Unit Test - Maturity Model — Ver. 02

CMM	Unit Test Level	Details	Reference
Level 1 Initial	Level 0 - Unaware	Unaware of unit testing concepts or missing fundamental skills to develop unit test.	
	Level 1 - Ignored	A belief that not enough time is available for unit testing or that it would not bring benefit to the specific work at hand.	
	Level 2 - Experimental	Experimentation of basic unit test concepts, typically positive scenarios. Missing strategy as to coverage areas. Typically used by creator of test and not others within the organization. Likely not maintained for reusage.	
Level 2 Repeatable	Level 3 - Intentional	Intentional effort to build some unit test in places throughout the development lifecycle. May not represent test scenarios outside positive (happy path) testing.	
	Level 4 - Positive/Negative Test	Intentional effort to build positive and negative unit test throughout the development lifecycle. Understanding of testing principals beyond positive (Happy Path) testing techniques.	
Level 3 Defined	Level 5 - Positive/Triangulation Test	Specific test with different input and expected results than the positive test to ensure no hard coded return results.	
	Level 6 - Positive/Negative/Boundary Test	Intentional effort to build effective unit test leveraging appropriate testing principals such as Positive, Negative and Boundary testing. Effective communication channels in place between development and QA.	
	Level 7 - Mocks and Stubs	Mocks and Stubs in place to replicate dependent functionality.	
	Level 8 - Designed for Testability	Code that is easier to test due to development design. Clear delineation and simplicity in design.	https://en.wikipedia.org/wiki/Single_responsibility_principle
	Level 9 - Test Driven Development	Begin development process by building unit test which evolve with primary code development. Designed for testability. Red, Green, Refactor. Never write a line of code that doesn't have a failing test.	
Level 4 Managed	Level 10 - Code Coverage	Intentional effort to build unit test to measurably cover functionality, logic and lines of code across the development.	https://en.wikipedia.org/wiki/Code_coverage
	Level 11 - Unit Test in the Build	Automated unit testing during the build process (CI). All Unit Test must pass in order to consider the build successful.	
	Level 12 - Code Coverage Awareness	Awareness of Unit Test code coverage across an organizations landscape ensuring consistency in testing practices. High level dashboards showing metrics down to individual projects regarding code coverage and last execution times.	
Level 5 Optimizing	Level 13 - Automated Builds and Tasks	Fully automated build and reporting process. Bringing awareness to the collective and individual health of the SDLC process.	