

Business Problem

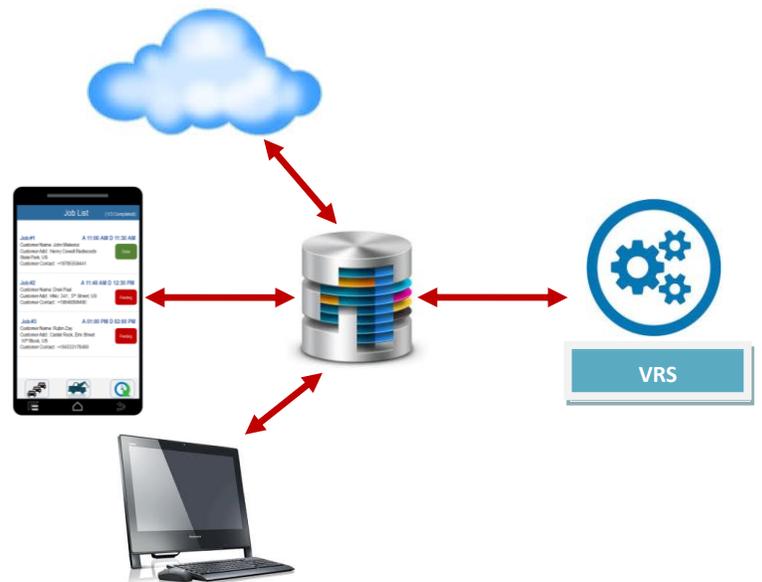
The ever increasing pressure to improve customer service, reduce cost, improve employee morale is forcing companies to relook at their operations and find ways to improve their operational efficiency. For companies like ecommerce logistics providers, courier companies, service based companies like pest control companies, grocery delivery companies, taxi service companies etc., it remains a big challenge to utilize their scarce vehicle resources optimally simply because it is humanly impossible to consider so many variables like distance between locations, pick-ups and drop, vehicle capacities, customer time window, fixed and variable costs of the vehicle etc. and then come up with an optimal route plan.

The Vehicle Router & Scheduler (VRS) Solution

The vehicle router and scheduler solution is used to determine the cheapest routes for vehicles so that customer orders from multiple depots can be serviced while considering constraints like vehicle capacities, delivery time windows, working hours of the driver, pickup of returns, costs like driver cost, fixed and variable cost of the vehicle and various taxes.

Key Questions answered:

- Optimal size of the fleet of vehicles required to serve all customers with in time limits
- Optimal route and schedule for each vehicle such that total travel cost/time/distance will be minimized without violating the delivery time windows
- Selection from many orders to deliver on a particular day
- Planning for pickup of returned goods
- Scheduling driver hours based on labor rules



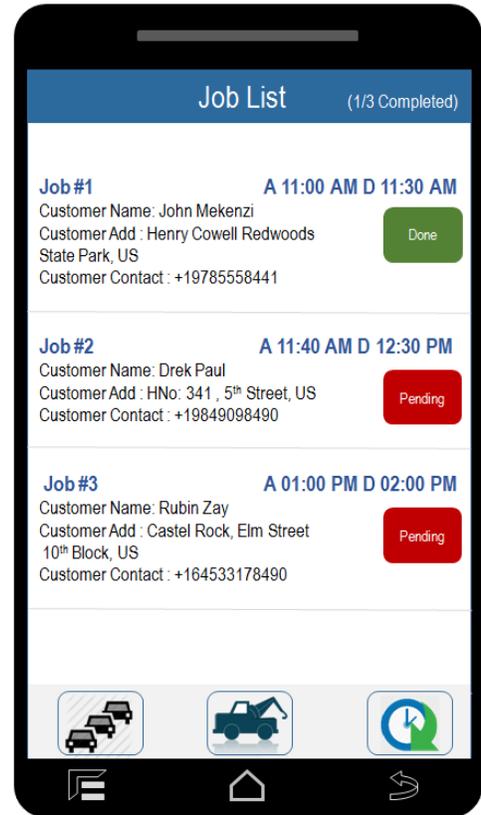
Features:

- Multiple depots/supply points and demand points
- Multiple vehicle types with weight and volumetric capacities
- Weekdays based multiple time windows for each customer for delivery (e.g. opening and closing time of office or availability of customer)
- Order skipping /Non delivery
- Pickup and delivery of orders
- Split delivery (a customer can be serviced only by a single vehicle/multiple vehicles)
- Working days and working hours of driver
- Mandatory breaks with break duration for drivers
- Fixed cost for each vehicle and vehicle based transport cost/time between origin and destination
- Various taxes depending on source and destination (as a % of value)
- Loading and unloading costs
- Labor cost of driver
- Integrated with standard API's like Navteq, Grasshopper, Google etc. for distance calculations
- Integrated with Real time maps for outputs
- Scenario planning with multiple versions of data
- Reports with network line graphs for vehicle routes

Mobile Integration:

The solution is integrated with mobile platform so that real time updates from the drivers can be taken into account and the routes can be re-planned if required. The types of update that are possible are

- Order entry at the customer's location for new jobs
- Updates regarding job completion
- Updates on traffic conditions like road blocks, average vehicle speed, traffic congestion etc.



Graphical Reports:

