

Tech Debt Remediation using Claude

Success Story



Customer Overview

Client Name: A leading casino gaming technology provider

Key Client Sponsor: Will be provided upon request

Designation/Role: CTO

Email Address: Will be provided upon request

Customer Industry: Casino gaming technology, including cash management, payment and cage automation systems, along with player loyalty, promotions and self-service kiosks.

Problem Statement

SonarQube reports across the platform's three codebases (the Angular kiosk, the Angular manager portal and the .NET manager API) spotlighted accumulated bugs, reliability and security findings, overly complex methods, dead code, deprecated API usage and accessibility gaps. Left alone, this debt would make every change slower and riskier, especially with a critical business release approaching.



Use Case

The client needed the backlog cleared without destabilizing a product that was still being released. The delivery team worked the SonarQube reports in phases, from most to least severe, and fixed each finding at its root cause instead of suppressing it.

- **Bugs and reliability first.** The flagged bugs and reliability findings were fixed.
- **Clean-up.** Commented-out code, unused fields and variables, and naming and namespace rules.
- **Major logic issues.** Nested ternaries, duplicated CSS, and the cognitive complexity of the riskiest methods, reduced with the extract-method pattern.
- **Deprecated APIs, security and accessibility.** Deprecated API replacements, vulnerabilities and security hotspots, hard-coded IP addresses moved into environment configuration, and missing form labels and empty headings fixed.
- **Tests as the safety net.** Tests were added or repaired alongside the fixes, so each change was verified.

Claude Product Used

Claude Code (Claude Haiku 4.5 & Sonnet 4.6)

One Line Summary of Joint Outcome

Cleared a phased SonarQube backlog across three codebases in about three weeks, fixing bugs and security findings, cutting the complexity of the riskiest methods by up to 97%, and verifying every change with tests.

Results Achieved

- **Tech Debt:** Three large codebases remediated in about 3 weeks, over 1,500 potential security vulnerabilities/hotspots remediated incrementally across 50 code commits.
- **Code Complexity:** The most complex methods were broken into small and modular methods thereby improving maintainability and reliability. Cyclomatic complexity of the most complex code segment was reduced from 575 to 15 (over 97% improvement)
- **Failures Remediated:** Regression test failures (defects) reduced from 280 to 76 as a result of this remediation (a 73% improvement) and code coverage improved to 88%.



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