INTERNATIONAL RESEARCH JOURNAL IN ADVANCED ENGINEERING AND TECHNOLOGY (IRJAET) E - ISSN: 2454-4752 P - ISSN : 2454-4744
VOL 4 ISSUE 2 (2017) PAGES 3281 - 3288
RECEIVED : 15.03.2018 PUBLISHED : 18.04.2018
April 18, 2018

SMART AMBULANCE WITH PEOPLE IDENTIFICATION SYSTEM USING AADHAAR CARD DATABASE

B.Dhileepan, M.E(Cse), A.S.Kumaresan, M.E. Professor and Head/CSE Priyadharshini Engineering College, Vaniyambadi, Vellore.

ABSTRACT:-

Nowadays, nobody in this world is ready to look what's happening around them. Even though, if any accident occurs no one cares about it. This is an intention to implement an innovative solution for this problem by developing a Person identification System using Aadhaar card database. At present, Ambulance provide a service for unknown person who is facing accident or illness and just take those person to hospital. In this project I am just adding some additional features inside the ambulance to identify the person who is facing accident or illness. After identification send their details to hospital before ambulance reached and inform their family members who is linked in that aadhaar card. In case it is accident send that details to nearby police station. This system has been developed and implemented using the finger print sensor based embedded technology integrated with the evolving smart device. It helps to provide a smartest service for public in smartest way.

Keywords:- Finger print sensor, Aadhaar card database, Smart device.

1.INTRODUCTION

1.1.Overview

India witnessed 17 deaths and 55 road accidents every hour in 2016, one of the highest in the world, according to the latest report released by the Union road transport and highways ministry. Transport Research Wing said road accidents killed 150,785 people across India in 2016.Technologist and engineers are introducing new technologies for reducing the accident rate but it will be happened regularly. That the time of the accident identification of the accidental person is facing some difficulties to identify the person who is facing accident or illness.

This is an intention to implement an innovative solution for this problem by developing a Person identification System using Aadhaar card database. At present, Ambulance provide a service for unknown person who is facing accident or illness and just take those person to hospital. In this project I am adding some additional features inside the ambulance to identify the person who is facing accident or illness.

After identification send their details to Hospital before ambulance reached and inform their Family members who is linked in that Aadhaar card. In case it is accident send that details to nearby police station. This system has been developed and implemented using the finger print sensor based embedded

technology integrated with the evolving Smart Device. It helps to provide a smartest service for public in smartest way.

1.2. OBJECTIVE

The main objective this project is to identify the person who is facing accident or illness. It helps the hospitals, police station and the family members of the accidental person. After identification send their accident details to the hospitals before the ambulance reached to the hospital it helps to the hospitals get ready for the treatment at the time of emergency. Also send their details to the family members of the accidental person who is linked in that Aadhaar card.

If it is an accident send their details to the nearby police station for the purpose of reduce work pressure of the police department at time of accidents.

UP government has made Aadhaar card is mandatory for getting free ambulance service. This project helps to avoid the Aadhaar card is mandatory for getting free ambulance service in Uttar Pradesh.

These are the main objectives of this project it helps to provide a smartest service for the public in smartest way.

2. PROPOSED METHODOLOGY

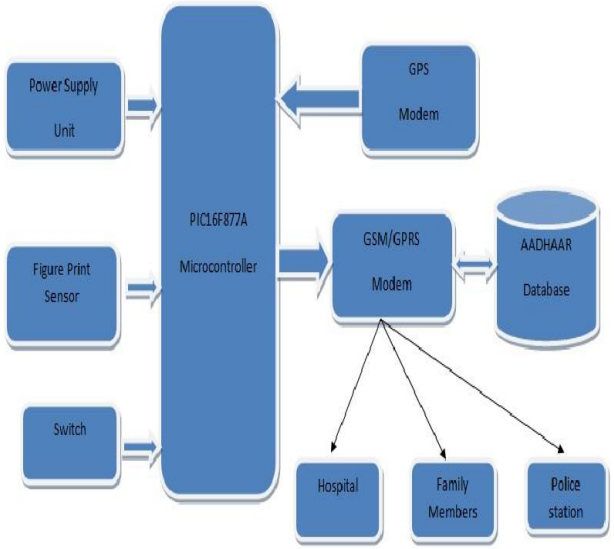
This is an intention to implement an innovative solution for this problem by developing a person identification system using Aadhaar card database. In this proposed system having Bio-metric fingerprint recognition system inside the ambulance for getting fingerprint image of the person who is facing accident or illness. Match that fingerprint image with Aadhaar card database and get the details about that person. After identification send their details to Hospital before ambulance reached and inform their Family members who is linked in that Aadhaar card. In case it is an accident send that details to nearby police station.

ADVANTAGES:

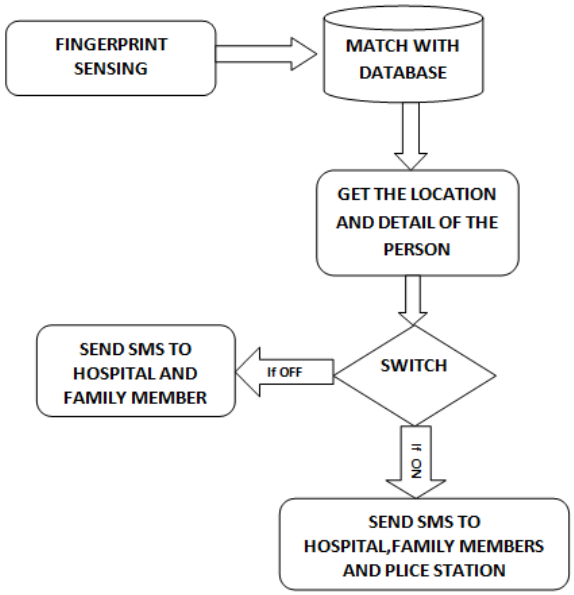
- Easy to identify the person who is ill or injured.
- After identification easy to inform their family members.
- If any accident occurred automatically send that details to nearby police station.
- Hospitals are getting intimation before the ambulance reached so the hospital management is ready to start the treatment for the patient.
- To avoid Aadhaar card mandatory for getting free ambulance service in Uttar Pradesh.

INTERNATIONAL RESEARCH JOURNAL IN ADVANCED ENGINEERING AND TECHNOLOGY (IRJAET) E - ISSN: 2454-4752 P - ISSN : 2454-4744
VOL 4 ISSUE 2 (2017) PAGES 3281 - 3288
RECEIVED : 15.03.2018 PUBLISHED : 18.04.2018
April 18, 2018

3. ARCHITECTURE DIAGRAM



4 . DATA FLOW DIAGRAM



5. MODULE DESCRIPTION

- Fingerprint Identification
- Location Identification

- Send Pop-up Message(SMS)

5.1. FINGERPRINT IDENTIFICATION:

How Fingerprint scanner works

There are mainly two types of scanning methods for this technology. Either an optical or capacitance scanner is used to scan and make a picture of your finger. Though both the methods produce the same type of image, the making of it is completely different. This scanned image is then compared with an earlier existing finger print of yours to get the correct identity. The comparison is carried out by the processor and the comparison is made between the valleys and ridges. Though the steps are simple, very complex algorithms must be carried out to perform this operation.

Though your whole fingerprint is recorded, the computer takes only parts of the print to compare with other records.

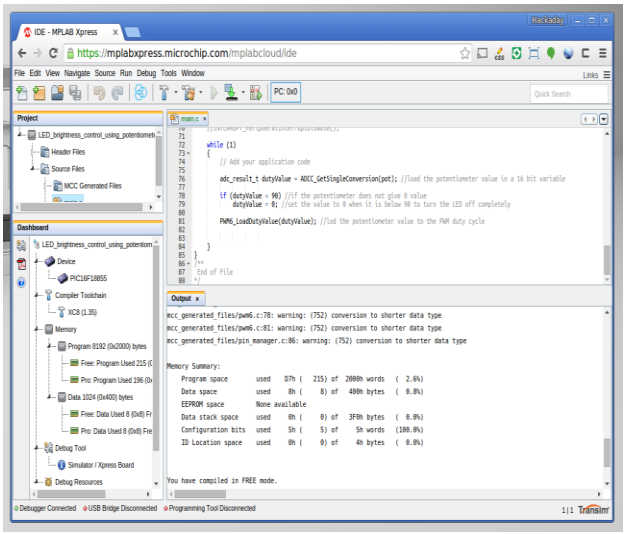


Fig: Sample coding screen shot

That the fingerprint scanner will be integrated with the Microcontroller after integration it must be directly inter connected with Aadhaar card database with the help of Internet. If the fingerprint is matched get the full detail about the person.

5.2. LOCATION IDENTIFICATION

GPS WORKING PRINCIPLE:

In this project I am interfacing GPS modem with pic-microcontroller for the purpose of location identification.

INTERNATIONAL RESEARCH JOURNAL IN ADVANCED ENGINEERING AND TECHNOLOGY (IRJAET) E - ISSN: 2454-4752 P - ISSN : 2454-4744
VOL 4 ISSUE 2 (2017) PAGES 3281 - 3288
RECEIVED : 15.03.2018 PUBLISHED : 18.04.2018
April 18, 2018

What is GPS?

GPS or Global Positioning System is a satellite navigation system that furnishes location and time information in all climate conditions to the user. GPS is used for navigation in planes, ships, cars and trucks also. The system gives critical abilities to military and civilian users around the globe. GPS provides continuous real time, 3-dimensional positioning, navigation and timing worldwide.

How does GPS System Work?

The GPS system consists of three segments:

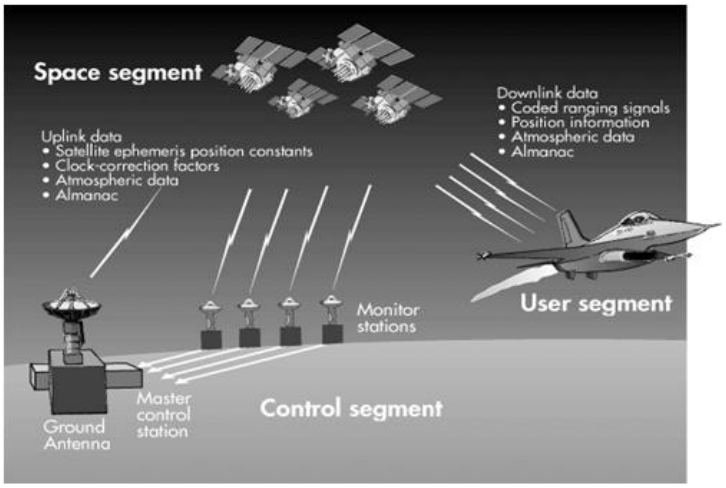
1) The space segment: the GPS satellites

2) The control system, operated by the U.S. military,

3) The user segment, which includes both military and civilian users and their GPS equipment.

Space Segment:

The space segment is the number of satellites in the constellation. It comprises of 29 satellites circling the earth every 12 hours at 12,000 miles in altitude. The function of the space segment is utilized to route/navigation signals and to store and retransmit the route/navigation message sent by the control segment. These transmissions are controlled by highly stable atomic clocks on the satellites. The GPS Space Segment is formed by a satellite constellation with enough satellites to ensure that the users will have, at least, 4 simultaneous satellites in view from any point at the Earth surface at any time.



Control Segment:

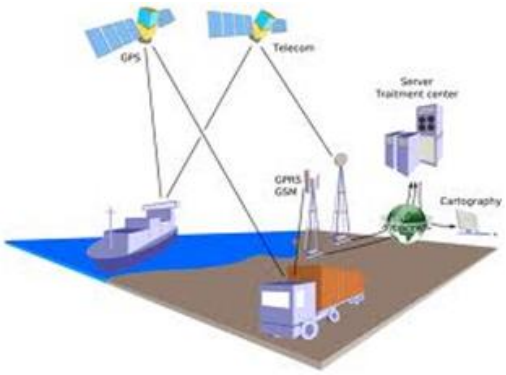
The control segment comprises of a master control station and five monitor stations outfitted with atomic clocks that are spread around the globe. The five monitor stations monitor the GPS satellite signals and

INTERNATIONAL RESEARCH JOURNAL IN ADVANCED ENGINEERING AND TECHNOLOGY (IRJAET) E - ISSN: 2454-4752 P - ISSN : 2454-4744
VOL 4 ISSUE 2 (2017) PAGES 3281 - 3288
RECEIVED : 15.03.2018 PUBLISHED : 18.04.2018
April 18, 2018

then send that qualified information to the master control station where abnormalities are revised and sent back to the GPS satellites through ground antennas. Control segment also referred as monitor station.

User Segment:

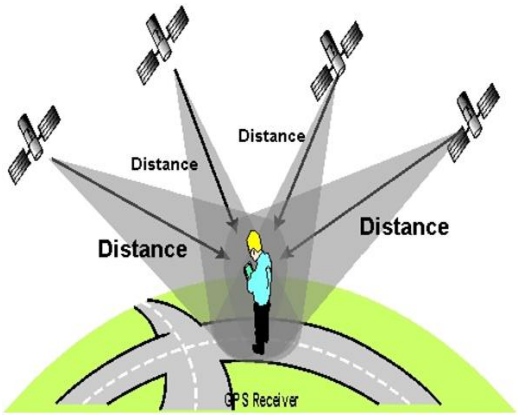
The user segment comprises of the GPS receiver, which receives the signals from the GPS satellites and determine how far away it is from each satellite. Mainly this segment is used for the U.S military, missile guidance systems, civilian applications for GPS in almost every field. Most of the civilian uses this from survey to transportation to natural resources and from there to agriculture purpose and mapping too.



How GPS Determines a Position:

The working/operation of Global positioning system is based on the 'trilateration' mathematical principle. The position is determined from the distance measurements to satellites. From the figure, the four satellites are used to determine the position of the receiver on the earth. The target location is confirmed by the 4th satellite. And three satellites are used to trace the location place. A fourth satellite is used to confirm the target location of each of those space vehicles. Global positioning system consists of satellite, control station and monitor station and receiver. The GPS receiver takes the information from the satellite and uses the method of triangulation to determine a user's exact position.

INTERNATIONAL RESEARCH JOURNAL IN ADVANCED ENGINEERING AND TECHNOLOGY (IRJAET) E - ISSN: 2454-4752 P - ISSN : 2454-4744
VOL 4 ISSUE 2 (2017) PAGES 3281 - 3288
RECEIVED : 15.03.2018 PUBLISHED : 18.04.2018
April 18, 2018



5.3. SEND POP-UP MESSAGE (SMS)

After identification of the person details and the location of the accident zone send that details to the hospitals, police station and family members of the accidental person with the help of GSM/GPRS Modem. This modem also helps to perform the communication between the microcontroller and the cloud storage with the help of the internet connection.

GSM/GPRS MODEM – SIM900

This is a GSM/GPRS-compatible Quad-band cell phone, which works on a frequency of 850/900/1800/1900MHz and which can be used not only to access the Internet, but also for oral communication (provided that it is connected to a microphone and a small loud speaker) and for SMSs. Externally, it looks like a big package (0.94 inches x 0.94 inches x 0.12 inches) with L-shaped contacts on four sides so that they can be soldered both on the side and at the bottom. Internally, the module is managed by an AMR926EJ-S processor, which controls phone communication, data communication (through an integrated TCP/IP stack), and (through an UART and a TTL serial interface) the communication with the circuit interfaced with the cell phone and itself.

6. CONCLUSION

In this paper, at first I have described the Person identification System using Aadhaar card database. I am adding some additional features inside the ambulance to identify the person who is facing accident or illness. After identification send their details to Hospital before ambulance reached and inform their Family members who is linked in that Aadhaar card. In case it is accident send that details to nearby police station. This system has been developed and implemented using the finger print sensor based embedded technology integrated with the evolving Smart Device. It helps to provide a smartest service for public in smartest way.

7. REFERENCES

[1] Sonam Shukla and Pradeep Mishra "Increasing The Accuracy Of An Existing Fingerprint Recognition System Using Adaptive Technique" International Journal of Advanced Research in Computer Science and Software Engineering , Volume 2, Issue 6, June 2012.

[2] Ravi Subban and Dattatreya P. Mankame "A Study of Biometric Approach Using Fingerprint Recognition" Lecture Notes on Software Engineering, Vol. 1, No. 2, May 2013.

[3] Mona Shah and Hiren D. Joshi "Privacy Preserving Data Mining Techniques in a Distributed Environment" International Journal of Computer Applications (0975 – 8887) , Volume 94 – No 6, May 2014.

[4] Mahesh Kadibagil and Dr. H S Guruprasad "Position Detection and Tracking System" IRACST - International Journal of Computer Science and Information Technology & Security (IJCSITS), Vol. 4, No. 3,June 2014.