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Functional Testing and Verification & Justification Solutions for Embedded Systems

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Article published on February 11th 2012 | Software

It is challenging to define embedded systems but theirs is this kind of intelligence found in almost any device at home such as your TV, iPod, mobile phones, and even the air traffic control system. The embedded systems have almost taken control over our lives and are present in 90% of the valuable devices we usually take for granted. Testing embedded system might be required to make sure that using such device is safe and that its performance can better improve daily activities. This can also be a necessary step for corrective and preventive measure intended for improved quality.

With testing of the embedded systems, the devices can be â€œdebuggedâ€• or removing defects. The debugging process is carried out by software developers so be sure that the devices are of top quality both in performance and productivity. Testing embedded systems consist of an actual evaluation of the application including some of its components as against a criterion. The testing is done based on the behavior, robustness and performance which can be measured and validated very easily. The testing guarantees the quality of the software product while still in the development process.

Functional testing, however, is another type of testing which differs from embedded systems testing since functional testing or also called black box testing, is done based on the specs of software components. It involves five steps which are the identification of the various functions that the software will perform, the creation of an input data based upon the specifications of the function, the determination of the output based upon the function specifications, the execution of the test and finally the contrast between the actual and the expected results.

Embedded systems are also found in medical, nuclear and the avionics industry that it is therefore critical to undergo the testing in order to safeguard safety and quality. There are prevailing standards on the software development for the avionic industry since these embedded systems are critical to their performance and to preservation of life. The same criteria is also considered in testing embedded systems for health industries and transportation because they are vital to human safety. If the system is not tested out correctly, there could be system failure which results to catastrophic events. This is why testing embedded systems is really important since it can improve the quality of all types of devices and equipments.

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Embvue is a systems and software engineering company specializing in the provision of products and services for customers developing complex, real time, embedded systems. Embvue's Generator product is specifically designed for a testing embedded systems by automating the generator of test cases directly from the requirements for a functional testing.

Article Keywords:

testing embedded systems, functional testing, black box testing, mc/dc testing, testing safety critical systems,

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