eyecademy

Client

National Train Operating
Company

Industry

Transportation

Service Offering

Solution Architecture
Database Development
Data Integration
IoT
Data Management
End-to-End Delivery
Technical Authoring &
Documentation

Technology

Azure
SQL Server

Real Time Passenger Monitoring

Our client is one of the UK's national train operating companies, managing over 350 stations across the country. After the purchase of 70 new Hitachi trains, our client engaged with us to develop a solution to provide Government & Management Reports, and an improved Customer Experiences, through utilisation of their new IoT-gathered data.

Client Need

Due to the purchase of 70 new electric Hitachi trains, our client required a data expert to develop a solution that would manage and process multiple new data inputs from IoT sensors aboard their new trains. The advanced trains are designed to feed a live passenger count to our client's team on arrival at each station, and the development of an interface was needed to consume the new data and publish it to a newly created database.

With the new data, our client hoped to utilise it to facilitate the development of new reports for delivery to the Scottish Minister of Transport and other Central Government departments. Additionally, they identified other potential uses for the data, that had the ability to improve customer journeys and experiences with their services.

Why Eyecademy?

Having an existing trusted relationship with this particular client, built upon the successful delivery of several support projects, Eyecademy were chosen to develop and deliver the required solution end-to- end. Our extensive expertise reassured them that the project would be delivered successfully within the specified timescale, as we were able to ensure limited delays due to our available bank of highly skilled resources. As one provider supplying a multi-skilled team, Eyecademy's approach was more cost-effective and dependable than other potential alternatives. Clear and transparent documentation was also guaranteed, meaning our solution could be maintained by their existing internal team.

Solution

With a multi-skilled team, including a Solutions Architect, a Data Integration Developer, and Software Development Resources, we worked with our client to devise a solution utilising SQL Server. A process was developed to receive and process the multitude of incoming sensor data, feeding into a SQL Server Database hosted in MS Azure, with cloud technology ensuring scalability of the solution. The new sensor data was also integrated with historical data, allowing a full 360° picture of passenger counts, past and present.

Harnessing the newly published data, we developed a suite of reports to be delivered to the Scottish Minister of Transport, informing Central Government of passenger utilisation of our client's services. With the newly developed market interface, our client's Internal Data & Insights Reporting team were also able to ingest this new data and publish it to the appropriate Internal Management teams.

In addition to aiding our client's capability to manage decisions and reporting, the data was also developed for use by passengers to aid journey planning. As part of the solution, the newly integrated data was analysed and fed into their existing customer mobile apps. The sensor data will soon display as a new 'red-amber-green' information system in the apps, relating to real-time data from the Hitachi trains. Combined with historical reporting, passengers will be able to plan their journeys further in advance by providing them with a choice of services that are possibly less crowded.

As their trusted supplier, we delivered the full project end-to-end, from project planning and design through to completion, documentation and solution handover. Our Solutions Architect and Data Integration Developer fully documented and showcased our solution to the internal team, ensuring future solution sustainability. Our team also provided our client with considerations of potential process improvement, utilising new innovative technologies that could further extend and enhance the delivered solution in the future.

Results

With successful delivery of the project to defined timescales, our multi-skilled team delivered a robust and sustainable reporting solution, maximising the utilisation of their new IoT sensor data. As a result of the project, our client was provided with:

- A Government-standard reporting suite, delivering a detailed and 360° view of the utilisation of their services.
- Improved customer experience through utilisation of analysed data, facilitating enhanced journey planning, future service planning, and reducing overcrowding on their services.
- Full and transparent technical documentation and handover, ensuring solution sustainability and client satisfaction