



Connected Car – Trip & Driver Score Analytics – Case Study

INDIUM SOFTWARE

Digital | QA | Gaming

*“Delivering exceptional customer-centric solutions across
Digital, QA & Gaming”*

Connected Car – Trip & Driver Score Analytics



Client Overview

- Client is a group company of a Tier-1 automotive parts supplier operating in 3 continents
- The client was incorporated to deliver enhanced value through connected car and telematics solutions
- With manufacturing facilities in Asia and Europe, the client has international offices in North America, Europe, China and Japan



Business Requirements

- The client has developed a plug-and-play IoT product that reads and sends event logs, trip details, engine, battery health etc. to a mobile app
- The requirement was two-fold as stated below:
 - a) Setup Big Data Infrastructure that supports real-time events - impact alerts, tow alerts, driving violation alert etc.
 - b) Develop Advanced Analytics / Machine Learning Algorithms to help car owners optimize their trips based on previous trips across multiple drivers, monitor driving behavior of their kid/driver and their vehicle's health

Connected Car – Trip & Driver Score Analytics



Key Challenges

- Design of a horizontally scalable, low-latency architecture that supports both real-time event processing and batch analytics
- Balancing tuple processing across the Storm topology using corresponding stream grouping, to ensure that a car's data is processed by the same Storm bolt



Our Approach

- We designed and implemented a Big Data infrastructure inspired by lambda architecture that consists of both batch and speed layers
- We developed a custom algorithm to calculate driver score and optimize trips based on past trips across drivers

Connected Car – Trip & Driver Score Analytics



Our Solutions

- The car owner's mobile app persists IoT sensor data in MongoDB. We used Kafka to stream MongoDB's data to – a) Synchronize it in HBase for near real-time Trip & Driver Score Analytics using Spark MLlib, and b) Process real-time events by Storm, in addition to real-time Trip & Driver Score Analytics
- The Trip & Driver Score Analytics output was loaded back into MongoDB



Results


- The product bundled with analytics has been successfully launched, and is currently sold as a safety and convenience device
- International Automobile manufacturers rebrand and sell the IoT product and platform we've delivered

THANK YOU




USA

Sunnyvale | Princeton


 Toll-free: 1-888-207-5969

INDIA


Chennai

 +91-44-6606 9100

Bengaluru


 +91-80-4645 7777

Mumbai

 +91-022-6215-4028


UK

London

 +44 773 653 9098

MALAYSIA

Kuala Lumpur

 +60 (3) 2298 8465



Sales Inquiries

sales@indiumsoftware.com



General Inquiries

info@indiumsoftware.com

www.indiumsoftware.com

We Are Also On

