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Police Case Notifier

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Abstract- Incidences of accidents, sexual harassment and violence aggravate the socio-economic dimension of society. The profound and extensive impact of such cases makes it imperative for society in general and policy makers in particular to make earnest efforts at reducing such incidents by relevant policy interventions and technological advancement from the perspective of prevention as well as remedy. If we see the present scenario for the police cases in the above mentioned cases, the reporting system is much complex, time consuming due to which the victims and the family members are under much pressure. This project aims at transforming manual process to digitization in an attempt for an effective e-governance which is widely promoted by the current Indian Government.

Keywords- *Login, Notification, Fake Notification, Unique Key Generation, Police-Doctor-Key-Patient-Notification tables.*

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I. INTRODUCTION

Currently in the Indian systems, in order to report about incidents such as accidents, suicides, domestic violence, sexual harassment, etc. The family member has to go to the police station and file the First Information Report (FIR) and only after that the primary medical treatment is provided otherwise the doctor has to acquaint the police officer before proceeding with the treatment, which is a time consuming process that affects any chance that the victim has of surviving.

Many a times delay happen because of delay in taking appropriate actions which causes delayed medical attention to the victim. There are many complexities associated with the current procedure like doctors cannot proceed without notifying the police before. These delays can be fatal to victim's life. Following diagram depicts the current process.

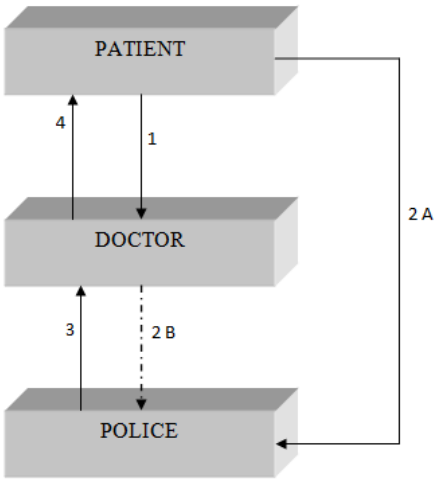

Fig.ure 1. Current Process

Consider a scenario of an accidental case in which person is injured; the current process of police notification is as followed:

Step 1: The person requiring immediate medical attention approaches the doctor.

Step 2 A: For the treatment to start it is mandatory to inform the police about the accidental case, so the patient or the patient's family member approaches to the police station for filing F.I.R.
Step 2 B: Also in some cases there is need that the doctor has to inform the police about the case before starting the treatment (example Suicide case).
Step 3: After the police is informed about the case, the police reports to the hospital, to visit the doctor and patient so gain more knowledge about the case.
Step 4: Once all this process is completed, then only the doctor can start the treatment.

Our project [refer Figure. 2] aims on overcoming the above adverse effect and will expedite the process of medical treatment, notifications and investigation.

- Our app will be used by the doctor to inform the police officer about the incident. Doctor sends the notification message to the police officer by filling the form in our app. The information from form is retrieved and organized as a simple text message which is sent to the police instead of manually notifying. It will reduce the time of notification and will expedite the process.
- The Doctor and the patient would receive the time of notification and an acknowledgement about notification. These details can be used for future reference as well as evidence. Due to which neither police nor doctor can deny about notification, which would result in quick action as well timely treatment.

II. LITERATURE SURVEY

Our application is designed to be worked on smart phones since they are most commonly used today.
This Project is been built on Android platform. First, the ubiquity of Android phones in the Indian market , and secondly it is much user friendly as well as easy to use, also the smart phones based on android platform are much cheaper than any other Smartphone. Our application will be launched on android's basic platform i.e. 2.3 Gingerbread so that it can be used on every platform ahead of that satisfying all people from low range Smartphone to high range Smartphone.

III. PROPOSED SYSTEM

The Proposed System will adhere to Indian system guideline but can be modified accordingly as per the guidelines of respective nations.

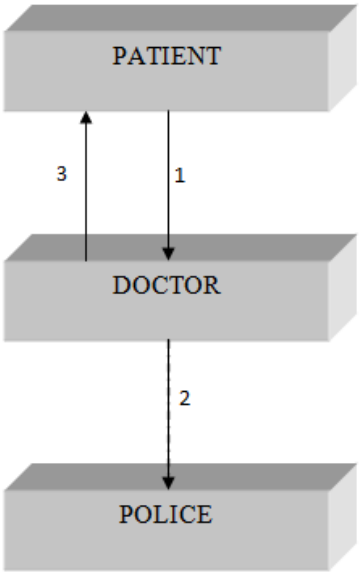

Figure 2. Proposed System

The above diagram epics the proposed system:

Considering the above scenario of an accidental case, the proposed process of police notification is as follows:
Step 1: The person requiring immediate medical attention approaches the doctor along with family members or other helping person.
Step 2: Using this app the doctor will inform the police about the accidental case which is not present in the current system. This system is more secure as the doctor is the only authorized person to use this app.
Step 3: Once the doctor has notified the police, through the app the doctor can start with the treatment.

The main objective of this project is to provide timely treatment to needy patients as well as to ease the process of notifying about police case to police by making the process digitalized. By employing this application on Smartphone, the doctor needs to register when they uses the app for the first time. Doctor registers using their medical license number and UID number (Aadhaar Card Number).The system will validate if the information provided is correct or not. If information is correct system generates a unique key for the doctor.
During a police case doctor just needs to insert their key, patient name, patient mobile number, hospital name, type of police Case (rape, accident, domestic violence), pin code of the hospital. The system will search in the police database the concerned officer as per the pin code of the hospital and notify the same with a normal text message. The application will also send a message to the doctor and the patient which would include the time at which the police officers are

informed. The GPS co-ordinates of the notifying device will be used for verifying the hospital details.
This application will store the time when the police officer has been informed so that we will come to know that the action is taken on time or not by the police officials.

Figure 3. Application Communication Architecture [4]

In the Communication architecture of our application, web service and database are on the server side and are connected to each other.
Here web service processes the request of client side application for sending/fetching data from the database using json object.

The Entire Project is divided into 3 modules

A. Server Module

The database will be created and saved on the server.
A database is considered as an important mechanism in many applications. Its design depends on the application itself. It must be efficient in updating and retrieving data. It is also necessary that any information obtained from the stored data must be in a useful form. The system will have its own database system. All the authentication work is done by using the pre requisite tables (doctor and police).
The database stores the detail for each user:

TABLE I. Police-Doctor tables.

Doctor Table	Police Table
D_ID	P_id
D_Name	P_Name
D_MedicalLicenseNumber	P_MobileNo
D_Aadhar	P_StationName
D_MobileNo	P_StationArea
D_Designation	P_Pincode

TABLE II. Key Patient Notification tables.

Key Table	Patient Table	Notification Table
UniqueKey	Pateint_id	N_id
D_id	P_Name	D_id
	P_Gender	Patient_id
	P_TypeOfCase	P_id
	P_MobileNo	HospitalName
	P_AlternateNo	Area
		Pincode
		N_time

Messaging Gateway would be used for the notification to all the entity related to the case.
On Notification one message will be delivered to police officer about the case, one message will be sent to doctor that the concerned case and officer is been notified, one message to the patient that police notification has been done and same another message to the patient's one family member.

B. Key Generation Module

The details of the doctor will be verified with the existing details of the doctor in the database and if correct, a unique key is generated with the combination of the android device ID and the other details of the doctor.

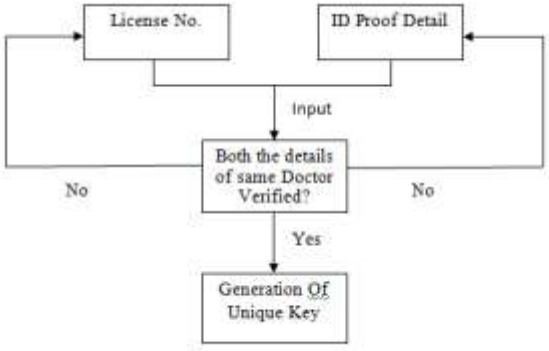

Figure 4. Flow Chart of Unique Generation

The Unique Key which will be generated will be the android ID of the Device in which the doctor will employ this application.
[2][3] ANDROID_ID Description More specifically, Settings.Secure.ANDROID_ID. A 64-bit number (as a hex string) that is randomly generated on the device's first boot and should remain constant for the lifetime of the device (The value may change if a factory reset is performed on the device.) ANDROID_ID seems a good choice for a unique device identifier.
To retrieve the ANDROID_ID for using Device ID
StringandroidId=Settings.Secure.getString(getContentResolver(),Settings.Secure.ANDROID_ID);

C. *Notification Module*

Once doctor is registered he/she will be able to notify the police officer by logging in the app. Then the doctor needs to fill some necessary details like Patient name, Sex, Mobile no., Alternate No., Type of case, Attention needed, Hospital Name, Area, Pin Code. After completion of this mandatory details doctor will click on notification button. On the basis of the area code and pin code of the hospital the police officer of the nearby police station will be searched from the database and the concerned officer will be notified.

Below figure depicts the searching of nearby police station using the area and pin code provided by the doctor

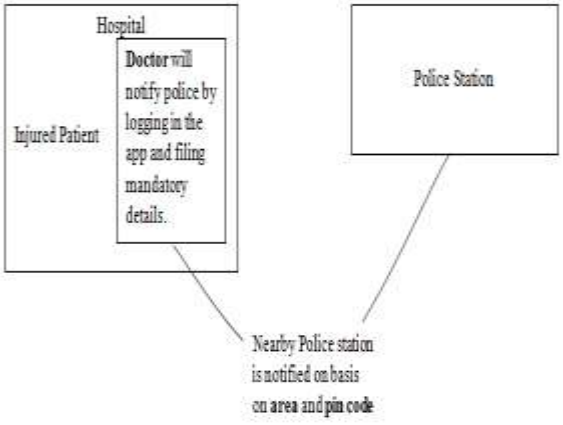

Fig.ure 5. Searching Process of Nearby Police Station

There would be an option to recognize Fake notification i.e. for example, say someone take the doctors phone in which the app is installed and files the fake notification which the doctor is unaware.

Then doctor responsible should just start the application and go to the fake notification tab and check the last n police case notifications.

The doctor will just click on the fake notification which will send a simple text message to the police officer.

IV. FUTURE SCOPE

This is the first app of the chain of app that we are trying to develop for the betterment of citizens during police case in which doctors help is necessary.(E.g. domestic violence, rape, accident etc.)

This app will be used by the doctor. The app can be modified for the use of police and patient. For police the app would help to convert the stored notification data to the standard format of First Information Report (F.I.R). Patient could use the app to notify the police officer about the incident if doctor denies.

V. CONCLUSION

It is an unique approach which would help doctors and the police officers to reduce their work load .Our system is reliable since it sends the acknowledgment to the patient, through which they can keep the track of time of notification and can also keep a check on the police officers that whether are they filing the FIR or not. There will be check on time interval that they are reporting to the hospital on time. As only the registered doctors can use the application to notify there is a no chance of misuse. The Treatment of the patient can be started on time and life of the patient can be saved.

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