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IST659 Project Milestone 1

**Project Summary**

Even with a membership only business model, Jak-Jak’s Local SuperStore has seen tremendous growth since its founding 5 years ago (probably due to their unbeatable prices). Their customer base boomed, selection expanded, inventory inflated. Unfortunately, Jak-Jak’s floor space cannot physically expand alongside this incredible economic upturn often resulting in a crowded store and a slowed restocking of shelves, even with and the implementation of a handful of automated cash registers to try to help store flow. With that, Jak-Jak needs a system that will help him track his inventory and effectively optimize floor space, positioning products where they will be most convenient for his customers while keeping a diverse selection.

**Stakeholder Description**

Stakeholders include Jak-Jak as the store owner and primary stakeholder of his business, his employees who will be using the system to decide how to manage floor space and inventory, and Jak-Jak’s suppliers who can use the system to determine when Jak-Jak’s inventory is running low.

**Data Questions**

1. What was the average transaction time for human cashiers for purchases with more than 10 items? For automated cashiers?
2. Which aisle numbers are the most common for items that appear in purchases with more than 10 items?
3. What were the 10 best-selling items of the past month?
4. On average, how many times do any single customer come purchase something each month?
5. How many times was and how much of Item X restocked in the past 3 months? Reordered?

**Conceptual Model**

A screenshot of a cell phone

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**Logical Model**

A close up of text on a white background

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**Glossary**

**Item**

* **ItemID**: Item unique identification number
* **ItemName**: Name of item
* **Supplier**: Organization that supplies the item
* **Description**: Brief description of item

**Inventory**

* **LocationID**: Storage location identification number; Locations can hold more than one kind of Item
* **Quantity**: number of specific Item stored at Location

**InventoryOrder**

* **OrderID**: Order identification number
* **Quantity**: number of specific Item ordered
* **Date**: Date of Order

**Shelf**

* **ShelfID**: Shelf identification number
* **Aisle**: Location on store’s display floor; could be an aisle number or row label
* **Height**: How high shelf is relative to 5’8’’ person (below waist, waist, eye, above head, out of reach)
* **Quantity**: number of specific Item displayed on Shelf

**ShelfRestock**

* **RestockID**: Restock identification number
* **Quantity**: number of specific Item restocked on Shelf
* **Date**: Date of Restock

**Basket**

* **BasketID**: Identification number for Transaction and Item
* **Quantity**: Number of Item purchased in particular Transaction

**Transaction**

* **TransactionID**: Transaction identification number
* **StartTime**: Time stamp of start of Transaction, signaled by scan of an item
* **EndTime**: Time stamp of end of Transaction, signaled by printing of receipt
* **CashierType**: indicator of whether or not cash register was an automated self-serve machine or employee

**Customer**

* **CustomerID**: Customer identification number
* **FirstName**: Customer first name
* **LastName**: Customer last name
* **EmailAddress**: Customer email address; email address is required and must be unique
* **PhoneNumber**: Customer phone number; phone number is required and must be unique
* **Gender**: Customer Gender (M or F)
* **DOB**: Customer Date of Birth
* **MaritalStatus**: Customer Marital Status (single, married, divorced)
* **SecondaryOf**: If a sub-member of another Customer, Customer identification number of primary member