Software Testing Standards

Group 3

What are Standards

- Some protocol or guidelines which globally acceptable and ensure qualify.
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- ISO/IEC/IEEE is intended for software testing acts as an internationally
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- ISO/IEC/IEEE having number 29119 is intended for software testing acts as an internationally approved collection of standards in software testing followed for any SDLC model in developing software for any organization. When you implement the standards, you adopt the internationally-recognized and approved testing standards that will eventually offer your organization a quality approach for testing

Basis for software testing standard

1. Communication - There is a very important role in the terminology in defining standards
2. Certification - Product certification is a process certifying a certain product has passed the quality control tests, performance test, and meets the qualification criteria.
3. Guidelines for benchmark of good industry practice - benchmarking is a continuous process of comparing business performance metrics and process with the best known method of the industry
4. Importance of interoperability and consistency - These terms play a key role in designing a standard
   -interoperability refers to the basic ability of a system to easily connect and communicate to each other, even they were developed by different individuals.

Types of standards

1. ISO/IEC 29119-1: Deals with concepts and definitions of software
2. ISO/IEC 29119-2: Deals with test processes in a product
3. ISO/IEC 29119-3: Deals with test documentation of the product
4. ISO/IEC 29119-4: Deals with testing techniques and strategies
5. ISO/IEC 29119-5: Deals with keyword-based software testing

The Popular ISO/IEC 9126

This is a popular software testing standard that deals with the below-mentioned characteristics for determining the product quality in the testing phase:

1. Modelling Quality
2. Inner metrics
3. External metrics
4. Quality in the usage of metrics

Some precise set of quality features need to be followed for all products while standards are being set. These features are set so that they meet all the boundary requirements of software and test cases. These are as follows:

1. Proper functionality of the software
2. User's reliability of software
3. Usability of software (high tuned user experience)
4. High efficiency
5. Proper maintainability
6. All aspects of portability

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Standard	Description

1. **IEEE 829** - This standard is used for proper document formatting and is practiced in different stages of software testing.
2. **IEEE 1061** - It has the technique to establish better quality and validating the software with quality metrics.
3. **IEEE 1059** - Supports in guiding software verification and validation.
4. **IEEE 1008** - Standard which supports proper unit testing.
5. **IEEE 1012** - Standard that supports Verification and Validation of product.

IEEE 1028 - Standard that guides in proper software inspections.

IEEE 1044 - Standard, which categorizes the various anomalies in software.

IEEE 830 - Standard that helps following the proper development of a system with accurate requirements specifications.

IEEE 730 - Standard that deals with the product's quality assurance.

IEEE 1061 - Standard that deals with the product's quality metrics

IEEE 12207 - Standard that guides in proper life cycle processes of both data and software.