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A VOLUNTEERED GEOGRAPHIC SERVICE TRACKING SYSTEM USING VORONOI CELLS

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Abstract - A real world consists of many common adversities like flood, earthquake, tsunami etc that occur seasonally in various parts of the countries. Hence there is a communication gap between public when there is need of basic commodities. In order to overcome such problems we implement a technique called volunteered geographic service tracking system. This system provides a sharable environment for all users who are in need of some requirements. VGS system targets the increasing population of online users, enabling user to provide location based services. In existing system allows users to register as service volunteers by accepting description and allow users to subscribe available queries by accepting subscription. Once there is no notification from volunteer within a time period, then the query can be moved to nearby location using voronoi cells. When the recognized volunteers are found in nearby location then they will respond to the queries if the response is identified as fake then that particular user is blocked. To achieve this target we develop an admin to monitor the process.

Keywords— Volunteered Geographic Service Tracking System, Voronoi cells.

INTRODUCTION:

VGS system intention is to increase the population of online users, enabling user to provide location based service. Anyone with internet connection can select an area on the earth plane and supply it with a description including associations to other resource anyone can edit entries and volunteer receiver examine the results, checking for accuracy and significance. Similar in some reference, which permit user to upload and locate photographs on the

earth surface by latitude and longitude. We propose a conceptual framework for VGS system, the main component of which project, participant and technical communications from an environment favorable to the creation of VGS. VGS contributes more attraction attention for professional use. It includes method finding and location based services and data is being improved and combine with other information. Bishr and Kuhn proposed to use trust as a proxy measure for quality of geospatial data. Interactive platform such as Google maps or Microsoft bing maps make it possible for nearly anyone with an internet connection to disseminate their own maps and geographic information using VGS system. They have sparked exponential growth in user generated communities. Information about place of internet, bird species, GPS tracking of bike and hiking routes of example of this user generated content. Data and knowledge engineering places a very important role in volunteered geographic service tracking system. Knowledge engineering is one of the upcoming restrain sparked in information technology. Knowledge engineering is defined as the organization or formation of information as knowledge. It also provides various methods to obtain solution for the complicate problems by gathering human resources and is used to understand the information. Knowledge engineering plays a foremost role in providing exact data and information about the domain which is used in problem solving process. It is used to receive and stock up various records, statistics, and facts and figures. Knowledge based systems are usually computer related programs that contain large amount of policies and regulations. Knowledge engineering is one of the requirements of reckoning pattern that can be used to carry out variety of different tasks. Finally knowledge engineering achieves its endeavor by circulating various reports and unique scientific results with reference to data engineering. In the present VGS system we used voronoi cells to fetch the desired location.Voronoi cells are nothing but the cluster of points in the exacting zone.The location can be tracked easily using voronoi cells which minimize time and cost.

OBJECTIVES:

Service volunteers can provide service descriptions and periodically updated locations to the system. User may update their query with their location so that the query passed to the users who are all in those covered area with time and we call the responding user as volunteers because they volunteer their services to other users within a stipulated time. In addition, they periodically send their location to the system. Volunteer can reply to the user's query based on their interest. The time elapsed would be enlarged if there is no response from the volunteer in the required location.

GEOGRAPHICAL DATA SHARING:

Data sharing is the practice of creation of information used for research available to other investigators. Requirements vary widely concerning whether data must be shared at all, with whom the data must be shared and who must tolerate the expense of data sharing. Data sharing is the form of allocation of procedural manuals, forms, diagrams, workflow charts, data files, data processing and statistical records. Sharing of data across the borders of sector. Geographical information is often the only common glue used to bond the information residing in different sector systems and make coupled up services reality. Each division has its own set of data in different versions and insignificant exchange of data and information between divisions took place. An immediate investment was made in

server sector and centralization of current maps and survey map data begins. The data storage favors the public and other officials even in remote and independent sectors. This system allows the user to detect the current location of the volunteers. Therefore GIS promotes building positive relations with public via sharing the data in the form of navigated map displaying and to the users.

***BUILDING EXTERNAL COMMUNICATION AND RELATIONSHIP WITH CITIZENS*:**

This geographical service sharing system allows us to assemble relationship with the public through the web application even in remote areas. In big cities, where several local authorities deliver services in close neighborhood it is difficult for the citizens to recognize and locate appropriate information from several web applications. Therefore, merge all the spatial information on a common web application and delivers relevant information for the citizens, where the local society positioned. They only wish to easily find the information they need. Web based geographic information service solution make the communication with public easier through intuitive navigation on maps.

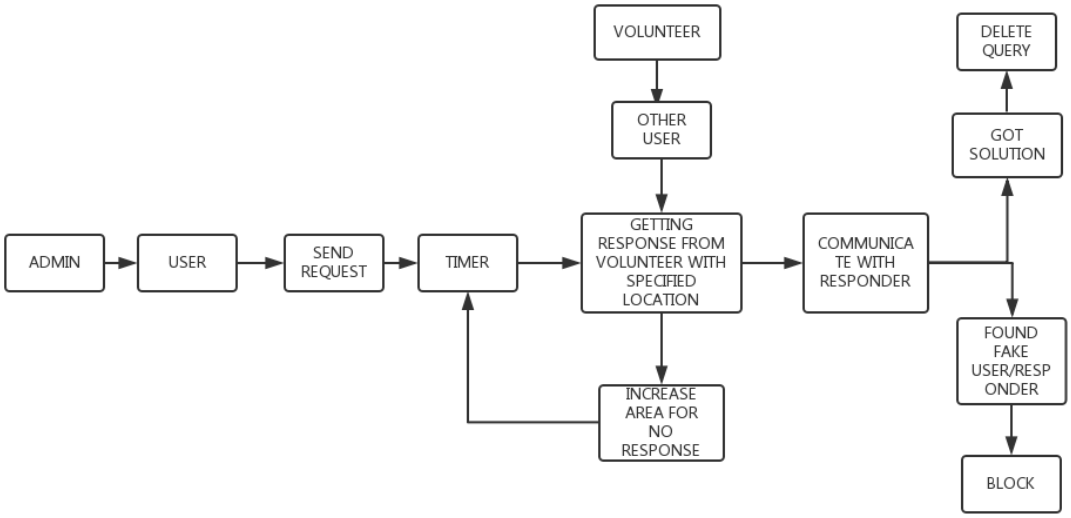
ONLINE SERVICE DELIVERY SYSTEM*:*

Online access to important information enlarges contact with the public and is a proven to reduce the cost. Information or data can be shared via web. This makes the web based GIS a natural choice. Through online citizens can fulfill certain circumstances by considering them on the map with all the point of interest at the similar time so foremost advantage of the delivery system is time consuming. They can investigate through the community address database and printout the map together with information on the object and way to nearest point of interest.

METHODOLOGIES:

VOLUNTEERED GEOGRAPHIC SERVICE TRACKING SYSTEM:

A Volunteered geographic service tracking system is the spatial that supplies free volunteers. Based on the study of prior projects and research, we projected to implement the proposal of volunteered geographic information, by introducing volunteered geographic service tracking system. Instead of contributing information, volunteers can request and respond to their nearest locations. VGS is always used for emergency scenarios. It is susceptible to both spam and fraud and it is also used for illegitimate intention. Finally the data afford by VGS users may be provide a rich source for spatial and sequential data analysis. VGS enables online users to proficiently monitor nearby devices. We condense the problem by constructing voronoi cells.



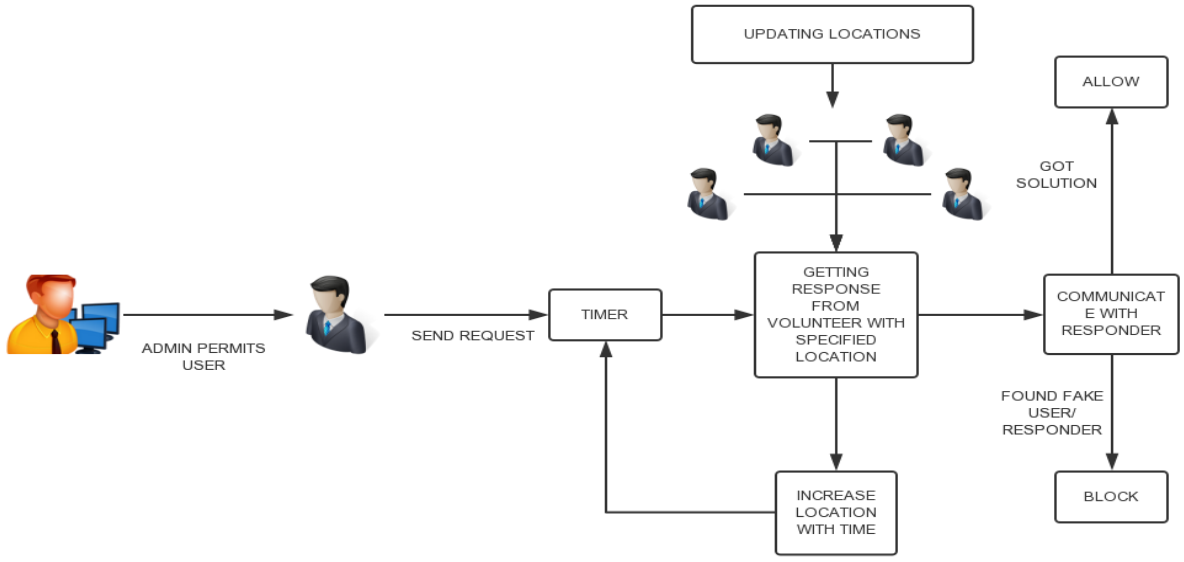
VORONOI CELLS:

Voronoi cells are well designed and flexible geometric structures which have relevance to resolve extensive range of queries in all kinds of calculating area like addition and multiplication. The general meaning for voronoi cells are set of points in the particular plane or area. Voronoi diagrams can be used to solve all the nearest neighbor problems competently and proficiently. The voronoi diagram is a set of points is dual to its Delaunay triangulation. It is named after gorgy voronoi and is also called a voronoi tessellations or a dirichlet tessellation. Voronoi diagram have practical and theoretical applications to large number of fields, mainly in science and technology point location data structure can be build on top of the voronoi diagram in order to answer nearest neighbor queries, where one wants to finds the object that is closest to a given query point. Nearest neighbor queries have numerous applications. For example one might want to find the nearest emergency cases or the most similar objects in a database. Voronoi diagrams are also related to other geometric structure such as medical axis, straight skeleton and zone diagrams. This structure can be used as a navigation mesh for path finding through large space. The navigation mesh has been generalized to support 3d multi-layered environments, such as a multi storey building. It explores all candidates to find the site closest to the location. Voronoi cells are used in various applications like geography, marketing, robotics and data analysis.

Normally voronoi cells are bounded by line segments. The circle through the three points defines n vertex of the voronoi diagrams and it does not surround any other point. The locus of center of largest empty circles passing through only one point defines the cell. Initially voronoi cells are considered to be a set of points and after portioning it is divided into sub regions.

IMPLEMENTING VORONOI CELLS IN STRUCTURE DESIGN:

The volunteered geographic information is a part of profound transformation on how geographic data, information and knowledge are produced and circulated. Later we introduced a technique called volunteered geographic service tracking system. In this system, users can modernize their location and upload their queries to the VGS system. The responder also described as the volunteers who are willing to help the user. The volunteers near to the user's location can observe and monitor the query and send responses. User receive responses from the volunteer and that particular user has to wait for any related responses (i.e.) no volunteers are there in those particular location. The user move out from the location either user got solution for their query or no response from the volunteers then the user may delete the query from the system. In future system, users need to get the permission from the admin to get into the system. Timer will be set once the user upload a query and is approved to the entire users who are obtainable in a enclosed area and the enthusiastic user can answer the query. The enclosed area will be enlarged for no response so that some other volunteer can answer for user's query and time also increased. Once the response is received from the volunteer user can converse with that particular user. If user found any fake responses from the volunteer then the user or volunteer can block the respective persons.



TOOLS AND TECHNIQUES:

ADMIN:

Admin plays a imperative role in volunteered geographic service tracking system. Admin is the one who monitors the entire system and also takes the major responsibilities to check all the users who wants to register into VGS system. Admin can categorize the real and fake volunteers by verifying the reference id. Admin has the role to setup VGS system in knowledge engineering, add and remove users, manage domains, licenses and much more. One

of the primary obligations of an admin is to pledge that the system operates with efficiency. Admin requires the set of skills to switch many people at various situations.

SECURITY AND CONTROL:

Admin can examine and scrutinize the fine points of the user and has the supremacy to alter the summary of the user. Admin has the influence to eliminate the counterfeit users from the system and maintains the security in the system.

DISPATCH QUERY:

After controlling and monitoring the system, admin must ascertain the path so that the user in the system will pursue. The user should register into the VGS system. Once the user has registered, they can consent to use the system for solving the problem for solution. Now the user can send a query by revealing their issue within a mentioned area covered. Admin should have impersonal skills to evaluate whether the received responses are interrelated to the query. This includes the delegation of responsibility and control.

GETTING RESPONSE:

As the user updated his query into the VGS system, it will be noticeable to all the volunteers who are all in the meticulous location. The volunteers are generally participant who is voluntarily coming forward to hold up other's role. A volunteer are expected to be reliable, confidential and trustworthy. Once the accurate information is feed into the system, the volunteers can analyze the queries within a time and they can facilitate the users by providing essential response.

TIMER:

Timer plays the crucial role in VGS system. It is the supplementary attribute which is added to consume the time. Timer is also referred as the countdown clock. The countdown clocks are always reliable. If there is no response from the volunteer, by making use of the timer the elapsed area will be extended to the nearest location so that the user will get the quick response from the volunteer.

COMMUNICATION:

Communication is the act of passing the deliberate meaning to another individual through the use of commonly understood signs. The main objective of communication is to ensure the even flow of information's between two groups. Here, the user can communicate with the volunteer for many clarifications about their queries and ideas. The user can share their personal particulars with the volunteers regarding queries. It is empirical for an system to have a proper communication management. Once accomplished, the system is closer to achieve its needs and objectives. Hence communication is considered to be the lifeline for many projects.

ALLOW/BLOCK:

Generally allow is to let something to happen. If the mandatory query is real then the admin has the authority to allow the user into the VGS system followed by the registration process. If the admin is not fulfilled or any fake responses are founded then that particular user can be blocked immediately and the queries posted by the users are also blocked.

RELATED WORKS:

In existing projects voronoi based neatest neighbor queries are elementary procedures for many comparison search and location based query application for location based service. This allows the user to retrieve the location from the geospatial database which is close to the current location. Voronoi diagram is a data structure that is enormously well organized the exploring a local neighborhood in a geometric space. Voronoi diagram uniquely partition the space into dislodge regions called voronoi cells such that each cell is assigned to single point.

Location based services have attracted significant attention from both industry and engineering in recent years. Many existing system provides users with the location based services which can be easily gotten up from geographic service equipped in online users. They focus primarily on static queries not on the dynamic queries. Many real world applications have needs to support moving spatial keyword queries. In existing methods multiple queries can be issued to support moving queries. We adopt a client server model. The client is moving and declared the spatial query to server. Then the server responses by top-k answering to the query. It increases the communication cost between the client and server. It aggravates the system burden due to issuing multiple repeated queries. It also wastes the bandwidth in transmission. Voronoi cells are defined as safe region where the nearest neighbor stays permanent.

Insertion and deletion can be processed with both space and time. A voronoi cell has been studied in the boundaries of weighted circular objects. Voronoi cells considered as fundamentally different because the precise circular shaped objects are different from imprecise circular regions. Thus the shahabi study voronoi based safe regions for objects in spatial networks and imprecise voronoi cells have also been studied.

CONCLUSION:

We study about the problems of volunteered geographic service tracking system hence we proved by evaluating sophisticated queries and widen the proposal of constrained space. We reduced the complex problem by implementing voronoi cells. We also enhance the system by escalating the wide range of area with time based and become safer by scrutinizing unauthorized users (i.e.) user or volunteer might block if any fake volunteer or user found. Hence we conclude by saying user will get a solution for their query by increasing time and area and also user can furnish multiple queries with individualtime.volunteer or user might block if forged volunteer or user found.

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