

Web Based Teaching Solution

Challenge

The Client's unique reading fluency program, based on a combination of extensive research and practical experience, has been used for over two decades by American classroom teachers to help struggling readers improve their reading skills. The program is designed to provide a straightforward, easily implementable teaching strategy for supporting each student individually, as well as an appealing learning environment that guides and motivates students, encouraging faster improvement and maintainable progress. Pursuing this twofold objective, the program creators are concentrating not only on updating the content of the program materials to match the interests of readers at different levels, but also exploring opportunities for employing alternative content delivery approaches to facilitate program implementation.

Given the productivity advantages offered by the web – ubiquitous access, centralized management, automated reporting, and rich multimedia capabilities – developing an online version of the widely adopted paper-based package of platform materials was but a logical step.

Since dealing with a project of such scope and complexity is a formidable challenge, the Client chose to turn to field-tested software engineering expertise from without.

Project Description

To deliver a solution that would not only sustain the success of the teaching program, but also extend its value, our team worked closely with Client to elicit a set of core requirements, which provided an underpinning for each of the key design and implementation decisions, from technology selection and application architecture to data modeling and frontend implementation.

The team opted for a proven architectural approach based on the Java EE platform, Spring and Hibernate, with the application backend powered by a POJO service layer. The combination of the Spring and Hibernate frameworks streamlined the development process and promoted a modular, easily testable application architecture.

Since the application is intended for use in school settings, ensuring advanced usability for each target group was absolutely mission-critical. We selected the GWT and GXT frameworks to implement responsive web 2.0 style interfaces for teachers and administrators, as well as leveraged the Flex framework to provide an engaging, media-intensive, desktop-like experience for students. Along with offering advanced RIA capabilities, both these technologies are particularly well-suited for integration with the Java EE stack.

Overview

Client

Creator of a unique reading fluency program

Industry

Education and e-Learning

Country

USA

Business Value

Enhanced product offering

Technical Value

Modular RIA solution

Development Model

Agile

Services:

Architecture
Development
Testing

Tools and Technologies:

- Java EE
- Spring
- Hibernate
- Apache Tomcat
- MySQL
- Google Web Toolkit
- ExtGWT
- FLEX
- Maven

Web Based Teaching Solution

The application provides an adaptable infrastructure with comprehensive teacher-, student-, and administrator-facing functionality.

- ❖ The teacher module allows instructors to guide students through the learning process, automate progress monitoring, place students on a particular level, customize reading materials and tailor the process for the needs of each student. In addition, the module serves as the central gateway to managing the implementation of the program across classrooms, schools, and school districts.
- ❖ The student module provides access to reading materials, audio recordings, and assignments. Visualizations, animations, tips and sound feedback make the application engaging and easy to work with.
- ❖ The administrative facility simplifies user and license management.

The utter significance of the project underscored the necessity to provide for maximum dependability, and quality assurance was embedded into the project lifecycle right from the outset. Our QA team became actively involved in the development process as early as the requirement gathering phase, working on verifying requirements and performing a broad range of testing activities:

- ❖ Functional and regression testing for each of the modules
- ❖ Integration testing for Flex-based application components
- ❖ Cross-browser and cross-platform testing
- ❖ Performance testing using Jmeter

Value Delivered

Working hand in hand with iTechArt, the Client managed to accelerate the realization of a revisited business strategy and focus on diversifying their product portfolio rather than grappling with overwhelming technology choices. A well-integrated collaboration process and end-to-end solution development services offered by iTechArt minimized project management overheads, while iTechArt's expertise in large-scale RIA development guaranteed unmatched technical quality and hurdle-free maintenance.

Transplanted online, the Client's flagship educational offering has become significantly easier for classroom teachers to adopt, use and manage.

iTechArt provides in-depth, high-quality and cost effective software development and consulting solutions to corporations across Europe and North America using both onsite and offsite service delivery models. iTechArt was founded in 2003 and has developed substantial strengths Application Development, Project Management and Outsourcing areas. iTechArt possesses deep domain knowledge through its proven research and implementation strategies across many industries including, Financial Services, Marketing & Digital Media, Security, Healthcare & Life Sciences, Retail and many more. We deliver the most effective and competitive solutions to our clients to achieve mutual business growth and success.

Quick Facts

Founded: 2003
Headquarters:
Iselin, New Jersey, USA
Development Centers:
Minsk, Belarus; Kiev, Ukraine
Team: 400+ employees

Industries

Financial Services
Marketing & Digital Media
Security
Healthcare & Life Sciences
Retail
and others

Services

Application Modernization
Enterprise Mobile Development
Custom Software Development
IT Staff Augmentation
Software Testing & QA
Software Maintenance

Technologies

Enterprise Platforms
RIA
Mobile
Web & Intranet Portals
Middleware
Business Intelligence