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Comparative Narrow Down of Enquiry Doling Out API on Localtiy Centered Amenity

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ABSTRACT

In this modern era of science and technology people depend on technologies than referring to people for any instance. People rely on Smartphone and applications for any gathering of information on any details such as locations, routes, alerts, and so on. But so far end-user needs to install multiple applications for each function such as location, route and alert. Hence the app (aka application) entitled “Route Saver” which is built user-friendly synchronizing all the functions in one application such as location-distant finder, route analyzer, alert generator and contact holder. Each module is developed in a unique way with innovative specialties. First, the query for route request is processed using route APIs to provide all potential navigation paths, which the user can choose based on the priorities on mode of travel. Then, the dynamic mapping of location-based services (e.g., restaurants, tourist attractions) can be used to reduce the manual querying need of the users significantly. Also, the alert module helps to inform the position of the app user to concerned people(s). Furthermore, the user is given the option to check and/or provide review of the points-of-interest requested during search. The experimental evaluation shows that the application achieves high accuracy to pointing out places dynamically with precision.

Keywords: Watermarking, Haar Wavelet, DWT, PSNR

I. INTRODUCTION

A Smartphone is a mobile phone with an advanced mobile operating system which combines features of a personal computer operating system with other features useful for mobile or handheld use. It combines many features such as media player, GPS navigation unit and so on into a single device.

The Global Positioning System (GPS) is a space-based navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites.

The GPS concept is based on time and the known position of specialized satellites. GPS satellites continuously transmit their current time and position. A GPS receiver monitors multiple satellites and solves equations to determine the exact position of the receiver and its deviation from true time. A GPS navigation device is a device that accurately calculates geographical location by receiving information from GPS satellites.

Some of the features of a GPS device are display location in maps in graphical format, turn-by-turn navigation directions via text or speech, traffic congestion maps and suggesting alternative directions, and information on nearby amenities such as restaurants, tourist attractions and such.

Location-based services (LBS) are a general class of computer program-level services that use location data to control features. Location-based services use real-time geo-data from a mobile device or Smartphone to provide information, entertainment or security.

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Some services allow consumers to “check in” at restaurants, coffee shops, stores, concerts, and other places or events. Location-based services use a Smartphone’s GPS technology to track a person’s location, if that person has opted-in to allow the service to do that. After a Smartphone user opts-in, the service can identify his or her location down to a street address without the need for manual data entry.

The utilization of the geo-data from a mobile device or Smartphone to obtain accurate query results with up-to-date travel times and find the best suitable route with efficient and accurate processing of traffic and user location data is the key objective of our program. This will in turn reduce the number of requests issued by the LBS significantly while preserving accurate query results. LBS can use the device location to provide store locations , proximity-based marketing, travel information, roadside assistance and fraud prevention.

1.1. Existing System

The current application used as search engines are a little specific-based on a certain requirement where user can get to know the location and compare or find the route using multiple applications but not with a single application for all the functions. As far as a location finder is concerned, they result in a static map which doesn’t allow the user to check for other locations in instant which are nearby and they are not able to compare as well.

The existing system provides the method in which you could find out the nearest location of the required destination like hospitals, malls, restaurants, stores and many other areas. These system initially finds the current location of the mobile and then it relates it with the predefined maps and tries to figure out the nearest interested destination place and also the rough time estimated on an predefined analysis while traveling in different modes like bus, train, walk.

1.1.1. Disadvantages of Existing System

The Existing System was disadvantageous in the following manner:

1. The result regarding the time to reach was not accurate as it did not include any details about the current traffic.
2. They do not give any dynamic information and hence if the road was blocked or any path under construction or repair is not known and hence the user is not aware of it until they come to the point of take diversion.
3. This is space consuming and not flexible.

II. PROPOSED ALGORITHM

The proposed system is one in which the disadvantage of the existing system is overcome as this system dynamically generates points of interest in the map and also ensures the correct travelling time by analyzing the current traffic and present the condition of the route. Hence assuring the precision and also efficient query retrieval time. The optimal path is obtained by using hierarchical routing algorithm that reduces the search space significantly over conventional algorithms with acceptable loss of accuracy.

Also, in the current system the application is synchronized with multiple usage such as destination distance finder, location comparison, path analyzer, contact storage and alert messaging system just in a shake. All these functions are built, integrated and synchronized within a single application. This ensures less flux between applications and space consumption.

2.1. Benefits of Proposed System

1. The proposed system is one in which the disadvantage of the existing system is overcome as this system dynamically generates map and also ensures the correct travelling time by analyzing the current traffic and present condition of the route.

2. This assures precision and also efficient query retrieval time The fastest path is obtained by using hierarchical routing algorithm reduces the search space significantly over conventional algorithms with acceptable loss of accuracy.
3. It is heavily reliable and task-oriented.
4. Simplicity makes the application user-friendly.

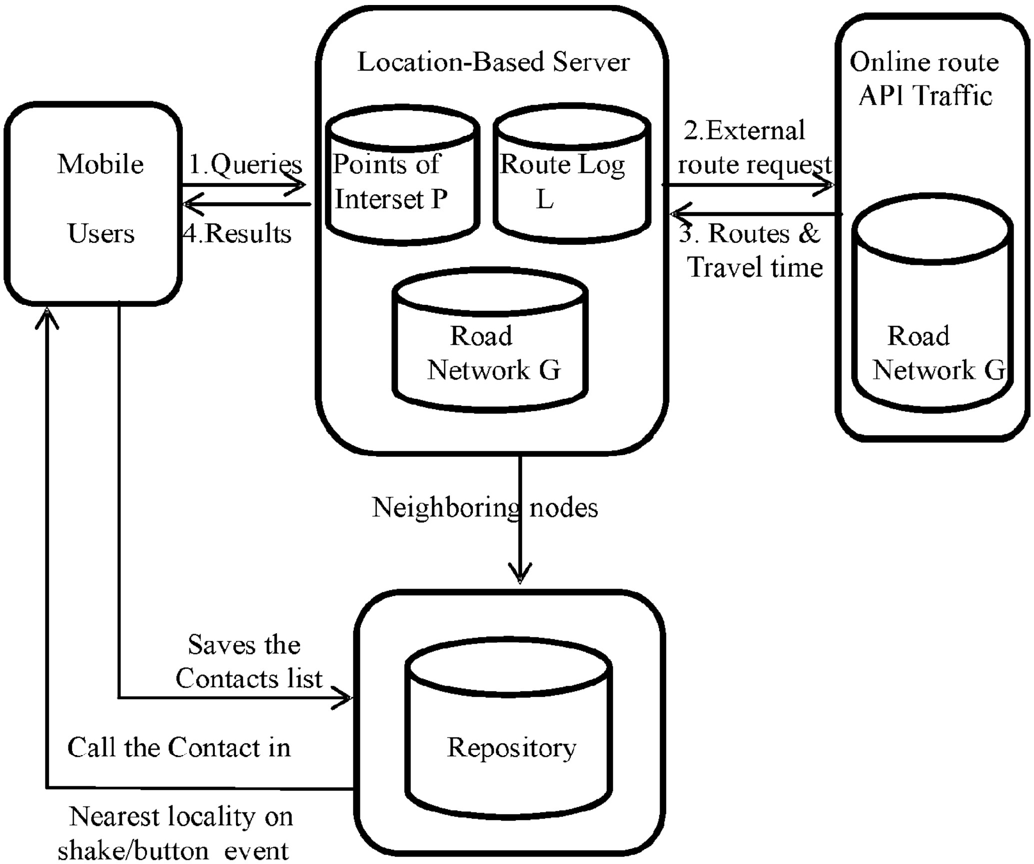

Figure 1: Architecture Diagram

III. IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned out into a working system.

Modules

- Web service Module
- User Module
- Kilometer Module
- Accidental Messaging Module
- Search Result Module
- Route Module

3.1. Web Service Module

In this module the programmer has to fetch the latitude and longitudes of the current place. We use Google service for finding the location by accessing Google web service by turning ON the tracker application.

For this the user has to turn on the GPS service in order to get the user current location. If the user does not turn the GPS service the program indicates to the user that application wants to user your longitude and latitude. Then the user moves to settings then turn on GPS service. After that module fetch the location to provide better service. If the program cannot able to fetch the user exact current location longitude and latitude then the program will fetch nearby location's longitude and latitude. Then the user can enter any destination place to find route or distance in kilometer. In some cases even user turn on the location service the program may not get the user's current location or approximate location. In this case the problems will a network problem so application does not work. User can try again after some times.

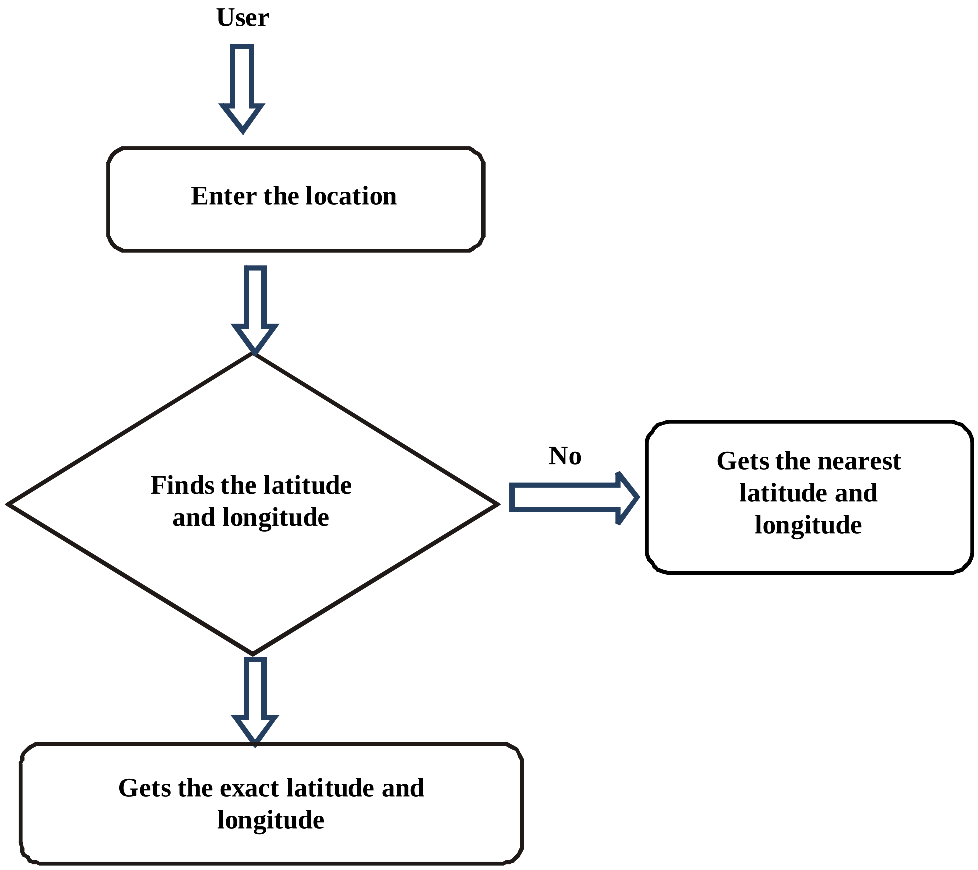

Figure 2: Web Service Module Flow Diagram

3.1.1. User Module

This module handles all the functionalities and privileges related to common users of the application. These users will be able to do all the following functionalities. This helps in locating the desired places within the given range or location from the current location.

- View Location
- View Hospitals
- View ATM

3.1.2. Kilometer Module

It determines the user's route to be covered by using the current location of that user and the specified point of interest. This module gives the distance in terms of kilometer.

Pseudo code

Put node_start in the OPEN list with f(node_start) = h(node_start) (initialization)

2 while the OPEN list is not empty {

3 Take from the open list the node node_current with the lowest

4 f(node_current) = g(node_current) + h(node_current)

5 if node_current is node_goal we have found the solution; break

6 Generate each state node_successor that come after node_current

7 for each node_successor of node_current {

8 Set successor_current_cost = g(node_current) + w(node_current, node_successor)

9 if node_successor is in the OPEN list {

10 if g(node_successor) ≤ successor_current_cost continue (to line 20)

11 } else if node_successor is in the CLOSED list {

12 if g(node_successor) ≤ successor_current_cost continue (to line 20)

13 Move node_successor from the CLOSED list to the OPEN list

14 } else {

15 Add node_successor to the OPEN list

16 Set h(node_successor) to be the heuristic distance to node_goal

17 }

18 Set g(node_successor) = successor_current_cost

19 Set the parent of node_successor to node_current20 }

21 Add node_current to the CLOSED list

22 }

23if(node_current != node_goal) exit with error (the OPEN list is empty)

Description

All the neighboring point of interest are found in this node thus help in analyzing which node to be selected with regards to the distance of each location.

3.1.3 Accidental Messaging Module

When the user is reports an accident, the Auto-messaging feature helps us spread the news to the nearest relation or friend of that user of the incident. The user has to update a contact list in the repository in order to avail this feature.

Pseudo code

input: G =(V , E), R, Q =(λ, k), U.max_speed

2: Initialize a current answer set A, a node set S, and a priority queue Q

3:distmax←∞; Tmax←∞

4: Ni← the nearest node from U

5:NDist ←Dist(U, Ni)

6:Q.enqueue(Ni,NDist); S ←{Ni}

7: while Q is not empty do

```
8: (Ni,NDist) ←Q.dequeue()
9: if A contains k objects and NDist>distmax then
10: break
11: end if
12: if Ni is an object (i.e., Ni"R) then
13: Issue an external Web mapping request to retrieve Time(U '!Ni)
14: if A contains less than k objects then
15: A←A*"{Ni}
16: if A contains k objects then
17:Tmax← the largest travel time of the objects in A
18:distmax←U.max_speed ×Tmax
19: end if
20: else if Time(U →Ni)<Tmax then
21: Replace the object with T max with Niin A
22:Tmax← the largest travel time of the objects in A
23:distmax←U.max_speed ×Tmax
24: end if
25: end if
26: for Each neighbor node Nj of Ni, where Nj/∈S do
27:Q.enqueue(Nj,NDist +Dist(Ni,Nj)); S ← S *"{Nj}
28: end for
29: end while
30: return A
```

3.1.4. Search Result Module

User enters the point of interest. This module will find the set of related entities according to the user's request and display it. The user has to select one entity to find the route from the suggested locations.

2.2.6. Route Module

Once the user selects the destination (e.g.: hotel) ,this module find the various routes to travel from source to destination with accurate time of travel and will also let us know if there is an road block or construction so the user would not waste his time travelling in that particular area.

Pseudo code

```
Classify(X,Y,x)//X:trainingdata,Y:class labels ofvX,x:unknown sample
For i=1 to m do
Compute distance d(Xi,x)
End for
Compute set I containing indices for the K smallest distance d(Xi,x).
Return majority label for{yi where iEI}
```

Description

Computation of each location distance and time of travel are exactly done with this module analyzing the dynamic graph that is being generated and thus selecting the appropriate method on which the route is to be selected.

IV. CONCLUSION

The proposed android paper was very efficient and helped in finding out the precise time estimation and also delivered the efficiency. The Query responding time was less as it had track of often searched locality. Also the dynamic response to user's search criteria proved helpful for users during navigation. In future , Web hosting of the project could be done which will help all the android users to make use of the application and have a safe and accurate time of travelling in preferred and interested locations. Dynamic reviews can be implemented through the same means that provides a bright vision to users about the locality and points of interests.

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