AN AGENT-BASED FRAMEWORK FOR AUTOMATED WEB-BASED APPLICATIONS

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ABSTRACT
Traditional quality models are not sufficient for testing Web-Based Applications (WBA) because they do not cover all problems related to the new features of WBA. In addition, the hypermedia nature of the Internet, speed of access to information, and the security of transactions are some of other aspects that differentiate these systems from old-fashioned systems. A web application can be considered as a distributed system with a client-server or multi-tier architecture, which is different from traditional ones. There differences could be classified as large number of users which are distributed all over the world and can have access to the specific application at the same time, mixed execution environment which composed of different operating systems, hardware, software, web browsers and servers. There could be different in type of components that they use such as distinct programming language and models. Generating software components at run time according to user inputs and server status is another distinctive feature of WBA. An agent-base approach is a good solution to reduce the complexity of testing methods which is more complicated in WBA because a testing task can be decomposed in to many small subtasks and each one of them can be assign and completed by an agent. Although agents have been successfully applied in many fields, little research has been done in testing WBA via agents. We have proposed an agent-based automated functional testing framework that simplifies the task of software testing along with minimizing the testing cost and maximizing the testing coverage. It also reduces testing time.

KEYWORD
Agent, Web-Based-Applications WBA, software testing, model-based