



Software Quality Management

Introduction to Quality

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#AdTekDev #ICoTek #VNASQ #VNSQA #VNSoftwareTesting

E.x. Notepad

- Notepad
 - 1st Case: Run App from Original Path:
C:\Windows\System32
 - 2nd Case: Copy App to C:\ and Run
 - What are The Important Factors ?

Outline

- Perspectives & Expectations
- People's roles and responsibilities
- Consumer side
- Benefits
- What is Quality?
- Definition of Quality



Perspectives & Expectations

- Five major views
 - Transcendental
 - User
 - Manufacturing
 - Product
 - Value-based views

(Kitchenham and Pfleeger, 1996; Pfleeger et al., 2002)

People's roles and responsibilities

- *different people would have different views and expectations based on their roles and responsibilities*
- Two broad groups
 - **Consumers**
 - customers and users, either internally or externally
 - **Producers**
 - anyone involved with the development, management, maintenance, marketing, and service of software products
 - third-party participants

People's roles and responsibilities

- External view
 - *who are more concerned with the observed or external behavior; rather than the internal details that lead to such behavior.*
- Internal view
 - *are typically familiar with or at least aware of various internal characteristic of the products*

Consumer side

- a software system performs useful functions as it is specified.
 - performs right functions as specified, which, hopefully fits the user's needs (*fit for use*).
 - performs these specified functions correctly over repeated use or over a long period of time (*performs its functions reliably*).

Consumer side

- meeting this basic expectation and beyond to *delight* customers and users *by preventing unforeseen negative impacts* and *produce unexpected positive effects* (Denning, 1992).
- *E.g. ensure the smooth operation and interaction between the software and these non-human users in the form of better inter-operability and adaptability*

Benefits of software quality

To Customers:

- Satisfaction
- Improved Reliability
- Reduced Errors in Operations
- Matching with Requirements

Benefits of software quality

To the Organization:

- Meeting Customer Requirements
- Stable Requirements
- Verification that Requirements are Met
- Consistent Application of Processes
- Improvement Over Time
- Quality of Life *

What is Quality?

Definition of Quality

- **Philip Crosby** (Conformance to Requirements)
- **Dr. W. Edwards Deming**
(Never Ending Improvement)
- **Dr. Joseph Juran** (Fitness for Use)

Definition of Quality

- Degree of Excellence

(Oxford)

- Fitness for Use

(AS1057)

- Ability to Satisfy
Stated/Implied needs

(ISO8402)

- Conformance to
Requirements

(Crosby)

- Predictable

- Uniformity

- Dependability

- Low Cost

- Suited to Market

(Deming)

- Defined by the customer

(Feigenbaum)

Definition of Quality

- Meet the specifications and expectations in the most cost-effective and timely manner
 - Meet the specifications
(**explicit** customer requirements)
 - Meet the expectations
(**implicit** customer requirements)

Q/A ?!

