**CP363-A: Databases I – Project Proposal**

**Group**:

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**Proposal**: An **Inventory Management System** where it portrays an organization’s day to day inventory handling, procurement, and transactions (customer purchases).

**Operations**: This database design will model an organization like *Best Buy*’s inventory system for all their stores. This includes:

* **Handle item purchase from vendors**
* **Perform transactional sales to customers**
* **Add sales promotions**
* **Alert when stock of certain item is low or below an alert threshold.**
* **Identify and track order discrepancies (i.e. Wholesaler orders 50,000 of Item X and only receives 40,000 items, 10,000 have not reached)**
* **Calculate total inventory value.**
* **Calculate Total inventory turnover.**
* **Calculate Inventory turnover time (in unit of time, like days). [This is essentially how long it takes for a certain item to be converted from inventory into sales, a very useful measure for businesses]**

**Applications**: A GUI tool or web application can use this database internally within the organization to manage their inventory.

* Increasing stock levels
* Decreasing stock levels
* Set up vendor orders
* Keep track of what is:
  + What is available for sale
  + What is getting shipped
  + What the store already sold
* Allows to keep track of profits and profit margins
* Increased efficiency as the process is automated and the need for manual tracking is reduced to none.
* Trend analysis based on inventory usage over time to predict future inventory requirements (how much inventory you need to order or how much of particular item you need to order for next month, etc.)
* Track perishables in inventory to avoid inventory sunk costs.

**Entities**:

* Item
* Supplier
* Manufacturer
* Store
* Stock (We made this an entity because it has specific stock related fields like stock threshold, alert datetime).