# An Algorithm to Find the Geo-Map By Multimedia Communication

**BommaRamaKrishna , M.Nagabhushana Rao , Ramesh Babu Pittala**

***Abstract: To discover the area of a crisis circumstance, to give the more precise information to clarify the circumstance in a proficient route to the salvage group as a pictures and video alongside the content, diverse calculations are proposed to achieve the group in a short to support the poor. Content or Tweet may not give the best possible portrayal of the circumstance to disclose how to help them in the current circumstance. Information of an Image and Video Patterns can brief the circumstance in a decent way to locate the best possible prerequisites to achieve the Destination. Achieving Time of the Image and Video Patterns to the accessible individuals likewise a testing errand. Since, the measure of the Video and Images are particularly high when contrasted with the content. The pressure strategies are utilized to decrease the size. CCITT (Consultative Committee for International Telephony and Telegraphy) Group 3 and Group 4 pressure techniques are utilized to pack the video documents. The Methodologies depicted in this part will likewise discover the area of the Emergency circumstance alongside the separation of the people who are utilizing the created application. Dijkstra'sAlgorithmis used to figure the briefest way on guide from source to goal.***

***Keywords: CCITT, Achieving Time of the Image and Video Patterns.***

## I. .INTRODUCTION

The guide is a way we consider the world, a way to make an area, obviously plotting spots into reality. Maps are more than portrayals; they are intends to oversee assets, to explore crosswise over new territory and as an approach to investigate geological examples and demonstrate the procedures forming the world's surface. Cartographic practice can be incredible for picturing complex spatial thoughts, to think about conceivable fates situations, to show past scenes and envision domains past the physically conceivable. Maps are viable apparatuses and a fundamental piece of strategies of the administration. Maps matter. Mapping is basically about making space unmistakable and conceivable. In philosophical terms the natural character of maps can be drawn closer as a component of a more extensive translation of the significance of the realistic expressions and energy about our cutting edge 'visual culture'. Vision is the lord of faculties, the one that issues most. It is the speediest and most direct wellspring of data (light outpaces sound, for instance), the largest extending (we are seeing a great many years into the past when we take a gander at the stars) and the one that as far as anyone knows offers reality: 'some things are only possible to accept after witnessing them first hand', 'observer proof', 'the camera never lies'. Individuals without sight are generally seen as being significantly impaired. Vision is hence a special method for knowing the world, and one that has been firmly ensnared with the ascent of Enlightenment science in the west and the rise of the cutting edge state. The world was reordered from the Renaissance onwards, to some degree through the move from an oral culture to one of visual portrayals, in view of creation and trade of substantial pictures, most clear in the rising of the book following Gutenberg's development of the printing press with versatile kind in the mid 1400s. Resulting progresses in mechanical printing, photographic catch and electronic generation further settled in the intensity of the visual. This advantaged status has just quickened with the ascent of computerized media as our essential method of social trade since the 1990s, to such an extent that 'we live in societies that are progressively penetrated by visual pictures' (Sturken and Cartwright 2001: 10). Business, government and all way of day by day close to home correspondence are executed through some type of visual media. A lot of craftsmanship and masterful practice includes visual practices and the generation of pictures in some structure – it tends to be very radical to be a non-visual craftsman. To be sure, one of the characterizing attributes recently innovation of the twenty-first century, it could be contended, is the degree and speed of electronic correspondence, which results in a phenomenal flood of envisioned pictures of spots and times other than our prompt present.

### 1.1 Maps and Knowledge

Traditionally grant and the production of logical information has basically been one of making the most convincing pictures and proliferating them so they are acknowledged as 'truth'. As Latour and Woolgar (1979: 243, unique accentuation) recorded from their research facility ethnography: 'logical action isn't "about nature", it is a furious battle to develop reality'. A lot of what we trust we are aware of the real world, in both craftsmanship and science, is extremely a little subset of the conceivable that can be caught on visual registers, recorded as pictures and made consumable as realistic portrayals. The formalized creation of topographical information, specifically,

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**BommaRamaKrishna,** Research scholar of Rayalaseema University,Kurnool,Andhra Pradesh, India
**M.Nagabhushana Rao,** Dean-R&D ,Ramachandra College of Engineering and Technology
**Ramesh Babu Pittala'** Associate Professor HOD CSE KLR College of Engineering &Technology,Palvancha,Telangana

has been founded principally on scopic strategies (hands on work perception, review estimation, tiny examination of tests, etc). It is in this manner obvious that the imagined picture of room caught as far as cartography and globes has been regularly viewed as center to the geographer's usual way of doing things for a large number of years (Figure 1).

Figure 1.The Geographer, by Jan Vermeer, c. 1668–1669.

**1.2 What is a Map?**

By what means may we conceptualize the fundamental idea of cartography? How is a guide unmistakable from other normal methods of visual portrayal? Taking on a functionalist definition from one of the establishing reading material for the art of mapmaking by the émigré Hungarian Erwin Raisz, who progressed toward becoming guide guardian at Harvard University, we may begin by attesting that 'Amap is, in its essential origination, a conventionalized image of the Earth's example as observed from over' (1948: xi). Be that as it may, maps are more than this. As indicated by research by Vasiliev et al (1990), who inspected various meanings of a guide given by various lexicons and insightful sources, it is conceivable to recognize five center qualities which mean individuals will see a given visual picture as being 'a guide':

1. Watcher's point of view ought to be from above, one might say looking vertically descending. This is the planar perspective and is fundamental to 'legitimate' cartography;

2. The topic should, in some degree, identify with the earth and most normally noticeable marvels happening on the earthbound surface;

3. There should be an interpretable correspondence between things appeared on the guide and with areas as a general rule. 'At the point when a watcher had the capacity to perceive that a picture contained highlights whose circulation compared well with the genuine geographic plan of similar highlights on the world's surface, the realistic got a higher guide ness score' (Vasiliev et al 1990: 122);

4. It ought to be a level picture as opposed to a three-dimensional one (these are particular from maps yet can be connected, for example, earth globes, alleviation models, bird's-eye sees orperspective illustrations). The levelness is accomplished through the decision of unmistakable scientific projection of co-ordinates to change 3D genuine space onto a mutilated 2D surface;

5. The size of the picture ought to be in a geographic range, instead of, state, the infinitesimal or the cosmic. The scale makes a particular sort of spatial inclusion we partner with cartography, and one that is unique in relation to, state, the nearby detail of things we would connect with a structural illustration or a building plan. Ordinarily the size of highlights demonstrated will be uniform over the entire guide.

Taking these five attributes together plainly prohibits what considers an 'appropriate looking guide', yet regardless it implies there are a huge number of sorts of cartography conceivable, with a variety of various geographic scales, topics and projections. Some portion of the inventive part of cartography is frequently to play with realistic plans at the limits of these five essential credited qualities and to extend the conceivable outcomes of what a guide can be.

**1.3 Digital Mapping**

Maps have customarily filled in as paper stores for spatial information, yet they are presently bound to be intuitively shown on screen. In the previous decade or so we have positively moved past the time of simple media, ruled by precisely printed portrayals, into a circumstance in which programming makes maps from databases and intuitive advanced models of room are the essential technique used to tackle ordinary assignments. The move from simple media to advanced intelligence has numerous ramifications, including for 'doing topography'. Programming and online administrations are changing how courses are educated, how individuals find out about geographic wonders and the manner in which scholarly research is directed, notwithstanding difficult whether exemplified hands on work is as yet a basic piece of being a geographer. One result has been an exponential development in PC based mapping, with a lot more extensive accessibility of point by point geographic data and developments in spatial media (for instance, the safe 'streetview' photos, vivified satellite pictures in the news, map-like models inimmersive computer games, 3D LiDAR outputs). Once more, huge numbers of these advancements arestretching the limit of what considers a guide. Shoddy, incredible PC designs and
higher system transfer speed on cell phones are additionally empowering a substantially more area focused type of data access, with continuous 'you-are-here' mapping being one of the center parts of the cell phone's convincing intrigue (cf. Meng 2005). Much has quickly turned out to be normal – at any rate for rich and computerized canny individuals – and progressively goes unnoticed, basically being a piece of the on-request, utilization orientated society. We come to discover increasingly more about far off spots through computerized maps and perpetually sensible spatial pictures displayed to us on screen, frequently in our home while sitting on the couch, and made intelligent through programming. This circumstance is amazing in one regard since we've come so rapidly to view it as unremarkable!



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## II. METHODOLOGY

CCITT Group 3 andGroup 4 pressure Methods:
Many copy and archive imaging record groups bolster a type of lossless information pressure frequently portrayed as CCITT encoding. The CCITT (International Telegraph and Telephone Consultative Committee) is a norms association that has built up a progression of interchanges conventions for the copy transmission of highly contrasting pictures over phone lines and information systems. These conventions are referred to formally as the CCITT T.4 and T.6 guidelines however are all the more generally alluded to as CCITT Group 3 and Group 4 pressure, separately.
Some of the time CCITT encoding is alluded to, not by any stretch of the imagination precisely, as Huffman encoding. Huffman encoding is a basic pressure calculation presented by David Huffman in 1952. CCITT 1-dimensional encoding, depicted in a subsection beneath, is a particular sort of Huffman encoding. Alternate kinds of CCITT encodings are not, be that as it may, executions of the Huffman plot. Gathering 3 and Group 4 encodings are pressure calculations that are explicitly intended for encoding 1-bit picture information. Many report and FAX record designs bolster Group 3 pressure, and a few, including TIFF, likewise bolster Group 4.
Gathering 3 encoding was structured explicitly for bi-level, high contrast picture information media communications. All advanced FAX machines and FAX modems bolster Group 3 copy transmissions. Gathering 3 encoding and deciphering is quick, keeps up a decent pressure proportion for a wide assortment of archive information, and contains data that guides a Group 3 decoder in identifying and adjusting mistakes without extraordinary equipment. Gathering 4 is an increasingly proficient type of bi-level pressure that has primarily supplanted the utilization of Group 3 in numerous customary archive picture stockpiling frameworks. (An exemption is copy archive stockpiling frameworks where unique Group 3 pictures are required to be put away in an unaltered state.)
Gathering 4 encoded information is around a large portion of the span of 1-dimensional Group 3-encoded information. In spite of the fact that Group 4 is genuinely hard to actualize proficiently, it encodes in any event as quick as Group 3 and in certain usage deciphers much quicker. Likewise, Group 4 was intended for use on information systems, so it doesn't contain the synchronization codes utilized for mistake location that Group 3 does, settling on it a poor decision for a picture exchange convention.
Gathering 4 is some of the time mistaken for the IBM MMR (Modified READ) pressure strategy. Truth be told, Group 4 and MMR are the very same calculation and accomplish practically indistinguishable pressure results. IBM discharged MMR in 1979 with the presentation of its Scanmaster item before Group 4 was institutionalized. MMR turned into IBM's own record pressure standard is as yet utilized in numerous IBM imaging frameworks today. Archive imaging frameworks that store a lot of copy information have received these CCITT pressure plans to save plate space. CCITT-encoded information can be decompressed rapidly to print or review (expecting that enough memory and CPU assets are accessible). Similar information can likewise be transmitted utilizing modem or copy convention innovation without waiting be encoded first. The CCITT calculations are non-versatile. That is, they don't change the encoding calculation to encode every bitmap with ideal effectiveness. They utilize a fixed table of code esteems that were chosen by a reference set of archives containing both content and designs. The reference set of archives were viewed as illustrative of records that would be transmitted by copy. Gathering 3 typically accomplishes a pressure proportion of 5:1 to 8:1 on a standard 200-dpi (204x196 dpi), A4-sized record. Gathering 4 results are generally twice as effective as Group 3, accomplishing pressure proportions upwards of 15:1 with a similar record. Cases that the CCITT calculations are fit for much better pressure on standard business records are misrepresented - to a great extent by equipment sellers.
Since the CCITT calculations have been enhanced for sort and written by hand archives, it makes sense that pictures fundamentally unique in creation won't pack great. This is very valid. Bi-level bitmaps that contain a high recurrence of short runs, as normally found in carefully halftoned persistent tone pictures, don't pack also utilizing the CCITT calculations. Such pictures will for the most part result in a pressure proportion of 3:1 or even lower, and many will really pack to a size bigger than the first.
The CCITT actually defines three algorithms for the encoding of bi-level image data:

- Group 3 One-Dimensional (G31D)
- Group 3 Two-Dimensional (G32D)
- Group 4 Two-Dimensional (G42D)

G31D is the simplest of the algorithms and the easiest to implement. For this reason, it is discussed in its entirety in the first subsection below. G32D and G42D are much more complex in their design and operation and are described only in general terms below.
The Group 3 and Group 4 algorithms are standards and therefore produce the same compression results for everybody. If you have heard any claims made to the contrary, it is for one of these reasons:

- Non-CCITT test images are being used as benchmarks.
- Proprietary modifications have been made to the algorithm.
- Pre- or post-processing is being applied to the encoded image data.
- You have been listening to a misinformed salesperson.

## III. . DIJKSTRA'S ALGORITHM

### 3.1 Dijkstra's Algorithm for calculating shortest path on map from source to destination:

Dijkstra's algorithm has many variants but the most common one is to find the shortest paths from the source vertex to all other vertices in the graph. The following algorithm is used in the proposed methodology to display the path.


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Algorithm Steps:

- Set all vertices distances = infinity except for the source vertex, set the source distance
- Push the source vertex in a min-priority queue in the form (distance, vertex), as the comparison in the min-priority queue will be according to vertices distances.
- Pop the vertex with the minimum distance from the priority queue (at first the popped vertex = source).
- Update the distances of the connected vertices to the popped vertex in case of "current vertex distance + edge weight < next vertex distance", then push the vertex with the new distance to the priority queue.
- If the popped vertex is visited before, just continue without using it.
- Apply the same algorithm again until the priority queue is empty.

Following pseudo code is used to implement the above Dijkstra's Algorithm.

```
Assume the source vertex = 0
#define SIZE 100000 + 1
vector< pair <int , int>> v [SIZE];
// each vertex has all the connected vertices with the edges weights
intdist [SIZE];
boolvis [SIZE];
voiddijkstra()                         // set the vertices distances as infinity
{
memset(vis, false , sizeofvis);        // set all vertex as unvisited
dist[1] = 0;
multiset< pair <int , int>> s;         // multiset do the job as a min-priority queue
s.insert({0 , 1});                     // insert the source node with distance = 0
while(!s.empty()){
pair<int , int> p = *s.begin();        // pop the vertex with the minimum distance
s.erase(s.begin());
int x = p.s; intwei = p.f;
if(vis[x] ) continue;                  // check if the popped vertex is visited before
vis[x] = true;
for(int i = 0; i < v[x].size(); i++){
int e = v[x][i].f; int w = v[x][i].s;
if(dist[x] + w < dist[e] )
    {          // check if the next vertex distance could be minimized
dist[e] = dist[x] + w;
s.insert({dist[e],  e} );              // insert the next vertex with the updated distance
        }
      }
    }
}
```

## IV. SCREENSHOTS

Proposed Modern Algorithm is applied over the samples collected. To identify the information, to collect information, an application is designed with the following requirements:

Name: XXXXXXXXXXXXXXXX
Type of Message: Text/Image/Audio
Message: I am in very dangerous situation help me.
Location: Location of the user.
Phone Number: Contact Number.

Based on the information provided by the users, message will be communicated to the all the users and rescue team. They will identify the distance from the different locations. The shortest distance team will respond it immediately and will update the information. The developed application sample screen shots are displayed below.

Home Screen:

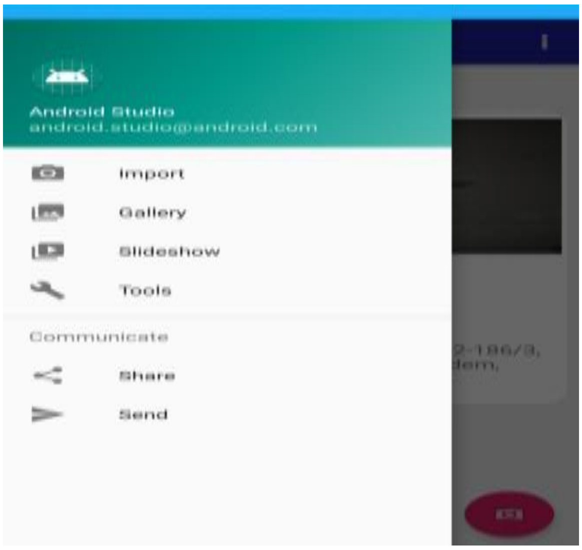


Fig4.1 : Home Screen

**Sample Message:**


Fig 4.2 : Sample Message

**Shortest Path Distance:**

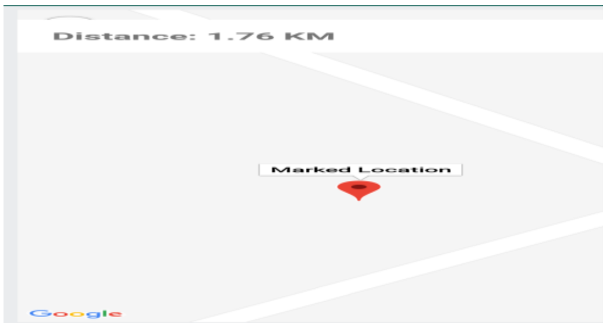


Fig 4.3: Distance to the shared location

**Google Path**

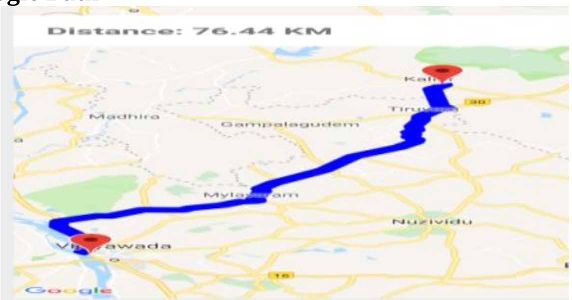


Fig4.4: Shortest Path

**4.5 Reports**:
**Location Wise User's Request**

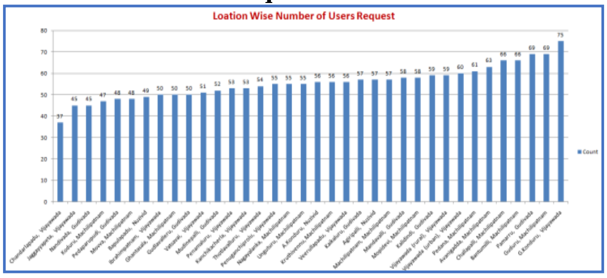


Fig 4.5: Location wise requests

Above figure specifies that location wise number of users request received on a particular day from the samples.

**DAY WISE USER REQUESTS:**

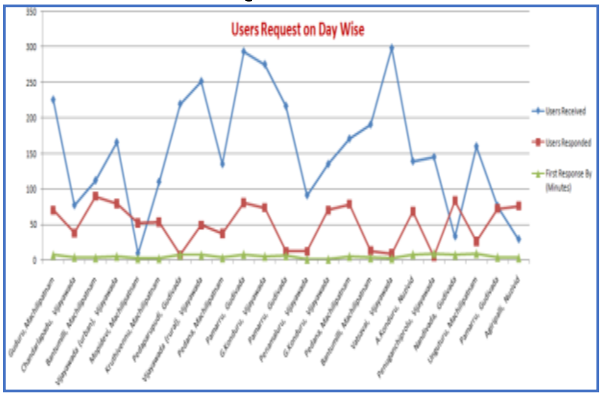


Fig 4.6 Day wise user requests

In the above picture specifies that location wise number of users request received, users request responded and also first responses details on a particular day.

**MONTH WISE NUMBER OF USERS REQUEST RECEIVED**

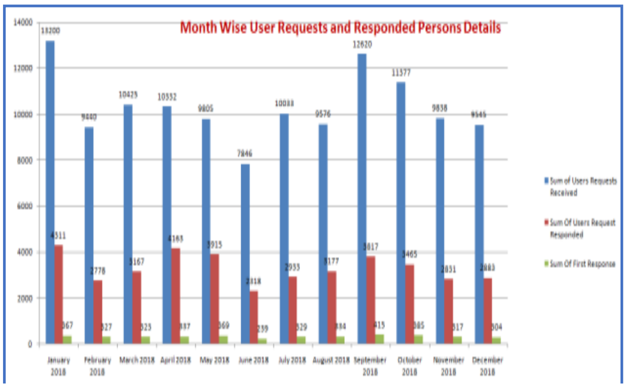


Fig 4.7 : Month wise number of users request received

In the above picture specifies that month wise number of users request received, users request responded and also first responses count details.

## V. . Proposed System Vs Existing System

In an existing system does not provide the occurrences of the user's request, who are received and who responded quickly. Whereas our proposed system we consider electronic media and social media. This helps the emergency communication methods to be implemented earlier than the existing methods.

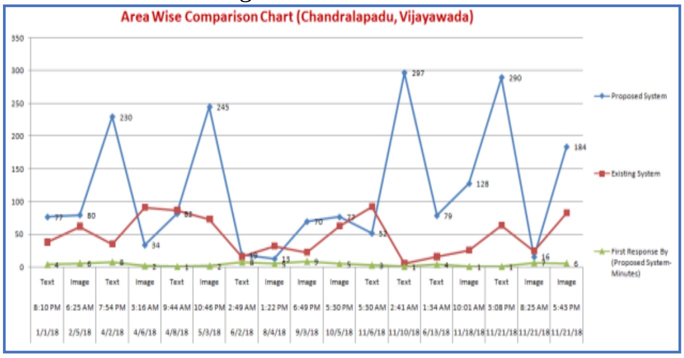


Fig 5.1 : Proposed System Vs Existing System

## VI. . CONCLUSIONS

We can lesser our cost when we manufacture a chart. It is on the grounds that the Dijkstra's will locate the most limited way weight from one source hub to other hub. In this way, we need not construct quite a bit of switch to assemble way from a hub to other. This calculation additionally can build the execution to discover the most limited course with least cycles. The calculation will locate the base expense. Way weight is engendering delays for a framework, Best Suited for Robot way arranging, Logistics Distribution Lines, Link-state directing conventions

**Future work**

We intend to help likewise GeoRSS channel with progressively expounded spatial depiction like lines, tracks (Tai 2009) and polygons. Likewise we will permit the likelihood of having more than one picture in a similar point. Additionally new choices to improve the usage of the impact shirking calculation will be investigated. We are thinking about the incorporation of camera introduction portrayal. Introduction data can be presented by the client like in www.confluence.org or incorporated into the metadata by the inside camera compass. We have experience an issue with the situation of the articles spoke to in the picture, especially in photos of the scene. Some of the time, the imagined article in the photo is a distant item yet the position related with this article is the GPS position. We are thinking about options dependent on the blend on the camera introduction with center setting or client mediation to tackle this issue.

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