

Project Note

Central web portal monitoring construction machinery

How can the state of a construction machine in Siberia be checked from within the warm offices of company headquarters? Zühlke solved this and other tasks with a mobile turnkey solution for a manufacturer of construction machinery.

Task

In this project, Liebherr wanted to create for its customers and service partners a means of centrally accessing the state and operating data for construction machinery operating around the world. These data include geographic position, fuel consumption and processing data, for example, as well as fault states and service information. Liebherr utilizes the information for customer service (servicing, required spare parts, remote maintenance). The objective was to allow Liebherr customers to access a multilingual web portal on their own construction machines and obtain important information for monitoring, deployment planning and billing.

Implementation

In a first step, Zühlke drew up a technical plan for carrying out this task. The project approach was based on the Rational Unified Process (RUP – iterative/incremental, driven by risks, architecture, requirements and testing). The central control system for the construction machine transmits data over a radio module integrated in the project. A mobile radio link (GPRS) is used to transmit data to a central web server and place it in a database there. A mobile communication provider with worldwide service coverage was selected because the construction machinery involved is used worldwide.

For data display, a multilingual web portal was implemented. Usability engineering laid the groundwork for a simple web interface that can be operated intuitively. Zühlke security experts made sure that only authorised user have access. In the scope of the overall solution, Zühlke also took responsibility for drawing up the business case, handling the tender for a global radio service provider and selecting that provider, and integrating the hardware and software for the radio modem.



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Technical Data

Development Process: RUP

Development: .NET, C#, WCF, ASP.NET

Data base: MS SQL Server, NHibernate

Project management / Config. Management: Microsoft Visual Studio Team System, Team Foundation Server

Test Scripting: Ruby, Selenium

Customer benefits

- Liebherr obtained all the important parts of the entire system from a single firm thanks to the interdisciplinary expertise of Zühlke (software, radio technology, electronics).
- The close and trusting collaboration between Liebherr and Zühlke allowed a premium solution to be found.
- The Liebherr development department acquired expertise in Zühlke's methodical project approach in the course of the project.

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