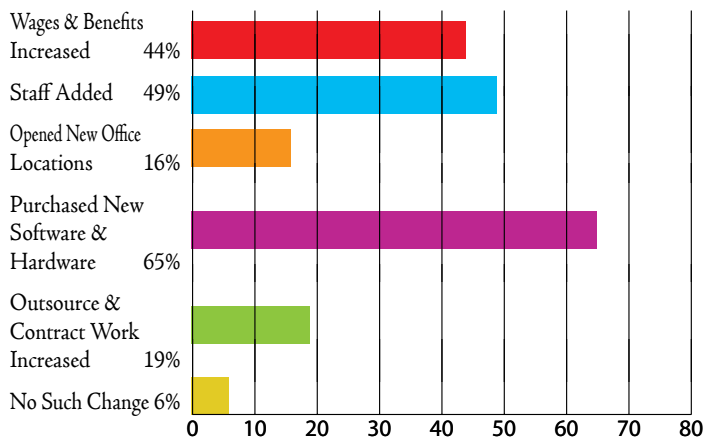


Change in Employment

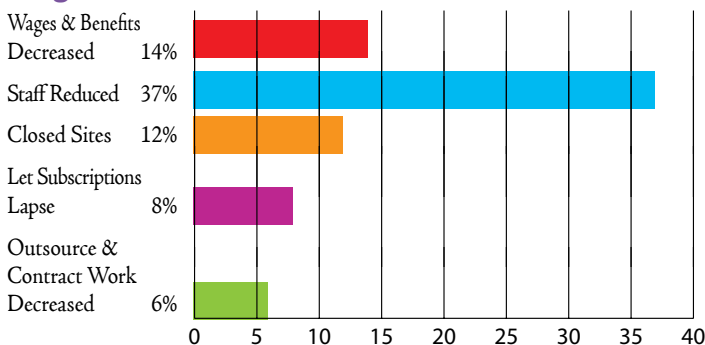


HAS YOUR COMPANY DONE ANY OF THE FOLLOWING IN THE PAST 12 MONTHS?

Positive

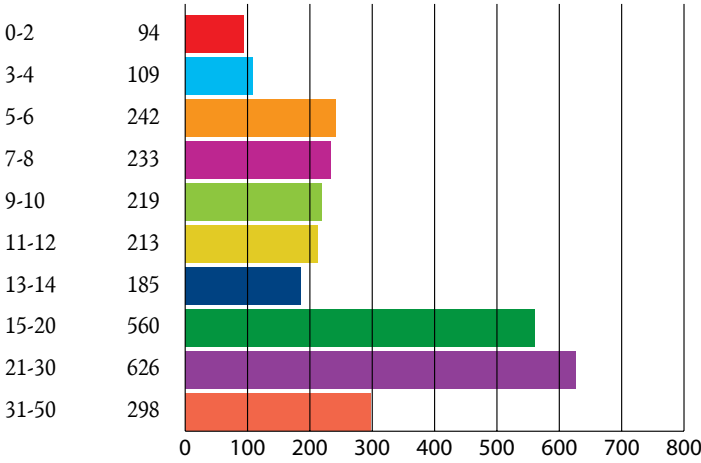


Negative

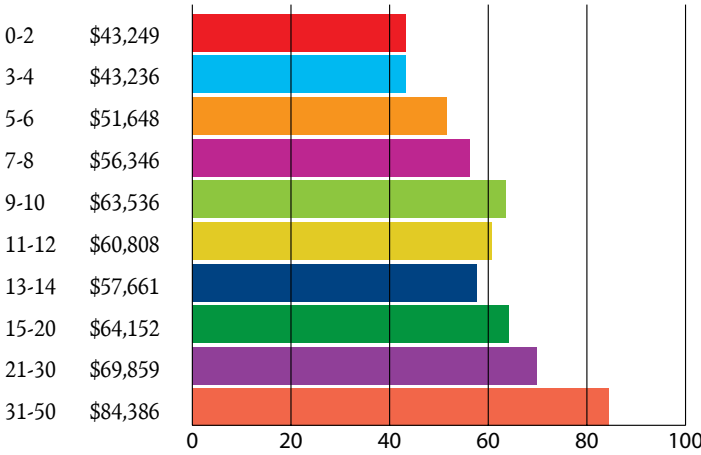


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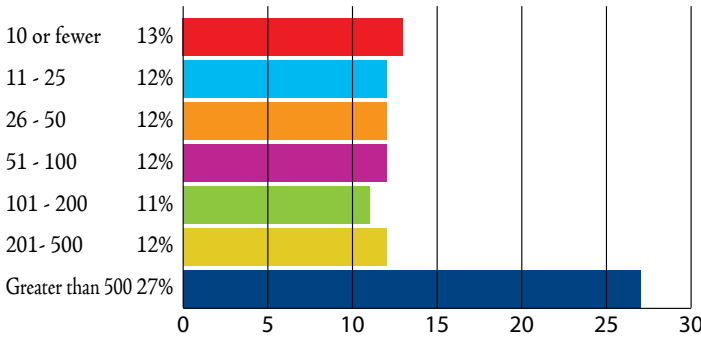
Respondents' Years of Experience



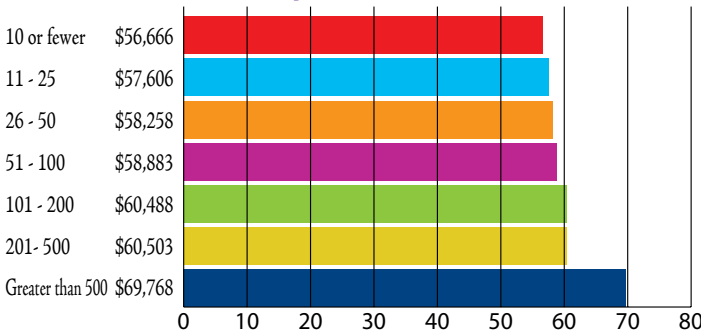
Average Pay By Years of Experience



Number of Employees in Company



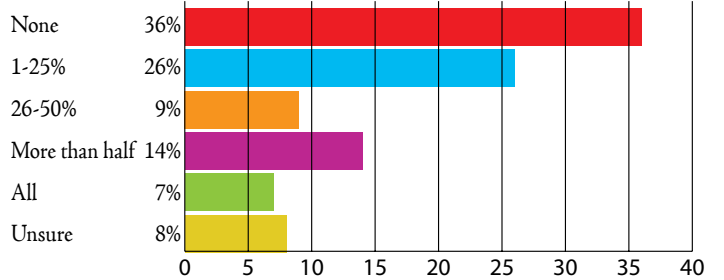
Average Pay by Company Size (Number of Employees)



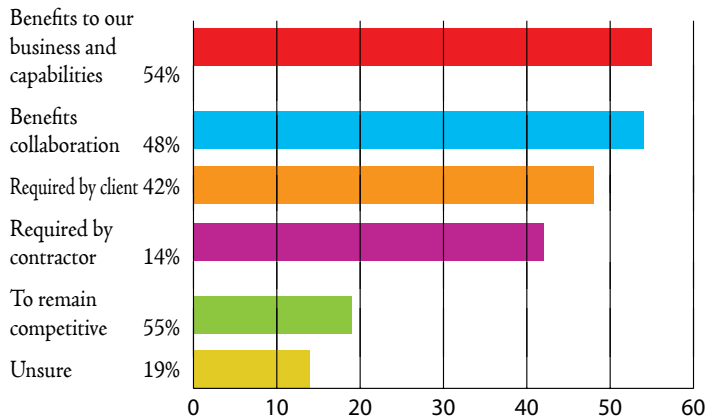
HOT TOPICS

Let's put some numbers behind all the buzz about BIM adoption and The Cloud...

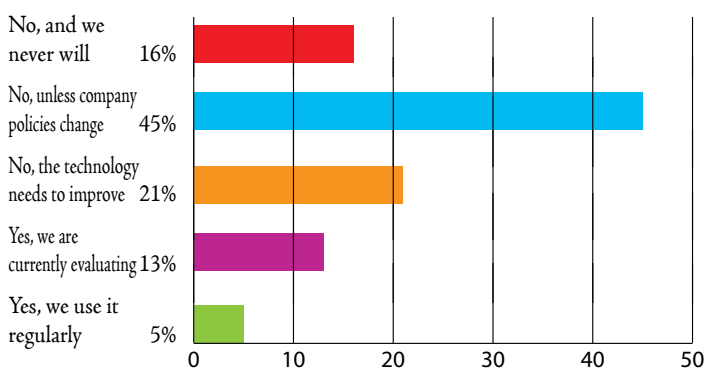
(If applicable) What Percentage of Your Company's Projects are BIM?



If You Are Using BIM, Why?



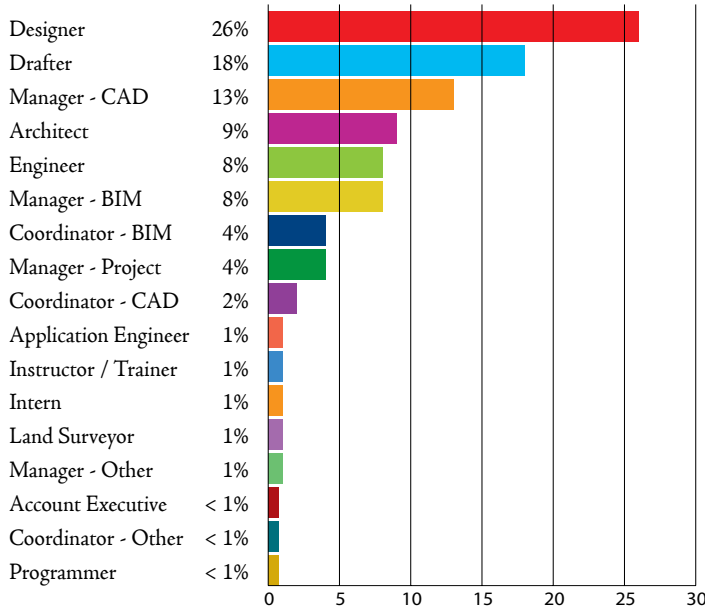
Do You Run CAD/BIM in the Cloud?



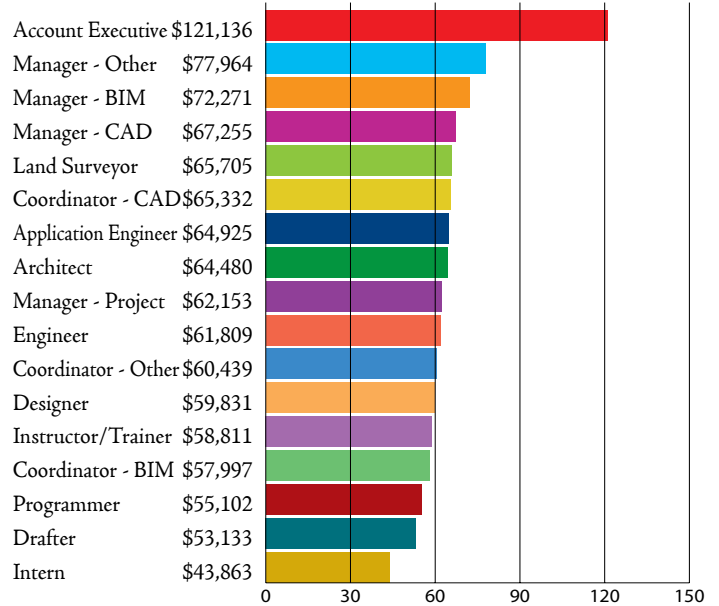
The average pay for those in firms who report doing no BIM projects is \$60,156.
The average pay for those who report using BIM on more than half of their projects is \$64,310.

JOB TITLES

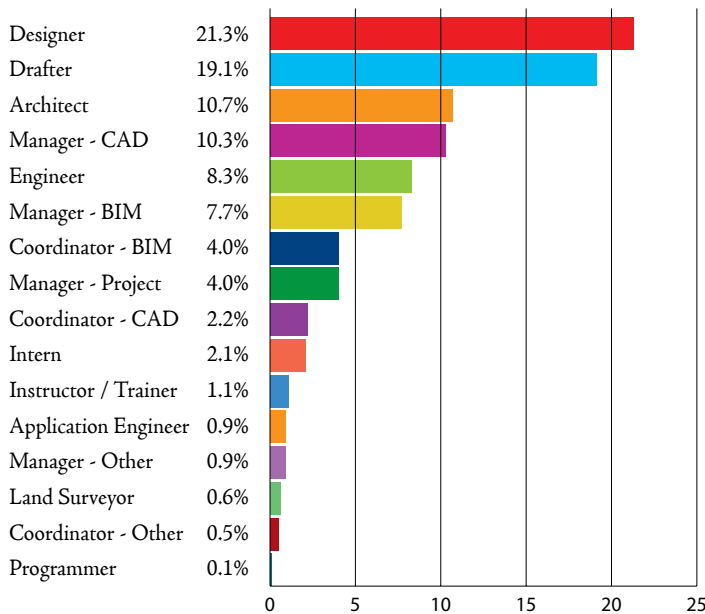
Survey Participants



Average Pay by Job Title/Function

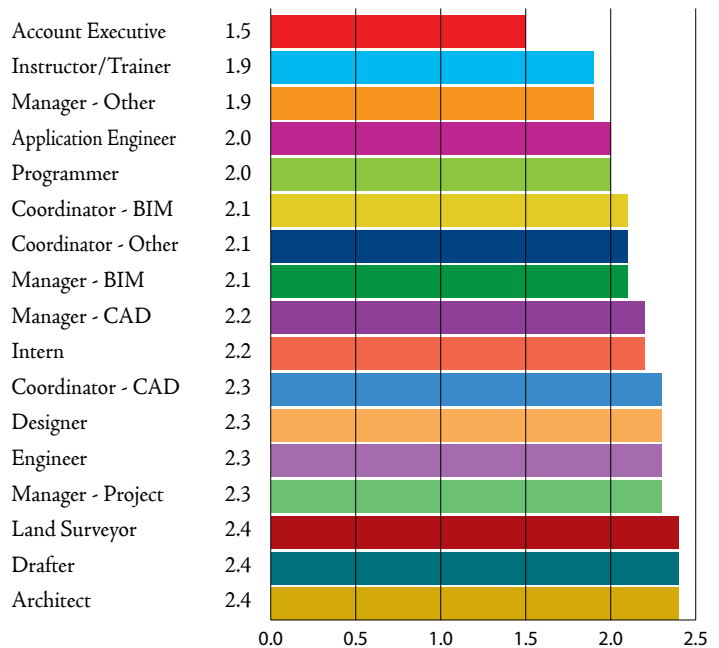


Those who reported considering leaving their current role because of being under-paid, percentage by job title:



Job Titles, listed in order from Most Secure and Most Satisfied to least.

(Average responses to levels of job satisfaction and perceptions of job security were closely matched.)



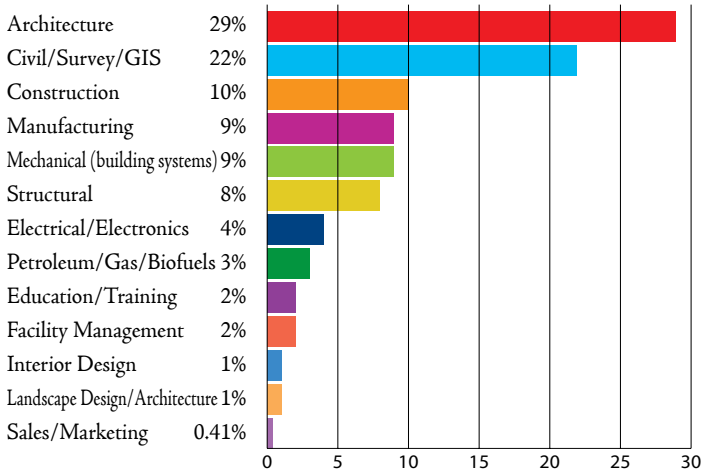
In 2007, less than 2% of survey respondents were titled as BIM Managers.

In 2012, this segment has risen to 8%, plus the 4% who are BIM Coordinators.

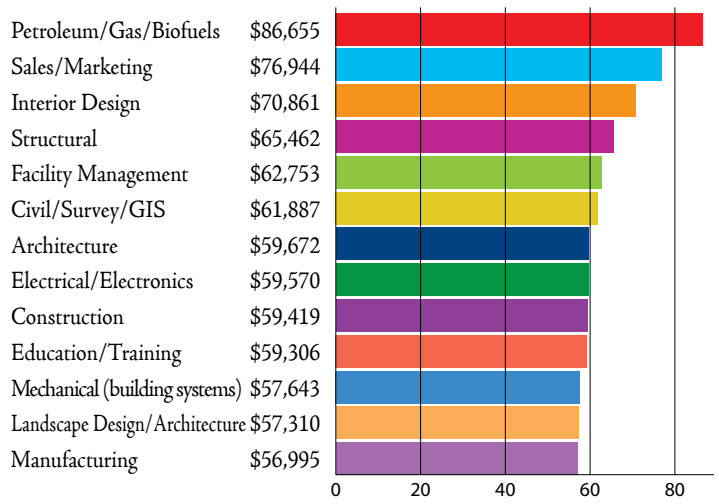
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INDUSTRIES / DISCIPLINES

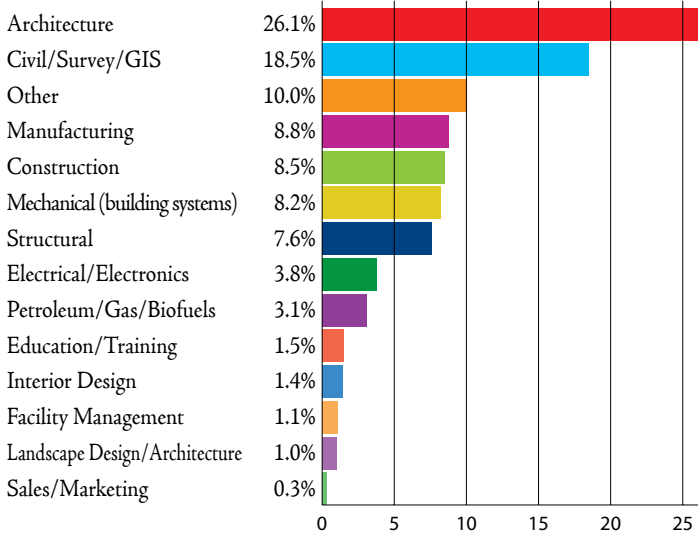
Survey Participants



Average Pay by Field/Industry

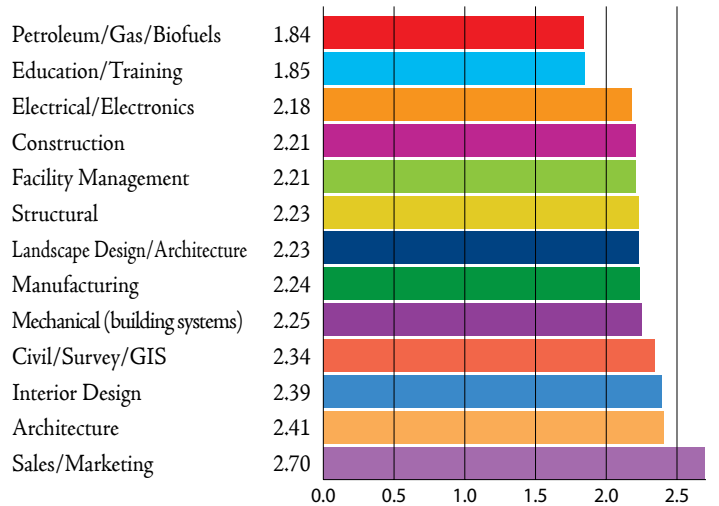


Those who reported an increase in staff in 2012, percentage by industry:

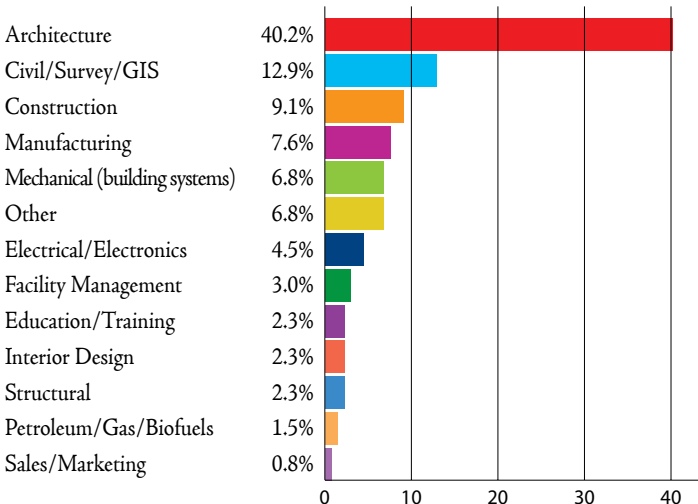


Industries, listed in order from Most Secure and Most Satisfied to least.

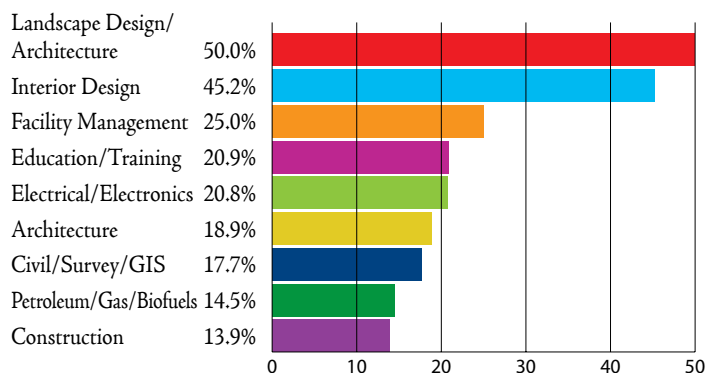
(Average responses to levels of job satisfaction and perceptions of job security were closely matched.)



Those who reported being laid off, percentage by industry:

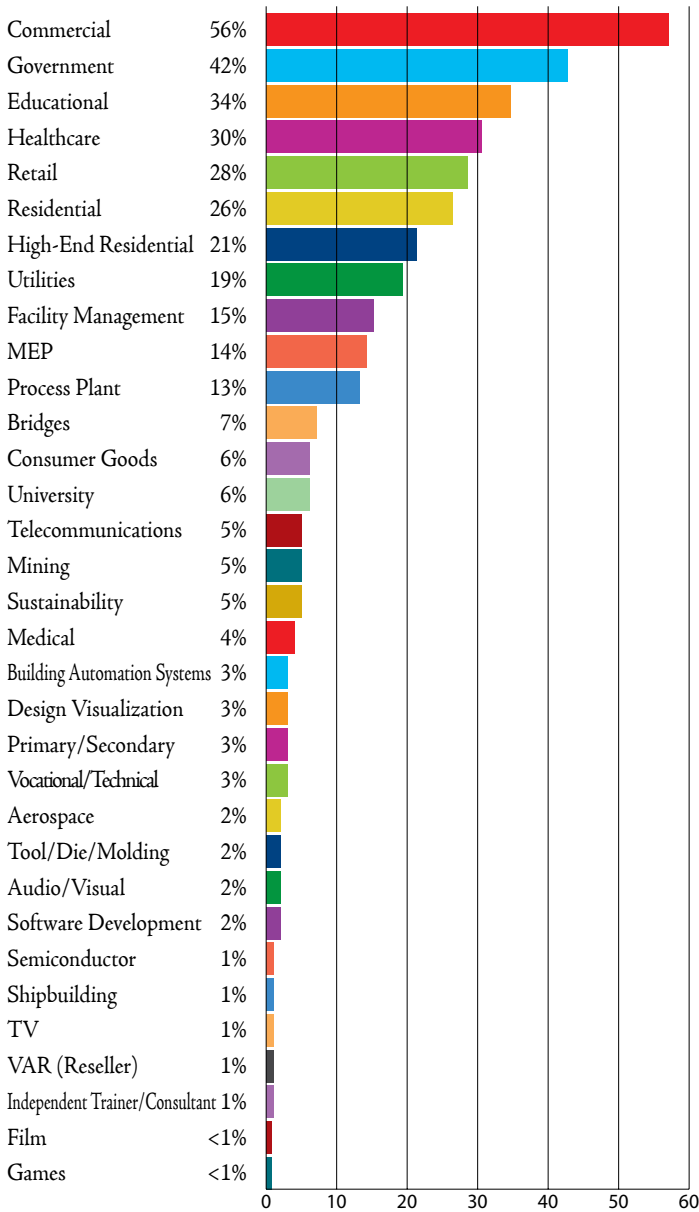


Top Fields for Women (percentage of female response by industry)



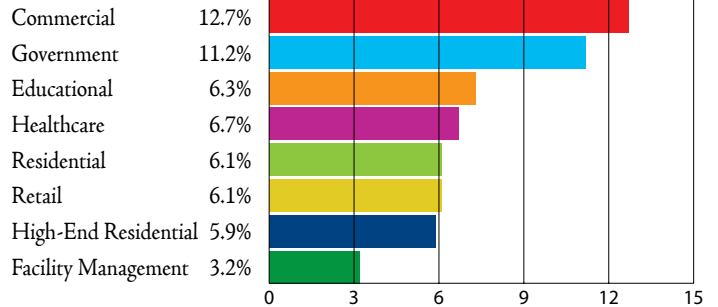
MARKET SERVED / SPECIALTY SERVICES

Percentage of Responses by Market

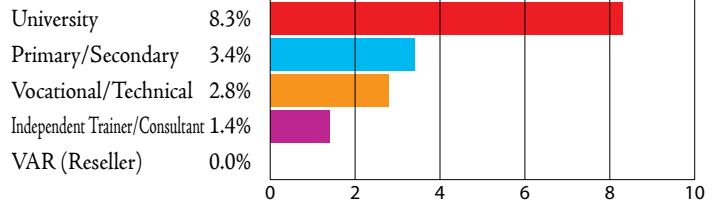


Percentage of each industry segment who have reported increasing staff in 2012.

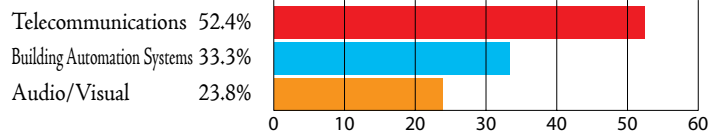
AEC



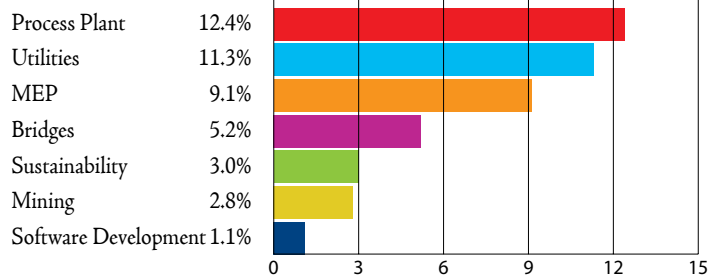
Education/Training



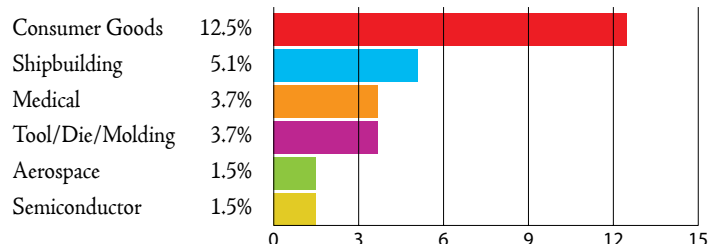
Electrical



Engineering

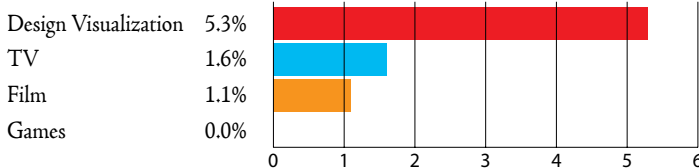


Manufacturing



According to McGraw-Hill's "Construction Industry Workforce Shortages" report, 86% of A/E firms are concerned about being able to find enough experienced staff for their 'green' non-residential construction needs.

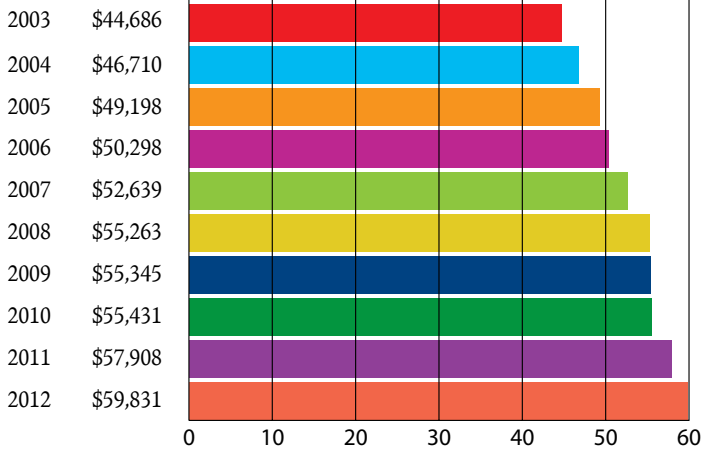
Media & Entertainment



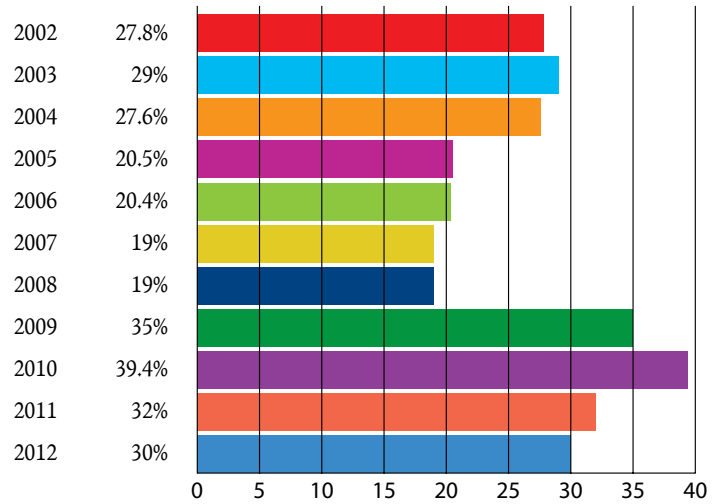
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A LOOK BACK

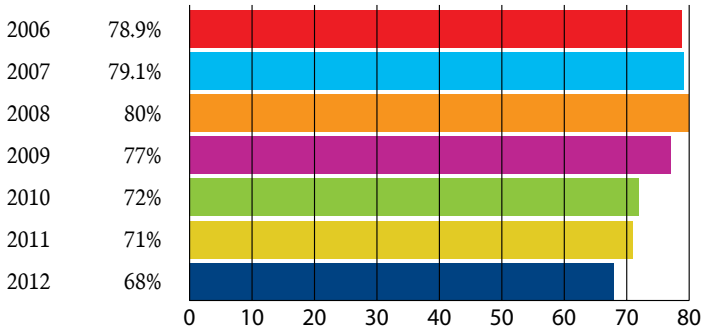
Average "Designer" Pay



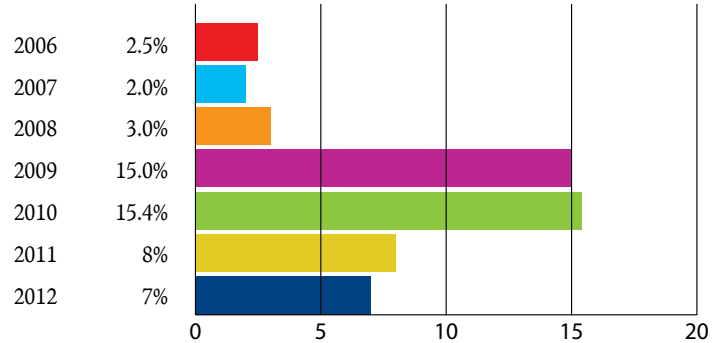
Percent of Respondents Who Received No Raise



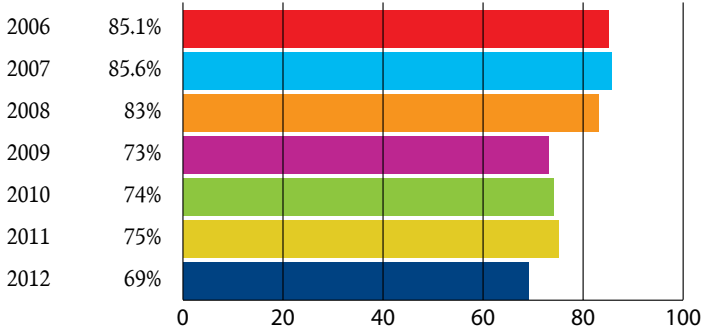
Percent of Users Who Are Satisfied



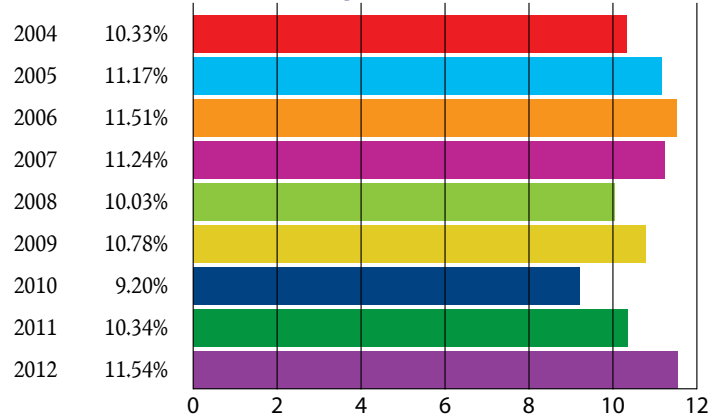
Percent of Users Who Experienced Pay Decrease



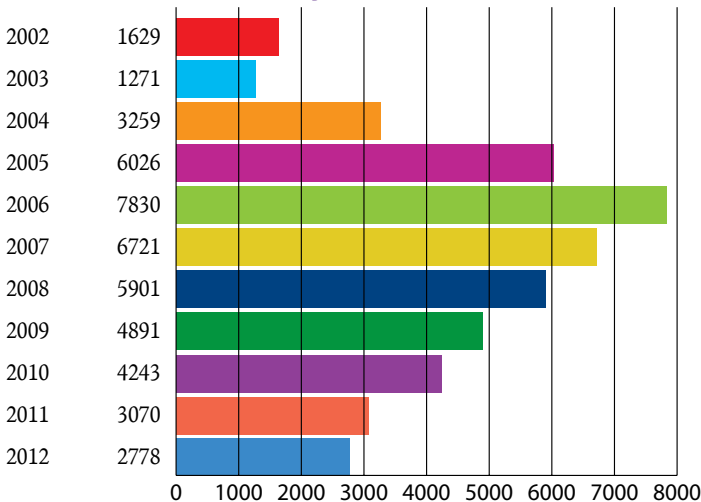
Percent of Users Who Feel Secure



Percent of Female Pay Difference



Responses to Survey



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Retaining Talent

In a previous article (May 2012 – “CAD Employee Hiring 101”) I talked about how to hire a new CADD technician, and in July 2012 Curt Moreno did another article titled “Employing the right Hiring Practices.” Both articles discussed hiring CADD technicians, but differed somewhat in approach. The first article discussed using a standard methodology to finding and hiring good people. The methodology covered creating a game plan to use for hiring before it is needed and then following that consistently when the need arises, adapting as necessary. By

planning ahead, like any business process, it keeps the actual hiring procedures from being painful and reactive when a position has to be filled. This article also focused more on finding a long-term employee rather than just filling a slot.

Curt’s article took a different approach and focused more on an immediate need to hire a CADD technician. This need was created by an existing position being vacated on short or no notice or a flood of projects with rapidly approaching deadlines. Due to this quick need, many steps in the “how it should be done”

Management

playbook were eliminated or shortened. The differences here could be summarized as proactive versus reactive hiring or as Curt summarized it as “Perfect World versus Real World.” Curt made some valid arguments on the need to quickly fill a position, but I believe that there may be some underlying reasons that the scenarios mentioned would require this approach. Some things to consider are the current planning, forecasting, and staff retention practices. As Curt mentioned, projects have deadlines, which mean they should have schedules and an understanding of staff resources.

Both articles had numerous things in common that ultimately would lead to a final decision on who to hire such as multiple interviews, testing, and staff/peer reviews. No matter which methodology you follow, the ultimate goal is to hire a good person and keep that person around. The steps and procedures indicated in both articles can be applied to most any type of position. It is not just for CADD technicians.

The key ‘take-aways’ from the May article were:

- Determine your need
- Create a clear and accurate job description
- Promote your position
- Screen your candidates (checklist, reasonable time, multiple interviews by various individuals)
- Make sure your final candidate is the right fit

So let’s assume you found and hired your new tech and he/she has turned out to be a rock star. The person shows up on time, if not early, and stays until all tasks are done. The employee is enthusiastic about helping others and learning new things, up to speed on new commands and tools, and gets along with everyone from the CEO to the receptionist at the front door. Wow—your extra work has paid off and you hired a real keeper. Hopefully, you have a few and perhaps many of these types on your staff, and the purpose of the first article was to help you achieve just that. So, the next question is: How do you keep them around?

People leave companies for various reasons, but the two most common are money and culture. Surprisingly, of the two, money is not number one. No matter how much employees make, at some point, the frustration, unhappiness, and/or lack of advancement will cause them to leave. The culture or day-to-day happenings at your company have a huge affect on keeping people both productive and happy. Just the act of hiring good people has an impact by showing that you care about the quality of your team. When employees see that you are selective in who you hire, it shows them that they were ‘selected’, not just hired to fill a slot, which will give them a sense of value right from the start. There are various things you can do to keep the good ones around and what follows are some descriptions of each. Not everyone would consider all the following to be “culture” items, so to put them in perspective, I offer the following definition from the Human Resources section of About.com:

“Culture is the work environment that you supply for employees. Employees are motivated and most satisfied when their needs and values are consistent with those manifested in your workplace culture.”

The following are some items that affect how employees are treated, rewarded, and how they interact in their work environment. These items are meant to address an employee’s needs and values. If the employee’s values do not match or are not relatively close to those of the company, then maybe the person is not a good fit. Hopefully, you got some sense of this during the interview process.

COMMUNICATION

From day one, make sure your team members (your employees or direct reports) know what’s going on with the company, division, or branch. Some tough topics may require a brief period to think about and form a game plan, but don’t keep news or events (good or bad) quiet too long. Maybe you feel that it isn’t as if you’re hiding anything, you’re just not sharing. For most, it makes no difference. People can be pretty intuitive and will know when something is up. If they do not sense it on their own, in this instantly connected world, they may hear it from an outside social connection or from other peers that overheard something. This is not how you want company information to be discovered or disseminated. Without all the details, people will piece together their own ideas about what is happening, just from the things they see and hear. In many cases, it won’t be anywhere close to the real situation. For an employee, knowing something is in the wind but not knowing what it is can create anxiety, fear, and eventually a lack of trust in their employers. Be open and address the good and bad as soon as possible.

If you have an “open door” policy, make sure that it is just that. If employees think that speaking up will carry repercussions, they won’t—and you may be missing out on some great ideas or useful feedback when it is needed. Remember that the key to communication is that it is a two-way process that involves talking and listening. If you are doing all the talking, then you are just telling or broadcasting, not communicating.

MAINTENANCE

Keeping the right people often means removing the wrong ones. Some individuals are just bad for your culture. These people are the whiners, slackers, and disengaged folks who bring down the positive atmosphere of your company.

• Whiners

Sometimes people whine because they don’t know how to voice their concerns or complaints or don’t think they can. When you see this or hear about it going on, address it quickly—don’t put it off and hope it will go away. The whining will just get worse and spread. Sometimes you will not be able to fix the issues or concerns the whiners have, but if you can’t, you can at least explain why something cannot change. This lets them know you care what they have to say and are willing to address their concerns when you can.

♦ **Slackers**

These people don't pull their weight or have become unreliable when it comes to meeting expectations. They seem to spend more time tweeting, facebooking, or chatting with friends online instead of actually doing work. Even though many have mastered how to look busy for the boss that occasionally comes through, their co-workers know the truth. Seeing this happen regularly causes frustration and disenchantment among the "doers" about putting out extra effort to make up for these production speed bumps—their slacker coworkers. When you see or hear about this, pull the offenders aside and chat with them or give them a warning. If they don't change, remove them as you would a tumor—before it spreads.

♦ **The Disengaged**

These folks have lost their drive or interest in what they do, either from boredom or lack of motivation. These are the folks who throw out the zingers such as "Not my job," "Not my problem," "Not my department," or "I'm off the clock" when asked for assistance. When you get a few of these folks in the mix you have the potential, as with the slackers, to frustrate and demotivate your star players. It's true that star players can perform anywhere, but they prefer to do it in a positive environment. When one of your employees needs information or help to get something done or, even more critical, when a customer is looking for answers, the last thing they need is a "It's not my job" or "I'm off the clock" kind of answer. You need team members who are willing to do what it takes to get it done, or at a minimum, point others in a direction that keeps them moving forward.

If you have employees who fit into any of these classifications, find them and see if something can be done to motivate and change their current attitude toward their job. If not, set them free to pursue their interests elsewhere!

REVIEWS

Reviews are important and there are a variety of types. While all are good and serve a purpose, some are clearly better than others, depending on an individual's position and industry. For example, in the AEC industry, the most common is the annual review. One bad aspect of this type of review, which I have seen at almost every company, is that the promised annual review is rarely an annual event. Some people go for years without a review; employees may even get a raise or bonus, but no review. This sets a bad precedent. The expectation will become that employees get a raise each year, and there is nothing tied to why they got it. Some may be fine with that—these are often the disengaged or the slackers (no chance of having to face the music). Those who don't get a raise or bonus or feel that what they do get is too small become your whiners.

I do not like annual reviews for various reasons, some of which I'll discuss in Rewards later in this article. The once-a-year summary is inadequate for keeping a real-time connection with the people who keep your company moving. Personally, I prefer bi-weekly one-on-ones. I've used these in the past and they have

worked very well to increase motivation and keep me connected with members of my team. If you not familiar with one-on-ones, the following is a brief description.

A One-on-One is basically a weekly, 30-minute scheduled meeting between a manager and a team member. The meeting is typically done at a consistent time every week. If every week is hard to do, try every two weeks—but don't go over one month apart.

The meeting needs to be structured to include time for both the team member and the manager to speak. A typical meeting allows 10 minutes for the team member, 10 minutes for the manager, and 10 minutes to discuss the future (expectations for the next get together).

In many organizations managers know very little about their team members. One-on-ones are a great opportunity for managers to establish a relationship with their team members and address issues and concerns on both sides on a frequent basis. You can use this opportunity to sense how engaged the employee is, how the work is progressing, and any wish list items or suggestions the employee may have. For the manager, it's an opportunity to offer suggestions, give feedback, and express short- and long-term expectations. Each meeting helps both sides track the progress in their projects, their training and long- and short-term goals.

When employees see that a manager is showing an interest in them, they feel more appreciated. Those who think they don't have the time to do this are wrong, as the time invested will increase the team's productivity and communication. There have been many individuals that have had this belief, but once they gave it a serious effort and saw the results, their beliefs changed. If you are looking for more than just a one-on-one review and would like a more global picture of how the employee is doing, consider adding an annual 360 review.

There is a ton of additional information online about one-on-ones; just Google "one on ones."

If you don't have a policy for reviews, create one, and if you have one—follow it! In my personal experience and in discussions with others in the AEC industry as well as many others, this one topic is a huge source of frustration for employees.

PRAISE

Although some people go on for years doing their job and are happy in their own knowledge or beliefs about how they are doing, most people like, and many need, to actually hear it. I am one of these. Although I strive to do the best I can and can beat myself pretty good when I make mistakes or don't meet my own high expectations, nothing feels as good as seeing that others recognize the efforts and results of what I have done. In this I am not alone. Celebrate and share in the victories, both big and small, be open and positive, but don't be generic. I have seen on multiple occasions where an owner or manager has thanked everyone in the office for the hard work they did on a successful project, knowing full well that there

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were a handful of people who actually made it happen or did the bulk of the work. Thanking everyone that plays a part is good, but making sure you take some extra time to recognize your stars is critical, particularly if you want to see the efforts continue.

Those who do not feel appreciated for the extra effort they put forth will likely find somewhere else to work where it *is* appreciated. Recognizing people for going above and beyond in front of their peers is not bad for the peers—it is good and shows that you recognize when extra effort is put forth, and you appreciate and encourage it. Positive recognition also serves to motivate others. Even if there are some “haters,” when they do something that garners them positive recognition, they too will bask in it. Keep in mind, while showing appreciation in front of peers is good, offering criticism is not.

Those bosses/managers who like to throw out the statement that “people should just be glad to have a job in this economy,” should know that’s the last thing anyone wants to hear. Unless employees are living under a rock, they know that they are fortunate and appreciate the fact that they have a job. But with all the layoffs and cutbacks, the employees who remain are typically there for a reason and maybe managers should be thankful that they still have good people that work long hours, often at reduced pay, to get out the work that keeps the company producing and in business in this tough economy.

REWARD

Although some folks may thrive on recognition or praise, many want to see more, such as a reward. Rewards do not always have to be monetary, but they should have real value. Bonuses are great, but raises are even better (raises feed you every week, not just once a year). For many, value can be expressed in a variety of ways. How about “employee of the month” parking, badges on a central board, printed certificates of appreciation, or lunch with the boss? All of these are low- or no-cost items that can provide some value to the employee, mainly in recognition.

Everyone likes money and if you plan to make a monetary reward, don’t forgo the low-cost options mentioned above—include them as well. I have never been a huge fan of yearly bonuses because they often do not align with the tasks or effort that is being rewarded. In sales-driven organizations, most salary-with-commission folks get bonuses paid out quarterly or monthly for their efforts, so why can’t the performance bonuses be treated the same? Cash flow and billing cycles are always a reality, so quarterly would seem like a good timeframe.

If cash is not available and you have no reserves, but you know money is coming, make sure you have recognized the top performers at the time of performance and let them know they will see something extra when bonuses do get paid out. After all, even you might forget what some of your folks did in January when March or, worst case, December comes around. Profit-sharing bonuses are typically done annually, but performance-based bonuses should be given at the time of or very near the performance that is being rewarded.

TRAINING AND DEVELOPMENT

Training benefits companies from all industries, but the more technical the work, the more critical and beneficial it becomes. Training is useful at all levels; the more knowledgeable a company is about its industry and products used, the more successful it will be with employee and customer retention. Keeping your managers up to speed on management skills and keeping your CADD techs up to speed on new software features not only makes them more productive, but it also keeps them feeling secure about their future.

If you cannot afford professional training, there are other options available to help team members improve themselves. Examples are in-house “lunch and learn” classes and inexpensive online seminars and training videos. Develop a mentorship program, where team members can improve their skills by working with veteran leaders.

When things go wrong, treat the failures as opportunities for improvement. Nobody likes to fail, but when given another chance, most will learn and improve. When an employee fails, he or she is typically at a low level of self confidence and is likely to be more open to feedback and coaching. This is an opportunity to try and get employees to open up to new ideas or ways of doing things. Keep a positive attitude and coach—don’t criticize. You can turn these failures into positive learning experiences.

EVOLVE

Regularly look back at the successes and failures you have had with your team. Take away from this your key successes and failures, processes and procedures, and make sure you keep doing the stuff that works and change the stuff that doesn’t. Keep looking forward—don’t get stagnant and “comfortable” with the old ways.

Remember that people are investments, not just acquisitions. To keep the good ones you will need to continue to invest in what you have. In almost all cases, it is far less costly to maintain than replace. Do these things and do them consistently; communicate, perform maintenance, recognize, review, reward, develop, and evolve. You will keep the returns coming in on your investment!



Walt Sparling has worked in the building design industry for 25+ years, starting as a hand drafter. He moved on to CADD in the mid 1980s and then into CADD and networking training and consulting. Walt has served as project manager and designer in the mechanical and architectural realms and currently works with an electrical engineering firm in Tampa, Florida. In his spare time, Walt maintains a couple of blogs and a personal website: FunctionSense.com and waltsparling.com

Follow the Money— The Climate in Archviz



➔ **3**D visualization artists are in a field that has seen significant changes in recent years, and we are tasked with stretching beyond the traditional approaches to working and doing business.

I spoke to four major players in visualization, including artists, educators, and business development professionals. Their insights about client relations, technological trends, advancements, and challenges help to illuminate the continuing development of the Viz industry. By all accounts it will be the ability to remain flexible and mindful of new opportunities and innovations that will allow digital artists to thrive, and determine the future viability of 3D Visualization.

Since everyone we spoke to is quite busy—which is a good sign in itself—it made sense to raise only three questions, hoping to boil down the intricacies of the business as much as possible.

WHO WEIGHED IN?

Robert Becker, CEO of Presenting Architecture. Presenting Architecture is a comprehensive curated resource directory of architectural presentation specialists, including communication experts, physical model makers, photographers, and visualization artists. www.presentingarchitecture.com

Ted Boardman, Authorized Autodesk Master for 3ds Max, educator, trainer, award-winning author, and columnist. Ted has enriched the world of 3D visualization from its earliest days and continues to contribute to the community through writings and seminars. www.tbmax.com

Lon Grohs, Vice President, Business Development at Chaos Group. A past principal at Neoscape, Lon works with Chaos Group partners and customers, developing strategic market initiatives and promoting advancements in rendering technology. www.chaosgroup.com

Kitty Li, Founder and Managing Partner at LIK Group, and Co-Chair of the Asian/American Designers Forum. LIK Group is a full-service studio, serving the architecture, building, and real estate development industries. www.likgroup.com

Q: HOW HAS THE TYPICAL CLIENT PROFILE CHANGED OVER THE LAST 5 YEARS?

Lon: Follow the money. Having seen AEC from multiple perspectives, it is clear that developers and owners make up the growing majority of high-end Viz clients. Developer's assume more financial risk and have more at stake.

Kitty: It is usually preferable for us to work with the end user of the products we produce. Even when multiple organizations are involved on a visualization project, the ultimate decision comes from the person who is paying it. For 90 percent of our projects, our fee comes from the developer's direct or indirect billing.

Ted: As an educator, my clients are architects, developers, and contractors who would like to incorporate 3D visualization into their in-house workflow. Five years ago, clients were ready to roll up their sleeves and learn 3ds Max. Today, I typically

have clients requesting that I only “teach them to do photorealistic renderings.” The marketing of many 3D packages has led them to believe that the process of visualization is simple, but they are not prepared for the depth of knowledge required to produce exceptional work.

Robert: Diversification is just smart business. My typical client has changed a little bit to smaller firms—and not always architects, but often planners and developers looking to show their venues in early conceptual design. From everything I have seen, far more of the visualization work has been *in-sourced* than many people might think. SketchUp is the basic in-house solution, and just before the big slow-down, many assumed that a lot of work was getting sent out to cheaper overseas shops. Though that did start to happen, I’d say upwards of 80 percent of all visualization is done by architects in-house. During the downturn, architecture firms wanted to keep their staff busy. The thing all visualization firms will have to do is to make standout presentations and provide a product that is beyond what can be done by architects themselves.

Q: WHAT ARE SOME OF THE EMERGING TECHNOLOGIES AND MINDSETS THAT WILL HELP TO SHAPE THE FUTURE OF THE WAY WE WORK?

Lon: Software that takes advantage of cutting-edge hardware may be the most significant factor to consider. New architecture called Kepler is the evolution of the current Fermi. NVIDIA just announced Maximus 2.0, using Kepler architecture, opening the door for real-time ray tracing and global illumination. Beyond quality of work, this directly affects the artists’ quality of life. CG artists can actually go home at 6 PM instead of 6 AM the next day. Tasks such as look development (materials and lighting) can be accomplished in hours, not days.

Software continues to improve. V-Ray Real Time and V-Ray for Maya are both maturing, and are more powerful than ever before. Real-time rendering engines will affect the industry immeasurably.

Robert: 3d printing is going to boom; it’s getting quicker, better, and cheaper. Animation may become the norm even on smaller projects. The firms that can efficiently incorporate new technologies as well as grow on the artistic side well will benefit greatly.

Kitty: Hardware advancement will help the efficiency of production, but visualization, by nature, is a creative production process and will always rely on talented artists. The fact that tools are getting better can only help.

Ted: In the near term, some productivity gains can be accomplished by specialization. More use of compositing software such as Autodesk Composite or Adobe After Effects allow projects to be created in layers that are more easily and efficiently manipulated and edited “on-the-fly” to provide a richer experience for the client.

In the long run, computer games technology and workflow should become more important to 3D Viz by providing a rich and far-reaching immersive experience that can be accessed and viewed on a wide range of devices.

Q: CONSIDERING THE FAR REACH OF 3D WORK IN ENTERTAINMENT AND AEC, WHICH AREAS OF THE INDUSTRY SHOW THE MOST POTENTIAL FOR GROWTH? AND IN WHAT PARTS OF THE WORLD?

Lon: AEC is a very strong market for Viz. The importance of gaming is that it has been at the forefront of getting CG directly into the hands of millions of people.

Canada, Brazil, and Australia are major players even now, but the thing to be aware of is the trend toward localization. In places where there is growth in construction there will be growth in the local Viz market. As things in the global market slowed, the element of risk became more influential in decision making. Issues concerning communication and cultural differences helped to fuel the widespread inclination to work locally. Also important to consider is the relative scale of CG production houses around the world. Top-ranked companies in the US rarely exceed 50 employees, whereas in Asia a large Viz house can have as many as 2,500 people. It’s even conceivable that, as things improve and relative values of currency evolve, the US could become a viable outsourcing option.

Ted: I don’t see any one industry becoming a “growth” industry other than the occasional bubble and, given the global nature of communications, I’m not sure that any one part of the world offers more potential than others.

Robert: Interactive gaming will grow and many companies will market their AEC products in some form where interactivity in Viz will be used more extensively.

CONCLUSION

Whichever course the Viz industry may take in the future, it is clear that as artists, we will need to evolve in our thinking, planning, and execution—both of the business of art, and the art of business.



Tom Cipolla is a digital artist specializing in architectural visualization. Born in New York and trained as a classical sculptor, he transitioned to working digitally in 2000. Tom has taught foundry practice, sculpture, drawing and 3D software. His studio, Onion3D, is a consulting and animation studio located in South Boston, MA.