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Performance Task 3

Answer the following set of questions:

1. What is the primary purpose of beta testing in the context of information assurance and security?
 - Beta testing plays a critical role in information assurance and security by exposing vulnerabilities, confirming security measures, and ensuring that the system adheres to security best practices and compliance requirements. It serves as a final layer of validation, where real-world testing helps ensure that the system is secure, functional, and ready for wide-scale use.
2. How does beta testing help identify vulnerabilities that may not be caught during earlier stages of development?
 - Beta testing helps identify vulnerabilities that may not have been caught during earlier stages of development by introducing real-world conditions, diverse user behaviors, varying technical environments, and different levels of security expertise. It provides a crucial feedback loop where potential issues that might not have been foreseen or adequately tested by internal teams can be discovered, allowing the development team to address and patch vulnerabilities before the system is fully



deployed.

3. What are some common security vulnerabilities that beta testing aims to detect?

- Beta testing is essential for uncovering a wide range of security vulnerabilities that may not have been identified during earlier development stages. By simulating real-world conditions, involving users with different backgrounds and experience levels, and testing the system's behavior in diverse environments, beta testing provides a critical opportunity to identify and address weaknesses in authentication, data storage, encryption, access control, and other critical areas before the system is released to a broader audience.

4. Why is it important for beta testers to simulate real-world usage scenarios during testing?

- It is important for beta testers to simulate real-world usage scenarios during testing because real-world usage often differs significantly from controlled testing environments, and real-world conditions can expose vulnerabilities and flaws that might not be detectable through traditional testing.

5. How does beta testing ensure compliance with regulatory standards like ISO 25010?

- By simulating real-world usage and stress testing under diverse conditions, beta testing provides valuable insights into the quality attributes defined by ISO 25010, such as functionality, performance, security, compatibility, usability, and reliability. It helps ensure that the software not only meets its intended requirements but also complies with important regulatory standards and quality benchmarks.

6. What role does penetration testing (pen testing) play in beta testing for security assurance?

- Penetration testing during beta testing is an essential component of security assurance. It helps identify vulnerabilities, assess the



effectiveness of security measures, and ensure compliance with regulatory standards. By simulating real-world attack scenarios, pen testing provides actionable feedback to strengthen the system's security, ensuring that the software is resilient to threats and performs well in live environments.

7. How does stress testing during the beta phase help ensure an application's resilience to attacks like DoS (Denial of Service)?

- Stress testing during the beta phase helps ensure the application's resilience to Denial of Service (DoS) and Distributed Denial of Service (DDoS) attacks by simulating high traffic and resource exhaustion scenarios. It helps identify vulnerabilities, stress points, and weaknesses in the system's infrastructure, security mechanisms, and scalability.

8. In what ways does user feedback during beta testing enhance both security measures and user experience?

- User feedback during beta testing is invaluable for enhancing both security measures and the user experience. By uncovering vulnerabilities, highlighting security friction points, and identifying usability issues, beta testers help ensure the application is secure, intuitive, and aligned with real-world usage.

9. How does beta testing contribute to the early detection of security flaws, and what are the potential risks of not catching these flaws early?

- Beta testing provides a valuable opportunity for early detection of security flaws by exposing the system to real-world use and malicious testing, helping developers identify and address vulnerabilities before the system goes live.

10. Why is it important to strike a balance between security and usability during beta testing, and how can beta feedback help achieve this?

- Striking a balance between security and usability during beta testing is crucial for ensuring that the application not only protects user data and privacy but also provides a seamless and intuitive user experience.



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