

Code Review Checklist

Catch Tech Debt Before It Ships

For All Developers

4 PAGES OF REVIEW COVERAGE

- > Functional & Logic Review
- > Design & Architecture Assessment
- > Security & Performance Checks
- > Testing & Maintainability Standards
- > AI-Generated Code Verification

TechDebt.fail

<https://techdebt.fail/>

Functional & Logic Review

Correctness

- ☐ Code does what the PR description claims
- ☐ Edge cases handled (null, empty, boundary values)
- ☐ Error paths return meaningful messages
- ☐ No off-by-one errors in loops or pagination
- ☐ Race conditions considered for concurrent access

Design & Architecture

- ☐ Follows existing patterns in the codebase
- ☐ No unnecessary abstractions or over-engineering
- ☐ Single Responsibility Principle maintained
- ☐ Dependencies flow in the correct direction
- ☐ No circular dependencies introduced

AI-Generated Code (if applicable)

- ☐ Verified code does not just "look right" but IS right
- ☐ No hallucinated imports or dependencies
- ☐ No verbose boilerplate that could be simplified
- ☐ Consistent with project conventions (not generic AI style)
- ☐ Author can explain every line if asked

Security & Performance

Security

- ☐ No hardcoded secrets, keys, or credentials
- ☐ User input validated and sanitized
- ☐ SQL queries parameterized (no string concatenation)
- ☐ Authentication/authorization checks present
- ☐ No sensitive data in logs or error messages
- ☐ Dependencies checked for known vulnerabilities

Performance

- ☐ No N+1 queries or unnecessary database calls
- ☐ Large datasets paginated or streamed
- ☐ Expensive operations cached where appropriate
- ☐ No blocking operations on main thread
- ☐ Memory leaks considered (event listeners, subscriptions)

Testing & Maintainability

Testing

- ☐ New code has corresponding tests
- ☐ Tests cover happy path AND error paths
- ☐ Tests are not tautological (testing mocks)
- ☐ No flaky test patterns (timing, ordering)
- ☐ Integration points have integration tests

Maintainability

- ☐ Variable and function names are self-documenting
- ☐ Complex logic has explanatory comments
- ☐ No TODO/FIXME without linked ticket
- ☐ Changelog or release notes updated
- ☐ Documentation updated for public API changes

Review Verdict

- ☐ APPROVE - Ready to merge
- ☐ REQUEST CHANGES - Issues must be addressed
- ☐ COMMENT - Non-blocking suggestions

Reviewer: _____

Date: _____

More at <https://techdebt.fail/ai-code-review/>