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***Research Article** (Open Access)*

SAFE ZONE IDENTIFICATION AND SAFETY ALERT SYSTEM FOR FISHER MEN

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ABSTRACT

In regular day to day existence we get some answers concerning various Tamil fishermen being gotten and put under Sri Lankan guardianship and even killed. The sea periphery between the countries isn't viably unmistakable, which is the essential clarification behind this cross edge viciousness. Here we have arranged a structure using embedded system which guarantees the fishers by advising the country edge to them by using global positioning system (GPS) and global system for versatile correspondence (GSM). We use GPS beneficiary to find the present region of the calculating boat or vessel. Using GPS, we can find the present degree and longitude regards and is sent to the microcontroller unit. By then the controller unit finds the present zone by taking a gander at the present degree and longitudinal characteristics with the predefined regard. By then from the delayed consequence of the connection, this system careful the fishermen that they will show up at the nautical periphery. the district is parceled into four zones typical zone, advised zone, zone near bound zone finally the restricted zone. If the barge is in run of the mill an area, by then the lcd shows standard zone. Right now can explain that the vessel is in average zone. If it moves further and shows up at the notification zone, the lcd shows advised zone. If the fisher ignores the counsel or disregard to see the grandstand and move further, and if the vessel enters the zone nearer to the restricted zone the alert will turn on and the speed of the boat engine thus gets obliged significantly. in case the fisher didn't take any reaction about the alarm and move further, by then the vessel will go into the restricted zone, the alert continues blasting as previously, and once it contacts the kept zone, the barge engine gets off by the control of fuel supply to motor. It is utilized to discover air conditions by utilizing wind speed sensor (anemometer) and mugginess sensor

Keywords: *GPS, GSM, Hazardous, Interfaced, Microcontroller, Resonating, Sustainable***.**

INTRODUCTION

Global Positioning System (GPS) gives a wide scope of route and timing administrations. With the joined interlocked use of the GSM innovation, it very well may be utilized for fringe security, following of pontoons and ships in the seas and in the oceans. The present issue of Indian anglers being snatched by the Sri Lankan naval force is of genuine concern. This paper fills in as an advantage for these individuals where a WIFI module framework is appended to the pontoon which thusly is associated with a caution gadget. The WIFI gets the topographic area of the vessel in the ocean and afterward triggers an alert if the fringe of the nation is crossed by the pontoon. Topographic area of a nation'sfringe

can be gotten with the data of the scope and longitude of the spot and position of the vessel. The fringes of every nation are characterized in four levels. The principal level stretches out till a specific separation in the ocean and it is called as the Normal zone of the nation. Succeeding the typical zone the LCD will show the first zone and second level is cautioning zone this additionally showed in the LCD and third is zone close to the confined zone and it likewise showed then fourth is at long last limited zone if the vessel or boat crosses the confined zone the alert will turn on and to slow the pontoon and get invert in reverse course and this framework is for the most part used to discover barometrical changes which is additionally shown in the on to on.. On the off chance that any variation from the norm happens the alarm message will send to the naval force protects.

1. BACKGROUND AND RELATEDWORKS

Krishnamurthy et.al described about implementation of a fisherman guiding system using ZigBee and GPS Technology. In this system they designed a smart electronic system which will be continuously tracking the GPS Location of the fisher man (Krishnamurthy K.T, 2018**)**. R. Dinesh kumar. The automatic alarming system is going to be provided along with this device which alerts in case any sort of issues. This devised in such way that the application can be easily been utilized by all the people in the surroundings (Dinesh Kumar *et al*, 2016). S. Ranjith . The lives of fishermen continued to be difficult. They may face bullets and attacks from opposite navy, at the end of attack fishermen are being abducted and their boats are being captured. (D. Arunvijay and E. Yuvraj, 2014). Right now the anglers by informing the nation fringe utilizing remote and Global framework for portable correspondence (GSM). RF module is utilized to decide the ordinary and cautioning zones. Be that as it may, this framework isn't reasonable for long separation inclusion. Correspondence having a few constraints (i.e., The correspondence is workable for upto10-15)

2. PROPOSEDSYSTEM

In our proposed framework the anglers alarms by advising the nation outskirt utilizing IOT. IOT module is spoken with web and which is utilized to decide the typical and cautioning zones. In the event that the angler overlooks the admonition and moves further, or if the vessel enters the zone closer to the notice zone, at that point caution will alarm and stoppage the vessel. At the same time this framework assists with checking air changes, area of vessel/transport at live and that intermittent data is recorded and if any irregularity takes castle. That data is send to the control station

3. WORKINGPRINCIPLE

The GPS modem will continuously give the signal which determines the latitude and longitude and indicates the position of the fishermen to them. At that point it gives the output which gets read and displayed in the LCD. The same data is sent to the sea border security. An EEPROM is used to store the data, received by GPS receiver. The hardware which interfaces with microcontroller are LCD display, GSM modem, WIFI module, wind speed sensor vibration sensor, humidity sensorand GPS receiver and .GPS (global positioning system) is increasingly being used for a wide range of applications. It provides reliable positioning, navigation, and timing services to worldwide users on a continuous basis in all weather, day and night, anywhere on or near the earth. 28 satellites inclined at 55° to the equator orbit the earth every 11 hours and 58minutes at a height of 20,180 km on 6 different orbital lanes and each one of these satellites has up to four atomic clocks on board. All we require is an accurate clock. By comparing the arrival time of the satellite signal with the onboard clock time, at which the signal was emitted, the latitude and longitudinal degree of the boat’s location is determined. The current design is an embedded application, which will continuously monitor a moving boat and once the boat goes beyond the level of the defined layer the particular operation will be done. For doing so an at328 microcontroller is interfaced serially to a GSM modem and GPS receiver and sensors which is used to give atmospheric changes in the sea and also displayed in LCD.

4. BLOCK DIAGRAM

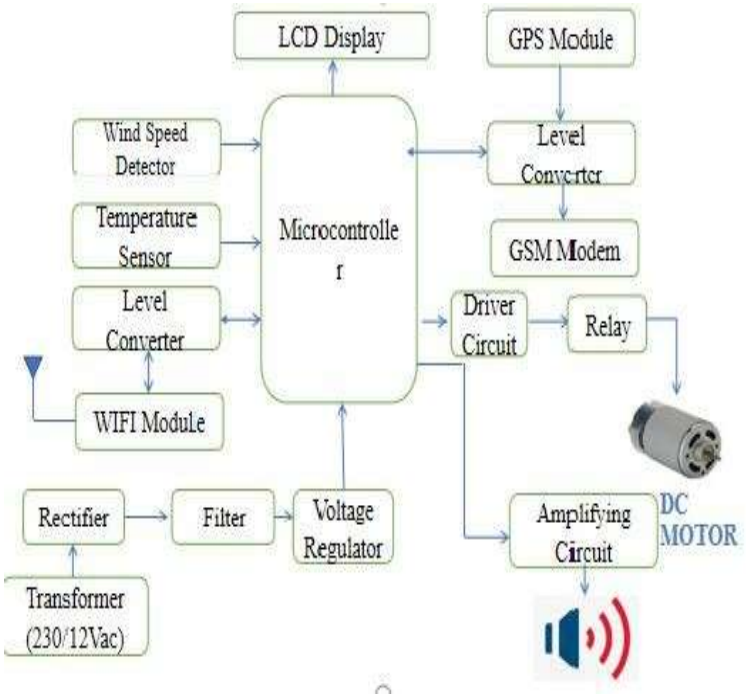

Fig.1 Block diagram

5. GPS

A GPS navigation device, GPS receiver, or simply GPS is a device that is capable of receiving information from GPS satellites and then to calculate the device's geographical position. Using suitable software, the device may display the position on a map, and it may offer directions. The Global Positioning System (GPS) is a global navigation satellite system (GNSS) made up of a network of a minimum of 24, but currently 30, satellites placed into orbit by the U.S. Department of Defense. Finland in December 1991.[2] As of 2014, it has become the global standard for mobile communications – with over 90% market share, operating in over 193 countries and territories

6. GSM

GSM (Global System for Mobile communications) is a standard developed by the European Telecommunications Standards Institute (ETSI) to describe the protocols for second-generation (2G) digital cellular networks used by mobile devices such as tablets.

7. WIND SPEEDSENSOR

An anemometer is a gadget utilized festinating wind speed and course. It is additionally typical climate station instrument.

8. CUPANEMOMETER

It comprised of four hemispherical cups mounted on level arms, which were mounted on a vertical shaft. The wind current past the cups any flat way turned the pole at a rate that was generally corresponding to the breeze speed. Accordingly, tallying the turns of the pole over a set time interim delivered a worth

corresponding to the normal breeze speed for a wide scope of rates. It is additionally called a rotational anemometer**.**

9. HUMDITITYSENSOR

A moistness sensor (or hygrometer) detects, measures and reports both dampness and air temperature. ... Relative mugginess turns into a significant factor when searching for comfort. An example mugginess sensor. Dampness sensors work by identifying changes that modify electrical flows or temperature noticeable all around.

10. LEVELCONVERTER

The coherent level converter is a little gadget that security ventures down 5V signs to 3.3V and ventures up 3.3 V to 5 V. Each level converter as an ability of changing over 4pins on high side and 4 pins on low side.

11. APPLICATIONS:

[1]. The hijack of the ship by the pirates can be eradicated. . [2]. The lost ship wrecks due to natural calamities can be identified. [3]. By keeping the kits in the entire boats and by knowing[4]. The locations of all the boats we can use our kit o assist the traffic. Location of any lost vehicle could be found Smuggling of goods an be controlled along with traffic control. It an be used as bomb detector.

1. CONCLUSION

Danger of anglers in fringe due to unwittingly crossed the outskirt could be decreased by this framework and screen environmental changes. Along these lines sparing their lives and giving great relationship the neighboring nations. Additionally, the theft of boatman be effectively managed. It is difficult to discover the fringe run as in land for anybody in marine locale. At the point when they crossed as far as possible they need to take care of punishment or got captured by neighbor nation naval force monitors. This venture encourages the anglers to manage by route and cautioning them when arrived at as far as possible. This idea of vessels following may grow to person's vehicle security, with the GSM transmitter.

RESULT

In our project, A portable device will be made, which gives a proper information when we cross a border line. The reverse motor will automatically takes a backward direction and comes to the border line. By using our product we can also detect climatic condition to detect the proper data in the sea level. When the fisherman is in critical situation It will automatically gives a message to the Navy guard.

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