

ABSTRACT

This vehicle position display software is designed for real-time vehicle monitoring using GPS technology. The main challenges encountered are position accuracy and fast data updates. Technical issues include GPS signal interference and large-scale data management.

The solution implemented uses Google Maps API for vehicle position visualization, with an automatic hazard notification feature if another vehicle is within a 30-meter radius. Location data is updated every second to ensure information remains accurate.

Results from alpha, beta, usability, and stress tests show the application functions well in detecting vehicle positions and providing hazard notifications. Although challenges related to GPS signal interference and data management still exist, the application performs effectively.

Keywords: Software, Real-time, GPS, Position accuracy, Google Maps API, Hazard notification, 30-meter radius, System testing, GPS signal interference, Large-scale data management