



Where software concepts come alive™

Business Domain

Education and E-learning

Project Type

E-learning platform
Measurable Quality Management

Technical Debt Reduction Service TETRA Helps E-Learning Company Save 22% of Redevelopment Costs

Client

The Client is a US-based education and technology company, as well as a leader in the education domain.

Project

An Educational portal. The primary product audience includes students studying English, and graduates upgrading their language skills. Most of them are tech-savvy youngsters leveraging top-notch technologies.

Objective

To analyze the state of an e-learning platform and evaluate its efficiency on the market.

Team Reinforcement

The Intetics team offered to run the assessment using the company's proprietary service for technical debt reduction – TETRA™. It allows for analyzing the product from both technical and business sides. The approach fit the Client's needs perfectly.

To launch the assessment process, the Intetics team studied the Client's platform infrastructure, discussed the assessment approach with the product owner, set up the reporting deadlines, and agreed on frequency.

As soon as the Client granted Intetics access to the system, the engineers started the process. The analysis included the assessment per eight TETRA™ components.

Challenge

The Client decided to innovate their e-learning platform to increase their user base and grow their market value. To fill the needs of the audience, the company decided to assess the platform's technical capabilities and business efficiency before the innovation. A profound platform assessment was required. The Client chose Intetics for extensive expertise and requested them to carry out an unbiased analysis.

Every assessment stage ended up with a report describing the product's weaknesses and bottlenecks in detail. The whole process took 2.5 months. The final report described the overall system state as medium and that it required tech enhancements.

Quick Facts

- ✓ 17.3% user-base growth
- ✓ 22% reduction in redevelopment costs
- ✓ 10 test automation tools used
- ✓ 17 certificates & standards used for checking

Technologies

Java / MySQL / Angular / Spring Boot / jQuery / Git / Jenkins

Solution

★ 01

Source code quality assessment

The source code was analyzed per 5 critical metrics, including cyclomatic complexity, duplications, unit test code coverage, rules compliance, and SQALE. The general quality level was defined as medium.

★ 04

Performance measurement

Based on the client-specific requirements, the Intetics team ran the performance assessment. It defined the possible platform crashes in case of increases in user flow. Therefore, enhancements became a critical priority.

★ 07

Data quality verification

The assessment demonstrated the system had a high level of product resistance to bad data, exception handling, and bad data prevention. The company's data policy was proven.

★ 02

Usability, UI & Documentation evaluation

The expert assessment showed the platform usability level was satisfactory. It needed advancement.

★ 05

Business logic audit

The evaluation was based on the six critical metrics, among them effectiveness, project workflow quality, data safety, simplicity, business rules and policy, and competitiveness. The analysis showed the platform perfectly fit its purpose.

★ 08

Open Source code use detection

The Intetics team detected no inclusions of open-source components to the product and no violations of copyright, security, or legal rights. This proved the components were up to date and reliable.

★ 03

Security evaluation

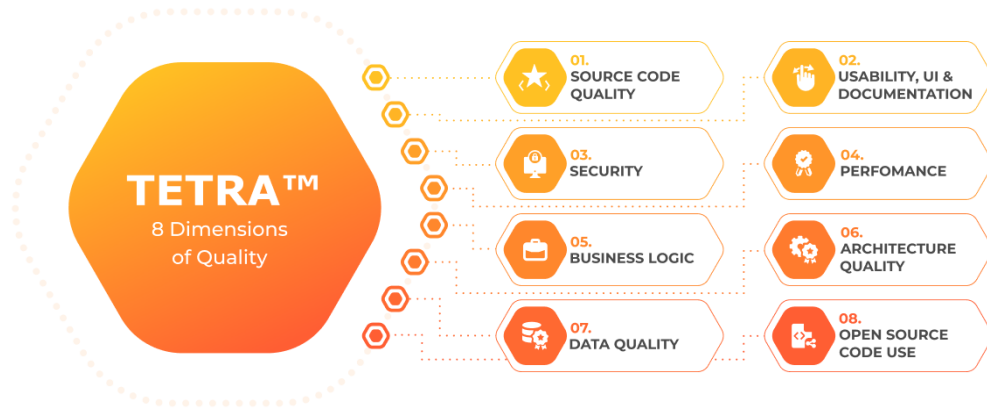
The security of the platform was checked using the CVE, CERT, CWE, OSVDB, OWASP, WASC, and BID databases, as well as industry-adopted lists of vulnerabilities. The severity of every issue was based on the CVSS. The analysis indicated a medium security risk.

★ 06

Architecture quality assessment

The expert assessment demonstrated a medium level of architecture quality. Several components showed poor results and could have led to future platform flaws.

TETRA™
Measures Products
Based on Eight
(8) Dimensions of
Quality



Client Reference



Intetics' TETRA™ helped us to see the bigger picture. Without this assessment, we could have gotten stuck fixing the redevelopment and internal defects. Now we know where our platform hurts, why it happened, and how we can prevent it. Thank you, Intetics, for delving into every detail and training us on how to do it.

Owner

Benefits and Results

- ★ The assessment was performed per Intetics's TETRA™, showing that the platform needed tech enhancement. It could have crashed as a result of further updates.
- ★ Intetics created a detailed list of recommendations.
- ★ The Client enhanced the platform source code quality, security, performance, and usability and delivered better service to users due to Intetics' recommendations.
- ★ The improvements affected user-base growth by 17.3% and allowed cutting costs on product redevelopment by 22%.
- ★ Being impressed by the approach to the product assessment, the Client asked for workshops to be held for the product team to transfer the knowledge.
- ★ The Intetics team ran workshops to train the Client's team to support and maintain the platform