NEITHAL NAVIGATION SYSTEM FOR FISHERMEN USING IOT

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Abstract –The fisherman's job is very enduring and dangerous,he risk's his life each day for the sake of his livelihood and the health of his family.The main objective of the project is to help fishermen, not to navigate beyond other country's border using the GPS.The proposed system uses GPS module, emergency button , temperature sensor and load cell sensor.In addition LCD display is placed to share the information in terms of messages.

Keywords-GPS tracking,Emergency button, Information sharing,temperature sensor.

I. INTRODUCTION

Fishing has been the most important economic activity in the coastal areas of the country.Even though there is an allocated area for Indian fishermen to do their fishing activities, they tend to fish in other zone which belongs to India's neighboring countries.This is called IUU (Illegal Unreported and Unregulated) fishing[1]. To overcome this problem, we use GPS module in this project.The Global Positioning System(GPS)[2] is a constellation of satellites that orbit the earth,transmitting precise time and position(latitude,longitude and altitude) information.With a GPS Receiver, users can determine their location anywhere on the Earth.

The information can be shared to the fishermen using the Web Application[3] by the Government.The fishermen will receive the information interms of messages in the LCD display.The emergency button in the boat is placed to alert the Government,when the fishermen are at danger,then the details about the fisherman will be shown in web application(Boat ID , GPS location ,status, fisherman detail).

In addition,temperature sensor and load cell sensor are used in this project.The load cell sensor measures the weight of the fish tin frequently.The temperature also displays in the LCD display using temperature sensor.

Our project is mainly focused to save the life of fishermen due to natural calamities like cyclone,Tsunami,etc,.

Figure 1:Image of fishing

II. LITERATURE REVIEW

In the paper "Alert system for fishermen border crossing"[3].This project is used for device tracking.This provides ease to operate even for illiterate people.

In this paper "IDEA:Integrated Distributed Energy Awareness for wireless sensor network's" [4].This project is used to ensure complete sensor coverage or route data to the networks edge.

In this paper"Navigation Alert System for Fisherman Using Lab-View"[5].This project is used to avoid accident and to alert the fishermen about the border areas.

III. PROPOSED SYSTEM

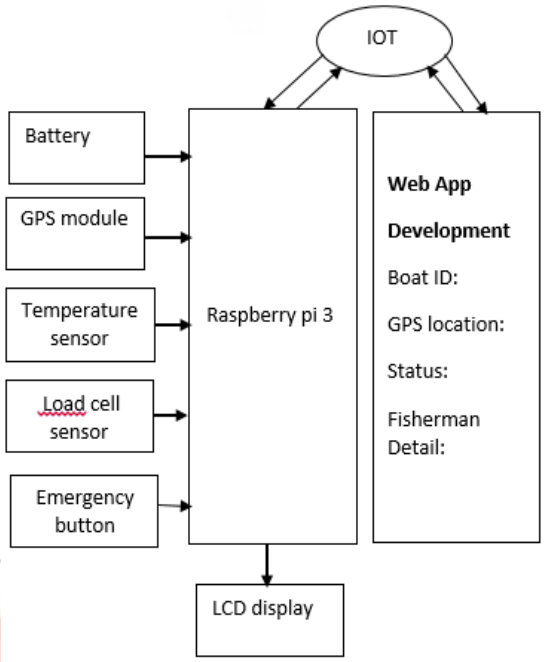

Figure 2:Block Diagram

GPS MODULE:

Figure 3:GPS Module

A GPS working principle is that,itmeaures the time interval between the transmission and a reception of the satellite signal,and then it calculates the distance between the user and each

satellite.Through the distance measurements of atleast three satellites in the algorithm computation,the GPS receiver arrives at an accurate position fix.To obtain a 2-D fix(latitude and longitude),information must be received from three satellites and for a 3-D fix(latitude, longitude and altitude),four satellites are required .

TEMPERATURE SENSOR:

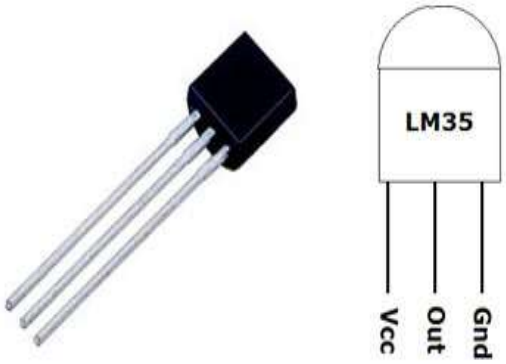

Figure 4:Temperature sensor

This temperature and humidity sensor features a complex with a calibrated digital signal output.This sensor includes a resistive type humidity measurement component and fast response and cost effectiveness[6].

The operating range of temperature sensor is from -55^{o} to 150^{o}C.Relative humidity is the ratio of actual moisture in the air to the highest amount of moisture that can be held at the air temperature.

LOAD CELL SENSOR:

The heart of any weighing system is the load cell.Load cells are designed to sense force or weight under a wide range of adverse conditions[7].

Figure 5:Loadcell Sensor

RASPBERRY PI:

Figure 6:Raspberry Pi3

The raspberry pi is a small computer,same as the computers with which were already familiar.It uses many different kinds of processors.Raspberry Pi is also used to surf the internet,to send an email, to write a letter using word processor,but we can do so much more.Simple to use but powerful, affordable and in addition difficult to break.Raspberry Pi is a

perfect device for aspiring computer scientists.It has the size of a credit card.As well we know with technology,generally the smaller it is the better[8].

Figure 7:Pin Diagram of Raspberry Pi3

LIQUID CRYSTAL DISPLAY:

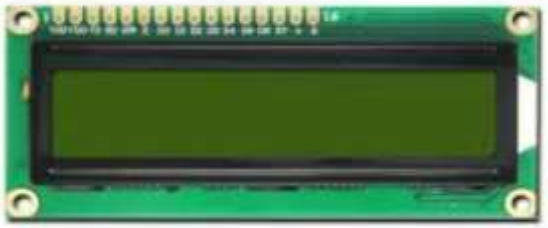

Figure 8:LCD Display

A liquid crysaldisplay(LCD) is a flat-panel display or other electronically modulated optical device that uses the light_modulating properties of liquid crystals.It do not emit light directly[9].

IV. CONCLUSION

Thus, our project induces the new methodology for saving the fishermen valuable life.It is an useful device for safer navigation , especially for fishermen.Avoids illegal border crossing and the information from the government are also conveyed as messages.It also indicates the temperature with humidity and weight using the Web Application.Hence,this project is useful during the natural disasters such as cyclone,Tsunami,etc,.

Figure 9:Image of happy fishing

V. RESULT AND DISCUSSION

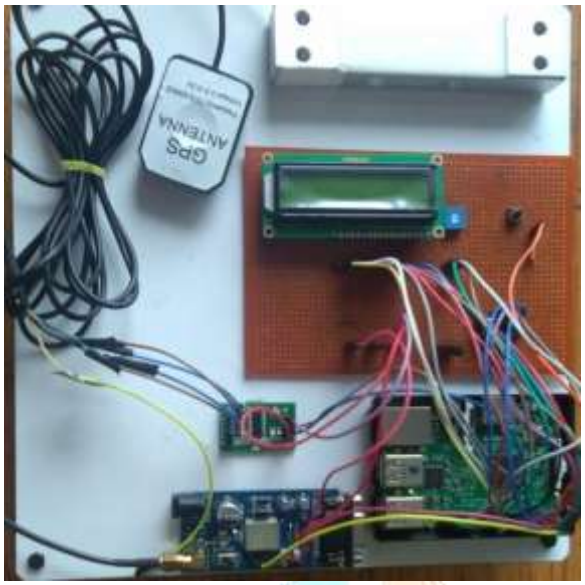

Figure 10:Hardware Implementation

The figure 10 shows the hardware interface of our project"NEITHAL NAVIGATION SYSTEM FOR FISHERMEN USING IOT",which mainly uses to save the life of fishermen by sharing the information.

VI. REFERENCES

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