Smallville Company Database Design Explained

Smallville is an example of a simple private business owned and operated by a few people who want to create a system of tracking the things that make their business run, so that they can stop running the whole business with excel spreadsheets going back and forth between each other.

The business has customers who place orders for products that Smallville sells. Customers are tracked by a customer number, first name, last name, address, email and phone. Customers place orders which are tracked by order number, date of order, and status. Products are tracked by product number, description, “list price,” and quantity on hand. An order has at least one or more products, and products can be associated with more than one order. Some products on hand may not have been ordered yet.

Products that make up orders are tracked by quantity ordered, quantity supplied, and “actual price.”

Smallville has three categories of employees: Sales Reps, Hourly Workers, and Salary Workers. Sales Reps are compensated by a commission rate times the number of units sold. Hourly Workers are tracked by hours worked per shift. Due to the nature of the business, workers can work more than one shift in a single day. Their compensation is based on total hours worked for a given time-period. Salary workers receive a fixed annual compensation (“salary”). All employees are listed by first name, last name, address, email and phone.

Managers supervise employees. A manager may have one or more employees to supervise. An employee does not have more than one manager. Some employees are rated as managers but have no one to supervise.

Each Customer is assigned a Sales Rep. If a Sales Rep is on vacation, a secondary Sales Rep may be assigned to temporarily fill in for a transaction. Given that this is a commission business, Sales Reps usually carry more than one customer at a time. A Sales Rep is assigned at least one customer as soon as they are hired into the role.

Smallville also wants to track its suppliers to improve its own inventory ordering process. Some products have more than one supplier and some suppliers offer more than one product. Suppliers are tracked by their company name, address, and phone. The inventory ordering is tracked by date of order and number of units.