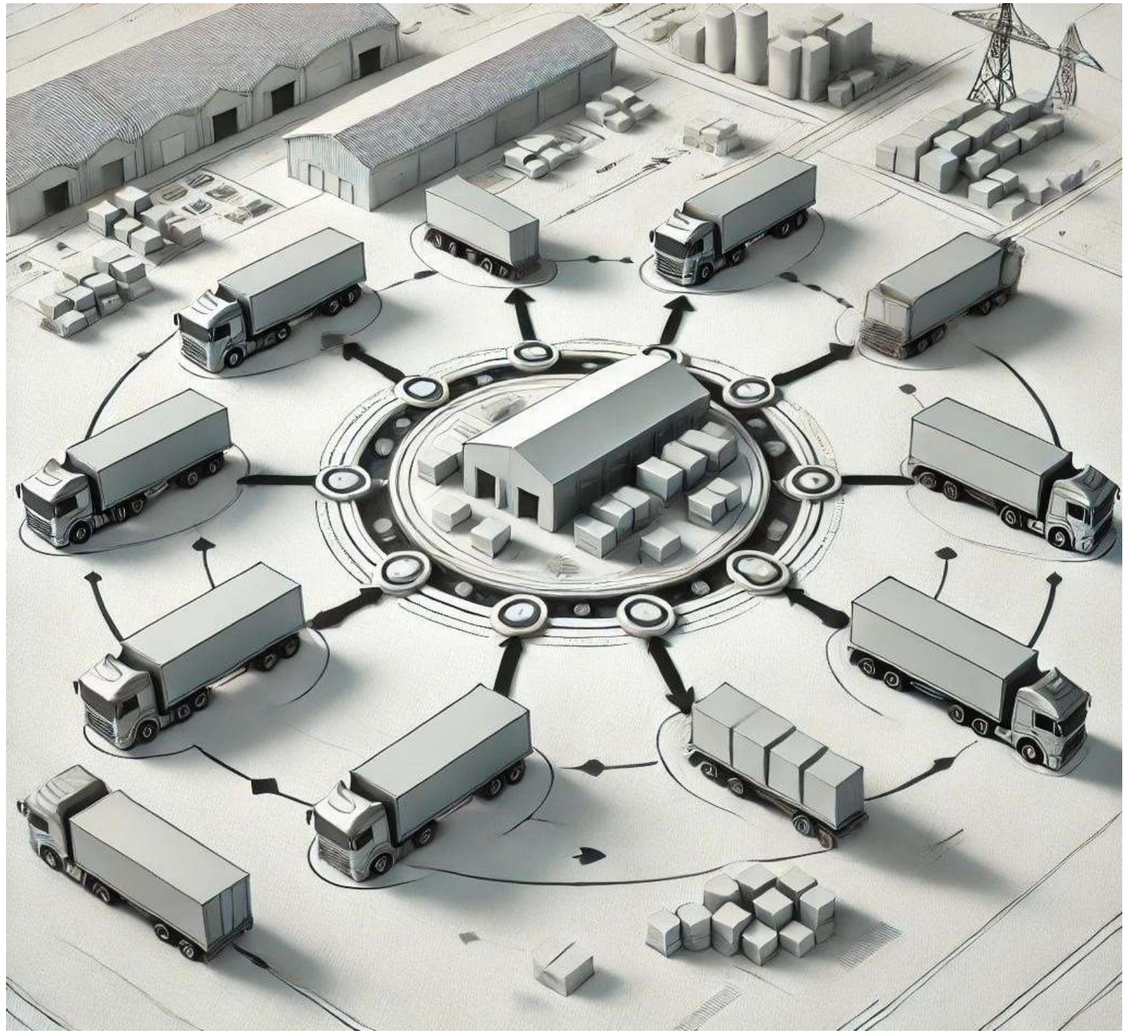
BiGeo

Logistics and Supply Chain using AI and IOT



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Problem Statement

- Implement an optimized distribution strategy for transporting goods from a central hub to multiple spokes.

- The objective is to minimize total transportation costs by selecting the most suitable trucks,strategically assigning loads,and planning efficient routes,all while considering truck capacities and the distances between the hub and trucks.

Stakeholders

- Logistics/Operations Manager
- Truck Drivers/Transport Team
- Suppliers and Manufacturers
- Customers/End Recipients
- Maintenance and Fleet Management

Present Scenario

- Ongoing contracts need reliable and cost-efficient delivery.
- Complex distribution networks need careful route and load planning.
- Some clients may need customized delivery schedules or special equipment.
- Industry-specific rules (e.g., for food or medicine) make transport more complex.

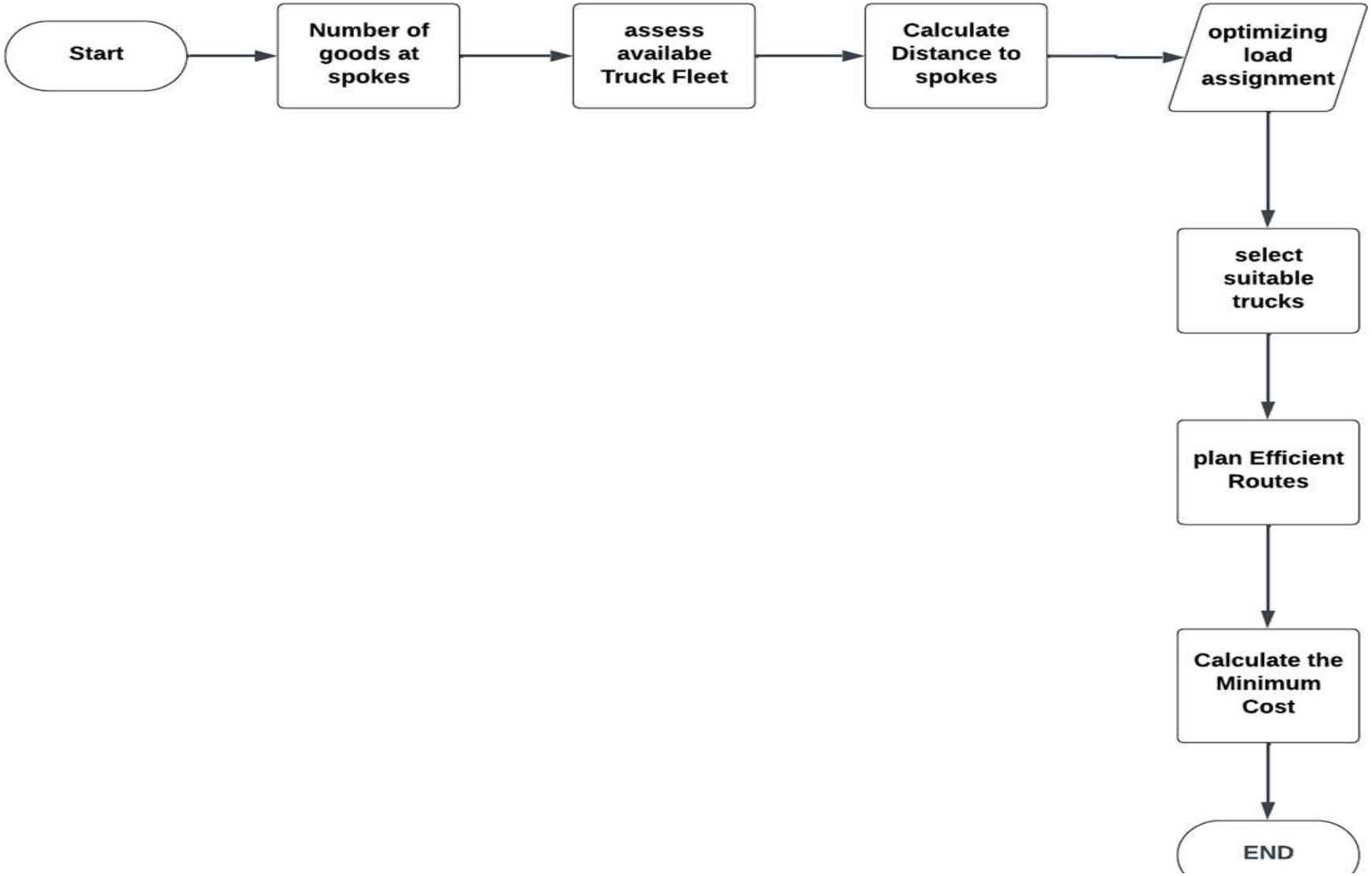
Proposed Solution

- The hub serves as the central point for collecting and distributing goods to multiple spokes efficiently.
- Trucks are loaded and assigned routes at the hub, maximizing their capacity and minimizing trips.
- The spoke transfers allow trucks to deliver goods between spokes, reducing unnecessary return trips.
- The system ensures cost-effective transport by optimizing routes and minimizing the total distance covered.

Features

- IOT-enabled real-time shipment tracking and temperature monitoring for safe transport of perishable goods.
- Smart space utilization by checking if goods fit in trucks, maximizing efficiency.
- Priority delivery option for fast-tracking time-sensitive shipments.
- Trip optimization to reduce costs, save fuel, and improve overall efficiency.

Architecture



APPLICATION 1 :

How does your hub-and-spoke logistics model optimize delivery efficiency, and what are the total trips traveled by each truck to meet the delivery requirements?

APPLICATION 2 :

Determine how many boxes can be loaded into a Tata Ace truck. Each box has dimensions of 16 inches by 16 inches by 16 inches. The truck's loading space measures 149.6 inches in length, 59.1 inches in width, and 73.2 inches in height.

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Thank You!

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