

Project Proposal¹ : *Let's Shop Ecommerce Website*

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Quality Management

SOFTWARE QUALITY DEFINITION:

In the context of this project, quality is defined as:

1. Delivering a website that consistently meets customer expectations for functionality, usability, reliability, performance, security, and maintainability.
2. Ensuring the website effectively supports business goals and objectives.

QUALITY METRICS AND ACCEPTABLE MEASUREMENTS:

1. **Functional Suitability:**
 - a. Number of errors found in testing: $\leq 5\%$ of total test cases
 - b. Number of defects per KLOC: ≤ 5 defects
 - c. User task completion rate: $\geq 95\%$
2. **Performance Efficiency:**
 - a. Average page load time: ≤ 3 seconds
 - b. Checkout completion time: ≤ 2 minutes
 - c. Uptime: $\geq 99.9\%$
3. **Usability:**
 - a. System Usability Scale (SUS) score: ≥ 70
 - b. Time to learn basic tasks: ≤ 5 minutes
 - c. Customer satisfaction rating: ≥ 4 out of 5
4. **Reliability:**
 - a. Mean Time Between Failures (MTBF): $\geq 10,000$ hours
 - b. Number of critical bugs: ≤ 0 per month
5. **Security:**
 - a. Vulnerability assessment passes: 100%
 - b. OWASP Top 10 compliance: 100%
6. **Maintainability:**
 - a. Average time to fix bugs: ≤ 1 day
 - b. Code coverage by unit tests: $\geq 80\%$

DEFINITION OF DONE (DoD):

The following Definition of Done ensures the software is functionally correct and meets the usability, reliability, performance, and security standards, aligning with the overall project goals and user expectations.

1. All functional requirements were implemented and passed testing.
2. User acceptance testing (UAT) completed.
3. Usability testing was conducted with an average user satisfaction score of 4 out of 5.
4. Reliability tests passed, and the mean time between failure (MTBF) exceeds 10,000 hours.
5. Performance tests conducted with critical operations responding within 2 seconds.
6. A security assessment was performed, and zero critical vulnerabilities were identified.
7. Documentation updated and reviewed.
8. Code review completed with no unresolved issues.
9. Regression testing was executed and passed.
10. Continuous integration builds completed.

¹ This document is by no means a "full project proposal". It has been simplified and customized for the purposes of SWE30010 teaching. The full project proposal includes many other sections which have not been discussed during the first few weeks of SWE30010 teaching.