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