IJRRECS/June 2015/Volume-3/Issue-6/4011-4015 **ISSN 2321-5461**

INTERNATIONAL JOURNAL OF REVIEWS ON RECENT ELECTRONICS AND COMPUTER SCIENCE

AN EFFECTIVE STRATEGY FOR EVALUATION OF TRAFFIC PERFORMANCE IN NAVIGATION SYSTEMS

G.Kavitha[1], A.Gnanesh[2]

[1]M.Tech Student, Dept of CSE, Holy Mary Institute of Technology & Science, Hyderabad, T.S, India

[2]Associate Professor, Dept of CSE, Holy Mary Institute of Technology & Science, Hyderabad, T.S, India

ABSTRACT:

An innovative solution towards shortest path computation is in the direction of broadcasting an air index on wireless network. The salient advantages of this representation are that network transparency is autonomous of number of clients and each client only downloads a piece of the complete roadmap in relation to index information. In our work we suggest a new way out towards index transmission representation by initiation of live traffic index as the important method. Live traffic index is expected to put forward comparatively short tune-in cost, rapid query response time; little broadcast size as well as light maintenance time for online shortest paths. In our work, we prioritize tune-in cost as vital optimized factor while it affects duration of client receivers into dynamic mode and power expenditure is determined by tuning cost. We moderate tune-in cost of one service, and then we reserve additional resources for other services. The proposed system maintains index in favour of live traffic situation by incorporating dynamic shortest path tree into hierarchical index methods effectively. It lessen tune-in cost as compared to modern competitors; while it still offers reasonable query response time, broadcast size, as well as maintenance time.

Keywords: Shortest path computation, Live traffic index, Broadcast, Hierarchical index.

1. INTRODUCTION:

In recent car navigation systems, shortest path computation is an important function
That assists a driver for finding of the best route from his present position in the direction of destination. In recent times, online services present live traffic data which compute snapshot shortest path queries on basis of present live traffic data [1]. Responding towards shortest paths on live traffic data is observed as a constant monitoring trouble in spatial databases, denoting online shortest paths computation. Devoid of live traffic situation, route that is returned by navigation system is no longer assured an exact result. General structure of client-server is utilized towards reacting to shortest path queries on data of live traffic which will turn into unrealistic in dealing with immense live traffic in future. Here navigation system sends shortest path query towards service provider and waits result back from provider. This representation is facing scalability issues in terms of network bandwidth as well as server loading with the rapid expansion of mobile devices and services. The most important challenge on response towards live shortest paths is scalability, regarding number of clients as well as quantity of live traffic updates. A new explanation to shortest path computation is towards broadcasting an air index on wireless network [2]. The most important advantages of this representation are that network transparency is autonomous of number of clients and each client only downloads a piece of the complete roadmap in relation to index information.

2. METHODOLOGY:

The most important performance factors that are concerned in online shortest paths broadcast size, tune-in cost, maintenance time as well as query response time. In our work, we prioritize tune-in cost as most important optimized factor while it affects duration of client receivers into dynamic mode and power expenditure is determined by tuning cost. We diminish tune-in cost of one service, and then we reserve additional resources for other services. The index maintenance time as well as broadcast size relates towards freshness of live traffic data. The maintenance time is time necessary to bring up to date index in proportion to live traffic information. The broadcast size is suitable towards latency of receiving newest index information. The other factor is response time of shortest path computation at client side is extremely fast which is

negligible evaluated to access latency for existing wireless network speed. To our best information, there is no proficient system/ that can put forward affordable costs at client as well as server sides for online shortest path computation. The established client-server structural design scales feebly with the number of clients. In our work we put forward a novel solution on basis of index transmission representation by initiation of live traffic index as the important method. Live traffic index is likely to offer comparatively short tune-in cost, rapid query response time; little broadcast size as well as light maintenance time for online shortest paths [3][4]. Live traffic index maintains index in favour of live traffic situation by incorporating dynamic Shortest Path Tree into hierarchical index methods effectively. By incorporating these features, live traffic index diminish tune-in cost as compared to modern competitors; while it still offers reasonable query response time, broadcast size, as well as maintenance time. To the best of information, this is the initial work that reduces each and every performance factor for online shortest paths. The index structure of live traffic index is optimize by means of two new methods, such as graph partitioning as well as stochastic-based construction, subsequent to conducting a systematic analysis on hierarchical index methods. It is the initial work to provide a systematic cost analysis on methods of hierarchical index and apply stochastic procedure to stabilize index hierarchical structure.

3. NOVEL FRAMEWORK OF LIVE TRAFFIC INDEX:

We put forward a capable architecture that broadcasts index on the air. We first make out a vital feature of hierarchical index structure which facilitates us to work out shortest path on a minute portion of index. This significant attribute is systematically used in our solution, of live traffic index. To optimize performance of Live traffic index components, our solution have to support several features such as: Efficient maintenance scheme: devoid of efficient maintenance scheme, extended maintenance time is essential at server side with the intention that traffic information is no longer exist. Efficient computation on a bit of entire index permits clients to calculate shortest path on a segment of entire index. Light index overhead size has to be guarded in a practical ratio to total road map data that reduces not only length of a broadcast cycle,

however makes clients take note of fewer packets in broadcast channel. Live traffic index has comparatively short tune-in cost, little broadcast size as well as light maintenance time for online shortest paths and rapid query response time. Live traffic index maintains index in favour of live traffic situation by incorporating dynamic Shortest Path Tree into hierarchical index methods effectively. To respond a shortest path query by means of hierarchical structures, a general approach is to get the appropriate entries from index by means of a bottom-up execution fashion. A road network monitoring scheme generally comprises of a service provider, huge number of mobile clients in addition to a traffic provider. Fig1 reveals overview of this system in circumstance of live traffic index structure [5]. The traffic provider gathers live traffic situation from traffic monitors by means of methods like road sensors as well as traffic video examination. The service provider at regular intervals obtains live traffic updates from traffic provider and subsequently broadcasts live traffic index over wireless network. As soon as a mobile client desires to work out and observe a shortest path, it pays attention to live traffic index and read appropriate portion of index for computing shortest path. In our work, we spotlight on management of traffic updates but not graph structure updates. For actual road networks, it is uncommon to include graph structure updates that are building of a novel road when evaluated to edge weight updates live traffic situation. As a result, we suppose that graph structures are dispersed towards every client in advance by means of distinctive transmission protocol [6].

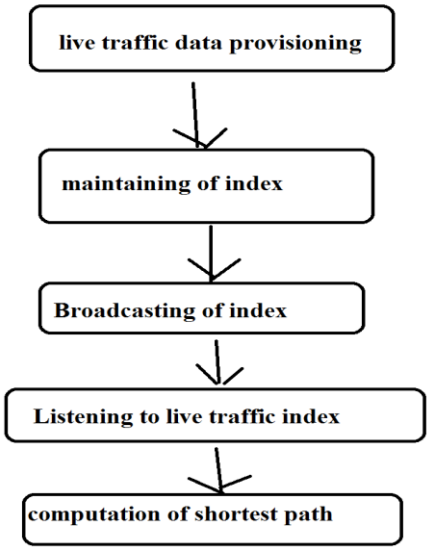

Fig1: system flow in proposed framework.

4. CONCLUSION:

In our work, tune-in cost was given priority as most important optimized factor while it affects duration of client receivers into dynamic mode and power expenditure is determined by tuning cost. We reduce tune-in cost of one service, and then we reserve

additional resources for other services. There is no capable system that can put forward reasonable costs at client as well as server sides for online shortest path computation. A novel explanation to shortest path computation is to broadcast an air index on wireless network. Important benefits of this illustration are that network transparency is autonomous of number of clients and each client only downloads a piece of the complete roadmap in relation to index information. We have introduced a novel solution on basis of index transmission representation by initiation of live traffic index as the important method that maintains index in favour of live traffic situation by incorporating dynamic shortest path tree into hierarchical index methods effectively. Live traffic index moderates tune-in cost as compared to modern competitors; while it still offers reasonable query response time, broadcast size, as well as maintenance time. It can be optimized by means of two new methods, such as graph partitioning as well as stochastic-based construction, subsequent to conducting a systematic analysis on hierarchical index methods. The structure has relatively short tune-in cost, little broadcast size as well as light maintenance time for online shortest paths and rapid query response time.

REFERENCES

[1] J.X. Yu and K.-L. Tan, "An Analysis of Selective Tuning Schemes for Nonuniform Broadcast," Data and Knowledge Eng., vol. 22,
no. 3, pp. 319-344, 1997.

[2] A.V. Goldberg and R.F.F. Werneck, "Computing Point-to-Point Shortest Paths from External Memory," Proc. SIAM Workshop Algorithms Eng. and Experimentation and the Workshop Analytic Algorithmics and Combinatorics (ALENEX/ANALCO), pp. 26-40, 2005.

[3] M. Hilger, E. K€ohler, R. M€ohring, and H. Schilling, "Fast Point-to- Point Shortest Path Computations with Arc-Flags," The Shortest Path Problem: Ninth DIMACS Implementation Challenge, vol. 74, pp. 41-72, American Math. Soc., 2009.

[4] D. Stewart, "Economics of Wireless Means Data Prices Bound to Rise," The Global and Mail, 2011.

[5] W.-S. Ku, R. Zimmermann, and H. Wang, "Location-Based Spatial Query Processing in Wireless Broadcast Environments," IEEE Trans. Mobile Computing, vol. 7, no. 6, pp. 778-791, June 2008.

[6] N. Malviya, S. Madden, and A. Bhattacharya, "A Continuous Query System for Dynamic Route Planning," Proc. IEEE 27th Int'l Conf Data Eng. (ICDE), pp. 792-803, 2011.