Fence Alarm

ABOUT THE CLIENT

Fence Alarm is the world's first solar-powered fence monitoring system that has been integrated with the mobile device for easy monitoring of electric fences remotely from anywhere in the US. The client came to us with an idea to build the web and mobile app for the Fence Alarm that will transform and ease the lives of many. Instead of spending hours walking to the fence and inspecting whether it works properly or not, Fence Alarm can easily notify users within seconds of any fence-related issue.

GOALS OF THE PROJECT

The motive behind the project is to enable farmer, rancher or property owner to easily get the real-time updates of the fence condition to their mobile phones through an email or a text message. They no longer need to worry about their fence voltage, as Fence Alarm is always there to monitor the fence 24/7. Users can also set a low-voltage threshold & simply monitor historical data of the fence to check the status of the fence or its voltage anytime via app or website.

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CHALLENGES

Creating a mobile and the web app for the completely automated fence monitoring system that supports all types of fence and energizer brands wasn't an easy task. However, the skilled developers of the company put their best efforts to overcome the difficulties faced during the development phase. Here are some of the main challenges:

- To deliver the best functionality, figuring out how to implement the right packages, libraries, and plugins for the better interaction of device connected to the fence was tough

- Gathering a proper knowledge of framework and platforms was difficult to deploy the business logic on server side like what data should be retrieved from the database to provide an early warning to users

- To enhance security, the device that will be connected to the electric fence must be verified, as it must send alerts to the right person

- For fast performance, the APIs must be able to interact with hardware and retrieve data from it to boost the response rate

- Building the system that is both robust and scalable with the support from small backyard farms to large-scale operations was a challenge as the proper installation of the device was needed for a connection to electric fences whose status needs to be checked

- Creating the device that can send updates to all the platform like Android, iOS app or website with multi-browser support was a challenging task.

SOLUTIONS

To have a detailed understanding of the challenges stated above, our team had to go through several interactive meetings with the client of Fence Alarm to resolve them with these solutions-

- We came up with the plugins/software which will easily create a connection between device and application to provide updates with the continuous 24/7 fence protection and voltage monitoring

- We have used event handler that will send real-time alerts for any events like voltage down, power on/off, power trip, energizer status, etc. saving user's time, money and giving peace of mind to them

- The device's threshold voltage should be set depending on the energizer used and the size of the fence, where users will get updates when their fence voltage drops below that point

- The device has been designed to work using solar power & cellular technology, making it easy to install anywhere on the fence

TECHNOLOGIES USED

Below is the stack of tools & technologies used by the team of Clavax for the design and development of Fence Alarm:

- Relational Database   MySQL v5. 5.39

- Message Storage   Cassandra

- Web Server   Apache

- Platform   Linux

- Scripting Languages   PHP (Zend Framework 2)

- Front End   jQuery v1.10.2, Bootstrap v3.1.0

- Version Control   Github (Bitbucket or Gitlab for online repositories)

- Project Management   JIRA

RESULTS

Fence Alarm has been evolving tremendously making the lives of users all around the US easier with the 24/7 remote protection of electric fences and voltage monitoring. With the support of all types of electric fence and energizer brands, this device uses solar power that can run for 30 days without direct sunlight. The main benefit of the project is that it gives peace of mind to know the animals are safe behind a properly electrified fence where users can monitor fence constantly from any corner of the world at any time. This technology saves time and users' headache to always inspect your fence's voltage when you are away, busy or in the middle of the night preventing accidents or loss of livestock.