Border Alert and Message sending system for Fisherman

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ABSTRACT

Countries with the IMBL will have some security problems and continuous life threads for the fishermen whose family main economic income comes by fishing. In our country INDIA has their boundary limit in the ocean these fishermen unknowingly or carelessly cross these boundary lines and they are facing bullets from opposite Navy. The main idea to design this system is to safeguard the fishermen from being caught by Sri Lankan navy in coastal area. In this system we implement GPS and GSM technology. The GPS technology is to navigate and to track the live location of the fisherman boat. Whenever fishermen reaches or crosses the International Maritime Boundary Line(IMBL) they will be alerted and if they move future in deep sea their live location will be send to our INDIAN COAST GUARD using GSM technology for future action taken by our Indian Coast Guard.

Keyword:- *GPS,GSM,IMBL.*

1. Introduction

The TamilNadu's fishermen do not get enough fish in their region they start to look further in the wide sea and the small island called katchatheevu which was under the India's territory until 1976 after which it was given to the Srilanka. This is the place where a large variety of fish are found and the fishermen's most traditional places to fish. It was shared by both Srilanka and India after a few years from that the srilankan navy treated it as their own island and did not allow any of the fishermen to enter into their region and if trespassed they would be shot dead or captured as prisoners. we have developed a system which eliminates such problem and saves the life of fishermen.

2.Working principal

The system is fixed in the fishermen boat which has the GPS and GSM integrated in it. The GPS modem will continuously give the signal which has the latitude and longitude and indicates the position of the fishermen. By this the Indian Coast guard will have a application in which they have to login and they will monitor the live locations of the fishermen. This GPS provides reliable positioning and navigation. For this 24 satellites inclined to 45 degree to the equator at the height of 20 to 180 km on six different orbits will monitor the fisherman boat location and it will compare with the IMBL coordinates if the live location of the boat matches or higher to the IMBL coordinates it will give alert to the fishermen and the live location will be reported to the coast guard.

3.Existing System

At present there are few existing systems which help to identify the current position of boat using GPS System. For the purpose of finding the fishermen they are using GPS72h which is used for the navigation in sea. These type of system ensures whether the boat reaches its destination safely or not.


Fig-1 India Srilanka reference locations

4.Proposed System

The GPS(Global Positioning System) receiver contains a computer that "trilaterates" its own position by getting distances information from three satellites. The result is provided in the form of a geographic position(longitude and latitude) to the application in the computer. The system detects the other county's border by the predefined longitudinal and latitudinal positional degrees stored in the database. When the boat crosses the border it first alert the fisherman and then it sends the live location of the boat with the boat details to the Indian Coast Guard for future actions. The application in the computer stores all the live locations and details of the boat in the Database.

4.1 Proposed system Architecture
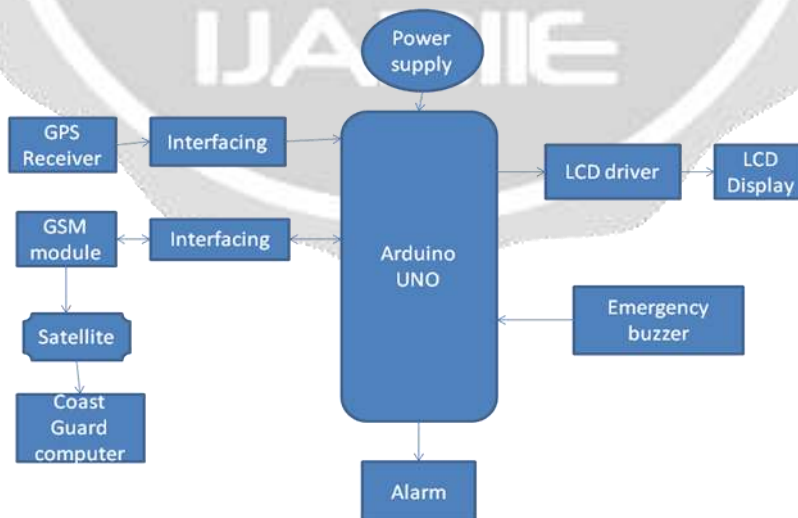
5.Modules

5.1 Identification of current location

A GPS navigation device is a device that receives Global Positioning System(GPS) Signals for the purpose of determining the device current location .this device provide latitude and longitude information. The accuracy of the GPS depends on the type of receiver. most of the hand held GPS have the accuracy of 10-20 meter. Other type of receivers use a method called Differential GPS to obtain high accuracy.

5.2Message communication for transmission.

GSM module is used for transmission of message seeking assistance.GSM cannot be used in oceans as no tower cannot be placed in oceans. Thus satellites can be used for message transmission. when the boat crosses border the stored details of boat and live location (latitude and longitude)is send to the desired GSM module.

6.Future enhancement

We can use high level storage devices to store the previous navigation positions up to 256 locations. we can reduce the size of the kit by using GPS and GSM in the same module.

7.Conclusion

From this system the fishermen can easily identify the national sea borders and therefore prevents them from entering to the other country coastal area. Thus saving lives and providing the piracy of boat can be easily brought under control.

8.References

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