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Tel No. (091)(044) 22502081-84 Fax No. 044 22502066

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सत्यमेव जयते

GOVERNMENT OF INDIA

INTELLECTUAL
PROPERTY IN
PATENT DESIGN TRADE
GEOGRAPHICAL INDICATION

Date/Time : 17/04

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CHALLAN : TR-5

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To,

DR. G. HEMATH KUMAR

JAYA ENGINEERING COLLEGE, PRAKASH NAGAR, THIRUNIRAUOR, CHENNAI, TAMIL NADU.

compositestudent@gmail.com

Sr. No.	CBR No.	Reference Number /Application Type	Application Number	Title/Remarks	Amou Paid
1	7445	ORDINARY APPLICATION	1987/CHE/2015	"ESCORTING THE TAMIL FISHERMEN FROM CROSSING THE INTERNATIONAL MARITIME BOUNDARY LINE"	1760
2		E-2/1173/2015-CHE	1987/CHE/2015	Form2	0
Total :					1760

Received a sum of Rs. 1760 (Rupees One Thousand Seven Hundred & Sixty only) through

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Cheque	State Bank of India	821706	17/04/2015	1760

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FORM 1 THE PATENTS ACT, 1970 (39 of 1970) & The Patents Rules, 2003 APPLICATION FOR GRANT OF A PATENT (See sections 7, 54 and 135; rule 20(1))		(For office use only)	
		Application No.:1987/CHE/2015 Filing Date:17/04/2015 Amount of fee Paid:1760.00 CBR No.:7445 Signature:S/D	
1.APPLICANT(S)			
Name		Nationality	Address
C. Barani Kumar P. Inbaskaran M. Mani Kumaran S. Naveen Dr. G. Hemath Kumar		Indian	Jaya Engineering College, Prakash Nagar, Thirunirauor, Chennai, Tamil Nadu
2.INVENTOR(S)			
Name		Nationality	Address
C. Barani Kumar P. Inbaskaran M. Mani Kumaran S. Naveen		Indian	Jaya Engineering College, Prakash Nagar, Thirunirauor, Chennai, Tamil Nadu
3.TITLE OF INVENTION			
“Escorting the Tamil Fishermen from Crossing the International Maritime Boundary Line”			
4. ADDRESS FOR THE CORRESPONDENCE OF APPLICANT IN INDIA		Telephone No:	
Jaya Engineering College, Prakash Nagar, Thirunirauor, Chennai, Tamil Nadu		Fax No:	
		Mobile No.:	9710764825
		E-mail:	hemathkumar1959@yahoo.com
5.PRIORITY PARTICULARS OF THE APPLICATION(S) FILED IN CONVENTION COUNTRY			
Country	Application Number	Filing Date	Name of the applicant Title of the invention
6. PARTICULARS FOR FILING PATENT COOPERATION TREATY (PCT) NATIONAL PHASE APPLICATION			
International Application number		International filing date as allotted by the receiving office	
7. PARTICULARS FOR FILING DIVISIONAL APPLICATION			
Original (first) Application number		Date of filing of original (first) Application	
8. PARTICULARS FOR FILING PATENT OF ADDITION			
Main application/ Patent Number		Date of filing the main application	
9. DECLARATIONS			
(i)Declaration by the inventor(s)			
I/we, the above named inventor(s), is /are the true & first inventors for the invention and declare that the applications therein are /are our assignee or legal representative.			
(a) Date. 08/04/2015			
(b) Signature(s)			
(c) Name(s) C. Barani Kumar, P. Inbaskaran, M. Mani Kumaran and S. Naveen			
(ii)Declaration by the applicant(s) in the convention country			
I /we, the applicant(s) in the convention country declare that the applicant(s) here in is /are my /our assignee or legal representative.			
(a) Date. 08/04/2015			
(b) Signature(s)			
(c) Name(s) C. Barani Kumar, P. Inbaskaran, M. Mani Kumaran S. Naveen and Dr. G. Hemath Kumar			
(iii) Declaration by the applicant(s):			
I/We , the applicant hereby declare that :-			
<input checked="" type="checkbox"/> I am /We are in possession of the above mentioned invention			
<input checked="" type="checkbox"/> The provisional /Complete specification relating to the invention is filled with this application			
<input checked="" type="checkbox"/> The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be Submitted by me /us before the grant of patent to me/us.			
<input checked="" type="checkbox"/> I am/we are the assignee or legal representative of true and first inventors.			

- The application or each of the applications, particulars of which are given in para 5 was the first application in convention country /countries in respect of my /our invention.
- I /we claim the priority from the above mentioned application(s) filed in convention Country/ countries and state that no application for protection in respect of the invention has been made in a convention country before the date by me/us or by Any person from which I/We derive the title.
- My/our application in India based on international application under Patent Cooperation Treaty (PCT) as mentioned in para-6.
- The application is divided out of my /our application particulars of which are given in Para-7 and Pray that this application may be treated as deemed to have been Filled on _____ under sec.16 of the Act.
- The said invention is an improvement in or modification of the invention particulars of which are given in para-8.

10. Following are the attachments with the application:

- ✓ a) ~~provisional specification~~ Complete specification
- b) Complete specification in conformation with the international application /as amended before the international Preliminary examination authority(IPEA), as applicable (2 Copies), no. of pages _____ No. of Claims _____
- ✓ c) Drawings in conformation with the international application .as amended before the international Preliminary Examination Authority(IPEA), as applicable (2 Copies), No. of sheets _____
- d) Priority Documents
- e) Translation of priority document./Specification / International search Report
- f) Statement of undertaking on form 3
- g) Power of authority
- h) Declaration invent ship inform 5
- ✓ i) Sequence listing in electronic form
- ✓ j) Fee Rs.1760..in cash/~~Cheque~~/~~Bank Draft~~ bearing no.
Date .17/04/15....on .--SBI.....Bank

I /we hereby declare that to the best of my /our Knowledge, information and belief that the fact and matters stated herein are correct and I /We request that a patent may be granted to me /us for the said invention.

Dated: 17/04/2015

Signature(s):-

Name: C. Barani Kumar

P. Inbaskaran,

M. Mani Kumaran

S. Naveen

Dr. G. Hemath Kumar

To
The controller of Patent
The patent office, at Chennai

Note: - *Repeat boxes in case of more than on entry.

- To be signed by the applicant(s) or by authorised registered patent agent otherwise where mentioned.
- Tick (✓)/Cross (x) whichever is applicable /not applicable in declaration in Para - 9.
- Name of the inventor and the applicant should be given in full, family name in the beginning.
- Complete address of the inventor and the applicant should be given stating the postal index, No. /Code state and country, * Strike out the column which is/are not applicable * For Fee: see First schedule

FORM 2
THE PATENTS ACT, 1970
(39 of 1970)
&
The Patents Rules, 2003
COMPLETE SPECIFICATION
(See sections 10 and rule 13)

1. TITLE OF THE INVENTION

“Escorting the Tamil Fishermen from Crossing the International Maritime Boundary Line”

2. APPLICANT(S)

(a) NAME : C. Barani Kumar, P. Inbaskaran, M. Mani Kumaran and S. Naveen

(b) NATIONALITY : Indian

(c) ADDRESS : Jaya Engineering College, Prakash Nagar, Thirunirauor, Chennai, Tamil Nadu

3. PREAMBLE TO THE DESCRIPTION

PROVISIONAL

The following specification describes the invention.

COMPLETE

The following specification particularly describes the invention and the manner in which it is to be performed.

4. DESCRIPTION (Description shall start from the next page.)

5. Claims (not applicable for provisional application. Claims should start with the preamble- **“I/we Claim”** on separate page)

6. Date and Signature (To be given at the end of last page of specification)

7. ABSTRACT OF THE INVENTION (To be given along with complete specification on separate page)

Note:

- * Repeat boxes in case of more than one entry.
- * To be signed by the applicant(s) or by authorized registered patent agent.
- * Name of the applicant should be given in full, family name in the beginning
- * Complete address of the applicant should be given stating the Postal Index No. / Code, State and Country
- * Strike out the column which are not applicable

TITLE OF THE INVENTION:

Escorting the Tamil Fishermen from Crossing the International Maritime Boundary Line

1. Field of the Invention : Electronics and Communication Engineering

2. Brief Description :

2.1. Introduction:

The Indian Coast guard was formally inaugurated on 18th August 1978. It is said as an independent armed force of the Indian Union, through an act of parliament. It is the fourth armed force under the Ministry of Defense-the first three being the Army, the Navy and the Air Force. It has a specific character for non-military security but addresses to national defense. It normally deals with marine safety, maritime security, lifesaving, law enforcement, marine environmental security and fisheries. These call for monitoring, control, surveillance and response at sea. The coast guard has multiple responsibilities and strengthening the safety of fishers. Fishers are vulnerable to disasters of several kind accidents, casualties, abduction and alien interventions. The Indian coast guard cannot assist fishers exclusively but concern for fishers central to its aims. The strategic role of the coast guard is to protect the maritime zones from illegal activities including infiltration through maritime routes and environmental damage and provide humanitarian and scientific assistance with the maritime domain. The Indian Coast guard too has its exclusive duties and functions as spelled out in the coast guard act 1978, include

- Safety and protection of islands and offshore structure.
- Protection and preservation of maritime environment and endangered species.
- Prevention and control of pollution in the maritime zone.
- Assistance to the customs in anti-smuggling operations.
- Assistance to fishermen in distress at sea.
- Safe guarding life and property at sea.
- Preventing poaching in Indian water.
- Assisting in ocean research.
- Enforcing maritime law.

Even though we have this much of coast guard security, all things happening opposite to our thinking. Indian coast guard has openly admitted its failure in preventing Mumbai attack even after getting a warning from intelligence sources prior to the attack. This clearly shows that our sea defense is weaker than we believe. The foreign trawler easily overcoming our coast guard security force. Every day we hearing news about fishermen killed or imprisoned when they cross the National sea border inadvertently. The most outstanding problem is being going on for trans-border finishing i.e., on the Indo-Srilankan border. Here two distinct issues are arising. First is the moment of Indian boats into Srilankan water without any intimation or prior information that they crossed the border area. Historically there is no border problem which is being arose and fixed in 1974 and having no conflicts till Civil war in 1983. After this, both country authorities restricted due to security concern. After that restriction also, smaller scale fishermen undergo for fishing and get attacked. In India, they have always been at loggerheads with the trawl fleet. So going beyond that limit to catch fish is being done by our fisher and got the punishment either death or severe injuries. Also when fishermen sight a foreign trawler poaching in the fishing grounds, they watch helplessly, sometimes trying to fight resulting to injuries and death. The trawler would often leave without fear of penalty. Poaching is getting a series problem since this would cause environmental crisis in coastal zones. This all happening in governance of our coast guard force only. Daily we get news about the happenings being going in coastal areas. Many fishermen get injuries and even to death only because of the insecurity. Proper steps should be taken out in favor of our fishermen to have independent freedom with prior security to protect them. Here many effective measures can be taken to reduce these accidents. Most effective solution would be to reduce the trawler fleet on the Indian side. This can be done easily now. We are going to design a new device that would help these problems. Our design deals with an innovative handheld device which would transform the fishermen community as the eyes and ears of the Indian Coast guard. Upon sighting an intruder or poacher, the device allows the fishermen to calculate its exact location using Received Signal Strength Indicator (RSSI).

2.2. Location of Mari time boundary line

The maritime boundary line starts from lakshdweep sea and ends at bay of Bengal. The agreement between India and Sri Lanka on the boundary in historic between the two countries and related matters. The figure 1 shows the maritime boundary between India and Sri Lanka.



Fig.1. Maritime boundary line between india and srilanka

2.3. Module circuit diagram

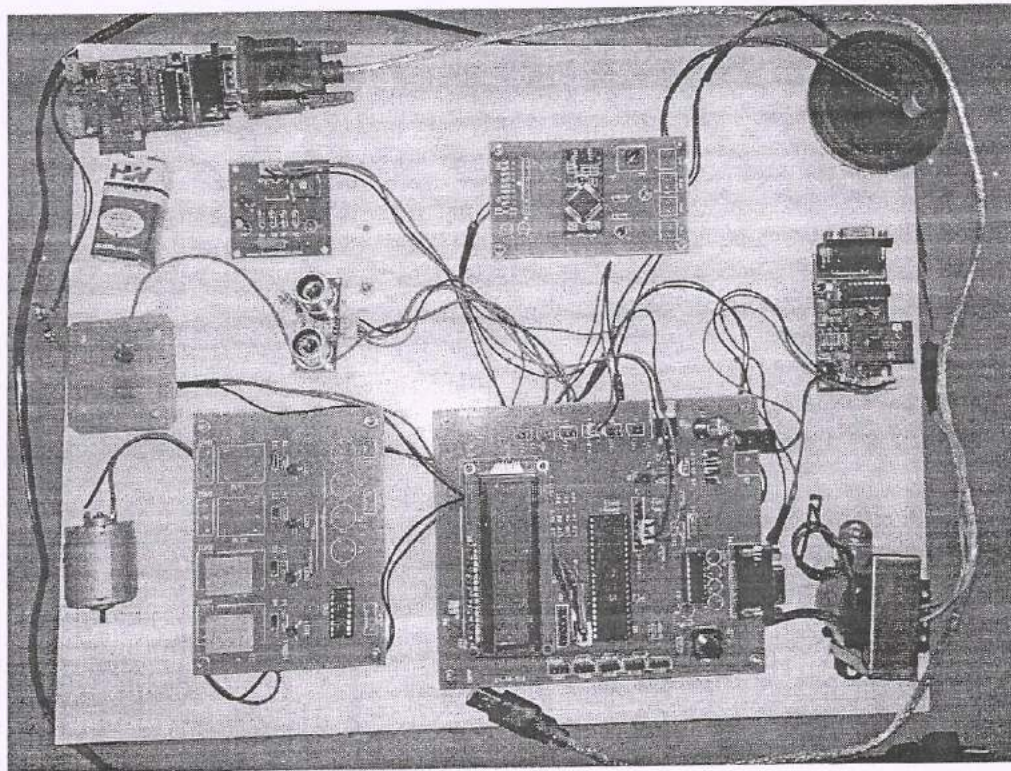


Fig.2. Hardware kit snapshot

2.4. Respective outputs

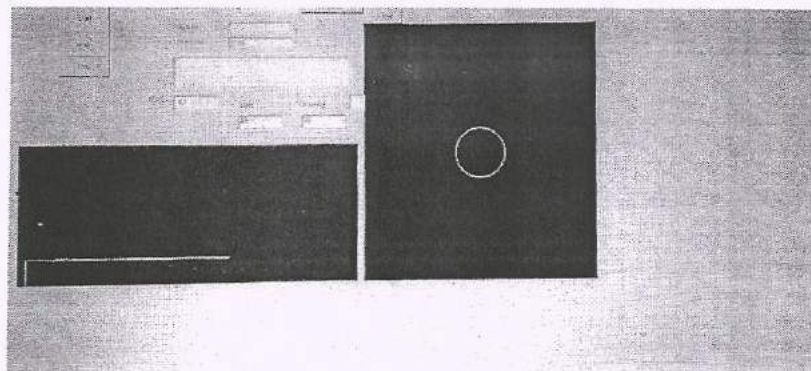


Fig.3. Normal zone indication in VB software

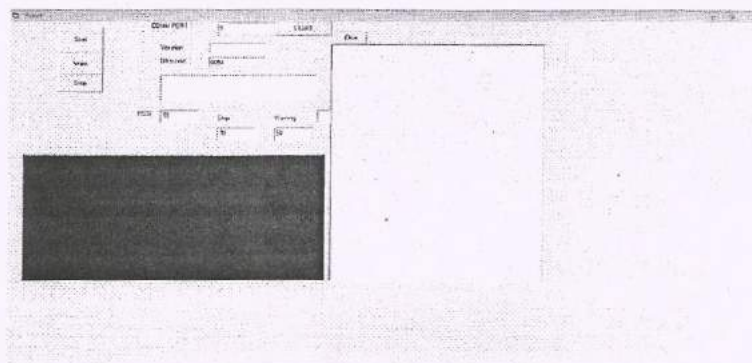


Fig.4. Warning zone indication in VB software

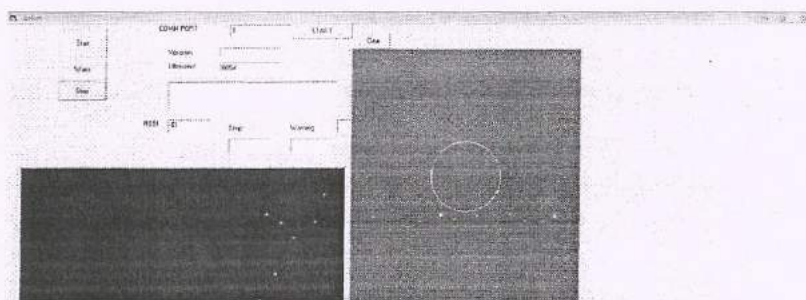


Fig.5. Restricted zone indication in VB software

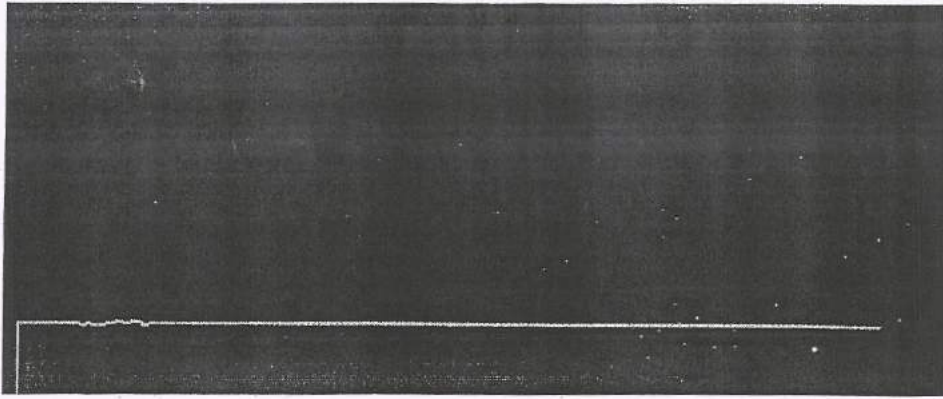


Fig.6. Ultrasonic indication graph in VB software

2.5. Boat module

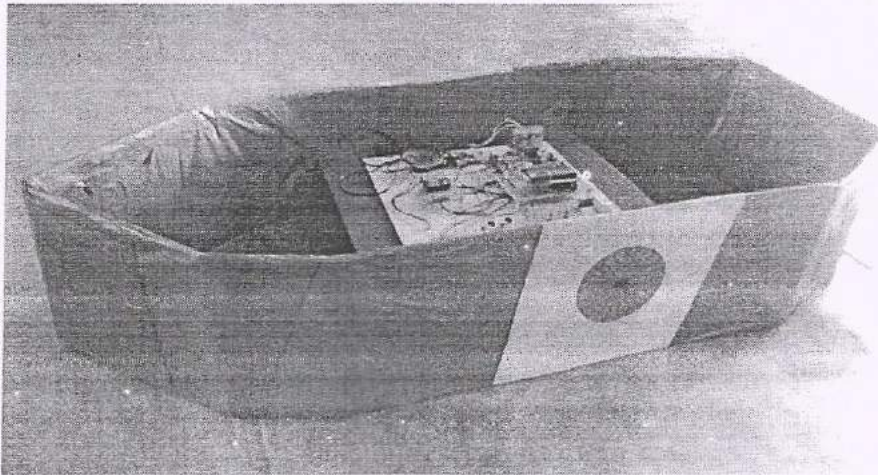


Fig.7. Photographic view of boat module

3. Abstract:

In day – to – day life, there are news about the Tamil Fishermen, caught and put under Sri – Lankan custody and even killed ruthlessly. The sea borders between the countries are not identifiable due to which cross border cruelty occurs. This project deals with the device using Embedded System which protects the fishermen on notifying the country border to them by using Received Signal Strength Indicator (RSSI). By using RSSI, the current location of the boat is found and continuous monitoring of the fishing boat is noticed. The fishing area is divided into three zones namely Normal Zone, Warning Zone and Restricted Zone. The restricted zone is few kilometres before the International Maritime Boundary Line (IMBL). If

the boat is in Normal Zone, the LCD displays Normal Zone and GREEN LED glows with no indication at the coastal side. If the boat crosses the Warning Zone, the LCD displays Warning Zone with Voice indication and YELLOW LED glows at the boat side with a voice indication. At the same time RSSI sends a warning message to the coast guard indicating the boat number of the crossed boat with an RED LED. If the fishermen boat crosses the Warning Zone, the speed of the boat gets reduced to 50%. If the fishermen do not give any response to the warning and move further, then the boat enters into the Restricted Zone. Here the LCD displays the Restricted Zone with RED LED and Engine of the boat stops here. At this point, the coastal guard will arrive at that spot and warns the fishermen to turn back to the Normal Zone.

Claims:

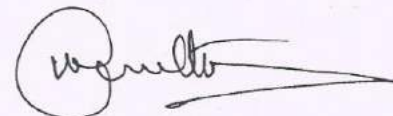
1. I/we Claim that the I am /We are in possession of the above mentioned invention
2. I/we Claim that the provisional / complete specification relating to the invention is filled with this application and available with us.
3. I/we Claim that I am/we are the assignee or legal representative of true and first inventors.
4. I /we Claim that the priority from the above mentioned application(s) filed in convention
5. I/we Claim that Country / Countries and state that no application for protection in respect of the invention has been made in a convention country before the date by me/us or by
6. I/we Claim that there is no person from which I/We derive the title.
7. I/we Claim that the said invention is an improvement in or modification of the invention particulars of the state of art technology.

C. Barani Kumar

P. Inbaskaran

M. Mani Kumaran

S. Naveen



Dr. G. Hemath Kumar