Embedded Software Engineer Interview Questions

An embedded software engineer is responsible for a variety of IT tasks within a company, from design and development to installing software solutions that would meet any corporate needs. Of course, finding the best person for the job is of vital importance. For this, interviewers should focus not only on technical expertise (even though it is a very important screening aspect), but also on general and personality questions. After all, the best employees are not only experienced professionals, but also great team players who can share the company vision. The following embedded software engineer interview questions should help you hire the best experts.

Common Questions

Why do you consider a new job?
What are your career expectations in the long run?
Describe projects you are most/least proud of in your career.
What motivated you to become an IT expert in the first place?
How do you see the IT industry''s future in the next five-ten years?
What do you do to stay on track with the latest industry news?
What common problems do you see in today''s embedded systems? How do you solve them?
Have you ever collaborated with engineers and designers on a brand new product?

Technical Questions

Explain the meaning of an embedded system in a computer system.
List embedded system elements.
Define real-time embedded systems in simple terms.
Define RISC architecture.
What is the difference between the multithreading and single threading model? Which one is beneficial and when?
How do you understand the difference between analytical and computational modeling?
What is a DMA address, and why is it necessary?
Which timers do embedded systems have?
Why do we need a Watchdog timer?
Is there a need for an infinite loop in embedded systems? Why?
What is the purpose of a semaphore?
How are semaphores different from mutexes?
What is the main difference between object-oriented and component-based designs? Give examples when one or the other type is necessary.
Have you ever worked to reduce space in existing systems? Provide details.
Do you recommend using Java in embedded systems? Why?
Which code testing tools do you use?
Name software configuration tools you are familiar with.
What is the best way to troubleshoot embedded targets?
Do you have any experience identifying hardware issues? Please, elaborate.
Which design software are you familiar with?
Do you have any experience optimizing the I/O performance?
Do you think the recursion function is necessary for today''s embedded systems?

Personality Questions

How would your past employer describe you?
Do you maintain relationships with past colleagues?
How do you generally solve conflicts in the workplace?
How would you explain to the client that his product spec is not quite right?
What do you do to relax in your free time?
Can you offer any immediate suggestions on improving our embedded system?