Towards an Approach for Improving Exploratory Testing Tour

Assignment based on Testers’ Profile

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This study aimed to identify profiles of testers to support the creation of a test task recommendation system based on the Exploratory Testing approach with the Tourist Metaphor. This study raises a valuable discussion about a humanized process of assigning test tasks in order to generate data for the definition of a recommendation system for automatic assignment of test tasks based on the profile of each tester. In addition to testing tasks, this strategy can be extended to development contexts, given that the profile of each developer, and tester, can also influence the effectiveness of the activity and the degree of satisfaction of the developer. It is possible to highlight two main future works derived from this research. The first one is to extract the profiles with more testers as a sample, in order to follow the exploratory testing process carried out, to build a consistent database on profiles. From a more solid database, the second future work is to apply artificial intelligence algorithms for automatic assignment of test tasks based on the profile of testers.

The methodology adopted by this work comprises four basic phases: (1) research planning, (2) data collection, (3) data analysis, and (4) reporting the results. The interviews were developed with undergraduate course of Software Engineering at our university, engaging 40 participants, and a specialization course in the area of Computer Science, involving 20 participants. In the data collection phase, the research procedures employed were: documentary research; bibliographic research; and action research. A questionnaire was applied to each participant, in order to identify their characteristics.

The performance of tests considering different professional expertise was an important information gathered in the study. In the software testing discipline, the students’ greatest experience was concentrated in Unit Tests, which had already been practiced by 90% of the respondents. Approximately 57% of the respondents declared to have experience in Acceptance Tests, and 33%, in Integration Tests. Meanwhile, about 20% declared experience in System Testing and only 10% declared to have no experience in any test phase. All respondents in the Experimental Software Engineering discipline declared that they had already carried out unit tests, while 60% had already taken Acceptance tests, 40% in Integration Tests and 30% in System Tests. The diversification of the level of education allows to understand the different ways of looking at the software and its possible defects.

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