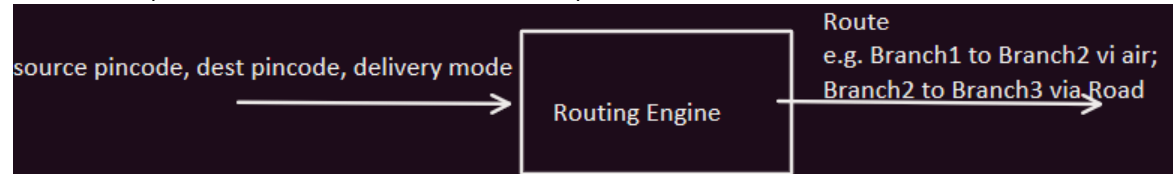# Courier Management System

Requirement:

- Customer can book a shipment by either scheduling the home pickup or by visiting the nearest agency. Customer can avail two modes – Regular or Express. Agent at agency or delivery agent registers the shipment and marks it as booked.
  - Shipment State: Pickup Scheduled, Booked
  - Entity: User having role as Customer; User having role as Agent; Agency; Shipment; Pincode
- Customer's roles include:
  - Check serviceability and get estimated quotes by entering source and destination addresses.
  - Visit nearest agency to book shipment or schedule pickup
  - Track shipment.
- Agent's responsibilities include:
  - Visit customer's site for pick up at scheduled time.
  - Registering shipment by entering details like – Dimensions, Weight, Estimated Delivery time
  - Evaluate billing amount by using rate card and generate invoice

Rate Card			
Distance	Base Rate	Express Mode Factor	Extra Weight Factor
0 - 50Km	50	1.2	₹ 10 every 1KG
51-100Km	100	1.5	₹ 10 every 1KG
101-500Km	150	1.5	₹ 10 every 1KG
>500 Km	200	2	₹ 20 every 1KG

Metric Shipping Factor (MSF) = 5000 cm3/kg; DIM Weight = Package Volume/MSF; Weight = Max (Actual Weight, DIM Weight)

- Agency sends shipments to its local branch. From the local branch, the shipment can either be sent to the next destination branch via some transportation media like road, railways, air or can be sent out for delivery depending upon the shipment route.
  - Shipment State: Received at Branch, In Transit, Out for Delivery
  - Entity: Branch; User having role as Branch Executive,
- Branch Executive's responsibilities include:
  - If it is the shipment's local branch, then evaluate shipment's route to destination.

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  - If nonterminal branch -> Forward shipment to next branch via transportation media as determined by routing engine.
  - If terminal branch -> Send shipment out for delivery
- If state of the shipment is "Out for Delivery" then agent's role would again come into picture wherein he will attempt delivery to the intended recipient.
  - Shipment State: Delivered, Undelivered
- Admins should be able to perform all operational activities like managing users and their roles; managing rate card; managing serviceable pincodes etc.
  - Entity: User having role as Admin