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Note on RECENT TECHNOLOGIES

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A truncated methodology to implement the optimum track using elliptical algorithm

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Abstract: To search places and to navigate the user to approximate place with minimum distance and less time. Here we should alternatively search and find all nodes including the local nodes. The distance between the two nodes should be stored so that we can find the minimum distance between the source and destination. The all nodes should have the information about neighboring nodes. So that while routing the information can be accessed easily. When identifying the places between two nodes every single local nodes should be considered. To achieve this every connection between nodes should be considered and their weight values also be considered. With the increased number of satellites, the constellation was changed to a no uniform arrangement. Such an arrangement was shown to improve reliability and availability of the system, relative to a uniform system. So the availability of the nodes can be known. The cloud should store every information of the nodes and distances that are used for easy accessible when its used by other user. If every local nodes or local places are identified we can able to find the very minimum distance between the source and destination. Consider every nodes from source to destination in an elliptical fashion. Ellipse is less complex than circle and it reduces the space complexity of the system. System should be capable of surveying, so that to find the boundaries.

Keywords: *Artificial intelligence, Traffic network, Shortest path algorithm, Elliptical shortest path algorithm, In-vehicle route guidance system (RGS)*

I.INTRODUCTION

A GPS navigation device is a device that accurately calculates geographical location by receiving information from GPS satellite. Initially it was used by the United States military, but now most receivers are in automobiles and smart phones. The Global positioning system (GPS) is a Satellite-based guidance system which consists of network of a minimum of 24, but presently 30 satellites placed into orbit by the US defense sector. Military action was the original goal for GPS, but in the 1980s, the U.S. government decided to allow the GPS program to be used by normal peoples. The satellite data is free and works anywhere in the world.

GPS devices are used for various services such as:

- Maps, including street maps, displayed in human readable format via text or in a graphical format.
- Turn by turn navigation directions to a human in charge of a vehicle or vessel via text or speech.
- Instructions are programmed on autonomous vehicle such as a robotic probe.
- Traffic conjunction maps (depicting either historical or real time data) and suggested alternative directions.
- Information on nearby amenities such as restaurants, fuelling stations, and tourist attractions.

GPS devices may be able to indicate:

- The roads or paths available,
- Traffic congestion and alternative routes,
- Roads or paths that might be taken to get to the destination,
- If some routes are occupied ,the optimal route is chosen
- The location of food, banks, hotels, fuel, airports or other places of interests,
- The shortest route between the two locations,
- The different options to drive on highway or back roads.

2. BACKGROUND STUDY

Since pre-historic time people use many reliable way to navigate to a particular location. With the help of the compass they navigate their way to home. Then they referred stars to find their locations but it doesn't cover wide area. And then in the evolution of computers navigation system was introduced by US army for military use. It is used by the normal people for their usage. Few countries have introduced navigation system of their own. Many countries launched

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their own satellite for their general purpose use.Recently India launched their own satellites for navigation.

The track algorithm present in the receivers called as tracker, combines set of satellite measurements which are gathered at various time periods, thus taking advantage of the fact that the receivers are positioned nearby. After processing the measurements, the receiver position predicted by the tracker is equivalent to the next set of satellite measurements. Weighting scheme is used by receiver to merge the new measurements which are collected using the tracker prediction. The position and time accuracy is developed by tracker. Reject bad measurements, and estimate receiver speed and direction. More advanced navigation systems use additional sensors like a compass or an inertial navigation system to complement GPS.

3.FUNDAMENTALS

The GPS concept is based on time and the known position of specialized satellites. [the stable atomic clocks present on the satellites are coordinated to each other and to ground clocks. The drifts from true time are corrected on daily basis which is maintained on ground. At the same time the location of the satellite are known with high accuracy. Even though GPS receiver have clock they are not coordinated with true time and are less stable. These satellites send out the present time and location constantly. The GPS satellites controls several satellites and solve equation to identify the precise location of the receiver and its true time deviation.]At a minimum, four satellites must be in view of the receiver for it to compute four unknown quantities (three position coordinates and clock deviation from satellite time).

IV.MESSAGE FORMAT

Subframes	**Description**
1	Satellite clock, GPS time relationship
2–3	Ephemeris (precise satellite orbit)
4–5	Almanac component (satellite network synopsis, error correction)

V.OUR MODEL

A. Searching

Here we introduce a search technique to find all the nodes in between the source and destination. Everynodeare identified in the particular region. So we are aware of the local and main nodes available.

Currently they are using circular path to find nodes. It will not give best route because it will not give details about local nodes in that particular region. The elliptical method provides to find all node and the complexity is lesser than or equals to the old technique. Here it find all nodes and gets the weight between these nodes and it lists it in a table. The shortest and efficient path between two nodes is identified by considering the weight values.

B.Routing:

After finding the weights and nodes we have to route from source to destination by providing best path. Floyd-Warshall or Ford-Fulkerson or Maximum Flow problem and Dijkstra"s Algorithms can be used to find the best path by considering the weights between the nodes. These algorithms frequently checks the weight values and updates it in the table. Then by considering the distance it finds the shortest path which has low value in the table. The weight value from source and destination should be minimum. It provides the best path to reach the destination in less time by minimizing the routes with high weight values. These algorithms checks and finds every possible paths and finds the best path in it.

C.Updating:

After every process these values are stored in the cloud so that it can be used next time when another user uses the same route, That user can get the shortest path in no time.[The new routes discovered by satellite is saved in the cloud.]So whenever a new node or a new path comes the system can find some better path. Every iteration is saved and updated so that the time complexity can be reduced.

4. OUR PROTOCOL

Our protocol is that to find the all local cities or nodes, which is not found in current GPS navigation device. The cities should be searched from source to destination in an oval or elliptical manner. It reduces the time complexity and space complexity produced by the current system. Then the routing is done by considering the shortest path algorithm, current system gives only the optimal path. Until it enters the shortest region it shows only optimal path. But in this algorithm it finds the best path from source to destination.

5. ELLIPTICAL ALGORITHM

In this we are introducing an search technique, which search or finds every node that lies between source and destination node. We should give the source and destination value, so we can search

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intermediate nodes until the search ellipse line of source and destination intercepts. So we are aware of the local and main nodes available. Currently they are using circle. It will not givebest route because it will not give details about local nodes. The elliptical method provides to find all node and the complexity is lesser than or equals to the old technique. Here it finds all nodes and gets the weight between these nodes and it lists it in a table.

6. ROUTING

After finding the weights and nodes we have to route from source to destination by providing best path. Floyd-Warshall or Ford-Fulkerson or maximum flow problem algorithms can be used to find the best path by considering the weights between the nodes. The weight value from source and destination should be minimum. It provides the best path to reach the destination in less time by reducing unwanted roads. These algorithms checks and finds every possible paths and finds the best path in it. We can also introduce another concept in gpsnavigation. It some user needs to travel to „n" no of nodes, that user needs to travel the nodes in less time. So introducing new module where user can enter the cities name and can find the best travel route. Here travelling salesman problem can be used.

7.CONCLUSION

Every system should produce a best solution, so that the errors can be minimized. Introducing this concept reduces the time and space complexity of the system and increases the efficiency of the system. The users should be provided with the best answers so that their time can be saved. Introducing this algorithm will be efficient and it provides a way to reach for easy access the destination with minimum time is provided. Every user should be provided QOS.

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