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Paper submitted for publication in the Journal of Computer Science,
Institution of Engineers India

An Efficient Architectural Frame work for a Comprehensive
Embedded Testing Tool

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Abstract

Testing and debugging embedded systems is difficult and time consuming for simple reason that the embedded systems have neither storage nor user interface. The users are extremely intolerable of buggy embedded systems. Embedded systems deals with external environment by way of sensing the physical parameters and also must provide outputs that control the external environment.

In embedded systems the issue of testing must consider both hardware and Software. The mall functioning of hardware is detected through software failures. The target Embedded system does not support the required hardware and software platform needed for development and testing the Software. The software development cannot be done on the Target Machine. The Software is developed on host machine and then installed in the Target machine which is then executed.

Cost-Effective testing of embedded software is of critical concern in maintaining competitive edge. Testing an embedded system manually is quite time taking and also will be a costly proposition. Tool based testing of an embedded system has to be considered and put into use to reduce the cost of testing and the ability to complete the testing of the system rather quickly as fast as possible.

Tools[5,6,7] are also available in the market for testing embedded application but they carry fragments of testing and even the fragments' of the Testing is not done in unified manner. The tools fail to address the integration testing of the Components on the target machine and also in between the components and the Software that is resident on the Target system.

In this paper architectural analysis of existing tools in the market is carried tracing the extent to which these tools are catering for undertaking the testing of the Embedded System. In this paper an efficient architecture of a comprehensive testing tool is presented which will support all kinds of testing to be carried in an integrated manner.