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Fishers Management System Using Geo-Located in Android Application

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Abstract: Fisherman is an integral part of fishery management. This app is going to defend Fisherman from fog, wind, cyclone, heavy rainy climate and to safeguard the fisherman from a dangerous situation by giving alerts to the user from Admin. In day to day life, because of many cyclone problems and heavy rain, some of the fisherman missing in the sea, those who went for the fishery. To protect them from this problem, Admin sends the weather information to the User by using this mobile application. Also, this app allows anglers to accurately view their location on a map and send related information about that location and also the fishery information to Admin. In addition to that, they will send details about sea like more fishery area, dangerous spot and limits of the border. The detail which was sent by the user is posted to this app by Admin. Simultaneously, the dangerous spot was informed to User. Admin marks this area detail in the map by the different color marker. Marker intimates about a dangerous spot in the sea, fishery area, and cyclone and border area. And also there is chatting feature is available in this app for the user. This chatting app is for making conversation between the fishers.

Keywords: Fishery, Safety, GPS, GSM, Smartphone, Emergency Alert, IMBL

I. INTRODUCTION

Today each & every Indian Fisherman face the problem of getting threatened by the foreign navy and sea pirates due to lack of knowledge of IMBL due to this they face the problem of being arrested by the foreign coastal authority. Thus, the fisherman families suffer & struggle a lot of their safety in the foreign country. To avoid this situation this project takes in hand with some modern technological gadgets like mobile computing concept for application development in Smartphone device and using GPS for positioning information and GSM for giving emergency alert information in a hazardous situation. This technology in our project is to get integrated and lead the fisherman to have a safe journey and feel the safety over the fishing course. Fishing is probably the most dangerous occupation in the world. The people affected by the accidents at sea are often among the poorest in the society. Fisher Administrative Officer estimates that roughly 30 million fishermen are working aboard 4 million fishing vessels operating in capture fisheries, 1.3 million decked vessels and 2.7 million unlocked vessels. About 98 percent of these vessels are less than 24 m in length and are not covered by any international rules and regulations. The number of global fatalities was estimated by the International Labour Organization (ILO, 2000a) in 1999 to be 24 000 deaths worldwide per year. Thus, the number of global fatalities may be considerably higher, since fatality rate in countries in which information is not available might be higher than in those that supply statistical information.

II. SYSTEM ANALYSIS

A. EXISTING SYSTEM

At present, there is few system which runs in a certain environment and supports user for to locate the position and navigation and also guide in a hazardous situation. The systems are radar and computer-based GPS which were run over coastal guards based which

needs regular monitoring and has a chance of manual errors which leads to a dangerous situation. In some system, this manual monitoring is been supervised by computer programme 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 vessel crosses the border it cuts off the fuel. The limitation of the existing system are not being user-friendly, cannot be understood by the common man, more expensive, not reliable, dangerous in some case and not effective.

B. PROPOSED SYSTEM

Our proposed system has the aim to give a well understandable 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. To perform this task some modern concepts of mobile computing method have to be taken into hands. By developing an application in Android mobile OS which is being run in mobile computing smartphones device that gets positioning data from smartphones inbuilt GPS module and also uses. A GPS positioning concepts for triangulation of current position and gives an alarm for danger light indication & sound alarm and additionally gives SMS alert system with current location information with the help of smartphones inbuilt GSM module. Thus, 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.

C. SYSTEM REQUIREMENTS

As a result of careful analysis of the requirements of developing this project and as per the needs of the project, the requirements are determined. The Requirements are being classified as Hardware and Software Requirements respectively.

Hardware Requirements

- System : Android Emulator or Android Device
- RAM : 2 GB Comfortable 4GB.
- Storage : 250 GB
- Processor : Intel Pentium, Dual core, i3, i5, i7 [1.83 to 2.89 GHz]

Software Requirements

- Operating system : Windows XP, 7, 8, 8.1, 10.
- Front end language : XML
- Back end language : Java 1.5 to 1.8
- Tool Kit : Android SDK
- IDE : Android Studio 1.2 to 1.5

D. LIST OF MODULES

- Login
- Registration
- Alert Level Crossing
- Suggestions
- Last Experience
- Profile
- Storm Alert

E. MODULE DESCRIPTION

Downloading and installing the required development tools for android application. Let get dirt our hands by writing programs for our application. This application development process that develop programs in Eclipse IDE with Android SDK plug-ins library tools that can be able to access Smartphone inbuilt GPS & GSM module to carry out proposed system task.

Assistance falls into two categories:

1. Information used to acquire satellites more quickly [Mobile Station Based(MSB)]
2. Calculation of position by the server using information from the GPS receiver [Mobile Station Assisted(MSA)]

A typical A-GPS-enabled receiver will use a data connection (Internet or other) to contact the assistance server for a GPS information. If it also has functioning autonomous GPS, it may use standalone GPS, which is sometimes slower on time to first, fix, but does not depend on the network, and therefore can work beyond network range, and without incurring data usage fees. Some AGPS devices do not have the option of falling back to standalone or autonomous GPS.

- ***Login module***

  Login Module uses the Authentication Process. Mainly used for security management. Both Fisher man and Admin use this module for login.
- ***Registration module***

  In Registration module, Fisherman and Admin's personal details are registered.

- ***Alert level crossing***

  A GPS positioning concepts for triangulation of current position and it gives an alarm for danger light indication & sound alarm and also additionally gives SMS alert system with current location information with the help of smartphones inbuilt GSM module.
- ***Profile***

  In this profile module, the user enters personal details like Username, Contact Number, Date of Birth and Address etc., also user can view, update, and delete their profile.
- ***Suggestion***

  The Suggestion which was sent by the user is posted to this app. Admin can see the suggestion to the user, the admin can intimate, mark the dangerous spot in the sea, fishery area, cyclone and border area that limits and send the queries to the user.

- ***Last experience***

  This app will share the experience of traveling in the sea for the fishery.
- ***Storm alert***

  Admin marks this thing in the map by the different color marker. Marker intimates about a dangerous spot in the sea, fishery area, and cyclone and border area.

III. DIAGRAMS

DATA FLOW DIAGRAM

- **DFD Diagram for User**

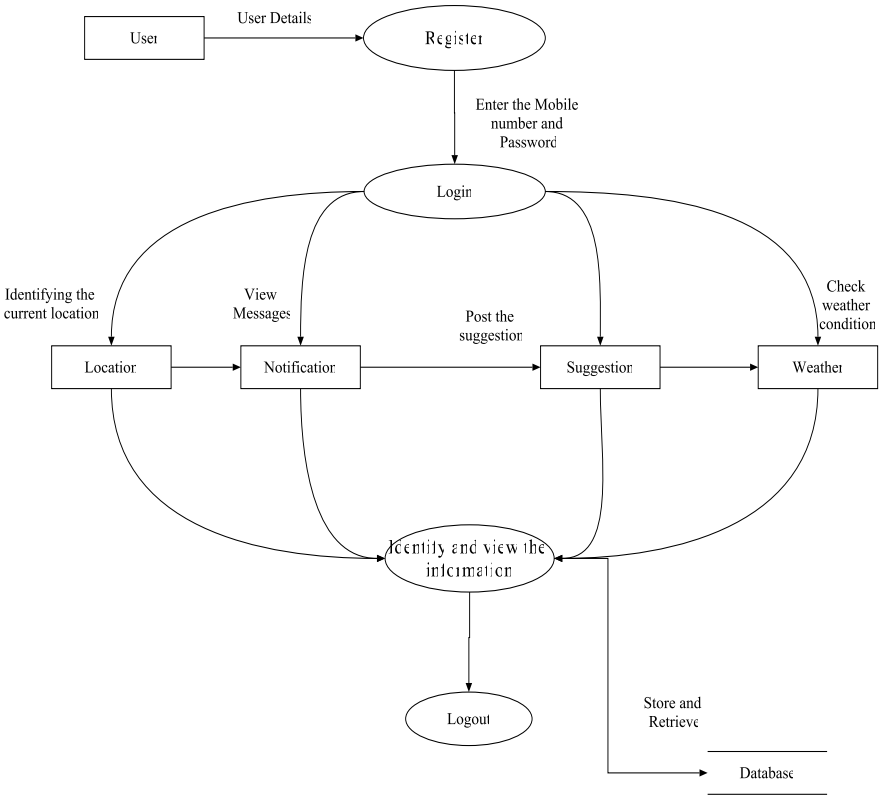

Fig. 1 DFD Diagram for User

- **DFD Diagram for Admin**

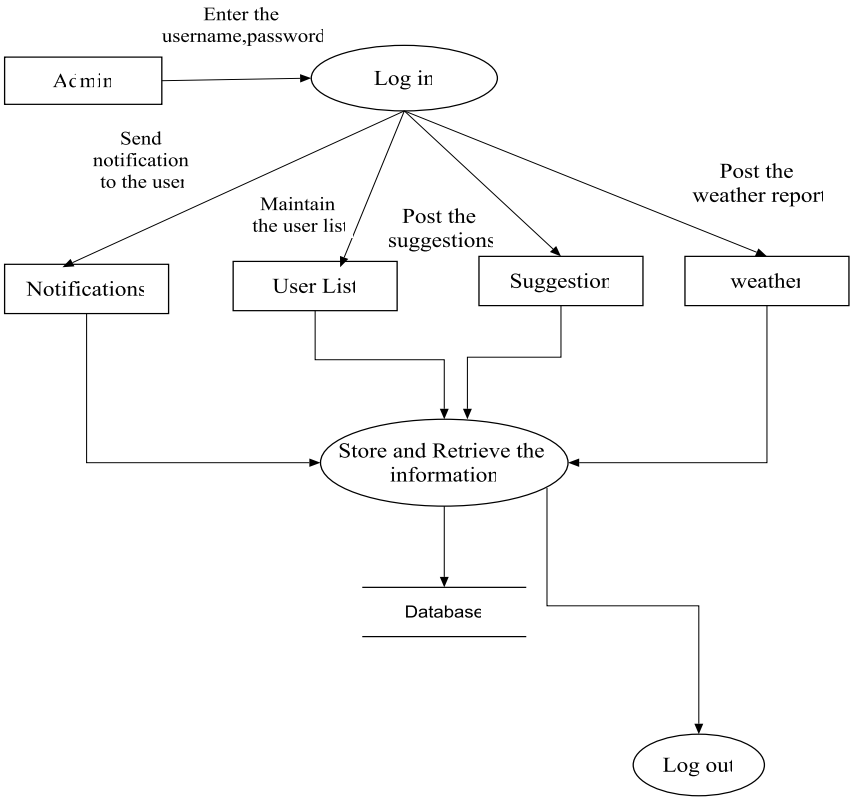

Fig. 2 DFD Diagram for Admin

IV. SYSTEM DEVELOPMENT

- ***MAIN PAGE***

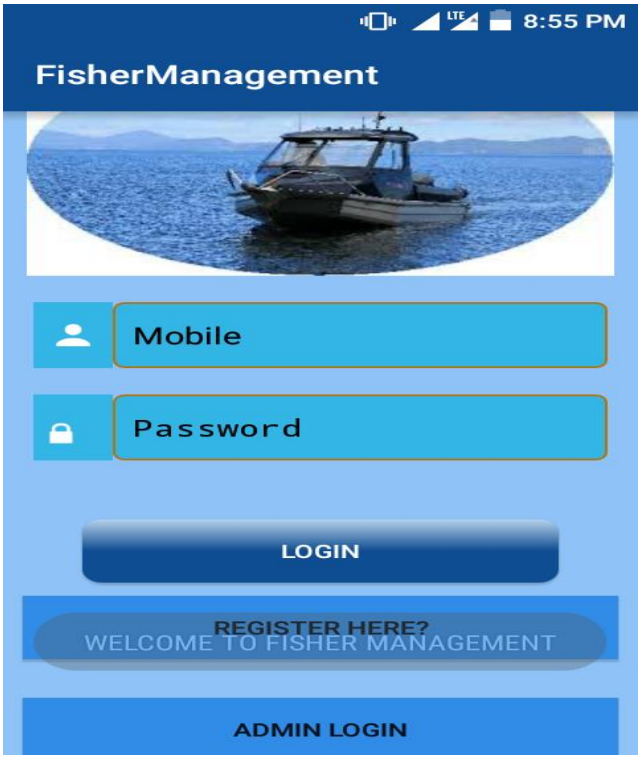

Fig. 3 Main page of the Fishers Management

- ***REGISTER PAGE***

Fig. 4 Registration page for users

- ***LOGIN PAGE***

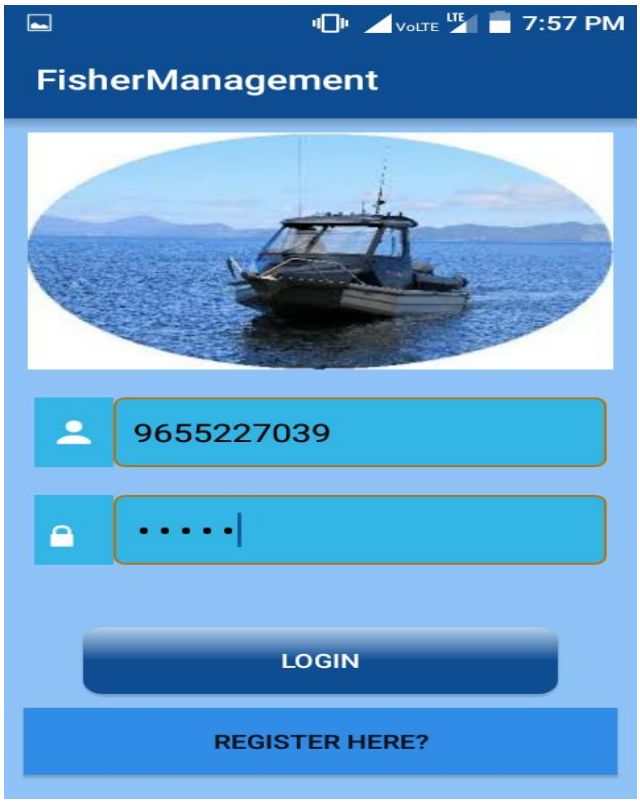

Fig. 5 Login page for User

- ***ADMIN LOGIN***

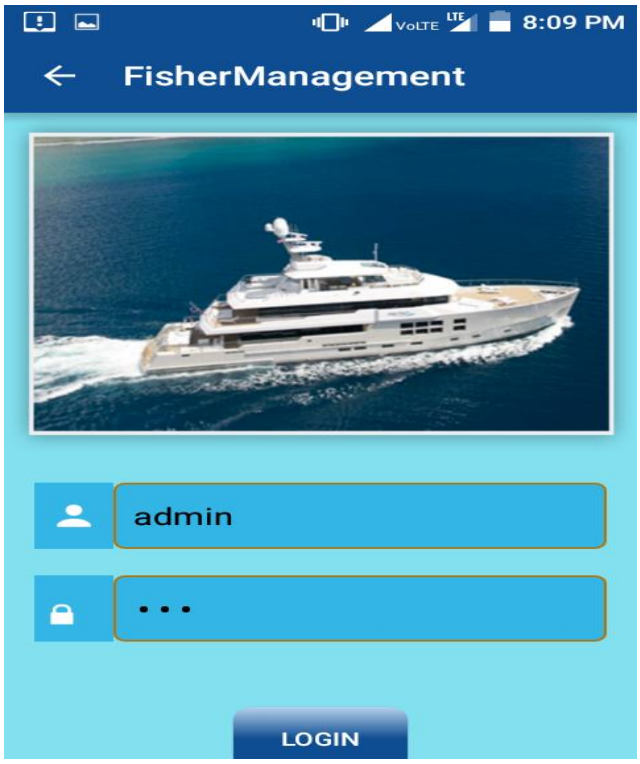

Fig. 6 Login page for Admin

- ***PROFILE***

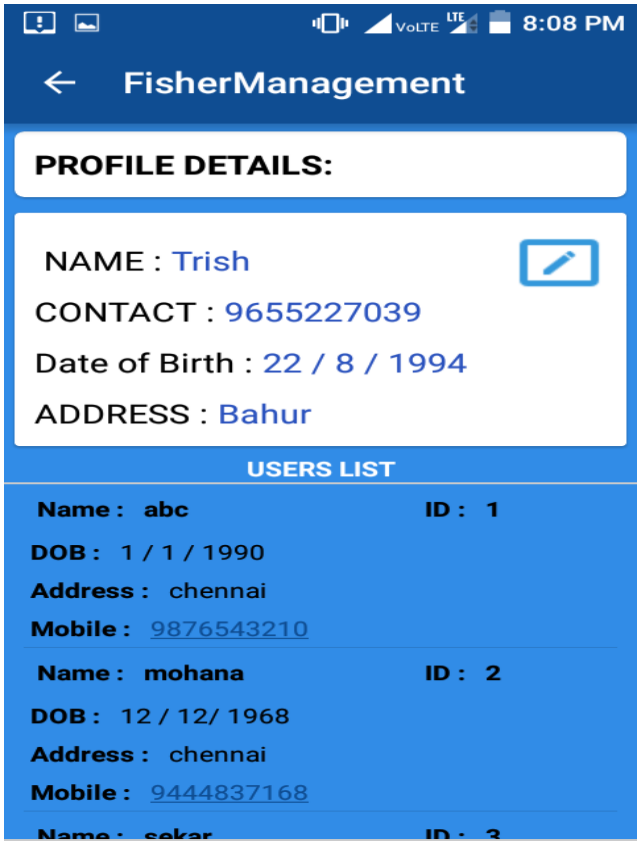

Fig. 7 This is the profile page viewed for user

- ***USER LIST***

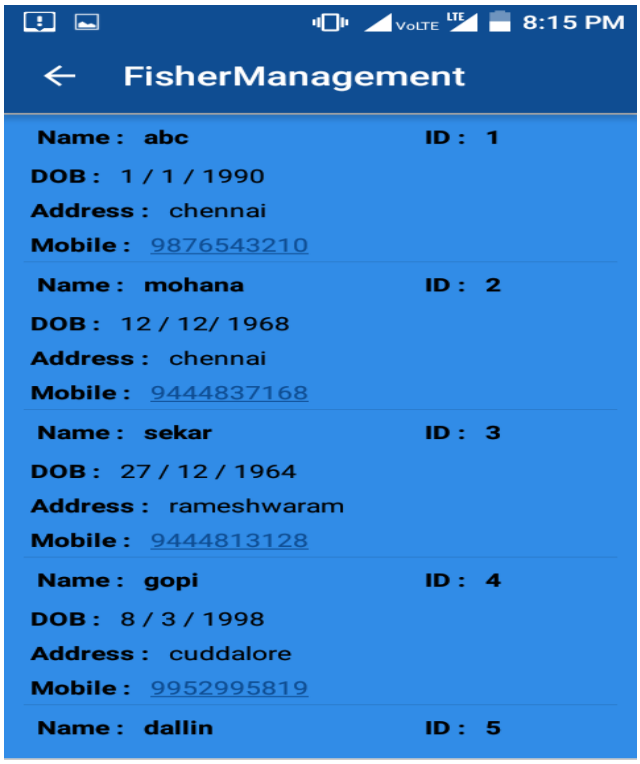

Fig. 8 The user list page viewed by Admin

- ***LOCATION***

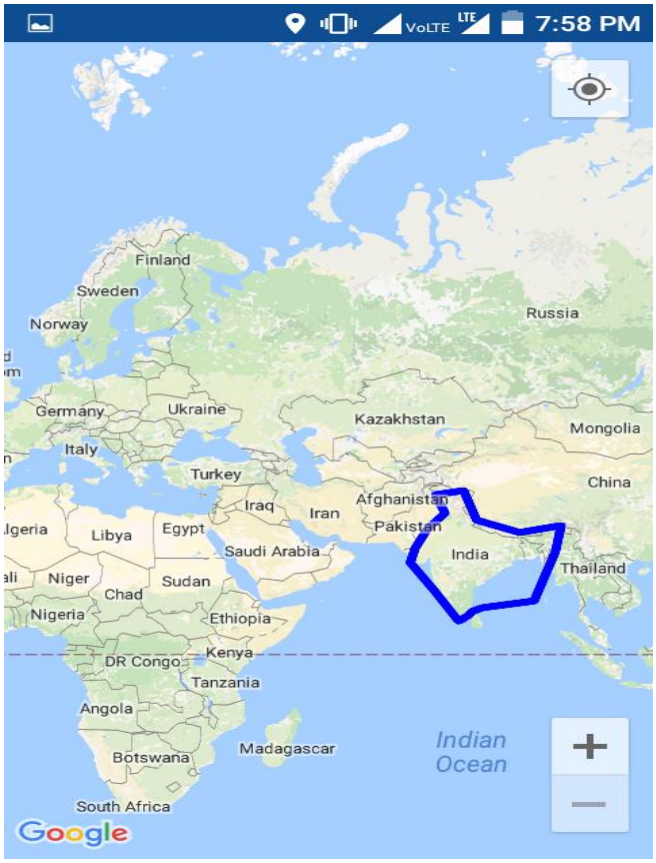

Fig. 9 Location page viewed by the user and Admin

- ***WEATHER***

Fig. 10 This page is used for current location weather report

CONCLUSION

This application built in Android platform over Smartphone mobile computing device. Thus provide individual security to the maximum level over the Indian Maritime Boundary for the fisherman life. Keep individual to feel safe and give the hospitality to the maximum level and get connected with their friends & family and make both to be strong enough. To avoid this situation this project takes in hand with some modern technological gadgets like mobile computing concept for application development in Smartphone device and using GPS for positioning information and GSM for giving emergency alert information in a hazardous situation. This technology in our project is to get integrated and lead the fisherman to have a safe journey and feel the safety over the fishing course.

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