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Direction with Way Point Maker using Google Map API

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Abstract— Web mapping are used for analytical applications. It is to build a system which stores the user's details, especially the address of the user in the map with the directions given by the user itself. The user gives the address from the center point as source and destination in the Google map, the address is stored in the database as image using the multimedia database. The stored data is retrieved along the fewer user details with the map being created by the user. This system is developed to give the address in depth so as to avoid the ambiguity.

Keywords: Analytical Application**,** Address, Direction, Image, Multimedia Database.

I. INTRODUCTION

A. Web Mining related to Web Mapping

Web mining one of the Data mining techniques which works on the data present on the web. Main purpose of web mining is to generate the web data by extracting the information from the web. Web content mining is the process of extracting the information from the documents of the web. Document may contain texts, audio, video, lists, tables and records. Application of web content mining is the text mining which deals with the issues like clustering, tracking, extracting and discovering. Web Structure Mining consists of nodes and edges of related to web pages. Hyperlinks are connecting different part of the same page and also connecting the two different pages. Web Usage Mining discovering, identifying the usage patterns from the web data in order to serve the web based applications.

B. Web Mapping

The concept of web mapping is in the maps that are delivered by the GIS (Geographical Information System) which has both client aspects like data acquisition and server aspects like the storage of data and algorithms for implementations. The World Wide Web consists of the activities of both consumer and server.

GIS (Geographical Information System)

Commonly known acronym is Geographical Information Science and Geospatial information studies, refers to the engineering disciplines of Geographic information where number of processes are combined. Spatial data infrastructure is the term used in GIS which means the process of analyzing, integrating, capturing, storing, sharing and editing the data in the map. Most successful in web mapping is does not constraint in boundaries limits. Apart from Mapping GIS has wide applications in transport, Insurance planning, Telecommunication to name the few.

Location Based Service

In web mapping the services client and server are done through the LBS.

C. Google Maps

One of the application of web mapping designed Google. Generally Google maps provide the representation of maps in all perspectives like street views and planning routes for travelling purposes. These perspective views provide the horizontal and vertical images of various cities across world. One of the key features of the map is Ground Overlays which is used to arrange the images over the map. Using XML file formats like KML (Keyhole Mark-up Language) is used in the map to describe the geographic location and GeoRSS is used in encoding the location in the parts of the maps. The zoom bar is updated by the viewer which allows the zoom all the way over the area with higher levels of zooming. Directions: Google Maps uses the concept of Route Planner to give the directions for transportation. Since the maps cover the whole world, some countries are provided with directions continuously and countries like Nepal don't have connected directions at all and no connections between the islands.

D. Google Map API

In general the Interface means the medium of communication between two systems. API is collection of tools, protocols, routines for the purpose of building the software and making the programmer user-friendly .API makes the communication between different applications and is suited for mash up. Twitter is one of the real applications of API which extends a platform to one other. Mash up are popular as that the combining the application with the functionality. To embed maps to websites other then Google, API (Application Programming Interface) has been introduced in the year 2005.API does the integration of maps to other websites with various features like the zooming, panning, scaling to name the few.

E. Algorithms using in Google maps

The mainly using in Google maps are Dijkstra's algorithm and Route (A*) algorithm. The Dijkstra's algorithm used in map in to find shortest path recovery, then routing (A*)

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algorithm used for A to B direction allocation. The Dijkstra's algorithm consider shortest path from a starting node to ending node, then it also magnified in map as a point from source to destination. Dijkstra's algorithm construct the updating minimum cost by $D_j = \min(D_j, D_i + C_{ij})$, on using this equation the min cost from source to destination be resulted.

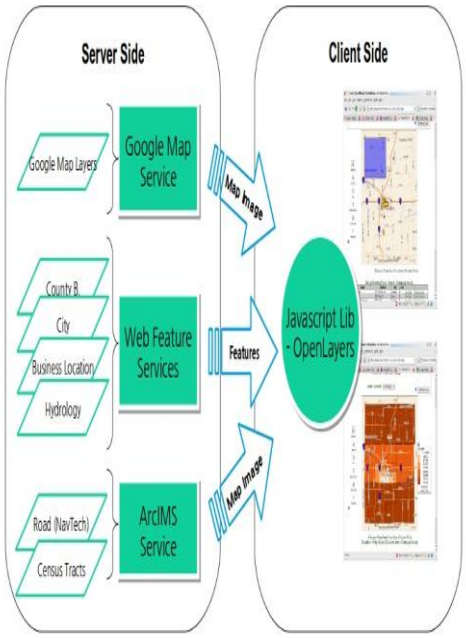

Fig1: Architecture for working of Maps

According to Route (A*) algorithm, which it optimized to finding the path and it classifies the static and dynamic, thus static represent the slow routes over a time, but dynamic implies that quick and response over the link cost changes, then function combination under the cost of reaches the node n and cost of reaches the goal node n, it calculates under $f(n)=g(n)+h(n)$ and $h(n) = \sqrt{(w_x-r_x)^2 + (w_y-r_y)^2}$.

II. Issues in Google map Maker

Google map maker has fewer issues like the map does allow the editing of the intersections. It does not allow the removal or change in the picture of certain features in the maps. Some of the city names if given wrong initially require series of steps of change. Auto error reporting is always a burden in the Google maps. Saving the changes made by the users are not accurate. If someone tries to update the map privately it leads to series mismatch in places. In other side of Google maps though continuously updating the resources it accounts to limitations in the places identified in the map. If already signed in any of the Google product requires no separate process of signing in, otherwise requires separate Google account. Comments are not properly been benefited in and so on. Use of 3D in maps seems to slow which requires switching to Late Mode and it also requires to periodic updating of the product and browsers are required.

III. Direction waypoint maker

"According to proposal, the user can clearly indicate his address by the direction waypoint tool in which tool consider that specific option"

A. Proposed System

The direction waypoint maker is used to specify the custom or user address through the map by which user uses the to indicate address to other's quick and conform. While comparing to other map maker tools such as Google map Maker, Map box and Mapfab. Those tools are not present the easy direction making option, but this tool make it simple and easy. It process a method of making direction waypoint maker by analysis and along with dijkstra's algorithm and routing (A*) algorithm, the dijkstra's algorithm used in map in to find shortest path recovery, then routing (A*) algorithm used for A to B direction allocation.In process,the client can make or specify the address in direction waypoint maker and it automatically saved as image in database, at any time the admin can retrieve it. When the output has been received by only admin by means of server, in client side, finished his making of address and saved it, and then the map view converted into image and sent it to admin, then he retrieved the image and used for the purpose. The application may used in the form of many organization as making student address, making customers address and user address to main person for some purpose in the view of mapping. While also the completed direction making will be converted into image and saved in the database and it can be any time retrieved.

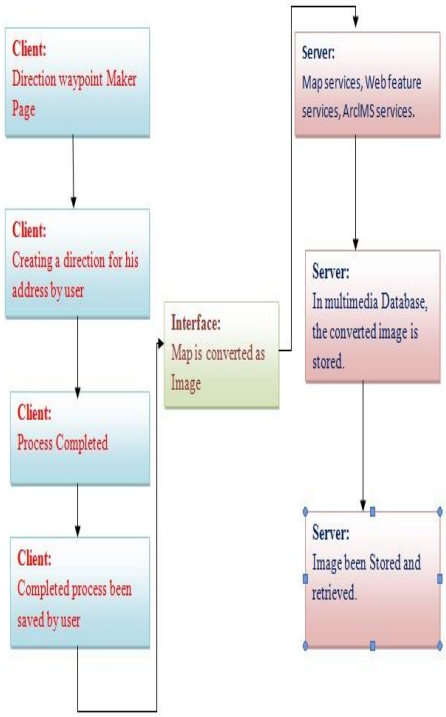

Fig 2: Architecture for Direction waypoint maker.

IV. CONCLUSION

It is to conclude that while comparing to other Map maker tool, it is very easy and user friendly. It is consumes the creative and new facility for the user's. This tool is changeable for the application to use in different part of the organization under privately or socially. It is the better idea or creative tool while comparing to other tools and especially it is connected due to many address filling application areas to view the custom or user address visually through the Map.

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