

Jaypee Institute of Information Technology

Database Systems & Web

15B11CI312

Tutorial –2 (ER Diagram)

1. FlyWheels is a courier company transporting different items from one location to another. Shipped items can be characterized by item number (unique), shipment date, weight, dimensions, insurance amount, No of days to deliver, destination, and final delivery date. Shipped items are received into the FlyWheels 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 FlyWheels transportation events (i.e., flights, truck deliveries). These transportation events are characterized by a unique schedule Number, a type (e.g, flight, truck), and a delivery Route. Create an Entity Relationship diagram that captures this information. Be certain to indicate identifiers and cardinality constraints.
 - a) Please identify an attribute in the above ER diagram that might represent a composite attribute, and explain why/how it might represent a composite attribute.
 - b) Please identify an attribute in the ER diagram that could represent a derived attribute and explain why/how it might represent a derived attribute.
- c) Volvo owns a number of busses. Each bus is allocated to a particular route, although some routes may have several busses. Each route passes through a number of towns. One or more drivers are allocated to each stage of a route, which corresponds to a journey through some or all of the towns on a route (Stage is 1- if bus covers all towns, 2- if bus covers some towns). Some of the towns have a garage where busses are kept and each of the busses are identified by the registration number and can carry different numbers of passengers, since the vehicles vary in size and can be single or double-decked. Each route is identified by a route number and information is available on the average number of passengers carried per day for each route. Drivers have an employee number, name, address, and sometimes a telephone number.

Create an Entity Relationship diagram for this system.