

QTRON– The Quality Transformer



QTRON is Capgemini's in-house developed tool to automate data driven test execution and enforce quality assurance in software engineering.

In software product development, rapidly changing business demands and competition is driving the adoption of Agile and DevOps to help business improve time to market. It is often a contradictory situation in product development cycles where faster releases are required while ensuring that the work released by developers, testers and program managers is of the highest quality.

With the emphasis on quality, the testing team is always under tighter deadlines than planned to complete an assured testing process for the release. Challenges faced by the team include

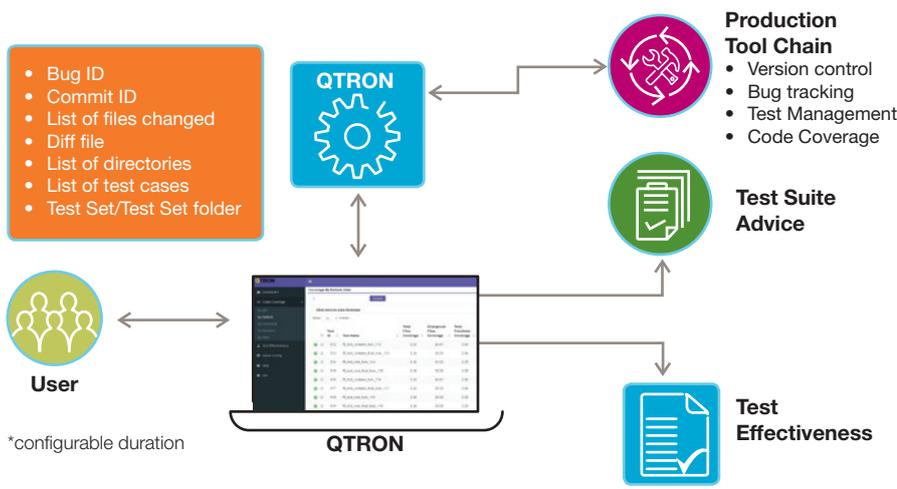
- Mapping of code changes to test cases for selective execution
- Effectiveness of test cases
- Execution time of test cycles
- Ensuring maximum code coverage

QTRON Solution

QTRON has been developed to address the challenges for the testing team. Our intelligent solution QTRON identifies and picks up the most relevant test cases for execution, based on the code changes and effectiveness of test cases.

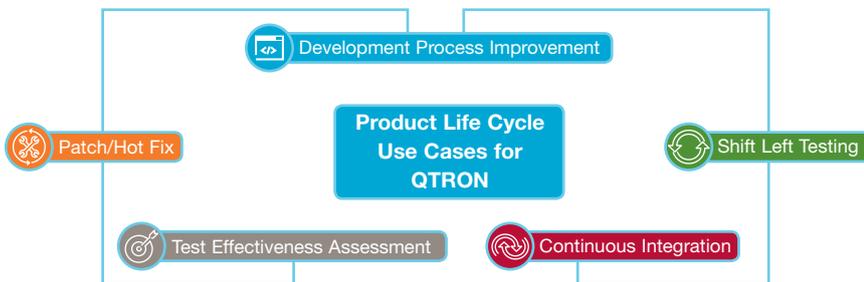
The Tech behind QTRON

QTRON engine has been designed with such simplicity that it integrates into any development environment with ease. QTRON has been developed using plug-in based architecture. Plug-ins for most common tool chains like version control (SVN, GIT, TFS, etc.), bug management (Bugzilla, Zira, BMC Remedy, etc.), test management (HP ALM, Jira, TFS, etc.), languages (C, C++ etc.) and code coverage tools (GCOV, Bullseye etc.) are already built.



Success Story

A leading storage technology provider reduced its new feature development and patch release time leveraging QTRON. It helped reduce the test cycle execution time in proportion to code changes saving ~15% to 25% of the cost per release. It improved test effectiveness by ~8% to 10% detecting redundant test cases and also ensured maximum code coverage by identifying missing test cases.



Salient Features

- Simple user friendly UI
- Plug-in based design makes it scalable and extensible to leading third party tools in the market.
- Provides insight about overall code coverage and code churn for focused testing thus improving the quality of the product.
- Test effectiveness provides the insight to prioritize test cycles
- Can be used as a gating mechanism to pre-check any developer commit

Advantages

- Completely automated next generation tool for Quality Assurance
- Platform and tool chain agnostic
- Leverages code coverage and historical test execution information
- Easily configurable as per need

Benefits

- Shorter test cycle times
- Reduction in unwarranted/ non-relevant test executions
- Data driven testing, no developer guess work or assumptions
- Quality enforcement through gated check-ins



About Capgemini

With more than 190,000 people, Capgemini is present in over 40 countries and celebrates its 50th Anniversary year in 2017. A global leader in consulting, technology and outsourcing services, the Group reported 2016 global revenues of EUR 12.5 billion.

Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness.

A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

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