Software Engineer Questionnaire

# Overview

Thanks again for applying with us! We’d like to get to know you a little better, and find out more about your background and experience, with a few basic questions. After we get a chance to read through your answers, we’ll contact you in two to three business days and set up your face to face interviews at our office. Thanks again, and we’re looking forward to talking with you more soon!

# Questions

1. What’s your preferred testing framework? Why? What other libraries or tools do you prefer to use to augment it, and how do you incorporate them into your testing methods?

NUnit it’s my preferred testing framework, also I use Selenium (Selenium WebDriver) for testing UI, plus helped me to write better Html and CSS code for selector and Moq for mocking repositories and models in database.

I leave Selenium for user interface using Page Pattern and Moq for testing repositories and interaction of data to the controller.

1. Tell us about a particularly challenging defect from a production system that you had to troubleshoot and resolve. How did you verify it, reproduce it, resolve it, and roll out the fix?

This one time, after update an web application (CRM used for all company) when they want to save anything in wherever module the system return an 500 error, before that QA test went well and unit test too.

I debug and try to replicate the error in my machine with no success, everything worked just fine. Check that the necessary services where running such as SQL Server and IIS in main server. Check for log errors but log was clean, there was log history before saving something in web application but then nothing after.

Check for space available, but there was up to 150GB free. Meanwhile infrastructure team was checking for some communication error.

I had to roll back to the previous version, and then everything was fine. I spend a couple of hours of intense debugging, checking up to native libraries methods to seeking the error until I found it.

The thing was that for some reason the service layer was overloaded, I refactored and deleted some unused methods and calls then build and deploy the application. With that everything runs fine.

Couldn’t find documentation about that, maybe because the service layer used WCF and there were more than 70 methods.

1. What are the first things you do when reviewing someone else’s code? What tools do you use? How do you know when code you review is "good," and when it needs more work?

Every piece of code must be clean and simple, a method must be between 2 to 8 lines of code, something above that must be revised and refactored, also doesn’t need too much comments, the code must speaks for itself.

I personally use Resharper for VS and SQL Prompt for SQL Server, some VisualStudio extensions like WebEssentials and Productivity PowerTools.

1. Tell us about the most challenging piece of feedback you ever had to give a developer on your team. What was it? How did you communicate it? What was the outcome? What would you do differently?

Recently I had a talk with my teammate, he want to store html in a table in the database, then retrieve it and do a process to send an email, this will be a common task and sometimes the html must have changed, so I told him that is not a good practice to store html, this because html it’s not a relational language plus it will be hard to give maintenance. It’s easier to work with html if it’s a proper html file, you can see real time changes in styles and tags.

How much time will take to get out the html from database, run it in another code editor, make changes and try to respect whichever dependencies from other libraries such as Bootstrap, Font-Awesome, etc.? Finally, I told him that he make a test for updating the html and check if take much time on it.

Later he came with me smiling and saying that he better keep the html inside the project.

1. What are your fundamental guiding principles and practices for productive personal and team software development? How did you develop them?

I do a lot of emphasis that at QA test must be zero bugs, they must think in every probably user case scenario, it is clear that we are not perfect, but we must see beyond and deliver the best module or component.

I think that communication it’s essential, I make weekly meetings to view certain problems or difficulties in each assigned task. Also we keep in touch in telegram’s group and share new articles about development, security, performance, dev jokes (every now and then we need a little of fun), etc.

1. Tell us about a time you had to manage time demands between team member needs, your own development commitments, and client relationships. What was the situation? What did you do? What results did you get? What would you differently?

I don’t know if fits, but one time I had to tell my team mates that we will work on Saturday and Sunday, this because the client want a preview on Monday and made some last minute changes, told them that I’m sorry, but we had to deliver all requirements.

They propose me to work Saturday till finish, even if they were 24 hours straight, so they could get Sunday free for family. Sadly I told them “No”, because his performance will drop down. It’s not the same work 18… 20 hours straight with no rest, tired and sleepy to work 10 hours straight but with the mind focus and alert.

I told them that I had commitments with my family too, but, it will be another occasion, and we love programming, but it comes with this kind of responsibility, many depend on us, people on sales, accounting, etc. And it’s not like every weekend we had to work, it happens from time to time.

At first they were a little reluctant, but couple of hours later they accepted it and we delivered a good quality product to client.

I think that I’ll do the same, with no changes.

1. Tell us about a time you had to organize a team to meet an aggressive but achievable delivery deadline. What steps as the technical lead did you take to ensure everyone could operate at peak efficiency?

When priority changes and there are some urgencies, I split work and assign it by type and team mate, if I know that team member “David” is better in back end I assign to him more complex or details task that require some back end development, so also for others.

Also, I call a fast meeting for review use cases and support ideas from team members for agile and better work.

1. When is the last time you used the singleton pattern, and why did you use it? How about the abstract factory pattern?

I a couple of projects, mainly when identity framework it is used, since it’s not need for create a new instance of “ApplicationUser” I use singleton for getting the current instance of class.

I work with Abstract Factory together with Concrete Factory for data access design mainly, generating DbContext using Entity Framework.