

MealPal Food Delivery System

Implementation of Particle Swarm Optimization

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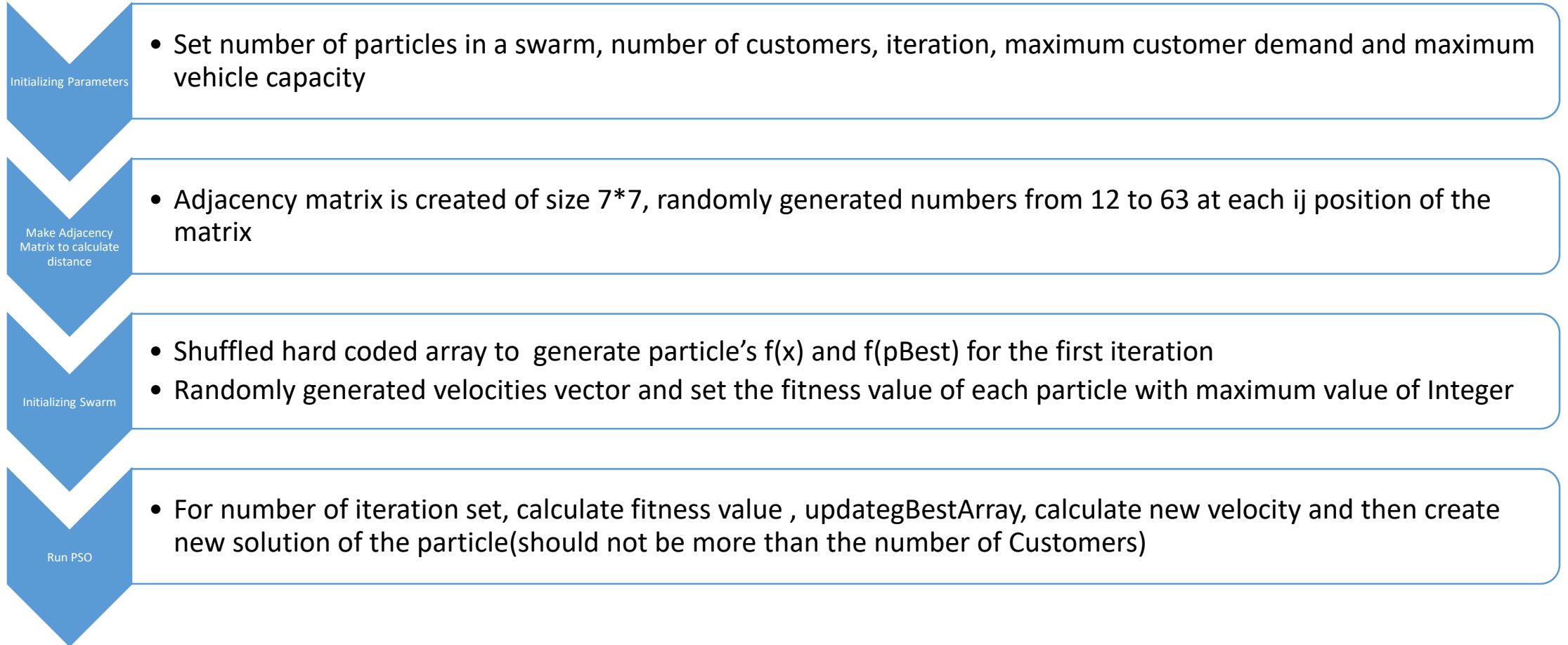
Problem Statement

- In a real-world scenario, it is a cumbersome task to manage the delivery system efficiently.
- A good transportation system is the one which establishes the least cost, most efficient transportation connection network while honoring all customer's service requirements. Achieving such efficiency in a transportation system is always a problem.
- My business MEALPAL which prepares food for the customers and that food is being delivered by a driver to various customers located at different location. The goal is to find the shortest and fastest path for the driver to deliver the food to the corresponding resulting in maximizing the profit for the organization.

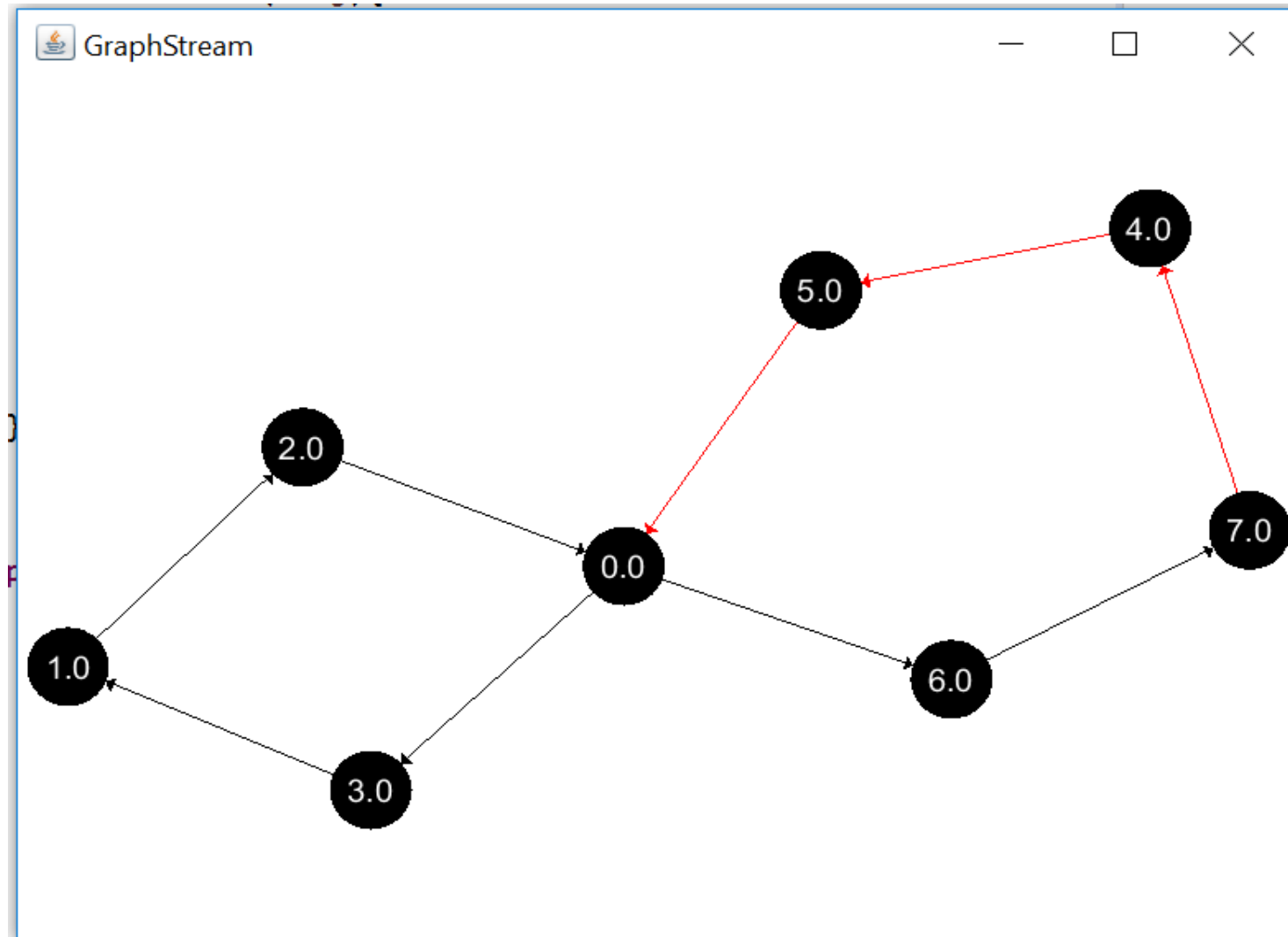
Why PSO ??

- Vehicle routing problem comes under np-Hard (non deterministic polynomial-time hard)
- These kinds of problem does not have best/optimized solution in less amount time
- PSO although does not give best solution but it do gives most optimum solution in less time

My Solution

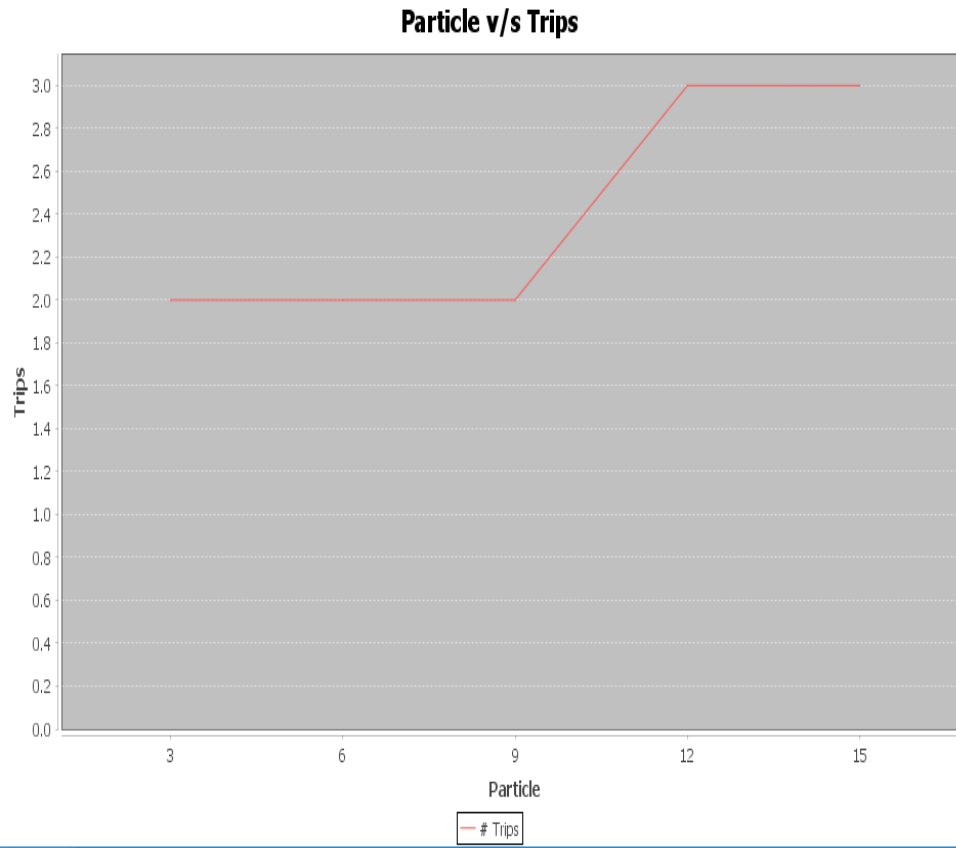


Route Visualization

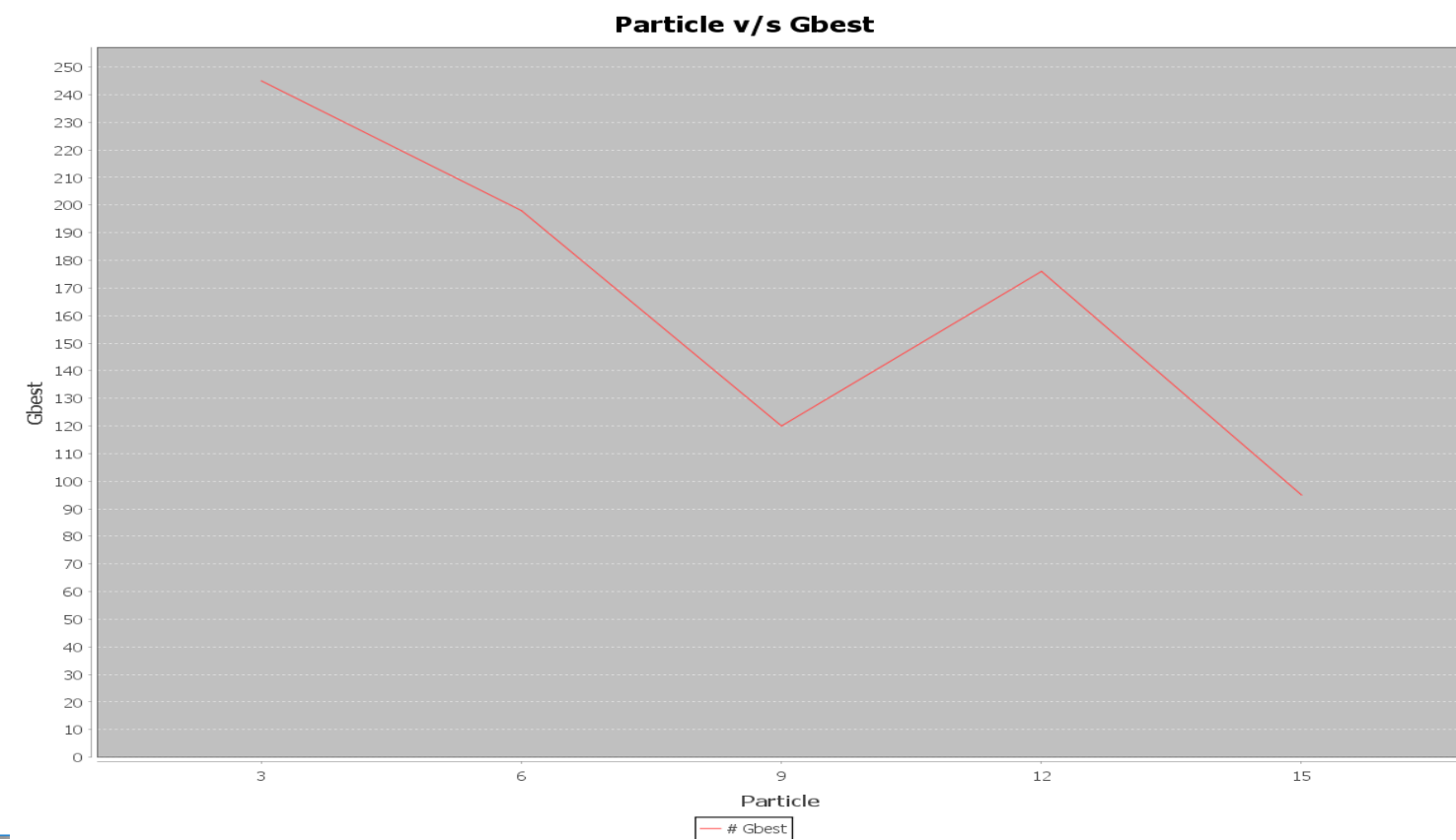


Empirical Analysis

Particle v/s Trips



Particle v/s Gbest



Demo

Thank you 😊