



What Are the Drivers for Software Testing in 2022?



The pandemic has accelerated the adoption of digital technologies across domains. These technologies have brought the benefits of digitization to the fore and changed our lifestyle for the better. Consequently, activities such as working from home, making digital payments, and ensuring door-step delivery of products have become commonplace. Digitization has whetted the appetite of customers for better quality products and services and has accelerated their expected time of delivery. The earlier complacency or even frustration of customers in accessing products and services across the omnichannel environment has given way to alacrity.

Accordingly, customers brook no delay in delivery and do not countenance any sub-par quality in products or services. For instance, when using a banking website or app, customers want to complete the transaction quickly and safely without any outages or interruptions. Besides, customers want the services to be available 24 hours a day, 7 days a week, and be accessible from anywhere in the world. Business enterprises are aiming at developing faster, scalable, connected, and intelligent software applications to reach out to their customers better. This has necessitated changes in the software testing services based on specific drivers.

Drivers changing software testing in 2022

Given the prominence of software testing in the entire digital landscape, software testing companies are adopting specific drivers to facilitate testing in 2022. Let us find them in detail.

Implement Agile and DevOps methodologies: With achieving a superior customer experience becoming the primary objective of any software application, business enterprises are looking to implement Agile and DevOps in their value chain for better and quicker delivery of software. Agile entails better collaboration among cross-functional teams in small iterative processes called sprints to deliver quality outcomes quickly. It is mainly confined to development and testing, leaving operations or production out of its ambit.

DevOps technologies, on the other hand, break down silos between departments and/or processes and deliver software applications quickly, safely, and at scale. This has been of help in performing repetitive processes, such as regression testing, quickly and accurately. With the demand for quality software applications soaring and their safe and quick delivery to customers becoming the need of the hour, software testing services have their task cut out. They need to identify the risks, vulnerabilities, or bugs quickly and cost-effectively.

Leverage AI/ML to build intelligent applications: Artificial Intelligence or Machine Learning technology is used by business enterprises, especially in the domain of e-commerce, to deliver superior customer experiences. They do so by gaining insights into customer behavior, offering curated recommendations, resolving grievances, and others. AI-based [software quality assurance](#) uses AI/ML algorithms to test a software product quickly, accurately, and effectively. The algorithms identify patterns to predict future trends, search for visual bugs present in the application's user interface, and validate the quality of the application. AI-based tools can also be used to maintain and extract the test scripts for various QA testing requirements.

Creating scalable applications using containerization and microservices: Business enterprises are building distributed systems using containers and microservice architecture to scale their computing environments quickly when there is a demand. Containerized software applications offer scalable computing environments that can be rapidly deployed into any cloud using few resources. However, these services are beset with challenges and are prone to attacks given that they are loosely coupled or dependent. In other words, the failure of one service could lead to the failure of the whole software application. This calls for crafting a proper test strategy by any software testing company to verify and validate the interactions

among microservices using smoke and sanity testing before deploying the application or any new feature to production.

Developing applications with APIs: APIs connect the backend and UI in a distributed system to facilitate data transfer across systems. With the use of microservices on the rise, API usage has seen an increase as well. For instance, in e-commerce, a multitude of services such as product search, catalog, inventory recommendations, and order submissions, among others, are connected using APIs. However, notwithstanding the critical role of the APIs, they are vulnerable to threat actors as well. Hence, to eliminate the vulnerabilities, the APIs need to be tested for security risks to ensure businesses and their stakeholders (employees, customers, and partners) get to use a reliable and secure platform. This is where a rigorous and overarching software testing process can be put in place, one that adheres to industry and regulatory standards.

Implementing QAOps: QAOps or DevTestOps combines [QA services](#) (QA) and IT Operations (Ops) in the SDLC and works towards delivering quality software applications to the market in quick time. QAOps entails collaboration between developers and test engineers by integrating quality assurance services into the CI/CD pipeline. This is slowly going to be the next big thing in the world of quality assurance.

Scriptless test automation: Today, business enterprises are willing to develop, test, and deploy myriad software applications at a fast pace. This means testers belonging to QA testing companies need to continually learn new programming languages and take care of the backlogs. Needless to say, this can be a mind-boggling challenge that needs to be tackled. In scriptless test automation, testers use tools to write automated test scripts combining AI/ML algorithms to deliver quick results. These tools eliminate the need for testers to learn new programming languages and can be handled by non-technical users as well. Easy to maintain, scriptless test automation tools are user-friendly and deliver faster results.

Conclusion

In addition to the above-mentioned trends, business enterprises can leverage shift-left testing, autonomous testing, IoT test automation, big data testing, and others to ensure the release of high-quality products. They need to be on top of these drivers to stay competitive in the fast-changing industry.

Resource

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