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Application for Women Safety: Spark Women

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Abstract: ***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'send, reaching the police assuredly and discreetly is a challenge.To avoid these situations, this paper introduces a mobile application called "Spark Women" that provides women with a reliable way to place an emergency call, Message and location update to the police and also to the close relatives of her family.The user can easily press the PANIC button on the screen of the app so that the respective people can receive all alerts. This paper describes the application, its development, and its technical implementation.[1]***

Index Terms: Component, formatting, style, styling, insert

I. INTRODUCTION

As most of the reports compiled by the World Health Organization stated that that most of the women around the world have been victims of sexual violence[1. The National Crime Records Bureau of India reported that a woman isassaulted in the country every three minutes. The police arenot able to help, as information about the crime does not reach them in time. With the number of criminal acts towards women increasing day by day so it is evident that a solution is required from the technical community to tackle the situation. Presently mobile application advancement assumes a signif-icant part with working frameworks like Windows, Android, and IOS etc. Spark Women App might be a way to provide women safety by enabling them to place an emergency call to the police in a quick, discreet way. The use of the application is divided into three steps: input of emergency contacts, triggering of the alarm, and transmission of an emergency message and call to the local police. The message contains the user's current geographical location, and a statement that"I Am In Trouble". This portable application is fundamentallyutilized for women's well being. It can be utilized to discover and help women's in crisis circumstance. It demonstrates the correct area where the individual is found and send the point of Women Safety Device With GPS Tracking System Using Arduino, 2022 interest through Short Message Service (SMS) to her relatives, guardian and friends. Spark Women app will inform and update your dear ones if you are stuck in an unsafe place.It willsend all the details related to your location with just a tap of a button. The app will send an SMS to a pre-configured number along with your location and a link of Google Maps.This app also has a section of self defence where women can learn different techniques so that they will be prepared for protectingthemselves in a way. It also has a section of some basic lawsto make a women aware about her rights.It's a very simpleapp to use and is important too.This clear-cut sequence of events ensures that help can be provided to women in crises as quickly as possible. Our application ensures that questions regarding the user's location or whom to contact, as well as confusion at police stations regarding where the officers must be dispatched from, do not arise. [5]

II. PROBLEM STATEMENT AND SOLUTION DESCRIPTION

A. Motivation

Every day, women are assaulted, molested and violated on the streets of their own cities. Violence against women happensall over the world, particularly in developing countries. This violence can take many forms: physical, sexual, or psycholog-ical. [6]

Physical assault on women involves the use of force toinjure or endanger them. Forms of sexual assault include rape, human trafficking and forced sexual exploitation, genital mutilation, child marriage and intimate partner violence. Psy- chological abuse results in psychological trauma, which could manifest as chronic depression, anxiety, or post-traumatic stress disorder. The above all have severe consequences ona woman's physical and mental well-being.

B. Problem Statement and Solution

The aim of this project, is to effectively build an app for woman empowerment in our society. We tried to achievethis by making a mobile application that: 1) Has a simpleand straightforward user interface 2) Ensures that call alertis sent to the police and message alerts to both police andclose friends. 3) Allows user to send location as well. 4) Allows users to learn about the basic laws and self techniques to protect themselves. The reason behind creating a mobile application to achieve the problem statement was due to the fact that a mobile phone is normally carried by everyone andis always along with any person. [8]

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III. APP DEVELOPMENT AND WORKING

The application has been divided into two components: a front end user interface and a back-end functional unit. The user interface was developed using JavaScript, with nativeplatform code in Java waiting for the user to engage the alert mechanism. The back-end was implemented using JavaScript,alongside firebase database. Below is the Flow Diagram of ourSpark Women App : [9]

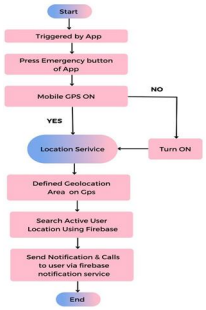

Fig. 1. Flow Diagram of App

A. App's Interface Design

The user interface of the application is designed by keeping in mind that it should be simpler to use. The use of the application is intended to be straightforward, as it would be accessed primarily in times of crisis, apart from the adding of emergency contacts. The starting interface of the app is theGet Started Page in which there is a button named Get started which will be clicked by the user and next will be the home screen of the app. [2]

The home page of the application has following sections: Firstly, contacts icon is there in which user can add the emergency contacts so that those contacts can get the alerts. Then there are other icons like Self Defence, Settings and Basic laws.The main one is PANIC Button which is used for all alerts to be sent to respective contacts. [7]

B. Adding Emergency Contacts

When the user opens the application for the first time, sheis asked to enter her emergency contacts so the same canbe stored. The emergency contacts can be entered by adding name and phone number. Thereafter, the application will run as a background service which can be triggered in case of an emergency. [10]

Fig. 2. Starting Interface of Spark Women App

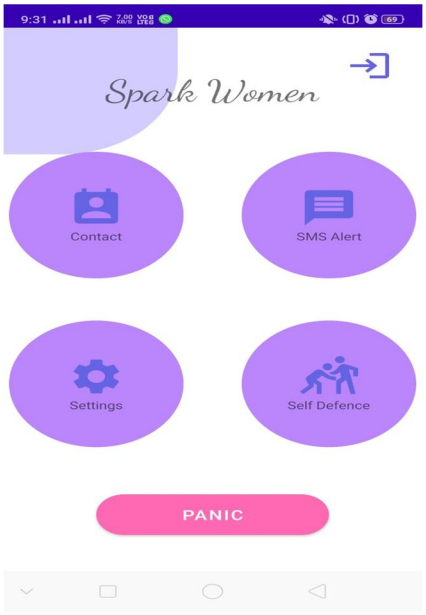

Fig. 3. Home page interface of App

C. Settings

In setting we will be having one user icon and one button to reset the password We have used firebase method send password reset email and the email is sent by firebase through Google to user to reset the password. [3]

D. Laws

In law activity we have one image view, one label and here is a list view that will list all the laws we have declared ,one back button to go back. This is the array of strings where we have declared all the acts. This law we have sent to this adapter. Adapter is required by list view it will map those laws to this list view. When we click any law from this list we open Law Displayer activity with its position. In Law Displayer activity we have this box one icon in this box given brief information about the law we have given next and back button to scroll to the all the law. Here we have declared all laws again when user clicks on any of this laws the respective laws information is displayed. [11]

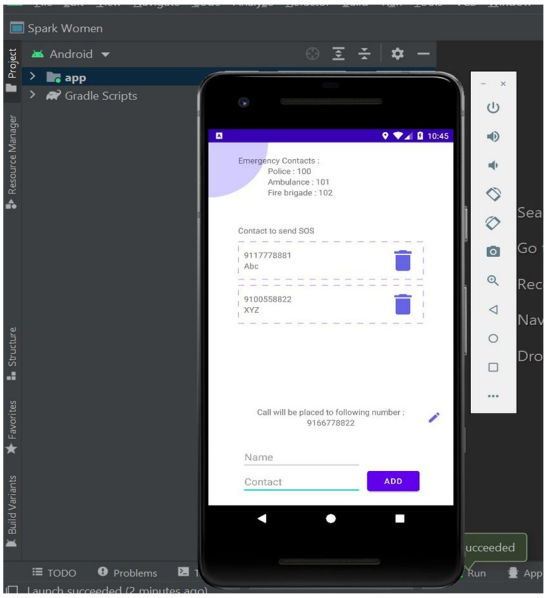

Fig. 4. Contacts Interface of App

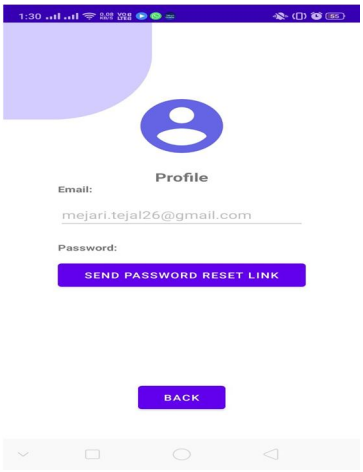

Fig. 5. Setting page of the app

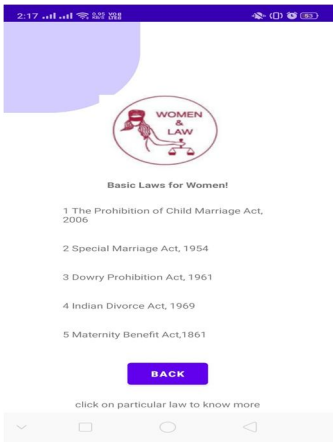

Fig. 6. Law page of the app

IV. CONCLUSION AND FUTURE SCOPE

In this paper we have described spark women an android application for the safety of women. This application helps in live tracking of the location of the victim through GPS along with one of the registered contacts receiving a call from the root device. The advantage of this application is even whenthe location of the root device is changing rapidly; we can identify the exact location. As a future scope, this application can be integrated with the law enforcement database, which includes all the phone numbers of regional cops.Some use cases such as rescuing victims,when the mobile network is not available, after initial alert or switch off condition. further, it can be developed for IOS and windows mobile platforms.Thus,this application can help women in a big way from unsafe conditions. [4]

Fig. 7. Laws Stated Section

V. RESULT AFTER EXECUTING CODE

The app will be triggered by the panic button. After pressing the panic button the SMS alert and the location will be sent to registered mobile numbers and also to the police. The call alert will be sent to only one contact that would be mostly of the police helpline. Below are the results that we got after execution:

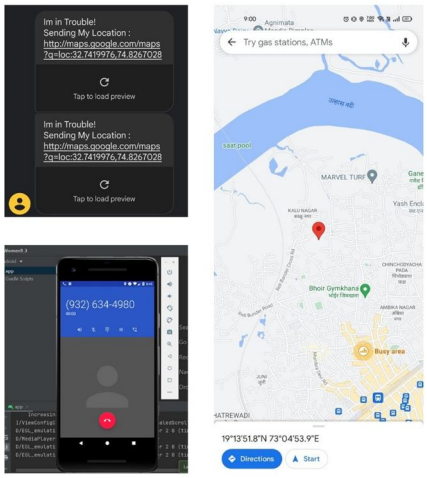

Fig. 8. Results After Execution

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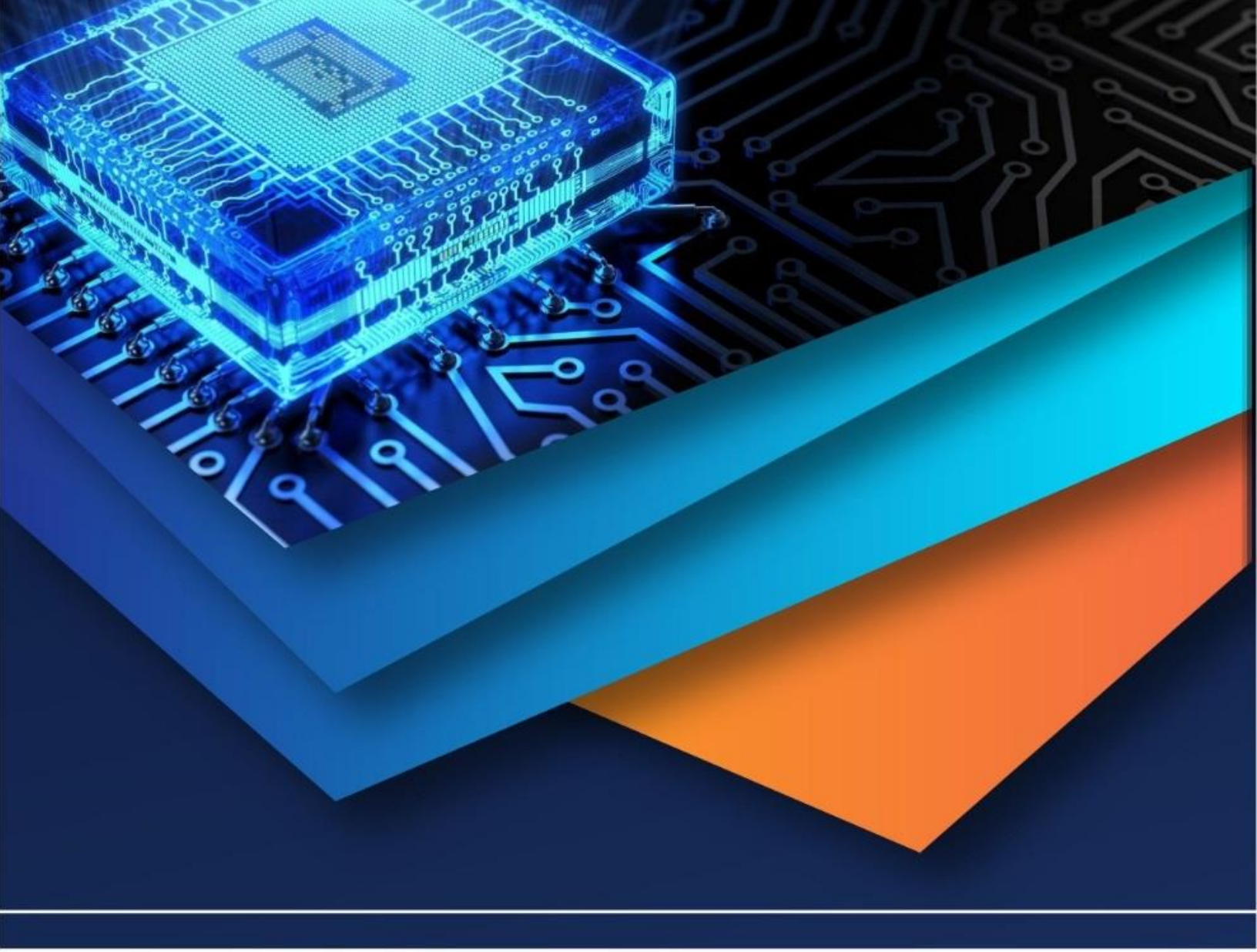

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