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SALVA

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Abstract: Salva is a smartphone safety app that helps prevent crime and better respond to incidents, helping citizens to ensure safety. This application has a huge potential in the world of policing it can be implemented in such a way that it can be used to connect ordinary citizens with their nearest police station. A project like this will need to be implemented in a small scale first. Salva's core features include quick tip submittal via text with picture and video attachments, a comprehensive safety map that pinpoints incidents in the district. Additionally, app users can receive important broadcast notifications sent by the nearest police station. The project if successful in the district level then it can be upgraded to a state level. In a world where crime and distrust between the police and citizens are increasing a service which provides open and transparent communication between the police and the people will be very beneficial. This application also includes blood bank, crime reporting, disaster management service and emergency services such as Ambulance, fire, police etc.

Keywords: Android, Crime Reporting, Blood bank, Disaster Alert, Emergency Services.

I. INTRODUCTION

Salva is a safety application which focuses on the security and health of all citizens. It helps in tracking our near ones and report any incidents. Salva app have a numerous way to send and receive safety information between users. This app helps to get a direct communication between citizens and various authorities. We introduce some features to this app that adds some extension to the existing system. Data is monitored in real time, and the flexible and configurable platform easily integrates into existing technology solutions to increase situational awareness. This application also gives users numerous ways to send and receive safety information.

II. OBJECTIVES

- To ensure health and safety of all citizens
- Less amount of time needed for all the emergency

or critical situations.

- Quick and fast actions.
- Less effort required.
- Reduced paper work
- Computerized reporting and services

III. EXISTING SYSTEM

In existing system, there is offline access to emergency contacts, and active location sharing during emergencies. In this system, there is access to safety resources and phone numbers. It also has features that enables to find nearby safe spots and get walking or driving directions to those areas.

It also has Real time location transmitted to family and close friends. It also has a feature that invites friends to see you on a live map as you travel to your destination.

IV. LITERATURE SURVEY

A. Online crime reporting - Archana M, Durga S, Saveetha K – 2019

- Centralized database to manage criminal details and provide solution for public to give complaints online.
- Error free,secure,reliable and fast management system.

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- A completely integrated and compact system that can be used by the police and the common man.

B. Geographic information Systems for disaster response - Michael Judex, Lars Wirkus, Jorg Szarzynski – 2015

- Map-based representations of disaster situations.
- The initial phase in disaster response is characterized by an information deficit, especially during large scale disasters.
- All disaster response efforts needs to collaborate with different organizations.
- Reports are received from the wide range of sources must be analysed, mapped and updated continuously.
- End-user groups get an overview on the situation and a rapid estimation of possible evolution of the events

C. Designing Mobile Applications for Emergency Response: Citizens Acting as Human Sensors-Marco Romano , Teresa Onorati, Ignacio Aedo, Paloma Diaz – 2016

- Main objective is to establish a bidirectional channel between Emergency Management operators and citizens for receiving and sending information in real time through an Emergency Communication Systems.
- Other solutions are based on a one-way channel that transmits emergency messages to a specific receiver or a group of people. Such systems are called Emergency Notification Systems

D. Android Blood Bank - Prof. Snigdha, Varsha Anabhavane,Pratiksha lokhande, Siddhi Kasar, Pranit – 2016

- In case of emergency situation the blood donor can place request.
- Find donor with your specific blood group and with your respective states and cities.
- Send notification: This will help you know who all are having the same blood group in your local area.
- Find nearby hospitals in maps.
- Provided helpline numbers in case of emergency.

E. A Review and Assessment Framework for Mobile-Based Emergency Intervention Apps - Michal Gaziel-Yablowitz, David G. Schwartz – 2018

- MESI enables an objective and consistent assessment of smartphone applications that apply intervention strategies to a wide spectrum of medical emergencies.
- It covers the complete emergency response process from detecting emergency signs through tracking patient location and notifying first responders about the medical emergency to speed the arrival of relevant treatment.

V. PROPOSED SYSTEM

A. Crime Reporting

It is a the self based reporter for the one how is an eye witness at the spot of the crime scenes. Whatever be it the case of crime- the time is reduced, evidences can be collected and the digitization of the mechanism all can be done through this app. A person can use this app to file a complaint to the police upon receiving this and any other information provided by the victim can file an FIR and start their investigation. Any witnesses can easily shoot and send or stream the video of the crime. The proposed system aims at facilitating the user with a direct connection to the police. This shall also facilitate the police to keep an eagle's eye watch over the crime the application will help in connecting the user to the nearest police station if the person feels they are in danger he/she can sent out an alert this can be picked up by the nearest police station.

The model has the sided architecture. On one side is the Client side that facilitates the use of application for capturing or recording the crime and generate the report of the crime taken along with the location of the crime. This shall be directly send to the police. The server side shall facilitate the generation of e-police report the server side shall be responsible to store a record of the reported evidences. It is a completely integrated and compact system that can be used by the police and the common man.

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B. Blood bank

The people in need of blood can search for the donors by giving their blood group and city name. it saves time as he can search donors online without going anywhere. Using this system user can get blood in time and can save his relative or friend life. Our website work 24x7 so user can get information of blood donor any time. Blood donor can also get registered and save life of other person. The main benefit of this system is the information of available blood group. When blood is need in the operation then people have very less time to get the blood available so if he get the information like who can give him blood in time in his city is life saving. And here our system work, whenever a person need blood he get information of the person who has the same blood group he needs.

C. Disaster Management

It's a location based system to render location based services showing the warning of upcoming disasters (tsunami, cyclone, and flood etc.) if the user is in the possible disaster affected area or near to that area it helps to find the nearest safe zone or shelters on the map of the application. It gives real time alerts to all the citizens on the different crisis that happen. During pandemics hotspots are marked on the map. Our application also facilitates the work of authority to track his evacuation progress so that they can take immediate steps if needed. The user can say what their current emergency situation. Then the rescue authority notices the unreached user and sends a rescue team to rescue him.

D. Emergency Services

In this section we primarily focuses on health and services of all the citizens. The primary objective is to establish a bidirectional channel between Emergency Management operators and citizens for receiving and sending information in real time through an Emergency Communication Systems. The emergency section is divided into three : Ambulance, Fire, Police. Ambulance service is useful at the time of accidents and health related assistance. Fire service is useful at the time of fire hazards. The police alert helps to draw the attention of police at the times when are required.

VI. ARCHITECTURE

A. Crime Reporting

A central data base is used for storage collection and retrieval of data. This database can be accessed by both user and the police the user is the client side and the police is the admin side. A user can file a complaint, give evidence give feedback etc. all the police stations are connected together by the central data base and thus enable the police to work efficiently. Due to digitization data can be accessed and processed easily. Users can also view regular news updates from the police in their area about any crimes or any other security related matters. Police can create crime reports from the data collected in the database this can be published to the public.

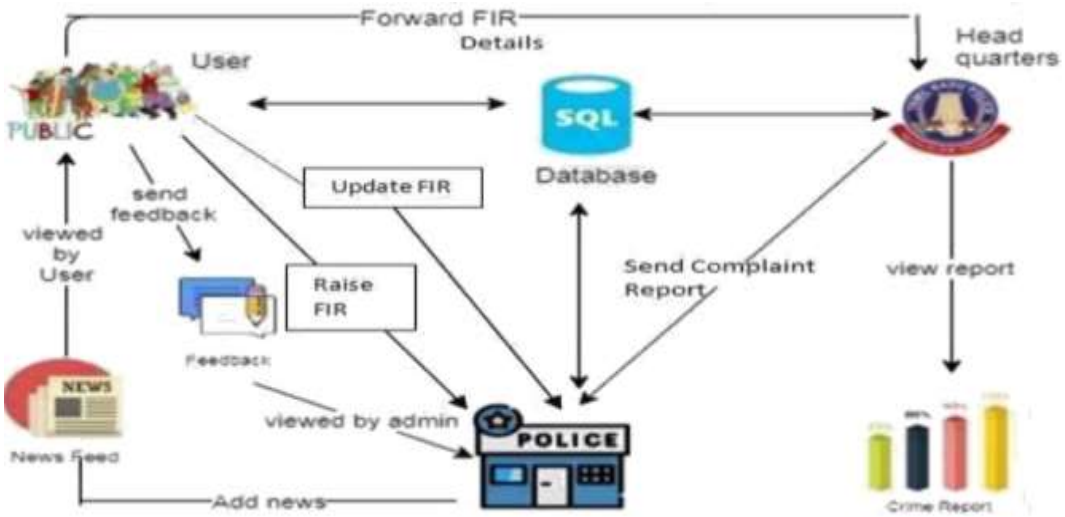

Fig. 1 Crime Reporting Architecture

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B. Blood bank

When a person want to donate blood he have to register to the system. Donor registration is very easy, to get register to the system he have to fill up registration form. After submitting the registration form he can create username and password. Donor have to give information like blood group, contact details etc. donor can also change his account information when he wants using his username and password.

Using this blood bank system people can search blood group available which they are needed. They check it online using our blood bank management website. If in case blood group is not available in blood bank they can also get contact numbers of the persons who has the same blood group he is need. And he can request the person to donate the blood for saving someone life. Our system also allow user to search online the person who have the same blood group he needs and if he find the If he find a donor in his city then we give him all details of the donor, if he doesn't find any donor then he is given the contact numbers and addresses of the Life Saving Contact Persons for big cities.

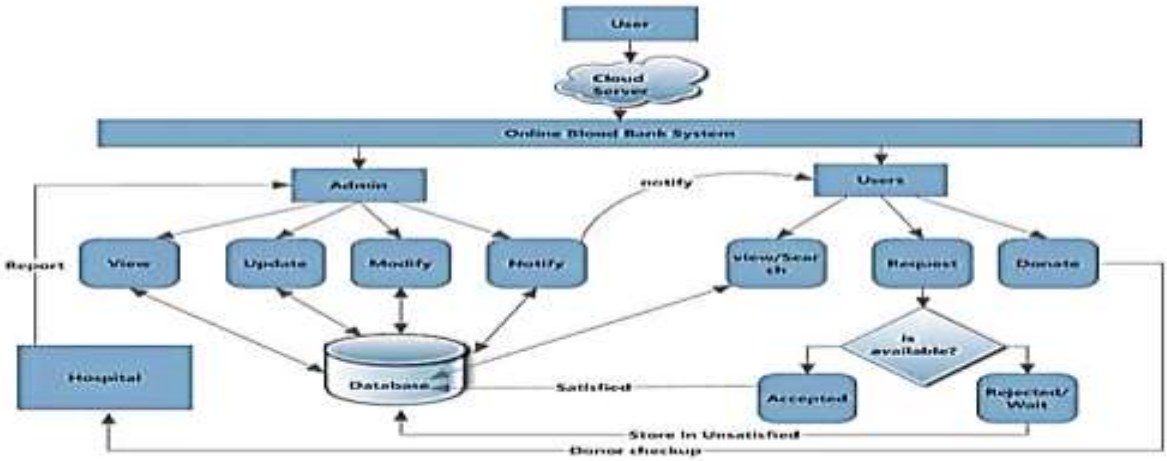

Fig. 2 Blood bank Architecture

C. Disaster Management

GPS mobile phone catches the current location of its user and sends it to server. Using current position of user our system will determine whether the user is in probable disaster exposed area or not. For this difficult areas are divided into red, yellow and green and it determined by central weather bureau. End users have the Access to receive the notifications. If the users are in the RedZone, notifications also send to the disaster management teams.

Fig. 3 Disaster Management Architecture

D. Emergency Services

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The diagram presented before clearly explains the working of the emergency services. In this diagram, we have a common network(i.e. The Internet) where all the components such as the users, servers, care takers and various departments connected all together. The user provides the alerts to the server, by which the server evaluates the situations and take necessary actions by informing it to the various departments . The server also stores the information that are gathered in the database. So therefore everything gets into control.

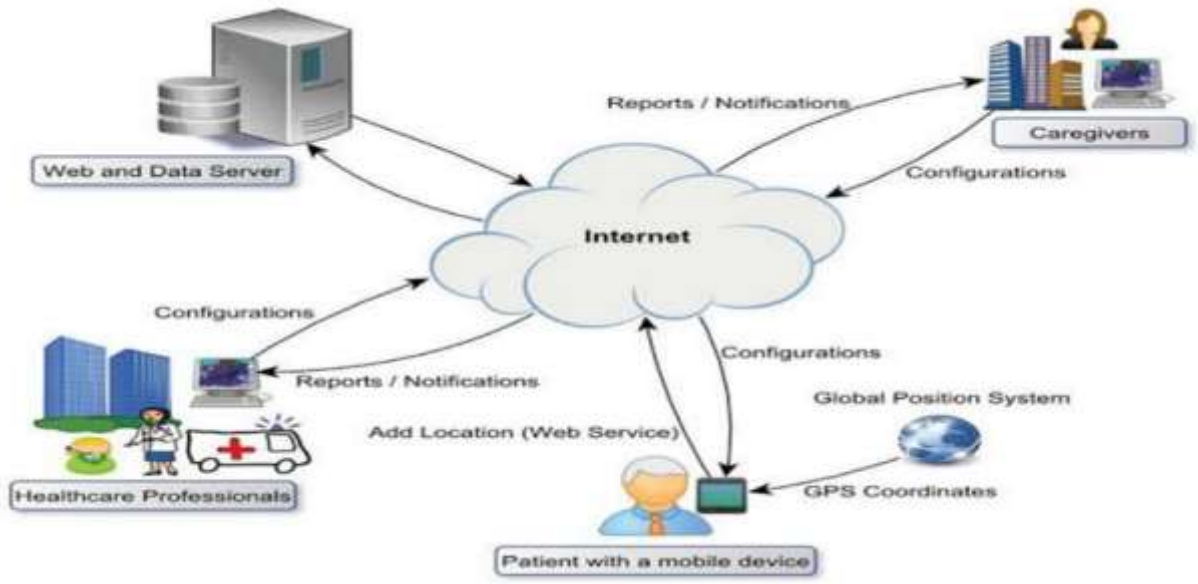

Fig. 4 Emergency Services Architecture

VII. MODULE DESCRIPTION

A. General features

- First of all, User will register with proper data.
- The valid data includes Name, Email, Mobile Number.
- Login and pins are created at the time of user sign up.
- After successful registration he/she can login in this system through a smartphone.

Fig. 5 Welcome Interface and Icon of Salva

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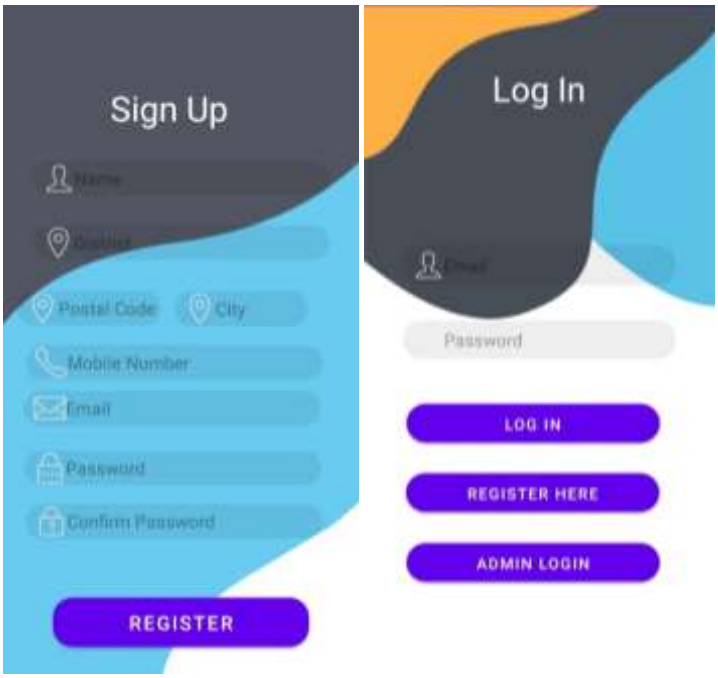

Fig. 6 Signup and Login Module

Fig. 7 Main Menu of Salva

B. Crime Reporting

In the crime reporting module there is a client side and a server side the client side is made available to the user and the server side is used by the police.For a user to file a complaint the user will have to login to the account they have created previously a pin is used here to prove the identity of the user the pin is created at the account creation.A user can select the crime from a list of crimes provided there is also an option for 'other crimes' if the crime the user has been inflicted up on is not listed the user can write a description of the crime give any evidence and then file the complaint.users can provide evidence in the form of images videos and any witneses can also forward any information related to the crime as well.the user will be able to locate nearby police station if they wished they can share their location to them if they think they are in danger.the police can give the user regular updates on the progression of the investigation of the crime.

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The Implementation is an android application. Whenever the crime is reported a streaming session is created. The reporter is asked to enable the Location and based on the location selected by the user the fired query fetches and automatically selects the nearby police station.In the entire process the person details shall not be shared with the police and may only be retrieved once the person gives permission to know the police his name and address. This appraises the secrecy of the application to protect identity of the user in case user fears whether/if the help may prove to be fatal for this life.

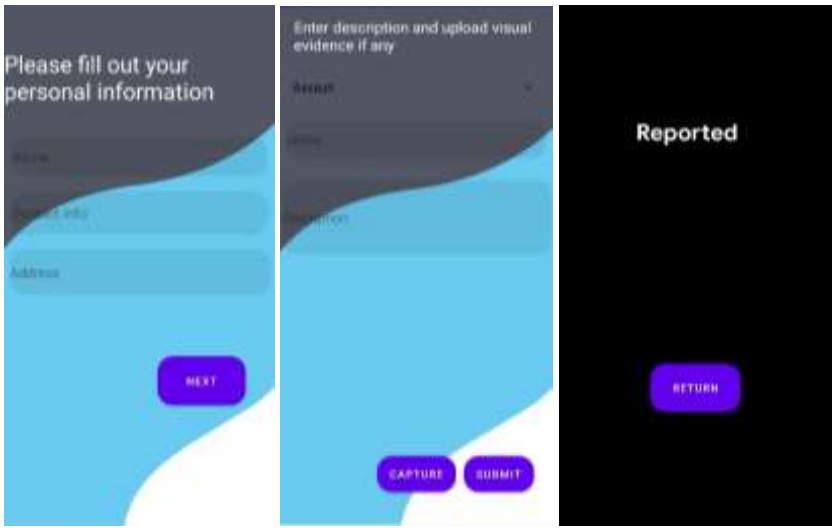

Fig. 8 Crime Reporting Module

C. Blood bank

User can create their account, when user create his account the user get a user id and password, which identifies him uniquely. From this module user can search donor for blood and can also refer his friend to become a donor. Donor can also get information like when he donated blood or when he will be able to donate blood.

People who are interested in donating blood get registered in my site and give his overall details related to him, i.e. he fills in a registration form by giving the total details such as name, address, city, sex, weight, dob, blood group, telephone numbers, e-mail address, etc. He was also given two fields' username and password to fill such that he was a registered donor and he can enter the login form with his username and password and can modify his details if needed.

The people who are in need of blood can search in our site for getting the details of donors having the same blood group and with in the same city. They can directly click on the link search a donor and can select a city name as well as the blood group which he needs. He then gets the details of the donors who exist with in the city and the same blood group that he has selected. If no match was are found for the city and group selected by him he gets a message 'SORRY DONORS ARE NOT AVAILABE WITH THE FOLLOWING BLOOD GROUP AND AREA'.

Fig. 9 Blood bank Main Menu and Registration

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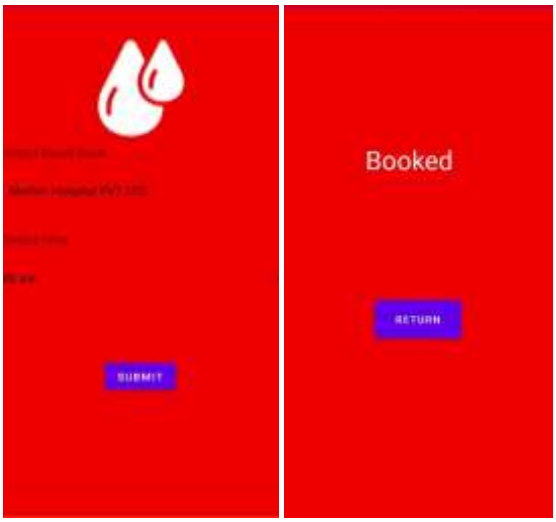

Fig. 10 Request blood Module

D. Disaster Management

After getting the current position, this module sends the latitude and longitude of user's current position. When the user in a disaster zone, it will send a message notification to that registered user. It has a separate section for upcoming and ongoing disasters. We manage this module according to the verified reports from the government. The disaster struck region is divided into red zone, green zone and yellow zone according to the gravity of it's effect And alerted to the users. The information is also passed to the locally created disaster management team so they can take quick actions.

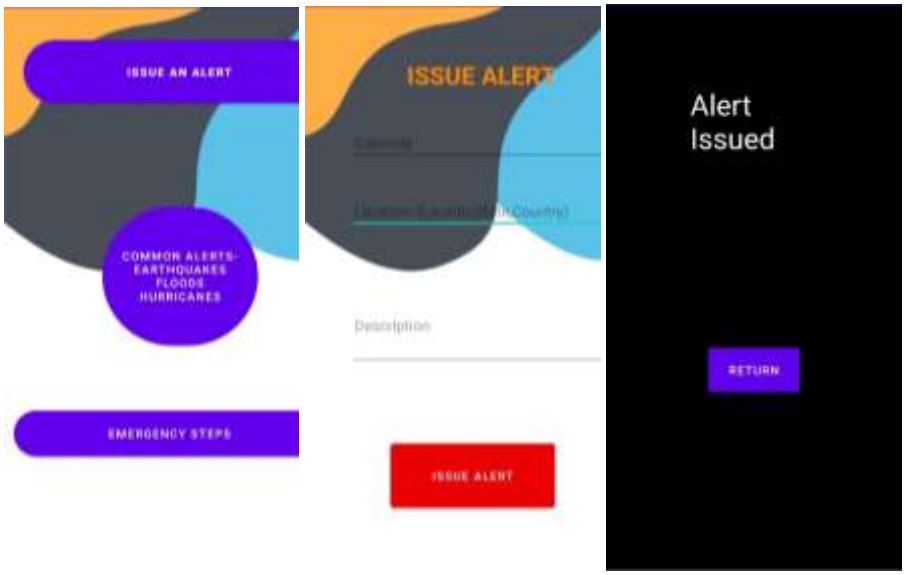

Fig. 11 Disaster Management Module

E. Emergency Services

As you see in the diagram, this section gets completely divided into three : Ambulance, fire and police. On the User Interface, the user chooses the appropriate service that is required as per the need of the user. The users can also add attachments such as the location of the event. This helps the officers of authorities to get the correct guidance to the place where the event has taken place. The added data is then forwarded to the required department. The officers evaluate the data that is sent by the users and takes necessary actions by the threat of the issue. The server also stores the data if required for future purposes. In this way, safety gets assured at the times when quick actions are needed or required.

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Fig. 12 Emergency Services Main Menu

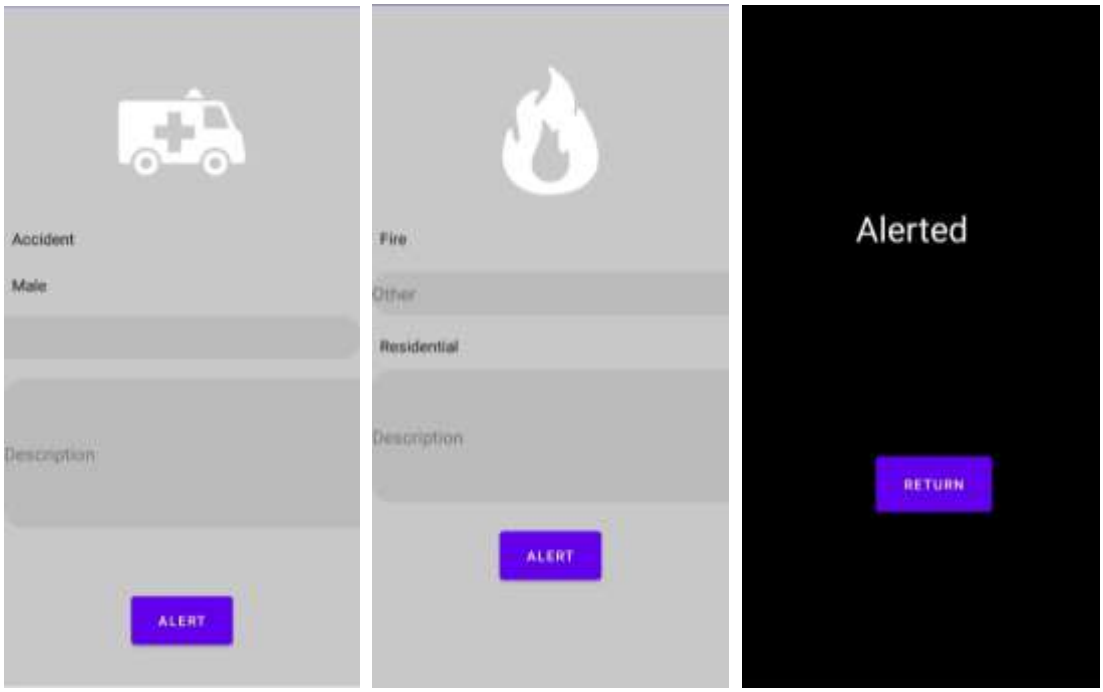

Fig. 13 Ambulance, Fire & Police Layout

VIII. CONCLUSION

In this way, safety gets assured at the times when quick actions are needed or required. This project aims in giving full time security to every citizens. Of course, this project can't be implemented to a huge level at sudden, but it can be implemented from smaller area to a bigger one. The service provided by the proposed system is needed and valuable to health sector where a quality of blood is considered for the safety of the patient. The donor will get himself registered through these improved system. In case of emergency requirement the blood donor can place a request. The wireless internet technique enables the flow of data to work more rapidly and conveniently. The future work of the system is to develop this application in iOS platform. It provides location based emergency services like accidents, crime etc. Now almost everyone is switching to the smartphones, so using this smartphone the society gets connected and everyone knows about events occurring nearby. It ensures better community-sourced threat detection to solve your most daunting safety challenges.

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