INFOTACT
SOLUTIONS

Ghost Bus Detector

Real-Tim Transit Analytics System

MEET THE TEAM !

SAHANA V

TEAM LEADER
FRONTEND LEAD AND
COORDINATOR

VIGNESH

BACKEND AND API
DEVELOPER

KSHETHRA

ANOMALY DETECTION
SPECIALIST

IJAZ

DEVOPS AND DATA
PIPELINE
ASSISTANT

Project Overview

Improve the reliability of transit feeds

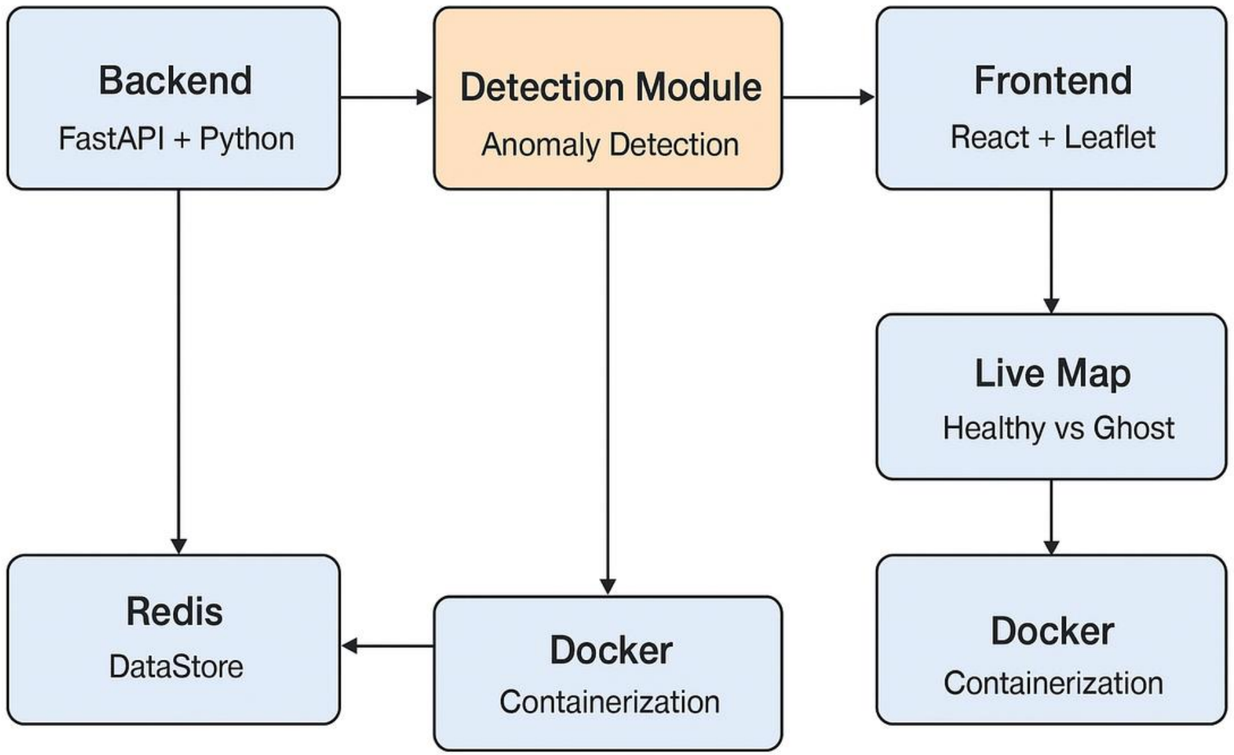
Data ingestion → **Analytics engine** → **Frontend dashboard**

MBTA GTFS-Realtime feed

Anomaly detection

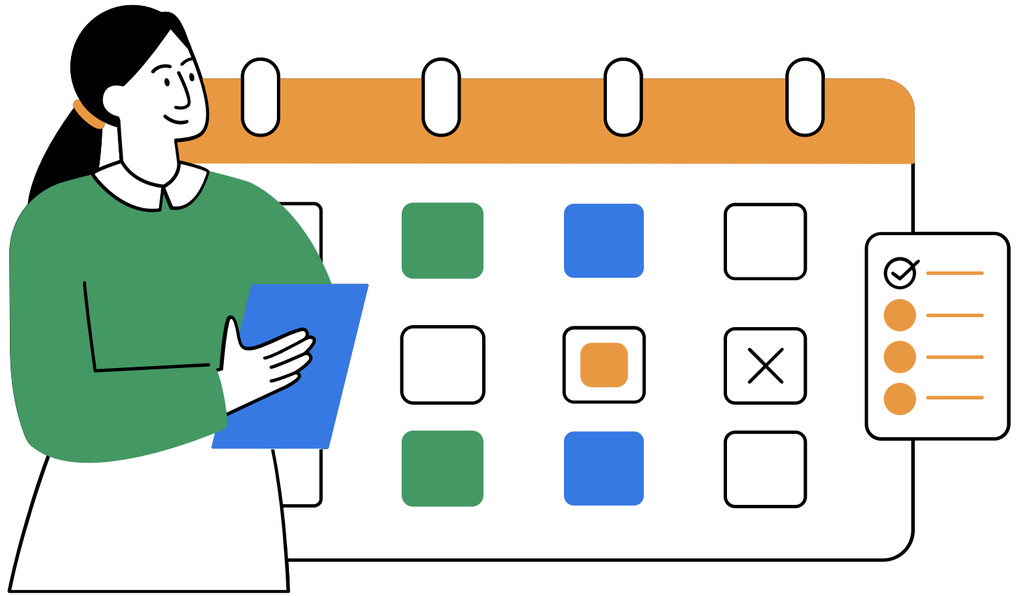
Visualize healthy and ghost buses

System Architecture



Tech Stack

- Backend: Python, FastAPI, WebSockets, Redis
- Frontend: React.js, Leaflet for maps
- DevOps: Docker, GitHub for version control



Challenges & Learnings

Some of the challenges we faced were:

- Handling stale and missing GPS data.
- Managing WebSocket connections for real-time updates.
- Keeping the UI smooth while data refreshed frequently.

Key learnings included:

- Designing a full real-time data pipeline.
- Using Redis for fast data storage.
- Deploying multi-service applications with Docker.

Thank You