SIT 725

Applied Software Engineering

Task 6.1P

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Key points of Web application testing

Testing is an integral part of software development. It ensures reliable software development and can verify functions and identify defects before deployment. For a Web application, it is very important to implement a comprehensive testing strategy across multiple levels.

Unit testing: Like the word says, this is really based on the foundations and is handling single components and functions separately (Pittet, n.d.). This includes testing individual methods, API endpoints, database actions, and the UI components to be sure that each unit functions correctly in various cases. Unit tests give you fast feedback while you are developing.

Integration testing: Check how various modules are interacting, check the data flow, database connections, also API integration and data transfer to and from third-party services between front-end and back-end interfaces (Akinsola et al., 2022). This level captures interface issues that may be overlooked in unit tests, ensuring close collaboration among various components.

End-to-end testing: Simulate real user scenarios and test the complete workflow from user interaction to the final output. This includes user authentication flow, form submission, navigation path and business process completion.

An automatic testing framework could enable continuous integration, decrease the workload of manual testing, and guarantee the quality of code throughout the entire development cycle (Shahin et al., 2017). A strong testing strategy is the foundation for overseeing software deployments, decreasing the number of errors in production, and ensuring that our Web applications are working with correct functionality and good performance.

References

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