Project Name:

Delivery Schedule Simulation

Overview:

In this project paper we will discusses the simulation of the delivery vehicle schedule with time windows. I will be doing mathematical/theoretical simulation. I will be giving a detailed description of a conceptual model with focus on input and output data and also describe the structure of the simulation model and operation of its main blocks. Each delivery vehicle will be modelled as a separate object and used to construct the overall schedule for all delivery vehicles. This simulation model will be used as a decision support tool for an analyst, which allows estimating efficiency of delivery vehicle schedules with time windows generated by a standard software or/and modified by a planner.

Goals:

1) To solve a class of problems aimed at assigning a set of scheduled trips to a set of delivery vehicles, in such a way that each trip is associated with one vehicle, and the cost function for all trips is minimised.
2) Modify it with additional constraints like time windows and different delivery vehicle capacity.

Proposed Methodology:

I'll be doing theoretical analysis as well as some software based analysis using C++ language and will be using **Discrete Event Simulation Model (DES).**

Project Justification:

I am doing this project because it helps us solve a real world problem of scheduling vehicles in such a way that we get maximum profit with least amount of investment. The results of this project can easily be used by anyone who is willing to do business that involves any sort of delivery of products. From E-commerce company such as Amazon, Flipkart, etc. to small companies with delivery within a city can benefit from this project.

References:

Wikipedia, Simulation Modelling and Analysis by Averill M Law, C++ programming Language.

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