Non-Technical Questions by Gary Wu

What are the most important elements of making quality software, in your opinion?
I think the most important elements of making quality software are readability, usability, scalability, maintainability, and security. Writing easy to read code means having descriptive variables and function names and having comments where necessary. Easy to read code allows other developers to easily review and maintain it in the future should the original developer not be available. Software should be user friendly, where every use-case and design decision puts the user's perspective as the number one priority. Another important quality is having code that has low coupling and high cohesion as this will reduce as many file/package dependencies as possible and help with the ability to maintain and scale the software. You should be able to build on your program and add new features without having your program break or having to fix other areas of your program to do so. Lastly, having secure code will increase user confidence and be able to ensure that user data and usage is protected from unwanted viewers. Another part of having secure code is to ensure that user inputs include error checking to prevent unintended use-cases.

What are the most important attributes of a software engineer or software developer?
The most important attributes of a software engineer are: a willingness to learn and improve, proficient problem-solving skills, great communication skills and being a team player. As a software engineer, you must continuously learn new skills to not only do your job better but to also stay up to date with the continuously changing world of programming. This requires hard work and a willingness to learn and improve your skills to ensure that you are continuously growing. To continuously grow you must learn to solve new and challenging problems that you encounter along the way. Having a positive attitude goes hand in hand with great communication skills as it is essential to communicate how you will solve a problem both verbally and in code. By being able to effectively communicate with others, you will be able to express your ideas to teammates without causing confusion and thus be able to help them write code that will synergize with yours. Being a team player involves helping team members and both giving and taking criticism from them as well.

What are the most important attributes of a software team?
The most important attributes of a software team include having: common goals, open minded people, team players and strong communication. Having common goals are essential to making software that is cohesive and logical. By ensuring that everyone is open-minded and a team player, it will be easier for people to work with each other and give each other constructive criticism as they all want what's best for the team. Having strong communication allows for people to understand and be on the same page for what needs to be done, creating a healthier team dynamic and stronger work culture.

What are the most important attributes of an organization that makes software?
The most important attributes of an organization that make software are having a welcoming and friendly culture, having an open-minded attitude towards change as well as having motivated employees who are dedicated to creating a great product for their clients to use.

How do you get through a situation where you are faced with solving a problem in a complex system and have only a limited amount of information?

I would break down the complex system into smaller and more manageable subsystems to help reduce the size of the problem. Once I isolate the complex system into these subsystems, I would investigate what each subsystem needs and does through find what documentation is available for each (ex Javadoc, code comments etc.…).   I would then try to seek out unit tests to better understand the flow and workings of the system and to see if any there are any failed unit tests to identify the problem. If all else fails then I will seek out the help of technical leads, experts or previous developers who have worked on this system before for help.