

Summary of “Towards an Approach for Improving Exploratory Testing Tour Assignment based on Testers’ Profile”

Title: Towards an Approach for Improving Exploratory Testing Tour Assignment based on Testers’ Profile

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Aim

The research study aims to explore the impact of testers' profiles on their efficiency and preferences when using the tourist metaphor for exploratory software testing. The study sought to understand how testers' education, expertise, and computational knowledge influence their choice and execution of testing tours. The ultimate goal was to develop a recommendation system that could allocate test tasks more effectively based on these profiles, thereby enhancing the overall productivity and effectiveness of software testing processes.

Methodology

The study employs an empirical approach, starting with a literature review to establish the theoretical background. A questionnaire was developed to collect detailed information about testers' educational levels, expertise, and preferences regarding different testing tours. Sixty participants, including undergraduate and postgraduate students from software engineering and computer science courses, were involved. They were asked to perform exploratory tests using predefined tours within a simulated software environment. Data were collected on their efficiency in identifying defects, and the results were analysed to find correlations between testers' profiles and their testing performance.

Results

The study found significant variations in the preferences and efficiencies of testers based on their profiles. Testers with different education levels and expertise tended to prefer different types of testing tours. For instance, undergraduate students showed a strong preference for simpler and less time-consuming tours, while more experienced testers chose more complex tours that required in-depth exploration. The data indicated that matching test tasks to testers'

profiles could lead to better defect detection rates and more efficient testing processes. This correlation supports the development of a recommendation system tailored to individual testers' strengths and preferences.

Implication of Research and Practice

The findings suggest that integrating a humanised process for assigning test tasks can significantly improve the efficiency of software testing. For research, this study opens up new avenues for exploring the role of human factors in software testing and developing more sophisticated recommendation systems. Practically, implementing such a system in software development environments can optimise resource allocation, reduce testing time, and improve software quality by leveraging the unique strengths of individual testers. This approach not only enhances productivity but also increases job satisfaction among testers by assigning tasks that align with their skills and preferences.