

NOVALUME is an international company who develops and manufactures advanced energy-efficient LED lighting solutions.



Challenge

High concurrent, high load solution. Has to control 2m lamps all over the world. Fully designed server architecture. Collect and store huge amounts of metric data. Plugin system to connect multiple device vendors. Develop the mobile application for manufacturers that will scan components being assembled into the asset. Automatically sync scanned data with the server. Support multiple customers within one platform. A customer can control, view and manage only their city luminaire setup. Organize and control luminaries as a group

Solution

LUMINTELL™ is an intelligent control and maintenance system that optimizes street light usage to lower energy consumption by decreasing the lighting level at off-peak traffic hours. It also reduces maintenance cost by real-time monitoring and reporting of performance - many other features are available at a click of a mouse, all without compromising quality or safety.

The software allows to visualize entire street light installation and monitor its operation and you can evaluate the consumption and intensity of the light emitted from the luminaire, individually or in groups. You can also adjust the parameters in real time, without any added costs to increase the lifetime of the luminaries.

Tools and technologies

- ASP. NET MVC
- Azure
- Azure SQL
- MongoDB
- Entity Framework Code First
- Redis
- Event Hubs
- Azure Service Bus (MQ)
- SignalR
- Angular.js
- StructureMap
- AutoMapper
- HTML/CSS/JavaScript
- jQuery/Bootstrap
- Windows Mobile

Scope of work

- Decision on technical stack
- Architecture engineering
- User interface/User experience (UI/UX) design
- Front-end/back-end development
- Requirements elaboration
- Quality assurance
- SaaS deployment
- Participation in product management
- Mobile app development

Results

- Team of 2 members got working solution in 4 months that could handle up to 10k requests per sec on a single node
- Prepared for manufacturing assembly in 2 months (developed app to store asset components before manufacturing starts)