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An Android Based Women Safety Application

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ABSTRACT: Women safety apps are very useful android app. This application is used for security purposes. Using that, the user can directly connect with nearest hospital, police station and fire station. In this system users getting the facilities by pressing the panic button, users current location sends to Family members at regular interval SMS and automatically dial 911. And a loud Alarm will be triggered that shows the user in danger.

I. INTRODUCTION

Help droid is a very useful android app. This application is used for security purposes. Using that, the user can directly connect with the nearest hospital, police station and fire station. In this system user getting the facilities by pressing the panic button, users' current location sends to Family members at regular interval SMS and automatically dial 911. And a loud Alarm will be triggered that shows users in danger, Users can View Nearest Hospital, Fire station or any other assistance with the use of Google Place API and Displayed on a map with directions and with contact details.

II. LITERATURE SURVEY

Sunil Nayak(2018) The safety of women is a concern of increasing urgency in India and other countries. The primary issue in the handling of these cases by the police lies in constraints preventing them from responding quickly to calls of distress. These constraints include not knowing the location of the crime, and not knowing the crime is occurring at all: at the victim's end, reaching the police assuredly and discreetly is a challenge. To aid in the removal of these constraints, this paper introduces a mobile application called WoSApp (Women's Safety App) that provides women with a reliable way to place an emergency call to the police. The user can easily and discretely trigger the calling function by shaking her phone, or by explicitly interacting with the user interface of the application via a simple press of a PANIC button on the screen. A message containing the geographical location of the user, as well as contact details of a pre-selected list of emergency contacts, is immediately sent to the police. This paper describes the application, its development, and its technical implementation

Existing System
This application is use as security purpose. In existing system requires active internet connection and if user enter any inaccurate result then system not accept data means it not storing in to system

Proposed System
- User can View Nearest Hospital, Fire station or any other assistance with the use of Google Place API and Displayed on a map with directions and with contact details.
- User can get all types of assistance help and specially their number at one place.

Proposed System Advantage
It is an all in one system . Hence no need to carry multiple device .GPS tracking features tracks the user lively when you are the move after triggering the emergency button .It records audio, which can be used for further investigation .When the battery is running low, it automatically sends the location the pre-stored contacts.
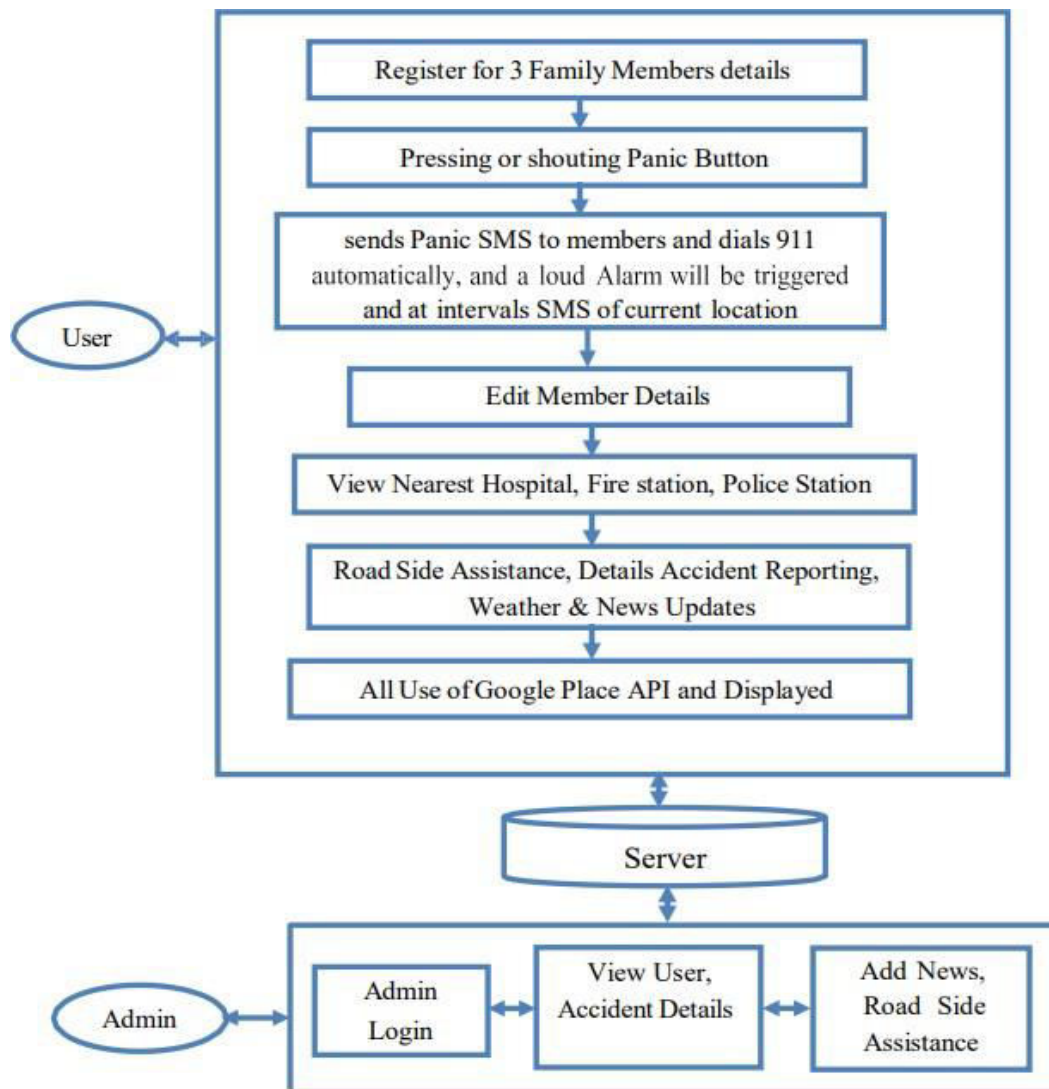
System Architecture:

Fig 4.2.12: Sytem Architecture

Explanation:

In this project We use the Server and Edge server. All the Edge Servers are noted to theserver and the users are registered to the edge server (Fog) . Whenever the user sends the task. The edge server stores the tasks and checks the user activity using RL. If the user finds the suspicious are blocked the task is aborted. If everything is fine the task offloading is done from edge server(Fog) to server

III. METHODOLOGY

User:

• **Registration:** Basic Details with 3 Family Members details such as Name & Phone No.Direct Login and details will be saved.

• **Panic Button:** Gets activated by pressing or shouting "Panic", and after activation sends Panic SMS to members and dials 911 automatically, and a loud Alarm Will be triggered and atregular intervals SMS of current location

• **Edit Member Details**: Users can edit member details.

• **Hospital:** View nearest Hospital with the use of Google Place API and display on a map withdirections and with

contact details.

• **Police Station**: View nearest Hospital with the use of Google Place API and display on amap with directions and with contact details.

• **Fire Station**: View nearest Fire Station with the use of Google Place API and display on amap with directions and with contact details.

• **Roadside Assistance Details**: Contact numbers of different assistance like, breakdown,towing, helpline etc.

• **Accident Reporting:** Report an accident by filling out a form with accident images.

• **Weather & News Updates**: Can view Weather via Google API, and News via Admin

IV. TECHNIQUE USED OR ALGORITHM USED

Existing algorithm

Our research presents a system designed to transform the user experience by providing a seamless interface, top-notch security, and lightning-fast connectivity. Using the Model-View-Controller (MVC) architecture, we developed a platform that delivers seamless data handling, clear information delivery to users, and efficient database data flow control. The platform is divided into two sections: one for users and another for guardians.

Admin:

• **Login:** Admin need to login with their valid login credentials in order to access the system.

• **View User**: All the registered user's details can be viewed by admin.

• **View Accidents**: All the recent as well as current accident with details and images can be viewed by the admin

• **Add News**: Admin can add news with details.

• **Add Roadside Assistance:** For accidental or any breakdown purpose, admin adda Roadside assistance info.

Proposed Technique:

Cnn Algorithm:

An Android-based women safety application using a CNN (Convolutional Neural Network) algorithm can be designed to enhance women's safety by integrating AI-powered features such as real-time monitoring, threat detection, emergency alerts, and image recognition.Steps to Implement the System:

Real-Time Threat Detection:

• Use CNNs to analyze images and videos in real time to detect potential threats orunsafe situations.

• For example, CNNs can be trained to recognize suspicious or violent behavior (e.g., a person running toward the user, aggressive gestures, or signs of physicalharm).

Image Recognition:

• Use the camera for real-time object recognition. The app could detect if the user is in a dangerous environment, such as an unsafe location (e.g., a dark alley, or asuspicious vehicle approaching).

• For example, if the user is walking down a road and a car with tinted windows isapproaching too closely, the app could detect the car's make and model using pre-trained image classification algorithms and alert the user.

Emergency Alert System:

• The app can send alerts to family members, friends, or local authorities when an emergency situation is detected. This could include a snapshot or video capturedby the phone's camera, processed using CNN to detect threats or unusual movements.

• Additionally, the app could have a panic button that sends out an alert along withthe user's real-time location.

Voice Recognition (Optional):

• While CNNs are primarily used for image and video analysis, they could be combined with Natural Language Processing (NLP) and voice recognition to detect distress signals or certain voice commands (e.g., "Help me" or"Emergency").

• The app could trigger a response to the distress call or activate location tracking.

Analysis of Surrounding Environment:
- The app could use the camera to detect faces in the surrounding environment. Ifan unknown or suspicious person is detected within a specific range, an alert could be sent to the user or their contacts.
- Alternatively, CNNs can be used for facial recognition to identify knownindividuals, providing a layer of security.

Data Privacy and Security:
- All processing and data analysis, particularly image or video data, should be done with the highest standards of privacy. User consent should be obtained, andsensitive data should be stored securely.
- The app should comply with privacy regulations like GDPR or CCPA.

V. EXPERIMENTAL RESULT
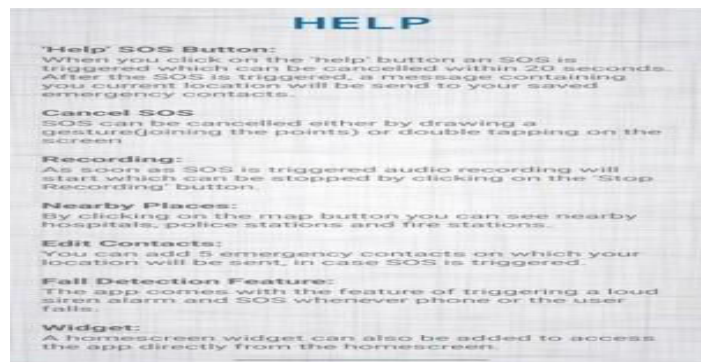
Landing Page

The landing page features an SOS Button designed to quickly alert emergency contacts duringdistress situations.

Update Contact

The Update Contacts page allows users to add or remove up to five emergency contacts forSOS alerts.

Help:

The "Help" SOS app offers emergency assistance with features like location sharing, audio recording, nearby places, fall detection, and a customizable emergency contact list.

VI. CONCLUSION

An Android-based women's safety application using CNNs can provide a powerful, AI-driven solution for detecting potential threats and sending timely alerts. The integration of real-time object detection, image recognition, and activity analysis can make the app highly effective in ensuring women's safety in various scenarios. The key challenge lies in balancing the complexity of the CNN model with real-time performance on mobile devices, ensuring privacy, and providing actionable alerts to users and their emergency contacts.

VII. FUTURE ENHANCEMENT

Future enhancements for an Android women safety application can focus on leveraging advanced technologies to improve functionality and accessibility. AI-powered assistance can predict risky situations and provide proactive alerts based on location or behaviour patterns. Integration with wearable devices like smartwatches can enable discreet SOS activation and continuous monitoring. Voice command activation can enhance usability, allowing hands-free emergency responses. Augmented reality (AR) can guide users to nearby safe zones, police stations, or hospitals in real time. Multi-language support will ensure inclusivity for a diverse user base. Community-based alerts can notify nearby users or volunteers to provide immediate assistance. Direct integration with law enforcement can ensure quicker responses during emergencies, while safety analytics can offer insights into crime trends in frequently visited areas. These enhancements aim to create a more comprehensive and user-centric safety solution.

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