Interview Questions

5 questions in part (A)

(A) Developing smart contracts in general:

Q1: What are the major applications of smart contracts currently.

Q2: What is the main difference between smart contract development and non-smart-contract software development?

Q3: What are the main challenges in smart contract development?

Q4: What particular skills or domain knowledge must a developer have to develop a relatively safe smart contract? (e..g, security domain knowledge)

Q5: What kind of EXISTING tools do you frequently use for smart contract development? Are they powerful? What kind of questions do you desire most for smart contract development?

17 questions in part (B)

(B) On specific aspect of developing smart contracts:

In coding:

[Q1-Q4 mainly focus on the current state and the major challenges of programming smart contracts.]

Q1: Are there any specific best practice being enforced/advised during smart contract development in your company/community (e.g., guidance on how to avoid some known security bugs, writing formal specification in the code, etc.)?

Q2: Is code review conducted in your company/community? What's the process of code review (e.g., peer review or refer to the 3rd party company)? What are the major challenges during current code review of smart contract?

Q3: Do developers pay special attention to the gas consumption of their smart contracts while coding? Will they use some tools to estimate gas consumptions? are these tools helpful enough?

Q4: What kind of bugs do you encounter in coding? (e.g., gas related bugs, transaction logic bugs, or exception handling bugs) which kind of bugs occurred most frequently? what bugs are easy to get fixed? what bugs are most difficult to get fixed? How do you debug when bug occurs? how long normally does a bug get fixed?

In testing:

[Q5-Q10 mainly focus on the current state and the major challenges of testing smart contracts.]

Q5: Considering the relatively small size of smart contracts, is it easier to test smart contracts than non-smart-contract software projects? why?

Q6: What are the main challenges in testing smart contracts?

Q7: What is the general process to testing a smart contract?

Q8: What testing frameworks do you use? Are they useful enough? What kind of testings (e.g., unit testing, integration testing) are often performed? Did you ever meet some problems in conducting unit testing or integration testing?

Q9: It is common for developers to test their code in test platform before deploying them to the online or main platform. Do you think the test platform is helpful enough? Are there any shortages of testnet? Is it possible that some bugs may not be caught if you only test on the testnet without testing on mainnet?

In Programming Languages:

[Q10-Q12 mainly focus on the programming languages of smart contracts.]

Q10. Based on our knowledge, some new programming languages, e.g., Solidity, Serpent, are particularly created for smart contract development. What is your opinion towards these programming languages?

Q11. As a very popular language, do you think Solidity is good enough? What useful features do you think Solidity should have?

Q12: Is there a great need in developing tools that allow developers to program smart contracts in languages like C, Rust, etc.

In maintaining:

[Q13-Q17 mainly focus on the current state and the major challenges of maintaining smart contracts.]

It is likely that some smart contracts may contain bugs after deployment, or they may be not applicable anymore due to requirement change in reality. So I wonder,

Q13: What actions would developer normally take to defense code in such cases?

Q14: In the future, what kind of strategies do you desire that can help to avoid the financial lost?

Q15: Have you reused any library contracts/code during smart contract development? What about the quality of those library contracts/code?

Q16: It seems that currently there are not enough library contracts/code that are provided for development? Why?

Q17: What kind of library code or contracts (e.g., string handling code) do you desire most or do you think most useful during smart contract development?