CREATING AN ENTITY-RELATIONSHP DIAGRAM

UPS provides an up-to-date information on the processing and current location of each shipped item. To do this, UPS relies on a company-wide information system. Shipped items are the heart of the UPS product tracking information system.

Shipped items can be characterized by item number (unique), weight, dimensions, insurance amount, destination, and final delivery date.

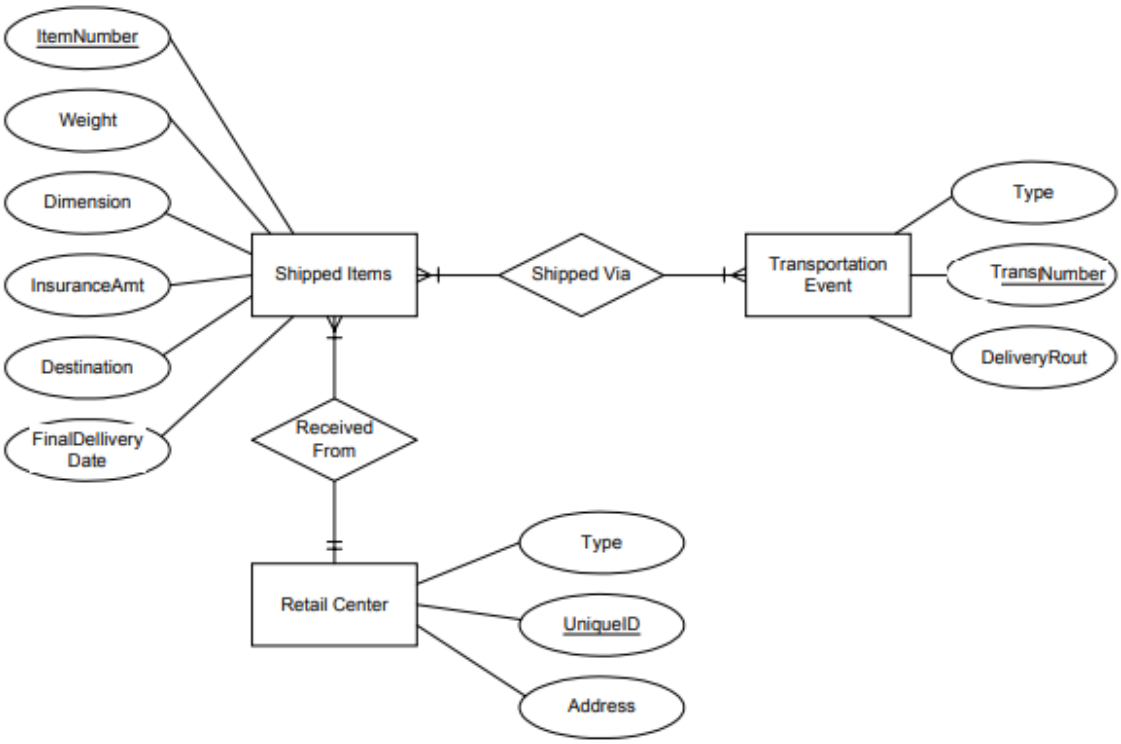
Shipped items are received into the UPS system at a single retail center.

Retail centers are characterized by their type, uniqueID, and address.

Shipped items make their way to their destination via one or more standard UPS transportation events (i.e., flights, truck deliveries). These transportation events are characterized by a unique TransportationNumber, a type (e.g, flight, truck), and a deliveryRoute.

Please create an Entity Relationship diagram that captures this information about the UPS system. Be certain to indicate identifiers and cardinality constraints.

Solution



Convert the ER into a Relational Database Schema:

Remember:

1- **1NF**: only single values are permitted at the intersection of each row and column; hence, there are no repeating groups.

2- **2NF**: All non-key attributes are fully functional dependent on the primary key

3- **3NF**: No non-prime attribute A in R is transitively dependent on the primary key.

4- **BCNF**: whenever an FD X → A holds in R, then X is a superkey of R