

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

## Objective

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

## Challenge

Intetetics's client, a US-based education and technology company, decided to innovate its e-learning platform to increase the user base and grow market value.

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

To fill the needs of the exacting audience, the company decided to assess the platform technical capabilities and business efficiency before the innovation.

## Quick Facts

- ✓ 17.3% user-base growth
- ✓ 22% reduce of redevelopment costs
- ✓ 20 test automation tools used
- ✓ 17 certificates & standards used for check

The client needed a profound platform assessment. The client chose Intetetics for its extensive expertise and requested to carry out an unbiased analysis.

# Solution

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

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

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

## ★ 01

### **Source code quality assessment**

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

## ★ 02

### **Usability, UI & Documentation evaluation**

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

## ★ 03

### **Security evaluation**

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

## ★ 04

### **Performance measurement**

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

## ★ 05

### **Business logic audit**

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

## ★ 06

### **Architecture quality assessment**

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

## ★ 07

### **Data quality verification**

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

## ★ 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, legal rights. This proved the components are up to date and reliable.

Every assessment stage ended up with a report describing the product weaknesses and bottlenecks in details. The whole process took 4 months. The final report demonstrates the overall system state as medium and requiring tech enhancements.

## Client's reference



Intetics TETRA helped us to see the big picture. Without this assessment, we could get stuck in the redevelopment and eternal defects fixing. Now we know where our platform hurts, why it happened so and how we can prevent it. Thank you Intetics for delving into every detail and training us how to do it.

### Benefits and Results

- ★ The assessment performed as per Intetics's TETRA showed the platform needed tech enhancement. It could have crashed in the result of the further updates.
- ★ Intetics created a detailed list of recommendations.
- ★ The client enhanced the platform source code quality, security, performance, usability and delivered a better service to users due to Intetics recommendations.
- ★ The improvements affected the 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 making workshops for the product team to transfer the knowledge.
- ★ The Intetics team ran workshops to train the client team support and maintain the platform.