

TECHNICAL INTERVIEWS

What is a Technical Interview?

A technical interview consists of a series of questions designed to test your quantitative knowledge in your major such as programming, algorithms, data structures, circuits, operating systems, etc. and your ability to solve problems.

Types of Technical Interviews

There are two types of technical interviews:

- The first type of technical interview is to determine how well you know advanced technology, software processing, special algorithms, etc. and looks at your broad set of technical skills.
- The second type of interview addresses your problem solving skills. The interviewer is looking at your approach to the problem and how you think through to find a solution (not necessarily the most optimal solution).

Goal of the Technical Interview

To demonstrate to the recruiter what you have learned and how you solve technical problems in your field.

Should Students Expect a Technical Interview?

Students in engineering and technical majors, applying for technical positions, should expect to have technical interviews. A combination of behavioral and technical questions are more common during campus interviews while more technical interview questions are definitely part of second interviews or site interviews.

How to Prepare for a Technical Interview

- Review the job description to know what kind of position you are interviewing for (software, hardware, testing, operating systems, circuits, etc.)
- Review old notes from classes relating to the position you are interviewing for. You do not have to be an expert, just be familiar with it enough to answer questions and show that this is something you know about. For example, if you are interviewing for a C programming position, know C backward and forward.
- Study and practice answering (out loud) the standard interview questions and as many variations of them as possible.
- Be very familiar with your projects, prior technical experiences and coursework.
- Review books, labs and notes from
 - 213-Intro to Computer Systems (Very important)
 - 211-Intro to Data Structures and Algorithms

- Research the company and try to put yourself in their role/position. Imagine what technical questions will help them gauge your level of understanding.
- If possible, find out who you are interviewing with and their position. Sometimes the questions they ask are problems they run into every day.
- Prepare questions to ask at the end of the interview. For a list of sample questions, see the Career Success Guide for Interviewing (on CPDC website).
- Preparing in advance will increase your confidence during the interview.

What to Expect During a Technical Interview

- The first technical interview can be tough as you may not know what to expect and have not experienced anything like it before.
- Each interview will increase your knowledge and confidence for future interviews so you will continue to improve your interviewing skills.
- You may be asked to remember things from classes that you have taken a while ago.
- You may need to come up with solutions to problems on the spot. For instance, one company asks harder and harder questions until you cannot answer the question and then moves on. Some of the questions are ones that the company has not yet solved!

Advice for Technical Interview Success (gathered from CIT students)

- Prepare and practice for a variety of questions as most recruiters will ask a combination of behavioral type questions and technical questions.
- Know the basics since many questions will not be specific in domain knowledge but will look at larger principles.
- Prepare your responses to standard behavioral questions in advance as many companies will either ask the same or similar questions. This will be a huge advantage and will allow you to remain confident, respond quickly, and will keep the interview moving onto the next question. This eliminates stopping and taking valuable time to think through your answers to typical questions that could have been prepared in advance.
- Describe any projects that you have worked on. It's not enough to say that you have done the project but you have to be able to share the details of the project. Enthusiasm and mastery of the project are very critical.
- Show the interviewer that you know how to think through the problem or question by talking through the problem. Do not be afraid to pull out paper and draw diagrams and pictures of what you mean. If there is a white board, use it.
- Recruiters really like to see how you communicate your ideas. Even if you do not know the answer to a problem, try to work through it. It is much better to try to solve a problem than just give up. Ask the recruiter for some help and then try to figure it out on your own from there. Then, ask the recruiter how to solve the problem before moving on.
- Be honest if you do not know how to solve a problem. Be confident but let the interviewer know you are stuck, because they will be able to tell if you are making things up.
- Let the recruiter know what you know and be able to express it fluently.
- Demonstrate the ability to think systematically (step by step). First, find the easiest solution, then, gradually improve upon your solution.
- Show enthusiasm and interest in the company and the job you are applying to.

- Do not forget the usual interview requirements of dressing professionally, polishing your shoes, cleaning your fingernails, etc.

Final Words of Advice from a Student

"The technical interview is not easy. Take each interview seriously and learn from each one. Preparation is absolutely necessary. Having high grades in courses or having tons of successful projects does not guarantee that you will do well in the interview. Practice makes perfect!"

What Companies Have Technical Interviews?

Carnegie Mellon students have had technical interviews with:

Amazon	Citadel	Microsoft
AMD (extremely technical)	Expedia	NVIDIA
Google	Green Hills Software	Qualcomm
Apple	Harris	VMware
Argon ST	Hewlett-Packard	Yahoo
Bose	IBM	
Cisco	Lockheed	

Web Resources

Investment Banks Career Cup <http://www.careercup.com/categories>

Tech Interviews <http://www.techinterviews.com/>

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