

Black Box Software Testing

(Professional Seminar)

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Section:36

Recruiting for Testers

Summer, 2002

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Warning, warning: Legal issues

I am NOT well versed in employment law. Do NOT take this as legal advice.

This talk raises a FEW legal issues, but only to get you thinking. The rules vary by state. The rules are followed differently by different companies. Talk to your HR department.

It is generally unwise to ask questions about age, race, sexual orientation, political preference, national origin, pregnancy or parental or marital status, disability (except for questions that are provably directly tied to ability to perform the job), or anything else that a normal person would consider private. Talk to your HR department about what questions you are allowed to ask.

Be very cautious about checking a candidate's credit record or about insisting that she take a polygraph exam.

Beware of accidentally making unintended promises.

Underlying principles

- Every hire should support the short term need and the long term mission of the group.
- Your team should be diverse.
- With some creativity and tolerance, you can find great people.
- Hiring decisions should be made by consensus.
- Use a behavioral strategy for gathering information
- Tests should predict performance on the job.

What is the mission of your group?

Every position in the testing group should help your group realize its mission.

- The nature of each position is determined partially in terms of work that has to be done over some foreseeable term and partially in terms of the overall mission of the group.
- The skills, knowledge, and abilities required for each position are partially determined by the specific nature of the tasks to be accomplished over the short or intermediate term and partially by the need to have people who can help the group fulfill its mission.
 - » Example—the group needs a statistician but this will occupy only 10% of that person’s time. You will hire for some “other” position, but keep an eye out for statisticians.

What is the mission of your group?

Examples of different missions:

- Assess and report the quality of the product? (So what's quality?)(What's assessment? *Probably need a person skilled in statistics and measurement.*)
- Discover, report and advocate for the repair of product defects? (So what's a defect?)
- Investigate the product's conformance to a written specification.
- Carry out some other limited set of functions, such as looking only for coding errors (mismatch between the programmer's intended and actual behavior of the program).

A Sample Job Description

The second level associate engineer has skill and experience in software testing or development, and a demonstrated ability to follow our internal SQA practices.

We expect successful A2's to create and execute a systematic test plan for a routine project, producing all relevant reports. We expect them to have knowledge of typical technologies sufficient to recognize quality problems in those areas.

Minimum 1 year directly relevant experience in addition to required education and other professional experience.

- (Copied from materials published by ST Labs)

What position are you trying to fill?

The notion of “essential job functions”

- **Job descriptions are generic. The specific position you have to fill now has other details.**
 - Make a list of what you absolutely need, right now.
 - Make a list of what else you want of a person in this position.
- **Think of a good candidate as someone who meets all of the absolutely-needs and some portion (maybe a percentage) of the want-to-haves.**
- **This turns into a memo that you distribute to everyone interviewing for the position.**

Who are you looking for?

Knowledge—the body of information that the candidate will need in order to perform effectively. For example, a person might know or have training in test case design, maybe even a course in creating test matrices.

Skills—involve proficiency at a specific task. For example, a person might be really good at creating test matrices.

Abilities—potential to do a job. For example, a person might be a very bright, systematic, analytical thinker, who you would expect to be able to quickly become very good at creating test matrices.

Other—other characteristics that are important to the job. For example, a person might have personal integrity.

Characteristics: The Need for Diversity

Diversity is essential. We need:

- subject matter experts
- programmers
- testers, test planners
- project managers, writers

Standard credentials are not the answer

- An example: Staffing for a financial application

Exercise: Characteristics of Candidates

Refer to the slides in the Career Planning section that list a few characteristics of good testers.

Take 15 minutes to:

- Imagine recruiting for a mid-level tester in your test group.
- Identify at least one skill, area of knowledge, or ability that is important to the position (or to your company as a whole), that is not listed on these slides.
- Circle (or write in) the top 10 characteristics that are most important for this position

The Opportunity Hire

Some human examples of opportunity hiring

- Training requirement: Entertainment company, low pay. Recruited Director-level employee as a tester. Key promise to teach him about American business culture, goal of opening a test lab.
- Temporary assignments:
 - » Marketeer (wanted training in product development)
 - » Tech support (offered expertise in my product, supervisory experience; wanted a stint in PD)
- Work force: Left computing (project/product mgr) to do construction project management. Came back to computing without the most current skills.

The Opportunity Hire

Opportunity hiring poses challenges. These challenges may or may not be insurmountable. Here are some hypothetical examples that have a loose relationship to real problems I've had to manage.

- Programmer who wants to move groups *today*
- Programmer who seeks out “spare time” programming assignments
- Executive who is too used to deferential treatment for the rough and tumble of testing
- Family commitment led to time jealousy

Consensus-driven hiring

I follow three simple rules when hiring:

- **Anyone in the company who wants to be part of the interview process for a candidate is welcome.**
 - Example, talk with manufacturing mgr about doc mgr and then invite to do the interview
- **Of the people who have interviewed the candidate, anyone in the testing group and any senior player from any other group who will work with the candidate can veto the hiring of this person.**
- **The veto policy must be actively managed so that vetoes will not be based on race, religion, family situation, gender, sexual orientation, age, disability, national origin, etc.**

Consensus-driven hiring

- **Important (almost essential) for opportunity hiring**
 - Group acceptance of special situation, at the start and later
- **Additionally**
 - More likely to discover serious problems
 - More likely to reject based on those problems
 - Provides support network for incoming candidate
- **Key assumption:**

It is a more serious mistake to hire badly than to pass up a good candidate.

Behavioral information gathering

- **The general principle:**
 - The goal of the interview is to predict how the candidate will behave if she joins your group.
- **You can achieve this by (for example)**
 - asking questioning that elicit behavioral responses,
 - examining work samples,
 - testing,
 - setting up situations that let you see how the candidate responds.
- **Simple questioning often fails to elicit behavioral information.**
- **Much of the behavior that you will see is independent of the questioning.**
 - *Example: The late interview candidate.*

Behavioral Interviewing

Questioning

- Closed vs. open-ended questions
- Factual vs. opinion questions
- Hypothetical vs. behavioral questions

Work samples

- Ask (during phone screen) if he has any work samples that he can bring for review.
- The problem of confidential documents:
 - » Don't request confidential documents.
 - » Before reviewing something that looks as if it might be confidential, ask.
 - » Don't review documents that are (or that you think probably are)
 - » Be diplomatic in your refusal to read them
 - » Listen to the candidate's responses—this is a predictor of how he will treat your confidential documents in the future.

Behavioral Interviewing: Testing

Testing

- Puzzles
 - » Big practice effects
 - » Cultural fairness issues (may have a discriminatory impact)
 - » I'm not convinced that they predict success in testing
 - » They are NOT IQ tests, though many people treat them as if they were.
- Test cases
- A testing / training exercise
- Bug reports

The Myers Test Case

The program reads three integer values from a card. The three values are interpreted as representing the lengths of the sides of a triangle. The program prints a message that states whether the triangle is scalene, isosceles, or equilateral.

Write a set of test cases that would adequately test this program.

The Training Exercise

File1
File2
File3

File4

OK

Interview Technique

You're the tester, here's a CD. You have four hours to test it. What will you do?

Question is, how do we gather information about the product, what is the thought process. "How can you generate a test case without knowing what the requirements are?" Go into a feature map after you determine the market and the requirements.

Another example, use a print dialog that is broken for interviewing. For example, leave a blank button somewhere, see what they do with it.

