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ijirset@gmail.com

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The Fisherman Helping System

Divya T¹, Mohan B², Sharulatha R³, Velmurugan T⁴

U.G. Student, Department of Electronics and Communication Engineering, Builders Engineering College,
Nathakadaiyur, Tamil Nadu, India^{1,2,3}

Associate Professor, Department of Electronics and Communication Engineering, Builders Engineering College,
Nathakadaiyur, Tamil Nadu, India⁴

ABSTRACT : In our day-to-day life we hear a lot of news about fishermen, once out on the sea the fishermen are subjected to various oceanographic and climatic conditions. The fishermen are unable to get the help from the government during emergency situations. This project gives them a solution to get rid of those problems. The Raspberry pi model 3B, DHT22 (temperature and humidity),GPS and GSM Modules are connected to indicate the border. The GPS module is interfaced to monitor the location of the boat all the time. It compares the current data with the reference data fed within the processor, in case of any deviation the buzzer will indicate that they have crossed out Nation's border. We can also use a series of transmitters and receivers to transfer the message from the land mass or the coastal guards to the fishermen in the boat.The main objective of this paper is help to the fisherman. In future, ISRO is planning to make marine communication successful with the help of launching a satellite. This helps to communicate their nearby land location to the rescue team or their family members.

KEYWORDS: Raspberry pi model ,GPS Module ,GSM Module,Satellite.

I. INTRODUCTION

The Tamilnadu Fisherman even today invoke the historical rights and routinely stay into the International Maritime Boundary Line (IMBL) for Fishing. Sri Lanka and India seaside nations are isolated by their sea borders. In Tamil Nadu about 20,000 vessels make spinning in the Bay of Bengal. The main aim is to give a well equitable user friendly environment for Indian Fisherman to handle hazardous situation with the help of engine control. This paper comes with a consistent solution for this problem and protects the Indian fisherman from dangerous situation and being crossing the maritime boundary and save their life and improve the safety offisherman. The system is designed by using GPS and GSM [1]. A GPS route device is a device that precisely discovers natural area by getting data from GPS satellites. This device can track the GPS data every single time at whatever point the fisher man's cross the Indian border. It is a significant depression issue and encourages trouble in the both people and also their economic expenditures.The GPS device will repetitively give the signal which determines the latitude and longitude and indicates the position of the fishermen and which gets read and displayed in the LCD. The hardware which interfaces withas follows micro-controller, LCD display, GSM modem and GPS receiver. GPS provides consistent positioning, navigation, and timing services to users on a continuous basis in every day and night. Then GPS store the storage of the maritime position . While comparing the previous maritime restricted position and current position and result will be the latitude and longitudinal degree of the boats location is determined if the boat nearer to the restricted zone the alarm will turn on and the sound keep on increasing and also speed of the engine will get reduced by using pulse width modulation. In its simplest pulse width modulation output signals are constructed by comparing two signals. The signals are restricted position (carrier signal) and current position (modulation signal) pulse width modulation operating at a low power frequency. While carrier frequency higher than the modulation frequency, the alarm will keep on increasing, if the other case carrier frequency lowers than the modulation frequency, the alarm will keep on decreasing. The controlling unit displays the boat position by using the LCD display and alert to the fisherman through the alarm and turn off the boat motor if the boat crossed the border. The transmission unit sends the position of the boat in the sea to the base station through the Zigbee transceiver



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Dhaanish Ahmed Institute of Technology, KG Chavadi, Coimbatore, India

II. RELATED WORK

The main objective of the paper is to help the fishermen not to navigate beyond other country’s border. If a fisherman navigates beyond the country’s border, an alarm is generated indicating that the fisherman has crossed the border. Additionally, a GSM transmitter interface will send a message to base station located on the shore indicating that a vessel has crossed the border. Thus guards in the shore can assist and provide additional help to those fishermen if needed. Weather conditions in sea like Rain, sunlight and waves speed can be easily monitored using IOT .if fisherman attacked on the boarder side or hearbeat level goes low emergency message will send to navy patrol to get help . On the whole, it is an attempt to build a new suitable device for the fishermen at a reasonably low cost.

III. METHODOLOGY

The proposed system is used to detect the maritime boundary of the country where the long time dispute between SriLanka and India still exists. This mainly happens when fisherman crosses maritime border of neighbouring country as he is not aware of the limits in sea. The proposed system uses a GPS receiver which receives signals from the satellite and gives the current position of the boat. With already known details of the latitude and longitude of the maritime boundary, the microcontroller calculates the current position and stored boundary positions and indicates the fisherman that he has crossed the boundary by an alarm system. It also uses a message transmitter to send message to the base station which monitors the boats in the sea. Our system provides an indication to both fisherman and to coastal guard. Thus the system saves the lives of the fisherman or reduces the damages caused to them by Lankan coast guards.

IV. EXPERIMENTAL RESULTS

Experimental results In Proteus works by applying either a hex file or a debug file to the microcontroller part on the schematic. It is then co-simulated along with any analog and digital electronics connected to it. PIC Bundle is the complete solution for developing, testing and virtually prototyping your embedded system designs based around the Microchip Technologies TM series of Microcontroller. There will be a reference GPRS/GPS location. When the current location exceeds reference location, it intimates them through the Buzzer. The message will be transferred to the registered number in this stimulated module. LCD display will monitor or display the current location of the device. ARDUINO UNO is the processor used here for simulation to interface with GPS. The Hardware results Figure 1 and the final hardware output is displayed in the Figure 2.



Fig 1: Hardware circuit

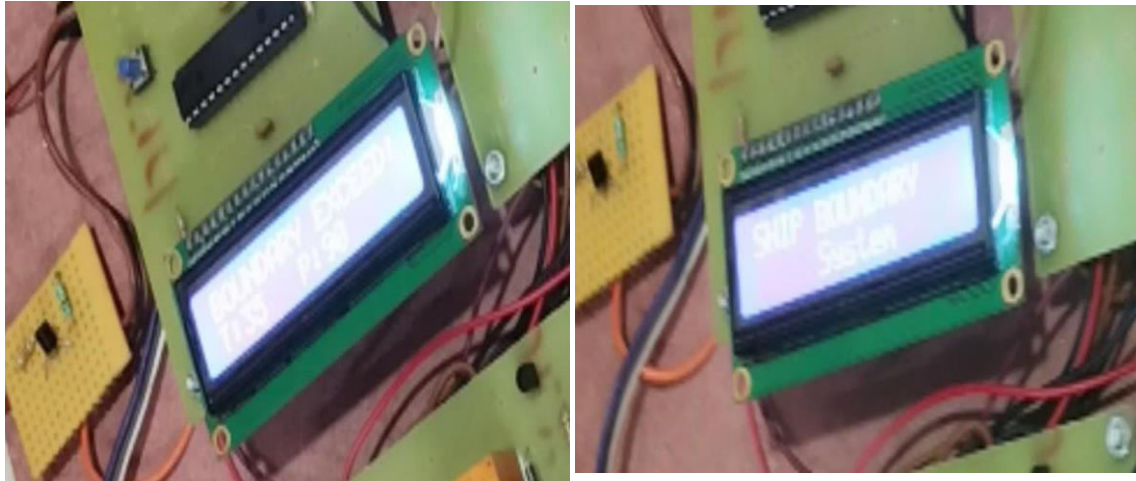


Fig2:LCD Display

V. CONCLUSION

The proposed paper of the Border alert and smart tracking with alarm using DGPS and IOT has proven to be a low cost project. The project also aims at providing peace at the borders and reduces the tensions between the two countries. The proposed system's architecture is reliable. The greatest advantage of the GPS system is the ability of the device to work in any weather conditions and in any means. The system devised will also include a waterproof casing such that the circuit is not prone to any damage. The system provide high accuracy and high precision values of Latitude and Longitude. This model proves to challenge the already existing model which just uses a DGPS device to track the border and make the boat move backwards. This is not useful as, in the middle of the seas, even though there are no waves, the ocean currents can mislead the boat and lead to scrutiny. The system proposed will not only alert the fishermen but also carries the information to the control station and also notifies the family members through the GSM system. In case the boat is lost due to rough conditions of the sea (or) intentional crossing of the border is done, then the information is immediately sent to the border security and the necessary action is taken.

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