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Lester

Dynamic Traffic Light Control System

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DECLARATION

I hereby declare that this report and all of its related components are outcomes of my own research efforts. And none of these have been or currently being submitted or presented as part of any other qualification program or degree at any other university. I further declare that any data or information extracted from external sources have been properly cited and referenced according to the guidelines of the referencing styles used in this report.

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ABSTRACT

Traffic congestion and delays are a worsening problem in the modern world. Existing fixed time traffic control systems have failed to satisfying results to the society.

Pedestrians and emergency vehicles are the other significant parties that have been affected. Hence dynamic traffic light control systems were invented but the main disadvantage of those systems is the high cost of installation and maintenance.

A dynamic traffic light controlling system which uses real time Google Maps traffic data has been proposed to solve the problem. This system also considers pedestrians and provides special features for emergency vehicles. An optimization algorithm would be used to calculate optimum traffic light time allocations.

Test results have proven that the proposed system outperforms the existing fixed time traffic light control systems.

KEYWORDS

Google Maps API, Optimizations, IoT, Python, Non-motorized Traffic, Emergency Vehicles, Dynamic, Traffic Management

Subject Descriptors:

Traffic light control systems > Dynamic traffic light control systems > Dynamic traffic light control system which use google map data