intetics
Where software concepts come alive

INTETICS CREATES SERVER-SIDE IOT PLATFORM FOR PLANT SENSORS

OBJECTIVE

Develop a server-side solution to collect and analyze the information gathered by the plant sensors.

CHALLENGE

A USA-based company created an IoT device to help farmers control vegetation growth.

The device tracks the amount of received light, temperature, humidity and a few other parameters necessary for calculating the amount of fertilizers for the particular area.

The IoT device was successfully tested and proved its efficiency for fertilizer optimization. To launch the device to the market, the company needed to make the final step and develop a server-side solution to collect and analyze the received data. The Client needed a partner to face this challenge.

The client tapped Intetics to run the development of such a solution.

SOLUTION

Having analyzed the integration requirements, firmware updates options, network topology, API and load parameters, Intetics team suggested developing a server-side IoT platform for the plants sensors based on one of the ready-made solutions. The proof-of concept solutions were created using SiteWhere and ThingsBoard open-source platforms.

After the analysis the solution was created on the basis of Thingsboard IoT platform that was customized it to meet the Client-specific requirements.

Intetics reused the following platform features:

• Telemetry data collection
• IoT rule engine
• Horizontal scalability
• Fault tolerance
• Application integration
• Data management
• Device management
• Security
• Administration.

The new and customized features included:

• Firmware update rules
• Data analysis module
• Data visualization
• GIS mapping module
• Alert engine.

Along with the server-side solution, the Intetics team developed a cross-platform mobile application to send alerts to the farm operators when

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particular areas require their attention.

The team employed a cross-platform Xamarin technology to minimize the development and support costs.

RESULTS

The completion of the IoT platform finalized the process of product, accelerated the time-to-market and product launch. The decision to use a ready-made IoT platform as a basis of the solution saved up to 60% of costs and up to 75% of development time. In the result of cooperation, the Client received a scalable, user-friendly and functional solution that is continuously extended with new features.

According to the Client's analysis, regular customer saved 17% of fertilizers after using the device. The new approach helped the farm workers to carefully plan the entire configuration of the garden and plants at it.

QUICK FACTS

- ✓ 65% of development costs saved
- ✓ 75% of development time optimized
- ✓ 17% decrease of fertizers usage