

# HIRING THE BEST

KNOWLEDGE WORKERS,  
TECHIES & NERDS



THE SECRETS & SCIENCE OF  
HIRING TECHNICAL PEOPLE



by **JOHANNA ROTHMAN**

*foreword by* GERALD M. WEINBERG



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# HIRING THE BEST KNOWLEDGE WORKERS, TECHIES & NERDS



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# Dedication and Acknowledgments

I dedicate this book to my family—Mark, Shaina, and Naomi—for whom I shall be forever thankful.

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# Foreword

I've been consulting with high-tech firms for half a century, and I sure wish I had this book fifty years ago. I cannot even estimate the number of times I've seen hiring problems that would have been prevented by a manager reading *Hiring the Best Knowledge Workers, Techies & Nerds*. At least once in every consulting assignment, a manager asks me a question that could be answered by a quick look-up in Johanna Rothman's contents or index. I know, because many times in the past decade, I've recommended Johanna as a hiring consultant to my own clients, and she's never failed to produce phenomenal results.

Hiring mistakes cost high-tech organizations literally billions of dollars each year, plus untold pain and anguish on the part of hiring managers, applicants, and employees. This superbly organized book distills Johanna's many years of experience doing just what its title implies—Hiring the Best. It nicely balances cases drawn from that experience with principles abstracted from dozens or hundreds of cases. Indeed, it would be a poor manager who couldn't pay for his or her own salary by applying these principles to an organization's hiring process.

There's only one thing I can find wrong with this great book: The author underestimates its value. She wrote it as a book for managers who are hiring, but that's too narrow an audience. It excludes several other large groups whose members should be reading it:

1. Everyone who participates in the hiring process, such as coworkers who are called upon to interview job candidates
2. Teachers and trainers who prepare students for jobs and need to understand the processes that will be, or should be, used to select them

3. Any knowledge worker, techie, or nerd who is now, or will be in the future, applying for a job, or even for a promotion in his or her present job

But, in the end, *Hiring the Best Knowledge Workers, Techies & Nerds* is a book for managers, and any high-tech manager who doesn't read it as a hiring manager may soon be reading it as an out-of-work applicant looking for a new job.

*July 2004*  
*Albuquerque, New Mexico*

Gerald M. Weinberg  
Author of *The Secrets of Consulting*  
and *The Psychology of Computer Programming*

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# Preface

I've had the opportunity to hire or participate in the hiring of hundreds of technical people over the years, including developers, testers, technical writers, technical support staff, pre- and post-sales applications engineers, consultants, leads, and their managers. I've been part of interview teams charged with hiring product managers, electrical engineers, mechanical engineers, in-house teaching staff, and information systems staff.

Hiring technical people has never been easy. Many organizations persist in a near-constant state of having too few *qualified* technical workers. When the economy is strong, we attribute the shortage to too few qualified candidates to fill the many openings. When the economy is weak, we attribute the shortage to too many poorly trained applicants with unsuitable backgrounds.

Too often, we apply the same hiring techniques to knowledge workers that we use to hire skill-based staff. Skill-based staff members possess a set of tools and techniques that can be applied in the same way in almost all situations. Technical people—in particular, knowledge workers—must adapt their knowledge to the specific situation. Such workers are not just the sum of their technical knowledge; they are the sum of both *what they know* and *how they apply that knowledge* to the product. In particular, how they use their technical skills to benefit the product, how they manage their work, and how they manage their relationships with other people all must be assessed when hiring and evaluating a knowledge worker.

While there are some similarities in the hiring process, hiring technical people—knowledge workers—is vastly different from hiring purely skill-based staff.

Knowledge workers have unique qualities, preferences, and skills—such workers are not fungible assets.<sup>1</sup> The ability to adapt knowledge and to innovate makes one developer, tester, project manager, or technical manager different from another. That difference among people is key to making good hiring decisions.

You want your organization to succeed, and so you need to know how to define and assess a technical candidate's qualities, preferences, and skills, but you also need to be able to predict a technical person's chance at succeeding in *your organization*. The techniques and recommendations set forth in this book are designed to make hiring a streamlined, efficient, and satisfying experience.

### *Why read this book?*

*"The whole interviewing thing takes forever."*

*"How do I know this candidate will work out?"*

*"I can't seem to find candidates who meet the job's specifications."*

I hear comments like the preceding every day. The comments express the frustration that many technical managers feel as they attempt the very difficult job of hiring. If you're like most of the technical managers I've worked with, you may not be sure how to define the job's requirements, how to find suitable candidates, what skills you need to interview well, or how to make an offer that the candidate will accept. Most technical managers who ask me for guidance in hiring technical staff find it difficult to define appropriate requirements, to assess experience and cultural fit, and to check references in a way that makes sense for the candidate and themselves.

Or, possibly, you know how to do all of that, but the hiring process consumes more of your time than you comfortably can allocate. If you have any of these problems, the material I present in this book can help you.

Many books on hiring give good advice on how to ask questions in an interview or help you develop reference checklists. But few books address how a technical hiring manager can create an efficient and effective hiring process for a technical organization. If you hire technical people, you know that the approach used to interview, assess, and hire skill-based staff does not do the job when you're trying to hire knowledge workers or to evaluate the skills of those technical people already in your group. You need to precisely define the specific experience, qualities, preferences, and

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<sup>1</sup> For a detailed exploration of "fungible assets," see Tom DeMarco, *Slack: Getting Past Burnout, Busy-work, and the Myth of Total Efficiency* (New York: Broadway Books, 2001), pp. 13-21.

skills you want people to have, and you'll need a specific strategy to help you detect whether a particular candidate has the necessary expertise.

Here's what I hope this book can do for every hiring manager who uses it as I've intended it:

- Save you time and money every time you hire.
- Help you hire people who can perform the required work well.
- Help you screen, evaluate, and hire the right staff for your specific organization.
- Eliminate the wasted time and suffering that result from having to fire people who should not have been hired in the first place.
- Help you develop and demonstrate fundamental management competency.<sup>2</sup>

**Save time and money.** This book offers a streamlined approach to hiring. The more you streamline your hiring approach, the faster you will be able to evaluate suitable candidates, and the better the hiring decisions you'll make. An effective hiring process is especially important when you consider the toll a bad hire can take on your organization. Add up the direct monetary costs of recruiting, the cost of the time you and your staff spend on hiring the person, and the actual cost of the person's salary and benefits while he or she works for you, and you'll quickly see that the cost of a bad hire can be enormous. Perhaps equally costly, a bad hire saps energy from the work your organization is trying to perform, and prevents the work from moving forward. A bad hire doing substandard work can even damage your product to such an extent that it will have to be redeveloped from scratch.

**Hire people who can perform the work.** Few things are worse than feeling that a new employee somehow misled you on his or her résumé or in the interview. You thought you hired Dr. Jekyll, but Mr. Hyde showed up to work. Or, you thought you hired "the best and the brightest," but the people who came to work seem mediocre and dim. If you use the job analysis template in this book to help you define the qualities, preferences, and skills needed for a particular job, you can create a set of strong interview procedures that should prevent you from simply hiring just a warm body.

---

<sup>2</sup> For a solid treatment of the hiring manager's role in finding talented staff members to hire, see Ed Michaels, Helen Handfield-Jones, and Beth Axelrod, *The War for Talent* (Boston: Harvard Business School Press, 2001).



**Screen, evaluate, and hire the right staff for your specific organization.** I've learned from my early hiring mistakes and know ways to avoid making those mistakes again. There *are* good people out there, no matter the state of the economy. You can help yourself hire well by first defining a standard for what "a good employee" is for your specific organization, and then translating that standard into precise job requirements, a sound job description, and a comprehensive listing of information needed for successful interviewing.

**Fire fewer people.** Most managers dislike the firing process: the warnings, the get-well plan, the actual firing. Many ignore the problem altogether or shunt the non-performing employee to other projects or other managers. If you would like to avoid the firing problem, use this book to help find people who can perform the work.

**Develop and demonstrate your own management competence.** If you'd like to be a better manager or you'd like to advance in management, this book can help you hire well. Simply put, managers who can tell the Jekylls from the Hydes will be more successful than managers who cannot. Likewise, a manager with a staff whose members can work with others in the company will be able to complete his or her assignments faster and with greater success.

The bottom line: Once you've defined what a "good employee" means for your needs and your culture, you can quickly review résumés, conduct interviews, make offers, and hire the right technical person for the job. I hope the numerous tips, suggestions, and recommendations in this book will help you expedite the hiring process as well as make it a more pleasurable experience.

*June 2004*  
*Arlington, Massachusetts*

J.R.

**HIRING  
THE BEST  
KNOWLEDGE WORKERS,  
TECHIES & NERDS**

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# 3

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## Writing a Job Description

*“Hey, Jack, did you see the job description SuperSoft posted? You’d have to have worked twenty years just to obtain the technical skills they want, and they only want a junior person. What planet are they on?”*

—Disillusioned job-hunter

The job description for your open position has a specific purpose: It helps you identify candidates with appropriate qualities, preferences, and skills, and it enables you to screen out unsuitable candidates. A well-written job description helps you screen candidates by identifying the technical and non-technical aspects of the job.

If you don’t perform the analysis first, you run the risk of missing essential cultural qualities, preferences, skills, or deliverables. Separating the analysis from the description is the same as separating the requirements from design in a project: You develop a different perspective on the problem, and you’re freer to iterate on both the analysis and description. Remember that for every two minutes you spend iterating on the job analysis and job description, you probably save yourself at least thirty minutes by not having to phone-screen unqualified candidates; you may even save as much as sixty minutes by not conducting an interview you shouldn’t have scheduled.

With a completed job analysis, you have the building blocks for a job description.

The job description is the way the hiring manager communicates the job requirements to the interview team and any recruiters. If you choose to do so, you may also use the job description to communicate job requirements to the candidates.

In addition, you also can use the job description to generate your internal job postings and external advertisements and to guide your interviewers when they develop and ask their interview questions.

## Write a clear job description.

In Chapter 2, “Analyzing the Job,” you developed a job analysis worksheet to define the job requirements. Now, use those requirements to write a job description. Use a template for the job description such as the one in the sample shown below. (Note that the one in the sample assumes that your audience is either internal or outsiders familiar with your company’s culture and hiring tendencies, such as external recruiters.) Categories named in the template are explained in the paragraphs that follow it.

### *Job Description Template*

**Job title:**

**Reporting-to manager’s title:**

**Generic requirements:**

**Specific requirements:**

**Responsibilities:**

**Elimination factors:**

**Other factors:**

**Job title:** Identify the job by title, being as precise as possible, especially if departmental peculiarities must be taken into consideration when filling the position.

**Reporting-to manager’s title:** Specify to whom the job holder will report, by name and by title. Being specific to this degree will prevent people from confusing your job opening with someone else’s.

**Generic requirements:** List the minimum level of education or training required for this job level at this company. Do not bother describing levels that are industry-specific but are not relevant to the opening you wish to fill. By knowing the minimum generic requirements, you and your recruiters can more easily screen out unqualified candidates. List requirements you would expect anyone in the field to have, but be sure they are compatible with the essential technical skills identified in your job analysis. An example of a generic requirement might be stated as “two years of experience in a mainstream software language such as C++.”

**Specific requirements:** Based on your job analysis, which indicated who would interact with this person and the essential technical skills, list any other desired qualifications here. Use the specific requirements to differentiate the specific knowledge you need in your particular company from the generic requirements for the position. Derive the specifics from the cultural qualities, preferences, activities, deliverables, and skills identified in the job analysis. An example of a specific requirement might be stated as “two years of machine-vision experience.”

**Responsibilities:** You will need to record the essential job activities, deliverables, cultural qualities, preferences, and skills desired in the position, but the responsibilities section of the template allows you to further refine the requirements to the specific environment. Responsibilities first can be defined by the deliverables in the job analysis; then modified by the essential qualities, preferences, and skills; and finally, the description can be made even more precise by addition of details about desired characteristics, temperament, or personality. For example, you may want a project manager who can get the best effort out of shy-but-talented developers. You may well include “manage projects” as part of the responsibilities requirements, but your awareness of the people already working on the project would merit your also noting something such as, “Must manage projects staffed by shy-but-talented developers.”

If the project manager must deal with developers who aren’t known for their teamwork abilities, you could say, “Must manage projects, using significant diplomacy with highly skilled, independent-thinking developers who care about the project above all else.” Choose your wording carefully while keeping in mind your job description’s potential audience. Some of these talented developers may see the job posting or participate on the interview team, and you want them to be happy with the description. Choose your words so as to attract potentially successful candidates without alienating the interview team.

When describing the responsibilities, avoid using jargon. Write short, clear descriptions of the responsibilities. Even if your audience for the job description is internal, your HR staff may not understand your words. Also, if you choose to provide candidates with a job description, jargon may throw them off.

**Elimination factors:** Use the elimination factors already noted on the job analysis worksheet. Don’t forget to consider salary as an elimination factor, but don’t list it unless your company practices open-book management. And, if corporate activities, travel, specific-time availability, or a clear, articulate speaking voice are part of the elimination factors, then say so.

**Other factors:** An optional bit of information to enter on the template pertains to the corporate cultural-fit factors.<sup>1</sup> For a written job description, whether you include cultural-fit factors will depend on what those factors are and whether you want other people to see them. The corporate-fit factors are critically important because they will impact your ability to screen candidates, so discuss them with any recruiters you use, even if you don't write them down. Unfortunately, those factors may be the most controversial inside your organization. Think carefully about which factors you can write down on a document that will be circulated inside your organization.

### *A True Story*

Stu, a VP in a major insurance company, wanted to describe his organization in the following terms: "Bureaucratic organization moves slowly. Change agents need patience." Instead, so as not to offend anyone within the organization by calling it bureaucratic, he called it "a traditional-thinking organization." That more diplomatic wording enabled him to be able to ask appropriate questions and not offend others in his division who read the description.

The Lesson: If you work for a company whose management discourages you from including corporate cultural-fit factors in a job description, don't include them. But, *do* use those fit factors when evaluating candidates.

## **Use job descriptions to help you screen candidates.**

Clearly, job descriptions generally are useful as early screening devices, but not all job descriptions are worth their weight in gold. I've encountered three kinds of job descriptions that are woefully inadequate:

- *laundry lists*—these endlessly detail everything a person would possibly need to know and do in order to succeed at the most senior level for this job.
- *vague, ambiguous, hand-waving descriptions*—these hint at something that might be a job someone wants done, and ignore the personal qualities, preferences, skills, significant activities, and deliverables.

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<sup>1</sup> The topic of screening candidates for corporate fit is admirably addressed in Jim Harris and Joan Brannick, *Finding & Keeping Great Employees* (New York: AMA Publications, 1999), pp. 16ff.

- *boilerplate, generic descriptions*—these ignore all the personal qualities, preferences, and skills and assume all people with the title are the same and perform the same work.

### A True Story

Following is a verbatim laundry-list job description for a six-month, contract-status, development job. Note that it suffers from the second affliction in the preceding bullet points: It's vague, and it's badly written.

#### List of Job-Description Attributes

Software Development: Primarily coding in Java.

Development Environment: Java, Tomcat.

Web Services: SOAP, WSDL, XML, Oracle database, PVCS software configuration, management, existing code base is in Visual Basic running on Win 2000 platform.

Systems Understanding:

Ability to understand requirements documents and high-level architecture.

Ability to understand legacy software.

Design/Documentation:

Ability to generate software design specs.

Ability to generate design to support new requirements on an existing system.

Programming:

Excellent programming skills in Java server-side development.

Skilled in database interactions, specifically Oracle.

Web Services:

SOAP—Simple Object Access Protocol.

Generate and work with XML schemas.

Web Services Definition Language—WSDL.

Skills in http data transmission and communications protocols libraries like SAP and socket level programming, and ftp o.

Process:

History of successful software commercialization projects.

Knowledge and proven execution of Software Development processes (e.g. SCM).

Quality:

Track record of quality software development including the creation and execution of unit tests, and release documentation to Software Configuration Management.

Environment:

Demonstrated successful projects involving development and integration across multiple development organizations located in different geographic locations.

Ability to work flexible hours to accommodate multi-national development.

Education:

BS Computer Science + 5 yrs experience.

#### Interviewer's Notes

*Okay, they want Java even though current code is in Visual Basic. Maybe there's a reason farther down.*

*Ability to understand requirements and high-level architecture is fine. What don't the current people understand?*

*Hold on. Why XML schemas? How big is this job?*

*Design specs are good. If the new requirements are for the existing system, who's porting from Visual Basic to Java?*

*There's a lot more to process than configuration management. Is this job the same as that of release engineer?*

*The following points stand out for me: Not everyone is in the same location; the work involves mega-hours; position responsible for design, architecture, and release management, maybe porting. All with five years of experience? For a six-month contract position? Uh huh. No one with ten years of experience would touch this job.*



We should add to the laundry-list job description one more requirement: “Able to leap tall buildings in a single bound.” Notice that in this real example, which was posted on a job board I saw during a recent training session, there is no mention of deliverables or activities—that is, there is no description of what the person would actually do.

In case you haven’t come to this conclusion from what you have just read, let me state my advice unequivocally: Avoid laundry-list job descriptions. Finding someone who meets all those criteria is impossible. Even if you found someone who met the technical criteria, he or she probably wouldn’t have your preferred cultural qualities or meet your salary requirements. Unless you’re looking for and are willing to wait for and pay a specific, senior-level technical person, a laundry list of technical skills is unrealistic, and only serves to screen out potential candidates. If you’ve found that you created a laundry-list job description, because you believe that only a superstar can perform the work, ask for help analyzing the work.

Ambiguous, hand-waving job descriptions don’t work either—the more ambiguous the job description, the less pre-interview screening you can do. In the laundry-list example printed above, “Process” and “Quality” are part of the description. What about them? What should a developer know about process and quality? How to spell the two words? How to use process and quality to develop more effectively? Which process? Which quality? The job description is too vague to enable a candidate to know whether he or she measures up.

If you have generic job descriptions, even boilerplates, start with them, but don’t use them as they are. Customize them with the qualities, preferences, non-technical skills, and specific technical skills you require, so you can more thoroughly screen candidates. You can’t easily or successfully recruit, screen résumés, or interview candidates if you use ambiguous job descriptions.

Job descriptions that only address technical skills without any of the cultural qualities are likely to lead you to interview and hire unsuitable or unqualified candidates. If you include typical responsibilities (deliverables and activities) in your job descriptions, you’re much more likely to attract candidates with appropriate cultural qualities as well as with needed technical skills.

## Identify who will use your job description.

A job description is like any other work document, with the following factors to be considered:

- What audience or audiences are you trying to reach?
- What level of detail do the various audiences need in the job description?

I write job descriptions for internal use only. I don't post job descriptions; I post ads. For me, "internal use" includes external contract recruiters. Because I develop long-term relationships with external recruiters, I treat them the same way I treat the internal interviewers with whom I work. You can get away with using shorthand inside the company and with recruiters who know you and your company well, but be as specific as possible when writing the description. Determine, for example, whether a recruiter needs more or less information than a member of your interview team.

Work hard to specify why you want someone from a particular industry or with technical experience. The more specific you are in stating your requirements, the more successful your screening will be. If you use shorthand such as, "Five years of experience in the medical device industry," you haven't specified your requirements. That experience could mean experience conducting audits, working with patent lawyers, or devising long test cycles, or it could mean something completely different—and it could mean something different to each candidate as well as to you. Be as specific as you can be in the job description so that you attract the people you need.

Instead of using shorthand, try to express your negotiable tradeoffs in order to attract qualified candidates—such as by specifying "Industry experience with 21 CFR Part 11 or experience in other process-audit methods," for example. The more ambiguous you are, the more time you will have to spend working closely with your recruiters, so that they understand what your shorthand means.

You may be working with an HR representative who doesn't know how best to describe technical work, or who doesn't understand your requirements. In that case, your HR rep may want to use some shorthand technique to describe what he or she thinks the requirement means. For example, HR representatives frequently indicate that candidates need a technical degree, because they don't know how to evaluate functional skill

and experience. To eliminate this ambiguity, you could provide the representative with a specific description of the requisite qualities, preferences, and non-technical skills *as part of the job description*. Or, you could do what I generally choose—teach the HR rep how to read a résumé with an eye toward detecting requirements.

On the other hand, if your HR rep is bound by some company policy, or honestly doesn't understand how a technical person could be successful without a degree or without experience with a particular operating system, then choose how much energy you want to spend explaining your choices to your HR rep. Don't waste your time, and don't let the HR rep prevent you from finding the best-suited, qualified candidates.

If you work with external recruiters, it's worth taking the time to discuss your personal as well as your organizational assumptions about title, salary, and job responsibilities, so that the recruiters understand what you mean when you talk about a particular job title. Contrary to what many of us believe, job titles are neither standardized nor meaningful from one company to another—they never mean quite the same thing in any two companies. When I use contract recruiters, I explain our job ladder, salary ranges, and how the company works, so they can find appropriate candidates. If you don't develop long-term relationships with recruiters, you'll have to educate each recruiter about your company every time you use one.

For external posting, I write a separate advertisement or use full sentences to convert the bullets in my job description. That way, I minimize the chance that the reader will make incorrect assumptions about what I mean in a job description.

Consider whether your bulleted job description is appropriately worded if you're dealing with someone who wants to publish it for recruiting purposes. It's too easy to jot down vague descriptions or to make an assumption that the reader will understand what you meant (even if it isn't what you wrote) when writing the first draft of a job description.

If the people who will be using the job description are recruiters or interviewers, make sure they know why you're looking for the specified kinds of experience. Use the job description as a starting point for your conversation about this open job.

## Learn how best to use standardized job descriptions.

Some organizations do use standardized job descriptions to describe each role on their technical staff: developers, testers, writers, and so on. Standardized job descriptions are a great way to identify what's common among your technical staff members. However, unless you are unique among technical organizations and have fungible staff members who can easily replace each other, you'll need to augment the standardized description with your needs for this particular position.<sup>2</sup> Use your job analysis worksheet to differentiate the candidates you want to attract from those matching the standardized job description. Then, add your changes.

You don't have to use my job description template, especially if your company has its own template. Just be sure you have a place to map all the parts of the job analysis to whatever job description template you use. If you don't, you run the risk of not being able to screen résumés carefully enough, and you'll waste time phone-screening or even interviewing people who are not suitable candidates.

## Develop your job description over several drafts.

Don't expect to write a perfect job description the first time. As with any writing, you'll find it easier to write a first draft quickly, put it aside, and modify it later. If you're pressed for time, ask people in your group to review what you have written—and expect to modify and improve the job description while you interview.

As you write ads or phone-screen scripts, you may remember something you want to change in the job description. That's fine—change it. When I start with a new job analysis, I plan on creating two or three drafts of a job description. After I've phone-screened or interviewed a few candidates, I may have more changes for the job description.

If you're having trouble writing the job description, ask the rest of your group, interview team, or the candidate's would-be customers—the people with whom the employee will work—to help you. Your team or customers may be better able to articulate what you're looking for because they are living with the lack of adequate staff every day. You don't have to write a job description by yourself. If you think you could produce a job description that would be more specific or more accurate if you had other people's help, write that job description as part of a team effort. Not only will working with others help you, your interview-team members will have a

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<sup>2</sup> The myth of fungible resources is exposed brilliantly in Tom DeMarco, *Slack: Getting Past Burnout, Busywork, and the Myth of Total Efficiency* (New York: Broadway Books, 2001), pp. 12ff.

better idea of what questions to ask in the interview. And, you'll have a chance to start mentoring your team, in case members of it ever become hiring managers.

### *Case Study: Walker Software*

Dirk Jones has prepared a draft Software Developer job analysis worksheet. Although he is concerned he's spending too much time planning and not enough time interviewing, he's serious about finding the right person quickly, and he's willing to give the job-description exercise a try. At first glance, his template looks fairly complete. His second-draft job analysis worksheet appears below. Immediately following it is Dirk's fleshed-out job description (my comments are noted in italics to show what the description tells me).

<b>Defining Questions</b>	<b>Answers re: Needs &amp; Observations</b>
Interaction, roles, level, management component?	Works with developers, testers, writers, project manager, and product manager (or customer representatives) as a software developer. Mid-level, no management component.
Deliverables and activities?	Deliverables: high-level design (post architecture), implementation. Activities: participates in requirements definition meetings, moderates and attends design and code reviews, contributes to smoke test suite, develops integration tests. Leads subsystem development under the guidance of a technical lead.
Essential qualities, preferences, skills?	High collaboration, high teamwork, adaptable, able to consider multiple designs.
Desirable qualities, preferences, skills?	High focus.
Essential technical skills?	C++, UNIX system calls, UNIX shell scripts. Data structures Understanding of telephone industry.
Desirable technical skills?	
Minimum education or training requirements?	Four years working as a developer, at least two completed projects. BS nice, not necessary. BS equivalent okay.
Corporate cultural-fit factors?	Small company, project-oriented, high growth expected, stock options.
Elimination factors?	Salary no higher than mid-range developer.

**Software Developer, reporting to Development Manager**

## Generic requirements:

- Minimum of 4 years as a developer, on at least 2 completed projects
- 2 years of C++
- 2 years of UNIX system calls, data structures
- BS, CS, or equivalent experience. (*Dirk doesn't care whether his candidates have a degree.*)

## Specific requirements:

- Understanding of telephony industry. (*Dirk hasn't yet explained why this is necessary or what part of the industry the candidate should understand.*)
- At least 2 years of work on the XYZ subsystem, with responsibility for implementation and unit-testing on completed projects. (*Dirk is looking for someone who's already learned how to design, and who now is learning how to develop the system's architecture. He wants someone who understands how to maintain and add onto code that may not have been sufficiently designed or tested. Note that Dirk hasn't asked for what he wants; he's using this explanation of experience as shorthand for what he really wants. For a first-draft job description, this is okay.*)

## Responsibilities:

- For a subsystem: Assist with requirements and overall architecture; design, implement, and unit-test the subsystem
- Moderate and attend design reviews
- Moderate and attend code inspections
- Implement smoke tests for the subsystem
- Develop integration tests for the subsystem
- Work with developers and testers to design, develop, and unit-test the subproject. (*This addresses the high collaboration and high teamwork parts of the essential qualities.*)
- Develop multiple designs for a specific problem. (*Again, part of the essential qualities.*)
- Design for performance and reliability. (*This addresses why Dirk wants someone with telephone-industry experience, so the person already understands the implicit requirements. This extra responsibility wasn't already specified, but was derived from the telephone-industry experience.*)

Additional responsibilities for the appropriate candidate (*Use desirable skills, qualities, and preferences.*):

- Able to focus on own tasks, even when the rest of the group is working on other tasks. (*Dirk has had problems in the past with developers who couldn't stay focused on their own work, but wanted to solve other people's problems. He's not sure this is the correct way to ask for a person with "high focus" who will mind his or her own business and keep working, but he figures it couldn't hurt.*)

Other factors: None. (*Dirk does not publish salary as an elimination factor. He will find out about salary during the phone-screen.*)

Template 3-1: Dirk's Software Developer Job Description.

Dirk isn't thrilled with how he's described his need for someone with "high focus," but he's written it, and he's clarified why telephone-industry experience is important to him. He can refine the high-focus part later. His job description is still vague as a result of the "understanding of telephone-industry" requirement. In reality, how any candidate understands performance and reliability criteria is critical to product success—and the experience category is appropriate—but Dirk isn't thinking about other industries. That's okay, he'll consider how to ask for what he wants when he writes a phone-screen and develops interview questions.

Now that Dirk has prepared the job analysis worksheet and job description, he can write job postings as well as advertisements.

## POINTS TO REMEMBER

- Create a job description that's as specific as you can write it for the position you're trying to fill. If you are trying to fill more than one position of the same kind, list the tradeoffs in the desirable requirements area of the job description template.
- Consider who will use the job description, and write the job description so that person can successfully use it.
- As you write the job description, check to see that you've mapped all the pieces of your analysis to the job description. Decide whether you want to include the elimination factors or company factors as part of the job description, even if the description is just for internal publication.
- Expect to refine, expand, or modify your job analysis when generating the job description. The more you think about a particular problem (that is, the more you think about the reason you're hiring someone), the more you'll understand about how to hire to best fill the opening.

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