

Lab4Motion

Vertica Analytics Platform enables Lab4Motion to deliver sophisticated video-based retail analytics for strong personalized marketing.



Overview

Lab4Motion provides consistent and highly accurate shopper and customer analytics based on video recognition technology supported by AI that enable retailers and service outlets to better understand how different initiatives within the physical outlet affect consumer to customer conversion, shopping behavior, service experience, and store operational efficiencies.

Challenge

It is no surprise that online retail channels are increasing the pressure on traditional retailers.

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MACIEJ WITKOWSKI
Co-founder and COO
Lab4Motion

With endless access to customer data, they can provide complex analytics to help them optimize their offering into a very personalized customer experience. Lab4Motion has the challenge of translating this ease of analytics in the online world to the brick and mortar world of physical stores, keen to create the same personalized experience for their customers.

It does this through capturing data from its patented advanced image and video recognition technology, as Maciej Witkowski, Co-founder and COO of Lab4Motion, explains: “Our unique video analysis capabilities can combine images from over 20 cameras installed in a physical retail space, such as a grocery store or shopping mall, and use these to identify and track a single individual on their journey with an accuracy of up to 98 percent, unprecedented in the industry. We have been known to track an individual for over an hour in a very complex physical space, mapping their exact retail behavior and the service they experience, covering all key store areas. All this is done with the utmost respect for data privacy rules and no biometric characteristics or personal data are captured as the video is translated into code in real-time.”

Using Lab4Motion technology a store can be divided into different areas to video map customers and key processes within it. By collecting and analyzing all of the captured raw data



At a Glance

- **Industry**
Software & Technology
- **Location**
Poland
- **Challenge**
Manage real-time simultaneous data ingestion and manipulation to support clients with a data-driven, personalized service to their end customers.
- **Products and Services**
Vertica Analytics Platform
- **Success Highlights**
 - + Innovative video-based customer analytics
 - + Fast processing time delivered near real-time analytics to aid decision making
 - + TCO saving of 30 percent
 - + Moved from traditional BI research to true data science to add value to clients
 - + Scalable and reliable data analytics platform—future-proof



(BI) analysts were impressed by Vertica's (now part of OpenText™) speed and flexibility in ingesting and manipulating data with SQL. The solution is easy to understand and could be customized to our and our customers' particular analytics requirements. Vertica's (now part of OpenText™) scalability, its industry track record, and fast processing time were other deciding factors for us."

OpenText is easy to get up and running and the Lab4Motion team was soon in operation with it. Multiple store video streams are translated into data on the fly, using X and Y as space coordinates, and T as a time coordinate. This data is packed, compressed, and encrypted, and sent from the Point-Of-Sale (POS) to OpenText, where it is extracted, loaded, and then analyzed in near real-time, creating heat maps and highlighting trends and patterns.

The data can then be analyzed further by Lab4Motion or sent back to the client where BI analysts may combine it with their sales and transaction data to generate complex internal insights. Lab4Motion can also present the data in a dashboard with predefined KPIs for each

in real-time, retailers gain near instantaneous feedback of how a promotional display position correlates with conversion to sales, or whether a new cash register needs to be opened to service a longer queue which formed in the store.

Retail is an obvious industry where sophisticated customer behavior analytics can really enhance a business, and the company works with brands such as Nutricia of the Danone Group. Lab4Motion also works with telecommunications and banking clients, who are very interested in understanding and continuously improving service levels experienced by their customers.

Witkowski continues: "Our business is growing rapidly and we've seen a data explosion in the last couple of years. We want to provide much more to our clients than just historical data, based on inaccurate counters and pre-defined business KPIs. Our clients want to leverage the raw data to identify cause and effect relations so that they can understand and predict outcomes before implementing expensive physical process changes. To do this, we need to ingest and manipulate large volumes of data, work with disparate data sources, and deliver insights fast to retail headquarters so that they

can adjust quickly to the impulse-driven customer. Our home-grown data analytics platform wasn't scalable enough to manage this, so we looked for a proven alternative."

Solution

OpenText™ was evaluated alongside other data analytics platforms. Wojciech Stramski, CEO at Lab4Motion, explains why OpenText stood out straight away: "Our Business Intelligence





check if the employee needs additional assistance. When a store's headquarters would like a real-time view of what's happening in multiple stores in a large geographical area, data correlation can get very process intensive, and this is exactly Vertica's (now part of OpenText™) hotspot."

Because OpenText allows Lab4Motion to store all the raw data without discarding anything, historical as well as predictive analysis is easily managed. Lab4Motion often uses these capabilities for scenario planning with its clients. OpenText can help Lab4Motion present a heat map of customer behavior in a new store layout, based on the historical data at its disposal. This is important to maintain full comparability between the two lay-out scenarios.

Stramski comments: "Vertica (now part of OpenText™) enables us to calculate complex data sets in real-time and give a instant

meaningful analysis to our clients that they can use to make decisions around store lay-out and product strategy, ultimately driving conversion and increasing the average shopping basket size. The ability to run complex algorithms means we can give our clients a much higher service beyond just simple metrics."

Results

With OpenText, the Lab4Motion BI team can now execute standard BI operations much faster and focus on sophisticated data science to add real value to retail clients.

With complex in-database machine learning and advanced analytics, OpenText can lower the total cost of ownership (TCO) and provide optimum performance. Lab4Motion relies on its own image recognition technology to deliver the 98 percent accuracy its clients are looking for. The deep data analysis provided by OpenText is a key factor in the consultative added value to their clients.

client. External data sources are also used in new predictive analytics to define the best sales offers. For instance, Lab4Motion can take into account the weather forecast or even a movie theatre schedule, both of which are known to affect customer traffic to help store managers optimize staffing or promotions accordingly. Lab4Motion also does its own research based on lessons learnt with all its retail and service clients and advises clients in identifying trends or behavior patterns which aren't immediately obvious to them. This added consultative value is much appreciated by its clients.

Lab4Motion clients need a deep understanding of cause and effect when they make changes to the store lay-out, in-store communication, and collateral. Stramski explains how OpenText's data processing speed helps with this: "Our clients want real-time alerts based on occurrences in-store. For example, if a queue exceeds a particular value, OpenText triggers an alert so that they can open another check-out. If a customer service exchange is taking a long time, a store manager can be alerted to



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Witkowski concludes: “Although a reduction in TCO of at least 30 percent was very welcome,

the most important factor for us and our clients was the ability to deliver a superior service. Our technology needs to go hand in hand with sophisticated data analytics which are a prerequisite for our customers. The feedback we receive from our clients tells us they are now more comfortable understanding what really happens in an offline sales channel, as Vertica (now part of OpenText™) gives them the depth of data analysis needed to provide a personalized service.”

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