

CASE STUDY

Functional Testing for a Well Log Digitization Tool



OVERVIEW

The client specializes in providing global geoscientific data products and services to the Oil & Gas industry. Additionally, they offer advanced, permanently-installed reservoir monitoring solutions on a global scale. The client possesses the industry's largest online well data collection, covering areas in North America, South America, Europe, Russia, and Africa.

CHALLENGES

The client's existing setup posed several challenges, including:

- Accurate classification and digitization of oil and gas well logs.
- Incorporation of digitization, editing, and quality control (QC) features within a unified tool to ensure correctness and quality verification simultaneously.
- Implementation of a split-screen feature to facilitate user-friendly work on multiple off-scale graphs.
- LAS import and conversion capabilities for the internationalization of digitized oil and well logs.
- Auto-trace functionality for automatic tracing of logs based on specified inputs.

INDUSTRY

- Oil & Gas

SERVICES

- Functional Testing

TECHNOLOGY

- .NET 4.0
- WPF
- MVVM



- Development of a user-friendly interface with ease of understanding and use.

SOLUTION

The application, being highly domain-specific, demanded specialized expertise due to the extensive variety of oil and gas well logs. Also, the tool's compatibility with each log type presented a significant challenge.

Complex analytics and calculations were involved in the data digitization process, requiring an understanding of geological formulas to assess correctness. The digitization approach shifted from pixel-based to depth-based (curve on the raster) at a later stage, complicating the identification and verification of impacted functionality. Testing also faced challenges, including the selection of eligible logs for test data preparation to maximize coverage in minimal time.

Contata carried out the testing in two phases. Phase I involved functional testing to verify various tool features developed for the client, along with multiple regression cycles to confirm fixes. Performance issues were identified and reported to the development team. Phase II encompassed a comprehensive reevaluation of the entire application from both functional and performance perspectives.

BENEFITS

- Increased cost efficiency
- Reduced human dependency, minimizing risk of human error
- Internationalization of logs achieved through LAS converter.
- Performance optimization

About Contata

Contata Solutions is a trusted leader in technology and digital innovation. Through our work in data engineering, data analytics, machine learning, marketing automation and app development, we deliver solutions that address complex problems in ways that are simple, insightful and impactful.

Our promise and value proposition to our customers is simple: we leverage our deep technical expertise and global presence to bring software products and data-driven decision capabilities to life.

Founded in 2000, Contata is a privately-held company headquartered in Minneapolis that serves clients globally from offices in the United States and India.