

CASE STUDY



WineDataSystem

THANKS TO NEO4J, WINEDATASYSTEM OFFERS REFERENCE RESOURCE FOR ALL WINE PROFESSIONALS

INDUSTRY

IT

CASE STUDY

Reference data management (MDM)

OBJECTIVE

To create the most comprehensive wine reference resource possible

CHALLENGE

No existing reference resource, a huge volume of information and issues concerning ease of access and flexibility for users

SOLUTION

To rewrite the solution code in full on Neo4j in order to get a response to a request in real time

RESULTS

- + 20,000 different wine references
- Database and reference resource evolve in real time

The company

Established in 2011, WineDataSystem is a team of wine and internet enthusiasts. It has developed tools specially for the world of wine and aimed at the profession as a whole: traders, brokers, owners, importers, wine merchants.

The company concentrates on four areas of expertise: web development, mobile development, data management relating to wine and integration of the professional application Odoo.

Since 2014, the turnover of WineDataSystem has quadrupled.

The challenge

Until now, the world of wine has never had a specific reference resource to rely on. Traders had to refer to a disparate array of databases in different formats, developed by different organisations and localised for different locations. For example, it's possible for a wine to have several appellations depending on the distribution network, making it difficult to keep track.

In view of this, WineDataSystem came up with the idea of gathering all the available data on wine into one database – everything from appellation to colour and vintage, which involves thousands of data entries – to give wine professionals a quick and accurate overview of what's produced that is as broad as possible.

The strategy

In 2014 WineDataSystem set about developing this reference resource.

The first step involved gathering all the data from disparate sources into a single database.

Because WineDataSystem is a small company, it had to choose a solution that would be quickly operational, easy to use and available as open source so as to optimise development time and costs.

Aymeric Fournier, founder and CEO of WineDataSystem, recalls: "Our challenge wasn't just about managing large volumes of data, but addressing issues concerning ease of access and flexibility for users."

At the initiative of its new Technical Director, WineDataSystem decided to change its whole operating mode, initially based on the trio of SQL, Windev and PostgreSQL. This triple technology solution threw up some major drawbacks:

- **Lack of flexibility:** modifying a field, changing a link and adapting the data model to a small company were all Herculean tasks
- **Performance problems:** interlinking data from extremely varied sources made handling this data very difficult and very time-consuming. For example, the merest 3-page request took 5 seconds to return a response.

The solution

During May 2014, the team at WineDataSystem was interested in Reference Data Management solutions on the market (MDM). But they quickly realised the limitations of this type of solution, essentially based on SQL.

The team at WineDataSystem then did the rounds of its customers to gather information about their precise needs in terms of handling times and ease of use. This 'survey' revealed that the number one wish for users of the WineDataSystem solution was real-time responsiveness. The solution had to deliver a response to a request within a hundredth of a second.

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– Aymeric Fournier, Founder and CEO of WineDataSystem

At that point the team decided to investigate graph-based solutions and, very quickly, Neo4j emerged as the most suitable database to meet the objectives of WineDataSystem. The decision was then taken to rewrite the company's entire solution code so that it could be based on Neo4j.

"We definitely made a technical choice, since Neo4j lets us manage very complex data from varied sources with handling times that are a hundredth of a second," explains Aymeric Fournier. "But beyond the purely technical aspect, our choice was also guided by our start-up mentality: we wanted a modern solution that lets us explore infinite possibilities."

The project got underway very quickly: in summer 2014, WineDataSystem did the rounds with its customers and got to grips with redeveloping its solution based on Neo4j. The first deliverable solution appeared at the end of 2014, less than four months after the initiative was launched.

The results

Initially developed using the open-source version of Neo4j, the WineDataSystem solution evolved further in March 2015 when it switched to the Enterprise version of Neo4j 2.2, which offers greater performance and additional features.

"We found out that Neo Technology was offering a programme specifically developed for start-ups, with lots of interesting features. So we decided to join this programme," says Aymeric Fournier.

Today, the system developed by WineDataSystem thanks to Neo4j enables the company to offer its customers:

- A software package for wine brokers
- A tablet with the solution for wine sellers
- An interface to manage a wine reference resource and allow it to evolve in real time.

Aymeric Fournier explains: "For everyday products, a simple barcode is enough. But wine is far more complex. Different appellations for the same wines and different labels all need to be managed as well. And for our customers, this represented a full-time job for one of their employees. Since we transferred our solution to Neo4j, there's no more need for this type of work and the member of staff can undertake tasks that are more in keeping with what's at the heart of the business, increasing productivity."

Confident with its development on Neo4j, the solution offered by WineDataSystem today manages a total of 20,000 different wine references. And the company endeavours to provide all possible information for each: name, terroir, grape variety and producer, etc.

Lastly, WineDataSystem has an online game based on Neo4j at www.beatjancis.com

Why choose Neo4j?

WineDataSystem chose Neo4j because only a graph database was able to manage so much data from varied sources and keep response times to one hundredth of a second. The fact that Neo4j is the most widely used graph database in the world validated their choice. Lastly, its user friendly, ergonomic interface and flexibility for users confirmed WineDataSystem in their decision

Neo4j is the leader in graph database technology. As the world's most widely deployed graph database, we help global brands – including [Comcast](#), [NASA](#), [UBS](#), and [Volvo Cars](#) – to reveal and predict how people, processes and systems are interrelated.

Using this relationships-first approach, applications built with Neo4j tackle connected data challenges such as [analytics and artificial intelligence](#), [fraud detection](#), [real-time recommendations](#), and [knowledge graphs](#). Find out more at neo4j.com.

UK uk@neotechnology.com
France ventes@neotechnology.com
Scandinavia nordics@neotechnology.com
Germany vertrieb@neotechnology.com
Southern Europe southern-europe@neotechnology.com