Retraction

Retraction: An Intelligent communication system for fisherman (J. Phys.: Conf. Ser. 1916 012053)

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This article (and all articles in the proceedings volume relating to the same conference) has been retracted by IOP Publishing following an extensive investigation in line with the COPE guidelines. This investigation has uncovered evidence of systematic manipulation of the publication process and considerable citation manipulation.

IOP Publishing respectfully requests that readers consider all work within this volume potentially unreliable, as the volume has not been through a credible peer review process.

IOP Publishing regrets that our usual quality checks did not identify these issues before publication, and have since put additional measures in place to try to prevent these issues from reoccurring. IOP Publishing wishes to credit anonymous whistleblowers and the Problematic Paper Screener [1] for bringing some of the above issues to our attention, prompting us to investigate further.

[1] Cabanac G, Labbé C and Magazinov A 2021 arXiv:2107.06751v1

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An Intelligent communication system for fisherman

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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) and BMP180 (pressure) are the sensors connected, to indicate the formation of cyclone. Neo 7m 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 have also fed the location of the islands in the particular zone, so that they can land safely when the cyclone is severe. 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. 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.

1. Introduction
Fishing is one of the most dangerous profession in this world because they are subjected to various oceanographic and climatic conditions and the fishing activity is not being done peacefully. The fishermen are arrested, or shot, by the neighbour countries and they are died due to storm and cyclone. To develop an effective tool to provide the safe navigation system for commercial vessels through waterways is vital thing globally. Safety studies have found that majority of them work at risk. The space research organizations taking this issue into consideration, and they are planning to launch a satellite for the betterment of marine communication [1]. This project will be a solution for border crossing problems, cyclone detection and land safely in the near by islands.

2. Existing system
There is a central communication system to monitor the border between two countries and system intimates the command when fisherman crosses the border and provide an alert signal to them. The automatic border crossing and shipping system receives the exact location of the ship and broadcast the signal using antenna. The broadcasted signal is send to PIC Microcontroller using RS232. The microcontroller stores the current location and signal is send to Zigbee transmitter module. So that the location of ship is acquired by zigbee receiver module and send to the PIC 16F877A controller[2]. The PIC controller transmits the information to the GSM using MAX232. Also the information is passed to the Mobile phone. Then it alerts the fisherman that they reached the border.

There are four zones related with fisherman they are fatal zone, warning zone, zone near to the fatal zone and finally restricted zone. Utilizing the GPS, the current latitude and longitude values
can be found out and is send to the PIC Microcontroller. So that the controller determines the current location by comparing the present latitude and longitudinal value with predefined value. From this result of the comparison, this framework alarms the fisherman of their reach to the maritime border and to trigger an alarm for cautious to the fisherman. The engine turns off if the watercraft touches the border, to halt the watercraft from advance route to spare the men on vessel. So that this framework saves the life of fisherman by making an alarm system with a motor controlled device [3].

3. Objectives
- We can provide a solution to the various hardships faced by the fishermen and educate them about the usage.
- Guide the fishermen with proper navigation and this also prevents them from climatic conditions like storm, cyclone and path misleading.
- It will also make those fishermen feel safe during cyclone, and prevent them from the danger by landing on some nearby islands.

4. Block diagram of proposed system
Figure 1 shows the block diagram.

![Block Diagram](image)

Figure 1. Block Diagram

5. Methodology
Cyclone can be recognized with the assistance of five variables those are Wind speed, Wind direction, pressure, temperature and humidity. We are utilizing two sensors to be specific DHT22 and BMP 180, which helps us to detect the cyclone formation. Raspberry pi Model 3B is used as the processor. The development of cyclones is influenced by the temperature of the underlying sea or explicitly by the thermal energy available in the upper 60 meters (around 200 feet) of sea water. Normally, the hidden sea ought to have a temperature of 26 °C (about 79 °F) in this layer. According to the Meteorological offices information, 80% relative mugginess is indicated inside 100 km of the TC place, changing directly to 20%, 40%, 60%, or 80% somewhere in the range of 100-and 150-km span, with uniform qualities outside 150 km.

When the range of both the sensors are within the specified range, it will alert the fishermen on board. The cyclone formation is intimated. If the cyclone is in the initial stage, then the fishermen will reach the shore. When the cyclone is said to be severe, then GPS module will direct them to the
nearest island. The GPS module will also help them in knowing their own country’s border. The alarm will intimate them, if they unknowingly cross the border [4-6].

THE MARITIME BOUNDARY IN GULF OF MANNER:

| Position | Latitude   | Longitude   |
|----------|------------|-------------|
| 1        | 09°06’.0   | 79°32’.0 E  |
| 2        | 09°00’.0   | 79°31’.3 E  |
| 3        | 08°53’.8   | 79°29’.3 E  |
| 4        | 08°40’.0   | 79°18’.2 E  |
| 5        | 08°37’.2   | 79°13’.0 E  |
| 6        | 08°31’.2   | 79°04’.7 E  |
| 7        | 08°22’.2   | 78°55’.4 E  |
| 8        | 08°12’.2   | 78°53’.7 E  |
| 9        | 07°35’.3   | 78°45’.7 E  |
| 10       | 07°21’.0   | 78°38’.8 E  |
| 11       | 06°30’.8   | 78°12’.2 E  |
| 12       | 05°53’.9   | 77°50’.7 E  |
| 13       | 05°00’.0   | 77°10’.6 E  |

6. 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. [7-10] This software allows you to perform schematic capture and to simulate the circuits you design as shown in figure 2.

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.

![Circuit simulation using proteus 8 software](Image)

Figure 2. Circuit simulation using proteus 8 software

The Hardware results of BMP180 (Figure 3), DHT22 (Figure 4) and the final hardware output is displayed in the Figure 5.
7. Conclusion

In previous days, fishermen cannot easily find out the border and proper information about climatic condition. With the help of this project, we can easily identify the border and continuous monitoring of climatic condition. The monsoon season is generally more productive than other seasons. Therefore, the fishermen are prone to take maximum risks in this season and sometimes neglect the...
warnings. Fishermen can also calculate the distance of the nearby island. Knowing the cyclone’s intense, they themselves can make an alert and intimate a message of sharing their location. This project helps them in saving their lives during Cyclones. This also provides the information of their locations, which makes their families feel good. This system makes the Fishermen feel self-confident in all situations. It also intimates them when they cross the border.

References

[1] Aruli.K, J.Asha, S.Mohamed Nizar, M.Malathi A Review on GPS tracking and border alert system for fisherman, International journal of science and technology & Engineering 2015.
[2] R.Sureshkumar, Dr.S.U.Prabha, Smart garbage management system using GPS and GSM International journal of innovative technology and Exploring Engineering, Volume:8, Issue:6, April 2019, ISSN:2278-3075.
[3] Bhaskar, Harish, Integrated human target detection, identification and tracking for surveillance applications, 6th IEEE international conference on Intelligent systems, PP:467-475, sofia 2012.
[4] Ramkumar B and Harish M Kittur 2012 Low-Power and Area-Efficient Carry Select Adder, IEEE Transactions on Very Large Scale Integration (VLSI) Systems 20 No 2 pp 371–75.
[5] Pallavi Saxena 2015 Design of Low Power and High Speed Carry Select Adder Using Brent Kung Adder, Int. Conf. on VLSI Systems, Architecture, Technology and Applications (VLSI-SATA), pp 1-6.
[6] H. Anandakumar and K. Umamaheswari, A bio-inspired swarm intelligence technique for social aware cognitive radio handovers, Computers & Electrical Engineering, vol. 71, pp. 925–937, Oct. 2018. doi:10.1016/j.compeleceng.2017.09.016
[7] R. Arulmurugan and H. Anandakumar, Early Detection of Lung Cancer Using Wavelet Feature Descriptor and Feed Forward Back Propagation Neural Networks Classifier, Lecture Notes in Computational Vision and Biomechanics, pp. 103–110, 2018. doi:10.1007/978-3-319-71767-8_9
[8] Khalid S N K 2007 An Image Processing Approach Towards Classification of Defects on Printed Circuit Board Projek Sarjana Muda, UniversitiTeknologi Malaysia.
[9] Liu W, Anguelov D, Erhan D, Szegedy C, Reed S, Fu C and Berg, A.C SSD 2016 Single shot multibox detector in Proc. Eur. Conf. Comput. Vis. Cham, Switzerland: Springer pp 21–37.
[10] Nakazawa T and Kulkarni D V May 2013 Wafer map defect pattern classification and image retrieval using convolutional neural network IEEE Trans. Semicond. Manuf., 31 no. 2 pp. 309–314.