



Client

Client is a World Fortune 50 oil and gas major involved in exploration, production, refining and distribution. Client has invested in a mix of proprietary and vendor-supplied exploration, drilling, and reservoir management software.

Challenge

Transform mature research into high-performance, user-friendly application for broad use among exploration geoscientists. In the early 2000's, Spectral Decomposition came to be widely understood by the hydrocarbon exploration industry as useful in extracting even more valuable information from seismic surveys.

In response, client launched a project to add Spectral Decomposition to its proprietary seismic interpretation software. Client researchers developed additional algorithms and visualization techniques, and wanted these research fragments turned into a commercial grade plug-in fully integrated with existing software.

Solution (What Bluware Did)

- Bluware built the entire team of specialists to develop the software component, ensuring appropriate levels of experience and domain expertise.
- Bluware utilized Agile methodologies to provide quick iterations (averaging 3 weeks) for delivery of new software so SMEs could respond to real code.
- The Bluware team was independent, but highly integrated into the client culture and management.
- Bluware project manager provided schedules for deliverables and ensured corporate standards were followed.
- Team members worked closely with client SMEs and other development teams to ensure seamless integration of product.
- Bluware team delivered the Spectral Decomposition plug-in on-time and to specification to end users who raved about the final product.
- Bluware's software extension is now used as the model for other development projects and extensions within client.

Benefits

- Both companies focused on their core business – Client: Oil & Gas Exploration and Production; Bluware: developing custom software enhancements.
- Features were added when most needed and feedback loops were short, minimizing the need for rework.
- Project was delivered on time without compromising the delivery schedule of client enhancements to the related software.



Consultants

Bluware constructed an Agile team with 3 to 4 developers including the team lead, a QA/testing specialist, a technical writer, a project manager, and a geophysics domain specialist. This team was responsible for the complete implementation of the software component, including requirements gathering, software architecture, SME interaction, integration with existing code, and management of the delivery timetable.

Type

Development of complex mathematical and algorithmic software for massive datasets (3D seismic surveys) and high speed computing environments (work station and cluster), involving analysis, management, and visualization of points, sections, and volumes of spectral decomposition data – ultimately constructing these into volumes to be used as seismic attributes.

Project Length

The multiple phases of this project took just over one year.

Tools/Technologies Utilized

C++, Python, Java, Linux (Redhat), Windows Vista, FORTRAN, STL, Boost, Motif, Qt3, Qt4, OpenGL, OpenInventor, CVS, SVN, Jira, UML, Design Patterns, Agile software development methodologies (scrum, continuous integration, feature driven development, code refactoring, pair programming), and Agile project management.