Case Study

Wobi

Price Comparison Site Wobi Builds 'Whole Customer Understanding' with Neo4j

INDUSTRY
Finance

USE CASE
Graph-Based Search/ Recommendations

GOAL
Make customers 'value offers' based on in-depth understanding of their current financial situation and needs

CHALLENGE
Rapidly analyse large volumes of 'whole customer' information

SOLUTION
Store all customer data into Neo4j database

RESULTS
- Data on half-a-million customers is accessed exponentially faster
- All data consolidated in Neo4j for 'whole customer understanding'

The success of price comparison websites rests on their ability to make customers compelling 'value offers' – and to do that they need to capture, organise and instantly analyse masses of customer data. Israel-based Wobi has achieved that aim of 'whole customer understanding' using Neo4j.

The Company

Founded five years ago, price comparison website Wobi is already one of Israel's best-known companies. Wobi has over 500,000 customers and millions of monthly site visitors, who use the tool to compare prices for pensions and insurance. Wobi has around 100 staff and is launching a banking and finance comparison service later this year.

The Challenge

Wobi aims to give its customers best 'value offers', and to do that it needed to build a detailed financial picture of each customer, including savings, pensions, insurance policies, accounts and family background.

As CTO Shai Bentin explained: "We look at the customer's account in such depth that we can tell them they have a leak in their house because they have been paying more for their water every month! We can offer to move a customer from, say, one phone company to another that better suits their needs."

To achieve that level of understanding, Wobi needed a single customer database where it could rapidly drill-down into each individual's history and add new information on the fly. It faced two key issues:

"One is that we needed to extract a lot of customer information very, very fast from the database," Bentin said, "and the second is the way we needed to get the information. It's a tree-like structure – under each customer will hang a lot of information, and for performance we needed to pull up all that information at once."

The Strategy

When Wobi began searching for the ideal database, it realised "that structure really suited working with Neo4j," Bentin said, because Neo4j organises data into 'nodes' and 'relationships'. This enabled Wobi to define its customers as 'nodes', and to hang off them every piece of information relating to that customer as 'relationships'.

Case Study

"I would recommend Neo4j for anyone invested in object oriented technology and anyone who needs high-rate transactions and performance."

"With Neo4j we are going to have the whole customer picture in one place, in order to have whole customer understanding."

– Shai Bentin,
Chief Technology Officer,
Wobi

Bentin explained: "Instead of having to break up our data into tables like with an SQL database and make thousands of JOINs, with Neo4j we could just 'save the tree' and do a single look-up to the person, to grab everything at once."

Neo4j is now Wobi's core customer database, sitting at the heart of a network of around 20 servers, with a team of five people doing Neo4j development and testing work. Neo4j is helping Wobi deliver its strategy of building its brand and customer base.

"We want to make Wobi a name that everybody in Israel knows – and we are very successful in doing that," Bentin said. "We are now one of the largest financials sites in Israel in terms of traffic, with millions of site users every month. We launched our pension product in March 2015 and by October 2015 we had over 200,000 users for that product alone."

The Solution

Bentin said that Neo4j has enabled Wobi to solve its key business challenge of providing customers with compelling 'value offers'.

"We are all about understanding the customer. To do so, we need an easy way to describe them and build connections between them and their information. In object databases, I don't actually have a 'description'. But suddenly with Neo4j, I had the power to describe my data with relationships."

"Describing a relationship is important," Bentin said. "For example, we get new information about pensions monthly, and I need to be aware of what's the latest and what's history. To model this in a regular object-oriented way would be lengthy – whereas with Neo4j I have a relationship called 'latest' and a relationship called 'previous', and I can just do a 'select' and get whatever I need."

"Neo4j runs about a million relationships a second. Everything is ordered and I don't have to write code to do it. It would be a whole different thing if I had to use a SQL database; it's more hassle, it really is."

The Results

Bentin summed up the benefit of Neo4j in one word: "Performance."

"I took similar business models and tested them on Neo4j and MySQL," said Bentin. "Neo4j was about five times faster. With two relationships, it exponentially grows – and since I have a lot of relationships, with Neo4j my performance is much better."

Neo4j is currently handling half a million customers with an average of eight pensions and insurance policies and products each – a total of 4 million nodes and 30 million relationships. It has the capacity to expand much further. According to Bentin,"It's not a large database yet – but it will be. And I feel safe with Neo4j."

Neo Technology is the creator of Neo4j, world's leading graph database. Neo4j is a highly scalable native graph database that leverages data relationships as first-class entities to help companies build intelligent applications that meet today's evolving connected data challenges including fraud detection, real-time recommendations, master data management, network security and IT operations.

Enterprises like Walmart, UBS, Cisco, HP, adidas and Lufthansa and hot startups like Medium, Musimap and Glowbl rely on Neo4j to harness the connections in their data.

Questions about Neo4j?

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