CrisisConnect — Real-Time Emergency Response Platform

What is CrisisConnect?

CrisisConnect is a responsive emergency platform built to instantly connect people in crisis with nearby volunteers. It features real-time live mapping of volunteers and emergencies, and secure dual user authentication via Google OAuth, enabling quick and seamless emergency responses.

Why I Built This Project

This project was developed to create an efficient communication system empowering communities to respond faster during emergencies by leveraging geolocation and real-time data.

Problem Statement / Need

Traditional emergency systems struggle with delayed responses due to lack of real-time data.
There is a need for a platform combining location tracking, secure login, and instant help requests.

Key Features

- Responsive UI for web and mobile
- Real-time mapping of emergencies and volunteers
- Secure Google OAuth authentication
- Dual user roles: people in crisis and volunteers
- Instant emergency request and acceptance workflow

Technologies Used (Tech Stack)

- Backend: Node.js + TypeScript
- Frontend: React + TypeScript, CSS
- Database: Neon PostgreSQL (external cloud database)
- Authentication: Google OAuth
- Real-Time: WebSocket

- Mapping: Interactive live maps are implemented using the Leaflet JavaScript library
- Vesion Control: Git and Github

Learning Outcomes

- OAuth-based login implementation
- Real-time data sync
- Mapping API integration
- Scalable emergency management APIs
- Responsive cross-device design
- Cloud deployment and security best practices

Challenges Overcome

- Efficient real-time location updates
- Synchronizing requests and responses
- Secure authentication and privacy
- Simple yet effective UI design

Limitations

- Current system shows only one emergency request at a time, not all simultaneous requests.
- Depends on external map API limits and network stability.
- Google OAuth restricts login to Google accounts only.

Future Enhancements

- Add multi-provider login (Facebook, Apple ID)
- Volunteer rating and feedback
- SMS and call notifications
- Machine learning for dispatch optimization