**EXAMPLE 1:**

Bob’s Hot Rods produces customized vehicles by special order. Customer’s place their order for the vehicle with Bob. The parts that go into making the customized vehicle come from different suppliers. For instance, the parts for the engine come from a different supplier than the tires. Bob then places an order to all his suppliers to order the appropriate parts for the customized vehicle.

1. From the narrative above, identify the main entities.
   1. Customer, Order, Vehicle, Parts, Suppliers
2. Identify the relationships between the entities.
   1. Table

      Description automatically generated
3. Draw the entity relationship diagram using Crow’s foot notation. Do not list attributes.
   1. Diagram

      Description automatically generated
   2. Questions/Assumptions
      1. Is it possible that a custom vehicle be made multiple times and/or for multiple clients? Yes
      2. Can customers make multiple orders? Yes
      3. Does a part only come from one supplier? Yes
      4. How are the part orders compiled? Is there one order to each supplier? Yes

**EXAMPLE 2:**

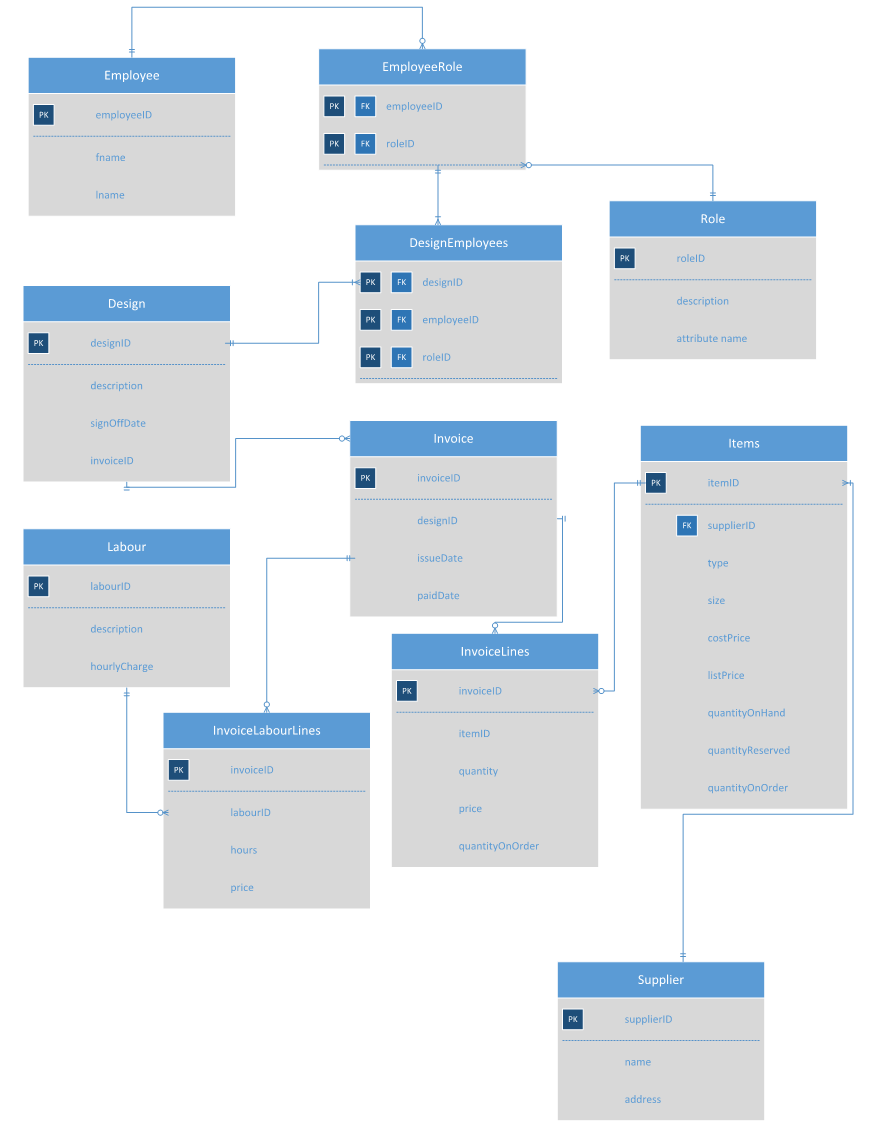
Natural By Design, Inc (NBD) is a partnership that designs and develops interior and exterior landscapes for hotels, restaurants, condominiums and private residences. In the designs, a mixture of plants, flowers, shrubs, pottery, tiles and other materials are used. They employ thirty people. Employees can be either designers who design the layout of the landscaping for a customer or those who work in production and vendor management. (i.e. employees who carry out the installation of a design, maintain the inventory and the financial activities)(role)

To come up with design projects, the NBD designers, who are in fact salespeople too, call upon potential customers and identify project opportunities. These designers meet with the client to determine their needs and develop a design which includes formal sketches and blueprints. A written design bid is prepared for the customer that contains a general description of the project, a list of plants and materials and a detailed listing of both material and labour costs. Once the customer signs off on the project, the project is turned over to the production area who orders the products from the vendors/suppliers and who schedule the installation (including the employees who will carry out the work to be done). The financial area also receives a copy of the bid and they prepare and send out a request for payment (invoice).

The inventory information includes the type of plant, its size, cost price, list price, quantity in stock and reserved for a bid, and quantity on order for a bid. The on-bid quantities are tracked so that the designers know the quantity of uncommitted inventory available at a point in time. Similar information is maintained for non-plant materials (i.e. pottery, tiles, and other decorative items).

1. From the narrative above, identify the main entities.
   1. Design, Employee, EmployeeRole, Materials (Items), Invoice, Supplier, Customer, Labour??
2. Identify the relationships between the entities.
   1. Waterfall chart

      Description automatically generated with medium confidence
3. Draw the entity relationship diagram using Crow’s foot notation.

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