

HITEX UK LTD

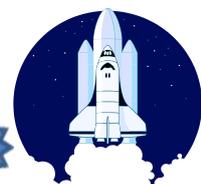
Ten Coding Commandments

Name:

Company:

Product:

	Ten Commandments	Score	Supplementary Info
1	A Software Plan		
2	Coding Standards		
3	Version Control		
4	Static Analysis Testing		
5	C Function Unit Testing & Software Integration Testing		
6	Peer Review		
7	Test Strategy		
8	System Tests (Functional Test) Execution		
9	Tool Qualification		
10	Field Trial		
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1. A Software Plan

The specification of the final product should be clearly defined in a document that is available to the software team. From this should be derived the software requirements, the system architecture and the detailed design spec. Test specs ideally should also be derivable from this information also.

2. Coding Standards

An in-house coding standard should be adopted for the development of a project using an industry standard (E.g. MISRA 98, MISRA 2004) one as a basis. All software that is written must adhere to this standard and exemptions from this must be detailed in supplementary documentation.

3. Version Control

A version control system should be used to manage documents, such as software files, header files, specifications, software plans, house coding standards etc. Test data should also be archived for future reference.

4. Static Analysis Testing

A static analyser should be used to analyse the produced C code. A third party static analyser should be used to check the C source code and header files. The analyser should be used to check for the rules as indicated by the coding standard where possible.

5. C Function Unit Testing & Software Integration Testing

Each C function should be independently tested in isolation from all the other C functions. Software units whose functionality depends on the correct operation of other software units should be tested together. This is to ensure the integration of the software modules with each other is successful.

6. Peer Review

A peer review process should be used for those areas of the code that may not lend themselves naturally to unit testing. A peer review should also be done on all the code as a second pair of eyes can also pick up potential problems.

7. Test Strategy

The test engineer producing the test cases for the unit testing must be independent from the software code writer. The initial test cases would be ideally generated from the documents provided with only the function prototypes initially available to the tester. This may be reviewed following the unveiling of the source code and amended to achieve 100% MC/DC coverage.

8. System Test (Functional Test) Execution

The equipment must be fully exercised with the complete object code present in the system and exercised in accordance with its normal operation. The tests must include typical scenarios that the product may see under fault condition and stress loading.

9. Tool Qualification

Each of the C compilers and test tools should have a tool qualification pack available for it. For C compilers it is expected that the tools have been validated by third party tool suites such as Plum Hall Validation Suite, and a statement of conformance be available for inspection from the supplier.

10. Field Trial

The product must be field trialled for a period of two months prior to shipping the first production units.