

Summary

Application verification through testing stands crucial in software development because it determines proper functionality as well as operational efficiency and reliability. Our group web project emphasizes the essential testing categories which include unit testing and integration testing and end-to-end (E2E) testing. Unit testing evaluates separate components and functions independently with JavaScript testing tool Jest that ensures proper output for different input scenarios. An integration test validates the seamless operation of different system sections including the verification that user form data moves correctly from front end to back end database storage. Black-box and white-box testing techniques are used in this method of evaluation. End-to-end testing simulates total user procedures starting from user registration to form submission to verify program performance throughout its entire operation. Organizations can achieve automated speed in executing unit and integration tests yet need manual human involvement to validate E2E scenarios. The team implements testing at regular intervals as per Agile principles while writing tests ahead of coding activities. The testing process implemented here simultaneously enhances system reliability while delivering superior functionality to users thus building satisfaction in the released software.