**Discussed Business Problem :**

1. Developing a system that enables tracking and courier management.
2. Providing different modes of delivery so that even during the peak COVID times, hassle free and contactless delivery would be possible.
3. Providing priority based services so that customizing and delivery of packages becomes a lot easier.
4. Create a centralized system that can be accessed by customers to track their orders through delivery and staff to use the system to efficiently coordinate the delivery of the items.
5. The system should keep track of all the information regarding courier orders and their movement from the point of origin to the point of destination.
6. Enhance multi-level teamwork to ensure timely delivery of the product and proper management of the product.

**Entities :**

1. Customers
2. Payments
3. Package
4. Priority
5. Delivery\_Mode
6. Service\_Location
7. Offices
8. Warehouse
9. Shipments
10. Vehicle
11. Employee
12. Role

**Relationships between entities:**

1. Any number of packages may be ordered by the customer for delivery via courier. A customer must pay only after placing an order for a package (Payments being the associative entity between Customer and Package).
2. Each Package must have one Priority, and the same Priority can be assigned to multiple Packages. Also each package must have one Delivery Mode assigned to it.
3. An Office may contain 0 or many Packages. One Package must be associated with one Office only.
4. Offices must have one Warehouse only and vice-versa.
5. One Package can be a part of One Shipment, and One Shipment can have many Packages.
6. One Warehouse can ship multiple Shipments. Any number of shipments can be received by one Warehouse.
7. One shipment must be carried in one Vehicle to the nearest Warehouse and vehicle may have any number of shipments.
8. Delivery person will carry the package from the nearest Warehouse to the receiver’s address.a
9. An employee may be assigned to 0 or one vehicle . A vehicle can only have one Employee that drives it.
10. Each Employee can have one role, and one Role can have many Employees.
11. An office must have 1 or many employees, and an employee may work only in one office.
12. A warehouse must have 1 or many employees, and an employee may work only in one warehouse.
13. One service location can have many Packages. Each Package must be in one service location.

**Key Design Decisons:**

1. Customers are able to send multiple packages to any serviceable location.
2. Each Package must be associated with a Payment which the Customer makes.
3. The priority and delivery mode must and delivery mode for each package must be assigned.
4. The Package consists of the Current\_Location and Delivery\_Status attributes which helps in tracking the location of the courier to the customer.
5. Each Office will have one warehouse from which shipment will be dispatched to the nearest destination Warehouse.
6. There will be a manager and staff members assigned to each office.
7. The loading and unloading of shipments will be handled by staff in each warehouse.
8. Each shipment will be transported by a vehicle that the warehouse manager will designate to the employees whose primary duty is driving.
9. A driver (an Employee) will be appointed to each vehicle to transport the shipments between the Warehouses.
10. The shipment will finally be delivered to the receiver by the delivery person from the final warehouse.