

FedCSIS_2023_paper_4549.pdf

On Testing Non-functional Requirements in Industry – A Survey Study

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Abstract—[Context and motivation] The failures of software projects are frequently traced to the problems with non-functional requirements (NFRs). Thus, proper citation and testing of NFRs might prevent these problems. [Question/problem] Constant changes in technologies used to develop software products drive to new and changing NFRs, which requires adapting of the approaches used to investigate if they are satisfied. And, thus, the question arises if and how NFRs are tested. [Principal ideas/results] We conducted an online survey among software development practitioners. 190 respondents from a wide variety of countries shared with us their experience concerning testing NFRs. [Contribution] We learned that NFRs are tested in the majority of surveyed projects. However, in some having high impact (economic, human health, environment) the dedicated effort is small or none. There are different techniques used from automated ones like static code analysis, to manual ones like code reviews. Most developers, QAs and DevOps are testing security. The greatest challenges concern culture, knowledge, and difficulty in specifying tests.

I. INTRODUCTION

REFERENCES

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PRIMARY SOURCES

1	link.springer.com Internet	138 words — 69%
2	"Requirements Engineering: Foundation for Software Quality", Springer Science and Business Media LLC, 2022 Crossref	14 words — 7%

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