

About our client

Our client is based on the four pillars - Economic, Efficient, Empowerment and Ecologic. With this concept, they combine forward-looking technology standards with efficient logistics processes and the requirements of people and the environment. With urbanization as a growing challenge for logisticians and couriers, they offer a holistic and networked concept including digital transformation for the last mile delivery. In this way, the access to customers, inner city logistics and the legal framework is made simple.

Scope

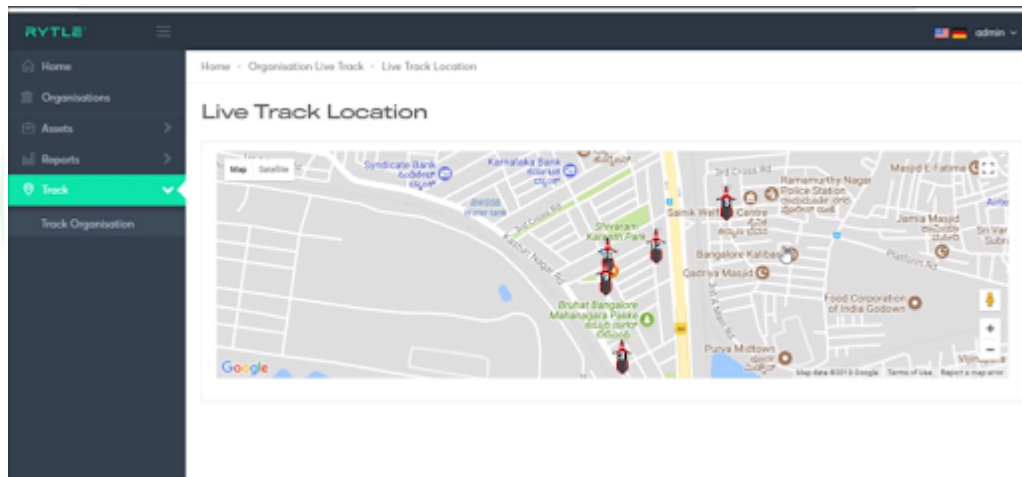
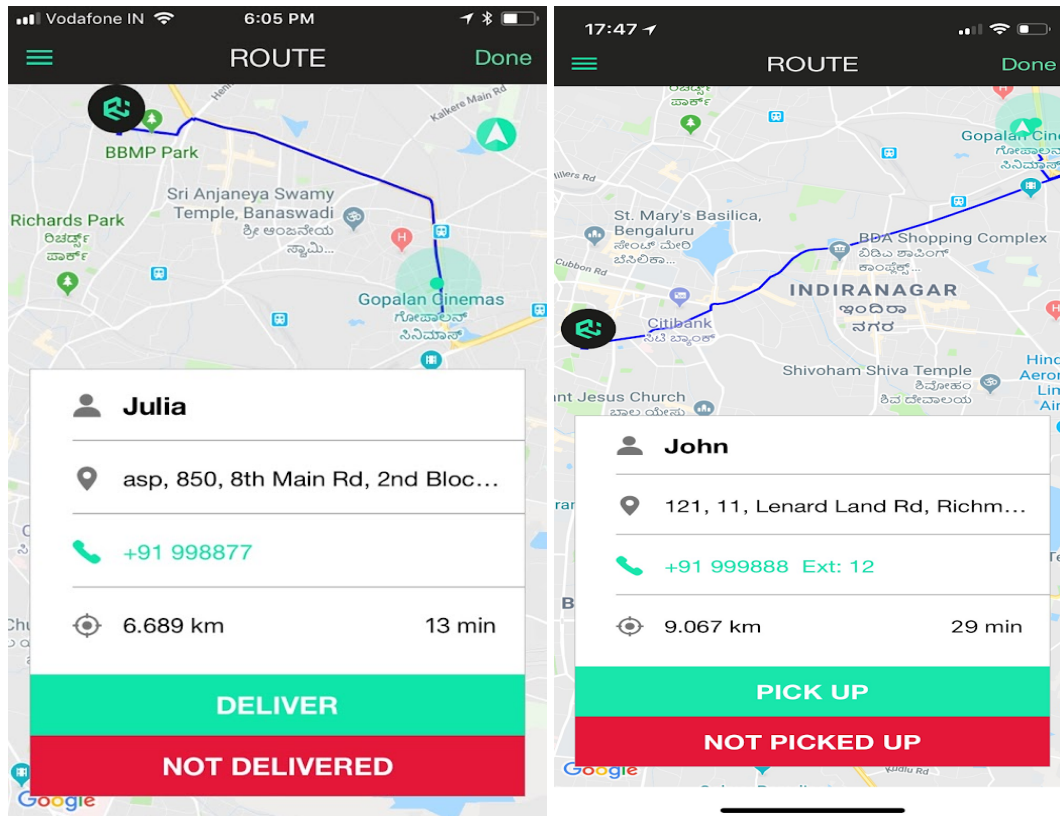
This project incorporates sustainable industrialized solutions and efficient service promises of creating better living conditions in the cities to supply almost emission-free in an intelligent manner. It optimizes the logistic process on the last mile in such a way as to reduce the environmental impact caused by constantly growing delivery traffic.

The problem

The logistics industry is changing rapidly and must deal with new challenges requiring minute-by-minute tracking, developing cost efficiencies while guaranteeing timely delivery, anticipating problems and having backup plans. To ensure efficiency, the biggest challenge we faced was to have a routing algorithm that made sure that the routing was accurate and updated regularly so that the products were getting to the customer faster and prices could be managed better when processes resulted in lower transportation costs and fewer man hours.

Solution

We developed a routing algorithm to cope with very large networks (like 100s of vehicles or 1000s of orders) that can model integrated multi-hub operations to optimize resource allocation. Our algorithm automatically schedules and routes deliveries, assigning them to vehicles and drivers to optimize resource utilization while minimising travel time and distance. Real-time tracing was implemented through a publish-subscribe pattern to provide greater network scalability.



Results

The result is an extremely cost-effective solution with environmental benefits from using fewer resources and improved information flow where everyone knows the status of orders at any time.

Technologies used

Front End - AngularJS, JQuery

Back End - NodeJS

Database - MongoDB

iOS - Swift

Android - Android Kotlin

