

Milestone 2, "Analysis and Trend Identification," focuses on analyzing sales and inventory data to reveal essential patterns and trends that influence stock management. This stage consists of examining the frequency of products being understocked or overstocked and connecting these findings to sales patterns. By analyzing metrics like sales quantities and the frequency at which products dip below reorder levels, this milestone will pinpoint items leading to stockouts or excess inventory, which can stress resources. We conducted a comprehensive analysis that showcases shortcomings in inventory management, providing insight into which items need increased focus for stock replenishment. This analysis serves as the basis for future visualization endeavors by highlighting critical areas that require attention in interactive dashboards and informing decision-making approaches.

The information is obtained directly from unprocessed transaction logs within the restaurant's sales and inventory management system. This consists of two main datasets: sales figures and stock data. The sales information includes key details like product IDs, number of items sold, transaction dates, prices, and any discounts given. At the same time, the inventory data delivers up-to-date stock details, specifically emphasizing products that are below their reorder levels, accompanied by necessary quantities and designated reorder points. By preprocessing, these datasets are refined, combined, and matched by product IDs to ensure uniformity, facilitating an in-depth analysis of sales trends concerning inventory levels. This method provides a thorough understanding of how sales affect inventory management, aiding in efficient stock optimization.

For the upcoming milestone, "Development of Interactive Visualizations," concentrate on building interactive dashboards and visuals that show inventory levels, sales quantities, and reorder point limits. This phase will be essential in converting the analysis into a form that is practical and beneficial for stakeholders.