Market Basket Insights

Problem Definition and Design Thinking

In this part you will need to understand the problem statement and create a document on what have you understood and how will you proceed ahead with solving the problem. Please think on a design and present in form of a document.

Problem Definition: The problem is to perform market basket analysis on a provided dataset to unveil hidden patterns and associations between products. The goal is to understand customer purchasing behavior and identify potential cross- selling opportunities for a retail business. This project involves using association analysis techniques, such as Apriori algorithm to Find Frequently co-occurring products and generate insights for business optimization

Design Thinking

Data Source :

Point of Sale (POS) Data: This includes transactional data collected at the checkout counter in retail stores or online platforms. It typically includes information such as customer ID, date and time of purchase, and the items purchased.

Data Preprocessing :

Data Transformation: This involves converting the data into a suitable format for analysis. For example, transactional data may need to be transformed into a binary matrix where each row represents a transaction and each column represents a product.

Association Analysis :

Association analysis in market basket insights is a technique used to uncover relationships or associations between items in a dataset. It is based on the concept of identifying items that are frequently purchased together, known as itemsets or item combinations.

Insights Generation :

Insights generation in market basket insights refers to the process of extracting meaningful and actionable information from the association analysis results. Once association rules are generated, businesses can analyze them to gain insights into customer behavior and preferences.

Visualization :

Network graphs: Network graphs, also known as association graphs, visually represent the relationships between items based on their co-occurrence patterns. Nodes represent items, and edges represent associations between them. This visualization technique helps businesses identify clusters of related items and understand the overall structure of item associations

Business Recommendations :

Marketing and promotional campaigns: Analyze association rules and identify strong item associations to inform targeted marketing campaigns. By promoting related products together, businesses can increase customer engagement and drive sales.