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Explain in about 100-150 words why design conflicts might arise when designing an architecture for which both availability and security requirements are the most important non-functional requirements. 3 points – Taken from Software Engineering by Sommerville Ch 06

Having a system with availability and security as the most important non-functional requirements will lead to conflict. To have security, you must have to limit a person(s) availability. Availability represents the A in the CIA a triangle, meaning it is very crucial to security. Private information must be protected, but when designing a project, we must understand how much protection is too as well. A point will come when too much security may be used which would make things too hard for a client to use access information. Therefore, when designing an architecture, a balance must be found between availability and security with what is socially acceptable and what is secure.

Explain interface evaluation techniques and develop a set of guidelines that can help a project team like this one selects the most appropriate interface evaluation technique for their project. Explore and consider all the project related factors such as project duration, project size, allocated budget, available resources that might influence the choice of an appropriate interface evaluation technique.

An option to consider is the Heuristic approach. In this approach, the designers compare the design to some well-known principles used today. In this method, no users are involved, making this option very basic. It will not be as effective in comparison to the other method but is a good starting point. A business would choose this option if; it has a very small budget, a small project size, very little time, almost no resources available. Heuristics is a very bare bones method when doing interface evaluation. It is the foundation for other evaluations.

Walkthrough Evaluation is another option. In this option design users will present the interface and will explain how it works to them. The user will then provide feedback on what was shown to them. It doesn't involve the user interacting with the interface at all. It is not very complicated; however, it must be organized since many users will be used. A business would choose this option if; it has a very small budget, a small to medium project size, very little time, little resources available. Walkthrough evaluation is an okay method if you have a small budget and time, however interactive and usability testing can be much more effective.

Interactive brings a user into the picture. In this method, a user will work with a prototype involving a project team member. With this type of testing, a user will interact with the interface. A business would choose this option if; it has a very medium budget, a medium project size, very decent amount of time, a decent amount resources available. In comparison to usability testing, it is much cheaper and easier to do. In terms of complexity is in the middle of methods.

Another option is Formal Usability Testing. This method works very well; however, it is very complicated and can be extremely expensive. A lot of effort must go into setting up a session. Firstly, method is performed in labs, with cameras usually. Users interact and are given a task to complete while being monitored. The person monitoring will usually take notes attributes such as, how long it took the person to complete the tasks or the number of clicks it took them. Afterward, the user will give a response back that can be further analyzed. A business would choose this option if; it has a very big budget, a big project size, a lot of time, has a lot of resources available. Usability testing is the most effective approach if