THE VIRTUAL FORGE®
DATA-DRIVEN SOFTWARE

CUSTOM SOFTWARE DEVELOPMENT

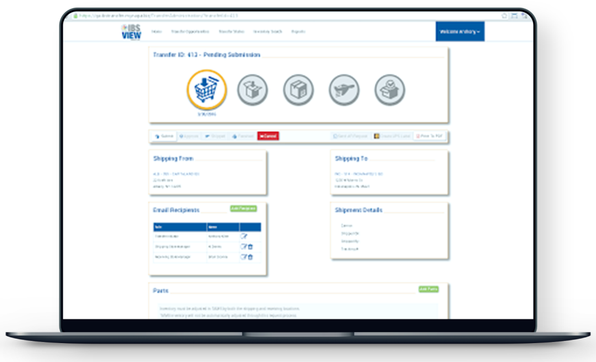
Customer Intelligence Predictive Analytics

Challenge

NAPA Auto Parts faced a significant issue with excess inventory in certain stores that operated as single-customer locations. They had limited means to monetize inventory that could not be sold in those locations, due to the disconnected nature of their point of sale and inventory management systems.

The Virtual Forge worked with this client to understand their operational and technical challenges, and to design a business process and software application to help improve it. Their main challenge was that these purchased parts businesses operated like individual businesses, which were subject to the risks of supply and demand within their individual markets.

However, what they had but could not yet leverage was a network of many locations, each with their own supply and demand profiles and a lot of overlap in the parts that they carried. This would be a powerful sales network if the data could be unlocked.



Solution

The Virtual Forge conceptualized a centralized inventory exchange by aggregating individual inventories into a regularly refreshed central source, employing data mapping to ensure seamless part interchangeability. Through meticulous analysis, we pinpointed excess inventory, calculated based on current stock levels and probable sales cost, focusing on high-value excess items.

Leveraging this insight, The Virtual Forge identified sites with high consumption for these parts, devising an algorithm to facilitate matchmaking between sites that tended to need a certain part, and those that had many in stock. This was based on factors like distance and transportation costs, in a user-friendly interface for streamlined inventory management. This interface facilitated optimal matches between sites with excess inventory and those in need, enabling efficient inventory push and pull strategies, alongside managing site-to-site transfers seamlessly.

Outcome

The net impact to the business was millions of dollars of savings as their excess parts inventories were able to be purchased and used rather than disposed of or sold externally for pennies on the dollar. Additionally, the carrying inventory efficiency of all of the sites in the network was improved as they gained both an outlet for excess inventory, and a cost-effective means of sourcing critical parts inventories.

The Tech Stack

Microsoft .NET

Microsoft SQL Server

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