iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** II **Month of publication:** February 2022

DOI: https://doi.org/10.22214/ijraset.2022.40491

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue II Feb 2022- Available at www.ijraset.com

Capsule Ambulance

Jitesh V. Kulkarni
Electronics & Telecommunication Engineer, Jalgaon Jamod, Buldana, Maharashtra, India

Abstract: ***We know that multi specialist, multi talented hospitals and doctors are mostly situated in metro cities or at district level. In emergency situation, it is mandatory that a patient reached at destination in less time to save their life. While travelling inside through metro cities, there are major problem of traffic. Because of traffic ambulance will have more time to reach destination or hospital. In emergency situation millisecond time is very important. So to increase patient's life here introduce a capsule ambulance concept.***

Keywords: Pillars, Start-End Station, Rope Way, Ambualnce car, Control Software, Emergency Medical Service, GPS

I. INTRODUCTION

Now a day most of countries are facing problem of traffic. Number's of vehicle running on road. Due to that lot of accident occur on road.

Increase in population is directly affected on resources. But there are limitations for natural resources. Due to tremendous use of that environment become unbalance and hence because of those viruses, change in climate like problems occurs. Human and animal affected because of that.

In such conditions, patient required emergency medical services. To get that emergency service Ambulance play an important role and save patient's life.

In traffic major issued is reached at hospital in less time to save patient's life. But some time in certain cases it can delay due to mechanical or human problem and cause less chance to survive patient.

Here I am introducing a new way of ambulance using already available or constructed structure.

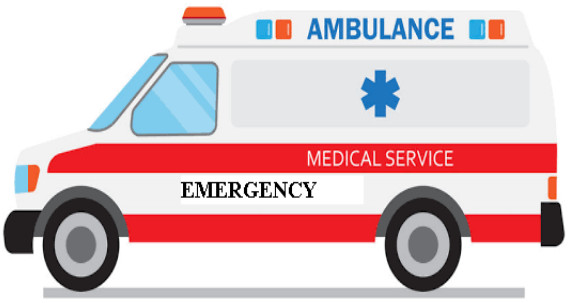


Figure 1: Ambulance Example

II. HISTORY OF AMBULANCE

In the past few years, researchers have become increasingly aware that ambulance personnel may be at risk of developing work-related health problems rapid action and provide medical care under life-and death circumstances in unfamiliar and inconvenient circumstances while being scrutinized by bystanders and relatives.

In the past many vehicles was used for ambulances but that not fast and secure as much as now a day's.

After continuous research and development in ambulance time accuracy and security, now a day's many option like Air Ambulance, Boat Ambulance etc.

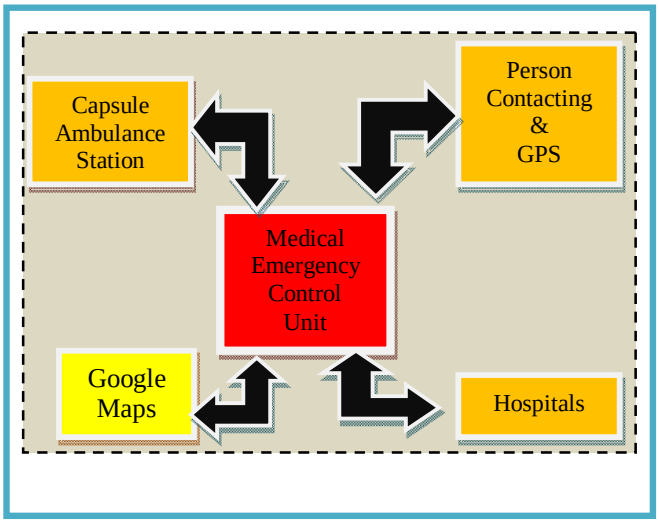
III. REQUIREMENT

A. Person Contacting & GPS
B. Google Map
C. Capsule Ambulance Station (CAS)
D. Medical Emergency Control Unit (MECU)
E. Hospitals

©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue II Feb 2022- Available at www.ijraset.com

IV. SYSTEM BLOCK DIAGRAM



Controlled By Application
Figure 2: System Block Diagram

A. Person Contacting & Gps

Person who wants emergency medical service for self or for another person will contact to Medical Emergency Number. After contacting helpline number that number will connect to Medical Emergency Control Unit (MECU). That MECU will detect address of contactor person which will tell it or MECU will detect automatically GPS. After conforming address of person, MECU will find shortest path to reach at Capsule Ambulance Station and proceed by that. If there will not possible that person to reach at that point then station ambulance will pickup and drop at capsule ambulance station.

Capsule Ambulance quickly drop patient at destination means hospital. But this is only within in metro cities.

For other than metro cities, there will be Capsule Ambulance Station at every end of metro cities on every road.

Suppose Ambulance entering in metro city then MECU automatically known and MECU will give nearest location of Capsule Ambulance Station & path also.

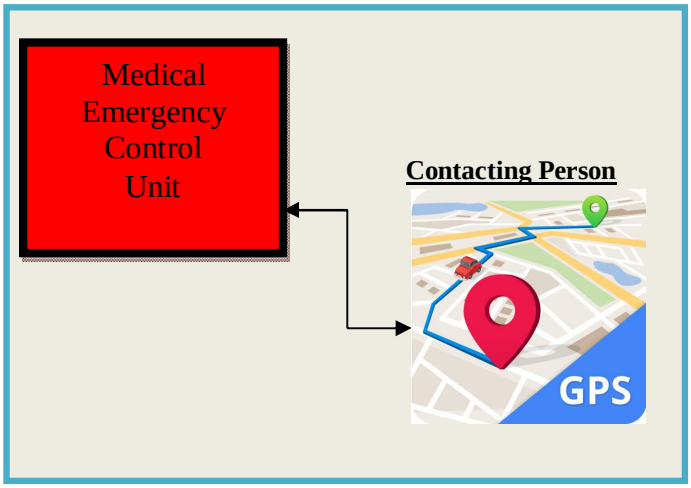


Figure 3: Example of Person Contactor & GPS

©IJRASET: All Rights are Reserved

B. Google Map

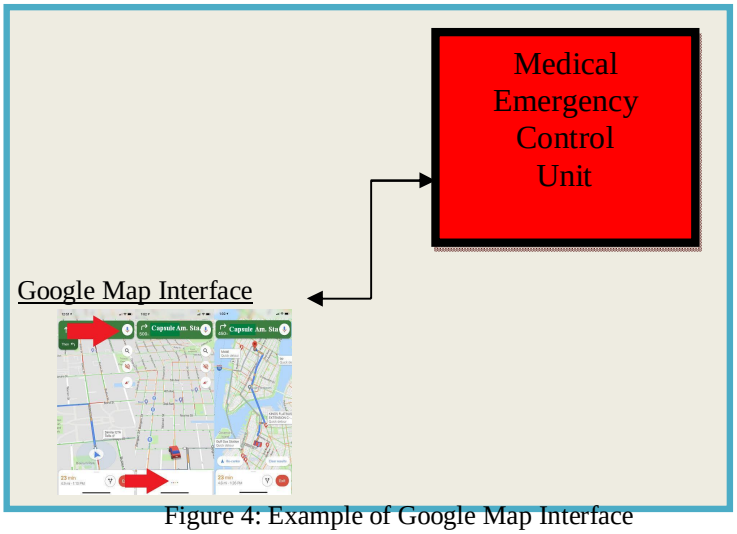


Figure 4: Example of Google Map Interface

We know that Google map is the best way to find path with traffic indication. It also shows heavy traffic on road and finds another light traffic route for us. Google map is more accurate than another.

Medical Emergency Control Unit and all other related things can be controlled by single application. That application also collaborates with Google Map.

After getting route information, from Google map for contacting person to MECU in application, that will automatically send contacting person and person will reach at Capsule Ambulance Station (CAS) according to route information. Simultaneously this will share information of route with ambulance drive to find nearest CAS.

Google map plays an important role for saving time to reach at destination. Because of that millisecond time saving survive chances of patient's can be increases.

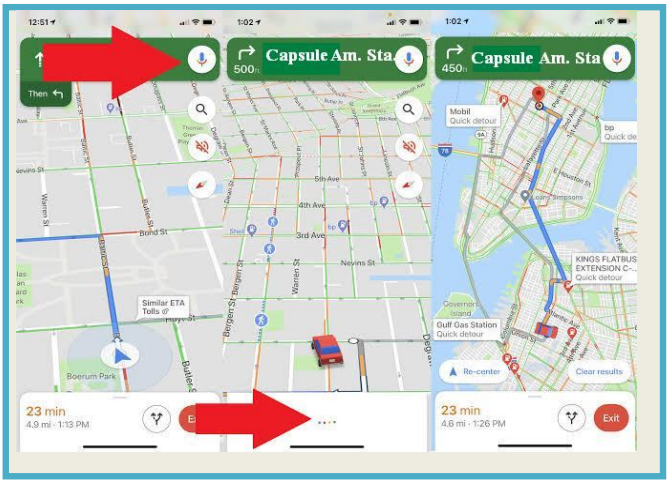


Figure 5: Example of Route on Google Map

C. Capsule Ambulance Station(CAS)

This is an important concept of research. First we see Capsule Ambulance Lines. Here the major advantage is Capsule Ambulance Lines can be constructed using available structure & minimum build new structure. Because of that this is more convenient and cost saving project.

Below image is an example of Capsule Ambulance Model. Its shape will be as like as capsule. I choose it because of aerodynamic structure and also related to medical. This structure will be very strong and light in weight. For that it will be made with cast iron and fabric. Operator control will be both side of model to operator in both directions. Center part will be for patient and emergency medical equipments which will required. Support can be given to cable over which this Capsule Ambulance runs.

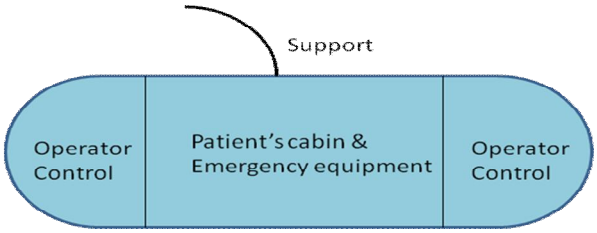


Figure 6: Example of Capsule Ambulance Model

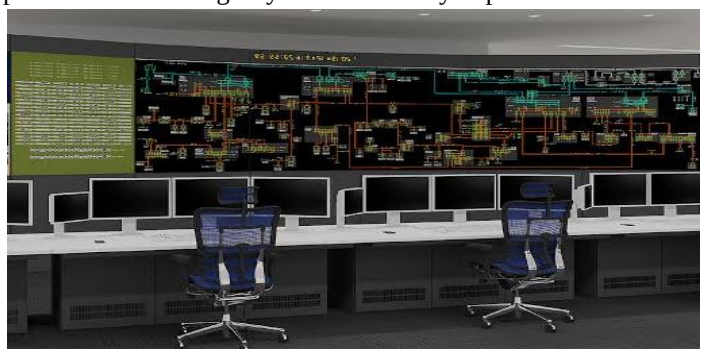
In many metro cities metro or monorail are already available and network of that rails are large, spread all over in the city. Because of large coverage of that rails it is easier that to set up cables below that metro or monorail pillars. If suppose in some area there is not present of that train network then only required to construct some pillars to connect that area with others. Here we required to extent that network at the end of metro city for external patient's who will come from outside of metro city.


Figure 7: Example of Capsule Ambulance Line

At the station there will be facility of lift which help patient directly to keep inside capsule ambulance.

D. Medical Emergency Unit Control (MEUC)

The whole operation of the capsule ambulance can be controlled by medical emergency unit. In this unit there will be all information about all capsule ambulance, emergency person, and traffic on route etc.
This unit also connected with hospital where all emergency team will ready to provide medical service to patient.


Figure 8: Medical Emergency Unit Control

These units contain large wide screen display for information about capsule ambulance traffic and controlling. There will be required a professional persons who can handled all this things. Also we need to develop such program through which we can control all function.

E. Hospitals

The main health care part is well functional hospitals.

At the top near emergency unit there will be capusle ambulance station. Because of this patient will go directly inside emregency unit within minute.



Figure 9: Hospital

We will select high facility hospitals for this. That hospital provides best treatment to patient.

Because of medical emergency unit control already know that where patient going by capsule ambulance, it inform to hospital so all staff will ready to attained that serious patient.



Figure 10: Example of Capsule Ambulance Station at Hospital

If all working properly then we will save more life which are very important for their family and also for us.

F. Application to Controlle and Motering All Operation

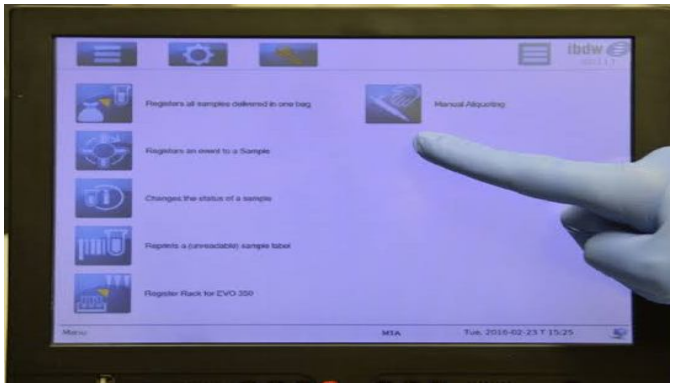


Figure 11: Application Example

To controlled this operation we required perfect application which can be made using coding and designing.

V. ADVANTAGES

A. Very quick process in less time.
B. Save more live.
C. Provide best treatment in less time.

VI. DRAWBACKS

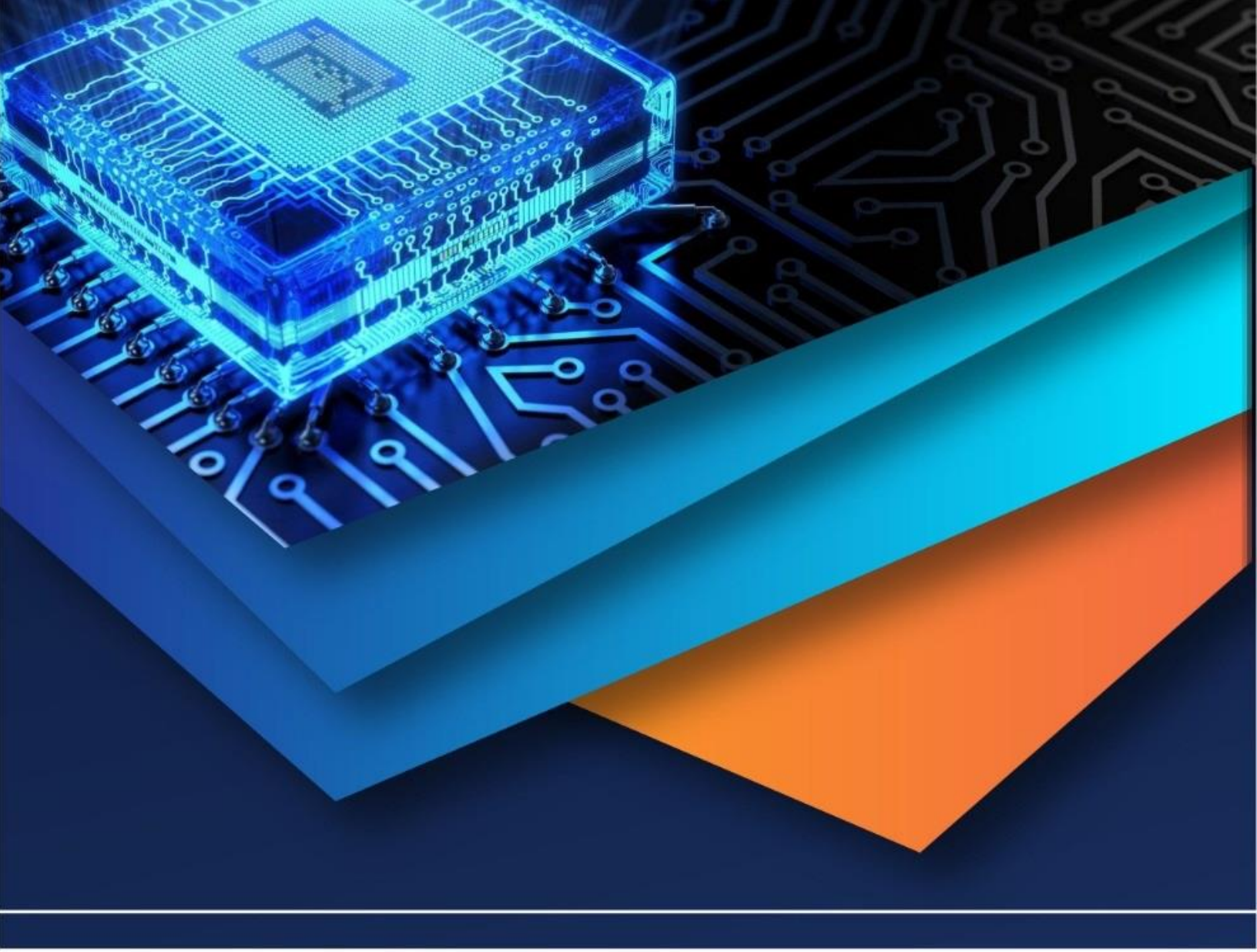
Maintain cost more

VII. SCOPE OF THE FUTURE WORK

1) Every metro city cover under this.
2) Using this capsule ambulance we connect more hospitals

REFERENCES

[1] Carlotta M. Boone, PhD Larry W. Avery Thomas B. Malone, PhD A Research Study of Ambulance Operations and Best Practice Considerations for Emergency Medical Services Personnel December 10, 2014
[2] Mahony KL: Management and the creation of occupational stressors in an Australian and a UK ambulance service. Aust Health Rev 2001, 24:135-145.
[3] Alexander DA, Klein S: Ambulance personnel and critical incidents: impact of accident and emergency work on mental health and emotional well-being. Br J Psychiatry 2001, 178:76-81.
[4] personnel. J Nerv Ment Dis 1999, 187:15-22.54. Brough P: Comparing the Influence of Traumatic and Organizational Stressors on the Psychological Health of Police, Fire, and Ambulance Officers. Int J of Stress Manage 2004,11:227-244**.**
[5] Okada N, Ishii N, Nakata M, Nakayama S: Occupational stress among Japanese emergency medical technicians: Hyogo Prefecture. Prehospital Disaster Med 2005, 20:115-121.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)