

IF-MATCHING Alert System For Indian Fisherman Using Android Application

^[1] A.Jayanthi M.E, ^[2] R.Latha M.E, ^[3] G.Sivaprakash

^[1] Asst.professor Dept. Information Technology Veltech high-tech Dr.R.Rangarajan Dr.sakjunthala Engineering Technology Avadi , Chennai

^[2] Asst.professor Dept. Master of computer Application Veltech high-tech Dr.R.Rangarajan Dr.sakunthala Engineering Technology Avadi , Chennai

^[3] Dept. Master of computer Application Veltech high-tech Dr.R.Rangarajan Dr.sakunthala Engineering Technology Avadi , Chennai

Abstract: The android application to create main aim of give a well understandable users friendly used by Indian fishermen in the border to find the appropriate path to reach the destination. One of the huge problems faced by Indian fisher man is being threatened by neighbor country coastal guards for crossing IMBL. This is of lack in information of location system. The application come with reliable 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 of fisherman. This made possible by developing an application in Android Mobile OS. This is feed by mobile computing smart phone device. The application user the information smart phones. For positioning and give alert message and capture the last location to send from base stations, family and friends. keeping the lives of fisherman in mind, this system has been developed to help them not to move beyond Indian boundaries. This application to using fisherman at low cost & user friendly.

Index Terms— Android, GSM, smart phones, GPS, Google map.

I. INTRODUCTION

Every Indian Fisherman face the problem of getting threaten by foreign navy and sea pirates due to lack in knowledge of IMBL due to this they face the problem of being arrested by the foreign costal authority. Thus the fishermen suffer a lot of their safety in foreign country. To avoid this situation this project takes in hand with some modern technological gadgets concept for application development in smartphone device and using mobile GPS for location information and GSM for giving emergency alert information in hazardous situation. We using this IF-matching technology in our projects to get integrated and lead the fisherman to have a safe travel and feel safety over the fishing course.

II. EXISTING SYSETM

At present time there are few existing systems which help to identify the current positions of the boats/ships using GPS system and view them electronic map. And using embedded system to using buzzers. in some systems this manual monitoring are been supervised by computer programmed application run in PC which leads to dangerous situation. In some system this manual monitoring are been supervised by computer programmed application run in PC which is not compact and less power consumable device and also not able to understand by common man which means not user friendly. In some system uses GPS when vessels cross the border it cuts off the fuel. The limitation of existing system are being user friendly, cannot be understand by common man, more expensive, not reliable, dangerous.

III. PROPOSED SYSTEM

Our proposed system has the aim to give a well understand user friendly technological mobile computing gadget. To support and give enough awareness of IMBL and protect them not to cross the maritime boundary at any cost. And give full secureness and reliable safety for Indian fisherman lives. by developing the application can identify the location using GPS and also retrieve the details about fisherman's location. fisherman to crossing maritime Indian border to sent notification for their family and friends, the notifications must be in captured location by using these information we can track the location easily. By developing an application in android OS..

Thus we keep safety for Indian fisherman all in mind and built a better solution for this problem and give reliable technological gadgets to support the human life.

A) PROPOSED SYSTEM ARCHITECTURE

ARCHITECTURE DIAGRAM

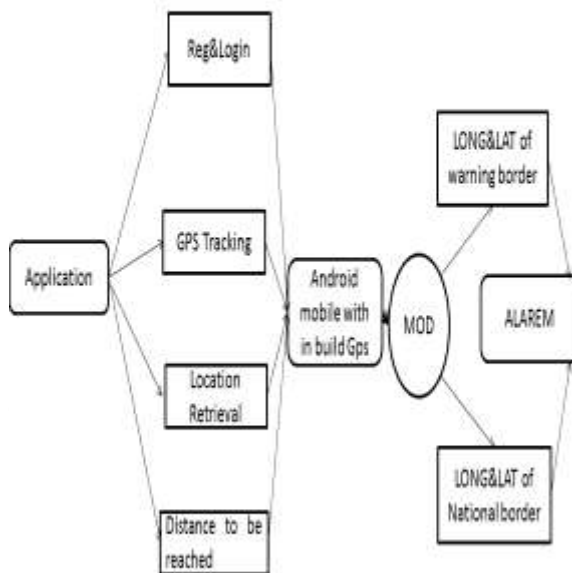


Fig 1. Proposed System Architecture

IV. MOBILE COMPUTING

- Mobile computing is associate communication method. It involves communication, mobile hardware, and mobile code.
- Mobile code deals with the characteristics and needs if mobile application
- Mobile device have become ubiquitous Mobile due to the increased internet accessibility rapid growth in computing power rapid, increased energy-efficiency of computing devices, advances in human-computer interfaces, and low cost of hardware. Further, devices that used to provide very specific (and limited) services (such as phones) have turned into general-purpose computing devices that can be programmed by anyone (e.g., smartphones and tablets).

Mobile Computing Architectural Layers

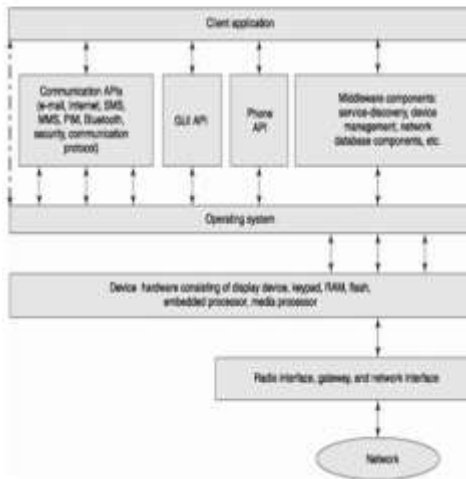


Fig 2. Mobile computing Architecture

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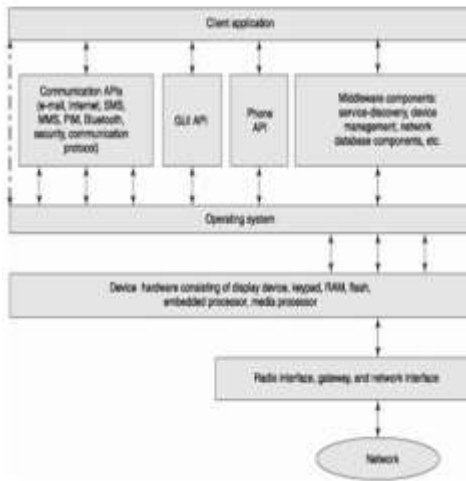


Fig 2.Mobile computing Architecture

B. Smartphones

A smart phone is mobile phone built on a mobile OS, with advanced mobile system and advance feature phone.



Fig 3; Smart phone

C. Android

Android is operating system based on the Linux kernel, and designed for primarily for touchscreen mobile phone. such as smartphones and tablet computers.



Fig 4: ANDROID

Initially developed by android, which Google backed financially and later bought 2005, android was unveiled in 2007. Android is open source and Google release the source code under the apache License most android devices ship with additional proprietary software .

Android has a large community of developers writing applications (“app”) that the functionality of devices, written primarily in the java programming language.

D Android Development Tool (ADK)

A) Eclipse The first step towards developing any applications is obtaining the integrated development environment (IDE) In the case of android, the recommended IDE is Eclipse, a multi- languages such as java, Ada, C, C++, COBAL, Python, etc. for android development Create digital certificates for code-signing your APK



Fig 5: Eclipse

a) Android SDK

The next important of piece of software you need to download is of course a debugger, libraries, an emulator documentation, sample code and tutorials.

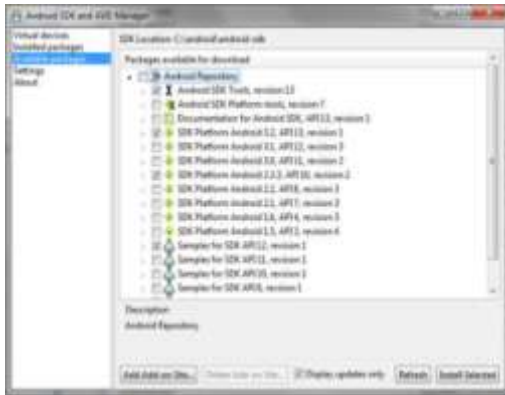


Fig 5;Android SDK

b) Android development tool (ADK)

The android development tools(ADT) plug in for Eclipse is an extension and debugging of android application. The using the create new android application projects..

Access the tools for accessing your android emulators and devices.

Compile and debug android applications.

Export android applications into android packages (APK)

Create digital certificates for code-signing your APK

C) Global Positioning System (GPS)

The Global positioning system (GPS).its based on satellite navigation system provides location and time information in all weather conditions.

Its GPS is tracking the fisherman and finding the location. The positioning system maintained by the united states and government and is freely accessible to anyone with a GPS receiver.

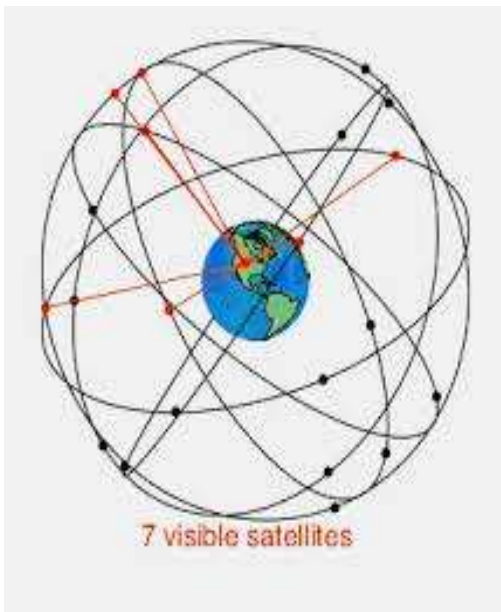


Fig 6; Global Positioning Satellite view

Basic concepts of GPS

GPS receiver calculation its position by precisely timing the signals sent by GPS satellite high above the Earth. The working of the GSM system in place is very simple. Here the GSM is placed in the control station. The control station continually receives the GPS information of each boat through the unique GPS address. This linked up with the GSM system and then gets the information. Now, the main use of this GSM is to alert the family members of the fishermen who have gone into the seas of their situation.

GPS ACCRACY

The accuracy of GPS depends on the type of receiver. Most hand-held GPS units have about 10-20 meter accuracy. Other types of receivers use a method called Different IGPS (DGPS) to obtain much higher accuracy. DGPS requires an additional receiver fixed at a known location nearby. Observations made by the stationary receiver are used to correct positions recorded by the roving units, producing an accuracy greater than 1meter.

The data received contains many details along with latitude and longitude. The latitude and Longitude of the current position is separated from the detailed data from GPS. The current positions are compared with already stored latitude and longitude of countries boundary locations. At first the latitude is compared with stored latitude which identifies if the current position is located near to the boundary. If the latitude matches then the adjacent latitudes and longitudes of the present latitude is retrieved from the microcontroller. The current position received from GPS is stored as S1(latitude), S2 (longitude). The latitude S1 is compared with stored latitudes.

Positions	Latitude	Longitude
Position 1	12° 05'.0 N	82° 03'.0 E
Position 2	12° 05'.8 N	82° 05'.0 E
Position 3	12° 08'.4 N	82° 09'.5 E
Position 4	12° 33'.0 N	82° 46'.0 E

MARITIME BOUNDARY BETWEEN INDIA AND SRI LANKA

The boundary points are marked above. These points should be stored in database. The computation is done in GPS controller these points. Thus vessel crossing the border calculates. These points[8] are stored in database. The computation is done in database with these points.

Thus any illegal crossing of boats can be identified and informed to the family and to control station.



FUTURE SCOPE

we can use the database to store the previous Navigating positions up to 256 locations. Can navigate up to number of locations by increasing the memory.

We can increase the accuracy up to 3m by increasing the cost of the GPS receivers.

BENIFITS

The hijack of the ship by the pirates can be eradicated.

- The lost ship wrecks due to natural calamities can be identified.
- The keeping the applications for fisherman to identify the last locations form our family.
- To border alert message sent from User family and friends.
- There are two types of SMS that will be sent to the family. The GSM will have an inbuilt storage and it will compare the DGPS value with the standard values already fixed by the authorities.
- Depending upon this comparison, the types of messages sent will be 'SAFE' and 'DANGER'. So, this system proves to be worthwhile in helping the family also keep update in regular time intervals.

APPLICATION

- We can use this device also bomb detector.
- Location of any lose vehicle could be found.
- To send SMS form user and our family & friends.



V. ADVANTAGES

- Accuracy determination of location.
- Maintenance cost is low.
- Easily replaceable.
- To get fisherman details

Conclusion

By this application built in android platform over smart phone mobile computing device. Thus provide individual secure to the maximum level over the Indian Maritime Boundary for the fisherman life. Keep individual to feel the hospitality to the maximum level and get connected with their friends & family and make both to be enough.

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