

Career Paths for Programmers

by John Bennett Jr.

I recently interviewed for a Business Analyst position with the CIO of a large multi-national software development firm. This man was in charge of the company's worldwide IT operations, including offshore development projects, for which he was searching for qualified Business Analysts. The interview quickly became a casual conversation about current trends within the IT service sector, how the company was planning to take advantage of those trends, and, most importantly, how I could fit into those plans. It was during his evaluation of my skills that I asked how I fit and whether it was technical or business skills that were most valuable to his projects. The CIO summed up his advice about my career path with one small sentence: "Stay on the business side."

Business skills, in this CIO's view, were most important to his future projects and the industry as a whole. His reasoning was that he could train anyone in the technical skills he needed for a project, but finding those people with the necessary business skills to guide an IT project to success was something that could not easily be obtained. He went on to say that he found it difficult to find people who could communicate on even the most basic of levels. I asked if my background as a developer would help in getting a business analyst job, and he conceded that although it's not a requirement, it certainly would help matters as long as I could prove that I wasn't "too technical."

His comments are consistent with the trend that all US-based programmers have observed since the late 1990's: global salary competition amongst programmers, and a growing view in big business of programming as a commodity skill. It's hard to compete with a developer in Russia or India who can work for a fraction of what I make minus benefits. The CIO managed to reaffirm the subtle, but major, shift from technical skills to business-technical skills in today's labor market. I gave weight to his viewpoint since the people in his position are the trendsetters of the technology industry. They are the ones who set the directives for a company's IT needs, and often, the requirements desired for the higher-paying positions.

I did a little research and found that the US Bureau of Labor Statistics Occupational Outlook Handbook predicts that computer systems analysts are expected to be among the fastest growing occupations through 2012. The Handbook describes a systems analyst as someone who may plan and develop new computer systems or devise ways to apply existing systems' resources to additional operations. It describes a computer programmer as someone who writes programs according to the specifications determined by systems analysts. (The book does not separately list business analyst as an occupation.)

According to the Handbook, in the US systems analysts held an astounding 487,000 positions in 2004 (up from 468,000 positions in 2002) compared with 455,000 jobs in 2004 for computer programmers (down from 499,000 in 2002). The Handbook also states that employment for computer programmers is "expected to grow much more slowly than that for other computer specialists." And recent estimates by the Economic Policy Institute have put the number of jobs being offshored at approximately 330,000 to 500,000 jobs. About 100,000 of those were full-time computer programming jobs.

The key to maintaining a good employment outlook in IT, it seems, is to move out of programming and up into more business-oriented IT positions such as systems analyst, business analyst, project manager, or systems architect. However, a computer programmer can't just decide to become a systems analyst or project manager overnight. The journey takes time and requires the right amount of experience and learning to be successful.

Making the Shift

So you've seen the statistics and watched as the jobs in your market slowly disappear. You want to move more to the "business side," but you don't quite know how to do it. As I'll describe next, making the shift can be done on-the-job by gaining more responsibility, polishing up your problem-solving skills, and using creativity in your work.

I began my journey into systems analysis and design by accepting more responsibilities throughout the project I was on when things proved too overwhelming for my superiors. I gradually accepted more of the project management and business analysis responsibilities when the opportunity presented itself. For example, I would walk to Suzy in accounting and work out a new enhancement with her one-on-one rather than wait for my manager to do so. Over time, as my manager's confidence in my abilities grew, these responsibilities became a part of my job. It wasn't long before I became the Programmer Analyst, and ultimately the Project Manager, as new positions were created to fulfill demand for our work.

When the need arises, I recommend walking to the end user yourself and working with her one-on-one. Your manager will be relieved when he discovers that you are capable of communicating with his end-users, identifying their issues, and resolving those issues before they are brought up in the weekly manager's meeting. Even the best IT managers need a subordinate who is visible to the users who they can trust to get the job done. If a manager is slowly factoring himself away from the day-to-day workings of the project, welcome it. The higher visibility that you are obtaining can be translated into higher value—and that can result in a promotion. Over time, your increased interactions with more business-oriented people will make you more sensitive to business concerns.

A good subordinate has to be open-minded and creative. When solving problems, one has to always believe that there is a way to accomplish something, even if it's never been done before. Sometimes, just listening to the user will produce an idea. A lot of issues may come down to the business process that the system is attempting to replicate. I have had users actually solve a business problem for me just by listening to what they had to say!

Whether you're open-minded and creative or not, you can still work towards more business-oriented positions. After all, business systems analysts and project managers are only a small subset of the many positions opening up each year to address the issues of complexity through simplicity. If you love programming, you don't have to necessarily give it up.

Jobs To Pursue

Senior Technical Positions

Developers will often find that they may have to work side-by-side with the users to iron out difficult bugs. It can be difficult, if not impossible, to fix these problems when both parties can't communicate effectively. There was always a time in most of my work situations when the developer had to talk with the users or other developers directly to fix difficult issues. This is the programmer's chance to show management that he or she is someone who can communicate and utilize analysis methodologies—otherwise known as a “programmer analyst.” A programmer analyst is also usually someone who has some years of technical experience, and a certain depth of technical knowledge.

Programmers who seek advanced technical skills without too much end-user interaction may find themselves gravitating toward the design & architecture side of the business. Although these types of positions are still relatively technical, they often involve

making key decisions to address how the new system will fit into the organization's overall IT plans. In order to be successful, the architect needs to understand and control the elements associated with the utility, cost, and risk factors of the proposed solution.

System architects must make very educated decisions about how to decompose and isolate the different components that will be required, how to fit these components into the existing infrastructure, and in what order to implement each component. It can be a disaster to implement an online ordering system that isn't compatible with the organization's current accounting packages. The architect must identify these types of issues and present them to non-technical management in words they can understand.

Business and Systems Analysts

My job searches have suggested that business and systems analysts with a good programming background and a high-level of "business savvy" are becoming the next hot ticket. More and more organizations are finally hiring business analysts to explore, record, and recommend systems that fit the business—as opposed to the other way around.

The business analyst must often work with project managers, systems architects, and systems analysts, all of which are growing occupations that can make the difference between success and failure. In some cases the business analyst's responsibilities are being combined with that of the systems analyst or the project manager under the guise of "business analyst" or "business systems analyst." A quick search on Dice.com will reveal that many business analyst jobs have hidden deep within their job descriptions requirements to develop technical specifications or to guide and manage projects. My first business analyst job required both project management and systems analyst skills. These positions are sure to become more common as organizations struggle to reduce project failure and development time.

Project Management

According to the Bureau of Labor Statistics' Occupational Handbook, employers prefer project managers who possess advanced technical skills that have been acquired through work experience. The project manager is often responsible for hiring the staff, setting the schedule, and keeping track of the progress through every phase of development. This person is also responsible for assigning the work, dealing with everyday problems affecting that work, and making sure each analyst or programmer is carrying his own weight. The project manager can best carry out this function if he truly understands the work he is managing.

The project manager must also be a “people person” as well as a “technical person” in order to succeed. This individual must work with technical and non-technical staff at every level of the organization in order to succeed in his goals. Additionally, the project manager has to manage his team effectively to produce the desired product on time.

Management

The ultimate assignment for many IT professionals looking to move up the IT food chain is to become the manager. The Occupational Handbook explains that “employment of computer and information systems managers is expected to grow faster than the average for all occupations through the year 2014.” These job opportunities are best suited for applicants with computer-related work experience and often require an advanced degree, such as an MBA. And of course, strong communication skills are a requirement for any management job in IT.

Skills To Develop

Okay, so you’ve heard all about what’s required and where IT is going, but how can you capitalize on this new information?

My interview with the CIO and my experience in the field have shown me that companies want IT professionals who can understand what their business is and how to apply technology to make it better. Being able to follow directions is important, but being able to take some initiative and make your own judgments without handholding is equally important. The solution is to differentiate yourself from the traditional developer.

We have already discussed two ways of building up your current skills—acquiring business knowledge and advanced technical knowledge—but two other areas are important as well: communication and leadership.

Whether that CIO I interviewed with believed that communication skills could be learned or not is irrelevant. Everyone can learn to be a better communicator with practice. The difference is that communication skills take much longer to develop. Communication takes the right mix of experience and training to become effective. I have worked on this since my college days and have had great success in my career as a result.

I learned to communicate more effectively by dealing with those who couldn’t. Many software users can't understand the technical side enough to describe any of their requirements in any type of detail regardless of their background. On the other hand, many technical people don't understand the intricacies of the business processes they are

implementing because they can't openly communicate with the users. Learning to communicate, and having the patience to gain knowledge from the user, is an essential skill that many of my former and current coworkers don't have.

To add to your problem solving skills, instead of asking your superior or a more experienced programmer to help with a problem, take it upon yourself to find the answer to that complex problem. Before too long, you can be the one who others consult when there is a problem to fix or a new project to complete. Gaining problem-solving experience not only improves communication, it also improves your chances of moving into analyst and management positions. Eventually, you can do as I did and get your own project to manage.

The key to moving up the ladder at any company is to let them know what you know. Answer those questions, solve those problems, accept those new projects, and don't be too shy to share a better solution. It could mean the difference between being “just another programmer” or being the top candidate for a promotion.

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John Bennett Jr. is an accomplished Business Analyst with several years of experience at all levels of the IT field. John started his career as a programmer and successfully worked his way up to project manager, systems analyst, and business analyst positions. He is also the author of *The Digital Umbrella: Technology's Attack on Personal Privacy in America* (Brownwalker Press, 2004).