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Fire Protection System using Android

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Abstract: A fire alarm system has a number of devices working together to detect and warn people through when smoke, fire, carbon-monoxide or other emergencies are present. In this app “Notification of fire alarm within the community” can alert from the fire accident.

Using this app to control the rescue from the catastrophe. Normally, if fire may have occurred, the people used to call some emergency number to contacting the firefighter team and intimating them about the fire accident. The multiple access scheduling decides how the channel is shared among the nodes in the network. Typically scheduling algorithms aims at increasing the channel utilization and thereby throughput of the network.

This paper describes several algorithms for generating an optimal schedule in terms of channel utilization for multiple accesses by utilizing range information in a fully connected network.

We also provide detailed analysis for the proposed algorithms performance in terms of their complexity, convergence, and effect of non-idealities in the network. The performance of the proposed schemes is compared with non-aided methods to quantify the benefits of using the range information in the communication.

The proposed methods have several favorable properties for the scalable systems. We show that the proposed techniques yield better channel utilization and throughput as the number of nodes in the network increases. We provide simulation results in support of this claim. The proposed methods indicate that the throughput can be increased on average by 3-10 times for typical network configurations.

Keywords: Android, Wireless Sensor Networks, GPS (Global Positioning System)

I. INTRODUCTION

In existing system, if fire may have occurred, the people used to call some emergency number to contacting the fire-fighter team and intimating them about the fire accident.

Normally, if fire occurred, the people used to call some emergency number. First of all, that number will connect to the controller room and they get the accident address from the people. Afterwards, they will make call to the nearby station by the address. In this process some time can take to recover the place.

Lot of time can consume to recover place. Oral communications during the crisis (catastrophe) will not be efficient to save the sufferer from jeopardy. Even though our voice may sound audible, the frequency will not be sufficient enough to reach the concern sufferer and so many will be affected from these types of fire accidents.

In proposed system, using this app to directly communicate to the nearby station with the help of map and automatically get the location from the user place.

Even though to captured image from fire accident zone then fetch the address and send notification to nearby member within the community. Thus, with the help of this application, many lives can be protected and saved. A notification pops out to the fire fighter from the sufferer or other imitators. In this application, an additional feature to view the affected location will be provided.

II. PROPOSED SYSTEM

In proposed system, using this app to directly communicate to the nearby station with the help of map and automatically get the location from the user place.

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Thus, with the help of this application, many lives can be protected and saved. A notification pops out to the fire fighter from the sufferer or other imitators. In this application, an additional feature to view the affected location will be provided. Reduce time to consume to recover the place.

A. Architecture Diagram

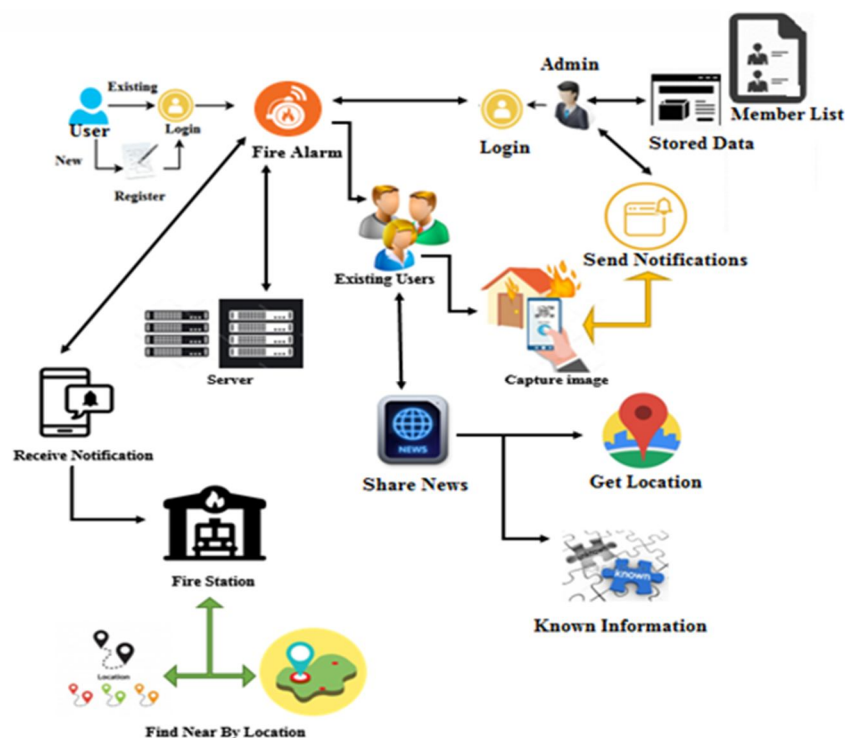


Fig. 1. Fire Notification System Architecture Diagram.

1) Android Smartphone

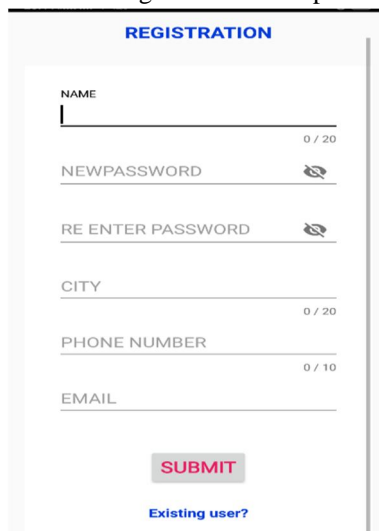


Fig. 2. An Android Smartphone which will be used to access the android application.

An Android phone is a powerful, high-tech smartphone that runs on the Android operating system (OS) developed by Google and is used by a variety of mobile phone manufacturers. Pick an Android mobile phone and you can choose from hundreds of great applications and multitask with ease. You'll also get regular software updates that add great new features to your smartphone. The Android operating system is developed and owned by Google. However, it's not exclusive to the Google-branded Nexus range of phones. In fact, Android powers a host of handsets from some of the biggest mobile manufacturers. These include HTC, Samsung, Sony, Motorola and LG many of whom have enjoyed tremendous critical and commercial success with mobile phones running the Android operating system.

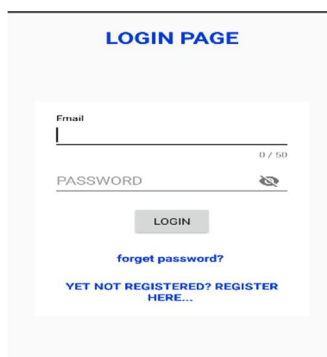
III. SCREENSHOTS

Thus with the help of the proposed system we will be able to find where a lot better than the previously devised papers. The following are the screenshots of the application we have designed and developed and the internal steps involved in it.



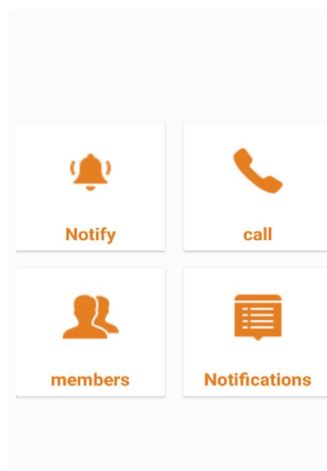
The screenshot shows a registration form titled "REGISTRATION". It contains the following fields: NAME (0 / 20), NEWPASSWORD (with an eye icon), RE ENTER PASSWORD (with an eye icon), CITY (0 / 20), PHONE NUMBER (0 / 10), and EMAIL. At the bottom, there is a "SUBMIT" button and a link "Existing user?".

Fig. 3. This is the initial window that appears after starting the application. Initially it checks whether the user exists already or the user is new to this application. If the user is new, then the corresponding user's personal details must be mentioned in order to create an account.



The screenshot shows a login page titled "LOGIN PAGE". It contains the following fields: Email (0 / 50) and PASSWORD (with an eye icon). Below the fields is a "LOGIN" button. At the bottom, there is a link "forget password?" and a link "YET NOT REGISTERED? REGISTER HERE...".

Fig. 4. This is the image of the login page for the existing users in this application. If in case the user has not registered in this application, then they have to select "Yet not registered? Register here..."



The screenshot shows a menu with four options: "Notify" (with a bell icon), "call" (with a phone icon), "members" (with a group of people icon), and "Notifications" (with a speech bubble icon).

Fig. 5. These are the options available in this application.

MEMBERS

NAME : siva

EMAIL : atmsiva2@gmail.com

AREA : Velachery

MOBILE NO : 7402356464

NAME : sangeetha

EMAIL : sangeetha@gmail.com

AREA : chennai

MOBILE NO : 9876543210

Fig. 6. This image shows the members who have enrolled themselves in this application for any sort of notifications to be received from the firefighter if in case the receiver is near the affected area.

IV. CONCLUSION

Fire accidents are causing serious threat to lives of people, sometimes there may be some massive explosion due to the fire accident which leads to the death of many people who suffers of being caught by the fire. There are no sophisticated fire protection parameters in existing system. Protecting people's lives from the fire accidents have become a serious concern now. So we proposed a system which helps to intimate about the fire accidents occurred in a particular area in a more efficient and faster manner. This system makes sure that there is no possibility of any prank messages being made. This system is more secure and it does the work quicker and pretty much easily available as it is developed in the platform of Android.

V. FUTURE ENHANCEMENT

Android is the dominant operating system now-a-days and it will never lose its scope because everyone is mobile users today. So our application will last forever and we can also add some more things to make it more effective in detection of fire like using wireless sensor networks, which will provide effectiveness in detecting the fire from the rural areas and also we can provide some quick services as well as alert the fire-fighters to take safety measures on the fire zone areas. And also we can use Arduino which was programmed with Android studios which takes the signals from the sensor and enables the communication with WIFI networks and can send notifications, alarm messages to the end users or mobile users.

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