The Next Big Thing in
Software Testing

Introduction

Software Testing has a huge role today in terms of customer satisfaction in software development. A software product should meet all requirements of customer and be reliable.

Software development life-cycle is shortening increasingly and becoming more complicated by using microservices, third party API's and other software packages. So that we are having a software that has too many dependencies to be tested. Popular development methodologies demand small and frequent updates, which puts additional load to testing process. Because of that, the application of Artificial Intelligence in software testing tools is focused on making the software development lifecycle easier.

In this paper, I will discuss AI and Machine Learning as the next big thing in Software Testing.

AI and Machine Learning

AI/ML has always been the most popular topic for future technology. Autonomous driving, robots, data science on marketing and social media are some areas which are applied for.

Maybe automation testing was the next big thing in recent history. But now, it is an indispensable practice for most IT companies and improves the time cost efficiency with DevOps approach. For Example, using AI/ML to detect where to focus testing on, needs not only data from the testing phase but also from the requirements, design, and implementation phases.

AI/ML can make it possible to generate tests instead of manually developing automated tests. ML can be trained to learn context, understand expected

outputs, prioritize what matters most to users, and generate tests that can be run using automatically generated test data. The goal of using artificial intelligence and machine learning is to allow computers to learn on their own to a certain extent so that they can then predict without the programmer monitoring every keystroke.

AI and ML can allow testers to use plain English to describe the test they want to create. Behind the scenes, AI and ML do the work of translating that request into a fully-functioning test. So rather than write test code, a tester can write, "Verify that all currency amounts display with a currency symbol," and a test is created to accomplish that. Making this even more powerful is that AI and ML can combine multiple plain English statements to build lengthy, complicated tests.

There are already some tools for applying AI to tests. For example, TestProject has a self-healing feature to prevent test suites from changing web element locators.

The formula for the future: Digitization is qualification plus automation—upskilling leads digitalization, says Stephan Goericke, Editor of The Future of Software Quality Assurance. One matter is for sure. The more accurately one may assess the developments, the better we can prepare ourselves for tomorrow. For us, the workers, developers, testers, marketers, employers and employees of the future, this means one thing above all: education. Being able to prepare ourselves for the new tasks.