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FINDING THE TRAFFIC LOCATION NAME IN GOOGLE MAP

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Abstract

Aim of the project is to reduce the traffic congestion at a particular location in peak hours with the help of Google maps. Google maps, one of the widely used user-friendly app which helps an individual to give an alert of traffic congestion in that particular location in which she is actually going. As a result of this, Google maps will suggest an individual to take an alternative route, as the major route is highly affected by traffic jam. This alternative route suggested by Google maps is a faster route without traffic and help to reach an individual to her destination on time without much delay. For an individual, from different places doesn't have any clue about the city and at which locations do traffic exists and continue to persist over a long period of time.

Keywords: Traffic Congestion; Alternate Route; K-Nearest Neighbour.

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1. Introduction

Our project says about finding traffic locations. When we enter the destination field, Google map shows the different routes. The scope of this project is to make the user feasible or easy to identify the traffic areas. Once the user identifies the heavy traffic locations, user can find an optimal route to reach the destination. As we are aware of Bangalore traffic congestion which is highly increasing day-by-day, in order to resolve this issue, we have numerous mobile apps; in which Google map is one among them. In our project, we try to enhance the application by adding the Traffic locations available to the user as soon as the user enters their desired source and destination. But the user needs to zoom the particular area and needs to find which particular area is affected by traffic congestion.

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1.1. K-Nearest Neighbour Algorithm

K-nearest neighbour algorithm consists of four main stages that make it possible to build a successful nearest route in real time: Incremental Network Explanation, Incremental Euclidean Restriction, Distance Browsing, G-tree.Dijkstra's algorithm is used to find the shortest path. Once the user gets notified where traffic actually exists he/she can switch an optimal route (shortest path) using this algorithm

2. Existing System

In the existing system, a user gets to know only the symbol representing traffic in Google map. Figure (1) represents traffic at some particular location.

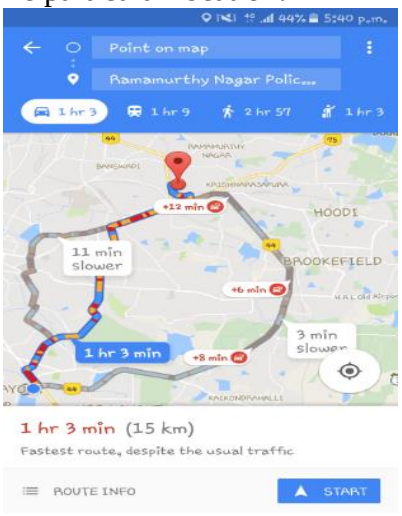

Figure 1: Google map indicating traffic symbol

3. Design and Methodology

3.1. Incremental Network Expansion

Incremental Network Expansion (INE) is a process derived from Dijkstra's algorithm, it is used find the shortest path in Google map. As in Dijkstra, Incremental Network Expansion maintains a priority queue of the vertices.

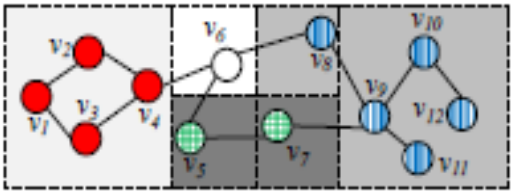

Figure 2: Colouring Scheme and Quad-tree

3.2. Incremental Euclidean Restriction

Incremental Euclidean Restriction (IER) utilizes Euclidean separation as an experimentation strategy to recover hopefuls, as it has a lower bound on system remove for street systems with

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travel separate edges. Right off the bat, IER recovers the Euclidean KNNs, e.g., utilizing an R-tree. It at that point processes the system separation to each of these k questions and masterminded them in the given request.

3.3. Distance Browsing

Separate Browsing utilizes the Spatially Induced Linkage Cognizance record proposed to answer KN inquiries. Incremental of KNN calculation is SILC, SILC pre-processes the most brief ways from source to all different vertices. SILC relegates each adjoining vertex of source as a particular shading. SILC applies the shading system and makes a quad-tree for every vertex of the street organize. This requires colossal space for all-sets which has most brief way calculation and pre-handling time.

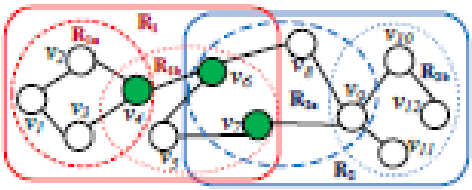

Figure 3: Road

To compute the shortest path from source to destination, SILC uses the quad-tree of source to identify the color of destination. The color of destination determines the first vertex on the shortest path from given location. To determine the next vertex on the shortest path, this procedure is repeated on the quad-tree.

3.4. G-tree

G-tree likewise enlists diagram parceling to make a tree file that can be utilized proficiently to process organize separates through a chain of importance of sub-charts. The parceling happens also to that of ROAD where the given diagram is separated into sub-charts. Each sub-chart is recursively parceled until it contains no more vertices.

The sub-charts actually shape a tree chain of command with every hub in the G-tree related with one sub-diagram. We utilize hub to allude the G-tree hub while vertex alludes to street arrange vertices.

4. Proposed System

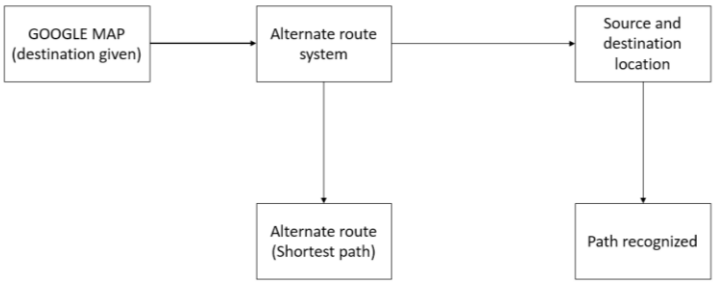

Figure 4: Block diagram of proposed system

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Step1: Google map provides information or send a notification to the user about the traffic before he/she reaches the destination given.
Step2: Notificationoccurs when the user is towards the destination path from the alternate route system.
Step3: He/she can choose an optimal route(shortest path) from the alternate route system
Step4: Traffic location name is indicated by a pop-up button, shown to the user in google map (provided with the location and destination).

5. Conclusions

By implementing the above proposed system, users can effectively use Google maps and also get real time notifications regarding the information or an alert about the traffic congestion in the area. Users will also get notifications about alternative routes, if there is a continuous traffic persisting in that particular location. Since the notification is given to the user before he/she reaches the destination, user can easily switch to an optimal route to avoid traffic congestions in the city. This system completely saves time and also assists them to reach their destination suggesting fastest routes.

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