Testing Embedded Systems for Quality Assurance and Safe Performance by Joy Shiela

Article published on February 11th 2012 | Software

Some devices are such a must when it comes to daily existence of men. There is the cell phones that most cannot live without, internet router and big screen home television. Some devices and equipment utilized in the medical, transportation and aviation industry such as the air traffic control monitoring. These devices comes with "intelligence" generally known as embedded systems. Testing embedded systems is a process done to assure the quality and safety of the systems in order to prevent a failure which sometimes be critical.

Both air and land transportation use embedded systems to guard it from hacking and make the craft more reliable. Testing embedded systems are also there to keep devices and equipment in good performance and high quality. In the field of transportation, the embedded systems keep the vehicles efficient and controls pollution. Another testing tool used is functional testing, this is the kind of black box testing that determines the purposes and functions of the software and what's expected from it. The evaluation is conducted in order to assure that the system complies with whatever specified requirements. The test is also intended to test if the system is working according to its capacities and designed specifications.

If you would take a look around you, almost all the technologies and electronic devices around you have this embedded systems. Embedded systems are found in every modern technological product ranging from a simple digital watch to traffic lights and air traffic control up towards the complicated nuclear power plants. Testing embedded systems in these kind of industries are extremely important the slightest error could result to grave ends. For critical embedded systems that requires thoroughness for safety, the testing conducted is mc/dc testing.

Mc/dc testing means modified condition/decision coverage is used for the Level A testing. The testing needs to be precise and complete to make sure that the Level a equipment is safe and reliable since its failure can be catastrophic. Whereas, testing safety critical systems are conducted on critical software that can result to death or injury if there will be errors. The requirements for testing safety critical conditions are exact and strict to make sure error-free results.

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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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