

Drawing Conventions for Readability

Objectives

- Apply the Oracle drawing conventions to a data-model diagram
- Identify high-volume entities in a data-model diagram and explain their significance to the business
- Redraw a given data-model diagram to increase clarity and readability
- Recognize the usefulness of dividing a complex ERD into a number of functional sub-diagrams

Vocabulary

Directions: Identify the vocabulary word for each definition below.

1. _____ Space on a page or poster not covered by print or graphic matter.
2. _____ An entity that will have a large number of instances.

Try It / Solve It

1. Create an ERD based on the following Summit Sporting Goods scenario. Be sure to follow drawing conventions for readability and clarity.

"I'm a manager of a sporting-goods wholesale company that operates worldwide to fill orders from retail sporting-goods stores. The stores are our customers (some of our people prefer to call them our clients). Right now we have 15 customers worldwide, but we're trying to expand our customer base by about 10% each year starting this year. Our two biggest customers are Big John's Sports Emporium in San Francisco and Womansports in Seattle. For each customer, we must track an ID and a name.

We may track an address (including the city, state, zip code, and country) and phone number. We maintain warehouses in different regions to best fill the order of our customers. For each order, we must track an ID. We may track the date ordered, date shipped, and payment type when the information is available."

2. Add on to the Summit Sporting Goods ERD.

"Right now we have the world divided into five regions: North America, South America, Africa/Middle East, Asia, and Europe. That's all we track; just the ID and name. We try to assign each customer to a region so we'll generally know the best location from which to fill each order.

Each warehouse must have an ID. We may track an address (including the city, state, zip code, and country) and phone number. We currently have only one warehouse per region, but we're hoping to have more soon.

I manage the order-entry functions for our wholesale sporting-goods business. My department is responsible for placing and tracking the orders when our customers call. For each department, we must track the ID and name. Sometimes, our customers just mail us the orders when they are not in a rush, but most often they call us or fax us an order. We are hoping to expand our business by providing immediate turnaround of order information to our clients. Do you think we can put this application on the Web?"

3. (Optional) Add on to the Summit Sporting Goods ERD.

"We can promise to ship by the next day as long as the goods are in stock (or inventory) at one of our warehouse locations. When the information is available, we track the amount in stock, the reorder point, maximum stock, a reason as to why we are out of stock, and the date we restocked the item. When the goods are shipped, we fax the shipping information automatically through our shipping system. No, I don't manage that area. My department just ensures that our customers have the correct billing information and verifies that their account is in good credit standing. We may also record general comments about a customer.

We do make sure that all the items they have requested are in stock. For each item we track an ID. We may also track the item price, quantity, and quantity shipped if the information is available. If they are in stock, we want to process the order and tell our clients what the order ID is and how much their order total is. If the goods are not in stock, the customer tells us whether we should hold the order for a full shipment or process the partial order."

4. (Optional) Add on to the Summit Sporting Goods ERD.

"The accounting department is responsible for maintaining the customer information, especially for assigning new customer IDs. My department is allowed to update the customer information only when an order is placed and the billing or ship-to address has changed. No, we are not responsible for collections. That's all handled by accounts receivable. I also think that the sales reps get involved because their commission depends on customers who pay! For each sales rep, or employee, we must know the ID and last name. Occasionally we need to know the first name, user ID, start date, title, and salary. We may also track the employee's commission percent and any comments about the individual.

Our order-entry personnel are well versed in our product line. We hold frequent meetings with marketing so they can inform us of new products. This results in greater customer satisfaction because our order-entry operators can answer a lot of questions. This is possible because we deal with a few select customers and maintain a specialty product line. For each product, we must know the ID and name. Occasionally we must also know the description, suggested price, and unit of sale. We would also like the ability to track very long descriptions of our products and pictures of our products, when it is necessary."

5. (Optional Practice: Global Fast Foods)

This practice is step 10 in the Global Fast Foods project.