Jayride

Analyses 1 billion rows of data and transform ride service sector with BigQuery

Jayride analyses 1 billion rows of data generated by tens of millions of traveller

requests per month

OniGroup results

With Google Cloud Oni:

- Supports forecast growth to 1 million passenger trips by FY21

- Triples per-session value for every traveler quote request to Asian destinations

- Established a platform to automate processes and provide more intelligent, responsive services

About Jayride

Jayride enables travelers to compare thousands of airport shuttle bus, rideshare, and private transfer companies, to book the best deal for a particular destination. The business operates a 100-person team, with its head office in Sydney and serves more than 1,500 airports in over 100 countries, representing more than 85% of the world's airfares.
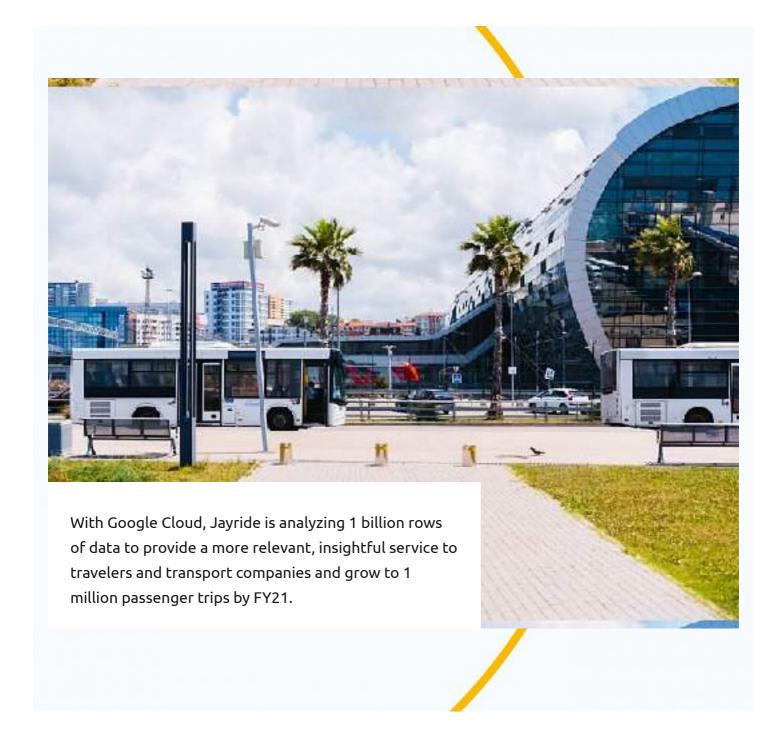
Industries: Travel & Hospitality
Location: Australia

Products

Google Maps Platform, Google Places API, Directions API, Google Maps, Google Cloud Platform, BigQuery, Cloud Dataflow, Cloud Pub/Sub, Cloud Run, Container Registry, Cloud Scheduler

With Google Cloud, Jayride is analyzing 1 billion rows of data to provide a more relevant, insightful service to travelers and transport companies and grow to 1 million passenger trips by FY21.

Traveling has never been easier. People can access rich online repositories of knowledge about destinations and use a number of apps and websites to compare hotels and flights. However, according to ride services marketplace Jayride, travelers may be left stranded when they go online to seek door-to-door ride services options. "We aim to empower the world traveler with best local ride service to meet their needs—no matter where on Earth their travel takes them," explains Rod Bishop, co-founder and Managing Director, Jayride.

Headquartered in Sydney, Australia, Jayride enables travelers to find and book ride services—including airport transfers, ride shares, sedans, and limousines—worldwide.

Jayride serves 1,500+ airports in 100+ countries, representing 85% plus of the world's airfares,

and supports more than 3,400 transport companies. The business serves 500,000 passenger trips per year—a number that has approximately doubled every year since its foundation in 2012.

"We enable transport companies to secure distribution to leading travel brands such as Expedia and Skyscanner, in many cases enabling them to expand from local to global operations overnight," explains Bishop. "We also give travelers the ability to find, compare, and book the best local ride services available worldwide.

"We want travelers to trust Jayride to always provide the best ride options for them, whether to a beach resort in Bali or to a mountain in Colorado in the United States."

Best-in-class maps

Jayride turned immediately to the cloud and the best-in-class maps service to support its model. The business is using Places API from Google Maps Platform to return location information to travelers, with Place Autocomplete automatically completing place names as users type.

Jayride also uses Directions API to calculate optimal directions between two locations and support its pricing model, and Google Maps to display maps of interest to travelers and transport companies.

However, the business soon realized that it needed powerful data processing and analytics to pursue its ambition of becoming the world's largest aggregator of data about door-to-door ride services, provider of the most relevant information about transport options for travelers, and host of the most insightful user reviews of ride services.

"As we take our business global, it's not enough for us to say we cover 1,500 airports if we only provide access to ride services to and from the airport to downtown locations," explains Bishop. "We need to understand precisely where a traveler needs to go and how—for example, whether they need a five-seat vehicle to transport themselves and fellow travelers 50 miles from an airport to a specific resort or street address."

One billion rows of data

Jayride has logged and archived valuable critical data, including every single trip request made by travelers, since its foundation. However, excluding some ad hoc analytics, the business has been unable to query, analyze, or generate the reports needed to obtain business value. "It's a billion rows of data generated from tens of millions of quotes per month and until earlier this year, we had not been able to get to grips with it," says Bishop.

Jayride not only wanted to analyze this data, but ensure that business, sales, and marketing teams—as well as its IT team—could undertake the analytics and reporting needed to elevate their performance. "We wanted to make sure insights could be delivered in a timely fashion rather than

caught up in a backlog of requests to our IT team," says Bishop.

The business reviewed its options in line with its approach of operating a multi-cloud architecture and identifying the best service for a specific need. "Google Cloud and BigQuery is the clear frontrunner in big data analytics and gave us the best opportunity to build our business intelligence capabilities using our large volumes of geospatial data," says Bishop.

Scalability and cost key

Scalability and cost also played important roles in Jayride's decision. "Some days we need the processing power to handle large numbers of questions and demand for insights, whereas on others we do not," says Bishop. "BigQuery and Google Cloud not only scale as needed, but we need only pay for what we use, rather than account for a constant base cost as with some other providers."

Google Cloud also gave Jayride the ability to analyze costs and allocate budgets to individual users within the business, giving it granular control over expenditure.

The business was also impressed by the fact BigQuery had integration points with all the other services it wanted to use.

Finally, Jayride was impressed by the potential of lowering barriers to machine learning through AutoML—a suite of machine learning products that enable developers with limited expertise in the field to train high-quality models.

A changed market advantage

Jayride commenced the deployment of BigQuery and an overlaid business intelligence system in November-December 2018. "This approach allowed us to deliver real insights to our transport and data teams and allowed them to deliver real value," says Bishop. "Early wins at the prototype stage included improvements in conversion rates at some of the high-volume United States airports we service."

The business set two objectives for the project—deliver a data warehouse and provide enough on-the-job education to enable Jayride's engineers to manage and develop the warehouse post-implementation—and engaged Google Cloud Premier Partner OniGroup to assist with the deployment. "OniGroup brought to the table a deep expertise in Google Cloud services such as Dataflow and Pub/Sub, while our engineering team brought expertise in our data and our business," says Bishop. "We ran sprints with the combined team and undertook best-practice training ahead of the handover."

Jayride completed the deployment of BigQuery and overlaid business intelligence by mid-July 2019. The business also uses Dataflow and Pub/Sub to process and transform data ahead of its

move into BigQuery; Cloud Run to scale stateless containers while abstracting infrastructure management; Cloud Scheduler to schedule data jobs as required; and Container Registry to manage its Docker container images. The new architecture has, according to Bishop, "fundamentally changed the business's market advantage."

"BigQuery enables us to run spatial analysis across 1 billion rows of data in seconds to capture the insights that allow us to go to market with best service offering for our travelers," he adds. "On the supply side, we can provide the insights that allow transport companies to go from local to global overnight.

"For example, they can see where travelers want to go and how much they are prepared to pay—and can feed this data to transport companies to help them make decisions about what cities to operate in and what types of vehicles they should operate."

Intelligence obtained through BigQuery is elevating Jayride's go-to-market capabilities. "Our transport team can use these insights to give travelers the best deals, the best prices and the best options," says Bishop. "For example, within seconds, we can zoom from a global level to a street address in Brinchang in the Cameron Highlands in Malaysia, see how many passengers need to travel to a nearby airport, send that information directly to the transport fleets in the region and suggest a price." The Jayride engineering team is continuing to extend the solution to provide even greater insights and capabilities.

Growing to 1 million passenger trips

With BigQuery providing a fully-managed data warehouse service, Jayride is ideally positioned to realize its ambition of growing to serve 1 million passenger trips by FY21. "To achieve this goal, we need to focus our strategy—there are only so many resources we have and so many hours in the day," says Bishop. "As a managed service, BigQuery is helping us optimize every hour and every last dollar of spend."

BigQuery also helped Jayride identify addresses and locations not well-served by its platform and feed this information into its planning. "It showed us the opportunity to grow the company was not only through capturing more eyeballs, but to always have the best ride options and solutions for travelers' needs around the world to maximize our conversion rate," says Bishop. "For example, we immediately identified that we did not have a very high per-session value—a session being when someone calls our API to request a quote—in Asia, which was a new market for us. Our content and key metrics such as conversion rates and average order value simply were not where they needed to be.

"By prioritizing interesting tourist destinations—such as Denpasar Airport to Ubud in Bali—and adding volume, we have tripled our per-session value for a quote to those destinations," he adds. "In other words, we're now three times more likely to satisfy every person who uses our service

for Asia."

Machine learning the next step

Jayride is now looking at the potential of machine learning through AutoML to optimize go-to-market and implement demand pricing. "Every day our team members are identifying insights and sending them to the key transport companies that use our platform," says Bishop. "Wouldn't it be amazing if machine learning could learn from traveler behavior, popular destinations and in-demand vehicle classes and make recommendations to transport companies to bring services to market. Equally, wouldn't it be great to use dynamic pricing to bring to the market new rates based on understanding travelers and their needs."

Bishop sees door-to-door ride services continuing to grow and move into the mainstream, with machine learning and cloud services such as Google Cloud playing an increasing role in automating and optimizing the sector. "I see our place in that future being part of the journey planning experience for travelers anywhere at any time," he concludes.