

Software Engineering Assignment

Rework

Rework in software development is the additional effort of redoing a process or activity that was incorrectly implemented in the first instance or due to changes in requirements from clients.

Verification is the process of checking that a software achieves its goal without any bugs. Verification means **Are we building the product, right?**

Validation is the process of checking whether the software product is up to the mark or in other words product has high-level requirements.

Validation means **Are we building the right product?**

Difference between Verification and Validation

Verification	Validation
It includes checking documents, designs, codes, and programs.	It includes testing and validating the actual product.
Verification is static testing.	Validation is dynamic testing.
It does <i>not</i> include the execution of the code.	It includes the execution of the code.
Methods used in verification are reviews, walkthroughs, inspections, and desk-checking.	Methods used in validation are Black Box Testing, White Box Testing, and non-functional testing.
It checks whether the software conforms to specifications or not.	It checks whether the software meets the requirements and expectations of a customer or not.
It can find the bugs in the early stage of development.	It can only find the bugs that could not be found by the verification process.
The goal of verification is application and software architecture and specification.	The goal of validation is an actual product.
The quality assurance team does verification.	Validation is executed on software code with the help of the testing team.
It comes before validation.	It comes after verification.
It consists of checking documents/files and is performed by humans.	It consists of the execution of the program and is performed by the computer.

Evolutionary Prototyping

Evolutionary prototyping also called breadboard prototyping is based on building actual functional prototypes with minimal functionality in the beginning.

By using evolutionary prototyping, the well-understood requirements are included in the prototype and the requirements are added as and when they are understood.

Coding Standards

- Limited use of globals
- Naming conventions
 - localData (1st latter is capital of every latter other than 1st)
 - GlobalData (camel casing)
 - CONSDATA (all caps)
 - local_variable (_ between every word)

Requirement Traceability Matrix (RTM)

Requirement tracing, a process of documenting the links between the requirements and the work products developed to implement and verify those requirements. The RTM captures all requirements and their traceability in a single document delivered after the life cycle.