

Field Technician Routing & Navigation System

1. Overview

The **Field Technician Routing & Navigation System** is designed to streamline the process of identifying and locating downed network points reported by customers. The system minimizes delays by automatically collecting location data and prioritizing issues, enabling technicians to **navigate directly to the problem site using Google Maps** without needing to contact customers. It helps technicians easily reach the location of technical problems, reducing confusion and travel time.

2. Process Flow

1. **Customer Reports Issue:** A customer experiencing network issues calls the customer service number **994**.
 2. **Agent Logs the Ticket:** The 994 agent registers the issue and generates a **Ticket Tracking (TT) number**.
 3. **Agent Sends Link & TT Number:** The agent sends a confirmation link via SMS to the customer's mobile device and also shares the TT number.
 4. **Customer Shares Location:** The customer clicks the link sent via SMS, confirming and submitting their GPS location to the system.
 5. **System Logs Location:** The system associates the received location with the TT number and stores it.
 6. **Prioritization Engine:** The system ranks downed network points based on predefined criteria (e.g., customer count, area importance).
 7. **Technician Dashboard:** Technicians view a prioritized list of incidents with exact map locations.
 8. **Navigation to Site:** Using Google Maps integration, technicians are directed to the problem site.
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3. Key Features

- **Automatic Detection:** System identifies downed points in real time.
 - **Priority Sorting:** Ensures critical network issues are resolved first.
 - **Customer Location Capture:** GPS data is submitted through confirmation links.
 - **Google Maps Integration:** Enables direct navigation to the site.
 - **Efficient Workflow:** No customer follow-up needed to get directions.
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4. System Components

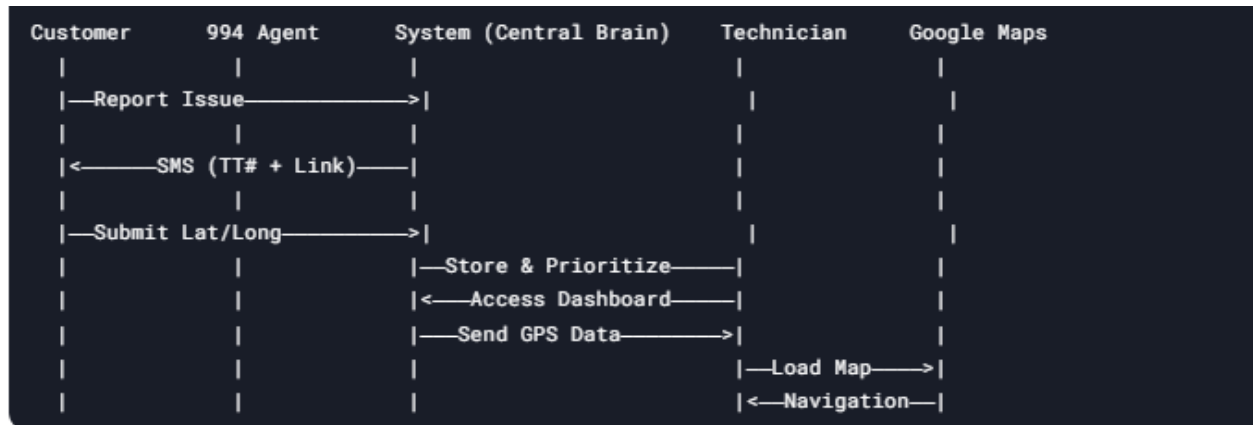
- **Frontend (Technician Interface):** Displays prioritized list and Google Maps links.
 - **Backend Server:** Handles ticket logging, location capture, data storage, and prioritization.
 - **Database:** Stores TT numbers, customer locations, issue statuses.
 - **Mobile Web Interface:** Used by customers to confirm and submit GPS position via the SMS link.
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5.

System Model Diagram



Sequence Diagram



6. Benefits

- Reduces Technician Travel Time
- Increases Location Accuracy
- Improves Customer Experience
- Reduces Operational Load on Call Center
- Helps Technicians Easily Navigate to the Problem Site

7. Future Enhancements

- Live Technician Tracking
- Automated Repair Logs
- Customer Feedback System
- Real-time Outage Heatmaps

8. Contact

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