Consideration of Human Factors for Prioritizing Test Cases for the Software System Test

Abstract:
A big challenge of software test managers is the limited test time. Especially the system test, where the whole integrated software system is tested shortly before delivery to the customer, is affected by this limitation. During the system test usually several test cycles are needed. However, a test manager cannot execute all available test cases in each test cycle due to the limited test time. He has to decide which test cases have to be executed in each test cycle in order to find new possible faults of the software. In this paper the Adaptive Test Management System (ATMS) based on software agents is presented which relieves the test manager from this complex manual work by using software agents for prioritizing test cases based on current information about the software system, the test cases and the human factors of the developers. The goal of the ATMS is to maximize the number of found faults in the available test time with the determined prioritization order.

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