Empowering Healthcare:

Kafka to Rescue Patients

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Problem Statement

How fast can medications be delivered from Point A to Point B?

Our mission is to swiftly deliver medications from point A to point B, with a focus on perishable medications and life-saving transplants. By optimizing delivery processes and implementing on-demand medication services, we aim to ensure timely arrivals, thereby enhancing patient care and outcomes.

Constraints for Cold Chain Management

- Temperature Regulation
- Supply Chain Alignment
- Resource Management

Producer

Google Maps API for Real-Time Insights

Real-time data on medication deliveries

- ETA from point A to point B

  (Optimizing delivery routes for time efficiency)

POINT A
Where medication/organ is dispatched from

POINT B
Destination

Kafka Consumer

Pharmaceutical Company

- Leveraging Kafka for Real-Time Traffic Data using Google
- Optimizing Pharmaceutical Cold Chain Management for Transportation of Medications & Transplant Organs
- Internal Supply and Demand Dynamics

Model (Machine Learning & Optimization)

- ML to predict traffic patterns & perishable medications demand
- Historical data optimizes routing and scheduling
- Linear programming can be used to find the most efficient routes and schedules while minimizing transportation costs and ensuring timely deliveries.
- LP model can consider factors such as vehicle capacity, delivery time windows, and temperature constraints to optimize route planning.