QUALITY IN **USE**

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CONTENT

DEFINITION OF **QUALITY IN USE**

“The user's perspective of the quality of the software product when it is used in a specific environment and specific context of use.” ISO/IEC 25010:2011

It is an assessment of the level at which users can achieve their objectives when using the software under specific operating conditions, rather than a measure of the internal characteristics of the software.

QUALITY IN USE CHARACTERISTICS

01
Effectiveness
The extent to which users successfully achieve the intended objectives when using the software.

02
Efficiency
Resources used in relation to results achieved.

03
Satisfaction
It is the measure of comfort and enjoyment that users experience when using the software.

04
Freedom from risk
Evaluates the degree to which the use of the software does not entail unacceptable risks for the user.

05
Context coverage
It is the ability of the software to be used successfully in the intended set of contexts of use and beyond.

STANDARDS AND MODELS

Some international standards provide frameworks and guidelines for understanding and assessing quality in software use.

- ISO/IEC 25010:2011
- ISO/IEC 9241-11:2018
- ISO/IEC 25022:2016
- ISO/IEC 25023:2016, HE model, ISO 9241-210, Nielsen Heuristic model, HEART model, QUIM

MODELS ASSOCIATED WITH QUALITY IN USE

- ISO/IEC 25010:2011 – Main reference model.
- ISO/IEC 25022:2016 – Measurement of quality in use.
- ISO/IEC 9241-11:2018 – Defines usability as part of quality in use.
- Nielsen Heuristics – Heuristic evaluation of usability.
- HEART Framework (Google) – Metrics focused on user experience.
- QUIM (Quality in Use Integrated Measurement) – Integrated measurement model.

METHODOLOGIES AND METRICS

1. Usability testing with users: core methodology to evaluate effectiveness, efficiency and satisfaction
2. User experience evaluation: focuses on emotions, values and the long-term effects of using the software
3. Incident analysis and support: useful to review logs of incidents that occurred during actual use of the software.
4. Inspections and guideline compliance: heuristic system evaluations, helping to anticipate problems.
5. Production metrics and telemetry: Inference of quality in use on a continuous basis, based on actual software usage data.

IMPORTANCE OF QUALITY IN USE

Client Satisfaction

Improve user experience, key to system acceptance. It promotes user adoption and loyalty.

Real end-user experience

Ensures that the software truly fulfills its purpose for the end user.

Support and maintenance costs

Reduces the number of technical support inquiries, bug reports, and training requests.

Inclusion and accessibility

Ensures that the system works across different devices, connectivity levels, and digital literacy levels.

EXAMPLE

MOBILE APP FOR SCHEDULING MEDICAL APPOINTMENTS

- Effectiveness: 95% of users successfully schedule their appointment.
- Efficiency: It takes an average of 40 seconds and 3 steps to complete the process.
- Satisfaction: Surveys show a score of 4.7 out of 5.
- Security: Complies with the personal data protection law.
- Context coverage: Works on Android and iOS, and on slow or temporarily disconnected networks.

KEYS TAKEAWAYS

It is an external dimension of software quality focused on the real user experience.

Its goal is to ensure that software helps users achieve their goals effectively, efficiently, and safely.

It is based on international standards, especially ISO/IEC 25010, 25022, and 9241-11.

It evaluates 5 key aspects:
Effectiveness - Efficiency - Satisfaction - Freedom from Risk - Context Coverage

KEYS TAKEAWAYS

It applies to real-world environments and real users, beyond code or internal logic.

It relates to models such as Nielsen, HEART, QUIM, and heuristic evaluations.

In short: Quality in Use = Software that actually works for the real user.

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THANK YOU SO MUCH!