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Driving Direction Based On Dynamic Route Planning

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Abstract— A smart driving direction service based on GPS traces using crowd sourcing of Taxi drivers. Find out the fastest driving directions with less online computation according to user inquest. GPS-equipped taxis are employed as devices send location information to a centralized sever. A large number of taxi cabs traversing in some areas, for efficient taxi dispatch. Taxis are usually equipped with a GPS sensor, to report their locations to a server at some intervals. A lot of taxis already exist in major areas, generating a huge number of GPS trajectories every day. Taxi drivers are usually found out the fastest route to send passengers to a destination based on their knowledge.

Index Terms— GPS trajectory, driving directions, driving behavior

I. INTRODUCTION

The traffic problem has analysis here, through the GPS sensor. The user has to send the inquest to the server means then it will send through the GPS sensors. Over crowded has occur in town and cities so the driver can't reach the source to destination point in the proper time. So, through the unceasing viewing the data can be collected and send through the GPS service. The drivers can be equipped with some sensor mean we can send the scattered thinly here and there to view their correct location, Because of the traffic problem we have lot of tension and incompetent.

Paper [1] describes some applications and algorithms are used here, real time traffic information is calculated. A real time monitoring the data can be shown in a curved line for the source and the destination point. Algorithm used here is HMM (hidden Marko model), through these we can easily find the scattered data to identify the alternative route.

Paper [2] describes the overcrowded that occur in the traffic especially in town and cities. So, the drivers used to find the alternative way to find the correct path to reach the destination in the precision time. Sparse data and probe data are the approaches used sparse data means scattered thin data can be identified for starting and the ending point to reach the correct area. Probe data is to analysis the travel time estimation for every vehicle through the GPS device.

Paper [3] describes a shortest path for the alternative route. Techniques used are pre-compute and proximity, the calculation of the every route to be changed by the server and send to the GPS sensor. Then we have to re-calculate the current route for the alternative way to find the source and destination point. The proximity can be also a k-candidate path to analysis the k-best alternative possible way. the quality parameters like cost, response time, reliability and availability etc.

Paper[4] describe a variance-entropy-based clustering approach used to find out the fastest path. The two-stage-routing algorithm is used to find the time-dependent landmark graph for the taxi driver.

Paper[5] describe a coherence expanding algorithm to find the most popular route for the driver. The curved line only we can find in the coherence expanding algorithm. To view the source to destination there is no map is available for the taxi driver.

II. LITERATURE SURVEY

TITLE: VTrack- Accurate Energy-Aware Road Traffic Delay Estimation Using Mobile Phones [1]
AUTHOR: Arvin Thiagarajan, Lenin Ravindranath
CONCEPT: The congestion and traffic analysis are evaluated in the mobile phone. The overcrowded has occurred in the origin of incompetent. So the driver got a lot of tension and wasted fuel. To reduce the traffic problem viewing the different types of application, GPS, Wifi, etc. So through these we can avoid the traffic problem. The GPS can analysis the location and send to each and every process to calculate travel time.

ADVANTAGE:

VTrack can use two techniques:

1. Energy consumption
2. Unreliability

1. Energy consumption: The driver has to move from one location to another location means there occur some energy consumption loss. For

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that process the Vtrack provide the less noise like Wi-Fi sensor application.

2. Unreliability: Some of the phones do not sensor the data through GPS. So the location can't be analysis in proper manner. VTrack provide HMM model to find the scattered location.

DISADVANTAGE:

Through the GPS sensor we can't analysis the given location properly. The server does not show the proper location for the taxi drivers. The power can also be low.

TITLE: statistical modeling and analysis of sparse bus probe data in urban areas. [2]

Author: Andrei IU, Richard j. gibbers, David Evans

CONCEPT: Congestion is occurred in town and cities. Due to this the driver causes more financial loss and increases the traffic problem so, the data are scattered here and there (not dense). The traffic can be control by increasing the capacity of road network. Through the route we can travel each and every day without the congestion. The drivers can travel in different way through the network; we can also increase the capacity. The drivers can improve their knowledge performance of these networks.

ADVANTAGE:

The congestion has been controlled by these techniques

1. Sparse data
2. Probe data

1. Sparse data: the data can be used to analysis the vehicle sensor through some network. Through these we have to search the network and send the data to the driver.

2. Probe data: the probe data is another technique that can be used for sensor through GPS device. This device can be attached with the drivers. The probe technique can be examined thoroughly into the sensor; the data can be analysis in a sequence of coordinates. The curved line that follows as it moves through air based on the techniques.

DISADVANTAGE:

The AVL data is one of the problem, because it dose not provide the arrival time and departure time for the driver properly. So, for that we went for the probe data to solve the problem. Through the AVL data we cannot update each and every seconds through GPS.

TITLE: A continuous query system for dynamic route planning [3]

AUTHOR: Nirmesh malviya Samuel madden

CONCEPT: The unceasing traffic problem has occurred simultaneously; so we have to find the alternative inquest path. Then the source and the destination path have been calculated for daily approach. Here we have to analysis the techniques as K-path and proximity. Through these techniques we have to analysis the shortest path. Then the data has been stored in I phone and I cartel (Which are capable of being used). The ad-hoc network also be used but it does not update properly (unceasing) the data. The ad-hoc network is a plain (temporarily).

ADVANTAGE:

The unceasing inquest has been used to find out the powerful way for each driver. The two ways has been proceed here are

1. Pre-compute
2. Proximity

1. Pre-compute: It has to calculate the alternative examine way to reach the path.
2. Proximity: It is used to find the nearest way for drivers. Then we have to analysis through the graph other than these two techniques we use K -As-Variance and Y-Moderate.

DISADVANTAGE:

The algorithm that recalculates the alternative path as a part of whole route. The update cannot be in a proper manner; through the weather condition we cannot identify the path.

TITLE: T-drive: driving direction based on the taxi trajectories. [4]

AUTHOR: Jing Yuan, yu zheng, cheng yang zhang

CONCEPT: In this paper, GPS-equipped taxies are used to find out the fastest way for the drivers. The approach used here are variance-entropy-based clustering to estimate the travel time. The experienced drivers can't find the firm route from source to destination; but the new driver can't find the easiest way under the traffic. So, for the graph we have to use a two-stage routing algorithm to analysis a easiest way. The time-dependent landmark graph has been used to find the shortest path (source-destination). This approach is based on the taxi-driver that is inserted inside the GPS-equipped taxi to find out the real-time-traffic.

ADVANTAGE: This paper is based on drivers intelligent to find out the source to destination point. A time dependent landmark graph has been constructing and to perform a two-stage routing algorithm finding the fastest path.

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DISADVANTAGE: The problem is to finding the shortest path in a real-time-traffic analysis. The updating can't be in a frequency manner for the taxi drivers.

TITLE: Discovering Popular Routes from Trajectories. [5]
AUTHOR: Zaiben Chen, Heng Tao Shen, Xiao fang Zhou
CONCEPT: The most popular route can be analysis through the two area (source to the destination) point. Some of the driver can't find the easiest way to reach the end point, for the drivers we have to find the popular way for each and every driver. To find the easiest way we go for the algorithm a Coherence Expanding to analysis and transfer the fastest route for each and every location. Then we use the Marko chain model is used to drive the transfer probability for each and every node to transfer the network. Finally we use the maximum probability product algorithm to find the fastest route in a breadth-first manner.

ADVANTAGE: To viewing the best route from one area to another area, through the coherence algorithm we can analysis the network for the inexperience drivers to view from source to destination point.

DISADVANTAGE: The view source to destination point we have to see through the covered line only because there is no map is available for the drivers. The curved line only we have to find the most popular route.

III .CONCLUSION

In this survey paper, we have to formulate the way of finding the best way for the traffic estimation among the mobile phone. GPS application is available in the mobile phone, to analysis the traffic pattern for the drivers. The entire algorithm is based on the dijkstra's algorithm. In future we are going to improve the algorithm to solve the alternative way for the driver, finding the weather condition.

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